W. L. FRENCH EXCAVATING CORPORATION
COMMERCIAL SITE DEVELOPMENT • CONTRACT TRUCKING • ENVIRONMENTAL MANAGEMENT

U.S. Environmental Protection Agency
Office of Ecosystem Protection
EPA/OEP RGP Applications Coordinator
5 Post Office Square, Suite 100 (OEP06-01)
Boston, MA 02109-3912

June 27, 2017
File No. 3979.00

Re: Notice of Intent for the Remediation General Permit
Temporary Construction Dewatering for Site Redevelopment
Arsenal on the Charles – West Garage
311 Arsenal Street, Watertown, Massachusetts

Dear Sir/Madam:

On behalf of Athena Arsenal LLC, W.L. French Excavation Corp. (WLF) has submitted this Notice of Intent (NOI) to the U.S. Environmental Protection Agency (U.S. EPA) for coverage under the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) MAG910000 for the Arsenal on the Charles – West Garage (the Site) property. This letter and supporting documentation were prepared in accordance with the U.S. EPA guidance for construction dewatering under the RGP program. WLF is the earthwork contractor for the project and will have direct responsibility of the subcontractors performing the dewatering activities at the Site. Subcontractors working for WLF on the project will be required to meet the requirements of this NOI and the RGP. WLF previously submitted an NOI dated December 14, 2106 to the U.S. EPA under the 2010 RGP, the receipt of which was acknowledged by the U.S. EPA on January 9, 2017. Discharge under the 2010 RGP has been in operation since January 12, 2017. The location of the Site and the discharge location via a storm drain outfall are shown on Figure 1 and the extent of the Site area is shown on Figure 2.

The Site is located at 311 Arsenal Street in Watertown, Massachusetts as shown on Figure 1. Redevelopment activities at the Site include mass excavation of urban fill and natural soils for the construction of a parking garage with one level of below-grade parking, and installation of new utility systems. During pre-characterization activities at the Site, reportable conditions under the Massachusetts Contingency Plan (310 CMR 40.0000) were encountered for several polycyclic aromatic hydrocarbons (PAHs), naphthalene, tetrachloroethene (PCE) and lead in soil and PCE, vinyl chloride, 1,1,-dichloroethene, trichloroethene (TCE) and cis-1,2-dichloroethene in groundwater samples collected at the Site. The 120-day release condition was reported to the Massachusetts Department of Environmental Protection (DEP) in July 2016 and Release Tracking Number (RTN) 3-33694 was assigned to the Site.

The Site is located on the westernmost portion of the former Watertown Arsenal which was established in 1816 by the United States Army for the receipt, storage and issuance of ordnance. In 1968, the Army ceased operations at the Arsenal and a portion of the property was sold to the Watertown Redevelopment Authority and the remaining property was converted into the United States Army Materials and Mechanics Research Center (AMMRC). The AMMRC was renamed in 1985 to the United States Army Materials Technology Laboratory (MTL) and later converted to civilian use circa 1995.

Between 1968 and 1987, numerous environmental evaluations were performed for the MTL property, and in 1987, the U.S. Army Environmental Center initiated additional environmental investigations. As a result, the 48-acre MTL property was placed on the National Priorities list (NPL) in 1994. The MTL became part of the U.S. EPA Superfund program in 1995. For the purposes of the Superfund investigation, the property was spilt up into operable units including operable unit 1 (OU1) which addressed outdoor soil and underlying groundwater contamination, operable unit 2 (OU2) which addressed a two-mile stretch of the Charles River adjacent to the former Arsenal, and operable unit 3 (OU3) which addressed a small area to the northeast of Building 131. OU1 addresses soils at the West Garage.

Based on the results of previous investigations, two U.S. EPA Superfund Records of Decision (RODs) were issued addressing the soil and groundwater for the "outdoor areas of the Site." The September 1996 ROD (Soils ROD) addressed OU1 as well as soil and groundwater beneath MTL buildings, and the June 1996 ROD addressed a specific excavation area adjacent to building 131, Area "I," which expedited the cleanup of soil contamination in that location. The Site is located on a portion of the MTL property subject to restricted use as a "Commercial Reuse Area" where "residential, daycare, school (for children under 18 years of age), hotel, motel, community center (for children under eighteen years of age), and other recreational uses" are prohibited by the August 1998 Grant of Environmental Restriction and Easement (GERE). No Superfund response actions were required for or completed for groundwater underlying the Site.

Approximately 36.6 acres of the MTL Site were deleted from the NPL in November 1999 and in 2005, after cleanup efforts were completed, the entire MTL Site was deleted from the NPL in 2006.

The earthwork to prepare the Site for redevelopment requires excavation of soil to approximately Elevation (El.) 18.5 to 17.5 with isolated excavations to approximately

El. 14.8 feet to El. 10 feet. Groundwater is anticipated to be encountered between approximately El. 17 feet to El. 23 feet. The excavation will be supported by sheet piles and groundwater that flows into the excavations during construction activities will be treated prior to discharge to an on-site swale before entering a storm drain such that the discharged effluent meets the effluent limitations established by NPDES Part 2.1 and Appendix V of the RGP Application. Figure 3 includes a schematic of the proposed dewatering treatment system which has been in operation under the 2010 RGP since January 12, 2017. The completed NOI for the Remediation General Permit form is included as Appendix A.

The discharge point for the treatment system will be the Charles River. Information regarding the receiving water was collected from the Massachusetts Year 2014 Integrated List of Waters which is included in Appendix B. Dilution calculation information including correspondence with the DEP is included in Appendix C. Analytical laboratory data for on-Site and surface water sampling is summarized in Tables 1 and 2, respectively, and analytical data reports are included in Appendix D. Municipal correspondence in the form of a Dewatering Drainage Permit application is provided in Appendix E, indicating a notification of discharge into the Charles River, via a municipal storm sewer system has been provided to the Owner of the discharge system. The *Watertown Stormwater System Map, Drainage Areas and Outfalls* and an existing conditions plan outlining the subsurface infrastructure that will be used to convey the discharge are included in Appendix E.

According to the Information for Planning and Conservation (IPaC), the excavation activities will not impact Areas of Critical Environmental Concern (ACEC) or Habitats of Rare Wetland Wildlife. A review of the information on the U.S. Fish and Wildlife Service website led to the conclusion that the project will not impact federally-listed threatened or endangered species. A letter from that agency is included in Appendix F. An email requesting information regarding Oceanic Fisheries was sent to the National Oceanic and Atmospheric Administration (NOAA), and their response, included in Appendix F, states that no listed species are known to occur in the Charles River in the area of discharge. Additional supplemental information required by the RGP is included in Appendix G and H, and are referenced within the completed NOI (Appendix A).

Thank you for your consideration of this NOI/Permit. Please feel free to contact us if you wish to discuss the information contained in this application, or if any additional information is needed.

Very truly yours,

W.L. French Excavating Corp.

Gary Morrissey
Senior Project Manager

Encl. Table 1 – Summary of Groundwater Quality
Table 2 – Summary of Surface Water Quality
Figure 1 – Locus Plan
Figure 2 – Location of Proposed Excavation and Dewatering
Figure 3 – Proposed Groundwater Treatment Schematic
Appendix A – Notice of Intent Form
Appendix B – Massachusetts Category 5 Waters "Waters requiring a TDML"
Appendix C – Charles River Dilution Calculations
Appendix D – Analytical Data Reports
Appendix E – Municipal Correspondence
Appendix F – Federal Correspondence
Appendix G – National Register of Historic Places, Watertown, Massachusetts
Appendix H – Supplemental Information

cc: Watertown Board of Health
DEP Bureau of Water Resources
Mr. Mark Blair and Mr. Phil Memmott ~ Athena Arsenal, LLC
Mr. Jason Lawson ~ PMA Consultants
Mr. Stan Sadkowski, P.E. ~ Sanborn, Head & Associates, Inc.
Ms. Cynthia D. Campisano, PG ~ Environmental Health & Engineering, Inc.
Mr. Pete Doucet ~ C.E. Floyd Company, Inc.

TABLES

Table 1
Summary of Groundwater Quality Data
The Arsenal on the Charles - West Garage
Watertown, MA

LOCATION	Units	A-2-NPDES	C-4-NPDES	E-6-NPDES	Maximum	Average
SAMPLING DATE		10/14/2016	10/14/2016	10/14/2016	Detection	Detection
Anions by Ion Chromatography						
Chloride	mg/l	**1,680**	**940**	**1,860**	1,860	1,493
Dissolved Metals						
Antimony, Dissolved	ug/l	**2.11**	**1.1**	**2.04**	2.11	1.75
Arsenic, Dissolved	ug/l	**3.81**	**3.4**	**1.23**	3.81	2.81
Cadmium, Dissolved	ug/l	<0.2	**0.45**	**0.44**	0.45	0.45
Chromium, Dissolved	ug/l	**5.13**	**12.09**	**4.12**	12.09	7.11
Copper, Dissolved	ug/l	**3.38**	**17.67**	**7.23**	17.67	9.43
Iron, Dissolved	ug/l	**10,000**	**4,500**	**1,700**	10,000	5,400
Lead, Dissolved	ug/l	**1.07**	**4.34**	**4.02**	4.34	3.14
Mercury, Dissolved	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Nickel, Dissolved	ug/l	**2.91**	**5.27**	**2.33**	5.27	3.50
Selenium, Dissolved	ug/l	<5	<5	<5	BDL	BDL
Silver, Dissolved	ug/l	<0.2	<0.2	**0.22**	0.22	0.22
Zinc, Dissolved	ug/l	**16.52**	**19.75**	**11.52**	19.75	15.93
General Chemistry						
Chromium, Trivalent	ug/l	**180**	**190**	**83**	190	151
Solids, Total Suspended	mg/l	**1,900**	**3,000**	**1,400**	3,000	2,100
Cyanide, Total	ug/l	<5	<5	<5	BDL	BDL
Chlorine, Total Residual	ug/l	<20	<20	<20	BDL	BDL
Nitrogen, Ammonia	ug/l	**1,770**	**323**	**109**	1,770	734
TPH, SGT-HEM	ug/l	<4000	<4000	<4000	BDL	BDL
Phenolics, Total	ug/l	<30	<30	<30	BDL	BDL
Chromium, Hexavalent	ug/l	<10	<10	<10	BDL	BDL
Microextractables by GC						
1,2-Dibromoethane	ug/l	<0.01	<0.01	<0.01	BDL	BDL
Polychlorinated Biphenyls by GC						
Aroclor 1016	ug/l	<0.25	<0.25	<0.25	BDL	BDL
Aroclor 1221	ug/l	<0.25	<0.25	<0.25	BDL	BDL
Aroclor 1232	ug/l	<0.25	<0.25	<0.25	BDL	BDL
Aroclor 1242	ug/l	<0.25	<0.25	<0.25	BDL	BDL
Aroclor 1248	ug/l	<0.25	<0.25	<0.25	BDL	BDL
Aroclor 1254	ug/l	<0.25	<0.25	<0.25	BDL	BDL
Aroclor 1260	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Semivolatile Organics by GC/MS						
Benzidine	ug/l	<20	<20	<20	BDL	BDL
1,2,4-Trichlorobenzene	ug/l	<5	<5	<5	BDL	BDL
Bis(2-chloroethyl)ether	ug/l	<2	<2	<2	BDL	BDL
1,2-Dichlorobenzene	ug/l	<2	<2	<2	BDL	BDL
1,3-Dichlorobenzene	ug/l	<2	<2	<2	BDL	BDL
1,4-Dichlorobenzene	ug/l	<2	<2	<2	BDL	BDL
3,3'-Dichlorobenzidine	ug/l	<5	<5	<5	BDL	BDL
2,4-Dinitrotoluene	ug/l	<5	<5	<5	BDL	BDL
2,6-Dinitrotoluene	ug/l	<5	<5	<5	BDL	BDL
Azobenzene	ug/l	<2	<2	<2	BDL	BDL
4-Chlorophenyl phenyl ether	ug/l	<2	<2	<2	BDL	BDL
4-Bromophenyl phenyl ether	ug/l	<2	<2	<2	BDL	BDL
Bis(2-chloroisopropyl)ether	ug/l	<2	<2	<2	BDL	BDL
Bis(2-chloroethoxy)methane	ug/l	<5	<5	<5	BDL	BDL
Hexachlorocyclopentadiene	ug/l	<20	<20	<20	BDL	BDL
Isophorone	ug/l	<5	<5	<5	BDL	BDL
Nitrobenzene	ug/l	<2	<2	<2	BDL	BDL
NDPA/DPA	ug/l	<2	<2	<2	BDL	BDL
n-Nitrosodi-n-propylamine	ug/l	<5	<5	<5	BDL	BDL
Bis(2-ethylhexyl)phthalate	ug/l	<3	<3	<3	BDL	BDL
Butyl benzyl phthalate	ug/l	<5	<5	<5	BDL	BDL
Di-n-butylphthalate	ug/l	<5	<5	<5	BDL	BDL
Di-n-octylphthalate	ug/l	<5	<5	<5	BDL	BDL
Diethyl phthalate	ug/l	<5	<5	<5	BDL	BDL
Dimethyl phthalate	ug/l	<5	<5	<5	BDL	BDL
Biphenyl	ug/l	<2	<2	<2	BDL	BDL
Aniline	ug/l	<2	<2	<2	BDL	BDL
4-Chloroaniline	ug/l	<5	<5	<5	BDL	BDL
2-Nitroaniline	ug/l	<5	<5	<5	BDL	BDL
3-Nitroaniline	ug/l	<5	<5	<5	BDL	BDL
4-Nitroaniline	ug/l	<5	<5	<5	BDL	BDL
Dibenzofuran	ug/l	<2	<2	<2	BDL	BDL
n-Nitrosodimethylamine	ug/l	<2	<2	<2	BDL	BDL
2,4,6-Trichlorophenol	ug/l	<5	<5	<5	BDL	BDL
p-Chloro-m-cresol	ug/l	<2	<2	<2	BDL	BDL
2-Chlorophenol	ug/l	<2	<2	<2	BDL	BDL
2,4-Dichlorophenol	ug/l	<5	<5	<5	BDL	BDL
2,4-Dimethylphenol	ug/l	<5	<5	<5	BDL	BDL
2-Nitrophenol	ug/l	<10	<10	<10	BDL	BDL
4-Nitrophenol	ug/l	<10	<10	<10	BDL	BDL
2,4-Dinitrophenol	ug/l	<20	<20	<20	BDL	BDL
4,6-Dinitro-o-cresol	ug/l	<10	<10	<10	BDL	BDL
Phenol	ug/l	<5	<5	<5	BDL	BDL
2-Methylphenol	ug/l	<5	<5	<5	BDL	BDL
3-Methylphenol/4-Methylphenol	ug/l	<5	<5	<5	BDL	BDL
2,4,5-Trichlorophenol	ug/l	<5	<5	<5	BDL	BDL
Benzoic Acid	ug/l	<50	<50	<50	BDL	BDL
Benzyl Alcohol	ug/l	<2	<2	<2	BDL	BDL

Table 1
Summary of Groundwater Quality Data
The Arsenal on the Charles - West Garage
Watertown, MA

LOCATION SAMPLING DATE	Units	A-2-NPDES 10/14/2016	C-4-NPDES 10/14/2016	E-6-NPDES 10/14/2016	Maximum Detection	Average Detection
Carbazole	ug/l	<2	<2	<2	BDL	BDL
Pyridine	ug/l	<5	<5	<5	BDL	BDL
Semivolatile Organics by GC/MS-SIM						
Acenaphthene	ug/l	<0.1	<0.1	<0.1	BDL	BDL
2-Chloronaphthalene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Fluoranthene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Hexachlorobutadiene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
Naphthalene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Benzo(a)anthracene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Benzo(a)pyrene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Benzo(b)fluoranthene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Benzo(k)fluoranthene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Chrysene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Acenaphthylene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Anthracene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Benzo(ghi)perylene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Fluorene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Phenanthrene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Dibenzo(a,h)anthracene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Indeno(1,2,3-cd)pyrene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Pyrene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
1-Methylnaphthalene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
2-Methylnaphthalene	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Pentachlorophenol	ug/l	<0.8	<0.8	<0.8	BDL	BDL
Hexachlorobenzene	ug/l	<0.8	<0.8	<0.8	BDL	BDL
Hexachloroethane	ug/l	<0.8	<0.8	<0.8	BDL	BDL
Total Metals						
Antimony, Total	ug/l	**2.41**	**1.06**	**2.44**	2.44	1.97
Arsenic, Total	ug/l	**27.16**	**30.34**	**15.72**	30.34	24.41
Cadmium, Total	ug/l	**0.75**	**0.73**	**0.83**	0.83	0.77
Chromium, Total	ug/l	**183**	**186.6**	**82.69**	186.6	150.76
Copper, Total	ug/l	**75.9**	**174.9**	**83.97**	174.9	111.59
Iron, Total	ug/l	**69,600**	**87,000**	**44,200**	87,000	66,933
Lead, Total	ug/l	**44.61**	**73.86**	**90.35**	90.35	69.61
Mercury, Total	ug/l	<0.2	<0.2	<0.2	BDL	BDL
Nickel, Total	ug/l	**38.38**	**72.81**	**36.61**	72.81	49.27
Selenium, Total	ug/l	<5	<5	<5	BDL	BDL
Silver, Total	ug/l	<0.2	**0.38**	**1.08**	1.08	0.52
Zinc, Total	ug/l	**147.6**	**223.1**	**120.1**	223.1	163.6
Volatile Organics by GC/MS						
Methylene chloride	ug/l	<3	<3	<3	BDL	BDL
1,1-Dichloroethane	ug/l	<0.75	<0.75	<0.75	BDL	BDL
Chloroform	ug/l	<0.75	<0.75	<0.75	BDL	BDL
Carbon tetrachloride	ug/l	<0.5	<0.5	<0.5	BDL	BDL
1,2-Dichloropropane	ug/l	<1.8	<1.8	<1.8	BDL	BDL
Dibromochloromethane	ug/l	<0.5	<0.5	<0.5	BDL	BDL
1,1,2-Trichloroethane	ug/l	<0.75	<0.75	<0.75	BDL	BDL
Tetrachloroethene	ug/l	<0.5	<0.5	**130**	130	43.5
Chlorobenzene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
Trichlorofluoromethane	ug/l	<2.5	<2.5	<2.5	BDL	BDL
1,2-Dichloroethane	ug/l	<0.5	<0.5	<0.5	BDL	BDL
1,1,1-Trichloroethane	ug/l	<0.5	<0.5	<0.5	BDL	BDL
Bromodichloromethane	ug/l	<0.5	<0.5	<0.5	BDL	BDL
trans-1,3-Dichloropropene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
cis-1,3-Dichloropropene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
1,3-Dichloropropene, Total	ug/l	<0.5	<0.5	<0.5	BDL	BDL
1,1-Dichloropropene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
Bromoform	ug/l	<2	<2	<2	BDL	BDL
1,1,2,2-Tetrachloroethane	ug/l	<0.5	<0.5	<0.5	BDL	BDL
Benzene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
Toluene	ug/l	<0.75	<0.75	<0.75	BDL	BDL
Ethylbenzene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
Chloromethane	ug/l	<2.5	<2.5	<2.5	BDL	BDL
Bromomethane	ug/l	<1	<1	<1	BDL	BDL
Vinyl chloride	ug/l	<1	<1	<1	BDL	BDL
Chloroethane	ug/l	<1	<1	<1	BDL	BDL
1,1-Dichloroethene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
trans-1,2-Dichloroethene	ug/l	<0.75	<0.75	<0.75	BDL	BDL
1,2-Dichloroethene, Total	ug/l	<0.5	<0.5	**1.3**	1.3	0.6
Trichloroethene	ug/l	<0.5	<0.5	**6.7**	6.7	2.4
1,2-Dichlorobenzene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
1,3-Dichlorobenzene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
1,4-Dichlorobenzene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
Methyl tert butyl ether	ug/l	<1	<1	<1	BDL	BDL
p/m-Xylene	ug/l	<1	<1	<1	BDL	BDL
o-Xylene	ug/l	<1	<1	<1	BDL	BDL
Xylenes, Total	ug/l	<1	<1	<1	BDL	BDL
cis-1,2-Dichloroethene	ug/l	<0.5	<0.5	**1.3**	1.3	0.6
Dibromomethane	ug/l	<5	<5	<5	BDL	BDL
1,4-Dichlorobutane	ug/l	<5	<5	<5	BDL	BDL
1,2,3-Trichloropropane	ug/l	<5	<5	<5	BDL	BDL
Styrene	ug/l	<1	<1	<1	BDL	BDL
Dichlorodifluoromethane	ug/l	<5	<5	<5	BDL	BDL

Table 1
Summary of Groundwater Quality Data
The Arsenal on the Charles - West Garage
Watertown, MA

LOCATION	Units	A-2-NPDES	C-4-NPDES	E-6-NPDES	Maximum	Average
SAMPLING DATE		10/14/2016	10/14/2016	10/14/2016	Detection	Detection
Acetone	ug/l	<5	<5	<5	BDL	BDL
Carbon disulfide	ug/l	<5	<5	<5	BDL	BDL
2-Butanone	ug/l	<5	<5	<5	BDL	BDL
Vinyl acetate	ug/l	<5	<5	<5	BDL	BDL
4-Methyl-2-pentanone	ug/l	<5	<5	<5	BDL	BDL
2-Hexanone	ug/l	<5	<5	<5	BDL	BDL
Ethyl methacrylate	ug/l	<5	<5	<5	BDL	BDL
Acrylonitrile	ug/l	<5	<5	<5	BDL	BDL
Bromochloromethane	ug/l	<2.5	<2.5	<2.5	BDL	BDL
Tetrahydrofuran	ug/l	<5	<5	<5	BDL	BDL
2,2-Dichloropropane	ug/l	<2.5	<2.5	<2.5	BDL	BDL
1,2-Dibromoethane	ug/l	<2	<2	<2	BDL	BDL
1,3-Dichloropropane	ug/l	<2.5	<2.5	<2.5	BDL	BDL
1,1,1,2-Tetrachloroethane	ug/l	<0.5	<0.5	<0.5	BDL	BDL
Bromobenzene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
n-Butylbenzene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
sec-Butylbenzene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
tert-Butylbenzene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
o-Chlorotoluene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
p-Chlorotoluene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
1,2-Dibromo-3-chloropropane	ug/l	<2.5	<2.5	<2.5	BDL	BDL
Hexachlorobutadiene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
Isopropylbenzene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
p-Isopropyltoluene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
Naphthalene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
n-Propylbenzene	ug/l	<0.5	<0.5	<0.5	BDL	BDL
1,2,3-Trichlorobenzene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
1,2,4-Trichlorobenzene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
1,3,5-Trimethylbenzene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
1,2,4-Trimethylbenzene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
trans-1,4-Dichloro-2-butene	ug/l	<2.5	<2.5	<2.5	BDL	BDL
Ethyl ether	ug/l	<2.5	<2.5	<2.5	BDL	BDL
Tert-Butyl Alcohol	ug/l	<10	<10	<10	BDL	BDL
Tertiary-Amyl Methyl Ether	ug/l	<2	<2	<2	BDL	BDL
Volatile Organics by GC/MS-SIM						
1,4-Dioxane	ug/l	<3	<3	<3	BDL	BDL

Notes:
1. The samples were collected by Sanborn, Head & Associates, Inc. personnel on the dates indicated and were submitted to Alpha Analytical, Inc. of Westborough, MA (Alpha) for analysis.
2. Average concentrations for each analyte were calculated as an average of detected concentrations and half of the reporting limit for non-detects for that analyte. Average concentrations were not caluculated for analytes where no detections were indicated.
3. '**BOLDED**' values indicate detections of that analyte above laboratory reporting limits
'<' = analytes not detected above laboratory reporting limits
'BDL' = indicates analyte is below detection limit

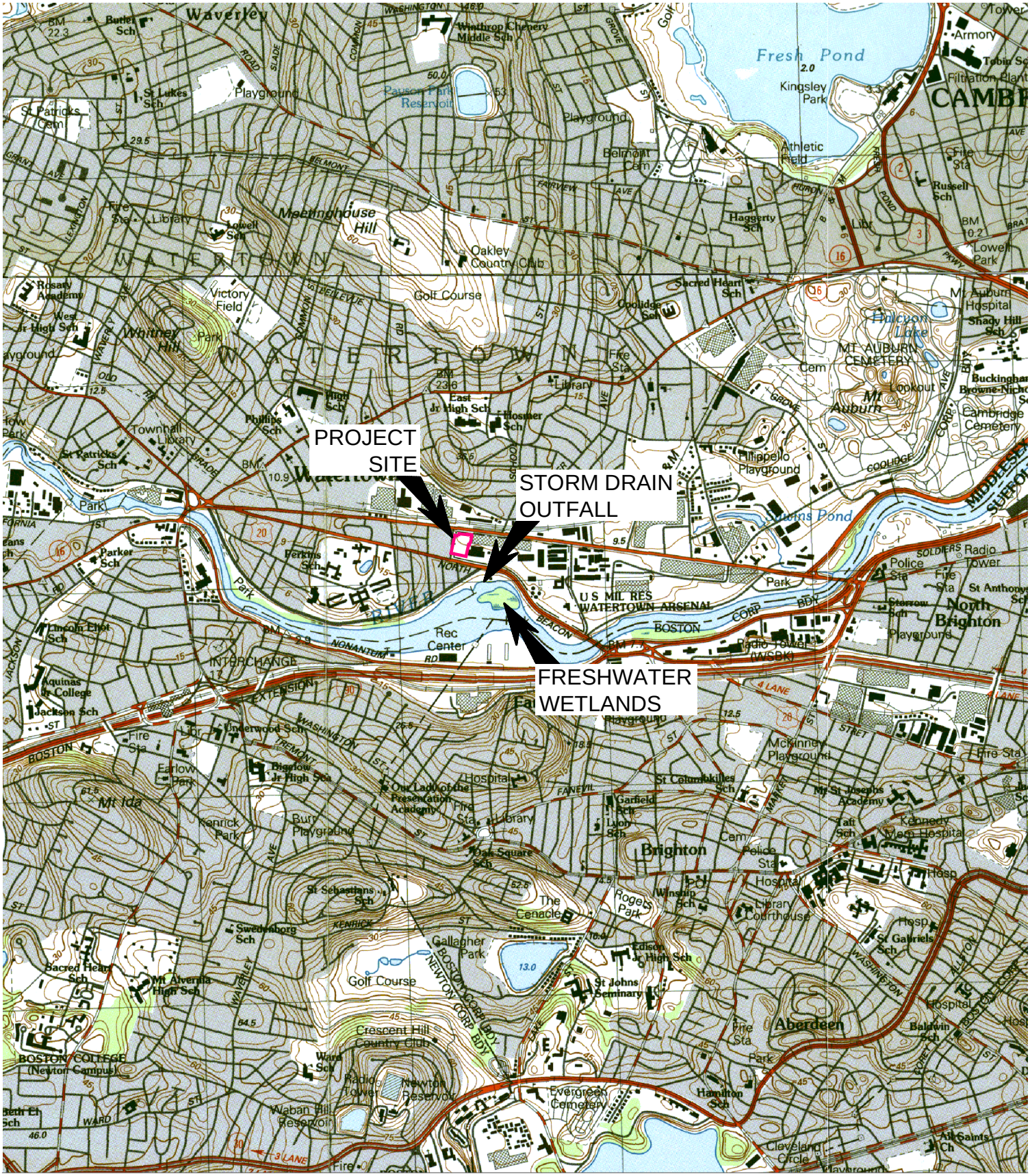
Table 2
Summary of Surface Water Quality
The Arsenal on the Charles - West Garage
Watertown, MA

LOCATION	Units	20170602 RGP-1
SAMPLING DATE		**6/2/2017**
SAMPLE TYPE		**Surface Water**
WATER BODY		**Charles River**
SAMPLE LOCATION (LAT, LONG)		**42.360779, -71.170296**
General Chemistry		
Chromium, Trivalent	mg/l	<0.01
pH (H)	SU	7.4
Nitrogen, Ammonia	mg/l	0.118
Chromium, Hexavalent	mg/l	<0.01
Total Hardness by SM 2340B		
Hardness	mg/l	74.5
Total Metals		
Antimony, Total	mg/l	<0.004
Arsenic, Total	mg/l	<0.001
Cadmium, Total	mg/l	<0.0002
Chromium, Total	mg/l	**0.00106**
Copper, Total	mg/l	**0.00269**
Iron, Total	mg/l	**1.3**
Lead, Total	mg/l	**0.00416**
Mercury, Total	mg/l	<0.0002
Nickel, Total	mg/l	<0.002
Selenium, Total	mg/l	<0.005
Silver, Total	mg/l	<0.001
Zinc, Total	mg/l	**0.05546**

Notes:
1. The sample was collected by Sanborn, Head & Associates, Inc. on the date indicated and analyzed by Alpha Analytical Laboratories, Inc. of Westborough, Massachusetts.
2. Bolded values indicate detections of analytes above laboratory reporting limits.
3. Abbreviations:
mg/l = milligrams per liter
"<" indicates the analyte was not detected above the laboratory reporting limit shown

FIGURES

File:P:\3900s\3979.00\Graphics Files\CADWG NOI RGP-DEC16\ARCHIVE\NPDES LOCUS.dwg Plot Date: 12-9-16



NOTES:
Base map was taken from the "Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Information Technology Division"
7.5 minute USGS Quadrangle Maps: Watertown, Massachusetts, REV: 1987

Drawn By: C.Green
Designed By: D.DeWolfe
Reviewed By: S.Sadkowski
Project No: 3979.00
Date: June 2017

SCALE: 1:25,000

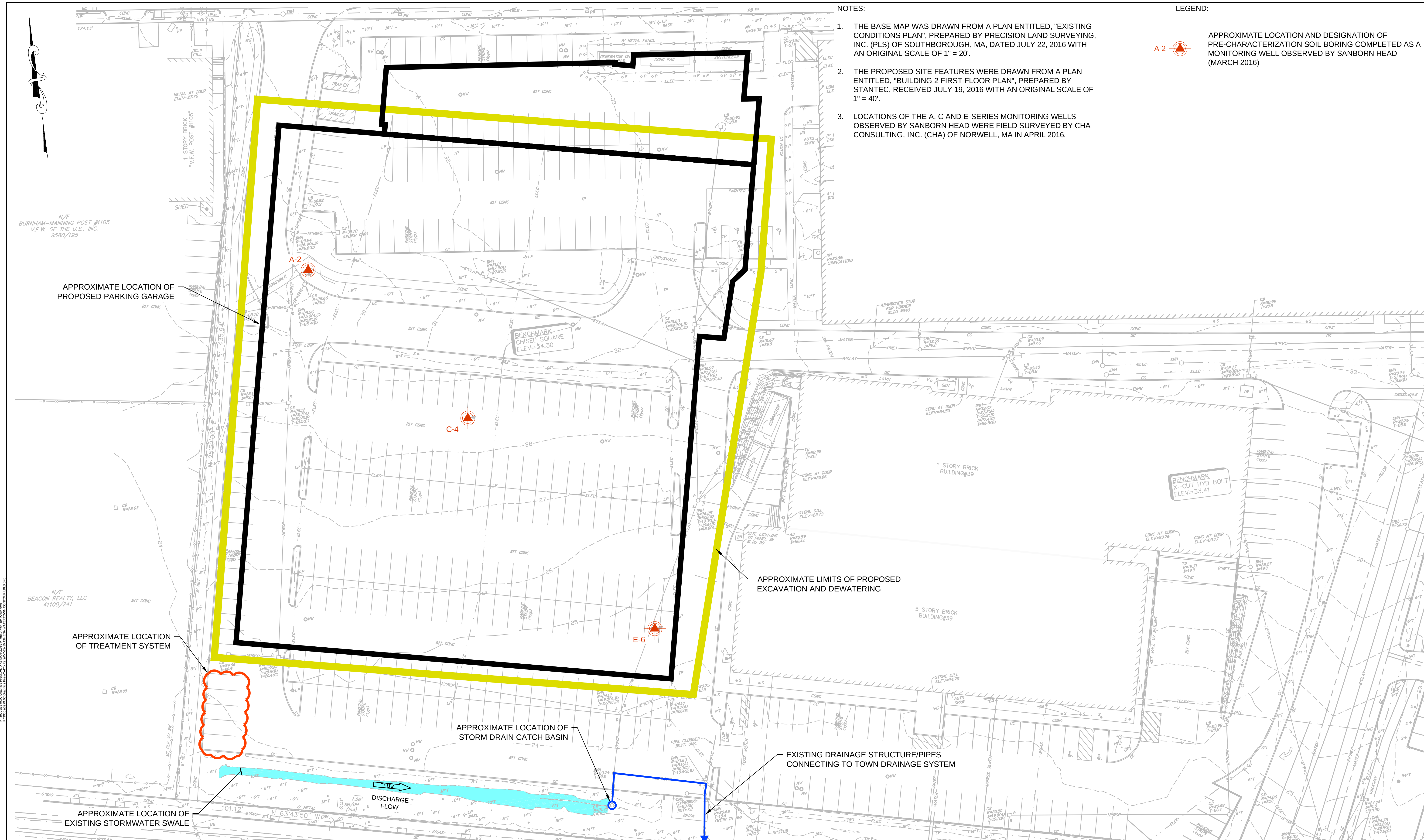
SANBORN HEAD

Figure 1

Locus Plan

Notice of Intent for Remediation General Permit

Arsenal on the Charles - West Garage
Watertown, Massachusetts



NOTES:

1. THE BASE MAP WAS DRAWN FROM A PLAN ENTITLED, "EXISTING CONDITIONS PLAN", PREPARED BY PRECISION LAND SURVEYING, INC. (PLS) OF SOUTHBOROUGH, MA, DATED JULY 22, 2016 WITH AN ORIGINAL SCALE OF 1" = 20'.
2. THE PROPOSED SITE FEATURES WERE DRAWN FROM A PLAN ENTITLED, "BUILDING 2 FIRST FLOOR PLAN", PREPARED BY STANTEC, RECEIVED JULY 19, 2016 WITH AN ORIGINAL SCALE OF 1" = 40'.
3. LOCATIONS OF THE A, C AND E-SERIES MONITORING WELLS OBSERVED BY SANBORN HEAD WERE FIELD SURVEYED BY CHA CONSULTING, INC. (CHA) OF NORWELL, MA IN APRIL 2016.

LEGEND:

A-2 — APPROXIMATE LOCATION AND DESIGNATION OF PRE-CHARACTERIZATION SOIL BORING COMPLETED AS A MONITORING WELL OBSERVED BY SANBORN HEAD (MARCH 2016)

SANBORN HEAD

GRAPHICAL SCALE
25' 12' 0' 25' 50'

NO.	DATE	DESCRIPTION	BY

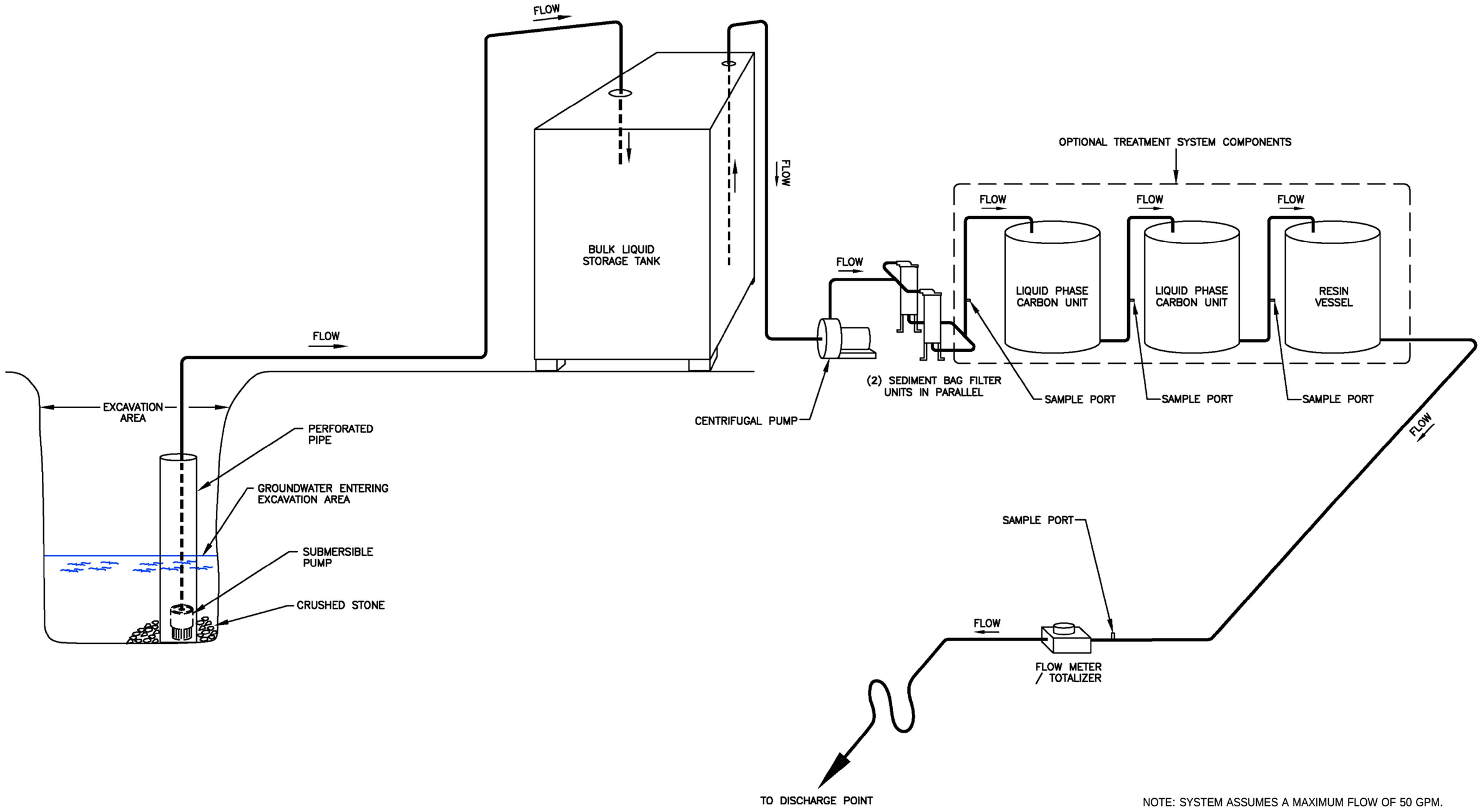
DRAWN BY: C.GREEN
DESIGNED BY: D.DEWOLFE
REVIEWED BY: M.HEIL
PROJECT MGR: A.BLOMEKE
PIC: S.SADKOWSKI
DATE: JUNE 2017

NOTICE OF INTENT FOR REMEDIATION GENERAL PERMIT
ARSENAL ON THE CHARLES - WEST GARAGE
WATERTOWN, MASSACHUSETTS

LOCATION OF PROPOSED EXCAVATION AND DEWATERING

PROJECT NUMBER: 3979.00

SHEET NUMBER: 2



NOTE: SYSTEM ASSUMES A MAXIMUM FLOW OF 50 GPM.

SANBORN HEAD

GRAPHICAL SCALE
20' 10' 0' 20' 40'

NO.	DATE	DESCRIPTION	BY

DRAWN BY: C.GREEN
DESIGNED BY: D.DEWOLFE
REVIEWED BY: M.HEIL
PROJECT MGR: A.BLOMEKE
PIC: S.SADKOWSKI
DATE: JUNE 2017

NOTICE OF INTENT FOR REMEDIATION GENERAL PERMIT
ARSENAL ON THE CHARLES - WEST GARAGE
WATERTOWN, MASSACHUSETTS

CONCEPTUAL GROUNDWATER TREATMENT SCHEMATIC

PROJECT NUMBER: 3979.00

SHEET NUMBER: 3

IMAGES: S:\MEDATA\3200\3298.00\Source Files\2012 RDF\Working Figures\Pages from Water Treatment System Submittal - 17 Cambridge Center.tiff
XREFS:
FILE: P:\3900s\3979.00\Graphics Files\CAD\MS NOI RDP-SECHE\ARCHIVE\GW TREAT SCHEMATIC.dwg
LAYOUT: ANSI D
CTB FILE: SHA Standard.ctb
PLOT DATE: 12-9-16

APPENDIX A

NOTICE OF INTENT FORM

II. Suggested Format for the Remediation General Permit Notice of Intent (NOI)

A. General site information:

<table>
<tr><td rowspan="3">1. Name of site:
Arsenal on the Charles - West Garage</td><td colspan="3">Site address: 311 Arsenal Street
Street:</td></tr>
<tr><td>City: Watertown</td><td>State: MA</td><td>Zip: 02472</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="5">2. Site owner
Athena Arsenal, LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Mr. Phil Memmott</td></tr>
<tr><td colspan="2">Telephone: (617) 402-1898</td><td>Email: pmemmott@athenahealth.com</td></tr>
<tr><td colspan="3">Mailing address: 311 Arsenal Street
Street:</td></tr>
<tr><td>City: Watertown</td><td>State: MA</td><td>Zip: 02472</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td rowspan="5">3. Site operator, if different than owner
W.L. French Excavating Corporation</td><td colspan="3">Contact Person: Gary Morrissey</td></tr>
<tr><td colspan="2">Telephone: (978) 663-2623</td><td>Email: gmorrissey@wlfrench.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 3 Survey Circle</td></tr>
<tr><td>City: North Billerica</td><td>State: MA</td><td>Zip: 01862</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td>4. NPDES permit number assigned by EPA:
NA

NPDES permit is (check all that apply: ☐ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s): 3-33694
☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:
☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Charles River	MA72-36	Class B

Receiving water is (check any that apply): ☐ Outstanding Resource Water ☐ Ocean Sanctuary ☐ territorial sea ☐ Wild and Scenic River

2. Has the operator attached a location map in accordance with the instructions in B, above? (check one): ■ Yes ☐ No See Figure 1

Are sensitive receptors present near the site? (check one): ■ Yes ☐ No

If yes, specify: Freshwater wetlands are located southeast of the site

3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. See Appendix B

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	15.45 MGD See Appendix C
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	215.6 See Appendix C

6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ■ Yes ☐ No

If yes, indicate date confirmation received: 3/23/2017

7. Has the operator attached a summary of receiving water sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No See Table 1 and Appendix D

C. Source water information:

1. Source water(s) is (check any that apply):

■ Contaminated groundwater Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No See Table 1 and Appendix D	☐ Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☐ Yes ☐ No	☐ The receiving water ☐ A surface water other than the receiving water; if so, indicate waterbody:	☐ Potable water; if so, indicate municipality or origin: ☐ Other; if so, specify:

2. Source water contaminants: Chloride, TSS, Antimony, Arsenic, Cadmium, Chromium III, Copper, Iron, Lead, Nickel, Silver, Zinc, Trichloroethylene, Tetrachloroethylene,and cis-1,2 Dichloroethylene	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): ☐ Yes ■ No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): ☐ Yes ☐ No
3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): ☐ Yes ■ No	

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ■ Existing discharge ☐ New discharge ☐ New source	
Outfall(s): Town of Watertown Storm Drain Outfall #18	Outfall location(s): (Latitude, Longitude) 42.362802, -71.169949
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Effluent will enter an existing storm water drainage system that discharges into the Charles River at the Town of Watertown Storm Drain Outfall #18 ☐ A private storm sewer system ■ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No See Appendix E Has the operator has received permission from the owner to use such system for discharges? (check one): ■ Yes ☐ No, if so, explain, with an estimated timeframe for obtaining permission: Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☐ Yes ■ No	
Provide the expected start and end dates of discharge(s) (month/year): Start: 7/2017 End: 12/2017 Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No See Figure 2	

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="4">☐ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
■ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
☐ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

☐ A. Inorganics
☐ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
☐ F. Fuels Parameters</td></tr>
<tr><td colspan="2">b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)</td></tr>
<tr><td>■ G. Sites with Known Contamination</td><td>☐ H. Sites with Unknown Contamination</td></tr>
<tr><td>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)

■ A. Inorganics
☐ B. Non-Halogenated Volatile Organic Compounds
■ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
☐ F. Fuels Parameters</td><td>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</td></tr>
</table>

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL*
A. Inorganics									
Ammonia		✔	3	4500NH3-	0.075	1.77	0.734	Report mg/L	---
Chloride		✔	3	300.0	25000	1860000	1493000	Report µg/l	---
Total Residual Chlorine	✔		3	4500CL	20	ND		0.2 mg/L	2371
Total Suspended Solids		✔	3	2540D	60000	3000000	2100000	30 mg/L	---
Antimony		✔	3	6020A	0.5	2.44	1.97	206 µg/L	137973
Arsenic		✔	3	6020A	0.5	30.34	24.4	104 µg/L	2156
Cadmium		✔	3	6020A	0.2	0.83	0.77	10.2 µg/L	48.1341
Chromium III		✔	3	6020A	10	190	151.0	323 µg/L	15020.6
Chromium VI	✔		3	3500CR	10	ND		323 µg/L	2237.6
Copper		✔	3	6020A	0.5	174.9	111.6	242 µg/L	1033.8
Iron		✔	3	200.7	50	87000	66933	5,000 µg/L	1000
Lead		✔	3	6020A	0.5	90.35	69.6	160 µg/L	2.29
Mercury	✔		3	245.1	0.2	ND		0.739 µg/L	195.29
Nickel		✔	3	6020A	2.0	72.81	49.3	1,450 µg/L	9028.2
Selenium	✔		3	6020A	5.0	ND		235.8 µg/L	1077.9
Silver		✔	3	6020A	0.2	1.08	0.52	35.1 µg/L	522.0
Zinc		✔	3	6020A	5.0	223.1	163.6	420 µg/L	8829.7
Cyanide	✔		3	4500CN	5.0	ND		178 mg/L	1121.0
B. Non-Halogenated VOCs									
Total BTEX	✔		3	8260C	1	ND		100 µg/L	---
Benzene	✔		3	8260C	0.5	ND		5.0 µg/L	---
1,4 Dioxane	✔		3	8260C	3.0	ND		200 µg/L	---
Acetone	✔		3	8260C	5.0	ND		7.97 mg/L	---
Phenol	✔		3	420.1	30	ND		1,080 µg/L	64675

* WQBEL effluent limitations are reported in the same units as indicated by corresponding TBEL

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL*
C. Halogenated VOCs									
Carbon Tetrachloride	✔		3	8260C	0.5	ND		4.4 µg/L	344.9
1,2 Dichlorobenzene	✔		3	8260C	2.5	ND		600 µg/L	---
1,3 Dichlorobenzene	✔		3	8260C	2.5	ND		320 µg/L	---
1,4 Dichlorobenzene	✔		3	8260C	2.5	ND		5.0 µg/L	---
Total dichlorobenzene	✔		3	8260C	7.5	ND		763 µg/L in NH	---
1,1 Dichloroethane	✔		3	8260C	0.75	ND		70 µg/L	---
1,2 Dichloroethane	✔		3	8260C	0.5	ND		5.0 µg/L	---
1,1 Dichloroethylene	✔		3	8260C	0.5	ND		3.2 µg/L	---
Ethylene Dibromide	✔		3	504.1	0.01	ND		0.05 µg/L	---
Methylene Chloride	✔		3	8260C	3.0	ND		4.6 µg/L	---
1,1,1 Trichloroethane	✔		3	8260C	0.5	ND		200 µg/L	---
1,1,2 Trichloroethane	✔		3	8260C	0.75	ND		5.0 µg/L	---
Trichloroethylene		✔	3	8260C	0.5	6.7	2.4	5.0 µg/L	---
Tetrachloroethylene		✔	3	8260C	0.5	130	43.5	5.0 µg/L	711.4
cis-1,2 Dichloroethylene		✔	3	8260C	0.5	1.3	0.6	70 µg/L	---
Vinyl Chloride	✔		3	8260C	1.0	ND		2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		3	8270D	28	ND		190 µg/L	---
Diethylhexyl phthalate	✔		3	8270D	3.0	ND		101 µg/L	474.3
Total Group I PAHs	✔		3	8270D	0.2	ND		1.0 µg/L	---
Benzo(a)anthracene	✔		3	8270D	0.2	ND		As Total PAHs	0.8192
Benzo(a)pyrene	✔		3	8270D	0.2	ND			0.8192
Benzo(b)fluoranthene	✔		3	8270D	0.2	ND			0.8192
Benzo(k)fluoranthene	✔		3	8270D	0.2	ND			0.8192
Chrysene	✔		3	8270D	0.2	ND			0.8192
Dibenzo(a,h)anthracene	✔		3	8270D	0.2	ND			0.8192
Indeno(1,2,3-cd)pyrene	✔		3	8270D	0.2	ND			0.8192

* WQBEL effluent limitations are reported in the same units as indicated by corresponding TBEL

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL*
Total Group II PAHs	✔		3	8270D	9.0	ND		100 µg/L	---
Naphthalene	✔		3	8270D	0.2	ND		20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		3	608	1.7	ND		0.000064 µg/L	---
Pentachlorophenol	✔		3	8270D	0.8	ND		1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		3	1664A	4000	ND		5.0 mg/L	---
Ethanol								Report mg/L	---
Methyl-tert-Butyl Ether	✔		3	8260C	1.0	ND		70 µg/L	4312
tert-Butyl Alcohol	✔		3	8260C	10	ND		120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		3	8260C	2.0	ND		90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
pH			3	field		6.5 SU	6.4 SU		
Temperature			3	field		19.65 deg C	17.99 deg C		

* WQBEL effluent limitations are reported in the same units as indicated by corresponding TBEL

E. Treatment system information

1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)

☐ Adsorption/Absorption ☐ Advanced Oxidation Processes ☐ Air Stripping ■ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption
■ Ion Exchange ☐ Precipitation/Coagulation/Flocculation ■ Separation/Filtration ☐ Other; if so, specify:

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.

Groundwater encountered during construction activities will be pumped into a treatment system prior to discharge into an on-site stormwater swale. The first element of the treatment system will be a fractionalization tank where solids will settle out. The effluent will then pass through the following as necessary: a bag filter, a granular activated carbon vessel, and a cation resin vessel. The effluent will be discharged to the on-site swale into the existing storm drain system.

Identify each major treatment component (check any that apply):

■ Fractionation tanks☐ Equalization tank ☐ Oil/water separator ☐ Mechanical filter ☐ Media filter
☐ Chemical feed tank ☐ Air stripping unit ■ Bag filter ■ Other; if so, specify: Cation resin vessel (if needed)

Indicate if either of the following will occur (check any that apply):

☐ Chlorination ☐ De-chlorination

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Fractionation tank Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	50
Provide the proposed maximum effluent flow in gpm.	50
Provide the average effluent flow in gpm.	30
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): ■ Yes ☐ No See Figure 3

F. Chemical and additive information

1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply)

☐ Algaecides/biocides ☐ Antifoams ☐ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ☐ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ☐ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ■ Other; if so, specify:
None anticipated

2. Provide the following information for each chemical/additive, using attachments, if necessary:

a. Product name, chemical formula, and manufacturer of the chemical/additive;
b. Purpose or use of the chemical/additive or remedial agent;
c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive;
d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive;
e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and
f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).

3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance with the instructions in F, above? (check one): ☐ Yes ☐ No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive? (check one): ☐ Yes ☐ No

G. Endangered Species Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit: See Appendix F

■ **FWS Criterion A**: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area".

☐ **FWS Criterion B**: Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat (informal consultation). Has the operator completed consultation with FWS? (check one): ☐ Yes ☐ No; if no, is consultation underway? (check one): ☐ Yes ☐ No

☐ **FWS Criterion C**: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS. This determination was made by: (check one) ☐ the operator ☐ EPA ☐ Other; if so, specify:

■ **NMFS Criterion**: A determination made by EPA is affirmed by the operator that the discharges and related activities will have "no effect" or are "not likely to adversely affect" any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of listed species. Has the operator previously completed consultation with NMFS? (check one): ■ Yes ☐ No

2. Has the operator attached supporting documentation of ESA eligibility in accordance with the instructions in Appendix I, and G, above? (check one): ■ Yes ☐ No

Does the supporting documentation include any written concurrence or finding provided by the Services? (check one): ■ Yes ☐ No; if yes, attach. See Appendix F

H. National Historic Preservation Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

☐ **Criterion A**: No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.

■ **Criterion B**: Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.

☐ **Criterion C**: Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.

2. Has the operator attached supporting documentation of NHPA eligibility in accordance with the instructions in H, above? (check one): ■ Yes ☐ No
See Appendix G

Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): ☐ Yes ■ No

I. Supplemental information

Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.
Appendix B includes the Massachusetts Category 5 Waters "Waters requiring a TMDL" and lists pollutants for the Charles River
Appendix C includes calculations for the dilution factor
Appendix D includes the analytical data collected by Sanborn, Head & Associates, Inc.
Appendix E includes municipal correspondence
Appendix F includes correspondence from the National Oceanic and Atmospheric Administration and the US Fish and Wildlife Service
Appendix G includes a list of Historic Places in Watertown, Massachusetts.
Appendix H includes supplemental influent and effluent data collected from the discharge to date
Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ■ Yes ☐ No

Has the operator attached the certification requirement for the Best Management Practices Plan (BMPP)? (check one): ■ Yes ☐ No

J. Certification requirement

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 gathered and evaluated 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, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	
BMPP certification statement:	A BMPP meeting the requirements of this general permit will be developed and implemented upon initiation of discharge.
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ☐
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ■ No ☐ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☐ No ☐ NA ■
Signature:	Date: 6/27/17
Print Name and Title: Gary Morrissey, Senior Project Manager	

APPENDIX B

MASSACHUSETTS CATEGORY 5 WATERS
"WATERS REQUIRING A TDML"

Massachusetts Category 5 Waters
"Waters requiring a TMDL"

NAME	SEGMENT ID	DESCRIPTION	SIZE	UNITS	IMPAIRMENT CAUSE	EPA TMDL NO.
Charles River	MA72-07	Chestnut Street, Needham to Watertown Dam, Watertown.	24.774	MILES	(Eurasian Water Milfoil, Myriophyllum spicatum*)	
					(Fish-Passage Barrier*)	
					(Non-Native Aquatic Plants*)	
					(Other flow regime alterations*)	
					DDT	
					Escherichia coli	32370
					Fishes Bioassessments	
					Nutrient/Eutrophication Biological Indicators	40317
					PCB in Fish Tissue	
					Phosphorus (Total)	40317
Charles River	MA72-36	Watertown Dam, Watertown to the Boston University Bridge, Boston/Cambridge (formerly part of segment MA72-08).	6.052	MILES	(Fish-Passage Barrier*)	
					(Non-Native Aquatic Plants*)	
					(Other flow regime alterations*)	
					Chlorophyll-a	33826
					DDT	
					Escherichia coli	32371
					Fishes Bioassessments	
					Nutrient/Eutrophication Biological Indicators	33826
					Oil and Grease	
					Other	
					Oxygen, Dissolved	
					PCB in Fish Tissue	
					pH, High	
					Phosphorus (Total)	33826
					Secchi disk transparency	33826
					Sediment Bioassays -- Acute Toxicity Freshwater	

APPENDIX C

CHARLES RIVER DILUTION CALCULATIONS

PURPOSE:
To calculate the dilution factor (DF) for metal concentrations in a potential discharge from on-site construction dewatering activities.

METHOD:

$$DF = (Qd + Qs)/Qd$$

Where: DF = Dilution Factor
Qd = Design flow rate of the discharge in million gallons per day (MGD)
Qs = Receiving water 7Q10 flow (MGD) where 7Q10 is the minimum flow for 7 consecutive days with a recurrence interval of 10 years

GIVEN:
1.0 gpm = 0.00144 MGD
1.0 cfs = 0.64632 MGD
Qd = 50 gpm = 0.072 MGD
Qs = 23.9 cfs = 15.45 MGD of flow into the Charles River [Reference 1]

CALCULATION:

$$DF = (0.072 \text{ MGD} + 15.45 \text{ MGD}) / 0.072 \text{ MGD}$$

DF = 215.6

RESULTS:

The resulting dilution factor to be used when discharging to the Charles River is 215.6.

REFERENCES:

[1] StreamStats Report. Accessed online: http://streamstatsags.cr.usgs.gov/streamstats/ (Refer to Attachment A)

Attachment A

StreamStats Report

Region ID:

MA

Workspace ID:

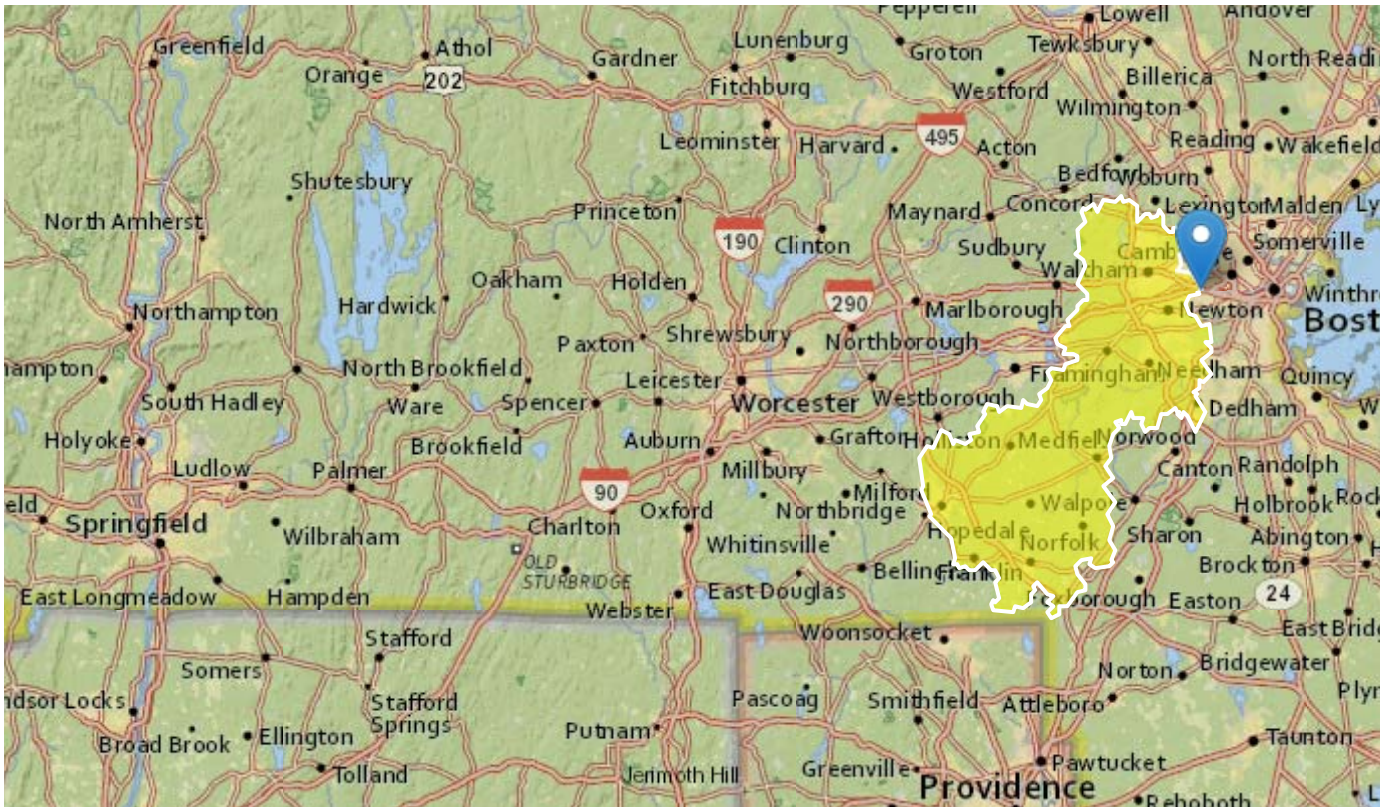
MA20170323062646280000

Clicked Point (Latitude, Longitude):

42.35870, -71.16364

Time:

2017-03-23 08:27:17 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	275	square miles
DRFTPERSTR	Area of stratified drift per unit of stream length	0.23	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.333	percent

Low-Flow Statistics Parameters [100 Percent (275 square miles) Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	275	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	0.23	square mile per mile	0	1.29
BSLDEM250	Mean Basin Slope from 250K DEM	2.333	percent	0.32	24.6
MAREGION	Massachusetts Region	0	dimensionless	0	1

Low-Flow Statistics Disclaimers [100 Percent (275 square miles) Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [100 Percent (275 square miles) Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
7 Day 2 Year Low Flow	48	ft^3/s
7 Day 10 Year Low Flow	23.9	ft^3/s

Low-Flow Statistics Citations

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)

From:	Vakalopoulos, Catherine (DEP)
To:	Danielle M. DeWolfe
Cc:	Americo Santamaria
Subject:	RE: RE: Watertown, MA RGP
Date:	Thursday, March 23, 2017 11:58:04 AM

Hi Danielle,

I have confirmed your calculations, the 7Q10 of 23.9 cfs and dilution factor of 215.6 are correct for the proposed discharge to the Charles River near 311 Arsenal St. in Watertown.

Cathy

Cathy Vakalopoulos, Massachusetts Department of Environmental Protection
1 Winter St., Boston, MA 02108, 617-348-4026

From: Danielle M. DeWolfe [mailto:DDewolfe@sanbornhead.com]
Sent: Thursday, March 23, 2017 8:54 AM
To: Vakalopoulos, Catherine (DEP)
Cc: Americo Santamaria
Subject: RE: RE: Watertown, MA RGP

Hi Cathy,

I am continuing to work on updating our NOI permits while Americo is out of the office. In response to your email below, I can confirm that 50 gpm (0.072 MGD) is the design flow for our Brookline project which discharges to the Muddy River as well as for the Watertown project which discharges to the Charles River.

I have recalculated the dilution factor including the adjustments to the 7Q10. I ran the StreamStats application again, and can confirm the 23.9 cfs 7Q10 which you indicated yesterday, and my StreamStats report is attached. The dilution factor calculation following Appendix V of the NDPES RGP Discharges for the segment of the Charles River with the ID MA72-36 is as follows:

- Appendix V.I.A.2. – 7Q10 = 23.9 cfs = **15.45 MGD** (from StreamStats)
- Design flow = 50 gpm = **0.072 MGD**
- Appendix V.I.B.1. – **DF** = **215.6**

Thank you,

Danielle

--

Danielle DeWolfe
Project Engineer

SANBORN | HEAD & ASSOCIATES, INC.

1 Technology Park Drive, Westford, MA 01886
T 978.392.0900 D 978.577.1016 C 508.333.8695
www.sanbornhead.com

---------- Forwarded message ----------
From: "**Vakalopoulos, Catherine (DEP)**" <Catherine.Vakalopoulos@MassMail.State.MA.US>
Date: Wed, Mar 22, 2017 at 12:46 PM -0400
Subject: RE: Watertown, MA RGP
To: "Americo Santamaria" <asantamaria@sanbornhead.com>

Hi Americo,
I forgot to confirm something with you yesterday when I was checking the other discharge to the Muddy River. When you say "using an anticipated discharge flow of 50 gpm", is that the design flow? The RGP requires that the design flow or 1 MGD (whichever is less) be used in these calculations.

Also, I ran StreamStats for the discharge location listed below (see attached report). The lat/long was over land so I chose a spot in the middle of the Charles just south of that location (is that accurate or does the drain go to the Charles in a different direction?). StreamStats gave me a 7Q10 of 23.9 with the caveat "One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors." I have spoken to Shauna Little at EPA about this and we agree that for our purposes, it is ok to use this 7Q10 and ignore this disclaimer.

Taking my two questions above into consideration, you can go ahead and recalculate the dilution factor and send it to me for confirmation.

Thanks,
Cathy

From: Americo Santamaria [mailto:asantamaria@sanbornhead.com]
Sent: Tuesday, March 21, 2017 7:01 PM
To: Vakalopoulos, Catherine (DEP)
Cc: Danielle M. DeWolfe
Subject: Watertown, MA RGP

Good evening Cathy,

I am requesting information to be included as part of a Notice of Intent (NOI) for a Remediation General Report (RGP). The NOI is for construction dewatering during excavation activities at 311 Arsenal Street in Watertown, Massachusetts. Effluent will be discharged to the Charles River in Watertown, Massachusetts, via a drain and

outfall. The approximate lat/long of the outfall is: 42.362802, -71.169949; however, the basin created in StreamStats was too large so to find 7Q10 I used the minimum daily flow from a stream gage at 42.36529, -71.18994, is this acceptable (See attached)? Alternatively there are smaller basins which can be delineated; however, the software asks for additional information which I do not know how to provide.

As part of the application to the USEPA for the RGP, Appendix V instructs that "the State must be contacted to confirm the critical low flow (7Q10) of the receiving water, dilution factor (DF), other appropriate hydrologic conditions, or to confirm site-specific limiting factors, including additional water quality-based effluent limitations (WQBELs)."

I have determined the following per NDPES General Permit for Remediation Activity Discharges for the segment of the Charles River with the ID MA72-36:

- Appendix V.I.A.2. – 7Q10 = 18 cfs = **11.634** (From StreamStats upstream query streamgage "Charles Rv abv Watertown Dam at Watertown, MA)
- Appendix V.I.B.1. – **DF = 162.6** (using an anticipated discharge flow of 50gpm)

Thank you in advance for your assistance, and please let me know if you require further information.

-Americo

--
Americo J. Santamaria
Project Engineer

SANBORN | HEAD & ASSOCIATES, INC.
1 Technology Park Drive, Westford, MA 01886
T 978.392.0900 D 978.577. 1040
www.sanbornhead.com

Click here to follow us on LinkedIn / Twitter / Facebook

Enter number values in green boxes below

Notes:

Enter values in the units specified

↓

15.45	Q_R = Enter upstream flow in **MGD**
0.072	Q_P = Enter discharge flow in **MGD**
0	Downstream 7Q10

Freshwater: critical low flow equal to the 7Q10; enter alternate low flow if approved by the State
Saltwater (estuarine and marine): enter critical low flow if approved by the State; enter 0 if no entry
Discharge flow is equal to the design flow or 1 MGD, whichever is less
Optional entry for Q_r; leave 0 if no entry

Enter a dilution factor, if other than zero

↓

215.6

Saltwater (estuarine and marine): only if approved by the State
Leave 0 if no entry

Enter values in the units specified

↓

643	C_d = Enter influent hardness in **mg/L** $CaCO_3$
74.5	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$

Enter **receiving water** concentrations in the units specified

↓

7.4	pH in **Standard Units**
17.44	Temperature in **°C**
0.118	Ammonia in **mg/L**
74.5	Hardness in **mg/L** $CaCO_3$
0	Salinity in **ppt**
0	Antimony in **µg/L**
0	Arsenic in **µg/L**
0	Cadmium in **µg/L**
0	Chromium III in **µg/L**
1.06	Chromium VI in **µg/L**
2.69	Copper in **µg/L**
1300	Iron in **µg/L**
4.16	Lead in **µg/L**
0	Mercury in **µg/L**
0	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
55.46	Zinc in **µg/L**

pH, temperature, and ammonia required for all discharges
Hardness required for freshwater
Salinity required for saltwater (estuarine and marine)
Metals required for all discharges if present and if dilution factor is > 1
Enter 0 if non-detect or testing not required

Enter **influent** concentrations in the units specified

↓

0	TRC in **µg/L**
0.00177	Ammonia in **mg/L**
2.44	Antimony in **µg/L**
30.34	Arsenic in **µg/L**
0.83	Cadmium in **µg/L**
190	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
174.9	Copper in **µg/L**
87000	Iron in **µg/L**
90.35	Lead in **µg/L**
0	Mercury in **µg/L**
72.81	Nickel in **µg/L**
0	Selenium in **µg/L**
1.08	Silver in **µg/L**
223.1	Zinc in **µg/L**
0	Cyanide in **µg/L**
0	Phenol in **µg/L**
0	Carbon Tetrachloride in **µg/L**
130	Tetrachloroethylene in **µg/L**
0	Total Phthalates in **µg/L**
0	Diethylhexylphthalate in **µg/L**
0	Benzo(a)anthracene in **µg/L**
0	Benzo(a)pyrene in **µg/L**
0	Benzo(b)fluoranthene in **µg/L**
0	Benzo(k)fluoranthene in **µg/L**
0	Chrysene in **µg/L**
0	Dibenzo(a,h)anthracene in **µg/L**
0	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

if >1 sample, enter maximum
if >10 samples, may enter 95th percentile
Enter 0 if non-detect or testing not required

Dilution Factor	215.6					
	TBEL applies if bolded		WQBEL applies if bolded		Compliance Level applies if shown	
A. Inorganics						
Ammonia	**Report**	mg/L	---			
Chloride	**Report**	µg/L	---			
Total Residual Chlorine	**0.2**	mg/L	2371	µg/L	---	µg/L
Total Suspended Solids	**30**	mg/L	---			
Antimony	**206**	µg/L	137973	µg/L		
Arsenic	**104**	µg/L	2156	µg/L		
Cadmium	**10.2**	µg/L	48.1341	µg/L		
Chromium III	**323**	µg/L	15020.6	µg/L		
Chromium VI	**323**	µg/L	2237.6	µg/L		
Copper	**242**	µg/L	1033.8	µg/L		
Iron	5000	µg/L	**1000**	µg/L		
Lead	160	µg/L	**2.29**	µg/L		
Mercury	**0.739**	µg/L	195.29	µg/L		
Nickel	**1450**	µg/L	9028.2	µg/L		
Selenium	**235.8**	µg/L	1077.9	µg/L		
Silver	**35.1**	µg/L	522.0	µg/L		
Zinc	**420**	µg/L	8829.7	µg/L		
Cyanide	**178**	mg/L	1121.0	µg/L	---	µg/L
B. Non-Halogenated VOCs						
Total BTEX	**100**	µg/L	---			
Benzene	**5.0**	µg/L	---			
1,4 Dioxane	**200**	µg/L	---			
Acetone	**7970**	µg/L	---			
Phenol	**1,080**	µg/L	64675	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	**4.4**	µg/L	344.9	µg/L		
1,2 Dichlorobenzene	**600**	µg/L	---			
1,3 Dichlorobenzene	**320**	µg/L	---			
1,4 Dichlorobenzene	**5.0**	µg/L	---			
Total dichlorobenzene	**---**	µg/L	---			
1,1 Dichloroethane	**70**	µg/L	---			
1,2 Dichloroethane	**5.0**	µg/L	---			
1,1 Dichloroethylene	**3.2**	µg/L	---			
Ethylene Dibromide	**0.05**	µg/L	---			
Methylene Chloride	**4.6**	µg/L	---			
1,1,1 Trichloroethane	**200**	µg/L	---			
1,1,2 Trichloroethane	**5.0**	µg/L	---			
Trichloroethylene	**5.0**	µg/L	---			
Tetrachloroethylene	**5.0**	µg/L	711.4	µg/L		
cis-1,2 Dichloroethylene	**70**	µg/L	---			
Vinyl Chloride	**2.0**	µg/L	---			
D. Non-Halogenated SVOCs						
Total Phthalates	190	µg/L	---	µg/L		
Diethylhexyl phthalate	**101**	µg/L	474.3	µg/L		
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---			
Benzo(a)anthracene	**1.0**	µg/L	0.8192	µg/L	---	µg/L
Benzo(a)pyrene	**1.0**	µg/L	0.8192	µg/L	---	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.8192	µg/L	---	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.8192	µg/L	---	µg/L
Chrysene	**1.0**	µg/L	0.8192	µg/L	---	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.8192	µg/L	---	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.8192	µg/L	---	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---			
Naphthalene	**20**	µg/L	---			
E. Halogenated SVOCs						
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---		0.5	µg/L
Pentachlorophenol	**1.0**	µg/L	---			
F. Fuels Parameters						
Total Petroleum Hydrocarbons	**5.0**	mg/L	---			
Ethanol	**Report**	mg/L	---			
Methyl-tert-Butyl Ether	**70**	µg/L	4312	µg/L		
tert-Butyl Alcohol	**120**	µg/L	---			
tert-Amyl Methyl Ether	**90**	µg/L	---			

APPENDIX D

ANALYTICAL DATA REPORTS

ANALYTICAL REPORT

Lab Number:	L1718187
Client:	Sanborn, Head & Associates, Inc. 1 Technology Park Drive Westford, MA 01886
ATTN:	Amy Blomeke
Phone:	(978) 577-1036
Project Name:	AHC
Project Number:	3979.00
Report Date:	06/08/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1718187-01	20170602 RGP-1	WATER	WATERTOWN, MA	06/02/17 08:30	06/02/17

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Amita Naik

Title: Technical Director/Representative Date: 06/08/17

METALS

Project Name: AHC
Project Number: 3979.00
Lab Number: L1718187
Report Date: 06/08/17

SAMPLE RESULTS

Lab ID: L1718187-01
Client ID: 20170602 RGP-1
Sample Location: WATERTOWN, MA
Matrix: Water
Date Collected: 06/02/17 08:30
Date Received: 06/02/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	06/05/17 06:35	06/05/17 16:20	EPA 3005A	3,200.8	TT
Arsenic, Total	ND		mg/l	0.00100	--	1	06/05/17 06:35	06/05/17 16:20	EPA 3005A	3,200.8	TT
Cadmium, Total	ND		mg/l	0.00020	--	1	06/05/17 06:35	06/05/17 16:20	EPA 3005A	3,200.8	TT
Chromium, Total	0.00106		mg/l	0.00100	--	1	06/05/17 06:35	06/05/17 16:20	EPA 3005A	3,200.8	TT
Copper, Total	0.00269		mg/l	0.00100	--	1	06/05/17 06:35	06/05/17 16:20	EPA 3005A	3,200.8	TT
Iron, Total	1.30		mg/l	0.050	--	1	06/05/17 06:35	06/05/17 22:50	EPA 3005A	19,200.7	PS
Lead, Total	0.00416		mg/l	0.00050	--	1	06/05/17 06:35	06/05/17 16:20	EPA 3005A	3,200.8	TT
Mercury, Total	ND		mg/l	0.00020	--	1	06/05/17 14:55	06/05/17 18:38	EPA 245.1	3,245.1	EA
Nickel, Total	ND		mg/l	0.00200	--	1	06/05/17 06:35	06/05/17 16:20	EPA 3005A	3,200.8	TT
Selenium, Total	ND		mg/l	0.00500	--	1	06/05/17 06:35	06/05/17 16:20	EPA 3005A	3,200.8	TT
Silver, Total	ND		mg/l	0.00100	--	1	06/05/17 06:35	06/05/17 16:20	EPA 3005A	3,200.8	TT
Zinc, Total	0.05546		mg/l	0.01000	--	1	06/05/17 06:35	06/05/17 16:20	EPA 3005A	3,200.8	TT
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	74.5		mg/l	0.660	NA	1	06/05/17 06:35	06/05/17 22:50	EPA 3005A	19,200.7	PS
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		06/05/17 16:20	NA	107,-	

Project Name: AHC
Project Number: 3979.00
Lab Number: L1718187
Report Date: 06/08/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1009763-1										
Iron, Total	ND		mg/l	0.050	--	1	06/05/17 06:35	06/05/17 20:08	19,200.7	PS

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1009763-1										
Hardness	ND		mg/l	0.660	NA	1	06/05/17 06:35	06/05/17 20:08	19,200.7	PS

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1009764-1										
Antimony, Total	ND		mg/l	0.0040	--	1	06/05/17 06:35	06/05/17 15:26	3,200.8	TT
Arsenic, Total	ND		mg/l	0.0010	--	1	06/05/17 06:35	06/05/17 15:26	3,200.8	TT
Cadmium, Total	ND		mg/l	0.0002	--	1	06/05/17 06:35	06/05/17 15:26	3,200.8	TT
Chromium, Total	ND		mg/l	0.0010	--	1	06/05/17 06:35	06/05/17 15:26	3,200.8	TT
Copper, Total	ND		mg/l	0.00100	--	1	06/05/17 06:35	06/05/17 15:26	3,200.8	TT
Lead, Total	ND		mg/l	0.00050	--	1	06/05/17 06:35	06/05/17 15:26	3,200.8	TT
Nickel, Total	ND		mg/l	0.00200	--	1	06/05/17 06:35	06/05/17 15:26	3,200.8	TT
Selenium, Total	ND		mg/l	0.0050	--	1	06/05/17 06:35	06/05/17 15:26	3,200.8	TT
Silver, Total	ND		mg/l	0.00100	--	1	06/05/17 06:35	06/05/17 15:26	3,200.8	TT
Zinc, Total	ND		mg/l	0.01000	--	1	06/05/17 06:35	06/05/17 15:26	3,200.8	TT

Prep Information

Digestion Method: EPA 3005A

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1009940-1										
Mercury, Total	ND		mg/l	0.0002	--	1	06/05/17 14:55	06/05/17 17:55	3,245.1	EA

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1009763-2								
Iron, Total	105		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1009763-2								
Hardness	98		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1009764-2								
Antimony, Total	91		-		85-115	-		
Arsenic, Total	96		-		85-115	-		
Cadmium, Total	106		-		85-115	-		
Chromium, Total	100		-		85-115	-		
Copper, Total	101		-		85-115	-		
Lead, Total	103		-		85-115	-		
Nickel, Total	99		-		85-115	-		
Selenium, Total	99		-		85-115	-		
Silver, Total	103		-		85-115	-		
Zinc, Total	100		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1009940-2								
Mercury, Total	106		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009763-3 QC Sample: L1717777-01 Client ID: MS Sample												
Iron, Total	0.112	1	1.16	105		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009763-3 QC Sample: L1717777-01 Client ID: MS Sample												
Hardness	890	66.2	935	**68**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009763-7 QC Sample: L1718226-02 Client ID: MS Sample												
Iron, Total	0.057	1	1.14	108		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009763-7 QC Sample: L1718226-02 Client ID: MS Sample												
Hardness	1980	66.2	2080	**151**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009764-3 QC Sample: L1717777-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.4827	96		-	-		70-130	-		20
Arsenic, Total	0.00107	0.12	0.1262	104		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.0550	108		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.2140	107		-	-		70-130	-		20
Copper, Total	ND	0.25	0.2480	99		-	-		70-130	-		20
Lead, Total	ND	0.51	0.5438	107		-	-		70-130	-		20
Nickel, Total	ND	0.5	0.4940	99		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1324	110		-	-		70-130	-		20
Silver, Total	ND	0.05	0.04908	98		-	-		70-130	-		20
Zinc, Total	0.01904	0.5	0.5272	102		-	-		70-130	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009764-5 QC Sample: L1718226-02 Client ID: MS Sample									
Antimony, Total	ND	0.5	0.5252	105	-	-	70-130	-	20
Arsenic, Total	ND	0.12	0.1383	115	-	-	70-130	-	20
Cadmium, Total	ND	0.051	0.0593	116	-	-	70-130	-	20
Chromium, Total	0.00133	0.2	0.2243	111	-	-	70-130	-	20
Copper, Total	0.01835	0.25	0.2572	96	-	-	70-130	-	20
Lead, Total	0.00121	0.51	0.5761	113	-	-	70-130	-	20
Nickel, Total	0.00662	0.5	0.4842	96	-	-	70-130	-	20
Selenium, Total	ND	0.12	0.1481	123	-	-	70-130	-	20
Silver, Total	ND	0.05	0.04718	94	-	-	70-130	-	20
Zinc, Total	0.1329	0.5	0.6936	112	-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009940-3 QC Sample: L1718226-01 Client ID: MS Sample									
Mercury, Total	ND	0.005	0.0051	103	-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009940-5 QC Sample: L1717760-02 Client ID: MS Sample									
Mercury, Total	ND	0.005	0.0046	93	-	-	70-130	-	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009763-4 QC Sample: L1717777-01 Client ID: DUP Sample						
Iron, Total	0.112	0.112	mg/l	0		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009763-8 QC Sample: L1718226-02 Client ID: DUP Sample						
Iron, Total	0.057	0.057	mg/l	1		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009763-8 QC Sample: L1718226-02 Client ID: DUP Sample						
Hardness	1980	1980	mg/l	0		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009764-4 QC Sample: L1717777-01 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.00107	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	ND	ND	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	ND	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.01904	0.01737	mg/l	9		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009764-6 QC Sample: L1718226-02 Client ID: DUP Sample					
Antimony, Total	ND	ND	mg/l	NC	20
Arsenic, Total	ND	ND	mg/l	NC	20
Cadmium, Total	ND	ND	mg/l	NC	20
Chromium, Total	0.00133	ND	mg/l	NC	20
Copper, Total	0.01835	0.01863	mg/l	2	20
Lead, Total	0.00121	0.00108	mg/l	11	20
Nickel, Total	0.00662	0.00620	mg/l	6	20
Selenium, Total	ND	ND	mg/l	NC	20
Silver, Total	ND	ND	mg/l	NC	20
Zinc, Total	0.1329	0.1410	mg/l	6	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009940-4 QC Sample: L1718226-01 Client ID: DUP Sample					
Mercury, Total	ND	ND	mg/l	NC	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1009940-6 QC Sample: L1717760-02 Client ID: DUP Sample					
Mercury, Total	ND	ND	mg/l	NC	20

INORGANICS
&
MISCELLANEOUS

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

SAMPLE RESULTS

Lab ID: L1718187-01
Client ID: 20170602 RGP-1
Sample Location: WATERTOWN, MA
Matrix: Water

Date Collected: 06/02/17 08:30
Date Received: 06/02/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.4		SU	-	NA	1	-	06/02/17 22:22	1,9040C	AS
Nitrogen, Ammonia	0.118		mg/l	0.075	--	1	06/05/17 07:38	06/05/17 20:27	121,4500NH3-BH	AT
Chromium, Hexavalent	ND		mg/l	0.010	--	1	06/02/17 21:00	06/02/17 21:36	1,7196A	AS

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1009469-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	06/02/17 21:00	06/02/17 21:36	1,7196A	AS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1009783-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	06/05/17 07:38	06/05/17 20:14	121,4500NH3-BH	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1009469-2								
Chromium, Hexavalent	92		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1009482-1								
pH	99		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1009783-2								
Nitrogen, Ammonia	96		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1009469-4 QC Sample: L1718187-01 Client ID: 20170602 RGP-1												
Chromium, Hexavalent	ND	0.1	0.086	86		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1009783-4 QC Sample: L1717669-01 Client ID: MS Sample												
Nitrogen, Ammonia	ND	4	0.119	**3**	Q	-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1009469-3 QC Sample: L1718187-01 Client ID: 20170602 RGP-1						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1009482-2 QC Sample: L1717601-04 Client ID: DUP Sample						
pH	7.8	7.8	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1009783-3 QC Sample: L1717669-01 Client ID: DUP Sample						
Nitrogen, Ammonia	ND	ND	mg/l	NC		20

Project Name: AHC
Project Number: 3979.00

Lab Number: L1718187
Report Date: 06/08/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1718187-01A	Plastic 250ml unpreserved	A	7	7	3.5	Y	Absent		HEXCR-7196(1),PH-9040(1)
L1718187-01B	Plastic 500ml HNO3 preserved	A	<2	<2	3.5	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),HARDU(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1718187-01C	Plastic 500ml H2SO4 preserved	A	<2	<2	3.5	Y	Absent		NH3-4500(28)

*Values in parentheses indicate holding time in days

Project Name:	AHC	**Lab Number:**	L1718187
Project Number:	3979.00	**Report Date:**	06/08/17

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report

Project Name:	AHC	**Lab Number:**	L1718187
Project Number:	3979.00	**Report Date:**	06/08/17

Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	AHC	**Lab Number:**	L1718187
Project Number:	3979.00	**Report Date:**	06/08/17

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
World Class Chemistry

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 6/2/17

ALPHA Job #: L1718187

Project Information

Project Name: AHC

Project Location: Watertown, MA

Project #: 3979.00

Project Manager: A. Blomeke

ALPHA Quote #:

Client Information

Client: Sanborn, Head & Associates, Inc.

Address: 1 Technology Park Drive

Westford, MA 01886

Phone: 978-932-0900

Fax:

Email: ablomeke@sanbornhead.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NPDES RGP	NPDES Reporting Limits

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☐ Yes ☒ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Total Metals: Ag, As, Cd, Cr, Cu, Ni, Pb, Sb, Se, Zn, Fe, Hg
HexCr, TriCr (lab calc)

NPDES RGP minimum Levels (detection limits) must be met

ANALYSIS

SAMPLE HANDLING
Filtration
☒ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total Metals - See Notes	pH	Hardness (freshwater only)	Salinity (Saltwater only)	Ammonia (SM 4500 B and/or 350.1)								Sample Specific Comments	TOTAL # BOTTLES
18187 - 01	20170602 RGP-1	6/2/2017	08:30	SW	MNR	☒	☒	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	See Notes	
Container Type						-	-	-	-	-	-	-	-	-	-	-	-		
Preservative						-	-	-	-	-	-	-	-	-	-	-	-		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
Mark Rizzo(?)	6/2/17 10:40	T. Hubbard(?)	6/2/17 1040
T. Hubbard(?)	6/2/17 1230	[illegible]	6/2/17 1232

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I)
(rev. 5-JAN-12)

ANALYTICAL REPORT

Lab Number:	L1633100
Client:	Sanborn, Head & Associates, Inc. 1 Technology Park Drive Westford, MA 01886
ATTN:	Amy Blomeke
Phone:	(978) 577-1036
Project Name:	AHC
Project Number:	3979.00
Report Date:	10/27/16

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1633100-01	A-2-NPDES	WATER	WATERTOWN, MA	10/14/16 10:30	10/14/16
L1633100-02	C-4-NPDES	WATER	WATERTOWN, MA	10/14/16 09:40	10/14/16
L1633100-03	E-6-NPDES	WATER	WATERTOWN, MA	10/14/16 08:45	10/14/16
L1633100-04	TRIP BLANK	WATER	WATERTOWN, MA	10/11/16 00:00	10/14/16

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Case Narrative (continued)

Report Submission

This report replaces the report issued October 21, 2016. The metals reporting limits have been lowered on all elements except Iron and Mercury.

A previously-issued report replaced the report issued October 20, 2016. The extraction method for the Microextractables analysis was corrected.

Cyanide, Total

The WG942334-1 Method Blank, associated with L1633100-01, -02, and -03, has a concentration above the reporting limit. Since the samples were non-detect to the RL for this target analyte, no further actions were taken. The results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 10/27/16

ORGANICS

VOLATILES

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-01
Client ID: A-2-NPDES
Sample Location: WATERTOWN, MA

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/19/16 12:20
Analyst: MM

Date Collected: 10/14/16 10:30
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1

Project Name: AHC **Lab Number:** L1633100

Project Number: 3979.00 **Report Date:** 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-01 Date Collected: 10/14/16 10:30

Client ID: A-2-NPDES Date Received: 10/14/16

Sample Location: WATERTOWN, MA Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-01
Client ID: A-2-NPDES
Sample Location: WATERTOWN, MA
Date Collected: 10/14/16 10:30
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	97		70-130

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-01
Client ID: A-2-NPDES
Sample Location: WATERTOWN, MA

Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 10/19/16 12:20
Analyst: MM

Date Collected: 10/14/16 10:30
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	3.0	--	1

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-01
Client ID: A-2-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 10/19/16 15:07
Analyst: NS

Date Collected: 10/14/16 10:30
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)
Extraction Method: EPA 504.1
Extraction Date: 10/19/16 12:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-02
Client ID: C-4-NPDES
Sample Location: WATERTOWN, MA

Date Collected: 10/14/16 09:40
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/19/16 12:53
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1

Project Name: AHC **Lab Number:** L1633100

Project Number: 3979.00 **Report Date:** 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-02 Date Collected: 10/14/16 09:40

Client ID: C-4-NPDES Date Received: 10/14/16

Sample Location: WATERTOWN, MA Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-02
Client ID: C-4-NPDES
Sample Location: WATERTOWN, MA
Date Collected: 10/14/16 09:40
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	98		70-130

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-02
Client ID: C-4-NPDES
Sample Location: WATERTOWN, MA

Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 10/19/16 12:53
Analyst: MM

Date Collected: 10/14/16 09:40
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	3.0	--	1

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-02
Client ID: C-4-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 10/19/16 15:24
Analyst: NS

Date Collected: 10/14/16 09:40
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)
Extraction Method: EPA 504.1
Extraction Date: 10/19/16 12:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-03
Client ID: E-6-NPDES
Sample Location: WATERTOWN, MA

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/19/16 13:27
Analyst: MM

Date Collected: 10/14/16 08:45
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	130		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
1,2-Dichloroethene, Total	1.3		ug/l	0.50	--	1

Project Name: AHC **Lab Number:** L1633100

Project Number: 3979.00 **Report Date:** 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-03 Date Collected: 10/14/16 08:45

Client ID: E-6-NPDES Date Received: 10/14/16

Sample Location: WATERTOWN, MA Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	6.7		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	1.3		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-03
Client ID: E-6-NPDES
Sample Location: WATERTOWN, MA
Date Collected: 10/14/16 08:45
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	86		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	102		70-130

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-03
Client ID: E-6-NPDES
Sample Location: WATERTOWN, MA

Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 10/19/16 13:27
Analyst: MM

Date Collected: 10/14/16 08:45
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	3.0	--	1

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-03
Client ID: E-6-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 10/19/16 15:41
Analyst: NS

Date Collected: 10/14/16 08:45
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)
Extraction Method: EPA 504.1
Extraction Date: 10/19/16 12:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-04
Client ID: TRIP BLANK
Sample Location: WATERTOWN, MA
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/19/16 11:47
Analyst: MM

Date Collected: 10/11/16 00:00
Date Received: 10/14/16
Field Prep: None

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	--	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1

Project Name: AHC **Lab Number:** L1633100

Project Number: 3979.00 **Report Date:** 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-04 Date Collected: 10/11/16 00:00

Client ID: TRIP BLANK Date Received: 10/14/16

Sample Location: WATERTOWN, MA Field Prep: None

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-04
Client ID: TRIP BLANK
Sample Location: WATERTOWN, MA
Date Collected: 10/11/16 00:00
Date Received: 10/14/16
Field Prep: None

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	102		70-130

Project Name: AHC
Lab Number: L1633100
Project Number: 3979.00
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-04
Client ID: TRIP BLANK
Sample Location: WATERTOWN, MA
Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 10/19/16 11:47
Analyst: MM

Date Collected: 10/11/16 00:00
Date Received: 10/14/16
Field Prep: None

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	3.0	--	1

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-04
Client ID: TRIP BLANK
Sample Location: WATERTOWN, MA
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 10/19/16 15:58
Analyst: NS

Date Collected: 10/11/16 00:00
Date Received: 10/14/16
Field Prep: None
Extraction Method: EPA 504.1
Extraction Date: 10/19/16 12:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 10/19/16 14:16
Analyst: NS

Extraction Method: EPA 504.1
Extraction Date: 10/19/16 12:49

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01-04 Batch: WG943646-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.010	--	A

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C-SIM(M)
Analytical Date: 10/19/16 09:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-04 Batch: WG943911-5					
1,4-Dioxane	ND		ug/l	3.0	--

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/19/16 09:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG943941-5					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Chloroform	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,2-Dichloropropane	ND		ug/l	1.8	--
Dibromochloromethane	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
2-Chloroethylvinyl ether	ND		ug/l	10	--
Tetrachloroethene	ND		ug/l	0.50	--
Chlorobenzene	ND		ug/l	0.50	--
Trichlorofluoromethane	ND		ug/l	2.5	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Bromodichloromethane	ND		ug/l	0.50	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.5	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Chloromethane	ND		ug/l	2.5	--
Bromomethane	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
trans-1,2-Dichloroethene	ND		ug/l	0.75	--

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/19/16 09:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG943941-5					
1,2-Dichloroethene, Total	ND		ug/l	0.50	--
Trichloroethene	ND		ug/l	0.50	--
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	5.0	--
1,4-Dichlorobutane	ND		ug/l	5.0	--
1,2,3-Trichloropropane	ND		ug/l	5.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	5.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	5.0	--
Vinyl acetate	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Ethyl methacrylate	ND		ug/l	5.0	--
Acrylonitrile	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.5	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.5	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.5	--
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/19/16 09:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG943941-5					
Bromobenzene	ND		ug/l	2.5	--
n-Butylbenzene	ND		ug/l	0.50	--
sec-Butylbenzene	ND		ug/l	0.50	--
tert-Butylbenzene	ND		ug/l	2.5	--
o-Chlorotoluene	ND		ug/l	2.5	--
p-Chlorotoluene	ND		ug/l	2.5	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Isopropylbenzene	ND		ug/l	0.50	--
p-Isopropyltoluene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	2.5	--
n-Propylbenzene	ND		ug/l	0.50	--
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--
1,3,5-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--
Halothane	ND		ug/l	2.5	--
Ethyl ether	ND		ug/l	2.5	--
Methyl Acetate	ND		ug/l	10	--
Ethyl Acetate	ND		ug/l	10	--
Isopropyl Ether	ND		ug/l	2.0	--
Cyclohexane	ND		ug/l	10	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	10	--
Methyl cyclohexane	ND		ug/l	10	--

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/19/16 09:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG943941-5					
p-Diethylbenzene	ND		ug/l	2.0	--
4-Ethyltoluene	ND		ug/l	2.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01-04		Batch: WG943646-2						
1,2-Dibromoethane	99		-		70-130	-		20	A
1,2-Dibromo-3-chloropropane	103		-		70-130	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-04 Batch: WG943911-3 WG943911-4								
1,4-Dioxane	110		100		70-130	10		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG943941-3 WG943941-4								
Methylene chloride	**140**	Q	**140**	Q	70-130	0		20
1,1-Dichloroethane	86		81		70-130	6		20
Chloroform	90		89		70-130	1		20
Carbon tetrachloride	92		90		63-132	2		20
1,2-Dichloropropane	89		86		70-130	3		20
Dibromochloromethane	100		94		63-130	6		20
1,1,2-Trichloroethane	98		93		70-130	5		20
2-Chloroethylvinyl ether	110		100		70-130	10		20
Tetrachloroethene	120		100		70-130	18		20
Chlorobenzene	100		92		75-130	8		25
Trichlorofluoromethane	92		87		62-150	6		20
1,2-Dichloroethane	91		87		70-130	4		20
1,1,1-Trichloroethane	93		91		67-130	2		20
Bromodichloromethane	92		90		67-130	2		20
trans-1,3-Dichloropropene	93		85		70-130	9		20
cis-1,3-Dichloropropene	89		89		70-130	0		20
1,1-Dichloropropene	86		83		70-130	4		20
Bromoform	96		90		54-136	6		20
1,1,2,2-Tetrachloroethane	80		79		67-130	1		20
Benzene	88		87		70-130	1		25
Toluene	85		80		70-130	6		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG943941-3 WG943941-4								
Ethylbenzene	94		84		70-130	11		20
Chloromethane	65		**61**	Q	64-130	6		20
Bromomethane	64		63		39-139	2		20
Vinyl chloride	86		83		55-140	4		20
Chloroethane	100		100		55-138	0		20
1,1-Dichloroethene	85		81		61-145	5		25
trans-1,2-Dichloroethene	89		83		70-130	7		20
Trichloroethene	94		88		70-130	7		25
1,2-Dichlorobenzene	92		91		70-130	1		20
1,3-Dichlorobenzene	88		84		70-130	5		20
1,4-Dichlorobenzene	92		89		70-130	3		20
Methyl tert butyl ether	79		76		63-130	4		20
p/m-Xylene	95		70		70-130	**30**	Q	20
o-Xylene	95		90		70-130	5		20
cis-1,2-Dichloroethene	88		87		70-130	1		20
Dibromomethane	90		86		70-130	5		20
1,4-Dichlorobutane	88		88		70-130	0		20
1,2,3-Trichloropropane	84		82		64-130	2		20
Styrene	90		85		70-130	6		20
Dichlorodifluoromethane	81		74		36-147	9		20
Acetone	71		**55**	Q	58-148	**25**	Q	20

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG943941-3 WG943941-4								
Carbon disulfide	77		74		51-130	4		20
2-Butanone	74		78		63-138	5		20
Vinyl acetate	80		76		70-130	5		20
4-Methyl-2-pentanone	80		69		59-130	15		20
2-Hexanone	100		79		57-130	**23**	Q	20
Ethyl methacrylate	90		78		70-130	14		20
Acrylonitrile	100		93		70-130	7		20
Bromochloromethane	90		86		70-130	5		20
Tetrahydrofuran	77		79		58-130	3		20
2,2-Dichloropropane	90		86		63-133	5		20
1,2-Dibromoethane	93		82		70-130	13		20
1,3-Dichloropropane	98		90		70-130	9		20
1,1,1,2-Tetrachloroethane	130		110		64-130	17		20
Bromobenzene	84		84		70-130	0		20
n-Butylbenzene	93		94		53-136	1		20
sec-Butylbenzene	83		83		70-130	0		20
tert-Butylbenzene	83		83		70-130	0		20
o-Chlorotoluene	81		81		70-130	0		20
p-Chlorotoluene	81		79		70-130	3		20
1,2-Dibromo-3-chloropropane	69		71		41-144	3		20
Hexachlorobutadiene	94		90		63-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG943941-3 WG943941-4								
Isopropylbenzene	81		81		70-130	0		20
p-Isopropyltoluene	92		89		70-130	3		20
Naphthalene	100		100		70-130	0		20
n-Propylbenzene	82		81		69-130	1		20
1,2,3-Trichlorobenzene	100		100		70-130	0		20
1,2,4-Trichlorobenzene	110		100		70-130	10		20
1,3,5-Trimethylbenzene	87		90		64-130	3		20
1,3,5-Trichlorobenzene	100		100		70-130	0		20
1,2,4-Trimethylbenzene	94		94		70-130	0		20
trans-1,4-Dichloro-2-butene	71		76		70-130	7		20
Halothane	90		90		70-130	0		20
Ethyl ether	78		79		59-134	1		20
Methyl Acetate	78		75		70-130	4		20
Ethyl Acetate	76		73		70-130	4		20
Isopropyl Ether	77		71		70-130	8		20
Cyclohexane	80		78		70-130	3		20
Tert-Butyl Alcohol	76		72		70-130	5		20
Ethyl-Tert-Butyl-Ether	82		79		70-130	4		20
Tertiary-Amyl Methyl Ether	82		80		66-130	2		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	90		86		70-130	5		20
Methyl cyclohexane	92		90		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG943941-3 WG943941-4								
1,4-Diethylbenzene	95		95		70-130	0		20
4-Ethyltoluene	83		84		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		105		70-130
Toluene-d8	96		86		70-130
4-Bromofluorobenzene	87		95		70-130
Dibromofluoromethane	104		102		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG943646-3 QC Sample: L1633100-01 Client ID: A-2-NPDES													
1,2-Dibromoethane	ND	0.253	0.260	103		-	-		70-130	-		20	A
1,2-Dibromo-3-chloropropane	ND	0.253	0.272	107		-	-		70-130	-		20	A

SEMIVOLATILES

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-01
Client ID: A-2-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 10/19/16 18:22
Analyst: PS

Date Collected: 10/14/16 10:30
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)
Extraction Method: EPA 3510C
Extraction Date: 10/16/16 23:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	20	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
NDPA/DPA	ND		ug/l	2.0	--	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Biphenyl	ND		ug/l	2.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-01
Client ID: A-2-NPDES
Sample Location: WATERTOWN, MA
Date Collected: 10/14/16 10:30
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
3-Nitroaniline	ND		ug/l	5.0	--	1
4-Nitroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
n-Nitrosodimethylamine	ND		ug/l	2.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
p-Chloro-m-cresol	ND		ug/l	2.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
4,6-Dinitro-o-cresol	ND		ug/l	10	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	2.0	--	1
Carbazole	ND		ug/l	2.0	--	1
Pyridine	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	46		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	66		23-120
2-Fluorobiphenyl	69		15-120
2,4,6-Tribromophenol	92		10-120
4-Terphenyl-d14	82		41-149

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-01
Client ID: A-2-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 10/18/16 07:33
Analyst: YW

Date Collected: 10/14/16 10:30
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)
Extraction Method: EPA 3510C
Extraction Date: 10/16/16 23:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
1-Methylnaphthalene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

Project Name: AHC
Lab Number: L1633100
Project Number: 3979.00
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-01
Client ID: A-2-NPDES
Sample Location: WATERTOWN, MA
Date Collected: 10/14/16 10:30
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	49		21-120
Phenol-d6	36		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	72		10-120
4-Terphenyl-d14	85		41-149

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-02
Client ID: C-4-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 10/19/16 18:48
Analyst: PS

Date Collected: 10/14/16 09:40
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)
Extraction Method: EPA 3510C
Extraction Date: 10/16/16 23:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	20	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
NDPA/DPA	ND		ug/l	2.0	--	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Biphenyl	ND		ug/l	2.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1

Project Name: AHC **Lab Number:** L1633100

Project Number: 3979.00 **Report Date:** 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-02 Date Collected: 10/14/16 09:40

Client ID: C-4-NPDES Date Received: 10/14/16

Sample Location: WATERTOWN, MA Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
3-Nitroaniline	ND		ug/l	5.0	--	1
4-Nitroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
n-Nitrosodimethylamine	ND		ug/l	2.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
p-Chloro-m-cresol	ND		ug/l	2.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
4,6-Dinitro-o-cresol	ND		ug/l	10	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	2.0	--	1
Carbazole	ND		ug/l	2.0	--	1
Pyridine	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	47		21-120
Phenol-d6	31		10-120
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	97		10-120
4-Terphenyl-d14	93		41-149

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-02
Client ID: C-4-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 10/18/16 08:05
Analyst: YW

Date Collected: 10/14/16 09:40
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)
Extraction Method: EPA 3510C
Extraction Date: 10/16/16 23:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
1-Methylnaphthalene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

Project Name: AHC
Lab Number: L1633100
Project Number: 3979.00
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-02
Client ID: C-4-NPDES
Sample Location: WATERTOWN, MA
Date Collected: 10/14/16 09:40
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	53		21-120
Phenol-d6	37		10-120
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	76		15-120
2,4,6-Tribromophenol	81		10-120
4-Terphenyl-d14	95		41-149

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-03
Client ID: E-6-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 10/19/16 19:13
Analyst: PS

Date Collected: 10/14/16 08:45
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)
Extraction Method: EPA 3510C
Extraction Date: 10/16/16 23:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	20	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
NDPA/DPA	ND		ug/l	2.0	--	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Biphenyl	ND		ug/l	2.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-03
Client ID: E-6-NPDES
Sample Location: WATERTOWN, MA
Date Collected: 10/14/16 08:45
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
3-Nitroaniline	ND		ug/l	5.0	--	1
4-Nitroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
n-Nitrosodimethylamine	ND		ug/l	2.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
p-Chloro-m-cresol	ND		ug/l	2.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
4,6-Dinitro-o-cresol	ND		ug/l	10	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	2.0	--	1
Carbazole	ND		ug/l	2.0	--	1
Pyridine	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	47		21-120
Phenol-d6	31		10-120
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	76		15-120
2,4,6-Tribromophenol	91		10-120
4-Terphenyl-d14	88		41-149

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-03
Client ID: E-6-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 10/18/16 08:36
Analyst: YW

Date Collected: 10/14/16 08:45
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)
Extraction Method: EPA 3510C
Extraction Date: 10/16/16 23:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
1-Methylnaphthalene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

Project Name: AHC
Lab Number: L1633100
Project Number: 3979.00
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-03
Client ID: E-6-NPDES
Sample Location: WATERTOWN, MA
Date Collected: 10/14/16 08:45
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	49		21-120
Phenol-d6	36		10-120
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	81		15-120
2,4,6-Tribromophenol	78		10-120
4-Terphenyl-d14	90		41-149

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/19/16 16:15
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 10/16/16 23:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG942624-1					
Benzidine	ND		ug/l	20	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--
1,2-Dichlorobenzene	ND		ug/l	2.0	--
1,3-Dichlorobenzene	ND		ug/l	2.0	--
1,4-Dichlorobenzene	ND		ug/l	2.0	--
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--
2,4-Dinitrotoluene	ND		ug/l	5.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	2.0	--
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Hexachlorocyclopentadiene	ND		ug/l	20	--
Isophorone	ND		ug/l	5.0	--
Nitrobenzene	ND		ug/l	2.0	--
NDPA/DPA	ND		ug/l	2.0	--
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	--
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--
Biphenyl	ND		ug/l	2.0	--
Aniline	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
2-Nitroaniline	ND		ug/l	5.0	--

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/19/16 16:15
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 10/16/16 23:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG942624-1					
3-Nitroaniline	ND		ug/l	5.0	--
4-Nitroaniline	ND		ug/l	5.0	--
Dibenzofuran	ND		ug/l	2.0	--
n-Nitrosodimethylamine	ND		ug/l	2.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
p-Chloro-m-cresol	ND		ug/l	2.0	--
2-Chlorophenol	ND		ug/l	2.0	--
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	10	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--
4,6-Dinitro-o-cresol	ND		ug/l	10	--
Phenol	ND		ug/l	5.0	--
2-Methylphenol	ND		ug/l	5.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--
Benzoic Acid	ND		ug/l	50	--
Benzyl Alcohol	ND		ug/l	2.0	--
Carbazole	ND		ug/l	2.0	--
Pyridine	ND		ug/l	5.0	--

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/19/16 16:15
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 10/16/16 23:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG942624-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	50		21-120
Phenol-d6	34		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	70		15-120
2,4,6-Tribromophenol	97		10-120
4-Terphenyl-d14	94		41-149

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 10/17/16 14:31
Analyst: YW

Extraction Method: EPA 3510C
Extraction Date: 10/16/16 23:53

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-03 Batch: WG942625-1					
Acenaphthene	ND		ug/l	0.10	--
2-Chloronaphthalene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.20	--
Benzo(a)anthracene	ND		ug/l	0.20	--
Benzo(a)pyrene	ND		ug/l	0.20	--
Benzo(b)fluoranthene	ND		ug/l	0.20	--
Benzo(k)fluoranthene	ND		ug/l	0.20	--
Chrysene	ND		ug/l	0.20	--
Acenaphthylene	ND		ug/l	0.20	--
Anthracene	ND		ug/l	0.20	--
Benzo(ghi)perylene	ND		ug/l	0.20	--
Fluorene	ND		ug/l	0.20	--
Phenanthrene	ND		ug/l	0.20	--
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	--
Pyrene	ND		ug/l	0.20	--
1-Methylnaphthalene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--
Pentachlorophenol	ND		ug/l	0.80	--
Hexachlorobenzene	ND		ug/l	0.80	--
Hexachloroethane	ND		ug/l	0.80	--

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 10/17/16 14:31
Analyst: YW

Extraction Method: EPA 3510C
Extraction Date: 10/16/16 23:53

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-03 Batch: WG942625-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		21-120
Phenol-d6	34		10-120
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	86		15-120
2,4,6-Tribromophenol	109		10-120
4-Terphenyl-d14	97		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG942624-2 WG942624-3								
Benzidine	52		52		10-75	0		30
1,2,4-Trichlorobenzene	50		**27**	Q	39-98	**60**	Q	30
Bis(2-chloroethyl)ether	78		74		40-140	5		30
1,2-Dichlorobenzene	45		**30**	Q	40-140	**40**	Q	30
1,3-Dichlorobenzene	40		**25**	Q	40-140	**46**	Q	30
1,4-Dichlorobenzene	40		**27**	Q	36-97	**39**	Q	30
3,3'-Dichlorobenzidine	87		77		40-140	12		30
2,4-Dinitrotoluene	**101**	Q	96		24-96	5		30
2,6-Dinitrotoluene	97		93		40-140	4		30
Azobenzene	84		81		40-140	4		30
4-Chlorophenyl phenyl ether	90		82		40-140	9		30
4-Bromophenyl phenyl ether	99		94		40-140	5		30
Bis(2-chloroisopropyl)ether	66		59		40-140	11		30
Bis(2-chloroethoxy)methane	84		80		40-140	5		30
Hexachlorocyclopentadiene	47		**21**	Q	40-140	**76**	Q	30
Isophorone	80		76		40-140	5		30
Nitrobenzene	76		72		40-140	5		30
NDPA/DPA	93		80		40-140	15		30
n-Nitrosodi-n-propylamine	81		79		29-132	3		30
Bis(2-ethylhexyl)phthalate	95		90		40-140	5		30
Butyl benzyl phthalate	92		86		40-140	7		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG942624-2 WG942624-3								
Di-n-butylphthalate	95		90		40-140	5		30
Di-n-octylphthalate	95		89		40-140	7		30
Diethyl phthalate	93		90		40-140	3		30
Dimethyl phthalate	93		89		40-140	4		30
Biphenyl	88		66		40-140	29		30
Aniline	62		60		40-140	3		30
4-Chloroaniline	81		78		40-140	4		30
2-Nitroaniline	94		91		52-143	3		30
3-Nitroaniline	86		80		25-145	7		30
4-Nitroaniline	99		92		51-143	7		30
Dibenzofuran	84		75		40-140	11		30
1,2,4,5-Tetrachlorobenzene	77		50		2-134	**43**	Q	30
Acetophenone	101		97		39-129	4		30
n-Nitrosodimethylamine	52		48		22-74	8		30
2,4,6-Trichlorophenol	97		92		30-130	5		30
p-Chloro-m-cresol	97		95		23-97	2		30
2-Chlorophenol	79		74		27-123	7		30
2,4-Dichlorophenol	92		88		30-130	4		30
2,4-Dimethylphenol	95		89		30-130	7		30
2-Nitrophenol	82		79		30-130	4		30
4-Nitrophenol	60		54		10-80	11		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG942624-2 WG942624-3								
2,4-Dinitrophenol	72		69		20-130	4		30
4,6-Dinitro-o-cresol	90		88		20-164	2		30
Phenol	41		38		12-110	8		30
2-Methylphenol	78		75		30-130	4		30
3-Methylphenol/4-Methylphenol	81		80		30-130	1		30
2,4,5-Trichlorophenol	97		95		30-130	2		30
Benzoic Acid	26		24		10-164	8		30
Benzyl Alcohol	83		75		26-116	10		30
Carbazole	98		90		55-144	9		30
Pyridine	46		40		10-66	14		30
Parathion, ethyl	120		117		40-140	3		30
Atrazine	133		129		40-140	3		30
Benzaldehyde	61		61		40-140	0		30
Caprolactam	33		31		10-130	6		30
2,3,4,6-Tetrachlorophenol	102		97		40-140	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG942624-2 WG942624-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	56		52		21-120
Phenol-d6	41		39		10-120
Nitrobenzene-d5	80		77		23-120
2-Fluorobiphenyl	81		75		15-120
2,4,6-Tribromophenol	106		102		10-120
4-Terphenyl-d14	89		83		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-03 Batch: WG942625-2 WG942625-3								
Acenaphthene	85		81		37-111	5		40
2-Chloronaphthalene	83		77		40-140	8		40
Fluoranthene	96		93		40-140	3		40
Hexachlorobutadiene	62		55		40-140	12		40
Naphthalene	73		66		40-140	10		40
Benzo(a)anthracene	106		104		40-140	2		40
Benzo(a)pyrene	90		90		40-140	0		40
Benzo(b)fluoranthene	96		94		40-140	2		40
Benzo(k)fluoranthene	90		88		40-140	2		40
Chrysene	97		92		40-140	5		40
Acenaphthylene	99		96		40-140	3		40
Anthracene	99		96		40-140	3		40
Benzo(ghi)perylene	105		103		40-140	2		40
Fluorene	100		95		40-140	5		40
Phenanthrene	94		91		40-140	3		40
Dibenzo(a,h)anthracene	110		107		40-140	3		40
Indeno(1,2,3-cd)pyrene	111		108		40-140	3		40
Pyrene	87		86		26-127	1		40
1-Methylnaphthalene	81		74		40-140	9		40
2-Methylnaphthalene	82		74		40-140	10		40
Pentachlorophenol	92		89		9-103	3		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-03 Batch: WG942625-2 WG942625-3								
Hexachlorobenzene	96		91		40-140	5		40
Hexachloroethane	67		53		40-140	23		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	51		47		21-120
Phenol-d6	38		36		10-120
Nitrobenzene-d5	91		84		23-120
2-Fluorobiphenyl	83		83		15-120
2,4,6-Tribromophenol	111		109		10-120
4-Terphenyl-d14	86		84		41-149

PCBS

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-01
Client ID: A-2-NPDES
Sample Location: WATERTOWN, MA

Matrix: Water
Analytical Method: 5,608
Analytical Date: 10/18/16 20:12
Analyst: KB

Date Collected: 10/14/16 10:30
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Extraction Method: EPA 608
Extraction Date: 10/18/16 06:09
Cleanup Method: EPA 3665A
Cleanup Date: 10/18/16
Cleanup Method: EPA 3660B
Cleanup Date: 10/18/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	--	1	A
Aroclor 1221	ND		ug/l	0.250	--	1	A
Aroclor 1232	ND		ug/l	0.250	--	1	A
Aroclor 1242	ND		ug/l	0.250	--	1	A
Aroclor 1248	ND		ug/l	0.250	--	1	A
Aroclor 1254	ND		ug/l	0.250	--	1	A
Aroclor 1260	ND		ug/l	0.200	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	101		30-150	A
Decachlorobiphenyl	63		30-150	A

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-02
Client ID: C-4-NPDES
Sample Location: WATERTOWN, MA

Matrix: Water
Analytical Method: 5,608
Analytical Date: 10/18/16 20:29
Analyst: KB

Date Collected: 10/14/16 09:40
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Extraction Method: EPA 608
Extraction Date: 10/18/16 06:09
Cleanup Method: EPA 3665A
Cleanup Date: 10/18/16
Cleanup Method: EPA 3660B
Cleanup Date: 10/18/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	--	1	A
Aroclor 1221	ND		ug/l	0.250	--	1	A
Aroclor 1232	ND		ug/l	0.250	--	1	A
Aroclor 1242	ND		ug/l	0.250	--	1	A
Aroclor 1248	ND		ug/l	0.250	--	1	A
Aroclor 1254	ND		ug/l	0.250	--	1	A
Aroclor 1260	ND		ug/l	0.200	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	107		30-150	A
Decachlorobiphenyl	64		30-150	A

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-03
Client ID: E-6-NPDES
Sample Location: WATERTOWN, MA

Matrix: Water
Analytical Method: 5,608
Analytical Date: 10/18/16 20:45
Analyst: KB

Date Collected: 10/14/16 08:45
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Extraction Method: EPA 608
Extraction Date: 10/18/16 06:09
Cleanup Method: EPA 3665A
Cleanup Date: 10/18/16
Cleanup Method: EPA 3660B
Cleanup Date: 10/18/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	--	1	A
Aroclor 1221	ND		ug/l	0.250	--	1	A
Aroclor 1232	ND		ug/l	0.250	--	1	A
Aroclor 1242	ND		ug/l	0.250	--	1	A
Aroclor 1248	ND		ug/l	0.250	--	1	A
Aroclor 1254	ND		ug/l	0.250	--	1	A
Aroclor 1260	ND		ug/l	0.200	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	110		30-150	A
Decachlorobiphenyl	73		30-150	A

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,608
Analytical Date: 10/18/16 22:36
Analyst: KB

Extraction Method: EPA 608
Extraction Date: 10/18/16 06:09
Cleanup Method: EPA 3665A
Cleanup Date: 10/18/16
Cleanup Method: EPA 3660B
Cleanup Date: 10/18/16

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-03 Batch: WG943020-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.200	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	60		30-150	A

Matrix Spike Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab	Associated sample(s): 01-03	QC Batch ID: WG943020-3	QC Sample: L1633105-02	Client ID: MS Sample									
Aroclor 1016	ND	1	1.11	111		-	-		40-140	-		50	A
Aroclor 1260	ND	1	0.555	56		-	-		40-140	-		50	A

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	105				30-150	A
Decachlorobiphenyl	31				30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-03 Batch: WG943020-2									
Aroclor 1016	106		-		40-140	-		50	A
Aroclor 1260	85		-		40-140	-		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87				30-150	A
Decachlorobiphenyl	71				30-150	A

Lab Duplicate Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits	
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG943020-4 QC Sample: L1633105-03 Client ID: DUP Sample							
Aroclor 1016	ND	ND	ug/l	NC		50	A
Aroclor 1221	ND	ND	ug/l	NC		50	A
Aroclor 1232	ND	ND	ug/l	NC		50	A
Aroclor 1242	ND	ND	ug/l	NC		50	A
Aroclor 1248	ND	ND	ug/l	NC		50	A
Aroclor 1254	ND	ND	ug/l	NC		50	A
Aroclor 1260	ND	ND	ug/l	NC		50	A

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	98		97		30-150	A
Decachlorobiphenyl	57		60		30-150	A

METALS

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-01
Client ID: A-2-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water
Date Collected: 10/14/16 10:30
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.00241		mg/l	0.00050	--	1	10/17/16 08:25	10/25/16 14:39	EPA 3005A	1,6020A	BV
Arsenic, Total	0.02716		mg/l	0.00050	--	1	10/17/16 08:25	10/25/16 14:39	EPA 3005A	1,6020A	BV
Cadmium, Total	0.00075		mg/l	0.00020	--	1	10/17/16 08:25	10/25/16 14:39	EPA 3005A	1,6020A	BV
Chromium, Total	0.1830		mg/l	0.00100	--	1	10/17/16 08:25	10/25/16 14:39	EPA 3005A	1,6020A	BV
Copper, Total	0.07590		mg/l	0.00050	--	1	10/17/16 08:25	10/25/16 14:39	EPA 3005A	1,6020A	BV
Iron, Total	69.6		mg/l	0.050	--	1	10/17/16 08:25	10/20/16 02:22	EPA 3005A	19,200.7	FB
Lead, Total	0.04461		mg/l	0.00050	--	1	10/17/16 08:25	10/25/16 14:39	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	--	1	10/18/16 10:42	10/18/16 22:10	EPA 245.1	3,245.1	EA
Nickel, Total	0.03838		mg/l	0.00200	--	1	10/17/16 08:25	10/25/16 14:39	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.00500	--	1	10/17/16 08:25	10/25/16 14:39	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.00020	--	1	10/17/16 08:25	10/25/16 14:39	EPA 3005A	1,6020A	BV
Zinc, Total	0.1476		mg/l	0.00500	--	1	10/17/16 08:25	10/25/16 14:39	EPA 3005A	1,6020A	BV
General Chemistry - Mansfield Lab											
Chromium, Trivalent	0.18		mg/l	0.010	--	1		10/25/16 14:39	NA	107,-	
Dissolved Metals - Mansfield Lab											
Antimony, Dissolved	0.00211		mg/l	0.00050	--	1	10/18/16 10:35	10/25/16 14:47	EPA 3005A	1,6020A	BV
Arsenic, Dissolved	0.00381		mg/l	0.00050	--	1	10/18/16 10:35	10/25/16 14:47	EPA 3005A	1,6020A	BV
Cadmium, Dissolved	ND		mg/l	0.00020	--	1	10/18/16 10:35	10/25/16 14:47	EPA 3005A	1,6020A	BV
Chromium, Dissolved	0.00513		mg/l	0.00100	--	1	10/18/16 10:35	10/25/16 14:47	EPA 3005A	1,6020A	BV
Copper, Dissolved	0.00338		mg/l	0.00050	--	1	10/18/16 10:35	10/25/16 14:47	EPA 3005A	1,6020A	BV
Iron, Dissolved	10		mg/l	0.05	--	1	10/18/16 10:35	10/19/16 18:22	EPA 3005A	19,200.7	JH
Lead, Dissolved	0.00107		mg/l	0.00050	--	1	10/18/16 10:35	10/25/16 14:47	EPA 3005A	1,6020A	BV
Mercury, Dissolved	ND		mg/l	0.00020	--	1	10/18/16 10:02	10/19/16 20:38	EPA 245.1	3,245.1	EA
Nickel, Dissolved	0.00291		mg/l	0.00200	--	1	10/18/16 10:35	10/25/16 14:47	EPA 3005A	1,6020A	BV
Selenium, Dissolved	ND		mg/l	0.00500	--	1	10/18/16 10:35	10/25/16 14:47	EPA 3005A	1,6020A	BV
Silver, Dissolved	ND		mg/l	0.00020	--	1	10/18/16 10:35	10/25/16 14:47	EPA 3005A	1,6020A	BV
Zinc, Dissolved	0.01652		mg/l	0.00500	--	1	10/18/16 10:35	10/25/16 14:47	EPA 3005A	1,6020A	BV

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-02
Client ID: C-4-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water
Date Collected: 10/14/16 09:40
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.00106		mg/l	0.00050	--	1	10/17/16 08:25	10/27/16 09:50	EPA 3005A	1,6020A	BV
Arsenic, Total	0.03034		mg/l	0.00050	--	1	10/17/16 08:25	10/27/16 09:50	EPA 3005A	1,6020A	BV
Cadmium, Total	0.00073		mg/l	0.00020	--	1	10/17/16 08:25	10/27/16 09:50	EPA 3005A	1,6020A	BV
Chromium, Total	0.1866		mg/l	0.00100	--	1	10/17/16 08:25	10/27/16 09:50	EPA 3005A	1,6020A	BV
Copper, Total	0.1749		mg/l	0.00050	--	1	10/17/16 08:25	10/27/16 09:50	EPA 3005A	1,6020A	BV
Iron, Total	87.0		mg/l	0.050	--	1	10/17/16 08:25	10/20/16 02:27	EPA 3005A	19,200.7	FB
Lead, Total	0.07386		mg/l	0.00050	--	1	10/17/16 08:25	10/27/16 09:50	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	--	1	10/18/16 10:42	10/18/16 22:11	EPA 245.1	3,245.1	EA
Nickel, Total	0.07281		mg/l	0.00200	--	1	10/17/16 08:25	10/27/16 09:50	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.00500	--	1	10/17/16 08:25	10/27/16 09:50	EPA 3005A	1,6020A	BV
Silver, Total	0.00038		mg/l	0.00020	--	1	10/17/16 08:25	10/27/16 09:50	EPA 3005A	1,6020A	BV
Zinc, Total	0.2231		mg/l	0.00500	--	1	10/17/16 08:25	10/27/16 09:50	EPA 3005A	1,6020A	BV
General Chemistry - Mansfield Lab											
Chromium, Trivalent	0.19		mg/l	0.010	--	1		10/27/16 09:50	NA	107,-	
Dissolved Metals - Mansfield Lab											
Antimony, Dissolved	0.00110		mg/l	0.00050	--	1	10/18/16 10:35	10/27/16 09:55	EPA 3005A	1,6020A	BV
Arsenic, Dissolved	0.00340		mg/l	0.00050	--	1	10/18/16 10:35	10/27/16 09:55	EPA 3005A	1,6020A	BV
Cadmium, Dissolved	0.00045		mg/l	0.00020	--	1	10/18/16 10:35	10/27/16 09:55	EPA 3005A	1,6020A	BV
Chromium, Dissolved	0.01209		mg/l	0.00100	--	1	10/18/16 10:35	10/27/16 09:55	EPA 3005A	1,6020A	BV
Copper, Dissolved	0.01767		mg/l	0.00050	--	1	10/18/16 10:35	10/27/16 09:55	EPA 3005A	1,6020A	BV
Iron, Dissolved	4.5		mg/l	0.05	--	1	10/18/16 10:35	10/19/16 18:26	EPA 3005A	19,200.7	JH
Lead, Dissolved	0.00434		mg/l	0.00050	--	1	10/18/16 10:35	10/27/16 09:55	EPA 3005A	1,6020A	BV
Mercury, Dissolved	ND		mg/l	0.00020	--	1	10/18/16 10:02	10/19/16 20:44	EPA 245.1	3,245.1	EA
Nickel, Dissolved	0.00527		mg/l	0.00200	--	1	10/18/16 10:35	10/27/16 09:55	EPA 3005A	1,6020A	BV
Selenium, Dissolved	ND		mg/l	0.00500	--	1	10/18/16 10:35	10/27/16 09:55	EPA 3005A	1,6020A	BV
Silver, Dissolved	ND		mg/l	0.00020	--	1	10/18/16 10:35	10/27/16 09:55	EPA 3005A	1,6020A	BV
Zinc, Dissolved	0.01975		mg/l	0.00500	--	1	10/18/16 10:35	10/27/16 09:55	EPA 3005A	1,6020A	BV

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-03
Client ID: E-6-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water
Date Collected: 10/14/16 08:45
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.00244		mg/l	0.00050	--	1	10/17/16 08:25	10/25/16 14:43	EPA 3005A	1,6020A	BV
Arsenic, Total	0.01572		mg/l	0.00050	--	1	10/17/16 08:25	10/25/16 14:43	EPA 3005A	1,6020A	BV
Cadmium, Total	0.00083		mg/l	0.00020	--	1	10/17/16 08:25	10/25/16 14:43	EPA 3005A	1,6020A	BV
Chromium, Total	0.08269		mg/l	0.00100	--	1	10/17/16 08:25	10/25/16 14:43	EPA 3005A	1,6020A	BV
Copper, Total	0.08397		mg/l	0.00050	--	1	10/17/16 08:25	10/25/16 14:43	EPA 3005A	1,6020A	BV
Iron, Total	44.2		mg/l	0.050	--	1	10/17/16 08:25	10/20/16 02:32	EPA 3005A	19,200.7	FB
Lead, Total	0.09035		mg/l	0.00050	--	1	10/17/16 08:25	10/25/16 14:43	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	--	1	10/18/16 10:42	10/18/16 22:13	EPA 245.1	3,245.1	EA
Nickel, Total	0.03661		mg/l	0.00200	--	1	10/17/16 08:25	10/25/16 14:43	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.00500	--	1	10/17/16 08:25	10/25/16 14:43	EPA 3005A	1,6020A	BV
Silver, Total	0.00108		mg/l	0.00020	--	1	10/17/16 08:25	10/25/16 14:43	EPA 3005A	1,6020A	BV
Zinc, Total	0.1201		mg/l	0.00500	--	1	10/17/16 08:25	10/25/16 14:43	EPA 3005A	1,6020A	BV
General Chemistry - Mansfield Lab											
Chromium, Trivalent	0.083		mg/l	0.010	--	1		10/25/16 14:43	NA	107,-	
Dissolved Metals - Mansfield Lab											
Antimony, Dissolved	0.00204		mg/l	0.00050	--	1	10/18/16 10:35	10/25/16 14:52	EPA 3005A	1,6020A	BV
Arsenic, Dissolved	0.00123		mg/l	0.00050	--	1	10/18/16 10:35	10/25/16 14:52	EPA 3005A	1,6020A	BV
Cadmium, Dissolved	0.00044		mg/l	0.00020	--	1	10/18/16 10:35	10/25/16 14:52	EPA 3005A	1,6020A	BV
Chromium, Dissolved	0.00412		mg/l	0.00100	--	1	10/18/16 10:35	10/25/16 14:52	EPA 3005A	1,6020A	BV
Copper, Dissolved	0.00723		mg/l	0.00050	--	1	10/18/16 10:35	10/25/16 14:52	EPA 3005A	1,6020A	BV
Iron, Dissolved	1.7		mg/l	0.05	--	1	10/18/16 10:35	10/19/16 18:31	EPA 3005A	19,200.7	JH
Lead, Dissolved	0.00402		mg/l	0.00050	--	1	10/18/16 10:35	10/25/16 14:52	EPA 3005A	1,6020A	BV
Mercury, Dissolved	ND		mg/l	0.00020	--	1	10/18/16 10:02	10/19/16 20:46	EPA 245.1	3,245.1	EA
Nickel, Dissolved	0.00233		mg/l	0.00200	--	1	10/18/16 10:35	10/25/16 14:52	EPA 3005A	1,6020A	BV
Selenium, Dissolved	ND		mg/l	0.00500	--	1	10/18/16 10:35	10/25/16 14:52	EPA 3005A	1,6020A	BV
Silver, Dissolved	0.00022		mg/l	0.00020	--	1	10/18/16 10:35	10/25/16 14:52	EPA 3005A	1,6020A	BV
Zinc, Dissolved	0.01152		mg/l	0.00500	--	1	10/18/16 10:35	10/25/16 14:52	EPA 3005A	1,6020A	BV

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG942647-7										
Antimony, Total	ND		mg/l	0.00050	--	1	10/17/16 08:25	10/25/16 15:08	1,6020A	BV
Arsenic, Total	ND		mg/l	0.0005	--	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Cadmium, Total	ND		mg/l	0.0002	--	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Chromium, Total	ND		mg/l	0.0010	--	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Copper, Total	ND		mg/l	0.0010	--	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Lead, Total	ND		mg/l	0.0005	--	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Nickel, Total	ND		mg/l	0.0020	--	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Selenium, Total	ND		mg/l	0.005	--	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Silver, Total	ND		mg/l	0.0002	--	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT
Zinc, Total	ND		mg/l	0.0050	--	1	10/17/16 08:25	10/17/16 12:38	1,6020A	TT

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-03 Batch: WG943115-1										
Mercury, Dissolved	ND		mg/l	0.00020	--	1	10/18/16 10:02	10/19/16 20:31	3,245.1	EA

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-03 Batch: WG943154-1										
Antimony, Dissolved	ND		mg/l	0.00050	--	1	10/18/16 10:35	10/25/16 14:34	1,6020A	BV
Arsenic, Dissolved	ND		mg/l	0.0005	--	1	10/18/16 10:35	10/18/16 13:55	1,6020A	AM
Cadmium, Dissolved	ND		mg/l	0.0002	--	1	10/18/16 10:35	10/18/16 13:55	1,6020A	AM
Chromium, Dissolved	ND		mg/l	0.0010	--	1	10/18/16 10:35	10/18/16 13:55	1,6020A	AM
Copper, Dissolved	ND		mg/l	0.0005	--	1	10/18/16 10:35	10/18/16 13:55	1,6020A	AM
Lead, Dissolved	ND		mg/l	0.0005	--	1	10/18/16 10:35	10/18/16 13:55	1,6020A	AM
Nickel, Dissolved	ND		mg/l	0.0020	--	1	10/18/16 10:35	10/18/16 13:55	1,6020A	AM

Project Name: AHC
Project Number: 3979.00
Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Selenium, Dissolved	ND	mg/l	0.005	--	1	10/18/16 10:35	10/18/16 13:55	1,6020A	AM
Silver, Dissolved	ND	mg/l	0.00020	--	1	10/18/16 10:35	10/25/16 14:34	1,6020A	BV
Zinc, Dissolved	ND	mg/l	0.0050	--	1	10/18/16 10:35	10/18/16 13:55	1,6020A	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG943160-1										
Mercury, Total	ND		mg/l	0.00020	--	1	10/18/16 10:42	10/18/16 21:35	3,245.1	EA

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG943537-1										
Iron, Total	ND		mg/l	0.050	--	1	10/17/16 08:25	10/19/16 23:42	19,200.7	JH

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-03 Batch: WG943702-1										
Iron, Dissolved	ND		mg/l	0.05	--	1	10/18/16 10:35	10/19/16 17:57	19,200.7	JH

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG942647-8								
Antimony, Total	100		-		80-120	-		
Arsenic, Total	93		-		80-120	-		
Cadmium, Total	113		-		80-120	-		
Chromium, Total	95		-		80-120	-		
Copper, Total	100		-		80-120	-		
Lead, Total	93		-		80-120	-		
Nickel, Total	97		-		80-120	-		
Selenium, Total	82		-		80-120	-		
Silver, Total	107		-		80-120	-		
Zinc, Total	104		-		80-120	-		
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG943115-2								
Mercury, Dissolved	106		-		85-115	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG943154-2					
Antimony, Dissolved	104	-	80-120	-	
Arsenic, Dissolved	108	-	80-120	-	
Cadmium, Dissolved	115	-	80-120	-	
Chromium, Dissolved	107	-	80-120	-	
Copper, Dissolved	112	-	80-120	-	
Lead, Dissolved	103	-	80-120	-	
Nickel, Dissolved	110	-	80-120	-	
Selenium, Dissolved	103	-	80-120	-	
Silver, Dissolved	114	-	80-120	-	
Zinc, Dissolved	104	-	80-120	-	
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG943160-2					
Mercury, Total	98	-	85-115	-	
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG943537-2					
Iron, Total	102	-	85-115	-	
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG943702-2					
Iron, Dissolved	92	-	85-115	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG942647-13 WG942647-14 QC Sample: L1632941-19 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.7710	**154**	Q	0.6382	**128**	Q	75-125	19		20
Arsenic, Total	0.0030	0.12	0.1764	**144**	Q	0.1193	97		75-125	**39**	Q	20
Cadmium, Total	ND	0.051	0.0756	**148**	Q	0.0622	122		75-125	19		20
Chromium, Total	0.0136	0.2	0.3132	**150**	Q	0.2516	119		75-125	**22**	Q	20
Copper, Total	0.0115	0.25	0.3920	**152**	Q	0.3171	122		75-125	**21**	Q	20
Lead, Total	0.0593	0.51	0.7639	**138**	Q	0.6062	107		75-125	**23**	Q	20
Nickel, Total	0.0184	0.5	0.7916	**155**	Q	0.6172	120		75-125	**25**	Q	20
Selenium, Total	ND	0.12	0.177	**148**	Q	0.073J	**0**	Q	75-125	NC	Q	20
Silver, Total	ND	0.05	0.0732	**146**	Q	0.0607	121		75-125	19		20
Zinc, Total	0.0561	0.5	0.7781	**144**	Q	0.6231	113		75-125	**22**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG942647-9 WG942647-10 QC Sample: L1632907-02 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.5681	114		0.5576	112		75-125	2		20
Arsenic, Total	0.0015	0.12	0.1366	112		0.1334	110		75-125	2		20
Cadmium, Total	ND	0.051	0.0530	104		0.0541	106		75-125	2		20
Chromium, Total	0.0082	0.2	0.1890	90		0.2046	98		75-125	8		20
Copper, Total	0.0056	0.25	0.2818	110		0.2441	95		75-125	14		20
Lead, Total	0.0040	0.51	0.5533	108		0.5527	108		75-125	0		20
Nickel, Total	0.0069	0.5	0.5076	100		0.5024	99		75-125	1		20
Selenium, Total	ND	0.12	0.153	**128**	Q	0.116	97		75-125	**28**	Q	20
Silver, Total	ND	0.05	0.0547	109		0.0522	104		75-125	5		20
Zinc, Total	0.0175	0.5	0.5850	114		0.5317	103		75-125	10		20

Matrix Spike Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG943115-4 QC Sample: L1633100-01 Client ID: A-2-NPDES										
Mercury, Dissolved	ND	0.005	0.00497	100		-	-	75-125	-	20
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG943154-3 WG943154-4 QC Sample: L1632907-02 Client ID: MS Sample										
Antimony, Dissolved	ND	0.5	0.5667	113		0.5759	115	75-125	2	20
Arsenic, Dissolved	0.0007	0.12	0.1293	107		0.1326	110	75-125	3	20
Cadmium, Dissolved	ND	0.051	0.0563	110		0.0559	110	75-125	1	20
Chromium, Dissolved	0.0010	0.2	0.2059	102		0.2186	109	75-125	6	20
Copper, Dissolved	ND	0.25	0.2766	111		0.2737	109	75-125	1	20
Lead, Dissolved	ND	0.51	0.5312	104		0.5464	107	75-125	3	20
Nickel, Dissolved	ND	0.5	0.5285	106		0.5501	110	75-125	4	20
Selenium, Dissolved	ND	0.12	0.101	84		0.116	97	75-125	14	20
Silver, Dissolved	ND	0.05	0.0522	104		0.0527	105	75-125	1	20
Zinc, Dissolved	ND	0.5	0.5265	105		0.5386	108	75-125	2	20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG943160-4 QC Sample: L1633196-01 Client ID: MS Sample										
Mercury, Total	0.00128	0.005	0.00682	111		-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG943160-6 QC Sample: L1632744-01 Client ID: MS Sample										
Mercury, Total	ND	0.005	0.00547	109		-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG943537-3 WG943537-4 QC Sample: L1600010-76 Client ID: MS Sample										
Iron, Total	7.27	1	7.52	**25**	Q	8.33	106	75-125	10	20
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG943702-3 WG943702-4 QC Sample: L1600010-80 Client ID: MS Sample										
Iron, Dissolved	3.1	1	3.9	80		4.0	90	75-125	3	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG943115-3 QC Sample: L1633100-01 Client ID: A-2-NPDES						
Mercury, Dissolved	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG943160-3 QC Sample: L1633196-01 Client ID: DUP Sample						
Mercury, Total	0.00128	0.00128	mg/l	0		20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG943160-5 QC Sample: L1632744-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-01
Client ID: A-2-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water

Date Collected: 10/14/16 10:30
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	1900		mg/l	60	NA	12	-	10/17/16 13:05	121,2540D	SG
Cyanide, Total	ND		mg/l	0.005	--	1	10/14/16 22:30	10/17/16 13:02	121,4500CN-CE	JO
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	10/14/16 21:40	121,4500CL-D	AS
Nitrogen, Ammonia	1.77		mg/l	0.075	--	1	10/15/16 09:16	10/17/16 17:42	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	10/15/16 08:00	10/15/16 12:15	74,1664A	KZ
Phenolics, Total	ND		mg/l	0.030	--	1	10/19/16 11:26	10/20/16 09:38	4,420.1	AW
Chromium, Hexavalent	ND		mg/l	0.010	--	1	10/15/16 02:58	10/15/16 03:01	121,3500CR-B	KA
Anions by Ion Chromatography - Westborough Lab										
Chloride	1680		mg/l	50.0	--	100	-	10/19/16 01:15	44,300.0	AU

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-02
Client ID: C-4-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water

Date Collected: 10/14/16 09:40
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	3000		mg/l	100	NA	20	-	10/17/16 13:05	121,2540D	SG
Cyanide, Total	ND		mg/l	0.005	--	1	10/14/16 22:30	10/17/16 13:05	121,4500CN-CE	JO
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	10/14/16 21:40	121,4500CL-D	AS
Nitrogen, Ammonia	0.323		mg/l	0.075	--	1	10/15/16 09:16	10/17/16 17:43	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	10/15/16 08:00	10/15/16 12:15	74,1664A	KZ
Phenolics, Total	ND		mg/l	0.030	--	1	10/19/16 11:26	10/20/16 09:39	4,420.1	AW
Chromium, Hexavalent	ND		mg/l	0.010	--	1	10/15/16 02:58	10/15/16 03:03	121,3500CR-B	KA
Anions by Ion Chromatography - Westborough Lab										
Chloride	940.		mg/l	25.0	--	50	-	10/19/16 01:27	44,300.0	AU

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

SAMPLE RESULTS

Lab ID: L1633100-03
Client ID: E-6-NPDES
Sample Location: WATERTOWN, MA
Matrix: Water

Date Collected: 10/14/16 08:45
Date Received: 10/14/16
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	1400		mg/l	50	NA	10	-	10/17/16 13:05	121,2540D	SG
Cyanide, Total	ND		mg/l	0.005	--	1	10/14/16 22:30	10/17/16 13:05	121,4500CN-CE	JO
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	10/14/16 21:40	121,4500CL-D	AS
Nitrogen, Ammonia	0.109		mg/l	0.075	--	1	10/15/16 09:16	10/17/16 17:44	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	10/15/16 08:00	10/15/16 12:15	74,1664A	KZ
Phenolics, Total	ND		mg/l	0.030	--	1	10/17/16 10:00	10/18/16 15:02	4,420.1	AW
Chromium, Hexavalent	ND		mg/l	0.010	--	1	10/15/16 02:58	10/15/16 03:04	121,3500CR-B	KA
Anions by Ion Chromatography - Westborough Lab										
Chloride	1860		mg/l	50.0	--	100	-	10/19/16 01:39	44,300.0	AU

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG942334-1										
Cyanide, Total	0.009		mg/l	0.005	--	1	10/14/16 22:30	10/17/16 12:39	121,4500CN-CE	JO
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG942336-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	10/14/16 21:40	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG942351-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	10/15/16 02:58	10/15/16 03:00	121,3500CR-B	KA
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG942429-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	10/15/16 09:16	10/17/16 17:22	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG942440-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	10/15/16 08:00	10/15/16 12:15	74,1664A	KZ
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG942677-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	10/17/16 13:05	121,2540D	SG
General Chemistry - Westborough Lab for sample(s): 03 Batch: WG942836-1										
Phenolics, Total	ND		mg/l	0.030	--	1	10/17/16 10:00	10/18/16 14:57	4,420.1	AW
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG943630-1										
Phenolics, Total	ND		mg/l	0.030	--	1	10/19/16 11:26	10/20/16 08:22	4,420.1	AW
Anions by Ion Chromatography - Westborough Lab for sample(s): 01-03 Batch: WG943859-1										
Chloride	ND		mg/l	0.500	--	1	-	10/18/16 21:03	44,300.0	AU

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG942334-2								
Cyanide, Total	100		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG942336-2								
Chlorine, Total Residual	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG942351-2								
Chromium, Hexavalent	96		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG942429-2								
Nitrogen, Ammonia	95		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG942440-2								
TPH	100		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 03 Batch: WG942836-2								
Phenolics, Total	90		-		70-130	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG943630-2								
Phenolics, Total	96		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: AHC

Project Number: 3979.00

Lab Number: L1633100

Report Date: 10/27/16

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-03 Batch: WG943859-2					
Chloride	99	-	90-110	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG942334-4 QC Sample: L1600010-66 Client ID: MS Sample												
Cyanide, Total	0.095	0.2	0.167	**36**	Q	-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG942351-4 QC Sample: L1633100-01 Client ID: A-2-NPDES												
Chromium, Hexavalent	ND	0.1	0.102	102		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG942429-4 QC Sample: L1632820-02 Client ID: MS Sample												
Nitrogen, Ammonia	15.9	4	19.5	90		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG942440-4 QC Sample: L1633105-02 Client ID: MS Sample												
TPH	ND	20	19.1	96		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 03 QC Batch ID: WG942836-4 QC Sample: L1632799-02 Client ID: MS Sample												
Phenolics, Total	ND	0.4	0.53	130		-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG943630-4 QC Sample: L1632889-01 Client ID: MS Sample												
Phenolics, Total	0.32	0.4	0.74	106		-	-		70-130	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG943859-3 QC Sample: L1633294-01 Client ID: MS Sample												
Chloride	ND	4	4.27	107		-	-		40-151	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG942334-3 QC Sample: L1600010-65 Client ID: DUP Sample						
Cyanide, Total	0.081B	0.086	mg/l	6		30
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG942336-3 QC Sample: L1633100-03 Client ID: E-6-NPDES						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG942351-3 QC Sample: L1633100-01 Client ID: A-2-NPDES						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG942429-3 QC Sample: L1632820-02 Client ID: DUP Sample						
Nitrogen, Ammonia	15.9	15.1	mg/l	5		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG942440-3 QC Sample: L1633086-02 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG942677-2 QC Sample: L1633100-01 Client ID: A-2-NPDES						
Solids, Total Suspended	1900	2100	mg/l	10		29
General Chemistry - Westborough Lab Associated sample(s): 03 QC Batch ID: WG942836-3 QC Sample: L1632799-02 Client ID: DUP Sample						
Phenolics, Total	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG943630-3 QC Sample: L1632889-01 Client ID: DUP Sample						
Phenolics, Total	0.32	0.33	mg/l	3		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG943859-4 QC Sample: L1633294-01 Client ID: DUP Sample						
Chloride	ND	ND	mg/l	NC		18

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information	Custody Seal
Cooler	
A	Absent
C	Absent
E	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1633100-01A	Vial HCl preserved	C	N/A	2.9	Y	Absent	8260-SIM(14),8260(14)
L1633100-01B	Vial HCl preserved	C	N/A	2.9	Y	Absent	8260-SIM(14),8260(14)
L1633100-01C	Vial HCl preserved	C	N/A	2.9	Y	Absent	8260-SIM(14),8260(14)
L1633100-01D	Vial Na2S2O3 preserved	C	N/A	2.9	Y	Absent	504(14)
L1633100-01E	Vial Na2S2O3 preserved	C	N/A	2.9	Y	Absent	504(14)
L1633100-01F	Plastic 950ml unpreserved	C	7	2.9	Y	Absent	TSS-2540(7)
L1633100-01G	Plastic 950ml unpreserved	C	7	2.9	Y	Absent	CL-300(28),HEXCR-3500(1),TRC-4500(1)
L1633100-01H	Amber 1000ml unpreserved	C	7	2.9	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1633100-01I	Amber 1000ml unpreserved	C	7	2.9	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1633100-01J	Amber 1000ml Na2S2O3	C	7	2.9	Y	Absent	PCB-608(7)
L1633100-01K	Amber 1000ml Na2S2O3	C	7	2.9	Y	Absent	PCB-608(7)
L1633100-01L	Amber 1000ml HCl preserved	C	N/A	2.9	Y	Absent	TPH-1664(28)
L1633100-01M	Amber 1000ml HCl preserved	C	N/A	2.9	Y	Absent	TPH-1664(28)
L1633100-01N	Amber 950ml H2SO4 preserved	C	<2	2.9	Y	Absent	TPHENOL-420(28)
L1633100-01O	Plastic 250ml NaOH preserved	C	>12	2.9	Y	Absent	TCN-4500(14)
L1633100-01P	Plastic 250ml HNO3 preserved	C	<2	2.9	Y	Absent	CU-6020S(180),FE-RI(180),SE-6020S(180),ZN-6020S(180),CR-6020S(180),NI-6020S(180),PB-6020S(180),AG-6020S(180),AS-6020S(180),HG-R(28),SB-6020S(180),CD-6020S(180)
L1633100-01Q	Plastic 250ml HNO3 preserved	C	<2	2.9	Y	Absent	SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180)
L1633100-01R	Plastic 500ml H2SO4 preserved	C	<2	2.9	Y	Absent	NH3-4500(28)
L1633100-02A	Vial HCl preserved	A	N/A	3.4	Y	Absent	8260-SIM(14),8260(14)
L1633100-02B	Vial HCl preserved	A	N/A	3.4	Y	Absent	8260-SIM(14),8260(14)
L1633100-02C	Vial HCl preserved	A	N/A	3.4	Y	Absent	8260-SIM(14),8260(14)

*Values in parentheses indicate holding time in days

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1633100-02D	Vial Na2S2O3 preserved	A	N/A	3.4	Y	Absent	504(14)
L1633100-02E	Vial Na2S2O3 preserved	A	N/A	3.4	Y	Absent	504(14)
L1633100-02F	Plastic 950ml unpreserved	A	8	3.4	Y	Absent	TSS-2540(7)
L1633100-02G	Plastic 950ml unpreserved	A	8	3.4	Y	Absent	CL-300(28),HEXCR-3500(1),TRC-4500(1)
L1633100-02H	Amber 1000ml unpreserved	A	8	3.4	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1633100-02I	Amber 1000ml unpreserved	A	8	3.4	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1633100-02J	Amber 1000ml Na2S2O3	A	8	3.4	Y	Absent	PCB-608(7)
L1633100-02K	Amber 1000ml Na2S2O3	A	8	3.4	Y	Absent	PCB-608(7)
L1633100-02L	Amber 1000ml HCl preserved	A	N/A	3.4	Y	Absent	TPH-1664(28)
L1633100-02M	Amber 1000ml HCl preserved	A	N/A	3.4	Y	Absent	TPH-1664(28)
L1633100-02N	Amber 950ml H2SO4 preserved	A	<2	3.4	Y	Absent	TPHENOL-420(28)
L1633100-02O	Plastic 250ml NaOH preserved	A	>12	3.4	Y	Absent	TCN-4500(14)
L1633100-02P	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	CU-6020S(180),FE-RI(180),SE-6020S(180),ZN-6020S(180),CR-6020S(180),NI-6020S(180),PB-6020S(180),AG-6020S(180),AS-6020S(180),HG-R(28),SB-6020S(180),CD-6020S(180)
L1633100-02Q	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180)
L1633100-02R	Plastic 500ml H2SO4 preserved	A	<2	3.4	Y	Absent	NH3-4500(28)
L1633100-03A	Vial HCl preserved	E	N/A	4.4	Y	Absent	8260-SIM(14),8260(14)
L1633100-03B	Vial HCl preserved	E	N/A	4.4	Y	Absent	8260-SIM(14),8260(14)
L1633100-03C	Vial HCl preserved	E	N/A	4.4	Y	Absent	504(14)
L1633100-03D	Vial Na2S2O3 preserved	E	N/A	4.4	Y	Absent	504(14)
L1633100-03F	Plastic 950ml unpreserved	E	8	4.4	Y	Absent	TSS-2540(7)
L1633100-03G	Plastic 950ml unpreserved	E	8	4.4	Y	Absent	CL-300(28),HEXCR-3500(1),TRC-4500(1)
L1633100-03H	Amber 1000ml unpreserved	E	8	4.4	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1633100-03I	Amber 1000ml unpreserved	E	8	4.4	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1633100-03J	Amber 1000ml Na2S2O3	E	8	4.4	Y	Absent	PCB-608(7)
L1633100-03K	Amber 1000ml Na2S2O3	E	8	4.4	Y	Absent	PCB-608(7)
L1633100-03L	Amber 1000ml HCl preserved	E	N/A	4.4	Y	Absent	TPH-1664(28)
L1633100-03M	Amber 1000ml HCl preserved	E	N/A	4.4	Y	Absent	TPH-1664(28)
L1633100-03N	Amber 950ml H2SO4 preserved	E	<2	4.4	Y	Absent	TPHENOL-420(28)
L1633100-03O	Plastic 250ml NaOH preserved	E	>12	4.4	Y	Absent	TCN-4500(14)

*Values in parentheses indicate holding time in days

Project Name: AHC
Project Number: 3979.00

Lab Number: L1633100
Report Date: 10/27/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1633100-03P	Plastic 250ml HNO3 preserved	E	<2	4.4	Y	Absent	CU-6020S(180),FE-RI(180),SE-6020S(180),ZN-6020S(180),CR-6020S(180),NI-6020S(180),PB-6020S(180),AG-6020S(180),AS-6020S(180),HG-R(28),SB-6020S(180),CD-6020S(180)
L1633100-03Q	Plastic 250ml HNO3 preserved	E	<2	4.4	Y	Absent	SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180)
L1633100-03R	Plastic 500ml H2SO4 preserved	E	<2	4.4	Y	Absent	NH3-4500(28)
L1633100-04A	Vial HCl preserved	C	N/A	2.9	Y	Absent	8260-SIM(14),8260(14)
L1633100-04B	Vial HCl preserved	C	N/A	2.9	Y	Absent	8260-SIM(14),8260(14)
L1633100-04C	Vial Na2S2O3 preserved	C	N/A	2.9	Y	Absent	504(14)
L1633100-04D	Vial Na2S2O3 preserved	C	N/A	2.9	Y	Absent	504(14)
L1633100-05A	Amber 1000ml unpreserved	C	7	2.9	Y	Absent	-

*Values in parentheses indicate holding time in days

Project Name:	AHC	**Lab Number:**	L1633100
Project Number:	3979.00	**Report Date:**	10/27/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: Data Usability Report

Project Name:	AHC	**Lab Number:**	L1633100
Project Number:	3979.00	**Report Date:**	10/27/16

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	AHC	**Lab Number:**	L1633100
Project Number:	3979.00	**Report Date:**	10/27/16

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).

14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

74 Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: ***EPA 3050B***

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
World Class Chemistry

Westborough, MA	Mansfield, MA
TEL: 508-898-9220	TEL: 508-822-9300
FAX: 508-898-9193	FAX: 508-822-3288

Date Rec'd in Lab: 10/14/16

ALPHA Job #: L1633100

Client Information

Client: Sanborn, Head & Associates, Inc.

Address: 1 Technology Park Drive

Westford, MA 01886

Phone: 978-932-0900

Fax:

Email: ablomeke@sanbornhead.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: AHC

Project Location: Watertown, MA

Project #: 3979.00

Project Manager: Amy Blomeke

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NPDES RGP	NPDES Reporting Limits - see attachment

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☐ Yes ☒ No Are MCP Analytical Methods Required?

☐ Yes ☒ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

Total and Dissloved Metals of Sb, As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Zn and Fe

Minimum Levels (detection limits) must be met - see attached

SAMPLE HANDLING
Filtration
☒ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	NPDES RGP Package	trivalent chromium	Dissolved Metals	Ammonia (SM 4500 B and/or 350.1)									Sample Specific Comments	TOTAL # BOTTLES
33100-01	A-2 - NPDES	10/14/16	1030	GW	LGC	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	See Notes	18
-02	C-4 - NPDES	10/14/16	0940	GW	LGC	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	See Notes	18
-03	E-6 - NPDES	10/14/16	0845	GW	LGC	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	See Notes	17
-04	Trip Blank	10/11/16	-	AQ	CW	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Container Type	A	P	P	P	-	-	-	-	-	-	-	-
Preservative	A	A	C	D	-	-	-	-	-	-	-	-

EASE ANSWER QUESTIONS ABOVE!

S YOUR PROJECT
A MCP or CT RCP?

M NO: 01-01(I)
5-JAN-12)

Relinquished By:	Date/Time	Received By:	Date/Time
Emily Cowthard	10/14/16 1742	AAL	10/14/16 1742

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Remediation General Permit
Appendix VI

Test Methods and Minimum Levels[1] for Pollutants Covered by the RGP

Parameter *	CAS Number(s)	Inorganic Test Methods				
		ICP/AES [2] Methods 200.7, 3010A/6010C	ICP/MS [3], 200.8, 3010A/6020A	GFAA [4] Method 200.9, 7010	Other	Notes Digestion method
1. Total Suspended Solids (TSS)					Method 160.2 SM[5] 2540D (5 mg/L)	
2. Total Residual Chlorine (TRC)					Methods 330.1, 330.5, SM[5] 4500-Cl D (200 ug/L) SM[5] 4500-Cl E (10 ug/L)	
4. Cyanide (CN)	57125				Method 335.4 (5 ug/L)	OIA-1677 (5 ug/L)
38. Chloride	16887006				300.0, SM[5] 4110B (0.1 mg/L)	(other anions: bromide, fluoride, nitrite/nitrate, o-phosphate, sulfate)
39. Antimony	7440360	10 ug/L	0.5 ug/L	3 ug/L		200
40. Arsenic	7440382	20 ug/L	1.0 ug/L	3 ug/L		206.5
41. Cadmium	7440439	10 ug/L	0.2 ug/L	0.5 ug/L		200

- Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category provided in Appendix III, as well as Part 3 of the Notice of Intent (Contaminant Information) in Appendix V.
-

[1] Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence.
[2] Inductively Coupled Plasmas/Atomic (optical) Emissions Spectrometry
[3] Inductively Coupled Plasmas/Mass Spectrometry
[4] Graphite Furnace Atomic Absorption
[5] Standard Method

Parameter *	CAS Number(s)	Inorganic Test Methods				
		ICP/AES [2] Methods 200.7, 3010A/6010C	ICP/MS [3], 200.8, 3010A/6020A	GFAA [4] Method 200.9, 7010	Other	Notes Digestion method
42. Chromium III	7440473	15 ug/L	1.0 ug/L	1 ug/L		200
43. Chromium VI (hexavalent)	18540299				Method 7196A (10 ug/L), Methods 218.6, 1636 (1 ug/L)	
44. Copper	7440508	15 ug/L	0.5 ug/L	3 ug/L		200
45. Lead	7439921	20 ug/L	0.2 ug/L	3 ug/L		200
46. Mercury	7439976				Method 245.1, 7470A (0.2 ug/L), Methods 245.7, 1631 (0.001 ug/l)	
47. Nickel	7440020	20 ug/L	0.2 ug/L	5 ug/L		200
48. Selenium	7782492	20 ug/L	2 ug/L	5 ug/L		200
49. Silver	7440224	10 ug/L	0.2 ug/L	1 ug/L		200
50. Zinc	7440666	15 ug/L	5 ug/L			200
51. Iron	7439896	20 ug/L	50 ug/L			200

Parameter	CAS Number(s)	Organic Test Methods				
		GC [6]	GC/MS [7]	HPLC [8]	State Methods	Other
3. Total Petroleum Hydrocarbons (TPH)					Method 1664A (5 mg/l)	
5. Benzene (B)	71432	Method 602 (0.5 ug/l)	Methods 624, 1624C (2 ug/L)		MA VPH (5 ug/L)	Methods 5035A/ 8260C (2 ug/L), 524.2 (0.5 ug/L)

[6] Gas Chromatography
[7] Gas Chromatography/Mass Spectrometry
[8] Liquid Chromatography

Parameter	CAS Number(s)	Organic Test Methods				
		GC [6]	GC/MS [7]	HPLC [8]	State Methods	Other
6. Toluene (T)	108883	Method 602 (0.5 ug/l)	Methods 624, 1624C (2 ug/L)		MA VPH (5 ug/L)	Methods 5035A/ 8260C (2 ug/L), 524.2 (0.5 ug/L)
7. Ethylbenzene (E)	100-41-4	Method 602 (0.5 ug/l)	Methods 624, 1624C (2 ug/L)		MA VPH (5 ug/L)	Methods 5035A/ 8260C (2 ug/L), 524.2 (0.5 ug/L)
8. (m,p,o) Xylenes (X)	108-88-3; 106-42-3; 95-47-6; 1330-20-7	Method 602 (0.5 ug/l)	Methods 624, 1624C (4 ug/L)		MA VPH (10 ug/L)	Methods 5035A/ 8260C (4 ug/L), 524.2 (0.5 ug/l)
9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX)		Method 602 (0.5 ug/l)	Methods 624, 1624C (2 ug/L)		MA VPH (5 ug/L)	Methods 5035A/ 8260C (2 ug/L), 524.2 (0.5 ug/L)
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane)	106-93-4	Method 8011, 504.1 (0.01 ug/L), Method 618 (1.0 ug/l)	Methods 524.2 (1 ug/L), SIM [9] (0.1 ug/l)			Methods 624, 5035A/8260C (10 ug/L)
11. Methyl-tert-Butyl Ether (MtBE)	1634-04-4	Method 8015D (0.5 ug/L)	Method 524.2 (10 ug/L)		MA VPH (5 ug/L)	Methods 624, 5035A/ 8260C (10 ug/L)
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75-65-0	Method 8015D (0.5 ug/L)	Method 524.2 (10 ug/L)			Methods 624, 5035A/ 8260C (10 ug/L)
13. tert-Amyl Methyl Ether (TAME)	994-05-08	Method 8015D (0.5 ug/L)	Method 524.2 (10 ug/L)			Methods 624, 5035A/ 8260C (10 ug/L)
14. Naphthalene	91-20-3	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA VPH (5 ug/L), MA EPH (5 ug/l)	8270D (5 ug/L), SIM (0.1 ug/L), 524.2 (0.5 ug/l), 8260C (2 ug/l)
15. Carbon Tetrachloride	56-23-5	Method 601 (0.5 ug/L)	Methods 624, 1624 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
16. 1,2 Dichlorobenzene (o-DCB)	95-50-1	Methods 601, 602 (0.5 ug/L)	Methods 624, 625 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)

[9] Selected Ion Monitoring

Parameter	CAS Number(s)	Organic Test Methods				
		GC [6]	GC/MS [7]	HPLC [8]	State Methods	Other
17. 1,3 Dichlorobenzene (m-DCB)	541-73-1	Methods 601, 602 (0.5 ug/L)	Methods 624, 625 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
18. 1,4 Dichlorobenzene (p-DCB)	106-46-7	Methods 601, 602 (0.5 ug/L)	Methods 624, 625 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
19. 1,1 Dichloroethane (DCA)	75-34-3	Method 601 (0.5 ug/L)	Method 624 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
20. 1,2 Dichloroethane (DCA)	107-06-2	Method 601 (0.5 ug/L)	Method 624 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
21. 1,1 Dichloroethene (DCE)	75-35-4	Method 601 (0.5 ug/L)	Method 624 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
22. cis-1,2 Dichloroethene (DCE)	156-59-2	Method 601 (0.5 ug/L)	Method 624 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
23. Methylene Chloride	75-09-2	Method 601 (0.5 ug/L)	Method 624 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
24. Tetrachloroethene (PCE)	127-18-4	Method 601 (0.5 ug/L)	Method 624 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
25. 1,1,1 Trichloro-ethane (TCA)	71-55-6	Method 601 (0.5 ug/L)	Method 624 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
26. 1,1,2 Trichloro-ethane (TCA)	79-00-5	Method 601 (0.5 ug/L)	Method 624 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
27. Trichloroethene (TCE)	79-01-6	Method 601 (0.5 ug/L)	Method 624 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
28. Vinyl Chloride (Chloroethene)	75-01-4	Method 601 (0.5 ug/L)	Method 624 (5 ug/L)			Methods 5035A/ 8260C (5 ug/L), 524.2 (0.5 ug/l)
29. Acetone	67-64-1	Method 524.2 (10 ug/L)	Method 1624 (50 ug/L)			Method 5035A/8260C (50 ug/L)
30. 1,4 Dioxane	123-91-1		Method 522 (0.1 ug/L)			5 ug/L, Method 8260C, 50 ug/L , Method 1624C
31. Total Phenols	108-95-2					5 ug/L, Methods 8260C, 8270D, 2 ug/L, Methods 420.1, 420.2, 50 ug/L, Method 420.4

Parameter	CAS Number(s)	Organic Test Methods				
		GC [6]	GC/MS [7]	HPLC [8]	State Methods	Other
32. Pentachlorophenol (PCP)	87-86-5	Method 604 (10 ug/L)	Methods 625, 1625 (10 ug/L)			Methods 3510C/8270D, 525 (5 ug/L)
33. Total Phthalates						
a. Butylbenzyl Phthalate	85687	Method 606 (10 ug/L)	Method 625, 1625C (5 ug/L)			Methods 3510C/8270D (5 ug/L), 525.2 (0.5 ug/l)
b. Di-n-butyl Phthalate	84742	Method 606 (10 ug/L)	Method 625, 1625C (5 ug/L)			Method 3510C/8270D (5 ug/L)
c. Diethyl Phthalate	84662	Method 606 (10 ug/L)	Method 625, 1625C (5 ug/L)			Methods 3510C/8270D (5 ug/L), 525.2 (0.5 ug/l)
d. Dimethyl Phthalate	131113	Method 606 (10 ug/L)	Method 625, 1625C (5 ug/L)			Method 3510C/8270D (5 ug/L)
e. Di-n-octyl Phthalate	117840	Method 606 (10 ug/L)	Method 625, 1625C (5 ug/L)			Method 3510C/8270D (5 ug/L), 525.2 (0.5 ug/L)
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117-81-7	Method 606 (10 ug/L)	Method 625, 1625C (5 ug/L)			Method 3510C/8270D (5 ug/L), 525.2 (0.5 ug/L)
Polynuclear Aromatic Hydrocarbons (PAHs)		Methods 8310, 8315D, 610 (GC)	Methods 625, 1625	Method 610 (LC)	MA EPH	Methods 3510C/8270D, 525.2 and Selected Ion Monitoring Option (SIM)
a. Benzo(a) Anthracene	56-55-3	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
b. Benzo(a) Pyrene	50-32-8	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
c. Benzo(b)Fluoranthene	205-99-2	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)

Parameter	CAS Number(s)	Organic Test Methods				
		GC [6]	GC/MS [7]	HPLC [8]	State Methods	Other
d. Benzo(k)Fluoranthene	207-08-9	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
e. Chrysene	218-01	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
f. Dibenzo(a,h)anthracene	53-70-3	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
g. Indeno(1,2,3-cd) Pyrene	193-39-5	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (0.5 ug/l)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
h. Acenaphthene	83-32-9	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
i. Acenaphthylene	208-96-8	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
j. Anthracene	120-12-7	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
k. Benzo(ghi) Perylene	191-24-2	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
l. Fluoranthene	206-44-0	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
m. Fluorene	86-73-7	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (0.5 ug/l)	MA EPH (5 ug/l	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
n. Naphthalene	91-20-3	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (2 ug/L)	MA VPH (5 ug/ll), MA EPH (5 ug/l)	8270D (5 ug/L), SIM (0.1 ug/L), 524.2 (0.5 ug/l), 8260C (2 ug/l)

Parameter	CAS Number(s)	Organic Test Methods				
		GC [6]	GC/MS [7]	HPLC [8]	State Methods	Other
o. Phenanthrene	85-01-8	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (5 ug/L)	MA EPH 5 ug/L	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
p. Pyrene	129-00-0	Method 610 (5 ug/L)	Method 625 (5 ug/l)	Method 610 (5 ug/L)	MA EPH (5 ug/L)	8270D (5 ug/L), SIM (0.1 ug/L), 525.2 (0.5 ug/L)
37. Total Polychlorinated Biphenyls (PCBs)	85-68-7; 84-74-2; 117-84-0; 84-66-2; 131-11-3; 117-81-7.	Method 608 (0.5 ug/L)				Method 8082 (0.5 ug/L), Method 1668b (0.00005 ug/L)

Notes:

Method OIA-1677 does not measure iron cyanide complexes

Methods 522, 504.1, 524, and 525.2 are drinking water methods that can be used in special situations.

Methods 3520C (continuous extraction), 3535A (Solid Phase Extraction), and 3510C (separatory funnel extraction) are comparable organic preparation methods.

Method 8270D must be preceded by either Method 3520C or Method 3535 as the sample preparation method. In either case, the quality control requirements of Method 3500B must be taken into account. The sample preparation method must be specified with data analysis records. Method 8270D may be modified to provide lower detection and quantitation limits using Selected Ion Monitoring (SIM). 1. Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B). Where a minimum level (ML) is listed but a test method is not specified, permittee may use any of the available methods approved for use under 40 CFR 136, including alternatives approved by this permit, that meets that ML. See EPA's "Methods and Guidance for the Analysis of Water" at www.epa.gov/water/owrccatalog.nsf. Where test method is specified but ML not listed for that method, the lowest ML for listed methods must be used before concentration can be considered as "non-detect."

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

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

APPENDIX E

MUNICIPAL CORRESPONDENCE

DEPARTMENT OF PUBLIC WORKS
TOWN OF WATERTOWN, MASSACHUSETTS

APPLICATION FOR A DEWATERING DRAINAGE PERMIT

To the Town of Watertown, Massachusetts:

The undersigned, being the Athena Arsenal, LLC
(Owner, Owner's Agent)

of the property located at 311 Arsenal Street, does
(Number) *(Street)*

hereby request a permit to discharge dewatering drainage to the public sewer to serve the temp discharge of groundwater during proposed excavation activities
Construction of a new parking garage at the property
(Residence, Commercial Building, etc.)

at said location.

1. The following indicated substance(s) will be discharge from the proposed construction area into the sewer:

Substance	Substance
Treated groundwater	

Specify other substances

2. The maximum number of days discharge will occur: 6 months
3. Beginning on January 1, 2017 and ending on June 1, 2017
4. The name and address of person or firm who will perfrom the proposed work is
Lockwood Remediation 89 Crawford St. Leominster, MA 01453
5. Plans and specifications for the method of dewatering drainage discharge are attached hereunto as Exhibit "A".

In consideration of the granting of this permit, the undersigned agrees:

1. To accept and abide by all provisions of the Rules and Regulations for discharge into and for the Use of Public Sewers of the Town of Watertown, Massachusetts, and of all other pertinent rules and regulations that may be adopted in the future.
2. To maintain the building sewer at no expense to the Town.
3. To notify the Superintendent when the building sewer is ready for inspection and connection to the public sewer, but before any portion of the work is covered.

978-408-0678
Stephen Buttle - Steve Britho WLF

Date 12/15/16

Signed W.L. French Excavating Corp.
Stephen Britho (Applicant) Steve Britho - WLF
3 Survey Circle N. Billerica, MA 01862
(Address of Applicant)

$ N/C inspection fee paid.

(Certification by Town Treasurer)

Application approved and permit issued:
Date 12/16/16

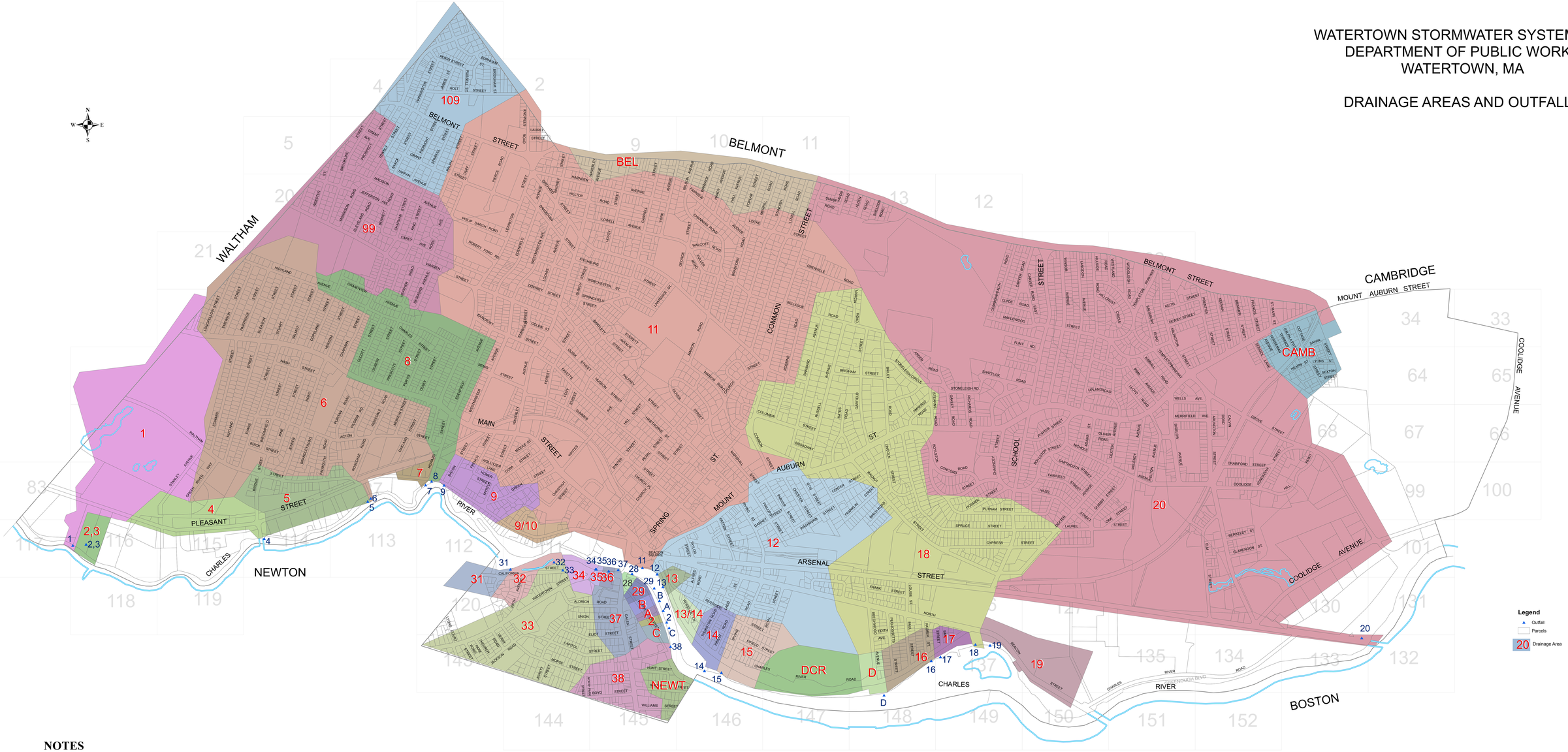
Number
Signed J. Pellegrini CC
Superintendent

3727/ENV-3162

White - Original to Applicant • Canary - DPW Adminstration • Pink - Water & Sewer

WATERTOWN STORMWATER SYSTEM MAP
DEPARTMENT OF PUBLIC WORKS
WATERTOWN, MA

DRAINAGE AREAS AND OUTFALLS

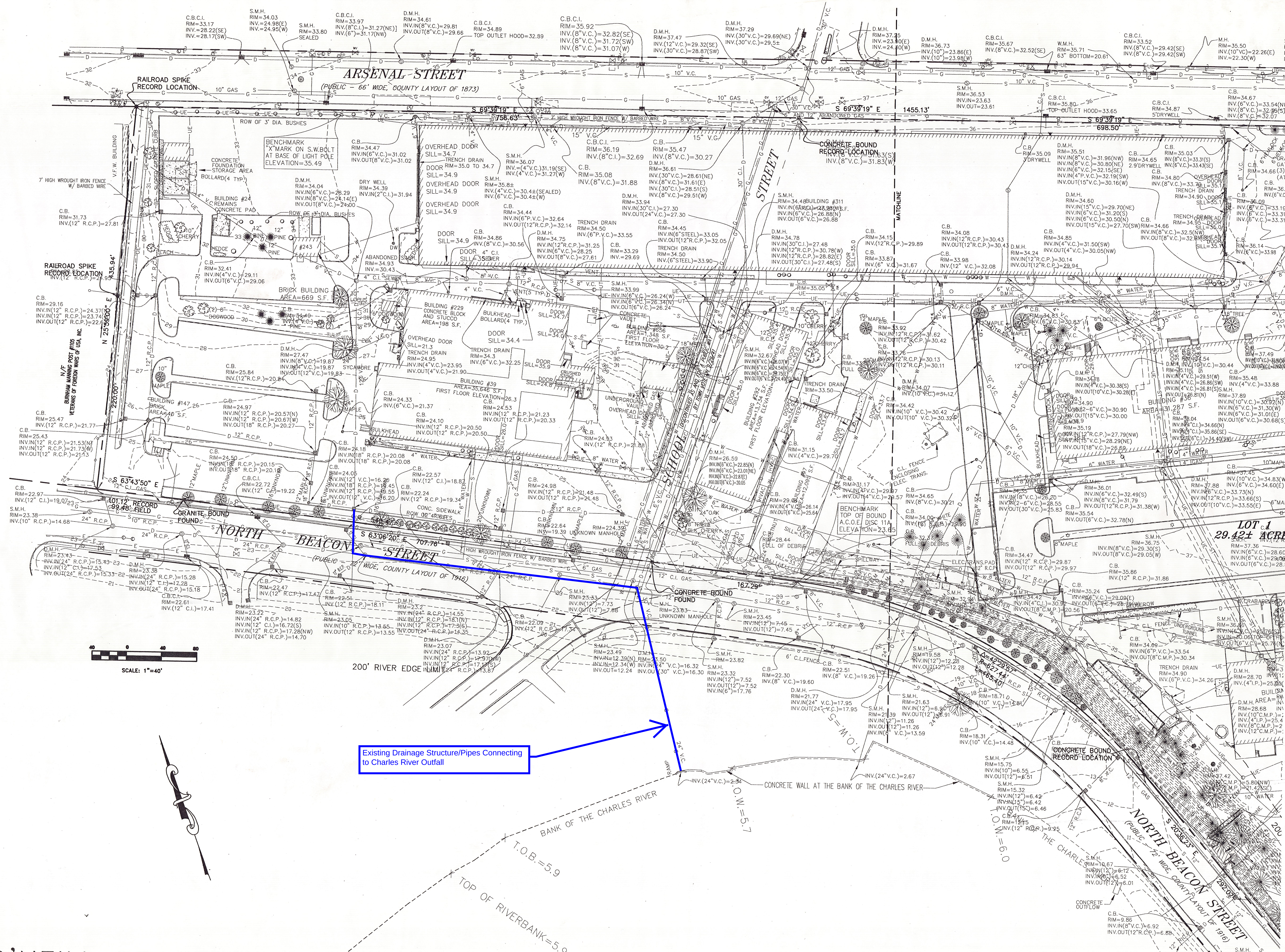


NOTES

THIS MAP IS BASED ON THE TOWN OF WATERTOWN PROPERTY MAPS, CURRENT TO JANUARY 1, 2003.

ORIGINAL STORMWATER SYSTEM POINT GPS DATA COLLECTED AND SUPPLIED BY OUFRESNE-HENRY, INC. GPS DATA VERIFIED AND UPDATED BY CARTOGRAPHIC ASSOCIATES, INC.

Document Path: M:\town_maps\Watertown\Stormwater Map IDDE Program Base Map.mxd



O'NEILL PROPERTIES

395 ARSENAL STREET, BUILDING 313, WATERTOWN MA 02172

CUSHMAN & WAKEFIELD OF MASSACHUSETTS
101 ARCH STREET, 21ST FLOOR
BOSTON, MASSACHUSETTS 02110-1130

Bruner/Cott

Bruner/Cott and Associates, Inc.
130 Prospect Street
Cambridge, Massachusetts 02139
617 492 8400

Site

Architecture/Urban Design
Preservation/Landscape/Architecture
Space Planning/Interior Design

PREPARED BY:
CID Associates Inc.
280 Summer Street, Suite 500
Boston, MA 02210-1131
T 617-443-0400 F 617-443-9880
E-Mail : CID @ CIDASSOC.COM
Internet Address : WWW.CIDASSOC.COM

Rev.	Date	Remarks
1	01/15/99	ISSUE FOR INFO. ONLY
2	03/17/99	ISSUE FOR INFO. ONLY
3	09/24/99	ADDITIONAL TOWN REVIEW COMMENTS

Date:	01/15/99
Scale	AS SHOWN
Project Number:	98143J.00
Drawn By:	DW
Checked By:	RA

Watertown Arsenal

EXISTING CONDITIONS PLAN 1

EC-1

APPENDIX F

FEDERAL CORRESPONDENCE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 03301
PHONE: (603)223-2541 FAX: (603)223-0104
URL: www.fws.gov/newengland

Consultation Code: 05E1NE00-2017-SLI-1141 March 21, 2017
Event Code: 05E1NE00-2017-E-02133
Project Name: Arsenal on the Charles - West Garage

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Arsenal on the Charles - West Garage

Official Species List

Provided by:

New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 03301
(603) 223-2541
http://www.fws.gov/newengland

Consultation Code: 05E1NE00-2017-SLI-1141
Event Code: 05E1NE00-2017-E-02133

Project Type: DEVELOPMENT

Project Name: Arsenal on the Charles - West Garage
Project Description: 311 Arsenal Street, Watertown, Massachusetts 02472

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-71.16968035697938 42.3640615623146, -71.1686933040619 42.363950579981406, -71.16913318634035 42.36261877669108, -71.16661190986635 42.36174674733811, -71.1693048477173 42.3614692809149, -71.17005586624147 42.362840745866635, -71.16968035697938 42.3640615623146)))

Project Counties: Middlesex, MA

Endangered Species Act Species List

There are a total of 0 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

There are no listed species identified for the vicinity of your project.

Critical habitats that lie within your project area

There are no critical habitats within your project area.

From: Christine Vaccaro - NOAA Federal
To: Americo Santamaria
Subject: Re: Watertown, MA RGP
Date: Friday, March 17, 2017 2:28:01 PM

There are no species in that portion of the Charles River that may be exposed to the effects of your project.

Cheers,
Chris

Chris Vaccaro
Fisheries Biologist
Protected Resources Division
NOAA Fisheries, Greater Atlantic Region
Gloucester, MA
Phone: 978-281-9167
Email: christine.vaccaro@noaa.gov

On Fri, Mar 17, 2017 at 2:26 PM, Americo Santamaria <asantamaria@sanbornhead.com> wrote:

> Good Afternoon Chris,
>
> I am requesting information to be included as part of a Notice of Intent (NOI) for a Remediation General Report (RGP). The NOI is for construction dewatering during excavation activities at 311 Arsenal Street in Watertown, Massachusetts. Effluent will be discharged to the Charles River in Watertown, Massachusetts, via a drain and outfall.
>
> As part of the application to the USEPA for the RGP, we need to investigate whether this proposed temporary discharge has the potential to adversely affect any federally listed species in the reach of the Charles River located downstream of the discharge point.
>
> Thank you in advance for your assistance, and please let me know if you require further information.
>
> -Americo Santamaria
>
> --

Americo J. Santamaria
Project Engineer

SANBORN | HEAD & ASSOCIATES, INC.
1 Technology Park Drive, Westford, MA 01886
T 978.392.0900 D 978.577. 1040
www.sanbornhead.com

Click here to follow us on LinkedIn /Twitter / Facebook

APPENDIX G

NATIONAL REGISTER OF HISTORICAL PLACES, WATERTOWN, MASSACHUSETTS

Appendix G
National Register of Historic Places
Research Documentation
Watertown, Massachusetts

Site Name	Address	Date Listed
Fowle, Edmund, House	26-28 Marshall St.	11/11/1977
Commanding Officer's Quarters, Watertown Arsenal	443 Arsenal St.	10/7/1976
Pratt, Miles, House	106 Mt. Auburn St.	5/9/1985
Browne, Abraham, House	562 Main St.	3/9/1990
Watertown Arsenal Historic District	Arsenal St.	5/14/1999
Town Diner	627 Mount Auburn St.	9/22/1999
Watertown High School, Old	341 Mount Auburn St.	9/22/2006
Coolidge School	319 Arlington St.	2/25/2009

Notes:
Sanborn, Head & Associates, Inc. (Sanborn Head) conducted a review of the National Register of Historic Places within Watertown, Massachusetts. The search returned 8 results. The Site is listed under the Watertown Historic District on the National Register of Historical Places.

APPENDIX H

SUPPLEMENTAL INFORMATION

Summary of RGP Analytical Data
The Arsenal on the Charles - West Garage
Watertown, MA

DISCHARGE DAY	NPDES RGP Effluent Limit (2010)	Daily Max or Monthly Average	Units	DAY 1		DAY 3		DAY 30		DAY 60		DAY 90		DAY 120	
SAMPLE ID				20170112-INF	20170112-EFF	20170116 INF	20170116 EFF	20170214-INF	20170214-EFF	20170315-INF	20170315-EFF	20170414-INF	20170414-EFF	20170522-INF	20170522-EFF
SAMPLING DATE				1/12/2017	1/12/2017	1/16/2017	1/16/2017	2/14/2017	2/14/2017	3/15/2017	3/15/2017	4/14/2017	4/14/2017	5/22/2017	5/22/2017
SAMPLE LOCATION				Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent
Field Parameters															
Instantaneous Flow	NS	NA	gpm	-	44	-	40	-	40	-	48	-	48	-	44
Cumulative Flow	NS	NA	gal	-	20,400	-	30,340	-	331,350	-	777,847	-	1,560,012	-	1,743,405
General Parameters															
Solids, Total Suspended	30	Monthly	mg/l	*7,200*	<5	*960*	9.4	*260*	<5	<5	<5	<5	7.3	9.0	<5
Chloride	MO	Monthly	mg/l	1,080	1,010	2,770	1,620	1,070	1,440	1,440	1,670	2,150	1,750	1,220	1,050
pH	6.5-8.3	Monthly	SU	6.7	7.1	6.6	7.0	7.2	7.2	7.6	7.3	6.6	7.0	6.9	7.0
Hardness	MO	NA	mg/l	643	226	744	378	279	441	529	497	453	497	302	452
Total Metals															
Chromium, Trivalent	489	Monthly	ug/l	380	<10	19	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chromium, Hexavalent	114	Monthly	ug/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Antimony, Total	60	Daily	ug/l	<20	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Arsenic, Total	100	Monthly	ug/l	*149.5*	1.2	11.1	0.6	1.21	<0.5	1.96	<0.5	0.58	0.97	<0.5	<0.5
Cadmium, Total	2	Monthly	ug/l	*22.7*	<0.2	0.5	<0.2	<0.2	<0.2	0.22	0.2	0.21	0.22	<0.2	<0.2
Chromium, Total	489	Monthly	ug/l	382.3	<1	19	<1	3.44	<1	7.24	1.68	<1	1.01	<1	2.25
Copper, Total	52	Monthly	ug/l	*2,383*	3.1	*60.9*	2.8	4.46	3.13	2.26	4.33	1.54	5.6	2.04	4.69
Iron, Total	5,000	Daily	ug/l	*210,000*	178	*57,300*	984	2,840	440	51	165	135	154	76	520
Lead, Total	13	Monthly	ug/l	*16,860*	3.9	*179*	1.3	2.08	1.07	<0.5	<0.5	<0.5	0.68	<0.5	0.53
Mercury, Total	2.3	Monthly	ug/l	*31.33*	<0.2	0.31	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nickel, Total	290	Monthly	ug/l	*520.6*	<2	19.2	2	3.83	2.2	3.16	2.18	<2	2.29	<2	2
Selenium, Total	50	Monthly	ug/l	*92*	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Silver, Total	12	Daily	ug/l	6.3	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Zinc, Total	666	Monthly	ug/l	*7,594*	<10	195.6	13	<10	36.56	<10	13.08	<10	15.33	<10	<10
Volatile Organic Compounds (VOCs)															
Methylene chloride	4.6	Daily	ug/l	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	70	Daily	ug/l	<0.75	<0.75	1.2	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
1,1,2-Trichloroethane	5.0	Daily	ug/l	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
Tetrachloroethene	5.0	Daily	ug/l	1.0	<0.5	<0.5	<0.5	0.94	1.7	2.2	0.75	*5.2*	1.2	3.3	1.1
1,2-Dichloroethane	5.0	Daily	ug/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	200	Daily	ug/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	2.0	Daily	ug/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	3.2	Daily	ug/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.52
trans-1,2-Dichloroethene	NS	NA	ug/l	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
Trichloroethene	5.0	Daily	ug/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	3.5	<0.5	0.52	1.6
cis-1,2-Dichloroethene	70	Daily	ug/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.51	<0.5	0.82	<0.5	1.4	<0.5
1,2-Dichloroethene, Total	NS	NA	ug/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	3.5	<0.5	1.4	<0.5
Naphthalene	20	Daily	ug/l	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
1,4-Dioxane	MO	Daily	ug/l	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	7.8

Notes:

1. Samples were collected by Sanborn, Head & Associates, Inc. personnel on the date indicated and were submitted to Alpha Analytical, Inc. of Westborough, MA (Alpha) for analysis.
2. RGP Permit Standards are taken from NPDES Authorization Number: MAG910000, authorized in 2010. The legal operator of the permit is W.L. French Excavating Corporation.
3. Bolded and shaded values indicated exceedances of the RGP Permit Standards for effluent water and italicized values indicate exceedances of the RGP Permit Standards for influent water (non-reportable).
4. Total flow is reported as the cumulative flow total from the treatment system discharge as recorded from the outlet totalizer at the time of sampling.
5. Abbreviations:
MO = Monitor Only means that the subject compound is not subject to a permit limit, however, the permitee is still required to monitor and report the effluent concentration.
NA = Not Applicable
< = analytes not detected above laboratory reporting limits
gpm = gallons per minute
gal = gallons