

E-0754-014
February 16, 2018
Revised March 8, 2018

Ms. Shauna Little
United States Environmental Protection Agency- Region 1
5 Post Office Square, Suite 100/OEP06-1
Boston, Massachusetts 02109-3912

Re: **Submittal of Notice of Intent (NOI) for coverage under the Remediation General Permit (RGP)**

Mystic to East Eagle to Chelsea Transmission Line Project
Construction Dewatering
Discharge of Treated Groundwater to Chelsea River
Chelsea and East Boston, Massachusetts

Dear Ms. Little:

On behalf of NSTAR Electric Company d/b/a Eversource Energy (Eversource), Tighe & Bond, Inc. (Tighe & Bond) is pleased to submit the attached National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) (Appendix A) for coverage under the Remediation General Permit (RGP) for the Mystic to East Eagle to Chelsea Transmission Line Project (the Project) in Chelsea and East Boston, Massachusetts. This application addresses dewatering requirements associated with excavations to facilitate the construction of a new below grade electric transmission and distribution lines and associated manholes along Marginal Street and Willow Street in Chelsea, and East Eagle Street, Glendon Street, Condor Street, Shelby Street, Lexington Street and Chelsea Street to the East Eagle Substation 131 in East Boston, Massachusetts (the Project Route). A copy of the NOI is included in Appendix A. The limits of the Project Route are shown on the Aerial Dewatering Site Plan (Figure 1), and a Massachusetts Geographic Information Systems (MassGIS) Priority Resource Map is included as Figure 2 (Appendix B).

This submittal is a request to discharge treated groundwater to the Chelsea River in Chelsea and E. Boston, Massachusetts. Additional NOIs will be submitted for other sections of the Project where treated groundwater is proposed to be discharged to other surface water bodies.

As there is a need to treat and discharge water generated from the construction dewatering activities, the enclosed NOI form provides required information on general Project Route conditions, proposed treatment systems, discharge locations, receiving water and laboratory analytical results from pre-discharge sampling and surface water sampling. The proposed treatment dewatering and discharge of treated groundwater are scheduled to begin in March 2018 and end in December 2019.

Dewatered groundwater along the Project Route will be treated by a mobile treatment system before being discharged to nearby catch basins and into stormwater drainage system managed by the Boston Water and Sewer Commission (BWSC) or the City of Chelsea. All stormwater drainage systems specified in this RGP eventually discharge to the Chelsea River. Post treatment discharge rates will range from 25 gallons per minute (GPM) to 350 GPM.

Project Background

The overall project involves the installation of approximately 3.9 miles of new electric transmission and distribution lines and 24 manholes between the existing Mystic Substation 250 in Charlestown, Massachusetts to the proposed East Eagle Substation 131 in East Boston,



Massachusetts. The proposed electrical transmission line trench will measure three feet wide and will be installed to an approximate depth of five to 10 feet below ground surface (BGS). The manholes will be approximately 10 feet wide by 25 feet long, and 10 to 20 feet deep. Initial pre-characterization efforts have indicated that the depth to groundwater along the Project Route ranges from six to 10 feet BGS. Property uses along the project route consist of mixed residential, commercial and industrial.

This RGP Permit Application is for the discharge of treated groundwater to the BWSC or the City of Chelsea stormwater drainage systems, with the ultimate discharge to the Chelsea River. Permission will be obtained from the stormwater drainage system owner prior to discharge activities.

MCP History

During pre-construction soil assessment activities, concentrations of total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAHs), arsenic, lead, zinc and polychlorinated biphenyls (PCBs) were detected in soil samples from within the Project Route above the respective Massachusetts Department of Environmental Protection (MassDEP) Reportable Concentrations (RCS-1/RCS-2) values.

Prior to initiating the construction activities, Tighe & Bond, on behalf of Eversource, will notify MassDEP of Eversource's intent to manage the soil and groundwater under Utility-related Abatement Measure (URAM) Plan. The URAM Plan will detail the measures implemented to manage excess soils and groundwater generated during construction activities along the Project Route. Boundaries of the URAM are shown on Figure 1 in Appendix B.

Groundwater Characterization

To characterize groundwater along the proposed route of construction, groundwater samples were collected in November 2016 and September 2017. The groundwater samples were submitted for laboratory analysis for Environmental Protection Agency (EPA) RGP parameters. The laboratory analytical results are summarized in Table 1 (Appendix E). Copies of the laboratory analytical reports are included in Appendix F. Laboratory analytical results were compared to the RGP Technology Based Effluent Limitations (TBEL) and Water Quality Based Effluent Limitations (WQBEL).

Contaminants of concern (COCs) are analytes that exceeded the applicable effluent limitation. COCs detected in monitoring wells along the Project Route include ammonia, chloride, total suspended solids (TSS), copper, benzo(a)anthracene, benzo(b)fluoranthene and tert-butyl alcohol (tBA). Since these monitoring wells are installed adjacent to a roadway the chloride detected in groundwater samples is attributed to road salting during the winter months. The locations of the monitoring wells are shown on Figure 1 (Aerial Dewatering Site Plan) in Appendix B.

Receiving Water Classification

Chelsea River (waterbody identification MA71-06) is classified as a Class SB (CSO) impaired water body and is listed in the 303(d) Impaired Waterbodies document. The Chelsea River is saltwater, as MassDEP classifies it as an estuary. During critical low flow conditions, it is assumed that there is no flow in saltwater environments; therefore, a 7-day 10-year low flow (7Q10) value was not calculated for this RGP. Additionally, dilution factors for sites discharging to saltwater receiving waters is assumed to be zero (1:1) in accordance with *Appendix V: Dilution Factor and Effluent Limitation Calculations for Massachusetts* of the NPDES RGP.

As required by the NPDES RGP, a surface water sample was collected within a quarter mile of the potential outfall locations prior to discharging. The surface water sample was collected in December 2017 and sent for laboratory analysis of RGP metals including hexavalent chromium, ammonia, and salinity. Temperature and pH of the surface water was recorded in the field at the time of sample collection. The surface water sampling location is shown on Figure 1 (Aerial Dewatering Site Plan) in Appendix B.

Treatment Systems

Dewatered groundwater along the Project Route will be treated by a mobile treatment system before being discharged to nearby catch basins and into stormwater drainage systems managed by BWSC or the City of Chelsea, ultimately discharging to the Chelsea River. Outfall locations are shown on Figure 1 (Aerial Dewatering Site Plan) in Appendix B.

Mobile Treatment System – Depending on the level of treatment required and discharge flow rate, the mobile treatment system will consist of portable silt socks or bag filter, or be mounted on either a 24 or 48-foot mobile trailer. The mounted treatment systems will consist of a weir tank, particulate filter units, bag filters and/or granular activated carbon (GAC)/clay filter. Based on effluent monitoring results, the treatment system or flow rate will be modified to comply with the effluent limits.

Flow Rate (GPM)	Proposed Treatment System
0-50	TSS treatment via a silt/pipe sock or bag filter
50-150	24-foot trailer with particulate filter units, bag filters and/or GAC/clay filter
150-350	48-foot trailer weir tank, particulate filter units, bag filters and/or GAC/clay filter

Best Management Practices Plan – Tighe & Bond will develop a Best Management Practices Plan (BMPP) for the groundwater extraction and treatment systems for the Project Route. The BMPP will be developed in accordance with the requirements of the RGP and implemented upon initiation of the discharge.

Owner and Operator

The site owner and site operator will be co-permittees for this NPDES RGP permit application. The site operator will be selected but is not known at the time of submittal.

Owner

NSTAR Electric Company
d/b/a Eversource Energy
Michael Zylich
247 Station Drive
Westwood, MA 02090

Operator

To be Determined

Notice of Intent

Preparation of this NOI has included a review of literature pertaining to Areas of Critical Environmental Concern (ACEC), Endangered Species Act (ESA), and the National Historic Preservation Act (NHPA), as documented below:

- Review of a MassGIS Priority Resource Map, Figure 2, shows the Project Route is not within an ACEC and no NHESP Priority Habitats for Rare Species or

Estimated Habitats for Rare Wildlife are present within a half mile downstream of the discharge location;

- Review of the “Federally Listed Endangered and Threatened Species in Massachusetts” (Appendix C) found that there are two listed species in Middlesex County (small whorled pogonia and northern long-eared bat) and three species listed in Suffolk County (piping plover, red knot and northern long-eared bat). The small whorled pogonia is found in Groton and the piping plover is found in Revere and Winthrop. As the Project Route is not in Groton, Revere or Winthrop these two species will not be affected by construction activities or its proposed discharges. The red knot prefers coastal beaches, rocky shores, sand and mud flats. The northern long-eared bat prefers mines and caves in the winter and forested habitats in the summer. The project area consists of an asphalt roadway that borders residential and industrial properties. Additionally, no vegetation will be disturbed during construction activities. The discharge will go through a treatment system prior being discharged, which will remove solids. The discharge will also be through an existing drainage network. As a result, it is the opinion of Tighe & Bond that the habitats for red knot and northern long-eared bat will not be disturbed during construction activities.
- According to the United States Fish and Wildlife Services (USFWS) Information, Planning and Conservation (IPaC) tool there is one federally threatened (red knot) and one endangered species (roseate tern) within the Project Route. Construction will be taking place underneath existing roadways and will be backfilled and re-paved. No tree clearing will result from this project and treated groundwater will be discharged through an existing stormwater drainage system. The treatment system will not contain chemicals and will have no toxic effects on prey in the Chelsea River. Therefore, the proposed discharges and discharge related activities are not expected to affect any federally threatened or endangered listed species in this area. There are also no critical habitats for any federally threatened or endangered species in the action area. The permit eligibility meets “Criterion C.”
- Tighe & Bond has done a review of federally threatened or endangered listed species and critical habitat under the jurisdiction of National Marine Fisheries Services (NMFS). There are no threatened or endangered species or critical habitat in the Chelsea River or Boston Harbor. A review of the 10 X 10 latitude and longitude squares, Summary of Essential Fish Habitat (EFH) Designations for Boston Harbor, provided by the National Oceanic and Atmospheric Administration (NOAA) confirmed there are no EFH for the threatened or endangered species under NMFS jurisdiction. Therefore, Tighe & Bond affirms the determination made by EPA that the proposed discharges and discharge related activities are not likely to adversely affect any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS.
- An electronic review of the Massachusetts Cultural Resource Information System database (Appendix D), made available through the Massachusetts Historical Commission, found several historical areas along the Project Route. It is the opinion of Tighe & Bond that discharges and discharge related activities will not affect historic properties as groundwater will be pumped into fractionation tanks, treated and discharged to an existing drainage network. Therefore, permit eligibility meets “Criterion B.”
- Groundwater samples were collected from groundwater monitoring wells MW-1 and MW-1F in November 2016 and September 2017, respectively. It should be noted that the monitoring well sampled from within the substation in

November 2016 and from Marginal Street in Chelsea in September 2017 were both labelled MW-1. The groundwater samples were submitted for laboratory analysis for RGP parameters. The laboratory analytical results were compared to the RGP TBEL and QBEL to determine the applicable effluent limitations for the Project Route.

- The surface water sample (Chelsea River) was collected from the Chelsea River within a quarter mile of the potential outfall locations in December 2017. The surface water sample was submitted for laboratory analysis of RGP metals, ammonia, chloride, and salinity. The laboratory analytical results are summarized in Table 2 included in Appendix E. A copy of the laboratory analytical report is included in Appendix F.

The proposed treatment system has been designed to reduce the levels of associated COCs to below the applicable effluent limit. Treated effluent will be sampled at start up and in accordance with permit requirements and submitted for laboratory analysis for ammonia, chloride, TSS, copper, benzo(a)anthracene, benzo(b)fluoranthene and tBA to confirm the treatment system is operating as designed. Additionally, the flow, pH and turbidity levels will be monitored within the field and recorded in accordance with RGP requirements.

If you need any additional information or assistance on this project, please do not hesitate to contact Michael E. Martin at (508) 564-7285 at your convenience.

Very truly yours,

TIGHE & BOND, INC.



Michael E. Martin
Project Manager
Enclosures



Gary W.T. Hedman, LSP
Project Manager

Enclosures

Copy: Michael Zylich, Eversource
MassDEP, Division of Watershed Management
MassDEP, Boston

List of Appendices

- Appendix A Notice of Intent
- Appendix B Figures
- Appendix C Federally Listed Endangered Species in Massachusetts
Summary of Essential Fish Habitat (EFH) Designations (NOAA)
- Appendix D Massachusetts Cultural Resources Information System Report
- Appendix E Groundwater Summary (Table 1)
Surface Water Summary (Table 2)
WBEL Calculations
- Appendix F Laboratory Analytical Reports

List of Figures

- Figure 1 Aerial Dewatering Site Plan
- Figure 2 MassDEP Priority Resource Map
- Figure 3 Process Flow Diagrams

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

A. General site information:

1. Name of site:	Site address: Street: <table border="1" data-bbox="888 475 1950 557"> <tr> <td data-bbox="888 475 1591 557">City:</td><td data-bbox="1591 475 1724 557">State:</td><td data-bbox="1724 475 1950 557">Zip:</td></tr> </table>	City:	State:	Zip:									
City:	State:	Zip:											
2. Site owner Owner is (check one): ☐ Federal ☐ State/Tribal ☐ Private ☐ Other; if so, specify:	<table border="1"> <tr> <td colspan="3" data-bbox="888 557 1950 630">Contact Person:</td></tr> <tr> <td data-bbox="888 630 1461 696">Telephone:</td><td colspan="2" data-bbox="1461 630 1950 696">Email:</td></tr> <tr> <td colspan="3" data-bbox="888 696 1950 800">Mailing address: Street:</td></tr> <tr> <td data-bbox="888 800 1591 875">City:</td><td data-bbox="1591 800 1724 875">State:</td><td data-bbox="1724 800 1950 875">Zip:</td></tr> </table>	Contact Person:			Telephone:	Email:		Mailing address: Street:			City:	State:	Zip:
Contact Person:													
Telephone:	Email:												
Mailing address: Street:													
City:	State:	Zip:											
3. Site operator, if different than owner	<table border="1"> <tr> <td colspan="3" data-bbox="888 875 1950 933">Contact Person:</td></tr> <tr> <td data-bbox="888 933 1461 992">Telephone:</td><td colspan="2" data-bbox="1461 933 1950 992">Email:</td></tr> <tr> <td colspan="3" data-bbox="888 992 1950 1096">Mailing address: Street:</td></tr> <tr> <td data-bbox="888 1096 1591 1151">City:</td><td data-bbox="1591 1096 1724 1151">State:</td><td data-bbox="1724 1096 1950 1151">Zip:</td></tr> </table>	Contact Person:			Telephone:	Email:		Mailing address: Street:			City:	State:	Zip:
Contact Person:													
Telephone:	Email:												
Mailing address: Street:													
City:	State:	Zip:											
4. NPDES permit number assigned by EPA: NPDES permit is (check all that apply): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	5. Other regulatory program(s) that apply to the site (check all that apply): <table border="0"> <tr> <td data-bbox="888 1209 1461 1268">☐ MA Chapter 21e; list RTN(s):</td><td data-bbox="1461 1209 1950 1268">☐ CERCLA</td></tr> <tr> <td data-bbox="888 1268 1461 1326">☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:</td><td data-bbox="1461 1268 1950 1326">☐ UIC Program</td></tr> <tr> <td></td><td data-bbox="1461 1326 1950 1369">☐ POTW Pretreatment</td></tr> <tr> <td></td><td data-bbox="1461 1369 1950 1403">☐ CWA Section 404</td></tr> </table>	☐ MA Chapter 21e; list RTN(s):	☐ CERCLA	☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:	☐ UIC Program		☐ POTW Pretreatment		☐ CWA Section 404				
☐ MA Chapter 21e; list RTN(s):	☐ CERCLA												
☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:	☐ UIC Program												
	☐ POTW Pretreatment												
	☐ CWA Section 404												

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
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 Are sensitive receptors present near the site? (check one): ☐ Yes ☐ No If yes, specify:		
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.		
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.		
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.		
6. Has the operator received confirmation from the appropriate State for the 7Q10 and dilution factor indicated? (check one): ☐ Yes ☐ No If yes, indicate date confirmation received:		
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		

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	☐ 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	☐ Potable water; if so, indicate municipality or origin: ☐ Other; if so, specify:
		☐ A surface water other than the receiving water; if so, indicate waterbody:	

2. Source water contaminants:	
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):	Outfall location(s): (Latitude, Longitude)
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ☐ Indirect discharge, if so, specify: ☐ 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 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):	
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	

2. Activity Category: (check all that apply)	3. Contamination Type Category: (check all that apply)	
☐ 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	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	
	b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)	
	☐ G. Sites with Known Contamination	☐ H. Sites with Unknown Contamination
	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	d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit ($\mu\text{g/l}$)	Influent		Effluent Limitations	
						Daily maximum ($\mu\text{g/l}$)	Daily average ($\mu\text{g/l}$)	TBEL	WQBEL
A. Inorganics									
Ammonia								Report mg/L	---
Chloride								Report $\mu\text{g/l}$	---
Total Residual Chlorine								0.2 mg/L	
Total Suspended Solids								30 mg/L	---
Antimony								206 $\mu\text{g/L}$	
Arsenic								104 $\mu\text{g/L}$	
Cadmium								10.2 $\mu\text{g/L}$	
Chromium III								323 $\mu\text{g/L}$	
Chromium VI								323 $\mu\text{g/L}$	
Copper								242 $\mu\text{g/L}$	
Iron								5,000 $\mu\text{g/L}$	
Lead								160 $\mu\text{g/L}$	
Mercury								0.739 $\mu\text{g/L}$	
Nickel								1,450 $\mu\text{g/L}$	
Selenium								235.8 $\mu\text{g/L}$	
Silver								35.1 $\mu\text{g/L}$	
Zinc								420 $\mu\text{g/L}$	
Cyanide								178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX								100 $\mu\text{g/L}$	---
Benzene								5.0 $\mu\text{g/L}$	---
1,4 Dioxane								200 $\mu\text{g/L}$	---
Acetone								7.97 mg/L	---
Phenol								1,080 $\mu\text{g/L}$	

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								4.4 µg/L	
1,2 Dichlorobenzene								600 µg/L	---
1,3 Dichlorobenzene								320 µg/L	---
1,4 Dichlorobenzene								5.0 µg/L	---
Total dichlorobenzene								763 µg/L in NH	---
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	
cis-1,2 Dichloroethylene								70 µg/L	---
Vinyl Chloride								2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates								190 µg/L	
Diethylhexyl phthalate								101 µg/L	
Total Group I PAHs								1.0 µg/L	---
Benzo(a)anthracene								As Total PAHs	
Benzo(a)pyrene									
Benzo(b)fluoranthene									
Benzo(k)fluoranthene									
Chrysene									
Dibenzo(a,h)anthracene									
Indeno(1,2,3-cd)pyrene									

[illegible]

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. 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: 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: Is use of a flow meter feasible? (check one): ☐ Yes ☐ No, if so, provide justification:	
Provide the proposed maximum effluent flow in gpm.	
Provide the average effluent flow in gpm.	
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	

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:
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: ☐ 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.

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

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.

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:

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:

Print Name and Title:

APPENDIX B

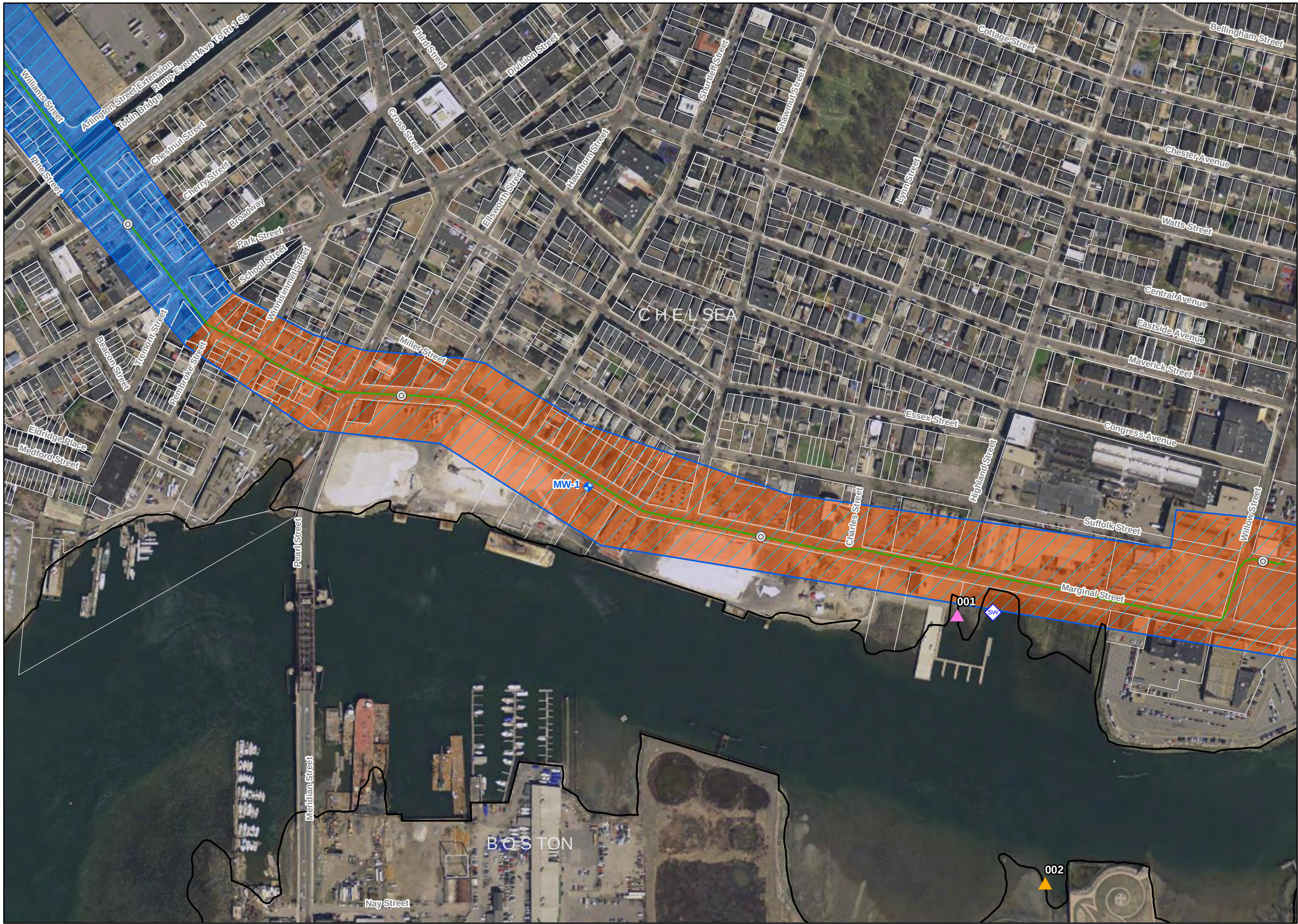


Figure 1 RGP Limits

LEGEND

- Monitoring Well Location
- Transmission Manhole
- Distribution Manhole
- Surface Water Sample

Discharging Outfalls

- BWSC
- Chelsea
- Everett

URAM Boundary

RGP Boundary Mystic River

RGP Boundary Chelsea River

LOCUS MAP

0 75 150 300
Feet
1:3,600

NOTES

1. Based on MassGIS Color Orthophotography (2013-2014)

Page 3 of 4

Mystic to East Eagle
UG T&D Lines
Charlestown, Everett,
Chelsea, East Boston,
Massachusetts
March 2018

Tighe&Bond
Engineers | Environmental Specialists

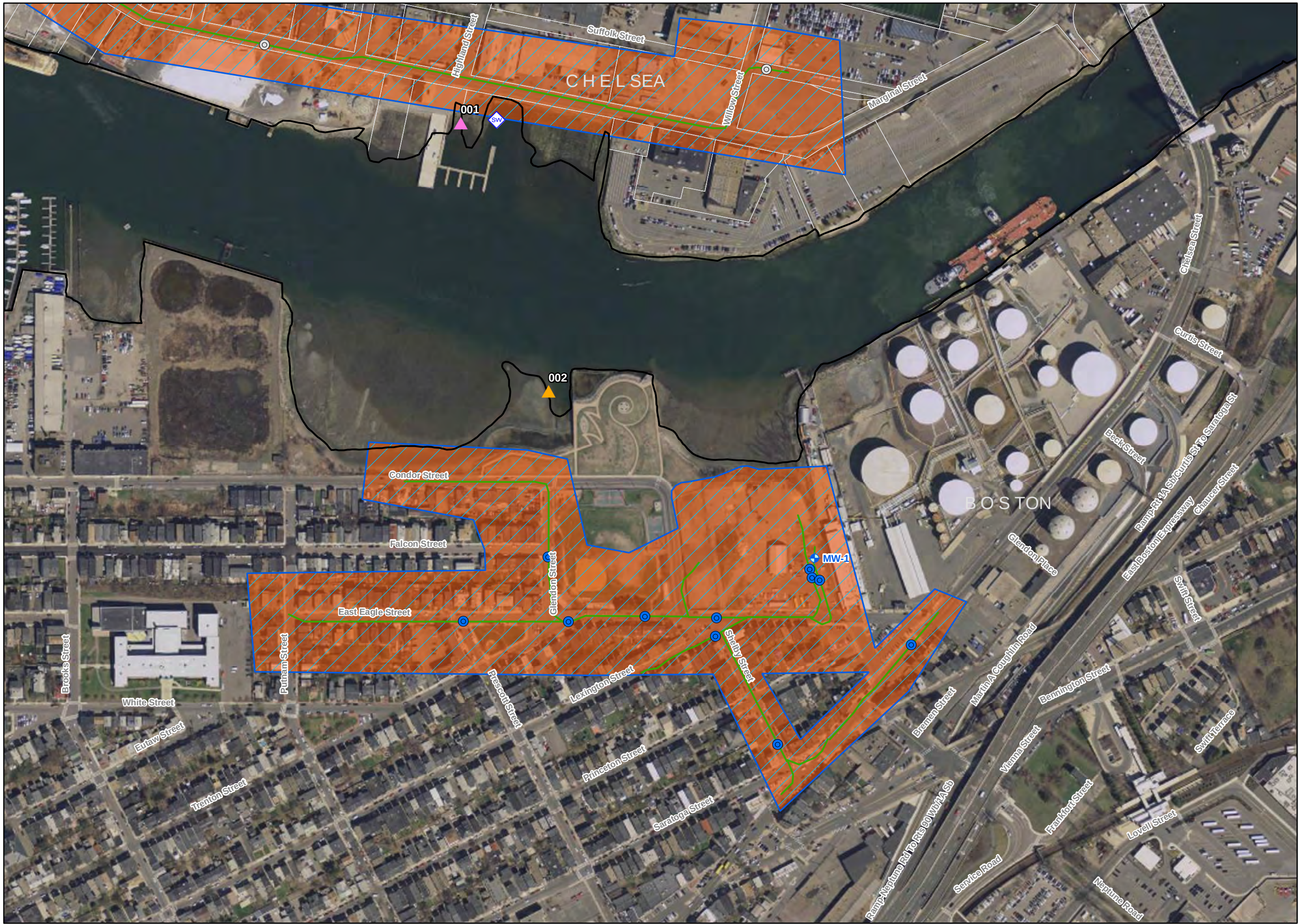


Figure 1 RGP Limits

LEGEND

- Monitoring Well Location
- Transmission Manhole
- Distribution Manhole
- Surface Water Sample

Discharging Outfalls

- BWSC
- Chelsea
- Everett

URAM Boundary

RGP Boundary Mysic River

RGP Boundary Chelsea River

LOCUS MAP

0 75 150 300
Feet
1:3,600

NOTES

1. Based on MassGIS Color Orthophotography (2013-2014)

Page 4 of 4

Mystic to East Eagle
UG T&D Lines
Charlestown, Everett,
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March 2018

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Engineers | Environmental Specialists

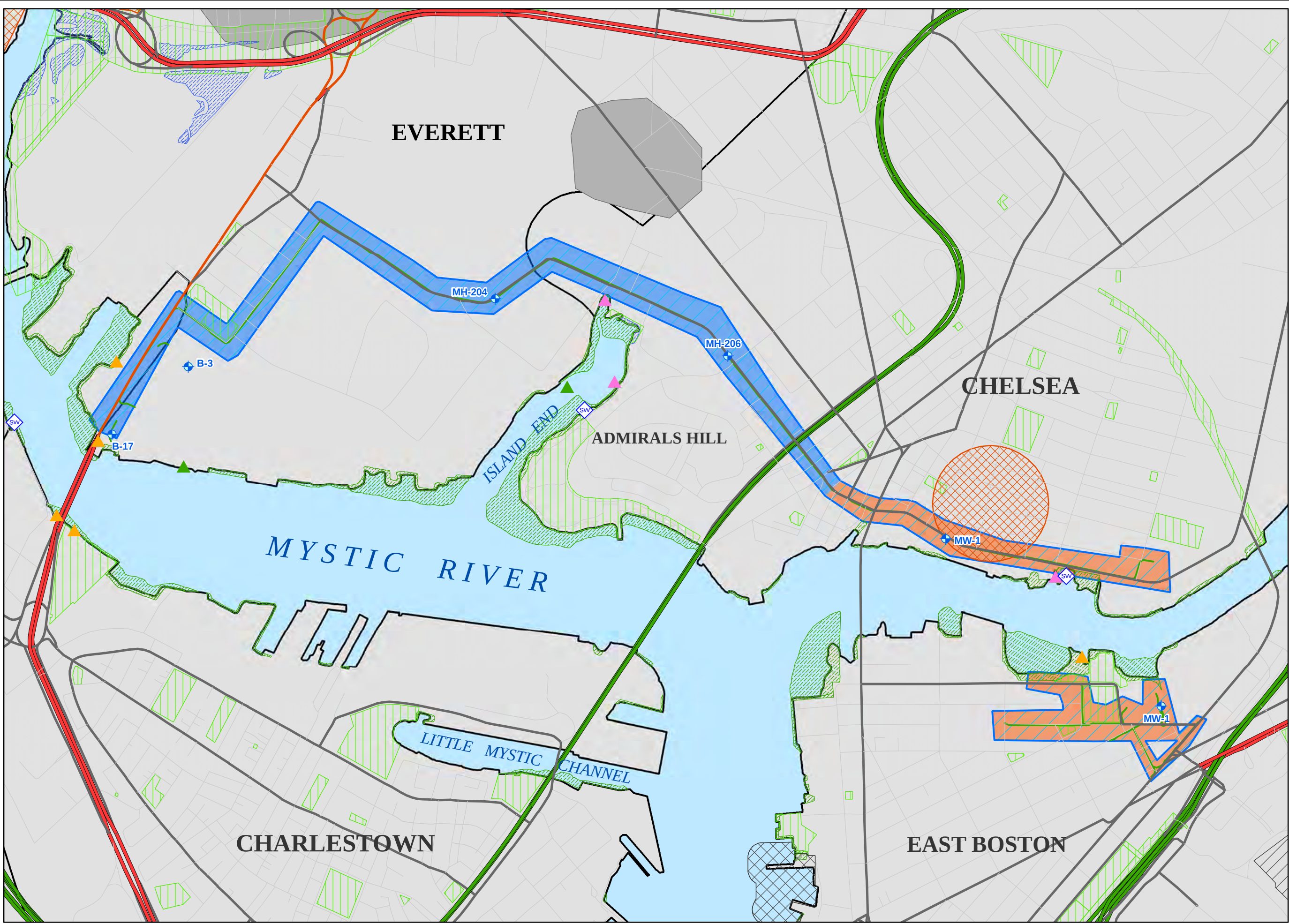
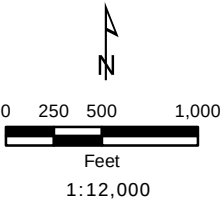
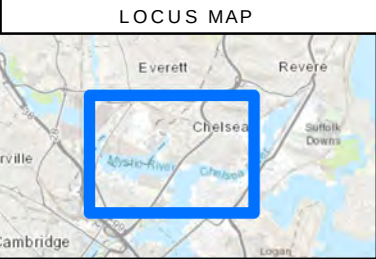


Figure 2
RGP Limits
& Priority Resources

LEGEND

- Monitoring Well Location
- Surface Water Sample
- Discharging Outfalls**
 - BWSC
 - Chelsea
 - Everett
- Solid Waste Landfill
- Protected and Recreational Open Space
- NHESP Estimated Habitats for Rare Wildlife
- NHESP Priority Habitats for Rare Species
- MassDEP Inland Wetlands
- MassDEP Coastal Wetlands
- Non- Potential Drinking Water Source Area - Medium Yield
- Potentially Productive Medium Yield Aquifer
- URAM Boundary
- RGP Boundary Mystic River
- RGP Boundary Chelsea River



NOTES
Data source: Office of Geographic and Environmental Information(MassGIS), Commonwealth of Massachusetts
Executive Office of Environmental Affairs.
Circles indicate 500-foot and half-mile radii.
Data valid as of December 2017.

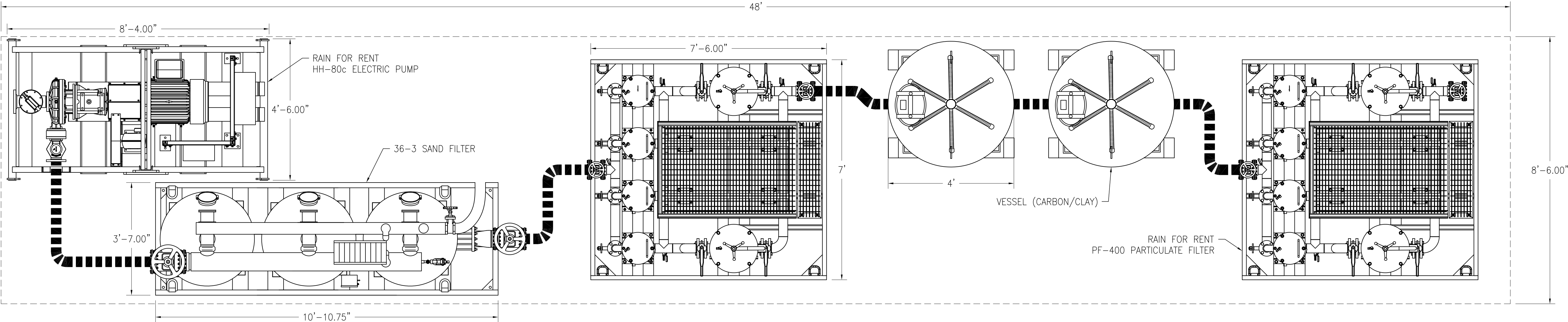
Mystic to East Eagle
UG T&D Lines
Charlestown, Everett,
Chelsea, East Boston,
Massachusetts
December 2017



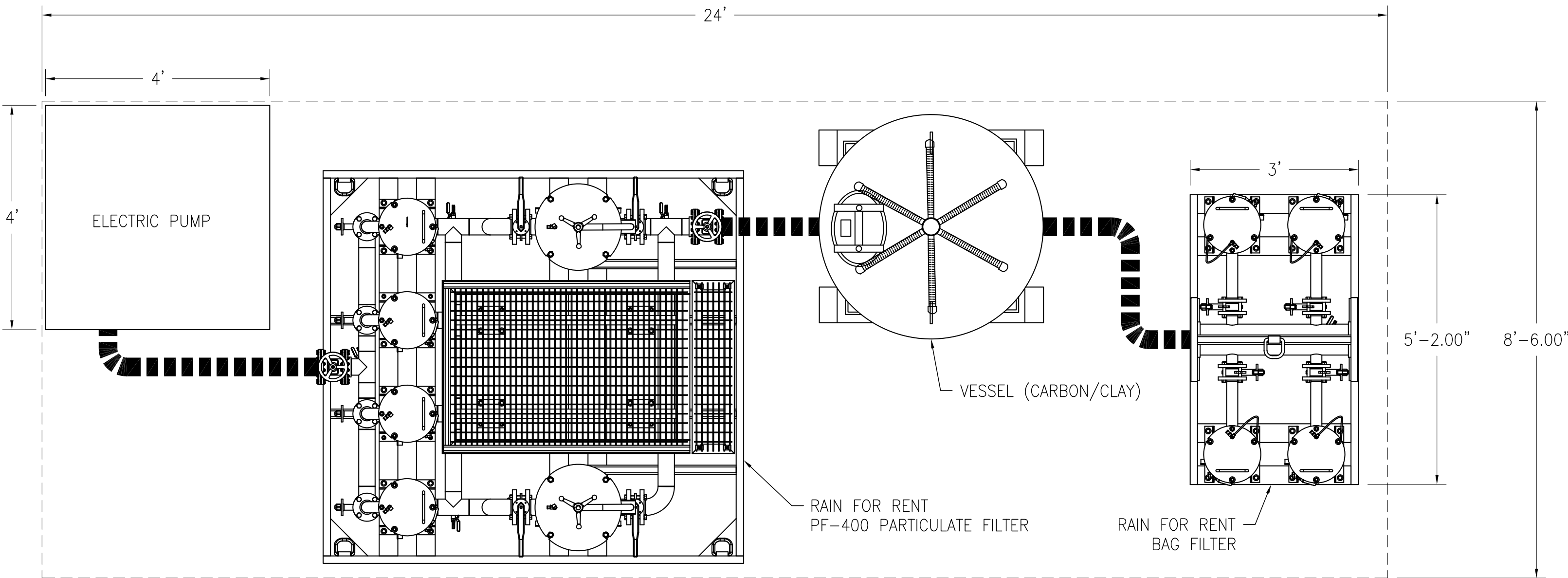
REV.NO.	DESCRIPTION	PREVIOUS DWG	BY	DATE
1				

Figure 3.2: Process Flow Diagram

ITEM	QTY.	REF.	DESCRIPTION



48ft TRAILER CONCEPT



24ft TRAILER CONCEPT

CONCEPT

BOND BROTHERS

Rain for Rent
Engineering



3404 STATE ROAD, P.O. BOX 2248 BAKERSFIELD, CA 93303

01-15043-02-01



CONFIDENTIAL

RAIN FOR RENT INFORMATION NUMBER 232101-17

1 SHEET OF 1

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
IN MASSACHUSETTS**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague, Warwick
	Dwarf wedgemussel	Endangered	Mill River	Whately
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hatfield, Amherst and Northampton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Suffolk	Piping Plover	Threatened	Coastal Beaches	Revere, Winthrop
	Red Knot ¹	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

¹Migratory only, scattered along the coast in small numbers

-Eastern cougar and gray wolf are considered extirpated in Massachusetts.

-Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.

-Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
<http://www.fws.gov/newengland>



In Reply Refer To:

November 27, 2017

Consultation Code: 05E1NE00-2018-SLI-0433

Event Code: 05E1NE00-2018-E-00987

Project Name: Mystic to East Eagle 1

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(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2018-SLI-0433

Event Code: 05E1NE00-2018-E-00987

Project Name: Mystic to East Eagle 1

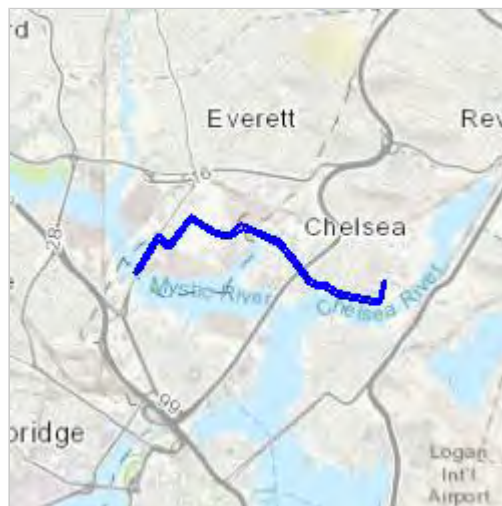
Project Type: Other

Project Description: This project includes the management of excavated groundwater during the installation of new underground electrical transmission line and manholes.

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/42.391292902718774N71.043214562999W>



Counties: Middlesex, MA | Suffolk, MA

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this 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. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Birds

NAME	STATUS
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Roseate Tern <i>Sterna dougallii dougallii</i> Population: northeast U.S. nesting pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



United States Department of the Interior

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<http://www.fws.gov/newengland>



In Reply Refer To:

November 27, 2017

Consultation Code: 05E1NE00-2018-SLI-0434

Event Code: 05E1NE00-2018-E-00989

Project Name: Mystic to East Eagle 2

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

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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(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2018-SLI-0434

Event Code: 05E1NE00-2018-E-00989 Mystic

Project Name: to East Eagle 2

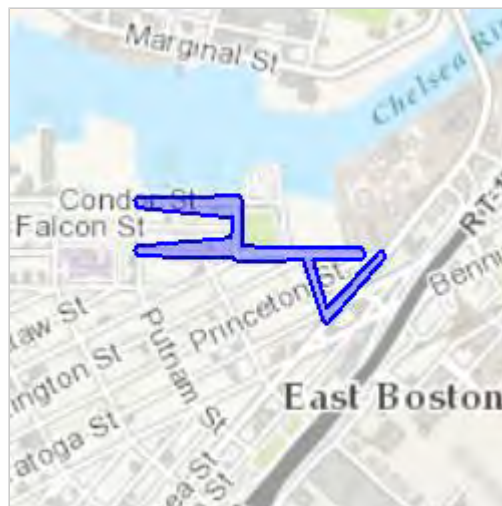
Project Type: Other

Project Description: RGP

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/42.381212930215995N71.02854800510687W>



Counties: Suffolk, MA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this 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. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Birds

NAME	STATUS
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
<http://www.fws.gov/newengland>



In Reply Refer To:
Consultation Code: 05E1NE00-2018-SLI-0434
Event Code: 05E1NE00-2018-E-01202
Project Name: Mystic to East Eagle 2

December 13, 2017

Subject: Updated 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.

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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(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2018-SLI-0434

Event Code: 05E1NE00-2018-E-01202

Project Name: Mystic to East Eagle 2

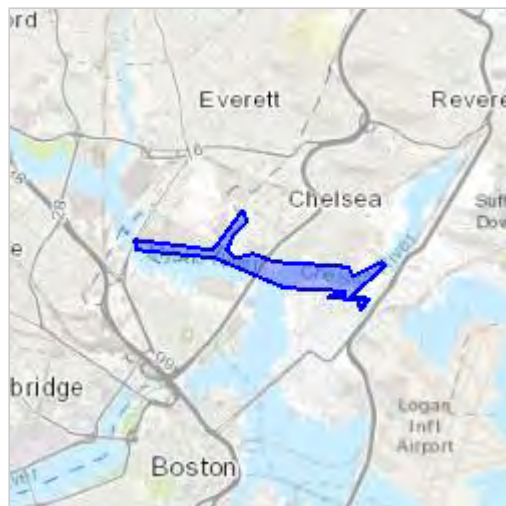
Project Type: ** OTHER **

Project Description: RGP

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/42.38689149223128N71.05044598320004W>



Counties: Middlesex, MA | Suffolk, MA

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this 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. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Birds

NAME	STATUS
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Roseate Tern <i>Sterna dougallii dougallii</i> Population: northeast U.S. nesting pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Summary of Essential Fish Habitat (EFH) Designations

Name of Estuary/ Bay/ River: Boston Harbor, Massachusetts

10° x 10° latitude and longitude squares included in this bay or estuary or river (southeast corner boundaries):

4220/7100; 4210/7050; 4210/7100

Species	Eggs	Larvae	Juveniles	Adults	Spawning Adults
Atlantic salmon (<i>Salmo salar</i>)					
Atlantic cod (<i>Gadus morhua</i>)	S	S	M,S	M,S	S
haddock (<i>Melanogrammus aeglefinus</i>)	S	S			
pollock (<i>Pollachius virens</i>)	S	S	M,S		
whiting (<i>Merluccius bilinearis</i>)	S	S	M,S	M,S	
offshore hake (<i>Merluccius albidus</i>)					
red hake (<i>Urophycis chuss</i>)		S	S	S	
white hake (<i>Urophycis tenuis</i>)	S	S	S	S	
redfish (<i>Sebastes fasciatus</i>)	n/a				
witch flounder (<i>Glyptocephalus cynoglossus</i>)					
winter flounder (<i>Pleuronectes americanus</i>)	M,S	M,S	M,S	M,S	M,S
yellowtail flounder (<i>Pleuronectes ferruginea</i>)	S	S	S	S	S
windowpane flounder (<i>Scophthalmus aquosus</i>)	M,S	M,S	M,S	M,S	M,S
American plaice (<i>Hippoglossoides platessoides</i>)	S	S	S	S	S
ocean pout (<i>Macrozoarces americanus</i>)			S	S	
Atlantic halibut (<i>Hippoglossus hippoglossus</i>)	S	S	S	S	S
Atlantic sea scallop (<i>Placopecten magellanicus</i>)					
Atlantic sea herring (<i>Clupea harengus</i>)		S	M,S	M,S	
monkfish (<i>Lophius americanus</i>)					
bluefish (<i>Pomatomus saltatrix</i>)			M,S	M,S	
long finned squid (<i>Loligo pealei</i>)	n/a	n/a			

short finned squid (<i>Illex illecebrosus</i>)	n/a	n/a			
Atlantic butterfish (<i>Peprilus triacanthus</i>)	S	S			
Atlantic mackerel (<i>Scomber scombrus</i>)	M,S	M,S	M,S	M,S	
summer flounder (<i>Paralichthys dentatus</i>)					
scup (<i>Stenotomus chrysops</i>)					
black sea bass (<i>Centropristus striata</i>)					
surf clam (<i>Spisula solidissima</i>)	n/a	n/a			
ocean quahog (<i>Artica islandica</i>)	n/a	n/a			
spiny dogfish (<i>Squalus acanthias</i>)	n/a	n/a			
tilefish (<i>Lopholatilus chamaeleonticeps</i>)					

APPENDIX D

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chelsea; Street Name: Condor St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
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Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chelsea; Street Name: east eagle St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
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Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chelsea; Street Name: glendon St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
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Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chelsea; Street Name: marginal St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
CLS.582	Captain's Row	68 Marginal St	Chelsea	c 1842
CLS.589	Captain's Row	88 Marginal St	Chelsea	c 1842
CLS.595	Captain's Row	92 Marginal St	Chelsea	c 1842
CLS.591	Captian's Row	96 Marginal St	Chelsea	c 1842
CLS.618	Austin, C. F. Cracker and Animal Food Bakery	110 Marginal St	Chelsea	1864
CLS.619	Austin, C. F. Bakery Brick Loft #1	110 Marginal St	Chelsea	c 1864
CLS.620	Austin, C. F. Bakery Brick Loft #2	110 Marginal St	Chelsea	1902
CLS.621	White, Holman Company Furniture Factory	124 Marginal St	Chelsea	c 1880
CLS.623	White, A. and Company Chair Factory Warehouse	150 Marginal St	Chelsea	1982
CLS.622	White, A. and Company Chair Factory	158 Marginal St	Chelsea	c 1865
CLS.624	Cabot, Samuel Company Stain Plant	227 Marginal St	Chelsea	c 1909
CLS.625	Cabot, Samuel Company Eelgrass Quilting Warehouse	229 Marginal St	Chelsea	c 1909
CLS.626	Cabot, Samuel Company Flue Building	235 Marginal St	Chelsea	1925
CLS.627	Cabot, Samuel Company Lampblack Building	235 Marginal St	Chelsea	1924
CLS.628	Cabot, Samuel Company Shingle Shed	250 Marginal St	Chelsea	c 1920
CLS.629	Cabot, Samuel Company Washroom and Lunchroom	250 Marginal St	Chelsea	r 1925

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chelsea; Street Name: shelby St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
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Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Chelsea; Street Name: Willow St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
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TABLE 1
Groundwater Analytical Results
 Eversource Mystic- East Eagle

Sample ID Sample Date		Effluent Limitation (CR)	Chelsea River			
			MW-1 ^(B) 9/15/2017	MW-1F ^(B) 9/15/2017	MW-1F ⁽²⁾ 11/18/2016	MW-1UF ⁽²⁾ 11/18/2016
Inorganics	Ammonia (mg/L)	Report	1.17	0.177	7.8	8.1
	Chloride (mg/L)	Report	6,440	14,300	670	690
	Total Residual Chlorine (TRC) (mg/L)	7.5/50 ⁽¹⁾	ND (0.20)	ND (0.020)	0.059	ND (0.020)
	Total Suspended Solids (TSS) (mg/L)	30	230	32	23	11
	Antimony (µg/L)	206	ND (5.0)	ND (5.0)	ND (1.0)	ND (1.0)
	Arsenic (µg/L)	104	22	36	ND (0.40)	ND (0.40)
	Cadmium (µg/L)	10.2	ND (1.0)	ND (1.0)	ND (0.50)	ND (0.50)
	Chromium III (µg/L)	323	ND (50)	ND (50)	ND (1.0)	ND (1.0)
	Chromium VI (mg/L)	323	ND (0.0040)	ND (0.0040)	ND (0.0040)	ND (0.0040)
	Copper (µg/L)	3.7	57	94	NT	NT
	Iron (mg/L)	5,000	15	2.9	NT	NT
	Lead (µg/L)	160	24	ND (10)	ND (1.0)	5.9
	Mercury (mg/L)	0.739	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
	Nickel (µg/L)	1,450	ND (25)	ND (25)	7	7.1
	Selenium (µg/L)	235.8	49	110	ND (5.0)	ND (5.0)
	Silver (µg/L)	35.1	ND (1.0)	ND (1.0)	ND (0.50)	ND (0.50)
	Zinc (µg/L)	420	ND (100)	ND (100)	ND (10)	ND (10)
Non-Halogenated VOCs	Cyanide (mg/L)	178	ND (0.005)	0.01	0.28	0.29
	BTEX					
	Benzene (µg/L)	5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
	Toluene (µg/L)	NE	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
	Ethylbenzene (µg/L)	NE	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
	Total Xylenes (µg/L)	NE	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
	Total BTEX	100	ND	ND	ND	ND
Halogenated VOCs	1,4 Dioxane (µg/L)	200	ND (50)	ND (50)	ND (100)	ND (100)
	Acetone (µg/L)	7.97	ND (50)	ND (50)	ND (10)	ND (10)
	Total Phenol (mg/L)	1,080	0.074	0.067	ND (0.050)	ND (0.050)
	Carbon Tetrachloride (µg/L)	4.4	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
	1,2-Dichlorobenzene (1,2-DCB) (µg/L)	600	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
	1,3-Dichlorobenzene (1,3-DCB) (µg/L)	320	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
	1,4-Dichlorobenzene (1,4-DCB) (µg/L)	5	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
	Total Dichlorobenzene	NE	ND	ND	ND	ND
	1,1-Dichloroethane (1,1-DCA) (µg/L)	70	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
	1,2-Dichloroethane (1,2-DCA) (µg/L)	5	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
	1,1-Dichloroethylene (1,1-DCE) (µg/L)	3.2	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
	Methylene Chloride (µg/L)	4.6	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
	1,1,1-Trichloroethane (1,1,1-TCA) (µg/L)	200	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
	1,1,2-Trichloroethane (1,1,2-TCA) (µg/L)	5	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
	Tetrachloroethylene (PCE) (µg/L)	5	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
	Trichloroethylene (TCE) (µg/L)	5	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
	cis-1,2-Dichloroethylene (DCE) (µg/L)	70	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Non-Halogenated SVOCs	Vinyl Chloride (µg/L)	2	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
	Ethylene Dibromide (EDB) (µg/L)	0.05	ND (0.020)	ND (0.019)	ND (0.021)	ND (0.021)
	Diethylhexyl Phthalate (DEHP) (µg/L)	101	0.39	0.28	ND (6.0)	ND (6.0)
	Benzyl Butyl Phthalate (µg/L)	NE	ND (10)	ND (10)	ND (10)	ND (10)
	Di-n-butyl phthalate (µg/L)	NE	ND (10)	ND (10)	ND (10)	ND (10)
	Diethyl Phthalate (µg/L)	NE	ND (10)	ND (10)	ND (10)	ND (10)
	Dimethyl Phthalate (µg/L)	NE	ND (10)	ND (10)	ND (10)	ND (10)
	Di-n-octyl Phthalate (µg/L)	NE	ND (10)	ND (10)	ND (10)	ND (10)
	Total Phthalates (µg/L)	190	ND	ND	ND	ND
	Benzo(a)anthracene (µg/L)	0.0038/0.1 ⁽¹⁾	0.069	ND (0.050)	ND (0.050)	ND (0.050)
	Benzo(a)pyrene (µg/L)	1	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
	Benzo(b)fluoranthene (µg/L)	0.0038/0.1 ⁽¹⁾	0.076	ND (0.050)	ND (0.050)	ND (0.050)
	Benzo(k)fluoranthene (µg/L)	1	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
	Chrysene (µg/L)	1	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
	Dibenzo(a,h)anthracene (µg/L)	1	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
	Indeno(1,2,3-cd)pyrene (µg/L)	1	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
	Total Group I PAHs (µg/L)	1	0.145	ND	ND	ND
	Acenaphthene (µg/L)	NE	ND (5.0)	ND (5.0)	0.48	0.41
	Acenaphthylene (µg/L)	NE	ND (5.0)	ND (5.0)	ND (0.30)	ND (0.30)
	Anthracene (µg/L)	NE	ND (5.0)	ND (5.0)	ND (0.20)	ND (0.20)
	Benzo(g,h,i)perylene (µg/L)	NE	ND (5.0)	ND (5.0)	ND (0.50)	ND (0.50)
	Fluoranthene (µg/L)	NE	ND (5.0)	ND (5.0)	ND (0.50)	ND (0.50)
	Fluorene (µg/L)	NE	ND (5.0)	ND (5.0)	ND (1.0)	ND (1.0)
	Phenanthrene (µg/L)	NE	ND (5.0)	ND (5.0)	0.079	ND (0.050)
	Pyrene (µg/L)	NE	ND (5.0)	ND (5.0)	ND (1.0)	ND (1.0)
	Total Group II PAHs	100	ND	ND	0.559	0.41
Halogenated SVOCs	Naphthalene (µg/L)	20	ND (5.0)	ND (5.0)	ND (2.0)	ND (2.0)
	1016 (µg/L)	NE	ND (0.10)	ND (0.10)	ND (0.20)	ND (0.20)
	1221 (µg/L)	NE	ND (0.10)	ND (0.10)	ND (0.20)	ND (0.20)
	1232 (µg/L)	NE	ND (0.10)	ND (0.10)	ND (0.20)	ND (0.20)
	1242 (µg/L)	NE	ND (0.10)	ND (0.10)	ND (0.20)	ND (0.20)
	1248 (µg/L)	NE	ND (0.10)	ND (0.10)	ND (0.20)	ND (0.20)
	1254 (µg/L)	NE	ND (0.10)	ND (0.10)	ND (0.20)	ND (0.20)
Fuel Parameters	1260 (µg/L)	NE	ND (0.10)	ND (0.10)	ND (0.20)	ND (0.20)
	Total PCBs	0.000064/0.5 ⁽¹⁾	ND	ND	ND	ND
	Pentachlorophenol (PCP) (µg/L)	1	ND (1.0)	ND (1.0)	ND (5.0)	ND (5.0)
	Total Petroleum Hydrocarbons (TPH) (mg/L)	5	ND (1.4)	ND (1.6)	ND (1.4)	ND (1.4)
	Ethanol (EtOH) (mg/L)	Report	ND(2)	ND(2)	NT	NT
	Methyl tert-Butyl Ether (MtBE) (µg/L)	70	0.34	ND (2.0)	4.7	4.4
	tert-Amyl Methyl Ether (tAME) (µg/L)	90	ND (0.50)	ND (0.50)	1.3	1.2
Fuel Parameters	tert-Butyl Alcohol (tBA) (µg/L)	120	ND (20)	ND (20)	160	150

Notes:

1: The second standard is the compliance level

2: Monitoring Well located within proposed substation

3: Monitoring Well located on Marginal Street in Chelsea, MA

VOCs= Volatile Organic Compounds

SVOCs= Semi-Volatile Organic Compounds

TPH= Total Petroleum Hydrocarbons

PCBs= Polychlorinated Biphenyls

mg/L= milligrams per Liter

ug/L= micrograms per Liter

<xx = not detected above the indicated laboratory method detection limit

c/s= compound specific

NE= Not Established

NA= Not Analyzed

ND= Not Detected

*- Effluent Limits Calculated Using the EPAs Dilution Factor and Effluent Limitation Calculations for Massachusetts from (Appendix V)

Red Text- Exceeds RGP Effluent Limit

Enter number values in green boxes below

Enter values in the units specified

↓

0	Q _R = Enter upstream flow in MGD
0.504	Q _P = Enter discharge flow in MGD
0	Downstream 7Q10

Enter a dilution factor, if other than zero

↓

0

Enter values in the units specified

↓

	C _d = Enter influent hardness in mg/L CaCO ₃
	C _s = Enter receiving water hardness in mg/L CaCO ₃

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

↓

8.1	pH in Standard Units
7.11	Temperature in °C
0.057	Ammonia in mg/L
0	Hardness in mg/L CaCO ₃
25.8	Salinity in ppt
0	Antimony in µg/L
50	Arsenic in µg/L
0	Cadmium in µg/L
0	Chromium III in µg/L
0	Chromium VI in µg/L
98	Copper in µg/L
0.089	Iron in µg/L
0	Lead in µg/L
0	Mercury in µg/L
0	Nickel in µg/L
160	Selenium in µg/L
0	Silver in µg/L
0	Zinc in µg/L

Enter **influent** concentrations in the units specified

↓

0.015	TRC in µg/L
4.31	Ammonia in mg/L
0	Antimony in µg/L
14.5	Arsenic in µg/L
0	Cadmium in µg/L
0	Chromium III in µg/L
0	Chromium VI in µg/L
37.75	Copper in µg/L
4.48	Iron in µg/L
7.48	Lead in µg/L
0	Mercury in µg/L
3.53	Nickel in µg/L
39.75	Selenium in µg/L
0	Silver in µg/L
0	Zinc in µg/L
0.15	Cyanide in µg/L
0.04	Phenol in µg/L
0	Carbon Tetrachloride in µg/L
0	Tetrachloroethylene in µg/L
0	Total Phthalates in µg/L
0.17	Diethylhexylphthalate in µg/L
0.02	Benzo(a)anthracene in µg/L
0	Benzo(a)pyrene in µg/L
0.02	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
2.36	Methyl-tert butyl ether in µg/L

Notes:

Freshwater: Q_R equal to the 7Q10; enter alternate Q_R if approved by the State; enter 0 if no dilution factor approved

Saltwater (estuarine and marine): enter Q_R if approved by the State; enter 0 if no entry

Discharge flow is equal to the design flow or 1 MGD, whichever is less

Only if approved by State as the entry for Q_R; leave 0 if no entry

Saltwater (estuarine and marine): only if approved by the State

Leave 0 if no entry

Freshwater only

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

if >1 sample, enter maximum

if >10 samples, may enter 95th percentile

Enter 0 if non-detect or testing not required

Dilution Factor	0.0					
A. Inorganics	TBEL applies if bolded		WQBEL applies if bolded		Compliance Level applies if shown	
Ammonia	Report	mg/L	---			
Chloride	Report	µg/L	---			
Total Residual Chlorine	0.2	mg/L	7.5	µg/L	50	µg/L
Total Suspended Solids	30	mg/L	---			
Antimony	206	µg/L	640	µg/L		
Arsenic	104	µg/L	36	µg/L		
Cadmium	10.2	µg/L	8.9	µg/L		
Chromium III	323	µg/L	100.0	µg/L		
Chromium VI	323	µg/L	50	µg/L		
Copper	242	µg/L	3.7	µg/L		
Iron	5000	µg/L	---	µg/L		
Lead	160	µg/L	8.5	µg/L		
Mercury	0.739	µg/L	1.11	µg/L		
Nickel	1450	µg/L	8.3	µg/L		
Selenium	235.8	µg/L	71	µg/L		
Silver	35.1	µg/L	2.2	µg/L		
Zinc	420	µg/L	86	µg/L		
Cyanide	178	mg/L	1.0	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	7.97	mg/L	---			
Phenol	1,080	µg/L	300	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	4.4		1.6	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	3.3	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	2.2	µg/L		
Total Group I Polycyclic Aromatic Hydrocarbons	1.0	µg/L	---			
Benzo(a)anthracene	1.0	µg/L	0.0038	µg/L	0.1	µg/L
Benzo(a)pyrene	1.0	µg/L	0.0038	µg/L	---	µg/L
Benzo(b)fluoranthene	1.0	µg/L	0.0038	µg/L	0.1	µg/L
Benzo(k)fluoranthene	1.0	µg/L	0.0038	µg/L	---	µg/L
Chrysene	1.0	µg/L	0.0038	µg/L	---	µg/L
Dibenzo(a,h)anthracene	1.0	µg/L	0.0038	µg/L	---	µg/L
Indeno(1,2,3-cd)pyrene	1.0	µg/L	0.0038	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	20	µg/L		
tert-Butyl Alcohol	120	µg/L	---			
tert-Amyl Methyl Ether	90	µg/L	---			

TABLE 2

Surface Water Analytical Results

Eversource Mystic- East Eagle

Sample ID Sample Date	Effluent Limitation	Chelsea River 12/1/2017
Antimony (µg/L)	206	ND (5.0)
Arsenic (µg/L)	104	50
Cadmium (µg/L)	10.2	ND (1.0)
Chromium III (µg/L)	323	ND (50)
Hexavalent Chromium (mg/L)	323	ND (0.0040)
Copper (µg/L)	3.7	98
Iron (mg/L)	5,000	0.089
Lead (µg/L)	160	ND (5.0)
Mercury (mg/L)	0.739	ND (0.00010)
Nickel (µg/L)	1,450	ND (25)
Selenium (µg/L)	235.8	160
Silver (µg/L)	35.1	ND (1.0)
Zinc (µg/L)	420	ND (100)
Ammonia (mg/L)	Report	0.057
Salinity (ppt)	NE	25.8
pH	NE	8.10
Temperature °C	NE	7.11

ug/L = micrograms per liter

mg/L = milligram per liter

ND = not detected

NE = not established

*Effluent limitations calculated in accordance with Appendix V of the RGP***Red Bolded text exceeds effluent limitation**

September 25, 2017

Michael Zylich
NSTAR Electric & Gas Corporation - Monthly Billing
One NSTAR Way, SUM SE-250
East Sandwich, MA 02090-9230

Project Location: Mystic - East Eagle
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 17I0701

Enclosed are results of analyses for samples received by the laboratory on September 15, 2017. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "James Georgantas". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

NSTAR Electric & Gas Corporation - Monthly Billi
One NSTAR Way, SUM SE-250
East Sandwich, MA 02090-9230
ATTN: Michael Zylich

REPORT DATE: 9/25/2017

PURCHASE ORDER NUMBER: 64454 Release 1

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 1710701

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Mystic - East Eagle

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-1	1710701-01	Ground Water		EPA 300.0	NY11393/MA-MAI138/M A1110
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL G	
MW-1F	1710701-02	Ground Water		EPA 300.0	NY11393/MA-MAI138/M A1110
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL G	
MH-206	1710701-03	Ground Water		EPA 300.0	NY11393/MA-MAI138/M A1110
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL G	
MH-206F	1710701-04	Ground Water		EPA 300.0	NY11393/MA-MAI138/M A1110
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL G	
MH-204	1710701-05	Ground Water		EPA 300.0	NY11393/MA-MAI138/M A1110
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL G	
MH-204F	1710701-06	Ground Water		EPA 300.0	NY11393/MA-MAI138/M A1110
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL G	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SM21-22 2540D**Qualifications:**

R-02
Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.

Analyte & Samples(s) Qualified:**Total Suspended Solids**

1710701-02[MW-1F], B186410-DUP1

SM21-22 4500 CL G**Qualifications:**

W-06
Elevated method reporting limit due to intense color of sample

Analyte & Samples(s) Qualified:**Chlorine, Residual**

1710701-01[MW-1]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Tod E. Kopyscinski
Laboratory Director

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710701

Date Received: 9/15/2017

Field Sample #: MW-1

Sampled: 9/15/2017 09:00

Sample ID: 1710701-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlorine, Residual	ND	0.20	mg/L	10	W-06	SM21-22 4500 CL G	9/15/17	9/15/17 23:15	DJM
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	9/15/17	9/15/17 23:45	DJM
Total Suspended Solids	230	11	mg/L	1		SM21-22 2540D	9/18/17	9/18/17 14:05	LL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710701

Date Received: 9/15/2017

Sampled: 9/15/2017 09:00

Field Sample #: MW-1

Sample ID: 1710701-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	6440	200	mg/L	200		EPA 300.0		9/20/17 0:00	EURO

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710701

Date Received: 9/15/2017

Field Sample #: MW-1F

Sampled: 9/15/2017 10:30

Sample ID: 1710701-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlorine, Residual	ND	0.020	mg/L	1		SM21-22 4500 CL G	9/15/17	9/15/17 23:15	DJM
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	9/15/17	9/15/17 23:45	DJM
Total Suspended Solids	32	5.0	mg/L	1	R-02	SM21-22 2540D	9/18/17	9/18/17 14:05	LL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710701

Date Received: 9/15/2017

Sampled: 9/15/2017 10:30

Field Sample #: MW-1F

Sample ID: 1710701-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	14300	500	mg/L	500		EPA 300.0		9/20/17 0:00	EURO

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data**SM21-22 2540D**

Lab Number [Field ID]	Batch	Initial [mL]	Date
17I0701-01 [MW-1]	B186410	45.0	09/18/17
17I0701-02 [MW-1F]	B186410	100	09/18/17
17I0701-03 [MH-206]	B186410	15.0	09/18/17
17I0701-04 [MH-206F]	B186410	100	09/18/17
17I0701-05 [MH-204]	B186410	100	09/18/17
17I0701-06 [MH-204F]	B186410	100	09/18/17

SM21-22 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0701-01 [MW-1]	B186370	50.0	50.0	09/15/17
17I0701-02 [MW-1F]	B186370	50.0	50.0	09/15/17
17I0701-03 [MH-206]	B186370	50.0	50.0	09/15/17
17I0701-04 [MH-206F]	B186370	50.0	50.0	09/15/17
17I0701-05 [MH-204]	B186370	50.0	50.0	09/15/17
17I0701-06 [MH-204F]	B186370	50.0	50.0	09/15/17

SM21-22 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0701-01 [MW-1]	B186372	100	100	09/15/17
17I0701-02 [MW-1F]	B186372	100	100	09/15/17
17I0701-03 [MH-206]	B186372	100	100	09/15/17
17I0701-04 [MH-206F]	B186372	100	100	09/15/17
17I0701-05 [MH-204]	B186372	100	100	09/15/17
17I0701-06 [MH-204F]	B186372	100	100	09/15/17

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QUALITY CONTROL
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186370 - SM21-22 3500 Cr B										
Blank (B186370-BLK1)				Prepared & Analyzed: 09/15/17						
Hexavalent Chromium	ND	0.0040	mg/L							
LCS (B186370-BS1)				Prepared & Analyzed: 09/15/17						
Hexavalent Chromium	0.098	0.0040	mg/L	0.100		97.8	86.6-115			
LCS Dup (B186370-BSD1)				Prepared & Analyzed: 09/15/17						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		100	86.6-115	2.47	6.61	
Batch B186372 - SM21-22 4500 CL G										
Blank (B186372-BLK1)				Prepared & Analyzed: 09/15/17						
Chlorine, Residual	ND	0.020	mg/L							
LCS (B186372-BS1)				Prepared & Analyzed: 09/15/17						
Chlorine, Residual	1.4	0.020	mg/L	1.30		109	82.5-130			
LCS Dup (B186372-BSD1)				Prepared & Analyzed: 09/15/17						
Chlorine, Residual	1.4	0.020	mg/L	1.30		108	82.5-130	1.17	6.2	
Batch B186410 - SM21-22 2540D										
Blank (B186410-BLK1)				Prepared & Analyzed: 09/18/17						
Total Suspended Solids	ND	2.5	mg/L							
LCS (B186410-BS1)				Prepared & Analyzed: 09/18/17						
Total Suspended Solids	202	10	mg/L	200		101	66.7-117			
Duplicate (B186410-DUP1)				Prepared & Analyzed: 09/18/17						
Total Suspended Solids	30	5.0	mg/L		32			6.45 *	5	R-02

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
R-02	Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.
W-06	Elevated method reporting limit due to intense color of sample

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 300.0 in Water</i>	
Chloride	NC,NY,MA,VA,ME,NH,CT,RI
<i>SM21-22 2540D in Water</i>	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
<i>SM21-22 3500 Cr B in Water</i>	
Hexavalent Chromium	NY,CT,NH,RI,ME,VA,NC
<i>SM21-22 4500 CL G in Water</i>	
Chlorine, Residual	CT,MA,RI,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2018
CT	Connecticut Department of Public Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2018
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2018
RI	Rhode Island Department of Health	LAO00112	12/30/2017
NC	North Carolina Div. of Water Quality	652	12/31/2017
NJ	New Jersey DEP	MA007 NELAP	06/30/2018
FL	Florida Department of Health	E871027 NELAP	06/30/2018
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2018
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2017
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2018
NC-DW	North Carolina Department of Health	25703	07/31/2018

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

con-test
ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

Company Name: NSTAR/Eversource - Monthly Billing
Address: One NSTAR Way, Westwood, MA 02090
Phone: (339) 987-7029
Project Name: Mystic - East Eagle
Project Location: E-0754
Project Number: Mike Zyllich
Project Manager: 64454-1
Purchase Order Number: NSTAR/Eversource - Monthly Billing
Invoice Recipient:
Sampled By:

Requested Turnaround Time:
7-Day ☐ 10-Day ☐
Other: 5 days ☒ X

Rush Approval Required:
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Date Delivery:
Format: PDF ☒ EXCEL ☒
Other:

Enhanced Data Package Required: ☐
Email To: memartin@tighebond.com,
Michael.Zyllich@eversource.com

Con-Test Well Count #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Matrix Code	Con- Code
1	MW-1	9/15/17	9:00	G	GW	U
2	MW-1 F	9/15/17	10:30	G	GW	U
3	MH-206	9/15/17	12:00	G	GW	U
4	MH-206 F	9/15/17	12:30	G	GW	U
5	MH-204	9/15/17	12:30	G	GW	U
6	MH-204 F	9/15/17	12:35	G	GW	U

Notes:

2: VOCs include EDB, TBA, TAME and 1,4-dioxane
RGP Metals (antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc and iron)

3:

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

ANALYSIS REQUESTED

PCBs	VOCs	SVOCs	EDB	Ammonia	Ethanol	Total Phenols	Total Cyanide	Hex Chrom	Total RGP Metals	TSS/TRC/Chloride	TPH - Oil & Grease	TSS	Pentachlorophenol
								X	X	X	X		

1 **Analysis Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil/Solid
SL = Sludge
O = Other (please define)

2 **Preservation Codes:**

I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium
Thiosulfate
O = Other (please define)

3 **Container Codes:**

A = Amber Glass
G = Glass
P = Plastic
ST = Sterile
V = Vial
S = Summa Canister
T = Tedlar Bag
O = Other (please define)

Program Information

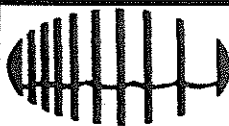
MCP Analytical Certification Form Required
RCP Analysis Certification Form Required
MA State DW Form Required
PWSID #

NELAC and AIHA-LAP, LLC Accredited

TURNAROUND TIME (BUSINESS DAYS) STARTS AT 9:00 AM THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON THIS CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME CANNOT START UNTIL ALL QUESTIONS HAVE BEEN ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com



con-test®
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client EVERSOURCE

Received By A.J.F Date 9/15/17 Time 2030

How were the samples received? In Cooler T No Cooler On Ice T No Ice
Direct from Sampling Ambient Melted Ice

Were samples within Temperature? 2-6°C T By Gun # 1 Actual Temp - 3.4
By Blank # Actual Temp -

Was Custody Seal Intact? N/A Were Samples Tampered with? N/A

Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name T
Project F ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? N/A Who was notified? N/A

Are there Rushes? N/A Who was notified? N/A

Are there Short Holds? T Who was notified? David

Is there enough Volume? T

Is there Headspace where applicable? N/A

Proper Media/Containers Used? T

Were trip blanks received? N/A

Do all samples have the proper pH? N/A Acid Base

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	<u>6</u>	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	<u>6</u>	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Unused Media

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:

September 28, 2017

Michael Zylich
NSTAR Electric & Gas Corporation - Monthly Billing
One NSTAR Way, SUM SE-250
East Sandwich, MA 02090-9230

Project Location: Mystic - East Eagle
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 17I0770

Enclosed are results of analyses for samples received by the laboratory on September 18, 2017. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "James Georgantas". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

NSTAR Electric & Gas Corporation - Monthly Billir

One NSTAR Way, SUM SE-250

East Sandwich, MA 02090-9230

ATTN: Michael Zylich

REPORT DATE: 9/28/2017

PURCHASE ORDER NUMBER: 64454 Release 1

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 1710770

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Mystic - East Eagle

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-1	17I0770-01	Ground Water		EPA 1664B	
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 420.1	
				EPA 504.1	
				EPA 608	
				EPA 624	
				EPA 625	
				SM19-22 4500 NH3 C	
				SM21-22 2540D	
				SM21-22 4500 CN E	
				SW-846 8015C	
MW-1F	17I0770-02	Ground Water		SW-846 8270D	
				EPA 1664B	
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 420.1	
				EPA 504.1	
				EPA 608	
				EPA 624	
				EPA 625	
				SM19-22 4500 NH3 C	
				SM21-22 2540D	
				SM21-22 4500 CN E	
				SW-846 8015C	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 8270, only a select list of compounds was requested and reported.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

EPA 200.7**Qualifications:****MS-07**

Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.

Analyte & Samples(s) Qualified:**Iron**

B186556-MS1

EPA 200.8**Qualifications:****DL-15**

Sample required a dilution due to low internal standard recovery of the lesser diluted digestion, reporting limit is elevated.

Analyte & Samples(s) Qualified:**Antimony**

17I0770-01[MW-1], 17I0770-02RE1[MW-1F]

Arsenic

17I0770-01[MW-1], 17I0770-02RE1[MW-1F]

Cadmium

17I0770-01[MW-1], 17I0770-02RE1[MW-1F]

Chromium

17I0770-01[MW-1], 17I0770-02RE1[MW-1F]

Copper

17I0770-01[MW-1], 17I0770-02RE1[MW-1F]

Lead

17I0770-01[MW-1], 17I0770-02RE1[MW-1F], 17I0770-04RE1[MW-206F]

Nickel

17I0770-01[MW-1], 17I0770-02RE1[MW-1F]

Selenium

17I0770-01[MW-1], 17I0770-02RE1[MW-1F]

Silver

17I0770-01[MW-1], 17I0770-02RE1[MW-1F]

Zinc

17I0770-01[MW-1], 17I0770-02RE1[MW-1F]

EPA 624**Qualifications:****DL-01**

Elevated reporting limits for all volatile compounds due to foaming sample matrix.

Analyte & Samples(s) Qualified:

17I0770-03[MW-206]

EPA 625**Qualifications:****L-04**

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:**2-Chloronaphthalene**

17I0770-01[MW-1], 17I0770-02[MW-1F], 17I0770-03[MW-206], 17I0770-04[MW-206F], B186688-BLK1, B186688-BS1, B186688-BSD1

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:**Fluorene**

B186688-BSD1

Pyrene

B186688-BSD1

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V-04

Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria.

Analyte & Samples(s) Qualified:**4,6-Dinitro-2-methylphenol**

17I0770-01[MW-1], 17I0770-02[MW-1F], 17I0770-03[MW-206], 17I0770-04[MW-206F], B186688-BLK1, B186688-BS1, B186688-BSD1

Benzidine

17I0770-01[MW-1], 17I0770-02[MW-1F], 17I0770-03[MW-206], 17I0770-04[MW-206F], B186688-BLK1, B186688-BS1, B186688-BSD1

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:**Benzidine**

17I0770-01[MW-1], 17I0770-02[MW-1F], 17I0770-03[MW-206], 17I0770-04[MW-206F]

V-19

Initial calibration did not meet method specifications. Compound was calibrated using linear regression with correlation coefficient <0.99. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:**2,4-Dinitrophenol**

17I0770-01[MW-1], 17I0770-02[MW-1F], 17I0770-03[MW-206], 17I0770-04[MW-206F], B186688-BLK1, B186688-BS1, B186688-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:**2,4-Dinitrophenol**

17I0770-01[MW-1], 17I0770-02[MW-1F], 17I0770-03[MW-206], 17I0770-04[MW-206F], B186688-BLK1, B186688-BS1, B186688-BSD1

4,6-Dinitro-2-methylphenol

17I0770-01[MW-1], 17I0770-02[MW-1F], 17I0770-03[MW-206], 17I0770-04[MW-206F], B186688-BLK1, B186688-BS1, B186688-BSD1

SM21-22 2540D**Qualifications:**

R-02

Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.

Analyte & Samples(s) Qualified:**Total Suspended Solids**

17I0770-04[MW-206F]

SW-846 8270D**Qualifications:**

B

Analyte is found in the associated blank as well as in the sample.

Analyte & Samples(s) Qualified:**Bis(2-Ethylhexyl)phthalate**

17I0770-01[MW-1], 17I0770-02[MW-1F], 17I0770-03[MW-206], 17I0770-04[MW-206F], B186837-BLK1, B186837-BS1, B186837-BSD1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa Worthington", is written over a light pink rectangular background.

Lisa A. Worthington
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1

Sampled: 9/15/2017 09:00

Sample ID: 1710770-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	4.9	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	0.11	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
Benzene	ND	1.0	0.12	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
tert-Butyl Alcohol (TBA)	ND	20	2.2	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
Carbon Tetrachloride	ND	2.0	0.25	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
1,2-Dichlorobenzene	ND	2.0	0.17	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
1,3-Dichlorobenzene	ND	2.0	0.17	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
1,4-Dichlorobenzene	ND	2.0	0.15	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
1,2-Dichloroethane	ND	2.0	0.19	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
cis-1,2-Dichloroethylene	ND	1.0	0.15	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
1,1-Dichloroethane	ND	2.0	0.16	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
1,1-Dichloroethylene	ND	2.0	0.21	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
1,4-Dioxane	ND	50	26	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
Ethylbenzene	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
Methyl tert-Butyl Ether (MTBE)	0.34	2.0	0.090	µg/L	1	J	EPA 624	9/20/17	9/20/17 21:36	EEH
Methylene Chloride	ND	5.0	3.2	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
Tetrachloroethylene	ND	2.0	0.27	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
Toluene	ND	1.0	0.17	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
1,1,1-Trichloroethane	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
1,1,2-Trichloroethane	ND	2.0	0.24	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
Trichloroethylene	ND	2.0	0.20	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
Vinyl Chloride	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
m+p Xylene	ND	2.0	0.26	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
o-Xylene	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 21:36	EEH
Surrogates	% Recovery		Recovery Limits		Flag/Qual					
1,2-Dichloroethane-d4	95.6		70-130				9/20/17 21:36			
Toluene-d8	101		70-130				9/20/17 21:36			
4-Bromofluorobenzene	94.0		70-130				9/20/17 21:36			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1

Sampled: 9/15/2017 09:00

Sample ID: 1710770-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzo(a)anthracene	0.069	0.050	0.050	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:12	CJM
Benzo(a)pyrene	ND	0.10	0.10	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:12	CJM
Benzo(b)fluoranthene	0.076	0.050	0.050	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:12	CJM
Benzo(k)fluoranthene	ND	0.20	0.20	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:12	CJM
Bis(2-Ethylhexyl)phthalate	0.39	1.0	0.10	µg/L	1	J, B	SW-846 8270D	9/22/17	9/24/17 18:12	CJM
Chrysene	ND	0.20	0.20	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:12	CJM
Dibenz(a,h)anthracene	ND	0.20	0.20	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:12	CJM
Indeno(1,2,3-cd)pyrene	ND	0.20	0.20	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:12	CJM
Pentachlorophenol	ND	1.0	0.34	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:12	CJM
Surrogates	% Recovery		Recovery Limits		Flag/Qual					
2-Fluorophenol	56.0		15-110				9/24/17 18:12			
Phenol-d6	37.4		15-110				9/24/17 18:12			
Nitrobenzene-d5	82.9		30-130				9/24/17 18:12			
2-Fluorobiphenyl	81.8		30-130				9/24/17 18:12			
2,4,6-Tribromophenol	76.0		15-110				9/24/17 18:12			
p-Terphenyl-d14	72.5		30-130				9/24/17 18:12			

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Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1

Sampled: 9/15/2017 09:00

Sample ID: 1710770-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Acenaphthylene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Anthracene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Benzidine	ND	20	µg/L	1	V-04, V-05	EPA 625	9/20/17	9/25/17 13:45	BGL
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
4-Bromophenylphenylether	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Butylbenzylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
4-Chloro-3-methylphenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Bis(2-chloroethyl)ether	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
2-Chloronaphthalene	ND	10	µg/L	1	L-04	EPA 625	9/20/17	9/25/17 13:45	BGL
2-Chlorophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
4-Chlorophenylphenylether	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Di-n-butylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
1,3-Dichlorobenzene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
1,4-Dichlorobenzene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
1,2-Dichlorobenzene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
3,3-Dichlorobenzidine	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
2,4-Dichlorophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Diethylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
2,4-Dimethylphenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Dimethylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
4,6-Dinitro-2-methylphenol	ND	10	µg/L	1	V-04, V-20	EPA 625	9/20/17	9/25/17 13:45	BGL
2,4-Dinitrophenol	ND	10	µg/L	1	V-19, V-20	EPA 625	9/20/17	9/25/17 13:45	BGL
2,4-Dinitrotoluene	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
2,6-Dinitrotoluene	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Di-n-octylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Fluoranthene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Fluorene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Hexachlorobenzene	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Hexachlorobutadiene	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Hexachlorocyclopentadiene	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Hexachloroethane	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Isophorone	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Naphthalene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Nitrobenzene	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
2-Nitrophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
4-Nitrophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
N-Nitrosodimethylamine	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
N-Nitrosodiphenylamine	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
N-Nitrosodi-n-propylamine	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
2-Methylnaphthalene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1

Sampled: 9/15/2017 09:00

Sample ID: 1710770-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Phenanthrene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
2-Methylphenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Phenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
3/4-Methylphenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Pyrene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
2,4,6-Trichlorophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 13:45	BGL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2-Fluorophenol	50.4	15-110							
Phenol-d6	39.6	15-110							
Nitrobenzene-d5	78.5	30-130							
2-Fluorobiphenyl	65.5	30-130							
2,4,6-Tribromophenol	64.5	15-110							
p-Terphenyl-d14	82.0	30-130							

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1

Sampled: 9/15/2017 09:00

Sample ID: 1710770-01

Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	0.057	µg/L	1		EPA 608	9/20/17	9/26/17 13:56	TG
Aroclor-1221 [1]	ND	0.10	0.062	µg/L	1		EPA 608	9/20/17	9/26/17 13:56	TG
Aroclor-1232 [1]	ND	0.10	0.038	µg/L	1		EPA 608	9/20/17	9/26/17 13:56	TG
Aroclor-1242 [1]	ND	0.10	0.054	µg/L	1		EPA 608	9/20/17	9/26/17 13:56	TG
Aroclor-1248 [1]	ND	0.10	0.064	µg/L	1		EPA 608	9/20/17	9/26/17 13:56	TG
Aroclor-1254 [1]	ND	0.10	0.071	µg/L	1		EPA 608	9/20/17	9/26/17 13:56	TG
Aroclor-1260 [1]	ND	0.10	0.073	µg/L	1		EPA 608	9/20/17	9/26/17 13:56	TG
Surrogates	% Recovery		Recovery Limits		Flag/Qual					
Decachlorobiphenyl [1]	58.4		30-150				9/26/17 13:56			
Decachlorobiphenyl [2]	71.9		30-150				9/26/17 13:56			
Tetrachloro-m-xylene [1]	81.5		30-150				9/26/17 13:56			
Tetrachloro-m-xylene [2]	79.1		30-150				9/26/17 13:56			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1

Sampled: 9/15/2017 09:00

Sample ID: 1710770-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	5.0		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 7:28	MJH
Arsenic	22	5.0		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 7:28	MJH
Cadmium	ND	1.0		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 7:28	MJH
Chromium	ND	50		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 7:28	MJH
Copper	57	5.0		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 7:28	MJH
Iron	15	0.050		mg/L	1		EPA 200.7	9/20/17	9/21/17 15:38	QNW
Lead	24	2.5		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 7:28	MJH
Mercury	ND	0.00010		mg/L	1		EPA 245.1	9/19/17	9/20/17 9:29	TJK
Nickel	ND	25		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 7:28	MJH
Selenium	49	25	11	µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 7:28	MJH
Silver	ND	1.0		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 7:28	MJH
Zinc	ND	100		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 7:28	MJH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1

Sampled: 9/15/2017 09:00

Sample ID: 1710770-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Phenol	0.074	0.050	mg/L	1		EPA 420.1	9/21/17	9/21/17 13:00	LL
Total Suspended Solids	130	5.0	mg/L	1		SM21-22 2540D	9/19/17	9/19/17 12:35	LL
Silica Gel Treated HEM (SGT-HEM)	ND	1.4	mg/L	1		EPA 1664B	9/20/17	9/20/17 12:45	LL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1

Sampled: 9/15/2017 09:00

Sample ID: 1710770-01

Sample Matrix: Ground Water

Drinking Water Organics EPA 504.1

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.020	µg/L	1		EPA 504.1	9/21/17	9/21/17 17:22	TG
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
1,3-Dibromopropane (1)	84.5	70-130						9/21/17 17:22	
1,3-Dibromopropane (2)	89.5	70-130						9/21/17 17:22	

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Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1

Sampled: 9/15/2017 09:00

Sample ID: 1710770-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	1.17	0.075	mg/L	1		SM19-22 4500 NH3 C		9/25/17 20:16	AAL
Cyanide	ND	0.005	mg/L	1		SM21-22 4500 CN E		9/21/17 11:06	AAL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1

Sampled: 9/15/2017 09:00

Sample ID: 1710770-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ethanol	ND	2000	µg/L	1		1671A		9/21/17 12:56	TAL

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Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1F

Sampled: 9/15/2017 10:30

Sample ID: 1710770-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	4.9	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	0.11	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
Benzene	ND	1.0	0.12	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
tert-Butyl Alcohol (TBA)	ND	20	2.2	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
Carbon Tetrachloride	ND	2.0	0.25	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
1,2-Dichlorobenzene	ND	2.0	0.17	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
1,3-Dichlorobenzene	ND	2.0	0.17	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
1,4-Dichlorobenzene	ND	2.0	0.15	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
1,2-Dichloroethane	ND	2.0	0.19	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
cis-1,2-Dichloroethylene	ND	1.0	0.15	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
1,1-Dichloroethane	ND	2.0	0.16	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
1,1-Dichloroethylene	ND	2.0	0.21	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
1,4-Dioxane	ND	50	26	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
Ethylbenzene	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
Methyl tert-Butyl Ether (MTBE)	ND	2.0	0.090	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
Methylene Chloride	ND	5.0	3.2	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
Tetrachloroethylene	ND	2.0	0.27	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
Toluene	ND	1.0	0.17	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
1,1,1-Trichloroethane	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
1,1,2-Trichloroethane	ND	2.0	0.24	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
Trichloroethylene	ND	2.0	0.20	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
Vinyl Chloride	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
m+p Xylene	ND	2.0	0.26	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
o-Xylene	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 22:03	EEH
Surrogates	% Recovery	Recovery Limits		Flag/Qual						
1,2-Dichloroethane-d4	97.2	70-130								
Toluene-d8	101	70-130								
4-Bromofluorobenzene	95.4	70-130								

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1F

Sampled: 9/15/2017 10:30

Sample ID: 1710770-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzo(a)anthracene	ND	0.050	0.050	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:41	CJM
Benzo(a)pyrene	ND	0.10	0.10	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:41	CJM
Benzo(b)fluoranthene	ND	0.050	0.050	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:41	CJM
Benzo(k)fluoranthene	ND	0.20	0.20	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:41	CJM
Bis(2-Ethylhexyl)phthalate	0.28	1.0	0.10	µg/L	1	J, B	SW-846 8270D	9/22/17	9/24/17 18:41	CJM
Chrysene	ND	0.20	0.20	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:41	CJM
Dibenz(a,h)anthracene	ND	0.20	0.20	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:41	CJM
Indeno(1,2,3-cd)pyrene	ND	0.20	0.20	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:41	CJM
Pentachlorophenol	ND	1.0	0.34	µg/L	1		SW-846 8270D	9/22/17	9/24/17 18:41	CJM
Surrogates	% Recovery		Recovery Limits		Flag/Qual					
2-Fluorophenol	52.9		15-110				9/24/17 18:41			
Phenol-d6	40.2		15-110				9/24/17 18:41			
Nitrobenzene-d5	81.2		30-130				9/24/17 18:41			
2-Fluorobiphenyl	83.9		30-130				9/24/17 18:41			
2,4,6-Tribromophenol	71.0		15-110				9/24/17 18:41			
p-Terphenyl-d14	70.4		30-130				9/24/17 18:41			

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Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1F

Sampled: 9/15/2017 10:30

Sample ID: 1710770-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Acenaphthylene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Anthracene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Benzidine	ND	20	µg/L	1	V-04, V-05	EPA 625	9/20/17	9/25/17 14:13	BGL
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
4-Bromophenylphenylether	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Butylbenzylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
4-Chloro-3-methylphenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Bis(2-chloroethyl)ether	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
2-Chloronaphthalene	ND	10	µg/L	1	L-04	EPA 625	9/20/17	9/25/17 14:13	BGL
2-Chlorophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
4-Chlorophenylphenylether	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Di-n-butylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
1,3-Dichlorobenzene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
1,4-Dichlorobenzene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
1,2-Dichlorobenzene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
3,3-Dichlorobenzidine	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
2,4-Dichlorophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Diethylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
2,4-Dimethylphenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Dimethylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
4,6-Dinitro-2-methylphenol	ND	10	µg/L	1	V-04, V-20	EPA 625	9/20/17	9/25/17 14:13	BGL
2,4-Dinitrophenol	ND	10	µg/L	1	V-19, V-20	EPA 625	9/20/17	9/25/17 14:13	BGL
2,4-Dinitrotoluene	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
2,6-Dinitrotoluene	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Di-n-octylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Fluoranthene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Fluorene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Hexachlorobenzene	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Hexachlorobutadiene	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Hexachlorocyclopentadiene	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Hexachloroethane	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Isophorone	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Naphthalene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Nitrobenzene	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
2-Nitrophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
4-Nitrophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
N-Nitrosodimethylamine	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
N-Nitrosodiphenylamine	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
N-Nitrosodi-n-propylamine	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
2-Methylnaphthalene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1F

Sampled: 9/15/2017 10:30

Sample ID: 1710770-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Phenanthrene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
2-Methylphenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Phenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
3/4-Methylphenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Pyrene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
2,4,6-Trichlorophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/25/17 14:13	BGL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2-Fluorophenol	61.8	15-110						9/25/17 14:13	
Phenol-d6	56.2	15-110						9/25/17 14:13	
Nitrobenzene-d5	84.1	30-130						9/25/17 14:13	
2-Fluorobiphenyl	68.7	30-130						9/25/17 14:13	
2,4,6-Tribromophenol	70.4	15-110						9/25/17 14:13	
p-Terphenyl-d14	85.7	30-130						9/25/17 14:13	

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Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1F

Sampled: 9/15/2017 10:30

Sample ID: 1710770-02

Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	0.057	µg/L	1		EPA 608	9/20/17	9/26/17 14:08	TG
Aroclor-1221 [1]	ND	0.10	0.062	µg/L	1		EPA 608	9/20/17	9/26/17 14:08	TG
Aroclor-1232 [1]	ND	0.10	0.038	µg/L	1		EPA 608	9/20/17	9/26/17 14:08	TG
Aroclor-1242 [1]	ND	0.10	0.054	µg/L	1		EPA 608	9/20/17	9/26/17 14:08	TG
Aroclor-1248 [1]	ND	0.10	0.064	µg/L	1		EPA 608	9/20/17	9/26/17 14:08	TG
Aroclor-1254 [1]	ND	0.10	0.071	µg/L	1		EPA 608	9/20/17	9/26/17 14:08	TG
Aroclor-1260 [1]	ND	0.10	0.073	µg/L	1		EPA 608	9/20/17	9/26/17 14:08	TG
Surrogates	% Recovery		Recovery Limits		Flag/Qual					
Decachlorobiphenyl [1]	93.5		30-150				9/26/17 14:08			
Decachlorobiphenyl [2]	113		30-150				9/26/17 14:08			
Tetrachloro-m-xylene [1]	97.1		30-150				9/26/17 14:08			
Tetrachloro-m-xylene [2]	93.7		30-150				9/26/17 14:08			

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Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1F

Sampled: 9/15/2017 10:30

Sample ID: 1710770-02

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	5.0		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 12:10	WSD
Arsenic	36	5.0		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 12:10	WSD
Cadmium	ND	1.0		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 12:10	WSD
Chromium	ND	50		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 12:10	WSD
Copper	94	5.0		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 12:10	WSD
Iron	2.9	0.050		mg/L	1		EPA 200.7	9/19/17	9/19/17 17:26	QNW
Lead	ND	10		µg/L	20	DL-15	EPA 200.8	9/20/17	9/22/17 16:08	WSD
Mercury	ND	0.00010		mg/L	1		EPA 245.1	9/19/17	9/20/17 9:44	TJK
Nickel	ND	25		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 12:10	WSD
Selenium	110	25	11	µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 12:10	WSD
Silver	ND	1.0		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 12:10	WSD
Zinc	ND	100		µg/L	5	DL-15	EPA 200.8	9/20/17	9/21/17 12:10	WSD

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1F

Sampled: 9/15/2017 10:30

Sample ID: 1710770-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Phenol	0.067	0.050	mg/L	1		EPA 420.1	9/21/17	9/21/17 13:00	LL
Total Suspended Solids	74	5.0	mg/L	1		SM21-22 2540D	9/19/17	9/19/17 12:35	LL
Silica Gel Treated HEM (SGT-HEM)	ND	1.6	mg/L	1		EPA 1664B	9/20/17	9/20/17 12:45	LL

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Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1F

Sampled: 9/15/2017 10:30

Sample ID: 1710770-02

Sample Matrix: Ground Water

Drinking Water Organics EPA 504.1

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.019	µg/L	1		EPA 504.1	9/21/17	9/21/17 17:45	TG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,3-Dibromopropane (1)	77.2	70-130						9/21/17 17:45	
1,3-Dibromopropane (2)	82.0	70-130						9/21/17 17:45	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1F

Sampled: 9/15/2017 10:30

Sample ID: 1710770-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	0.177	0.075	mg/L	1		SM19-22 4500 NH3 C		9/25/17 20:19	AAL
Cyanide	0.01	0.005	mg/L	1		SM21-22 4500 CN E		9/21/17 11:07	AAL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic - East Eagle

Sample Description:

Work Order: 1710770

Date Received: 9/18/2017

Field Sample #: MW-1F

Sampled: 9/15/2017 10:30

Sample ID: 1710770-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ethanol	ND	2000	µg/L	1		1671A		9/21/17 14:07	TAL

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Sample Extraction Data**EPA 1664B**

Lab Number [Field ID]	Batch	Initial [mL]	Date	
17I0770-01 [MW-1]	B186642	1000	09/20/17	
17I0770-02 [MW-1F]	B186642	900	09/20/17	
17I0770-03 [MW-206]	B186642	1000	09/20/17	
17I0770-04 [MW-206F]	B186642	980	09/20/17	

Prep Method: EPA 200.7 Dissolved-EPA 200.7

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-02 [MW-1F]	B186556	50.0	50.0	09/19/17
17I0770-04 [MW-206F]	B186556	50.0	50.0	09/19/17

Prep Method: EPA 200.7-EPA 200.7

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-01 [MW-1]	B186704	50.0	50.0	09/20/17
17I0770-03 [MW-206]	B186704	50.0	50.0	09/20/17

Prep Method: EPA 200.8 Dissolved-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-02RE1 [MW-1F]	B186698	50.0	50.0	09/20/17
17I0770-04RE1 [MW-206F]	B186698	50.0	50.0	09/20/17

Prep Method: EPA 200.8-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-01 [MW-1]	B186706	50.0	50.0	09/20/17
17I0770-03 [MW-206]	B186706	50.0	50.0	09/20/17

Prep Method: EPA 245.1-EPA 245.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-01 [MW-1]	B186577	6.00	6.00	09/19/17
17I0770-03 [MW-206]	B186577	6.00	6.00	09/19/17

Prep Method: EPA 245.1-EPA 245.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-02 [MW-1F]	B186578	6.00	6.00	09/19/17
17I0770-04 [MW-206F]	B186578	6.00	6.00	09/19/17

EPA 420.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-01 [MW-1]	B186650	50.0	50.0	09/21/17
17I0770-02 [MW-1F]	B186650	50.0	50.0	09/21/17

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Sample Extraction Data**EPA 420.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-03 [MW-206]	B186650	50.0	50.0	09/21/17
17I0770-04 [MW-206F]	B186650	50.0	50.0	09/21/17

Prep Method: EPA 504 water-EPA 504.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-01 [MW-1]	B186764	34.8	35.0	09/21/17
17I0770-02 [MW-1F]	B186764	36.3	35.0	09/21/17
17I0770-03 [MW-206]	B186764	35.6	35.0	09/21/17
17I0770-04 [MW-206F]	B186764	35.6	35.0	09/21/17

Prep Method: SW-846 3510C-EPA 608

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-01 [MW-1]	B186668	1000	5.00	09/20/17
17I0770-02 [MW-1F]	B186668	1000	5.00	09/20/17
17I0770-03 [MW-206]	B186668	1000	5.00	09/20/17
17I0770-04 [MW-206F]	B186668	1000	5.00	09/20/17

Prep Method: SW-846 5030B-EPA 624

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-01 [MW-1]	B186621	5	5.00	09/20/17
17I0770-02 [MW-1F]	B186621	5	5.00	09/20/17
17I0770-03 [MW-206]	B186621	2.5	5.00	09/20/17
17I0770-04 [MW-206F]	B186621	5	5.00	09/20/17

Prep Method: SW-846 3510C-EPA 625

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-01 [MW-1]	B186688	1000	1.00	09/20/17
17I0770-02 [MW-1F]	B186688	1000	1.00	09/20/17
17I0770-03 [MW-206]	B186688	1000	1.00	09/20/17
17I0770-04 [MW-206F]	B186688	1000	1.00	09/20/17

SM21-22 2540D

Lab Number [Field ID]	Batch	Initial [mL]	Date
17I0770-01 [MW-1]	B186528	100	09/19/17
17I0770-02 [MW-1F]	B186528	100	09/19/17
17I0770-03 [MW-206]	B186528	100	09/19/17
17I0770-04 [MW-206F]	B186528	100	09/19/17

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-01 [MW-1]	B186837	1000	1.00	09/22/17

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Sample Extraction Data

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0770-02 [MW-1F]	B186837	1000	1.00	09/22/17
17I0770-03 [MW-206]	B186837	1000	1.00	09/22/17
17I0770-04 [MW-206F]	B186837	1000	1.00	09/22/17

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QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B186621 - SW-846 5030B
Blank (B186621-BLK1)

Prepared & Analyzed: 09/20/17

Acetone	ND	50	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							
Carbon Tetrachloride	ND	2.0	µg/L							
1,2-Dichlorobenzene	ND	2.0	µg/L							
1,3-Dichlorobenzene	ND	2.0	µg/L							
1,4-Dichlorobenzene	ND	2.0	µg/L							
1,2-Dichloroethane	ND	2.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
1,1-Dichloroethane	ND	2.0	µg/L							
1,1-Dichloroethylene	ND	2.0	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	2.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	2.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
Tetrachloroethylene	ND	2.0	µg/L							
Toluene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	2.0	µg/L							
1,1,2-Trichloroethane	ND	2.0	µg/L							
Trichloroethylene	ND	2.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	2.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	25.0		µg/L	25.0		99.8	70-130			
Surrogate: Toluene-d8	25.2		µg/L	25.0		101	70-130			
Surrogate: 4-Bromofluorobenzene	23.6		µg/L	25.0		94.2	70-130			

LCS (B186621-BS1)

Prepared & Analyzed: 09/20/17

Acetone	61.8	50	µg/L	100		61.8	60-160			†
tert-Amyl Methyl Ether (TAME)	9.53	0.50	µg/L	10.0		95.3	70-130			
Benzene	11.5	1.0	µg/L	10.0		115	37-151			
tert-Butyl Alcohol (TBA)	68.5	20	µg/L	100		68.5	40-160			†
Carbon Tetrachloride	10.8	2.0	µg/L	10.0		108	70-140			
1,2-Dichlorobenzene	11.6	2.0	µg/L	10.0		116	18-190			
1,3-Dichlorobenzene	11.4	2.0	µg/L	10.0		114	59-156			
1,4-Dichlorobenzene	10.8	2.0	µg/L	10.0		108	18-190			
1,2-Dichloroethane	9.40	2.0	µg/L	10.0		94.0	49-155			
cis-1,2-Dichloroethylene	11.0	1.0	µg/L	10.0		110	70-130			
1,1-Dichloroethane	12.3	2.0	µg/L	10.0		123	59-155			
1,1-Dichloroethylene	7.71	2.0	µg/L	10.0		77.1	20-234			
1,4-Dioxane	99.4	50	µg/L	100		99.4	40-130			†
Ethylbenzene	10.9	2.0	µg/L	10.0		109	37-162			
Methyl tert-Butyl Ether (MTBE)	10.6	2.0	µg/L	10.0		106	70-130			
Methylene Chloride	7.28	5.0	µg/L	10.0		72.8	50-221			
Tetrachloroethylene	10.8	2.0	µg/L	10.0		108	64-148			
Toluene	10.5	1.0	µg/L	10.0		105	47-150			
1,1,1-Trichloroethane	10.9	2.0	µg/L	10.0		109	52-162			
1,1,2-Trichloroethane	10.5	2.0	µg/L	10.0		105	52-150			
Trichloroethylene	10.2	2.0	µg/L	10.0		102	71-157			
Vinyl Chloride	2.97	2.0	µg/L	10.0		29.7	20-251			
m+p Xylene	21.8	2.0	µg/L	20.0		109	70-130			

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QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B186621 - SW-846 5030B
LCS (B186621-BS1)

Prepared & Analyzed: 09/20/17

o-Xylene	10.6	2.0	µg/L	10.0		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	24.6		µg/L	25.0		98.3	70-130			
Surrogate: Toluene-d8	24.9		µg/L	25.0		99.6	70-130			
Surrogate: 4-Bromofluorobenzene	24.5		µg/L	25.0		98.0	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186837 - SW-846 3510C										
Blank (B186837-BLK1)										
Prepared: 09/22/17 Analyzed: 09/24/17										
Benzo(a)anthracene	ND	0.050	µg/L							
Benzo(a)pyrene	ND	0.10	µg/L							
Benzo(b)fluoranthene	ND	0.050	µg/L							
Benzo(k)fluoranthene	ND	0.20	µg/L							
Bis(2-Ethylhexyl)phthalate	1.1	1.0	µg/L							B
Chrysene	ND	0.20	µg/L							
Dibenz(a,h)anthracene	ND	0.20	µg/L							
Indeno(1,2,3-cd)pyrene	ND	0.20	µg/L							
Pentachlorophenol	ND	1.0	µg/L							
Surrogate: 2-Fluorophenol	86.3		µg/L	200		43.1	15-110			
Surrogate: Phenol-d6	51.9		µg/L	200		26.0	15-110			
Surrogate: Nitrobenzene-d5	75.8		µg/L	100		75.8	30-130			
Surrogate: 2-Fluorobiphenyl	76.4		µg/L	100		76.4	30-130			
Surrogate: 2,4,6-Tribromophenol	141		µg/L	200		70.6	15-110			
Surrogate: p-Terphenyl-d14	70.4		µg/L	100		70.4	30-130			
LCS (B186837-BS1)										
Prepared: 09/22/17 Analyzed: 09/24/17										
Benzo(a)anthracene	41.2	1.2	µg/L	50.0		82.5	40-140			
Benzo(a)pyrene	41.2	2.5	µg/L	50.0		82.5	40-140			
Benzo(b)fluoranthene	43.4	1.2	µg/L	50.0		86.8	40-140			
Benzo(k)fluoranthene	41.3	5.0	µg/L	50.0		82.6	40-140			
Bis(2-Ethylhexyl)phthalate	43.9	25	µg/L	50.0		87.8	40-140			B
Chrysene	42.0	5.0	µg/L	50.0		84.0	40-140			
Dibenz(a,h)anthracene	36.4	5.0	µg/L	50.0		72.8	40-140			
Indeno(1,2,3-cd)pyrene	40.0	5.0	µg/L	50.0		80.1	40-140			
Pentachlorophenol	30.0	25	µg/L	50.0		59.9	30-130			
Surrogate: 2-Fluorophenol	81.6		µg/L	200		40.8	15-110			
Surrogate: Phenol-d6	50.4		µg/L	200		25.2	15-110			
Surrogate: Nitrobenzene-d5	82.1		µg/L	100		82.1	30-130			
Surrogate: 2-Fluorobiphenyl	88.8		µg/L	100		88.8	30-130			
Surrogate: 2,4,6-Tribromophenol	123		µg/L	200		61.4	15-110			
Surrogate: p-Terphenyl-d14	71.1		µg/L	100		71.1	30-130			
LCS Dup (B186837-BSD1)										
Prepared: 09/22/17 Analyzed: 09/24/17										
Benzo(a)anthracene	45.8	1.2	µg/L	50.0		91.5	40-140	10.3	20	
Benzo(a)pyrene	46.2	2.5	µg/L	50.0		92.4	40-140	11.4	20	
Benzo(b)fluoranthene	48.5	1.2	µg/L	50.0		97.0	40-140	11.0	20	
Benzo(k)fluoranthene	46.2	5.0	µg/L	50.0		92.4	40-140	11.3	20	
Bis(2-Ethylhexyl)phthalate	48.4	25	µg/L	50.0		96.8	40-140	9.69	20	B
Chrysene	46.4	5.0	µg/L	50.0		92.8	40-140	9.90	20	
Dibenz(a,h)anthracene	41.0	5.0	µg/L	50.0		81.9	40-140	11.8	20	
Indeno(1,2,3-cd)pyrene	44.6	5.0	µg/L	50.0		89.1	40-140	10.6	50	‡
Pentachlorophenol	35.5	25	µg/L	50.0		71.0	30-130	17.0	50	‡
Surrogate: 2-Fluorophenol	95.1		µg/L	200		47.6	15-110			
Surrogate: Phenol-d6	61.7		µg/L	200		30.8	15-110			
Surrogate: Nitrobenzene-d5	91.8		µg/L	100		91.8	30-130			
Surrogate: 2-Fluorobiphenyl	97.4		µg/L	100		97.4	30-130			
Surrogate: 2,4,6-Tribromophenol	147		µg/L	200		73.3	15-110			
Surrogate: p-Terphenyl-d14	79.7		µg/L	100		79.7	30-130			

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QUALITY CONTROL
Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186688 - SW-846 3510C										
Blank (B186688-BLK1)				Prepared: 09/20/17 Analyzed: 09/22/17						
Acenaphthene	ND	5.0	µg/L							
Acenaphthylene	ND	5.0	µg/L							
Anthracene	ND	5.0	µg/L							
Benzidine	ND	20	µg/L							V-04
Benzo(g,h,i)perylene	ND	5.0	µg/L							
4-Bromophenylphenylether	ND	10	µg/L							
Butylbenzylphthalate	ND	10	µg/L							
4-Chloro-3-methylphenol	ND	10	µg/L							
Bis(2-chloroethyl)ether	ND	10	µg/L							
Bis(2-chloroisopropyl)ether	ND	10	µg/L							
2-Chloronaphthalene	ND	10	µg/L							L-04
2-Chlorophenol	ND	10	µg/L							
4-Chlorophenylphenylether	ND	10	µg/L							
Di-n-butylphthalate	ND	10	µg/L							
1,3-Dichlorobenzene	ND	5.0	µg/L							
1,4-Dichlorobenzene	ND	5.0	µg/L							
1,2-Dichlorobenzene	ND	5.0	µg/L							
3,3-Dichlorobenzidine	ND	10	µg/L							
2,4-Dichlorophenol	ND	10	µg/L							
Diethylphthalate	ND	10	µg/L							
2,4-Dimethylphenol	ND	10	µg/L							
Dimethylphthalate	ND	10	µg/L							
4,6-Dinitro-2-methylphenol	ND	10	µg/L							V-04, V-20
2,4-Dinitrophenol	ND	10	µg/L							V-19, V-20
2,4-Dinitrotoluene	ND	10	µg/L							
2,6-Dinitrotoluene	ND	10	µg/L							
Di-n-octylphthalate	ND	10	µg/L							
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L							
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L							
Fluoranthene	ND	5.0	µg/L							
Fluorene	ND	5.0	µg/L							
Hexachlorobenzene	ND	10	µg/L							
Hexachlorobutadiene	ND	10	µg/L							
Hexachlorocyclopentadiene	ND	10	µg/L							
Hexachloroethane	ND	10	µg/L							
Isophorone	ND	10	µg/L							
Naphthalene	ND	5.0	µg/L							
Nitrobenzene	ND	10	µg/L							
2-Nitrophenol	ND	10	µg/L							
4-Nitrophenol	ND	10	µg/L							
N-Nitrosodimethylamine	ND	10	µg/L							
N-Nitrosodiphenylamine	ND	10	µg/L							
N-Nitrosodi-n-propylamine	ND	10	µg/L							
2-Methylnaphthalene	ND	5.0	µg/L							
Phenanthrene	ND	5.0	µg/L							
2-Methylphenol	ND	10	µg/L							
Phenol	ND	10	µg/L							
3/4-Methylphenol	ND	10	µg/L							
Pyrene	ND	5.0	µg/L							
1,2,4-Trichlorobenzene	ND	5.0	µg/L							
2,4,6-Trichlorophenol	ND	10	µg/L							
Surrogate: 2-Fluorophenol	84.2		µg/L	200		42.1	15-110			

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QUALITY CONTROL
Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B186688 - SW-846 3510C
Blank (B186688-BLK1)

Prepared: 09/20/17 Analyzed: 09/22/17

Surrogate: Phenol-d6	63.2		µg/L	200		31.6	15-110			
Surrogate: Nitrobenzene-d5	71.3		µg/L	100		71.3	30-130			
Surrogate: 2-Fluorobiphenyl	66.6		µg/L	100		66.6	30-130			
Surrogate: 2,4,6-Tribromophenol	132		µg/L	200		65.9	15-110			
Surrogate: p-Terphenyl-d14	83.0		µg/L	100		83.0	30-130			

LCS (B186688-BS1)

Prepared: 09/20/17 Analyzed: 09/22/17

Acenaphthene	62.4	5.0	µg/L	100		62.4	47-145			
Acenaphthylene	58.9	5.0	µg/L	100		58.9	33-145			
Anthracene	62.1	5.0	µg/L	100		62.1	27-133			
Benztidine	69.8	20	µg/L	100		69.8	40-140			V-04
Benzo(g,h,i)perylene	57.6	5.0	µg/L	100		57.6	1-219			
4-Bromophenylphenylether	64.8	10	µg/L	100		64.8	53-127			
Butylbenzylphthalate	76.6	10	µg/L	100		76.6	1-152			
4-Chloro-3-methylphenol	70.2	10	µg/L	100		70.2	22-147			
Bis(2-chloroethyl)ether	78.7	10	µg/L	100		78.7	12-158			
Bis(2-chloroisopropyl)ether	85.3	10	µg/L	100		85.3	36-166			
2-Chloronaphthalene	57.4	10	µg/L	100		57.4 *	60-118			L-04
2-Chlorophenol	69.6	10	µg/L	100		69.6	23-134			
4-Chlorophenylphenylether	63.9	10	µg/L	100		63.9	25-158			
Di-n-butylphthalate	70.6	10	µg/L	100		70.6	1-118			
1,3-Dichlorobenzene	66.3	5.0	µg/L	100		66.3	1-172			
1,4-Dichlorobenzene	67.3	5.0	µg/L	100		67.3	20-124			
1,2-Dichlorobenzene	67.9	5.0	µg/L	100		67.9	32-129			
3,3-Dichlorobenzidine	75.8	10	µg/L	100		75.8	1-262			
2,4-Dichlorophenol	68.6	10	µg/L	100		68.6	39-135			
Diethylphthalate	64.6	10	µg/L	100		64.6	1-114			
2,4-Dimethylphenol	65.4	10	µg/L	100		65.4	32-119			
Dimethylphthalate	65.1	10	µg/L	100		65.1	1-112			
4,6-Dinitro-2-methylphenol	86.3	10	µg/L	100		86.3	1-181			V-04, V-20
2,4-Dinitrophenol	84.8	10	µg/L	100		84.8	1-191			V-19, V-20
2,4-Dinitrotoluene	77.4	10	µg/L	100		77.4	39-139			
2,6-Dinitrotoluene	81.1	10	µg/L	100		81.1	50-158			
Di-n-octylphthalate	81.4	10	µg/L	100		81.4	4-146			
1,2-Diphenylhydrazine (as Azobenzene)	74.6	10	µg/L	100		74.6	40-140			
Bis(2-Ethylhexyl)phthalate	75.1	10	µg/L	100		75.1	8-158			
Fluoranthene	63.9	5.0	µg/L	100		63.9	26-137			
Fluorene	60.5	5.0	µg/L	100		60.5	59-121			
Hexachlorobenzene	63.6	10	µg/L	100		63.6	1-152			
Hexachlorobutadiene	58.7	10	µg/L	100		58.7	24-116			
Hexachlorocyclopentadiene	63.2	10	µg/L	100		63.2	40-140			
Hexachloroethane	69.6	10	µg/L	100		69.6	40-113			
Isophorone	77.5	10	µg/L	100		77.5	21-196			
Naphthalene	61.1	5.0	µg/L	100		61.1	21-133			
Nitrobenzene	71.1	10	µg/L	100		71.1	35-180			
2-Nitrophenol	74.9	10	µg/L	100		74.9	29-182			
4-Nitrophenol	36.6	10	µg/L	100		36.6	1-132			
N-Nitrosodimethylamine	44.4	10	µg/L	100		44.4	40-140			
N-Nitrosodiphenylamine	82.3	10	µg/L	100		82.3	40-140			
N-Nitrosodi-n-propylamine	76.4	10	µg/L	100		76.4	1-230			
2-Methylnaphthalene	65.2	5.0	µg/L	100		65.2	40-140			
Phenanthrene	61.9	5.0	µg/L	100		61.9	54-120			

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QUALITY CONTROL
Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186688 - SW-846 3510C										
LCS (B186688-BS1)										
Prepared: 09/20/17 Analyzed: 09/22/17										
2-Methylphenol	67.0	10	µg/L	100		67.0	30-130			
Phenol	34.1	10	µg/L	100		34.1	5-112			
3/4-Methylphenol	63.1	10	µg/L	100		63.1	30-130			
Pyrene	64.6	5.0	µg/L	100		64.6	52-115			
1,2,4-Trichlorobenzene	64.2	5.0	µg/L	100		64.2	44-142			
2,4,6-Trichlorophenol	67.6	10	µg/L	100		67.6	37-144			
Surrogate: 2-Fluorophenol	101		µg/L	200		50.4	15-110			
Surrogate: Phenol-d6	71.3		µg/L	200		35.6	15-110			
Surrogate: Nitrobenzene-d5	78.3		µg/L	100		78.3	30-130			
Surrogate: 2-Fluorobiphenyl	69.2		µg/L	100		69.2	30-130			
Surrogate: 2,4,6-Tribromophenol	142		µg/L	200		70.8	15-110			
Surrogate: p-Terphenyl-d14	73.9		µg/L	100		73.9	30-130			
LCS Dup (B186688-BS1)										
Prepared: 09/20/17 Analyzed: 09/22/17										
Acenaphthene	56.3	5.0	µg/L	100		56.3	47-145	10.2		
Acenaphthylene	53.7	5.0	µg/L	100		53.7	33-145	9.32		
Anthracene	55.8	5.0	µg/L	100		55.8	27-133	10.7		
Benzidine	56.0	20	µg/L	100		56.0	40-140	21.9		V-04
Benzo(g,h,i)perylene	51.1	5.0	µg/L	100		51.1	1-219	12.0		
4-Bromophenylphenylether	55.2	10	µg/L	100		55.2	53-127	15.9		
Butylbenzylphthalate	62.5	10	µg/L	100		62.5	1-152	20.2		
4-Chloro-3-methylphenol	61.3	10	µg/L	100		61.3	22-147	13.4		
Bis(2-chloroethyl)ether	64.7	10	µg/L	100		64.7	12-158	19.4		
Bis(2-chloroisopropyl)ether	69.8	10	µg/L	100		69.8	36-166	20.0		
2-Chloronaphthalene	53.0	10	µg/L	100		53.0	* 60-118	8.10		L-04
2-Chlorophenol	59.0	10	µg/L	100		59.0	23-134	16.6		
4-Chlorophenylphenylether	56.1	10	µg/L	100		56.1	25-158	12.9		
Di-n-butylphthalate	59.8	10	µg/L	100		59.8	1-118	16.5		
1,3-Dichlorobenzene	56.8	5.0	µg/L	100		56.8	1-172	15.3		
1,4-Dichlorobenzene	56.7	5.0	µg/L	100		56.7	20-124	17.0		
1,2-Dichlorobenzene	57.6	5.0	µg/L	100		57.6	32-129	16.4		
3,3-Dichlorobenzidine	67.9	10	µg/L	100		67.9	1-262	11.0		
2,4-Dichlorophenol	59.2	10	µg/L	100		59.2	39-135	14.7		
Diethylphthalate	56.0	10	µg/L	100		56.0	1-114	14.3		
2,4-Dimethylphenol	57.7	10	µg/L	100		57.7	32-119	12.6		
Dimethylphthalate	58.6	10	µg/L	100		58.6	1-112	10.6		
4,6-Dinitro-2-methylphenol	74.7	10	µg/L	100		74.7	1-181	14.5		V-04, V-20
2,4-Dinitrophenol	81.4	10	µg/L	100		81.4	1-191	4.20		V-19, V-20
2,4-Dinitrotoluene	69.4	10	µg/L	100		69.4	39-139	10.8		
2,6-Dinitrotoluene	72.8	10	µg/L	100		72.8	50-158	10.8		
Di-n-octylphthalate	67.5	10	µg/L	100		67.5	4-146	18.7		
1,2-Diphenylhydrazine (as Azobenzene)	64.8	10	µg/L	100		64.8	40-140	14.2		
Bis(2-Ethylhexyl)phthalate	59.3	10	µg/L	100		59.3	8-158	23.4		
Fluoranthene	60.1	5.0	µg/L	100		60.1	26-137	6.09		
Fluorene	54.9	5.0	µg/L	100		54.9	* 59-121	9.60		L-07
Hexachlorobenzene	55.5	10	µg/L	100		55.5	1-152	13.5		
Hexachlorobutadiene	50.3	10	µg/L	100		50.3	24-116	15.5		
Hexachlorocyclopentadiene	53.9	10	µg/L	100		53.9	40-140	15.7		
Hexachloroethane	58.8	10	µg/L	100		58.8	40-113	16.9		
Isophorone	66.8	10	µg/L	100		66.8	21-196	14.8		
Naphthalene	53.7	5.0	µg/L	100		53.7	21-133	12.8		
Nitrobenzene	62.7	10	µg/L	100		62.7	35-180	12.5		

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QUALITY CONTROL
Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186688 - SW-846 3510C										
LCS Dup (B186688-BSD1)					Prepared: 09/20/17 Analyzed: 09/22/17					
2-Nitrophenol	66.7	10	µg/L	100		66.7	29-182	11.6		
4-Nitrophenol	35.0	10	µg/L	100		35.0	1-132	4.52		
N-Nitrosodimethylamine	40.8	10	µg/L	100		40.8	40-140	8.33		
N-Nitrosodiphenylamine	71.9	10	µg/L	100		71.9	40-140	13.6		
N-Nitrosodi-n-propylamine	62.0	10	µg/L	100		62.0	1-230	20.8		
2-Methylnaphthalene	56.8	5.0	µg/L	100		56.8	40-140	13.8	20	
Phenanthrene	56.1	5.0	µg/L	100		56.1	54-120	9.79		
2-Methylphenol	56.4	10	µg/L	100		56.4	30-130	17.2	20	
Phenol	28.8	10	µg/L	100		28.8	5-112	16.9		
3/4-Methylphenol	52.6	10	µg/L	100		52.6	30-130	18.2	20	
Pyrene	51.8	5.0	µg/L	100		51.8	* 52-115	22.0		L-07
1,2,4-Trichlorobenzene	56.0	5.0	µg/L	100		56.0	44-142	13.7		
2,4,6-Trichlorophenol	60.5	10	µg/L	100		60.5	37-144	11.1		
Surrogate: 2-Fluorophenol	86.4		µg/L	200		43.2	15-110			
Surrogate: Phenol-d6	60.6		µg/L	200		30.3	15-110			
Surrogate: Nitrobenzene-d5	67.7		µg/L	100		67.7	30-130			
Surrogate: 2-Fluorobiphenyl	61.4		µg/L	100		61.4	30-130			
Surrogate: 2,4,6-Tribromophenol	125		µg/L	200		62.5	15-110			
Surrogate: p-Terphenyl-d14	56.3		µg/L	100		56.3	30-130			

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QUALITY CONTROL
Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186668 - SW-846 3510C										
Blank (B186668-BLK1)										
Prepared: 09/20/17 Analyzed: 09/21/17										
Aroclor-1016	ND	0.10	µg/L							
Aroclor-1016 [2C]	ND	0.10	µg/L							
Aroclor-1221	ND	0.10	µg/L							
Aroclor-1221 [2C]	ND	0.10	µg/L							
Aroclor-1232	ND	0.10	µg/L							
Aroclor-1232 [2C]	ND	0.10	µg/L							
Aroclor-1242	ND	0.10	µg/L							
Aroclor-1242 [2C]	ND	0.10	µg/L							
Aroclor-1248	ND	0.10	µg/L							
Aroclor-1248 [2C]	ND	0.10	µg/L							
Aroclor-1254	ND	0.10	µg/L							
Aroclor-1254 [2C]	ND	0.10	µg/L							
Aroclor-1260	ND	0.10	µg/L							
Aroclor-1260 [2C]	ND	0.10	µg/L							
Surrogate: Decachlorobiphenyl	1.90		µg/L	2.00		94.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	2.15		µg/L	2.00		107	30-150			
Surrogate: Tetrachloro-m-xylene	1.93		µg/L	2.00		96.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.92		µg/L	2.00		96.2	30-150			
LCS (B186668-BS1)										
Prepared: 09/20/17 Analyzed: 09/21/17										
Aroclor-1016	0.51	0.20	µg/L	0.500		103	50-114			
Aroclor-1016 [2C]	0.52	0.20	µg/L	0.500		105	50-114			
Aroclor-1260	0.47	0.20	µg/L	0.500		93.8	8-127			
Aroclor-1260 [2C]	0.47	0.20	µg/L	0.500		94.1	8-127			
Surrogate: Decachlorobiphenyl	1.73		µg/L	2.00		86.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.95		µg/L	2.00		97.3	30-150			
Surrogate: Tetrachloro-m-xylene	1.83		µg/L	2.00		91.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.82		µg/L	2.00		91.2	30-150			
LCS Dup (B186668-BSD1)										
Prepared: 09/20/17 Analyzed: 09/21/17										
Aroclor-1016	0.52	0.20	µg/L	0.500		103	50-114	0.301		
Aroclor-1016 [2C]	0.54	0.20	µg/L	0.500		108	50-114	3.01		
Aroclor-1260	0.48	0.20	µg/L	0.500		96.9	8-127	3.22		
Aroclor-1260 [2C]	0.48	0.20	µg/L	0.500		95.2	8-127	1.16		
Surrogate: Decachlorobiphenyl	1.72		µg/L	2.00		85.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.95		µg/L	2.00		97.5	30-150			
Surrogate: Tetrachloro-m-xylene	1.82		µg/L	2.00		90.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.80		µg/L	2.00		90.2	30-150			

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QUALITY CONTROL
Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B186577 - EPA 245.1
Blank (B186577-BLK1)

Prepared: 09/19/17 Analyzed: 09/20/17

Mercury	ND	0.00010	mg/L
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LCS (B186577-BS1)

Prepared: 09/19/17 Analyzed: 09/20/17

Mercury	0.00186	0.00010	mg/L	0.00200	92.9	85-115
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LCS Dup (B186577-BSD1)

Prepared: 09/19/17 Analyzed: 09/20/17

Mercury	0.00190	0.00010	mg/L	0.00200	94.8	85-115	2.03	20
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Batch B186704 - EPA 200.7
Blank (B186704-BLK1)

Prepared: 09/20/17 Analyzed: 09/21/17

Iron	ND	0.050	mg/L
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LCS (B186704-BS1)

Prepared: 09/20/17 Analyzed: 09/21/17

Iron	4.00	0.050	mg/L	4.00	99.9	85-115
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LCS Dup (B186704-BSD1)

Prepared: 09/20/17 Analyzed: 09/21/17

Iron	4.05	0.050	mg/L	4.00	101	85-115	1.32	20
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Batch B186706 - EPA 200.8
Blank (B186706-BLK1)

Prepared: 09/20/17 Analyzed: 09/21/17

Antimony	ND	1.0	µg/L
Arsenic	ND	1.0	µg/L
Cadmium	ND	0.20	µg/L
Chromium	ND	10	µg/L
Copper	ND	1.0	µg/L
Lead	ND	0.50	µg/L
Nickel	ND	5.0	µg/L
Selenium	ND	5.0	µg/L
Silver	ND	0.20	µg/L
Zinc	ND	20	µg/L

LCS (B186706-BS1)

Prepared: 09/20/17 Analyzed: 09/21/17

Antimony	518	10	µg/L	500	104	85-115
Arsenic	521	10	µg/L	500	104	85-115
Cadmium	508	2.0	µg/L	500	102	85-115
Chromium	514	100	µg/L	500	103	85-115
Copper	998	10	µg/L	1000	99.8	85-115
Lead	517	5.0	µg/L	500	103	85-115
Nickel	501	50	µg/L	500	100	85-115
Selenium	519	50	µg/L	500	104	85-115
Silver	486	2.0	µg/L	500	97.3	85-115
Zinc	1070	200	µg/L	1000	107	85-115

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QUALITY CONTROL
Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B186706 - EPA 200.8
LCS Dup (B186706-BSD1)

Prepared: 09/20/17 Analyzed: 09/21/17

Antimony	533	10	µg/L	500		107	85-115	2.88	20	
Arsenic	543	10	µg/L	500		109	85-115	4.08	20	
Cadmium	524	2.0	µg/L	500		105	85-115	3.03	20	
Chromium	530	100	µg/L	500		106	85-115	3.05	20	
Copper	1050	10	µg/L	1000		105	85-115	4.73	20	
Lead	537	5.0	µg/L	500		107	85-115	3.90	20	
Nickel	526	50	µg/L	500		105	85-115	4.78	20	
Selenium	544	50	µg/L	500		109	85-115	4.73	20	
Silver	502	2.0	µg/L	500		100	85-115	3.11	20	
Zinc	1110	200	µg/L	1000		111	85-115	3.61	20	

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QUALITY CONTROL
Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B186544 - EPA 200.8 Dissolved
Blank (B186544-BLK1)

Prepared & Analyzed: 09/19/17

Antimony	ND	1.0	µg/L							
Arsenic	ND	1.0	µg/L							
Cadmium	ND	0.20	µg/L							
Chromium	ND	10	µg/L							
Copper	ND	1.0	µg/L							
Lead	ND	0.50	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	ND	5.0	µg/L							
Silver	ND	0.20	µg/L							
Zinc	ND	20	µg/L							

LCS (B186544-BS1)

Prepared & Analyzed: 09/19/17

Antimony	519	10	µg/L	500		104	85-115			
Arsenic	525	10	µg/L	500		105	85-115			
Cadmium	518	2.0	µg/L	500		104	85-115			
Chromium	535	100	µg/L	500		107	85-115			
Copper	1040	10	µg/L	1000		104	85-115			
Lead	538	5.0	µg/L	500		108	85-115			
Nickel	529	50	µg/L	500		106	85-115			
Selenium	532	50	µg/L	500		106	85-115			
Silver	536	2.0	µg/L	500		107	85-115			
Zinc	1100	200	µg/L	1000		110	85-115			

LCS Dup (B186544-BSD1)

Prepared & Analyzed: 09/19/17

Antimony	528	10	µg/L	500		106	85-115	1.73	20	
Arsenic	538	10	µg/L	500		108	85-115	2.40	20	
Cadmium	528	2.0	µg/L	500		106	85-115	1.95	20	
Chromium	555	100	µg/L	500		111	85-115	3.72	20	
Copper	1080	10	µg/L	1000		108	85-115	3.42	20	
Lead	546	5.0	µg/L	500		109	85-115	1.53	20	
Nickel	553	50	µg/L	500		111	85-115	4.30	20	
Selenium	539	50	µg/L	500		108	85-115	1.39	20	
Silver	547	2.0	µg/L	500		109	85-115	2.17	20	
Zinc	1130	200	µg/L	1000		113	85-115	2.44	20	

Duplicate (B186544-DUP1)
Source: 17I0770-01

Prepared & Analyzed: 09/19/17

Antimony	ND	5.0	µg/L		ND		NC	20		
Arsenic	21.1	5.0	µg/L		22.4		5.56	20		
Cadmium	ND	1.0	µg/L		ND		NC	20		
Chromium	ND	50	µg/L		ND		NC	20		
Copper	79.5	5.0	µg/L		93.2		15.8	20		
Lead	13.4	2.5	µg/L		13.4		0.259	20		
Nickel	ND	25	µg/L		ND		NC	20		
Selenium	51.5	25	µg/L		53.5		3.95	20		
Silver	ND	1.0	µg/L		ND		NC	20		
Zinc	ND	100	µg/L		ND		NC	20		

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QUALITY CONTROL
Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B186544 - EPA 200.8 Dissolved

Matrix Spike (B186544-MS1)		Source: 1710770-01		Prepared & Analyzed: 09/19/17						
Antimony	506	10	µg/L	500	ND	101	70-130			
Arsenic	532	10	µg/L	500	22.4	102	70-130			
Cadmium	442	2.0	µg/L	500	ND	88.4	70-130			
Chromium	522	100	µg/L	500	ND	104	70-130			
Copper	1020	10	µg/L	1000	93.2	92.3	70-130			
Lead	572	5.0	µg/L	500	13.4	112	70-130			
Nickel	500	50	µg/L	500	6.97	98.6	70-130			
Selenium	493	50	µg/L	500	53.5	87.9	70-130			
Silver	476	2.0	µg/L	500	ND	95.3	70-130			
Zinc	858	200	µg/L	1000	ND	85.8	70-130			

Batch B186556 - EPA 200.7 Dissolved

Blank (B186556-BLK1)		Prepared & Analyzed: 09/19/17								
Iron	ND	0.050	mg/L							
LCS (B186556-BS1)		Prepared & Analyzed: 09/19/17								
Iron	4.04	0.050	mg/L	4.00		101	85-115			
LCS Dup (B186556-BSD1)		Prepared & Analyzed: 09/19/17								
Iron	3.91	0.050	mg/L	4.00		97.7	85-115	3.33	20	
Duplicate (B186556-DUP1)		Source: 1710770-01		Prepared & Analyzed: 09/19/17						
Iron	11.9	0.050	mg/L		12.6			5.54	20	
Matrix Spike (B186556-MS1)		Source: 1710770-01		Prepared & Analyzed: 09/19/17						
Iron	14.6	0.050	mg/L	4.00	12.6	51.0 *	70-130			MS-07

Batch B186578 - EPA 245.1

Blank (B186578-BLK1)		Prepared: 09/19/17 Analyzed: 09/20/17								
Mercury	ND	0.00010	mg/L							
LCS (B186578-BS1)		Prepared: 09/19/17 Analyzed: 09/20/17								
Mercury	0.00202	0.00010	mg/L	0.00200		101	85-115			
LCS Dup (B186578-BSD1)		Prepared: 09/19/17 Analyzed: 09/20/17								
Mercury	0.00203	0.00010	mg/L	0.00200		102	85-115	0.675	20	

Batch B186698 - EPA 200.8 Dissolved

Blank (B186698-BLK1)		Prepared: 09/20/17 Analyzed: 09/22/17								
Antimony	ND	1.0	µg/L							
Arsenic	ND	1.0	µg/L							
Cadmium	ND	0.20	µg/L							
Chromium	ND	10	µg/L							
Copper	ND	1.0	µg/L							
Lead	ND	0.50	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	ND	5.0	µg/L							
Silver	ND	0.20	µg/L							
Zinc	ND	20	µg/L							

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QUALITY CONTROL
Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B186698 - EPA 200.8 Dissolved
LCS (B186698-BS1)

Prepared: 09/20/17 Analyzed: 09/22/17

Antimony	539	10	µg/L	500		108	85-115			
Arsenic	547	10	µg/L	500		109	85-115			
Cadmium	534	2.0	µg/L	500		107	85-115			
Chromium	518	100	µg/L	500		104	85-115			
Copper	1040	10	µg/L	1000		104	85-115			
Lead	541	5.0	µg/L	500		108	85-115			
Nickel	522	50	µg/L	500		104	85-115			
Selenium	540	50	µg/L	500		108	85-115			
Silver	460	2.0	µg/L	500		92.0	85-115			
Zinc	1100	200	µg/L	1000		110	85-115			

LCS Dup (B186698-BSD1)

Prepared: 09/20/17 Analyzed: 09/22/17

Antimony	534	10	µg/L	500		107	85-115	0.838	20	
Arsenic	544	10	µg/L	500		109	85-115	0.561	20	
Cadmium	528	2.0	µg/L	500		106	85-115	1.11	20	
Chromium	513	100	µg/L	500		103	85-115	1.01	20	
Copper	1030	10	µg/L	1000		103	85-115	0.835	20	
Lead	534	5.0	µg/L	500		107	85-115	1.23	20	
Nickel	518	50	µg/L	500		104	85-115	0.739	20	
Selenium	531	50	µg/L	500		106	85-115	1.69	20	
Silver	463	2.0	µg/L	500		92.7	85-115	0.735	20	
Zinc	1090	200	µg/L	1000		109	85-115	1.33	20	

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QUALITY CONTROL
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186528 - SM21-22 2540D										
Blank (B186528-BLK1)				Prepared & Analyzed: 09/19/17						
Total Suspended Solids	ND	2.5	mg/L							
LCS (B186528-BS1)				Prepared & Analyzed: 09/19/17						
Total Suspended Solids	224	10	mg/L	200		112	66.7-117			
Batch B186642 - EPA 1664B										
Blank (B186642-BLK1)				Prepared & Analyzed: 09/20/17						
Silica Gel Treated HEM (SGT-HEM)	ND	1.4	mg/L							
LCS (B186642-BS1)				Prepared & Analyzed: 09/20/17						
Silica Gel Treated HEM (SGT-HEM)	9.8		mg/L	10.0		98.0	64-132			
Duplicate (B186642-DUP1)				Source: 17I0770-02			Prepared & Analyzed: 09/20/17			
Silica Gel Treated HEM (SGT-HEM)	ND	1.6	mg/L		ND			NC	18	
Matrix Spike (B186642-MS1)				Source: 17I0770-02			Prepared & Analyzed: 09/20/17			
Silica Gel Treated HEM (SGT-HEM)	89	14	mg/L	100	ND	89.0	64-132			
Batch B186650 - EPA 420.1										
Blank (B186650-BLK1)				Prepared & Analyzed: 09/21/17						
Phenol	ND	0.050	mg/L							
LCS (B186650-BS1)				Prepared & Analyzed: 09/21/17						
Phenol	0.52	0.050	mg/L	0.500		103	71.1-117			
LCS Dup (B186650-BSD1)				Prepared & Analyzed: 09/21/17						
Phenol	0.51	0.050	mg/L	0.500		102	71.1-117	1.37	9.35	
Duplicate (B186650-DUP1)				Source: 17I0770-01			Prepared & Analyzed: 09/21/17			
Phenol	0.081	0.050	mg/L		0.074			8.99	20	
Matrix Spike (B186650-MS1)				Source: 17I0770-01			Prepared & Analyzed: 09/21/17			
Phenol	0.47	0.050	mg/L	0.500	0.074	78.4	32.8-147			

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QUALITY CONTROL
Drinking Water Organics EPA 504.1 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186764 - EPA 504 water										
Blank (B186764-BLK1)				Prepared & Analyzed: 09/21/17						
1,2-Dibromoethane (EDB)	ND	0.021	µg/L							
1,2-Dibromoethane (EDB) [2C]	ND	0.021	µg/L							
Surrogate: 1,3-Dibromopropane	0.900		µg/L	1.03		87.1	70-130			
Surrogate: 1,3-Dibromopropane [2C]	0.884		µg/L	1.03		85.5	70-130			
LCS (B186764-BS1)				Prepared & Analyzed: 09/21/17						
1,2-Dibromoethane (EDB)	0.168	0.021	µg/L	0.180		93.1	70-130			
1,2-Dibromoethane (EDB) [2C]	0.166	0.021	µg/L	0.180		92.0	70-130			
Surrogate: 1,3-Dibromopropane	0.935		µg/L	1.03		90.8	70-130			
Surrogate: 1,3-Dibromopropane [2C]	0.940		µg/L	1.03		91.3	70-130			
LCS Dup (B186764-BSD1)				Prepared & Analyzed: 09/21/17						
1,2-Dibromoethane (EDB)	0.176	0.021	µg/L	0.183		96.6	70-130	4.89		
1,2-Dibromoethane (EDB) [2C]	0.172	0.021	µg/L	0.183		94.3	70-130	3.73		
Surrogate: 1,3-Dibromopropane	0.964		µg/L	1.04		92.4	70-130			
Surrogate: 1,3-Dibromopropane [2C]	0.977		µg/L	1.04		93.7	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch '[none]' - Alcohol Prep

BLK (BATCH-BLK1 (Water))

Prepared: Analyzed: 09/21/17

Ethanol	ND	2000	µg/L			100	70-130		0	
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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

EPA 608

LCS

Lab Sample ID: B186668-BS1 Date(s) Analyzed 09/21/2017 09/21/2017
Instrument ID (1): ECD10 Instrument ID (2): ECD10
GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.51	
	2	0.000	0.000	0.000	0.52	1.9
Aroclor-1260	1	0.000	0.000	0.000	0.47	
	2	0.000	0.000	0.000	0.47	0.0

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***EPA 608***LCS Dup**

Lab Sample ID: B186668-BSD1 Date(s) Analyzed 09/21/2017 09/21/2017
Instrument ID (1): ECD10 Instrument ID (2): ECD10
GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.52	
	2	0.000	0.000	0.000	0.54	3.8
Aroclor-1260	1	0.000	0.000	0.000	0.48	
	2	0.000	0.000	0.000	0.48	0.0

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**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***EPA 504.1***LCS**Lab Sample ID: B186764-BS1 Date(s) Analyzed 09/21/2017 09/21/2017

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
1,2-Dibromoethane (EDB)	1	2.873	0.000	0.000	0.168	
	2	2.855	0.000	0.000	0.166	2.4

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**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***EPA 504.1***LCS Dup**Lab Sample ID: B186764-BSD1 Date(s) Analyzed 09/21/2017 09/21/2017

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
1,2-Dibromoethane (EDB)	1	2.874	0.000	0.000	0.176	
	2	2.856	0.000	0.000	0.172	4.6

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
B	Analyte is found in the associated blank as well as in the sample.
DL-01	Elevated reporting limits for all volatile compounds due to foaming sample matrix.
DL-15	Sample required a dilution due to low internal standard recovery of the lesser diluted digestion, reporting limit is elevated.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
MS-07	Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.
R-02	Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.
V-04	Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-19	Initial calibration did not meet method specifications. Compound was calibrated using linear regression with correlation coefficient <0.99. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 200.7 in Water</i>	
Iron	CT,MA,NH,NY,RI,NC,ME,VA
Iron	CT,MA,NH,NY,RI,NC,ME,VA
<i>EPA 200.8 in Water</i>	
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Arsenic	CT,MA,NH,NY,RI,NC,ME,VA
Arsenic	CT,MA,NH,NY,RI,NC,ME,VA
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Lead	CT,MA,NH,NY,RI,NC,ME,VA
Lead	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Selenium	CT,MA,NH,NY,RI,NC,ME,VA
Selenium	CT,MA,NH,NY,RI,NC,ME,VA
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,RI,NY,NC,ME,VA
Zinc	CT,MA,NH,NY,RI,NC,ME,VA
<i>EPA 245.1 in Water</i>	
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
<i>EPA 420.1 in Water</i>	
Phenol	CT,MA,NH,NY,RI,NC,ME,VA
<i>EPA 608 in Water</i>	
Aroclor-1016	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1016 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1221	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1221 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1232	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1232 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1242	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1242 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1248	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1248 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1254	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1254 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1260	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1260 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
<i>EPA 624 in Water</i>	
Acetone	NH,NY

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 624 in Water</i>	
Benzene	CT,MA,NH,NY,RI,NC,ME,VA
Carbon Tetrachloride	CT,MA,NH,NY,RI,NC,ME,VA
1,2-Dichlorobenzene	CT,MA,NH,NY,RI,NC,ME,VA
1,3-Dichlorobenzene	CT,MA,NH,NY,RI,NC,ME,VA
1,4-Dichlorobenzene	CT,MA,NH,NY,RI,NC,ME,VA
1,2-Dichloroethane	CT,MA,NH,NY,RI,NC,ME,VA
1,1-Dichloroethane	CT,MA,NH,NY,RI,NC,ME,VA
1,1-Dichloroethylene	CT,MA,NH,NY,RI,NC,ME,VA
Ethylbenzene	CT,MA,NH,NY,RI,NC,ME,VA
Methyl tert-Butyl Ether (MTBE)	NH,NY,NC
Methylene Chloride	CT,MA,NH,NY,RI,NC,ME,VA
Naphthalene	NC
Tetrachloroethylene	CT,MA,NH,NY,RI,NC,ME,VA
Toluene	CT,MA,NH,NY,RI,NC,ME,VA
1,2,4-Trichlorobenzene	NC
1,1,1-Trichloroethane	CT,MA,NH,NY,RI,NC,ME,VA
1,1,2-Trichloroethane	CT,MA,NH,NY,RI,NC,ME,VA
Trichloroethylene	CT,MA,NH,NY,RI,NC,ME,VA
Vinyl Chloride	CT,MA,NH,NY,RI,NC,ME,VA
m+p Xylene	CT,MA,NH,NY,RI,NC,VA
o-Xylene	CT,MA,NH,NY,RI,NC,VA
<i>EPA 625 in Water</i>	
Acenaphthene	CT,MA,NH,NY,NC,RI,ME,VA
Acenaphthylene	CT,MA,NH,NY,NC,RI,ME,VA
Anthracene	CT,MA,NH,NY,NC,RI,ME,VA
Benidine	CT,MA,NH,NY,NC,RI,ME,VA
Benzo(a)anthracene	CT,MA,NH,NY,NC,RI,ME,VA
Benzo(a)pyrene	CT,MA,NH,NY,NC,RI,ME,VA
Benzo(b)fluoranthene	CT,MA,NH,NY,NC,RI,ME,VA
Benzo(g,h,i)perylene	CT,MA,NH,NY,NC,RI,ME,VA
Benzo(k)fluoranthene	CT,MA,NH,NY,NC,RI,ME,VA
4-Bromophenylphenylether	CT,MA,NH,NY,NC,RI,ME,VA
Butylbenzylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
4-Chloro-3-methylphenol	CT,MA,NH,NY,NC,RI,VA
Bis(2-chloroethyl)ether	CT,MA,NH,NY,NC,RI,ME,VA
Bis(2-chloroisopropyl)ether	CT,MA,NH,NY,NC,RI,ME,VA
2-Chloronaphthalene	CT,MA,NH,NY,NC,RI,ME,VA
2-Chlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
4-Chlorophenylphenylether	CT,MA,NH,NY,NC,RI,ME,VA
Chrysene	CT,MA,NH,NY,NC,RI,ME,VA
Dibenz(a,h)anthracene	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-butylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
1,3-Dichlorobenzene	MA,NC
1,4-Dichlorobenzene	MA,NC
1,2-Dichlorobenzene	MA,NC
3,3-Dichlorobenzidine	CT,MA,NH,NY,NC,RI,ME,VA

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 625 in Water</i>	
2,4-Dichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
Diethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dimethylphenol	CT,MA,NH,NY,NC,RI,ME,VA
Dimethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
4,6-Dinitro-2-methylphenol	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dinitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dinitrotoluene	CT,MA,NH,NY,NC,RI,ME,VA
2,6-Dinitrotoluene	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-octylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
1,2-Diphenylhydrazine (as Azobenzene)	NC
Bis(2-Ethylhexyl)phthalate	CT,MA,NH,NY,NC,RI,ME,VA
Fluoranthene	CT,MA,NH,NY,NC,RI,ME,VA
Fluorene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorobenzene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorobutadiene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorocyclopentadiene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachloroethane	CT,MA,NH,NY,NC,RI,ME,VA
Indeno(1,2,3-cd)pyrene	CT,MA,NH,NY,NC,RI,ME,VA
Isophorone	CT,MA,NH,NY,NC,RI,ME,VA
Naphthalene	CT,MA,NH,NY,NC,RI,ME,VA
Nitrobenzene	CT,MA,NH,NY,NC,RI,ME,VA
2-Nitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
4-Nitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodimethylamine	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodiphenylamine	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodi-n-propylamine	CT,MA,NH,NY,NC,RI,ME,VA
Pentachlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
2-Methylnaphthalene	NC
Phenanthrene	CT,MA,NH,NY,NC,RI,ME,VA
2-Methylphenol	NY,NC
Phenol	CT,MA,NH,NY,NC,RI,ME,VA
3/4-Methylphenol	NY,NC
Pyrene	CT,MA,NH,NY,NC,RI,ME,VA
1,2,4-Trichlorobenzene	CT,MA,NH,NY,NC,RI,ME,VA
2,4,6-Trichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
2-Fluorophenol	NC
<i>SM19-22 4500 NH3 C in Water</i>	
Ammonia as N	NY,MA,CT,RI,VA,NC,ME
<i>SM21-22 2540D in Water</i>	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
<i>SM21-22 4500 CN E in Water</i>	
Cyanide	CT,MA,NH,NY,RI,NC,ME,VA
<i>SW-846 8015C in Water</i>	
Ethanol	NY
<i>SW-846 8270D in Water</i>	

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8270D in Water</i>	
Acenaphthene	CT,NY,NC,ME,NH,VA,NJ
Acenaphthylene	CT,NY,NC,ME,NH,VA,NJ
Anthracene	CT,NY,NC,ME,NH,VA,NJ
Benidine	CT,NY,NC,ME,NH,VA,NJ
Benzo(a)anthracene	CT,NY,NC,ME,NH,VA,NJ
Benzo(a)pyrene	CT,NY,NC,ME,NH,VA,NJ
Benzo(b)fluoranthene	CT,NY,NC,ME,NH,VA,NJ
Benzo(g,h,i)perylene	CT,NY,NC,ME,NH,VA,NJ
Benzo(k)fluoranthene	CT,NY,NC,ME,NH,VA,NJ
Bis(2-chloroethyl)ether	CT,NY,NC,ME,NH,VA,NJ
Bis(2-chloroisopropyl)ether	CT,NY,NC,ME,NH,VA,NJ
Bis(2-Ethylhexyl)phthalate	CT,NY,NC,ME,NH,VA,NJ
4-Bromophenylphenylether	CT,NY,NC,ME,NH,VA,NJ
Butylbenzylphthalate	CT,NY,NC,ME,NH,VA,NJ
4-Chloro-3-methylphenol	CT,NY,NC,ME,NH,VA,NJ
2-Chloronaphthalene	CT,NY,NC,ME,NH,VA,NJ
2-Chlorophenol	CT,NY,NC,ME,NH,VA,NJ
4-Chlorophenylphenylether	CT,NY,NC,ME,NH,VA,NJ
Chrysene	CT,NY,NC,ME,NH,VA,NJ
Dibenz(a,h)anthracene	CT,NY,NC,ME,NH,VA,NJ
Di-n-butylphthalate	CT,NY,NC,ME,NH,VA,NJ
1,2-Dichlorobenzene	CT,NY,NC,ME,NH,VA,NJ
1,3-Dichlorobenzene	CT,NY,NC,ME,NH,VA,NJ
1,4-Dichlorobenzene	CT,NY,NC,ME,NH,VA,NJ
3,3-Dichlorobenzidine	CT,NY,NC,ME,NH,VA,NJ
2,4-Dichlorophenol	CT,NY,NC,ME,NH,VA,NJ
Diethylphthalate	CT,NY,NC,ME,NH,VA,NJ
2,4-Dimethylphenol	CT,NY,NC,ME,NH,VA,NJ
Dimethylphthalate	CT,NY,NC,ME,NH,VA,NJ
4,6-Dinitro-2-methylphenol	CT,NY,NC,ME,NH,VA,NJ
2,4-Dinitrophenol	CT,NY,NC,ME,NH,VA,NJ
2,4-Dinitrotoluene	CT,NY,NC,ME,NH,VA,NJ
2,6-Dinitrotoluene	CT,NY,NC,ME,NH,VA,NJ
Di-n-octylphthalate	CT,NY,NC,ME,NH,VA,NJ
1,2-Diphenylhydrazine (as Azobenzene)	NY,NC,ME
Fluoranthene	CT,NY,NC,ME,NH,VA,NJ
Fluorene	NY,NC,ME,NH,VA,NJ
Hexachlorobenzene	CT,NY,NC,ME,NH,VA,NJ
Hexachlorobutadiene	CT,NY,NC,ME,NH,VA,NJ
Hexachlorocyclopentadiene	CT,NY,NC,ME,NH,VA,NJ
Hexachloroethane	CT,NY,NC,ME,NH,VA,NJ
Indeno(1,2,3-cd)pyrene	CT,NY,NC,ME,NH,VA,NJ
Isophorone	CT,NY,NC,ME,NH,VA,NJ
2-Methylnaphthalene	CT,NY,NC,ME,NH,VA,NJ
2-Methylphenol	CT,NY,NC,NH,VA,NJ
3/4-Methylphenol	CT,NY,NC,NH,VA,NJ
Naphthalene	CT,NY,NC,ME,NH,VA,NJ

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8270D in Water</i>	
Nitrobenzene	CT,NY,NC,ME,NH,VA,NJ
2-Nitrophenol	CT,NY,NC,ME,NH,VA,NJ
4-Nitrophenol	CT,NY,NC,ME,NH,VA,NJ
N-Nitrosodimethylamine	CT,NY,NC,ME,NH,VA,NJ
N-Nitrosodiphenylamine	CT,NY,NC,ME,NH,VA,NJ
N-Nitrosodi-n-propylamine	CT,NY,NC,ME,NH,VA,NJ
Pentachlorophenol	CT,NY,NC,ME,NH,VA,NJ
Phenanthrene	CT,NY,NC,ME,NH,VA,NJ
Phenol	CT,NY,NC,ME,NH,VA,NJ
Pyrene	CT,NY,NC,ME,NH,VA,NJ
1,2,4-Trichlorobenzene	CT,NY,NC,ME,NH,VA,NJ
2,4,6-Trichlorophenol	CT,NY,NC,ME,NH,VA,NJ
2-Fluorophenol	NC,VA
Phenol-d6	VA
Nitrobenzene-d5	VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2018
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2018
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2018
RI	Rhode Island Department of Health	LAO00112	12/30/2017
NC	North Carolina Div. of Water Quality	652	12/31/2017
NJ	New Jersey DEP	MA007 NELAP	06/30/2018
FL	Florida Department of Health	E871027 NELAP	06/30/2018
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2018
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2017
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2018
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2018
NC-DW	North Carolina Department of Health	25703	07/31/2018

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com



con-test®
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False

Statement will be brought to the attention of the Client - State True or False

Client NStar/Eversource

Received By JM Date 9/18/17 Time 1756

How were the samples received? In Cooler T No Cooler On Ice T No Ice

Direct from Sampling Ambient Melted Ice

Were samples within Temperature? 2-6°C T By Gun # 1 Actual Temp - 3.3, 3.9, 4.1, 5.1

By Blank # Actual Temp -

Was Custody Seal Intact? N/A Were Samples Tampered with? N/A

Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all Client T Analysis T Sampler Name T

pertinent Information? Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? N/A Who was notified?

Are there Rushes? N/A Who was notified?

Are there Short Holds? N/A Who was notified?

Is there enough Volume? T

Is there Headspace where applicable? T MS/MSD? N/A

Proper Media/Containers Used? T Is splitting samples required? N/A

Were trip blanks received? N/A On COC? N/A

Do all samples have the proper pH? Acid T Base T

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.	31	1 Liter Plastic		16 oz Amb.
HCL-	24	500 mL Amb.	4	500 mL Plastic	4	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	12	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-	12	SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Unused Media

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:

December 2, 2016

Dean Bebis
Tighe & Bond, Inc. - Worcester
446 Main Street
Worcester, MA 01608-2303

Project Location: 350 East Eagle St. Boston, MA
Client Job Number:
Project Number: E-0754-03
Laboratory Work Order Number: 16K1051

Enclosed are results of analyses for samples received by the laboratory on November 18, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Meghan E. Kelley". The signature is written in a cursive, flowing style.

Meghan E. Kelley
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Tighe & Bond, Inc. - Worcester
446 Main Street
Worcester, MA 01608-2303
ATTN: Dean Bebis

REPORT DATE: 12/2/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: E-0754-03

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16K1051

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: 350 East Eagle St. Boston, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-1F	16K1051-01	Ground Water		EPA 1664B	
				EPA 300.0	
				EPA 420.1	
				EPA 504.1	
				SM 5310C	MA M-MA071/CT PH-0520
				SM19-22 4500 NH3 C	
				SM21-22 2320B	
				SM21-22 2340B	
				SM21-22 2540C	
				SM21-22 2540D	
				SM21-22 4500 CL G	
				SM21-22 4500 H B	
				SM21-22 4500-O C	
				SW-846 6020A-B	
				SW-846 7196A	
				SW-846 7470A	
				SW-846 8082A	
				SW-846 8260C	
				SW-846 8270D	
				SW-846 9014	
MW-1UF	16K1051-02	Ground Water		EPA 1664B	
				EPA 300.0	
				EPA 420.1	
				EPA 504.1	
				SM 5310C	MA M-MA071/CT PH-0520
				SM19-22 4500 NH3 C	
				SM21-22 2320B	
				SM21-22 2340B	
				SM21-22 2540C	
				SM21-22 2540D	
				SM21-22 4500 CL G	
				SM21-22 4500 H B	
				SM21-22 4500-O C	
				SW-846 6020A-B	
				SW-846 7196A	
				SW-846 7470A	
				SW-846 8082A	
				SW-846 8260C	
				SW-846 8270D	
				SW-846 9014	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

SM21-22 2540C**Qualifications:****R-02**

Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.

Analyte & Samples(s) Qualified:**Total Dissolved Solids**

16K1051-02[MW-1UF], B164024-DUP1

SM21-22 2540D**Qualifications:****R-04**

Duplicate relative percent difference (RPD) is a less useful indicator of sample precision for sample results that are <5 times the reporting limit (RL).

Analyte & Samples(s) Qualified:**Total Suspended Solids**

16K1051-02[MW-1UF], B163901-DUP1

SM21-22 4500 H B**Qualifications:****H-05**

Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.

Analyte & Samples(s) Qualified:**pH**

16K1051-01[MW-1F], 16K1051-02[MW-1UF]

SW-846 8260C**Qualifications:****L-02**

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

Analyte & Samples(s) Qualified:**Carbon Disulfide**

B164292-BS1, B164292-BSD1

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:**Hexachlorobutadiene**

B164292-BSD1

trans-1,2-Dichloroethylene

B164292-BSD1

RL-07

Elevated reporting limit based on lowest point in calibration.

MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:**1,1,1,2-Tetrachloroethane**

16K1051-01[MW-1F], 16K1051-02[MW-1UF]

1,2,3-Trichlorobenzene

16K1051-01[MW-1F], 16K1051-02[MW-1UF]

1,4-Dioxane

16K1051-01[MW-1F], 16K1051-02[MW-1UF]

Bromoform

16K1051-01[MW-1F], 16K1051-02[MW-1UF]

Bromomethane

16K1051-01[MW-1F], 16K1051-02[MW-1UF]

Chlorodibromomethane

16K1051-01[MW-1F], 16K1051-02[MW-1UF]

Hexachlorobutadiene

16K1051-01[MW-1F], 16K1051-02[MW-1UF]

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:**1,4-Dioxane**

16K1051-01[MW-1F], 16K1051-02[MW-1UF], B164292-BLK1, B164292-BS1, B164292-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:**Bromomethane**

B164292-BS1, B164292-BSD1

SW-846 8270D**Qualifications:****L-07A**

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.

Analyte & Samples(s) Qualified:**Aniline**

B163890-BSD1

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:**3,3-Dichlorobenzidine**

16K1051-01[MW-1F], 16K1051-02[MW-1UF], B163890-BLK1, B163890-BS1, B163890-BSD1

4-Chloroaniline

16K1051-01[MW-1F], 16K1051-02[MW-1UF], B163890-BLK1, B163890-BS1, B163890-BSD1

Aniline

16K1051-01[MW-1F], 16K1051-02[MW-1UF], B163890-BLK1, B163890-BS1, B163890-BSD1

RL-03

Elevated reporting limit based on lowest point in calibration.

Requested reporting limit not met.

Analyte & Samples(s) Qualified:**Hexachlorobenzene**

16K1051-01[MW-1F], 16K1051-02[MW-1UF], B163890-BLK1, B163890-BS1, B163890-BSD1

Hexachlorobutadiene

16K1051-01[MW-1F], 16K1051-02[MW-1UF], B163890-BLK1, B163890-BS1, B163890-BSD1

Pentachlorophenol

16K1051-01[MW-1F], 16K1051-02[MW-1UF], B163890-BLK1, B163890-BS1, B163890-BSD1

S-10

Sample was re-extracted outside of holding time since surrogate standard recovery was outside of control limits. Data from analysis performed outside of holding time is also reported since surrogate recovery is acceptable.

Analyte & Samples(s) Qualified:**1,4-Dioxane-d8**

16K1051-01[MW-1F], 16K1051-01RE1[MW-1F]

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:**Nitrobenzene**

16K1051-01[MW-1F], 16K1051-02[MW-1UF], B163890-BLK1, B163890-BS1, B163890-BSD1

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SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for "difficult analytes" where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

SW-846 8270D

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for "difficult analytes" listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa Worthington", is written over a light gray rectangular background.

Lisa A. Worthington
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1F

Sampled: 11/18/2016 11:00

Sample ID: 16K1051-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
tert-Amyl Methyl Ether (TAME)	1.3	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Benzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Bromoform	ND	5.0	µg/L	1	RL-07	SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Bromomethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	11/28/16	11/28/16 13:35	CMR
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
tert-Butyl Alcohol (TBA)	160	20	µg/L	1		SW-846 8260C	11/23/16	11/28/16 13:35	CMR
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
sec-Butylbenzene	1.4	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
tert-Butyl Ethyl Ether (TBEE)	1.4	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Chlorodibromomethane	ND	1.0	µg/L	1	RL-07	SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,4-Dioxane	ND	100	µg/L	1	RL-07, V-16	SW-846 8260C	11/28/16	11/28/16 13:35	CMR

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1F

Sampled: 11/18/2016 11:00

Sample ID: 16K1051-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Hexachlorobutadiene	ND	1.0	µg/L	1	RL-07	SW-846 8260C	11/28/16	11/28/16 13:35	CMR
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Methyl tert-Butyl Ether (MTBE)	4.7	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Styrene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	RL-07	SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Toluene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	RL-07	SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,2,4-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 13:35	CMR
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	98.4	70-130							
1,2-Dichloroethane-d4	98.4	70-130							
Toluene-d8	100	70-130							
Toluene-d8	100	70-130							
4-Bromofluorobenzene	98.0	70-130							
4-Bromofluorobenzene	98.0	70-130							

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1F

Sampled: 11/18/2016 11:00

Sample ID: 16K1051-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene (low)	0.48	0.30	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Acenaphthylene (low)	ND	0.30	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Acetophenone	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Aniline	ND	5.0	µg/L	1	R-05	SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Anthracene (low)	ND	0.20	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Benzo(a)anthracene (low)	ND	0.050	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Benzo(a)pyrene (low)	ND	0.10	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Benzo(b)fluoranthene (low)	ND	0.050	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Benzo(g,h,i)perylene (low)	ND	0.50	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Benzo(k)fluoranthene (low)	ND	0.20	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Bis(2-chloroethoxy)methane	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Bis(2-chloroethyl)ether	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Bis(2-Ethylhexyl)phthalate	ND	6.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
4-Bromophenylphenylether	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Butylbenzylphthalate	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
4-Chloroaniline	ND	10	µg/L	1	R-05	SW-846 8270D	11/21/16	11/22/16 13:15	BGL
2-Chloronaphthalene	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
2-Chlorophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Chrysene (low)	ND	0.20	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Dibenz(a,h)anthracene (low)	ND	0.20	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Dibenzofuran	ND	5.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Di-n-butylphthalate	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
1,2-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
1,3-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
1,4-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
3,3-Dichlorobenzidine	ND	10	µg/L	1	R-05	SW-846 8270D	11/21/16	11/22/16 13:15	BGL
2,4-Dichlorophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Diethylphthalate	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
2,4-Dimethylphenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Dimethylphthalate	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
2,4-Dinitrophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
2,4-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
2,6-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Di-n-octylphthalate	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Fluoranthene (low)	ND	0.50	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Fluorene (low)	ND	1.0	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Hexachlorobenzene	ND	2.0	µg/L	1	RL-03	SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Hexachlorobutadiene	ND	2.0	µg/L	1	RL-03	SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Hexachloroethane	ND	8.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Indeno(1,2,3-cd)pyrene (low)	ND	0.20	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Isophorone	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
2-Methylnaphthalene (low)	ND	1.0	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1F

Sampled: 11/18/2016 11:00

Sample ID: 16K1051-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
3/4-Methylphenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Naphthalene (low)	ND	1.0	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Nitrobenzene	ND	10	µg/L	1	V-20	SW-846 8270D	11/21/16	11/22/16 13:15	BGL
2-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
4-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Pentachlorophenol	ND	5.0	µg/L	1	RL-03	SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Phenanthrene (low)	0.079	0.050	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
Phenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Pyrene (low)	ND	1.0	µg/L	1		SW-846 8270D	11/21/16	11/28/16 11:33	CJM
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
2,4,5-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
2,4,6-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:15	BGL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2-Fluorophenol	41.1	15-110							
Phenol-d6	29.6	15-110							
Nitrobenzene-d5	72.1	30-130							
Nitrobenzene-d5 (low)	73.0	30-130							
2-Fluorobiphenyl	66.3	30-130							
2-Fluorobiphenyl (low)	86.1	30-130							
2,4,6-Tribromophenol	71.2	15-110							
p-Terphenyl-d14	71.4	30-130							
p-Terphenyl-d14 (low)	81.3	30-130							

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1F

Sampled: 11/18/2016 11:00

Sample ID: 16K1051-01

Sample Matrix: Ground Water

1,4-Dioxane by isotope dilution GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,4-Dioxane	ND	0.20	µg/L	1		SW-846 8270D	11/22/16	12/1/16 14:22	CJM
1,4-Dioxane	ND	0.20	µg/L	1		SW-846 8270D	12/1/16	12/2/16 10:54	CJM
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
1,4-Dioxane-d8	18.9		15-110		S-10		12/2/16 10:54		
1,4-Dioxane-d8	14.4 *		15-110		S-10		12/1/16 14:22		

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1F

Sampled: 11/18/2016 11:00

Sample ID: 16K1051-01

Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 2:57	JMB
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 2:57	JMB
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 2:57	JMB
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 2:57	JMB
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 2:57	JMB
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 2:57	JMB
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 2:57	JMB
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 2:57	JMB
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 2:57	JMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	40.9	30-150						11/23/16 2:57	
Decachlorobiphenyl [2]	40.8	30-150						11/23/16 2:57	
Tetrachloro-m-xylene [1]	60.0	30-150						11/23/16 2:57	
Tetrachloro-m-xylene [2]	65.0	30-150						11/23/16 2:57	

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1F

Sampled: 11/18/2016 11:00

Sample ID: 16K1051-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:34	MJH
Arsenic	ND	0.40	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:34	MJH
Barium	320	10	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:34	MJH
Beryllium	ND	0.40	µg/L	1		SW-846 6020A-B	11/19/16	11/23/16 3:55	MJH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:34	MJH
Chromium	ND	1.0	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:34	MJH
Lead	ND	1.0	µg/L	1		SW-846 6020A-B	11/19/16	11/23/16 3:55	MJH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	11/21/16	11/21/16 13:55	SHN
Nickel	7.0	5.0	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:34	MJH
Selenium	ND	5.0	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:34	MJH
Silver	ND	0.50	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:34	MJH
Thallium	ND	0.20	µg/L	1		SW-846 6020A-B	11/19/16	11/23/16 3:55	MJH
Vanadium	ND	5.0	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:34	MJH
Zinc	ND	10	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:34	MJH
Hardness	460	3.0	mg/L	1		SM21-22 2340B	11/22/16	11/28/16 9:19	QNW

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1F

Sampled: 11/18/2016 11:00

Sample ID: 16K1051-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Alkalinity	550	1.0	mg/L	1		SM21-22 2320B	11/28/16	11/28/16 12:15	MMH
Ammonia as N	7.8	0.30	mg/L	1		SM19-22 4500 NH3 C	11/22/16	11/28/16 13:30	VAK
Chloride	670	20	mg/L	20		EPA 300.0	11/28/16	11/28/16 14:58	JK
Chlorine, Residual	0.059	0.020	mg/L	1		SM21-22 4500 CL G	11/18/16	11/18/16 19:45	IS
Cyanide	0.28	0.010	mg/L	1		SW-846 9014	11/28/16	11/29/16 18:30	VAK
Dissolved Oxygen	ND	1.0	mg/L	1		SM21-22 4500-O C	11/18/16	11/18/16 19:11	DJM
Hexavalent Chromium	ND	0.0040	mg/L	1		SW-846 7196A	11/18/16	11/18/16 19:30	IS
pH @20.7°C	7.0		pH Units	1	H-05	SM21-22 4500 H B	11/19/16	11/19/16 12:30	IS
Phenol	ND	0.050	mg/L	1		EPA 420.1	11/29/16	12/1/16 12:00	LL
Total Suspended Solids	23	5.0	mg/L	1		SM21-22 2540D	11/21/16	11/21/16 14:05	LL
Silica Gel Treated HEM (SGT-HEM)	ND	1.4	mg/L	1		EPA 1664B	11/28/16	11/28/16 11:45	LL

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1F

Sampled: 11/18/2016 11:00

Sample ID: 16K1051-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Dissolved Solids	1500	10	mg/L	1		SM21-22 2540C	11/22/16	11/22/16 12:20	LL

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1F

Sampled: 11/18/2016 11:00

Sample ID: 16K1051-01

Sample Matrix: Ground Water

Drinking Water Organics EPA 504.1

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.021	µg/L	1		EPA 504.1	11/21/16	11/22/16 0:51	JMB
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
1,3-Dibromopropane (1)	107	70-130						11/22/16 0:51	

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1F

Sampled: 11/18/2016 11:00

Sample ID: 16K1051-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Organic Carbon	10	1	mg/L	1		SM 5310C		11/29/16 0:00	SAL

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1UF

Sampled: 11/18/2016 09:30

Sample ID: 16K1051-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
tert-Amyl Methyl Ether (TAME)	1.2	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Benzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Bromoform	ND	5.0	µg/L	1	RL-07	SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Bromomethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	11/28/16	11/28/16 14:06	CMR
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
tert-Butyl Alcohol (TBA)	150	20	µg/L	1		SW-846 8260C	11/23/16	11/28/16 14:06	CMR
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
sec-Butylbenzene	2.9	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
tert-Butyl Ethyl Ether (TBEE)	1.3	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Chlorodibromomethane	ND	1.0	µg/L	1	RL-07	SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,4-Dioxane	ND	100	µg/L	1	RL-07, V-16	SW-846 8260C	11/28/16	11/28/16 14:06	CMR

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1UF

Sampled: 11/18/2016 09:30

Sample ID: 16K1051-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Hexachlorobutadiene	ND	1.0	µg/L	1	RL-07	SW-846 8260C	11/28/16	11/28/16 14:06	CMR
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Methyl tert-Butyl Ether (MTBE)	4.4	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Styrene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	RL-07	SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Toluene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	RL-07	SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,2,4-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	11/28/16	11/28/16 14:06	CMR
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	96.2	70-130							
1,2-Dichloroethane-d4	96.2	70-130							
Toluene-d8	99.8	70-130							
Toluene-d8	99.8	70-130							
4-Bromofluorobenzene	100	70-130							
4-Bromofluorobenzene	100	70-130							

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1UF

Sampled: 11/18/2016 09:30

Sample ID: 16K1051-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene (low)	0.41	0.30	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Acenaphthylene (low)	ND	0.30	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Acetophenone	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Aniline	ND	5.0	µg/L	1	R-05	SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Anthracene (low)	ND	0.20	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Benzo(a)anthracene (low)	ND	0.050	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Benzo(a)pyrene (low)	ND	0.10	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Benzo(b)fluoranthene (low)	ND	0.050	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Benzo(g,h,i)perylene (low)	ND	0.50	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Benzo(k)fluoranthene (low)	ND	0.20	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Bis(2-chloroethoxy)methane	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Bis(2-chloroethyl)ether	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Bis(2-Ethylhexyl)phthalate	ND	6.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
4-Bromophenylphenylether	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Butylbenzylphthalate	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
4-Chloroaniline	ND	10	µg/L	1	R-05	SW-846 8270D	11/21/16	11/22/16 13:37	BGL
2-Chloronaphthalene	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
2-Chlorophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Chrysene (low)	ND	0.20	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Dibenz(a,h)anthracene (low)	ND	0.20	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Dibenzofuran	ND	5.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Di-n-butylphthalate	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
1,2-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
1,3-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
1,4-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
3,3-Dichlorobenzidine	ND	10	µg/L	1	R-05	SW-846 8270D	11/21/16	11/22/16 13:37	BGL
2,4-Dichlorophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Diethylphthalate	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
2,4-Dimethylphenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Dimethylphthalate	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
2,4-Dinitrophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
2,4-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
2,6-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Di-n-octylphthalate	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Fluoranthene (low)	ND	0.50	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Fluorene (low)	ND	1.0	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Hexachlorobenzene	ND	2.0	µg/L	1	RL-03	SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Hexachlorobutadiene	ND	2.0	µg/L	1	RL-03	SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Hexachloroethane	ND	8.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Indeno(1,2,3-cd)pyrene (low)	ND	0.20	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Isophorone	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
2-Methylnaphthalene (low)	ND	1.0	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1UF

Sampled: 11/18/2016 09:30

Sample ID: 16K1051-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
3/4-Methylphenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Naphthalene (low)	ND	1.0	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Nitrobenzene	ND	10	µg/L	1	V-20	SW-846 8270D	11/21/16	11/22/16 13:37	BGL
2-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
4-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Pentachlorophenol	ND	5.0	µg/L	1	RL-03	SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Phenanthrene (low)	ND	0.050	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
Phenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
Pyrene (low)	ND	1.0	µg/L	1		SW-846 8270D	11/21/16	11/28/16 12:02	CJM
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
2,4,5-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL
2,4,6-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	11/21/16	11/22/16 13:37	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual
2-Fluorophenol	37.7	15-110	
Phenol-d6	26.4	15-110	
Nitrobenzene-d5	64.6	30-130	
Nitrobenzene-d5 (low)	59.3	30-130	
2-Fluorobiphenyl	55.8	30-130	
2-Fluorobiphenyl (low)	72.5	30-130	
2,4,6-Tribromophenol	63.8	15-110	
p-Terphenyl-d14	58.5	30-130	
p-Terphenyl-d14 (low)	63.2	30-130	

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1UF

Sampled: 11/18/2016 09:30

Sample ID: 16K1051-02

Sample Matrix: Ground Water

1,4-Dioxane by isotope dilution GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,4-Dioxane	ND	0.20	µg/L	1		SW-846 8270D	11/22/16	12/1/16 12:41	CJM
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
1,4-Dioxane-d8	19.5	15-110						12/1/16 12:41	

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1UF

Sampled: 11/18/2016 09:30

Sample ID: 16K1051-02

Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 3:10	JMB
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 3:10	JMB
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 3:10	JMB
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 3:10	JMB
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 3:10	JMB
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 3:10	JMB
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 3:10	JMB
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 3:10	JMB
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	11/22/16	11/23/16 3:10	JMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	60.9	30-150						11/23/16 3:10	
Decachlorobiphenyl [2]	66.1	30-150						11/23/16 3:10	
Tetrachloro-m-xylene [1]	67.7	30-150						11/23/16 3:10	
Tetrachloro-m-xylene [2]	72.2	30-150						11/23/16 3:10	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1UF

Sampled: 11/18/2016 09:30

Sample ID: 16K1051-02

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:38	MJH
Arsenic	ND	0.40	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:38	MJH
Barium	300	10	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:38	MJH
Beryllium	ND	0.40	µg/L	1		SW-846 6020A-B	11/19/16	11/23/16 3:58	MJH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:38	MJH
Chromium	ND	1.0	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:38	MJH
Lead	5.9	1.0	µg/L	1		SW-846 6020A-B	11/19/16	11/23/16 3:58	MJH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	11/21/16	11/21/16 13:56	SHN
Nickel	7.1	5.0	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:38	MJH
Selenium	ND	5.0	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:38	MJH
Silver	ND	0.50	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:38	MJH
Thallium	ND	0.20	µg/L	1		SW-846 6020A-B	11/19/16	11/23/16 3:58	MJH
Vanadium	ND	5.0	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:38	MJH
Zinc	ND	10	µg/L	1		SW-846 6020A-B	11/19/16	11/22/16 5:38	MJH
Hardness	450	3.0	mg/L	1		SM21-22 2340B	11/22/16	11/28/16 9:19	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1UF

Sampled: 11/18/2016 09:30

Sample ID: 16K1051-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Alkalinity	590	1.0	mg/L	1		SM21-22 2320B	11/28/16	11/28/16 12:15	MMH
Ammonia as N	8.1	0.30	mg/L	1		SM19-22 4500 NH3 C	11/22/16	11/28/16 13:30	VAK
Chloride	690	20	mg/L	20		EPA 300.0	11/28/16	11/28/16 16:07	JK
Chlorine, Residual	ND	0.020	mg/L	1		SM21-22 4500 CL G	11/18/16	11/18/16 19:45	IS
Cyanide	0.29	0.010	mg/L	1		SW-846 9014	11/28/16	11/29/16 18:30	VAK
Dissolved Oxygen	ND	1.0	mg/L	1		SM21-22 4500-O C	11/18/16	11/18/16 19:11	DJM
Hexavalent Chromium	ND	0.0040	mg/L	1		SW-846 7196A	11/18/16	11/18/16 19:30	IS
pH @20.6°C	6.9		pH Units	1	H-05	SM21-22 4500 H B	11/19/16	11/19/16 12:30	IS
Phenol	ND	0.050	mg/L	1		EPA 420.1	11/29/16	12/1/16 12:00	LL
Total Suspended Solids	11	5.0	mg/L	1	R-04	SM21-22 2540D	11/21/16	11/21/16 14:05	LL
Silica Gel Treated HEM (SGT-HEM)	ND	1.4	mg/L	1		EPA 1664B	11/28/16	11/28/16 11:45	LL

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1UF

Sampled: 11/18/2016 09:30

Sample ID: 16K1051-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Dissolved Solids	1600	10	mg/L	1	R-02	SM21-22 2540C	11/22/16	11/22/16 12:20	LL

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1UF

Sampled: 11/18/2016 09:30

Sample ID: 16K1051-02

Sample Matrix: Ground Water

Drinking Water Organics EPA 504.1

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.021	µg/L	1		EPA 504.1	11/21/16	11/22/16 1:14	JMB
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
1,3-Dibromopropane (1)	110	70-130						11/22/16 1:14	

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Project Location: 350 East Eagle St. Boston, MA

Sample Description:

Work Order: 16K1051

Date Received: 11/18/2016

Field Sample #: MW-1UF

Sampled: 11/18/2016 09:30

Sample ID: 16K1051-02

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Total Organic Carbon	9.98	1	mg/L	1		SM 5310C		11/29/16 0:00	SAL

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Sample Extraction Data**EPA 1664B**

Lab Number [Field ID]	Batch	Initial [mL]	Date	
16K1051-01 [MW-1F]	B164250	1000	11/28/16	
16K1051-02 [MW-1UF]	B164250	1000	11/28/16	

EPA 300.0

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B164345	10.0	10.0	11/28/16
16K1051-02 [MW-1UF]	B164345	10.0	10.0	11/28/16

EPA 420.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B164401	50.0	50.0	11/29/16
16K1051-02 [MW-1UF]	B164401	50.0	50.0	11/29/16

Prep Method: EPA 504 water-EPA 504.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B163922	33.4	35.0	11/21/16
16K1051-02 [MW-1UF]	B163922	33.7	35.0	11/21/16

SM19-22 4500 NH3 C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B164064	100	100	11/22/16
16K1051-02 [MW-1UF]	B164064	100	100	11/22/16

SM21-22 2320B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B164266	100	100	11/28/16
16K1051-02 [MW-1UF]	B164266	100	100	11/28/16

Prep Method: SW-846 3005A-SM21-22 2340B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B164030	50.0	50.0	11/22/16
16K1051-02 [MW-1UF]	B164030	50.0	50.0	11/22/16

SM21-22 2540C

Lab Number [Field ID]	Batch	Initial [mL]	Date	
16K1051-01 [MW-1F]	B164024	50.0	11/22/16	
16K1051-02 [MW-1UF]	B164024	50.0	11/22/16	

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Sample Extraction Data**SM21-22 2540D**

Lab Number [Field ID]	Batch	Initial [mL]	Date	
16K1051-01 [MW-1F]	B163901	100	11/21/16	
16K1051-02 [MW-1UF]	B163901	100	11/21/16	

SM21-22 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B163841	100	100	11/18/16
16K1051-02 [MW-1UF]	B163841	100	100	11/18/16

SM21-22 4500 H B

Lab Number [Field ID]	Batch	Initial [mL]	Date	
16K1051-01 [MW-1F]	B163867	50.0	11/19/16	
16K1051-02 [MW-1UF]	B163867	50.0	11/19/16	

SM21-22 4500-O C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B163838	300	300	11/18/16
16K1051-02 [MW-1UF]	B163838	300	300	11/18/16

Prep Method: SW-846 3005A-SW-846 6020A-B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B163852	50.0	50.0	11/19/16
16K1051-02 [MW-1UF]	B163852	50.0	50.0	11/19/16

SW-846 7196A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B163842	50.0	50.0	11/18/16
16K1051-02 [MW-1UF]	B163842	50.0	50.0	11/18/16

Prep Method: SW-846 7470A Prep-SW-846 7470A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B163903	6.00	6.00	11/21/16
16K1051-02 [MW-1UF]	B163903	6.00	6.00	11/21/16

Prep Method: SW-846 3510C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B164023	1000	10.0	11/22/16
16K1051-02 [MW-1UF]	B164023	1000	10.0	11/22/16

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Sample Extraction Data**Prep Method: SW-846 5030B-SW-846 8260C**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B164292	5	5.00	11/23/16
16K1051-01 [MW-1F]	B164292	5	5.00	11/28/16
16K1051-02 [MW-1UF]	B164292	5	5.00	11/23/16
16K1051-02 [MW-1UF]	B164292	5	5.00	11/28/16

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B163890	1000	1.00	11/21/16
16K1051-02 [MW-1UF]	B163890	1000	1.00	11/21/16

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B164067	1000	1.00	11/22/16
16K1051-02 [MW-1UF]	B164067	1000	1.00	11/22/16

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01RE1 [MW-1F]	B164704	1000	1.00	12/01/16

SW-846 9014

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16K1051-01 [MW-1F]	B164305	50.0	50.0	11/28/16
16K1051-02 [MW-1UF]	B164305	50.0	50.0	11/28/16

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QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B164292 - SW-846 5030B
Blank (B164292-BLK1)

Prepared & Analyzed: 11/28/16

Acetone	ND	10	µg/L
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L
Benzene	ND	1.0	µg/L
Bromobenzene	ND	1.0	µg/L
Bromochloromethane	ND	1.0	µg/L
Bromodichloromethane	ND	1.0	µg/L
Bromoform	ND	1.0	µg/L
Bromomethane	ND	2.0	µg/L
2-Butanone (MEK)	ND	10	µg/L
tert-Butyl Alcohol (TBA)	ND	20	µg/L
n-Butylbenzene	ND	1.0	µg/L
sec-Butylbenzene	ND	1.0	µg/L
tert-Butylbenzene	ND	1.0	µg/L
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L
Carbon Disulfide	ND	5.0	µg/L
Carbon Tetrachloride	ND	1.0	µg/L
Chlorobenzene	ND	1.0	µg/L
Chlorodibromomethane	ND	0.50	µg/L
Chloroethane	ND	2.0	µg/L
Chloroform	ND	2.0	µg/L
Chloromethane	ND	2.0	µg/L
2-Chlorotoluene	ND	1.0	µg/L
4-Chlorotoluene	ND	1.0	µg/L
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L
1,2-Dibromoethane (EDB)	ND	0.50	µg/L
Dibromomethane	ND	1.0	µg/L
1,2-Dichlorobenzene	ND	1.0	µg/L
1,3-Dichlorobenzene	ND	1.0	µg/L
1,4-Dichlorobenzene	ND	1.0	µg/L
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L
1,1-Dichloroethane	ND	1.0	µg/L
1,2-Dichloroethane	ND	1.0	µg/L
1,1-Dichloroethylene	ND	1.0	µg/L
cis-1,2-Dichloroethylene	ND	1.0	µg/L
trans-1,2-Dichloroethylene	ND	1.0	µg/L
1,2-Dichloropropane	ND	1.0	µg/L
1,3-Dichloropropane	ND	0.50	µg/L
2,2-Dichloropropane	ND	1.0	µg/L
1,1-Dichloropropene	ND	0.50	µg/L
cis-1,3-Dichloropropene	ND	0.40	µg/L
trans-1,3-Dichloropropene	ND	0.40	µg/L
Diethyl Ether	ND	2.0	µg/L
Diisopropyl Ether (DIPE)	ND	0.50	µg/L
1,4-Dioxane	ND	50	µg/L
Ethylbenzene	ND	1.0	µg/L
Hexachlorobutadiene	ND	0.60	µg/L
2-Hexanone (MBK)	ND	10	µg/L
Isopropylbenzene (Cumene)	ND	1.0	µg/L
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L
Methylene Chloride	ND	5.0	µg/L
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L

V-16

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B164292 - SW-846 5030B										
Blank (B164292-BLK1)				Prepared & Analyzed: 11/28/16						
Naphthalene	ND	2.0	µg/L							
n-Propylbenzene	ND	1.0	µg/L							
Styrene	ND	1.0	µg/L							
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Tetrahydrofuran	ND	2.0	µg/L							
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	2.0	µg/L							
1,2,4-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	1.0	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							
1,2,3-Trichloropropane	ND	2.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
1,3,5-Trimethylbenzene	ND	1.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	24.1		µg/L	25.0		96.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	24.1		µg/L	25.0		96.3	70-130			
Surrogate: Toluene-d8	25.3		µg/L	25.0		101	70-130			
Surrogate: Toluene-d8	25.3		µg/L	25.0		101	70-130			
Surrogate: 4-Bromofluorobenzene	24.8		µg/L	25.0		99.1	70-130			
Surrogate: 4-Bromofluorobenzene	24.8		µg/L	25.0		99.1	70-130			
LCS (B164292-BS1)				Prepared & Analyzed: 11/28/16						
Acetone	89.6	10	µg/L	100		89.6	40-160			†
tert-Amyl Methyl Ether (TAME)	10.7	0.50	µg/L	10.0		107	70-130			
Benzene	11.1	1.0	µg/L	10.0		111	70-130			
Bromobenzene	11.1	1.0	µg/L	10.0		111	70-130			
Bromochloromethane	12.0	1.0	µg/L	10.0		120	70-130			
Bromodichloromethane	12.4	1.0	µg/L	10.0		124	70-130			
Bromoform	10.8	1.0	µg/L	10.0		108	70-130			
Bromomethane	5.35	2.0	µg/L	10.0		53.5	40-160		L-14, V-20	†
2-Butanone (MEK)	97.5	10	µg/L	100		97.5	40-160			†
tert-Butyl Alcohol (TBA)	92.6	20	µg/L	100		92.6	40-160			†
n-Butylbenzene	11.7	1.0	µg/L	10.0		117	70-130			
sec-Butylbenzene	11.4	1.0	µg/L	10.0		114	70-130			
tert-Butylbenzene	11.0	1.0	µg/L	10.0		110	70-130			
tert-Butyl Ethyl Ether (TBEE)	11.0	0.50	µg/L	10.0		110	70-130			
Carbon Disulfide	13.1	5.0	µg/L	10.0		131	* 70-130		L-02	
Carbon Tetrachloride	11.8	1.0	µg/L	10.0		118	70-130			
Chlorobenzene	11.4	1.0	µg/L	10.0		114	70-130			
Chlorodibromomethane	11.8	0.50	µg/L	10.0		118	70-130			
Chloroethane	9.80	2.0	µg/L	10.0		98.0	70-130			
Chloroform	11.2	2.0	µg/L	10.0		112	70-130			
Chloromethane	7.45	2.0	µg/L	10.0		74.5	40-160			†
2-Chlorotoluene	11.2	1.0	µg/L	10.0		112	70-130			
4-Chlorotoluene	11.5	1.0	µg/L	10.0		115	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	10.1	2.0	µg/L	10.0		101	70-130			

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B164292 - SW-846 5030B										
LCS (B164292-BS1)				Prepared & Analyzed: 11/28/16						
1,2-Dibromoethane (EDB)	10.4	0.50	µg/L	10.0		104	70-130			
Dibromomethane	11.4	1.0	µg/L	10.0		114	70-130			
1,2-Dichlorobenzene	11.2	1.0	µg/L	10.0		112	70-130			
1,3-Dichlorobenzene	11.4	1.0	µg/L	10.0		114	70-130			
1,4-Dichlorobenzene	11.0	1.0	µg/L	10.0		110	70-130			
Dichlorodifluoromethane (Freon 12)	4.84	2.0	µg/L	10.0		48.4	40-160			L-14 †
1,1-Dichloroethane	11.8	1.0	µg/L	10.0		118	70-130			
1,2-Dichloroethane	11.6	1.0	µg/L	10.0		116	70-130			
1,1-Dichloroethylene	11.3	1.0	µg/L	10.0		113	70-130			
cis-1,2-Dichloroethylene	10.6	1.0	µg/L	10.0		106	70-130			
trans-1,2-Dichloroethylene	12.7	1.0	µg/L	10.0		127	70-130			
1,2-Dichloropropane	11.2	1.0	µg/L	10.0		112	70-130			
1,3-Dichloropropane	10.4	0.50	µg/L	10.0		104	70-130			
2,2-Dichloropropane	11.3	1.0	µg/L	10.0		113	70-130			
1,1-Dichloropropene	11.3	0.50	µg/L	10.0		113	70-130			
cis-1,3-Dichloropropene	11.1	0.40	µg/L	10.0		111	70-130			
trans-1,3-Dichloropropene	11.9	0.40	µg/L	10.0		119	70-130			
Diethyl Ether	11.4	2.0	µg/L	10.0		114	70-130			
Diisopropyl Ether (DIPE)	10.9	0.50	µg/L	10.0		109	70-130			
1,4-Dioxane	114	50	µg/L	100		114	40-160			V-16 †
Ethylbenzene	11.0	1.0	µg/L	10.0		110	70-130			
Hexachlorobutadiene	13.0	0.60	µg/L	10.0		130	70-130			
2-Hexanone (MBK)	105	10	µg/L	100		105	40-160			†
Isopropylbenzene (Cumene)	11.9	1.0	µg/L	10.0		119	70-130			
p-Isopropyltoluene (p-Cymene)	11.3	1.0	µg/L	10.0		113	70-130			
Methyl tert-Butyl Ether (MTBE)	10.4	1.0	µg/L	10.0		104	70-130			
Methylene Chloride	9.86	5.0	µg/L	10.0		98.6	70-130			
4-Methyl-2-pentanone (MIBK)	99.4	10	µg/L	100		99.4	40-160			†
Naphthalene	10.6	2.0	µg/L	10.0		106	70-130			
n-Propylbenzene	10.9	1.0	µg/L	10.0		109	70-130			
Styrene	11.0	1.0	µg/L	10.0		110	70-130			
1,1,1,2-Tetrachloroethane	10.6	1.0	µg/L	10.0		106	70-130			
1,1,2,2-Tetrachloroethane	11.0	0.50	µg/L	10.0		110	70-130			
Tetrachloroethylene	11.3	1.0	µg/L	10.0		113	70-130			
Tetrahydrofuran	11.0	2.0	µg/L	10.0		110	70-130			
Toluene	11.3	1.0	µg/L	10.0		113	70-130			
1,2,3-Trichlorobenzene	11.4	2.0	µg/L	10.0		114	70-130			
1,2,4-Trichlorobenzene	11.9	1.0	µg/L	10.0		119	70-130			
1,1,1-Trichloroethane	11.3	1.0	µg/L	10.0		113	70-130			
1,1,2-Trichloroethane	10.4	1.0	µg/L	10.0		104	70-130			
Trichloroethylene	11.9	1.0	µg/L	10.0		119	70-130			
Trichlorofluoromethane (Freon 11)	10.4	2.0	µg/L	10.0		104	70-130			
1,2,3-Trichloropropane	9.80	2.0	µg/L	10.0		98.0	70-130			
1,2,4-Trimethylbenzene	10.9	1.0	µg/L	10.0		109	70-130			
1,3,5-Trimethylbenzene	11.3	1.0	µg/L	10.0		113	70-130			
Vinyl Chloride	8.36	2.0	µg/L	10.0		83.6	70-130			
m+p Xylene	22.3	2.0	µg/L	20.0		111	70-130			
o-Xylene	10.9	1.0	µg/L	10.0		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	24.6		µg/L	25.0		98.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	24.6		µg/L	25.0		98.5	70-130			
Surrogate: Toluene-d8	24.7		µg/L	25.0		98.9	70-130			
Surrogate: Toluene-d8	24.7		µg/L	25.0		98.9	70-130			

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QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B164292 - SW-846 5030B										
LCS (B164292-BS1)					Prepared & Analyzed: 11/28/16					
Surrogate: 4-Bromofluorobenzene	25.2		µg/L	25.0		101	70-130			
Surrogate: 4-Bromofluorobenzene	25.2		µg/L	25.0		101	70-130			
LCS Dup (B164292-BS1)					Prepared & Analyzed: 11/28/16					
Acetone	88.8	10	µg/L	100		88.8	40-160	0.796	20	†
tert-Amyl Methyl Ether (TAME)	10.8	0.50	µg/L	10.0		108	70-130	0.837	20	
Benzene	11.3	1.0	µg/L	10.0		113	70-130	1.78	20	
Bromobenzene	11.1	1.0	µg/L	10.0		111	70-130	0.00	20	
Bromochloromethane	12.0	1.0	µg/L	10.0		120	70-130	0.00	20	
Bromodichloromethane	12.4	1.0	µg/L	10.0		124	70-130	0.404	20	
Bromoform	10.7	1.0	µg/L	10.0		107	70-130	0.651	20	
Bromomethane	6.17	2.0	µg/L	10.0		61.7	40-160	14.2	20	L-14, V-20 †
2-Butanone (MEK)	95.1	10	µg/L	100		95.1	40-160	2.54	20	†
tert-Butyl Alcohol (TBA)	93.9	20	µg/L	100		93.9	40-160	1.39	25	†
n-Butylbenzene	11.7	1.0	µg/L	10.0		117	70-130	0.428	20	
sec-Butylbenzene	11.4	1.0	µg/L	10.0		114	70-130	0.350	20	
tert-Butylbenzene	11.2	1.0	µg/L	10.0		112	70-130	1.26	20	
tert-Butyl Ethyl Ether (TBEE)	11.3	0.50	µg/L	10.0		113	70-130	2.15	20	
Carbon Disulfide	13.2	5.0	µg/L	10.0		132 *	70-130	0.684	20	L-02
Carbon Tetrachloride	11.8	1.0	µg/L	10.0		118	70-130	0.338	20	
Chlorobenzene	11.5	1.0	µg/L	10.0		115	70-130	0.788	20	
Chlorodibromomethane	11.7	0.50	µg/L	10.0		117	70-130	0.594	20	
Chloroethane	10.9	2.0	µg/L	10.0		109	70-130	10.6	20	
Chloroform	11.4	2.0	µg/L	10.0		114	70-130	1.51	20	
Chloromethane	7.63	2.0	µg/L	10.0		76.3	40-160	2.39	20	†
2-Chlorotoluene	11.5	1.0	µg/L	10.0		115	70-130	2.29	20	
4-Chlorotoluene	11.8	1.0	µg/L	10.0		118	70-130	2.15	20	
1,2-Dibromo-3-chloropropane (DBCP)	10.1	2.0	µg/L	10.0		101	70-130	0.495	20	
1,2-Dibromoethane (EDB)	10.6	0.50	µg/L	10.0		106	70-130	1.43	20	
Dibromomethane	11.7	1.0	µg/L	10.0		117	70-130	3.20	20	
1,2-Dichlorobenzene	11.2	1.0	µg/L	10.0		112	70-130	0.0895	20	
1,3-Dichlorobenzene	11.5	1.0	µg/L	10.0		115	70-130	0.436	20	
1,4-Dichlorobenzene	11.1	1.0	µg/L	10.0		111	70-130	0.452	20	
Dichlorodifluoromethane (Freon 12)	5.01	2.0	µg/L	10.0		50.1	40-160	3.45	20	L-14 †
1,1-Dichloroethane	11.9	1.0	µg/L	10.0		119	70-130	1.01	20	
1,2-Dichloroethane	11.8	1.0	µg/L	10.0		118	70-130	1.28	20	
1,1-Dichloroethylene	11.6	1.0	µg/L	10.0		116	70-130	2.53	20	
cis-1,2-Dichloroethylene	10.8	1.0	µg/L	10.0		108	70-130	1.78	20	
trans-1,2-Dichloroethylene	13.1	1.0	µg/L	10.0		131 *	70-130	2.71	20	L-07
1,2-Dichloropropane	11.5	1.0	µg/L	10.0		115	70-130	2.72	20	
1,3-Dichloropropane	10.7	0.50	µg/L	10.0		107	70-130	2.47	20	
2,2-Dichloropropane	11.6	1.0	µg/L	10.0		116	70-130	2.18	20	
1,1-Dichloropropene	11.6	0.50	µg/L	10.0		116	70-130	2.36	20	
cis-1,3-Dichloropropene	11.3	0.40	µg/L	10.0		113	70-130	1.69	20	
trans-1,3-Dichloropropene	11.8	0.40	µg/L	10.0		118	70-130	0.676	20	
Diethyl Ether	11.3	2.0	µg/L	10.0		113	70-130	1.06	20	
Diisopropyl Ether (DIPE)	11.1	0.50	µg/L	10.0		111	70-130	2.09	20	
1,4-Dioxane	112	50	µg/L	100		112	40-160	2.42	20	V-16 †
Ethylbenzene	11.1	1.0	µg/L	10.0		111	70-130	1.72	20	
Hexachlorobutadiene	13.2	0.60	µg/L	10.0		132 *	70-130	0.840	20	L-07
2-Hexanone (MBK)	104	10	µg/L	100		104	40-160	0.698	20	†
Isopropylbenzene (Cumene)	12.0	1.0	µg/L	10.0		120	70-130	1.09	20	

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QUALITY CONTROL
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B164292 - SW-846 5030B										
LCS Dup (B164292-BSD1)				Prepared & Analyzed: 11/28/16						
p-Isopropyltoluene (p-Cymene)	11.4	1.0	µg/L	10.0		114	70-130	0.880	20	
Methyl tert-Butyl Ether (MTBE)	10.6	1.0	µg/L	10.0		106	70-130	0.952	20	
Methylene Chloride	10.0	5.0	µg/L	10.0		100	70-130	1.71	20	
4-Methyl-2-pentanone (MIBK)	99.0	10	µg/L	100		99.0	40-160	0.383	20	†
Naphthalene	10.7	2.0	µg/L	10.0		107	70-130	0.753	20	
n-Propylbenzene	11.1	1.0	µg/L	10.0		111	70-130	1.09	20	
Styrene	11.2	1.0	µg/L	10.0		112	70-130	1.35	20	
1,1,1,2-Tetrachloroethane	11.2	1.0	µg/L	10.0		112	70-130	5.43	20	
1,1,2,2-Tetrachloroethane	10.9	0.50	µg/L	10.0		109	70-130	1.28	20	
Tetrachloroethylene	11.6	1.0	µg/L	10.0		116	70-130	2.89	20	
Tetrahydrofuran	11.2	2.0	µg/L	10.0		112	70-130	1.53	20	
Toluene	11.5	1.0	µg/L	10.0		115	70-130	2.19	20	
1,2,3-Trichlorobenzene	11.6	2.0	µg/L	10.0		116	70-130	1.04	20	
1,2,4-Trichlorobenzene	11.8	1.0	µg/L	10.0		118	70-130	1.43	20	
1,1,1-Trichloroethane	11.6	1.0	µg/L	10.0		116	70-130	2.97	20	
1,1,2-Trichloroethane	10.6	1.0	µg/L	10.0		106	70-130	1.81	20	
Trichloroethylene	12.3	1.0	µg/L	10.0		123	70-130	3.22	20	
Trichlorofluoromethane (Freon 11)	10.6	2.0	µg/L	10.0		106	70-130	2.01	20	
1,2,3-Trichloropropane	9.42	2.0	µg/L	10.0		94.2	70-130	3.95	20	
1,2,4-Trimethylbenzene	11.0	1.0	µg/L	10.0		110	70-130	0.274	20	
1,3,5-Trimethylbenzene	11.2	1.0	µg/L	10.0		112	70-130	0.356	20	
Vinyl Chloride	8.56	2.0	µg/L	10.0		85.6	70-130	2.36	20	
m+p Xylene	22.6	2.0	µg/L	20.0		113	70-130	1.43	20	
o-Xylene	10.9	1.0	µg/L	10.0		109	70-130	0.0918	20	
Surrogate: 1,2-Dichloroethane-d4	24.6		µg/L	25.0		98.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	24.6		µg/L	25.0		98.4	70-130			
Surrogate: Toluene-d8	24.7		µg/L	25.0		98.8	70-130			
Surrogate: Toluene-d8	24.7		µg/L	25.0		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	24.9		µg/L	25.0		99.4	70-130			
Surrogate: 4-Bromofluorobenzene	24.9		µg/L	25.0		99.4	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B163890 - SW-846 3510C										
Blank (B163890-BLK1)				Prepared: 11/21/16 Analyzed: 11/28/16						
Acenaphthene (low)	ND	0.30	µg/L							
Acenaphthylene (low)	ND	0.30	µg/L							
Acetophenone	ND	10	µg/L							
Aniline	ND	5.0	µg/L							R-05
Anthracene (low)	ND	0.20	µg/L							
Benzo(a)anthracene (low)	ND	0.050	µg/L							
Benzo(a)pyrene (low)	ND	0.10	µg/L							
Benzo(b)fluoranthene (low)	ND	0.050	µg/L							
Benzo(g,h,i)perylene (low)	ND	0.50	µg/L							
Benzo(k)fluoranthene (low)	ND	0.20	µg/L							
Bis(2-chloroethoxy)methane	ND	10	µg/L							
Bis(2-chloroethyl)ether	ND	10	µg/L							
Bis(2-chloroisopropyl)ether	ND	10	µg/L							
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L							
4-Bromophenylphenylether	ND	10	µg/L							
Butylbenzylphthalate	ND	10	µg/L							
4-Chloroaniline	ND	10	µg/L							R-05
2-Chloronaphthalene	ND	10	µg/L							
2-Chlorophenol	ND	10	µg/L							
Chrysene (low)	ND	0.20	µg/L							
Dibenz(a,h)anthracene (low)	ND	0.20	µg/L							
Dibenzofuran	ND	5.0	µg/L							
Di-n-butylphthalate	ND	10	µg/L							
1,2-Dichlorobenzene	ND	5.0	µg/L							
1,3-Dichlorobenzene	ND	5.0	µg/L							
1,4-Dichlorobenzene	ND	5.0	µg/L							
3,3-Dichlorobenzidine	ND	10	µg/L							R-05
2,4-Dichlorophenol	ND	10	µg/L							
Diethylphthalate	ND	10	µg/L							
2,4-Dimethylphenol	ND	10	µg/L							
Dimethylphthalate	ND	10	µg/L							
2,4-Dinitrophenol	ND	10	µg/L							
2,4-Dinitrotoluene	ND	10	µg/L							
2,6-Dinitrotoluene	ND	10	µg/L							
Di-n-octylphthalate	ND	10	µg/L							
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L							
Fluoranthene (low)	ND	0.50	µg/L							
Fluorene (low)	ND	1.0	µg/L							
Hexachlorobenzene	ND	10	µg/L							RL-03
Hexachlorobutadiene	ND	10	µg/L							RL-03
Hexachloroethane	ND	10	µg/L							
Indeno(1,2,3-cd)pyrene (low)	ND	0.20	µg/L							
Isophorone	ND	10	µg/L							
2-Methylnaphthalene (low)	ND	1.0	µg/L							
2-Methylphenol	ND	10	µg/L							
3/4-Methylphenol	ND	10	µg/L							
Naphthalene (low)	ND	1.0	µg/L							
Nitrobenzene	ND	10	µg/L							V-20
2-Nitrophenol	ND	10	µg/L							
4-Nitrophenol	ND	10	µg/L							
Pentachlorophenol	ND	10	µg/L							RL-03
Phenanthrene (low)	ND	0.050	µg/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B163890 - SW-846 3510C

Blank (B163890-BLK1)

Prepared: 11/21/16 Analyzed: 11/22/16

Phenol	ND	10	µg/L							
Pyrene (low)	ND	1.0	µg/L							
1,2,4-Trichlorobenzene	ND	5.0	µg/L							
2,4,5-Trichlorophenol	ND	10	µg/L							
2,4,6-Trichlorophenol	ND	10	µg/L							
Surrogate: 2-Fluorophenol	102		µg/L	200		50.8	15-110			
Surrogate: Phenol-d6	72.2		µg/L	200		36.1	15-110			
Surrogate: Nitrobenzene-d5	83.6		µg/L	100		83.6	30-130			
Surrogate: Nitrobenzene-d5 (low)	71.6		µg/L	100		71.6	30-130			
Surrogate: 2-Fluorobiphenyl	75.3		µg/L	100		75.3	30-130			
Surrogate: 2-Fluorobiphenyl (low)	87.5		µg/L	100		87.5	30-130			
Surrogate: 2,4,6-Tribromophenol	174		µg/L	200		87.1	15-110			
Surrogate: p-Terphenyl-d14	83.3		µg/L	100		83.3	30-130			
Surrogate: p-Terphenyl-d14 (low)	82.0		µg/L	100		82.0	30-130			

LCS (B163890-BS1)

Prepared: 11/21/16 Analyzed: 11/28/16

Acenaphthene (low)	39.8	7.5	µg/L	50.0		79.7	40-140			
Acenaphthylene (low)	39.7	7.5	µg/L	50.0		79.4	40-140			
Acetophenone	35.2	10	µg/L	50.0		70.4	40-140			
Aniline	21.7	5.0	µg/L	50.0		43.4	40-140			R-05
Anthracene (low)	40.9	5.0	µg/L	50.0		81.8	40-140			
Benzo(a)anthracene (low)	38.3	1.2	µg/L	50.0		76.6	40-140			
Benzo(a)pyrene (low)	42.0	2.5	µg/L	50.0		84.0	40-140			
Benzo(b)fluoranthene (low)	44.0	1.2	µg/L	50.0		88.0	40-140			
Benzo(g,h,i)perylene (low)	43.8	12	µg/L	50.0		87.6	40-140			
Benzo(k)fluoranthene (low)	42.4	5.0	µg/L	50.0		84.8	40-140			
Bis(2-chloroethoxy)methane	35.4	10	µg/L	50.0		70.7	40-140			
Bis(2-chloroethyl)ether	35.8	10	µg/L	50.0		71.7	40-140			
Bis(2-chloroisopropyl)ether	37.6	10	µg/L	50.0		75.3	40-140			
Bis(2-Ethylhexyl)phthalate	37.8	10	µg/L	50.0		75.7	40-140			
4-Bromophenylphenylether	30.2	10	µg/L	50.0		60.5	40-140			
Butylbenzylphthalate	35.6	10	µg/L	50.0		71.2	40-140			
4-Chloroaniline	25.1	10	µg/L	50.0		50.2	15-140			R-05 †
2-Chloronaphthalene	28.5	10	µg/L	50.0		57.0	40-140			
2-Chlorophenol	31.7	10	µg/L	50.0		63.4	30-130			
Chrysene (low)	37.9	5.0	µg/L	50.0		75.8	40-140			
Dibenz(a,h)anthracene (low)	41.3	5.0	µg/L	50.0		82.6	40-140			
Dibenzofuran	33.9	5.0	µg/L	50.0		67.9	40-140			
Di-n-butylphthalate	33.7	10	µg/L	50.0		67.5	40-140			
1,2-Dichlorobenzene	32.0	5.0	µg/L	50.0		63.9	40-140			
1,3-Dichlorobenzene	31.1	5.0	µg/L	50.0		62.2	40-140			
1,4-Dichlorobenzene	31.4	5.0	µg/L	50.0		62.9	40-140			
3,3-Dichlorobenzidine	31.9	10	µg/L	50.0		63.8	40-140			R-05
2,4-Dichlorophenol	32.4	10	µg/L	50.0		64.9	30-130			
Diethylphthalate	34.6	10	µg/L	50.0		69.2	40-140			
2,4-Dimethylphenol	34.9	10	µg/L	50.0		69.9	30-130			
Dimethylphthalate	33.4	10	µg/L	50.0		66.8	40-140			
2,4-Dinitrophenol	30.2	10	µg/L	50.0		60.5	15-140			†
2,4-Dinitrotoluene	37.3	10	µg/L	50.0		74.6	40-140			
2,6-Dinitrotoluene	36.7	10	µg/L	50.0		73.4	40-140			
Di-n-octylphthalate	34.4	10	µg/L	50.0		68.8	40-140			
1,2-Diphenylhydrazine (as Azobenzene)	38.6	10	µg/L	50.0		77.2	40-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B163890 - SW-846 3510C										
LCS (B163890-BS1)										
Prepared: 11/21/16 Analyzed: 11/28/16										
Fluoranthene (low)	40.6	12	µg/L	50.0		81.3	40-140			
Fluorene (low)	40.0	25	µg/L	50.0		80.0	40-140			
Hexachlorobenzene	33.6	10	µg/L	50.0		67.1	40-140			RL-03
Hexachlorobutadiene	33.6	10	µg/L	50.0		67.3	40-140			RL-03
Hexachloroethane	34.6	10	µg/L	50.0		69.2	40-140			
Indeno(1,2,3-cd)pyrene (low)	41.8	5.0	µg/L	50.0		83.5	40-140			
Isophorone	38.2	10	µg/L	50.0		76.4	40-140			
2-Methylnaphthalene (low)	39.8	25	µg/L	50.0		79.6	40-140			
2-Methylphenol	31.8	10	µg/L	50.0		63.7	30-130			
3/4-Methylphenol	31.6	10	µg/L	50.0		63.2	30-130			
Naphthalene (low)	38.5	25	µg/L	50.0		77.0	40-140			
Nitrobenzene	37.8	10	µg/L	50.0		75.6	40-140			V-20
2-Nitrophenol	32.6	10	µg/L	50.0		65.2	30-130			
4-Nitrophenol	29.0	10	µg/L	50.0		58.0	15-140			†
Pentachlorophenol	26.8	10	µg/L	50.0		53.6	30-130			RL-03
Phenanthrene (low)	40.5	1.2	µg/L	50.0		81.0	40-140			
Phenol	17.7	10	µg/L	50.0		35.4	15-140			†
Pyrene (low)	39.2	25	µg/L	50.0		78.4	40-140			
1,2,4-Trichlorobenzene	31.6	5.0	µg/L	50.0		63.2	40-140			
2,4,5-Trichlorophenol	31.6	10	µg/L	50.0		63.2	30-130			
2,4,6-Trichlorophenol	33.5	10	µg/L	50.0		67.0	30-130			
Surrogate: 2-Fluorophenol	112		µg/L	200		56.2	15-110			
Surrogate: Phenol-d6	81.1		µg/L	200		40.6	15-110			
Surrogate: Nitrobenzene-d5	88.5		µg/L	100		88.5	30-130			
Surrogate: Nitrobenzene-d5 (low)	73.7		µg/L	100		73.7	30-130			
Surrogate: 2-Fluorobiphenyl	79.0		µg/L	100		79.0	30-130			
Surrogate: 2-Fluorobiphenyl (low)	86.7		µg/L	100		86.7	30-130			
Surrogate: 2,4,6-Tribromophenol	182		µg/L	200		91.0	15-110			
Surrogate: p-Terphenyl-d14	84.2		µg/L	100		84.2	30-130			
Surrogate: p-Terphenyl-d14 (low)	76.0		µg/L	100		76.0	30-130			
LCS Dup (B163890-BSD1)										
Prepared: 11/21/16 Analyzed: 11/28/16										
Acenaphthene (low)	44.5	7.5	µg/L	50.0		89.0	40-140	11.0	20	
Acenaphthylene (low)	44.0	7.5	µg/L	50.0		88.1	40-140	10.4	20	
Acetophenone	37.2	10	µg/L	50.0		74.4	40-140	5.47	20	
Aniline	15.2	5.0	µg/L	50.0		30.3	* 40-140	35.5	* 20	L-07A, R-05
Anthracene (low)	45.4	5.0	µg/L	50.0		90.8	40-140	10.5	20	
Benzo(a)anthracene (low)	42.2	1.2	µg/L	50.0		84.4	40-140	9.75	20	
Benzo(a)pyrene (low)	46.8	2.5	µg/L	50.0		93.6	40-140	10.8	20	
Benzo(b)fluoranthene (low)	49.1	1.2	µg/L	50.0		98.2	40-140	11.0	20	
Benzo(g,h,i)perylene (low)	48.8	12	µg/L	50.0		97.6	40-140	10.9	20	
Benzo(k)fluoranthene (low)	47.3	5.0	µg/L	50.0		94.6	40-140	10.9	20	
Bis(2-chloroethoxy)methane	38.1	10	µg/L	50.0		76.3	40-140	7.56	20	
Bis(2-chloroethyl)ether	37.0	10	µg/L	50.0		73.9	40-140	3.08	20	
Bis(2-chloroisopropyl)ether	39.3	10	µg/L	50.0		78.6	40-140	4.37	20	
Bis(2-Ethylhexyl)phthalate	40.8	10	µg/L	50.0		81.5	40-140	7.46	20	
4-Bromophenylphenylether	33.8	10	µg/L	50.0		67.7	40-140	11.2	20	
Butylbenzylphthalate	39.5	10	µg/L	50.0		78.9	40-140	10.3	20	
4-Chloroaniline	15.2	10	µg/L	50.0		30.4	15-140	49.2	* 20	R-05 †
2-Chloronaphthalene	32.6	10	µg/L	50.0		65.2	40-140	13.5	20	
2-Chlorophenol	33.2	10	µg/L	50.0		66.5	30-130	4.74	20	
Chrysene (low)	42.1	5.0	µg/L	50.0		84.2	40-140	10.5	20	

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B163890 - SW-846 3510C										
LCS Dup (B163890-BSD1)										
Prepared: 11/21/16 Analyzed: 11/28/16										
Dibenz(a,h)anthracene (low)	45.8	5.0	µg/L	50.0		91.5	40-140	10.2	20	
Dibenzofuran	37.7	5.0	µg/L	50.0		75.4	40-140	10.4	20	
Di-n-butylphthalate	36.9	10	µg/L	50.0		73.9	40-140	9.08	20	
1,2-Dichlorobenzene	32.3	5.0	µg/L	50.0		64.6	40-140	1.03	20	
1,3-Dichlorobenzene	31.6	5.0	µg/L	50.0		63.1	40-140	1.37	20	
1,4-Dichlorobenzene	31.6	5.0	µg/L	50.0		63.3	40-140	0.666	20	
3,3-Dichlorobenzidine	25.2	10	µg/L	50.0		50.4	40-140	23.4	*	20 R-05
2,4-Dichlorophenol	35.1	10	µg/L	50.0		70.2	30-130	7.96	20	
Diethylphthalate	38.3	10	µg/L	50.0		76.6	40-140	10.2	20	
2,4-Dimethylphenol	37.6	10	µg/L	50.0		75.2	30-130	7.34	20	
Dimethylphthalate	37.0	10	µg/L	50.0		74.0	40-140	10.1	20	
2,4-Dinitrophenol	34.0	10	µg/L	50.0		68.1	15-140	11.8	20	†
2,4-Dinitrotoluene	41.2	10	µg/L	50.0		82.4	40-140	9.96	20	
2,6-Dinitrotoluene	41.3	10	µg/L	50.0		82.7	40-140	11.9	20	
Di-n-octylphthalate	36.8	10	µg/L	50.0		73.5	40-140	6.61	20	
1,2-Diphenylhydrazine (as Azobenzene)	43.6	10	µg/L	50.0		87.3	40-140	12.2	20	
Fluoranthene (low)	45.1	12	µg/L	50.0		90.2	40-140	10.3	20	
Fluorene (low)	44.7	25	µg/L	50.0		89.4	40-140	11.1	20	
Hexachlorobenzene	37.3	10	µg/L	50.0		74.6	40-140	10.6	20	RL-03
Hexachlorobutadiene	35.3	10	µg/L	50.0		70.5	40-140	4.67	20	RL-03
Hexachloroethane	35.4	10	µg/L	50.0		70.7	40-140	2.14	20	
Indeno(1,2,3-cd)pyrene (low)	46.3	5.0	µg/L	50.0		92.6	40-140	10.3	20	
Isophorone	41.4	10	µg/L	50.0		82.8	40-140	8.11	20	
2-Methylnaphthalene (low)	44.0	25	µg/L	50.0		87.9	40-140	9.91	20	
2-Methylphenol	33.6	10	µg/L	50.0		67.3	30-130	5.47	20	
3/4-Methylphenol	33.0	10	µg/L	50.0		65.9	30-130	4.18	20	
Naphthalene (low)	42.2	25	µg/L	50.0		84.5	40-140	9.22	20	
Nitrobenzene	40.3	10	µg/L	50.0		80.6	40-140	6.45	20	V-20
2-Nitrophenol	35.0	10	µg/L	50.0		69.9	30-130	6.96	20	
4-Nitrophenol	33.2	10	µg/L	50.0		66.5	15-140	13.7	20	†
Pentachlorophenol	29.8	10	µg/L	50.0		59.5	30-130	10.4	20	RL-03
Phenanthrene (low)	44.9	1.2	µg/L	50.0		89.8	40-140	10.3	20	
Phenol	18.5	10	µg/L	50.0		37.0	15-140	4.53	20	†
Pyrene (low)	43.3	25	µg/L	50.0		86.6	40-140	9.93	20	
1,2,4-Trichlorobenzene	33.3	5.0	µg/L	50.0		66.7	40-140	5.27	20	
2,4,5-Trichlorophenol	35.3	10	µg/L	50.0		70.6	30-130	11.0	20	
2,4,6-Trichlorophenol	37.1	10	µg/L	50.0		74.1	30-130	10.1	20	
Surrogate: 2-Fluorophenol	108		µg/L	200		54.2	15-110			
Surrogate: Phenol-d6	78.6		µg/L	200		39.3	15-110			
Surrogate: Nitrobenzene-d5	88.3		µg/L	100		88.3	30-130			
Surrogate: Nitrobenzene-d5 (low)	79.2		µg/L	100		79.2	30-130			
Surrogate: 2-Fluorobiphenyl	80.4		µg/L	100		80.4	30-130			
Surrogate: 2-Fluorobiphenyl (low)	91.7		µg/L	100		91.7	30-130			
Surrogate: 2,4,6-Tribromophenol	183		µg/L	200		91.3	15-110			
Surrogate: p-Terphenyl-d14	86.0		µg/L	100		86.0	30-130			
Surrogate: p-Terphenyl-d14 (low)	72.3		µg/L	100		72.3	30-130			

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QUALITY CONTROL
1,4-Dioxane by isotope dilution GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B164067 - SW-846 3510C										
Blank (B164067-BLK1)				Prepared: 11/22/16 Analyzed: 12/01/16						
1,4-Dioxane	ND	0.20	µg/L							
Surrogate: 1,4-Dioxane-d8	1.58		µg/L	10.0		15.8	15-110			
LCS (B164067-BS1)				Prepared: 11/22/16 Analyzed: 12/01/16						
1,4-Dioxane	11.3	0.20	µg/L	10.0		113	40-140			
Surrogate: 1,4-Dioxane-d8	1.85		µg/L	10.0		18.5	15-110			
LCS Dup (B164067-BSD1)				Prepared: 11/22/16 Analyzed: 12/01/16						
1,4-Dioxane	9.26	0.20	µg/L	10.0		92.6	40-140	19.9	30	
Surrogate: 1,4-Dioxane-d8	1.79		µg/L	10.0		17.9	15-110			
Batch B164704 - SW-846 3510C										
Blank (B164704-BLK1)				Prepared: 12/01/16 Analyzed: 12/02/16						
1,4-Dioxane	ND	0.20	µg/L							
Surrogate: 1,4-Dioxane-d8	2.49		µg/L	10.0		24.9	15-110			
LCS (B164704-BS1)				Prepared: 12/01/16 Analyzed: 12/02/16						
1,4-Dioxane	11.1	0.20	µg/L	10.0		111	40-140			
Surrogate: 1,4-Dioxane-d8	3.10		µg/L	10.0		31.0	15-110			
LCS Dup (B164704-BSD1)				Prepared: 12/01/16 Analyzed: 12/02/16						
1,4-Dioxane	10.7	0.20	µg/L	10.0		107	40-140	3.81	30	
Surrogate: 1,4-Dioxane-d8	2.80		µg/L	10.0		28.0	15-110			

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QUALITY CONTROL
Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B164023 - SW-846 3510C
Blank (B164023-BLK1)

Prepared: 11/22/16 Analyzed: 11/23/16

Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	1.49		µg/L	2.00		74.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.61		µg/L	2.00		80.5	30-150			
Surrogate: Tetrachloro-m-xylene	1.59		µg/L	2.00		79.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.66		µg/L	2.00		82.8	30-150			

LCS (B164023-BS1)

Prepared: 11/22/16 Analyzed: 11/23/16

Aroclor-1016	0.49	0.20	µg/L	0.500		98.3	40-140			
Aroclor-1016 [2C]	0.49	0.20	µg/L	0.500		97.8	40-140			
Aroclor-1260	0.47	0.20	µg/L	0.500		95.0	40-140			
Aroclor-1260 [2C]	0.47	0.20	µg/L	0.500		94.4	40-140			
Surrogate: Decachlorobiphenyl	1.66		µg/L	2.00		83.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.74		µg/L	2.00		86.9	30-150			
Surrogate: Tetrachloro-m-xylene	1.77		µg/L	2.00		88.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.75		µg/L	2.00		87.5	30-150			

LCS Dup (B164023-BSD1)

Prepared: 11/22/16 Analyzed: 11/23/16

Aroclor-1016	0.48	0.20	µg/L	0.500		96.3	40-140	2.10	20	
Aroclor-1016 [2C]	0.49	0.20	µg/L	0.500		97.7	40-140	0.139	20	
Aroclor-1260	0.45	0.20	µg/L	0.500		89.6	40-140	5.78	20	
Aroclor-1260 [2C]	0.45	0.20	µg/L	0.500		89.3	40-140	5.53	20	
Surrogate: Decachlorobiphenyl	1.27		µg/L	2.00		63.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.37		µg/L	2.00		68.4	30-150			
Surrogate: Tetrachloro-m-xylene	1.64		µg/L	2.00		82.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.74		µg/L	2.00		87.0	30-150			

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QUALITY CONTROL
Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B163852 - SW-846 3005A
Blank (B163852-BLK1)

Prepared: 11/19/16 Analyzed: 11/22/16

Antimony	ND	1.0	µg/L
Arsenic	ND	0.40	µg/L
Barium	ND	10	µg/L
Beryllium	ND	0.40	µg/L
Cadmium	ND	0.50	µg/L
Chromium	ND	1.0	µg/L
Lead	ND	1.0	µg/L
Nickel	ND	5.0	µg/L
Selenium	ND	5.0	µg/L
Silver	ND	0.50	µg/L
Thallium	ND	0.20	µg/L
Vanadium	ND	5.0	µg/L
Zinc	ND	10	µg/L

LCS (B163852-BS1)

Prepared: 11/19/16 Analyzed: 11/22/16

Antimony	274	5.0	µg/L	250	109	80-120
Arsenic	266	2.0	µg/L	250	106	80-120
Barium	259	50	µg/L	250	104	80-120
Beryllium	265	2.0	µg/L	250	106	80-120
Cadmium	268	2.5	µg/L	250	107	80-120
Chromium	259	5.0	µg/L	250	104	80-120
Lead	271	5.0	µg/L	250	108	80-120
Nickel	261	25	µg/L	250	104	80-120
Selenium	276	25	µg/L	250	111	80-120
Silver	245	2.5	µg/L	250	98.2	80-120
Thallium	257	1.0	µg/L	250	103	80-120
Vanadium	261	25	µg/L	250	104	80-120
Zinc	291	50	µg/L	250	116	80-120

LCS Dup (B163852-BSD1)

Prepared: 11/19/16 Analyzed: 11/22/16

Antimony	268	5.0	µg/L	250	107	80-120	2.02	20
Arsenic	263	2.0	µg/L	250	105	80-120	1.11	20
Barium	255	50	µg/L	250	102	80-120	1.77	20
Beryllium	261	2.0	µg/L	250	104	80-120	1.38	20
Cadmium	263	2.5	µg/L	250	105	80-120	2.00	20
Chromium	252	5.0	µg/L	250	101	80-120	2.57	20
Lead	267	5.0	µg/L	250	107	80-120	1.70	20
Nickel	252	25	µg/L	250	101	80-120	3.28	20
Selenium	275	25	µg/L	250	110	80-120	0.564	20
Silver	242	2.5	µg/L	250	96.6	80-120	1.60	20
Thallium	252	1.0	µg/L	250	101	80-120	1.98	20
Vanadium	255	25	µg/L	250	102	80-120	2.04	20
Zinc	285	50	µg/L	250	114	80-120	2.05	20

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QUALITY CONTROL
Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B163903 - SW-846 7470A Prep
Blank (B163903-BLK1)

Prepared & Analyzed: 11/21/16

Mercury	ND	0.00010	mg/L
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LCS (B163903-BS1)

Prepared & Analyzed: 11/21/16

Mercury	0.00199	0.00010	mg/L	0.00200	99.3	80-120
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LCS Dup (B163903-BSD1)

Prepared & Analyzed: 11/21/16

Mercury	0.00191	0.00010	mg/L	0.00200	95.3	80-120	4.10	20
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Batch B164030 - SW-846 3005A
Blank (B164030-BLK1)

Prepared: 11/22/16 Analyzed: 11/28/16

Hardness	ND	3.0	mg/L
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QUALITY CONTROL
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B163841 - SM21-22 4500 CL G										
Blank (B163841-BLK1)	Prepared & Analyzed: 11/18/16									
Chlorine, Residual	ND	0.020	mg/L							
LCS (B163841-BS1)	Prepared & Analyzed: 11/18/16									
Chlorine, Residual	1.2	0.020	mg/L	1.20		102	88.1-128			
LCS Dup (B163841-BSD1)	Prepared & Analyzed: 11/18/16									
Chlorine, Residual	1.3	0.020	mg/L	1.20		107	88.1-128	4.56	5	
Duplicate (B163841-DUP1)	Source: 16K1051-02 Prepared & Analyzed: 11/18/16									
Chlorine, Residual	ND	0.020	mg/L		ND			NC	47.3	
Matrix Spike (B163841-MS1)	Source: 16K1051-02 Prepared & Analyzed: 11/18/16									
Chlorine, Residual	6.7	0.20	mg/L	10.0	ND	67.5	10-170			
Batch B163842 - SW-846 7196A										
Blank (B163842-BLK1)	Prepared & Analyzed: 11/18/16									
Hexavalent Chromium	ND	0.0040	mg/L							
LCS (B163842-BS1)	Prepared & Analyzed: 11/18/16									
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		100	80-120			
LCS Dup (B163842-BSD1)	Prepared & Analyzed: 11/18/16									
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		101	80-120	1.24	20	
Matrix Spike (B163842-MS1)	Source: 16K1051-02 Prepared & Analyzed: 11/18/16									
Hexavalent Chromium	4.3	0.20	mg/L	5.00	ND	85.1	75-125			
Matrix Spike Dup (B163842-MSD1)	Source: 16K1051-02 Prepared & Analyzed: 11/18/16									
Hexavalent Chromium	4.3	0.20	mg/L	5.00	ND	85.1	75-125	0.00	20	
Batch B163867 - SM21-22 4500 H B										
LCS (B163867-BS1)	Prepared & Analyzed: 11/19/16									
pH	6.05		pH Units	6.00		101	98.5-110			
LCS (B163867-BS2)	Prepared & Analyzed: 11/19/16									
pH	6.05		pH Units	6.00		101	98.5-110			
Batch B163901 - SM21-22 2540D										
Blank (B163901-BLK1)	Prepared & Analyzed: 11/21/16									
Total Suspended Solids	ND	2.5	mg/L							

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QUALITY CONTROL
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B163901 - SM21-22 2540D										
LCS (B163901-BS1)				Prepared & Analyzed: 11/21/16						
Total Suspended Solids	150	10	mg/L	200		75.0	70.1-116			
Duplicate (B163901-DUP1)				Source: 16K1051-02 Prepared & Analyzed: 11/21/16						
Total Suspended Solids	14	5.0	mg/L		11			24.0	*	5 R-04
Batch B164064 - SM19-22 4500 NH3 C										
Blank (B164064-BLK1)				Prepared: 11/22/16 Analyzed: 11/28/16						
Ammonia as N	ND	0.30	mg/L							
LCS (B164064-BS1)				Prepared: 11/22/16 Analyzed: 11/28/16						
Ammonia as N	4.9	0.30	mg/L	5.00		98.0	82.1-110			
LCS Dup (B164064-BSD1)				Prepared: 11/22/16 Analyzed: 11/28/16						
Ammonia as N	4.9	0.30	mg/L	5.00		98.0	82.1-110	0.00	7.33	
Batch B164250 - EPA 1664B										
Blank (B164250-BLK1)				Prepared & Analyzed: 11/28/16						
Silica Gel Treated HEM (SGT-HEM)	ND	1.4	mg/L							
LCS (B164250-BS1)				Prepared & Analyzed: 11/28/16						
Silica Gel Treated HEM (SGT-HEM)	8.4		mg/L	10.0		84.0	64-132			
Batch B164266 - SM21-22 2320B										
Blank (B164266-BLK1)				Prepared & Analyzed: 11/28/16						
Alkalinity	ND	1.0	mg/L							
LCS (B164266-BS1)				Prepared & Analyzed: 11/28/16						
Alkalinity	27		mg/L	27.8		97.1	85.7-110			
LCS Dup (B164266-BSD1)				Prepared & Analyzed: 11/28/16						
Alkalinity	27		mg/L	27.8		97.1	85.7-110	0.00	6.6	
Batch B164305 - SW-846 9014										
Blank (B164305-BLK1)				Prepared: 11/28/16 Analyzed: 11/29/16						
Cyanide	ND	0.010	mg/L							

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QUALITY CONTROL
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B164305 - SW-846 9014										
LCS (B164305-BS1)				Prepared: 11/28/16 Analyzed: 11/29/16						
Cyanide	0.67	0.010	mg/L	0.668		99.6	80-120			
LCS Dup (B164305-BSD1)				Prepared: 11/28/16 Analyzed: 11/29/16						
Cyanide	0.65	0.010	mg/L	0.668		97.9	80-120	1.69	20	
Matrix Spike (B164305-MS1)				Source: 16K1051-02		Prepared: 11/28/16 Analyzed: 11/29/16				
Cyanide	0.67	0.010	mg/L	0.384	0.29	101	75-125			
Matrix Spike Dup (B164305-MSD1)				Source: 16K1051-02		Prepared: 11/28/16 Analyzed: 11/29/16				
Cyanide	0.67	0.010	mg/L	0.384	0.29	99.7	75-125	0.711	20	
Batch B164345 - EPA 300.0										
Blank (B164345-BLK1)				Prepared & Analyzed: 11/28/16						
Chloride	ND	1.0	mg/L							
LCS (B164345-BS1)				Prepared & Analyzed: 11/28/16						
Chloride	28	1.0	mg/L	30.0		94.4	90-110			
LCS Dup (B164345-BSD1)				Prepared & Analyzed: 11/28/16						
Chloride	28	1.0	mg/L	30.0		94.4	90-110	0.0233	20	
Duplicate (B164345-DUP1)				Source: 16K1051-01		Prepared & Analyzed: 11/28/16				
Chloride	670	20	mg/L		670			0.322	20	
Matrix Spike (B164345-MS1)				Source: 16K1051-01		Prepared & Analyzed: 11/28/16				
Chloride	850	20	mg/L	160	670	113	80-120			
Matrix Spike Dup (B164345-MSD1)				Source: 16K1051-01		Prepared & Analyzed: 11/28/16				
Chloride	840	20	mg/L	160	670	111	80-120	0.356	20	
Batch B164401 - EPA 420.1										
Blank (B164401-BLK1)				Prepared: 11/29/16 Analyzed: 12/01/16						
Phenol	ND	0.050	mg/L							
LCS (B164401-BS1)				Prepared: 11/29/16 Analyzed: 12/01/16						
Phenol	0.48	0.050	mg/L	0.500		96.2	78.8-123			
LCS Dup (B164401-BSD1)				Prepared: 11/29/16 Analyzed: 12/01/16						
Phenol	0.50	0.050	mg/L	0.500		101	78.8-123	4.84	11.3	

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QUALITY CONTROL
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B164401 - EPA 420.1
Duplicate (B164401-DUP1)
Source: 16K1051-02

Prepared: 11/29/16 Analyzed: 12/01/16

Phenol	ND	0.050	mg/L		ND			NC	35.7	
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Matrix Spike (B164401-MS1)
Source: 16K1051-02

Prepared: 11/29/16 Analyzed: 12/01/16

Phenol	0.50	0.050	mg/L	0.500	ND	101	45.1-136			
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QUALITY CONTROL
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B164024 - SM21-22 2540C										
Blank (B164024-BLK1)				Prepared & Analyzed: 11/22/16						
Total Dissolved Solids	ND	10	mg/L							
LCS (B164024-BS1)				Prepared & Analyzed: 11/22/16						
Total Dissolved Solids	260	10	mg/L	293		90.4	58.2-116			
Duplicate (B164024-DUP1)				Prepared & Analyzed: 11/22/16						
Source: 16K1051-02										
Total Dissolved Solids	1500	10	mg/L		1600			10.2	*	5 R-02

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QUALITY CONTROL
Drinking Water Organics EPA 504.1 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B163922 - EPA 504 water
Blank (B163922-BLK1)

Prepared & Analyzed: 11/21/16

1,2-Dibromoethane (EDB)	ND	0.021	µg/L							
Surrogate: 1,3-Dibromopropane	1.14		µg/L	1.05		108	70-130			

LCS (B163922-BS1)

Prepared & Analyzed: 11/21/16

1,2-Dibromoethane (EDB)	0.184	0.021	µg/L	0.180		102	70-130			
Surrogate: 1,3-Dibromopropane	1.13		µg/L	1.03		110	70-130			

LCS Dup (B163922-BSD1)

Prepared & Analyzed: 11/21/16

1,2-Dibromoethane (EDB)	0.189	0.021	µg/L	0.181		104	70-130	2.58		
Surrogate: 1,3-Dibromopropane	1.16		µg/L	1.04		112	70-130			

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**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***EPA 504.1***LCS**Lab Sample ID: B163922-BS1 Date(s) Analyzed: 11/21/2016 11/21/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
1,2-Dibromoethane (EDB)	1	3.20	0.00	0.00	0.184	

**IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES***EPA 504.1***LCS Dup**Lab Sample ID: B163922-BSD1 Date(s) Analyzed: 11/21/2016 11/21/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
1,2-Dibromoethane (EDB)	1	3.20	0.00	0.00	0.189	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B164023-BS1 Date(s) Analyzed: 11/23/2016 11/23/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.49	
	2	0.00	0.00	0.00	0.49	0
Aroclor-1260	1	0.00	0.00	0.00	0.47	
	2	0.00	0.00	0.00	0.47	1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B164023-BSD1 Date(s) Analyzed: 11/23/2016 11/23/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.48	
	2	0.00	0.00	0.00	0.49	2
Aroclor-1260	1	0.00	0.00	0.00	0.45	
	2	0.00	0.00	0.00	0.45	0

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-05	Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-07A	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
R-02	Duplicate RPD is outside of control limits. Outlier can be attributed to sample non-homogeneity encountered during sample prep.
R-04	Duplicate relative percent difference (RPD) is a less useful indicator of sample precision for sample results that are <5 times the reporting limit (RL).
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
RL-03	Elevated reporting limit based on lowest point in calibration.
	Requested reporting limit not met.
RL-07	Elevated reporting limit based on lowest point in calibration.
	MA CAM reporting limit not met.
S-10	Sample was re-extracted outside of holding time since surrogate standard recovery was outside of control limits. Data from analysis performed outside of holding time is also reported since surrogate recovery is acceptable.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 300.0 in Drinking Water</i>	
Chloride	NY,VA,ME,NH,CT,RI
<i>EPA 420.1 in Water</i>	
Phenol	CT,MA,NH,NY,RI,NC,ME,VA
<i>SM 5310C in Water</i>	
Total Organic Carbon	NY,NC,CT,RI,ME,MA,VA
<i>SM19-22 4500 NH3 C in Water</i>	
Ammonia as N	NY,MA,CT,RI,VA,NC,ME
<i>SM21-22 2320B in Water</i>	
Alkalinity	CT,MA,NH,NY,RI,NC,ME,VA
<i>SM21-22 2340B in Water</i>	
Hardness	CT,MA,NH,NY
<i>SM21-22 2540C in Water</i>	
Total Dissolved Solids	CT,MA,NH,NY,RI,NC,ME,VA
<i>SM21-22 2540D in Water</i>	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
<i>SM21-22 4500 CL G in Water</i>	
Chlorine, Residual	CT,MA,RI,ME
<i>SM21-22 4500 H B in Water</i>	
pH	CT,MA,RI
<i>SW-846 6020A-B in Water</i>	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,RI,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
<i>SW-846 7196A in Water</i>	
Hexavalent Chromium	CT,NH,NY,NC,ME,VA
<i>SW-846 7470A in Water</i>	
Mercury	CT,NH,NY,NC,ME,VA
<i>SW-846 8082A in Water</i>	
Aroclor-1016	CT,NH,NY,NC,ME,VA
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1221	CT,NH,NY,NC,ME,VA
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8082A in Water</i>	
Aroclor-1232	CT,NH,NY,NC,ME,VA
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1242	CT,NH,NY,NC,ME,VA
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1248	CT,NH,NY,NC,ME,VA
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1254	CT,NH,NY,NC,ME,VA
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1260	CT,NH,NY,NC,ME,VA
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1262	NH,NY,NC,ME,VA
Aroclor-1262 [2C]	NH,NY,NC,ME,VA
Aroclor-1268	NH,NY,NC,ME,VA
Aroclor-1268 [2C]	NH,NY,NC,ME,VA
<i>SW-846 8260C in Water</i>	
Acetone	CT,NY,ME,NH,VA
Acetone	CT,NH,NY,ME
tert-Amyl Methyl Ether (TAME)	NY,ME,NH,VA
tert-Amyl Methyl Ether (TAME)	NH,NY,ME
Benzene	CT,NY,ME,NH,VA
Benzene	CT,NH,NY,ME
Bromobenzene	ME
Bromochloromethane	NH,NY,ME
Bromochloromethane	NY,ME,NH,VA
Bromodichloromethane	CT,NH,NY,ME
Bromodichloromethane	CT,NY,ME,NH,VA
Bromoform	CT,NY,ME,NH,VA
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
Bromomethane	CT,NY,ME,NH,VA
2-Butanone (MEK)	CT,NH,NY,ME
2-Butanone (MEK)	CT,NY,ME,NH,VA
tert-Butyl Alcohol (TBA)	NY,ME,NH,VA
n-Butylbenzene	NY,ME
n-Butylbenzene	NY,ME,VA
sec-Butylbenzene	NY,ME,VA
sec-Butylbenzene	NY,ME
tert-Butylbenzene	NY,ME,VA
tert-Butylbenzene	NY,ME
tert-Butyl Ethyl Ether (TBEE)	NY,ME,NH,VA
tert-Butyl Ethyl Ether (TBEE)	NH,NY,ME
Carbon Disulfide	CT,NY,ME,NH,VA
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NY,ME,NH,VA
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C in Water</i>	
Chlorobenzene	CT,NY,ME,NH,VA
Chlorodibromomethane	CT,NY,ME,NH,VA
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NY,ME,NH,VA
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloroform	CT,NY,ME,NH,VA
Chloromethane	CT,NH,NY,ME
Chloromethane	CT,NY,ME,NH,VA
2-Chlorotoluene	NY,ME,NH,VA
2-Chlorotoluene	NY,ME
4-Chlorotoluene	NY,ME,NH,VA
4-Chlorotoluene	NY,ME
Dibromomethane	NH,NY,ME
Dibromomethane	NY,ME,NH,VA
1,2-Dichlorobenzene	CT,NY,ME,NH,VA
1,2-Dichlorobenzene	CT,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NY,ME,NH,VA
1,4-Dichlorobenzene	CT,NY,ME,NH,VA
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME,NH,VA
1,1-Dichloroethane	CT,NY,ME,NH,VA
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NY,ME,NH,VA
1,1-Dichloroethylene	CT,NY,ME,NH,VA
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	NY,ME
cis-1,2-Dichloroethylene	NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NY,ME,NH,VA
1,2-Dichloropropane	CT,NY,ME,NH,VA
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NY,ME
1,3-Dichloropropane	NY,ME,VA
2,2-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NY,ME,NH,VA
1,1-Dichloropropene	NH,NY,ME
1,1-Dichloropropene	NY,ME,NH,VA
cis-1,3-Dichloropropene	CT,NH,NY,ME
cis-1,3-Dichloropropene	CT,NY,ME,NH,VA
trans-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NY,ME,NH,VA
Diisopropyl Ether (DIPE)	NH,NY,ME
Diisopropyl Ether (DIPE)	NY,ME,NH,VA

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C in Water</i>	
Ethylbenzene	CT,NH,NY,ME
Ethylbenzene	CT,NY,ME,NH,VA
Hexachlorobutadiene	CT,NH,NY,ME
Hexachlorobutadiene	CT,NY,ME,NH,VA
2-Hexanone (MBK)	CT,NY,ME,NH,VA
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	NY,ME
Isopropylbenzene (Cumene)	NY,ME,VA
p-Isopropyltoluene (p-Cymene)	CT,NY,ME,NH,VA
p-Isopropyltoluene (p-Cymene)	CT,NH,NY,ME
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,ME
Methyl tert-Butyl Ether (MTBE)	CT,NY,ME,NH,VA
Methylene Chloride	CT,NY,ME,NH,VA
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NY,ME,NH,VA
Naphthalene	NH,NY,ME
Naphthalene	NY,ME,NH,VA
n-Propylbenzene	CT,NY,ME,NH,VA
n-Propylbenzene	CT,NH,NY,ME
Styrene	CT,NH,NY,ME
Styrene	CT,NY,ME,NH,VA
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NY,ME,NH,VA
1,1,2,2-Tetrachloroethane	CT,NY,ME,NH,VA
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NY,ME,NH,VA
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NY,ME,NH,VA
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NH,NY,ME
1,2,3-Trichlorobenzene	NY,ME,NH,VA
1,2,4-Trichlorobenzene	CT,NH,NY,ME
1,2,4-Trichlorobenzene	CT,NY,ME,NH,VA
1,1,1-Trichloroethane	CT,NY,ME,NH,VA
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NY,ME,NH,VA
Trichloroethylene	CT,NY,ME,NH,VA
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NY,ME,NH,VA
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,3-Trichloropropane	NY,ME,NH,VA
1,2,4-Trimethylbenzene	NY,ME,VA
1,2,4-Trimethylbenzene	NY,ME
1,3,5-Trimethylbenzene	NY,ME

CERTIFICATIONS
Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C in Water</i>	
1,3,5-Trimethylbenzene	NY,ME,VA
Vinyl Chloride	CT,NH,NY,ME
Vinyl Chloride	CT,NY,ME,NH,VA
m+p Xylene	CT,NY,ME,NH,VA
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NY,ME,NH,VA
o-Xylene	CT,NH,NY,ME
<i>SW-846 8270D in Water</i>	
Aniline	CT,NY
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	CT,NY,NH
1,3-Dichlorobenzene	CT,NY,NH
1,4-Dichlorobenzene	CT,NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenol	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8270D in Water</i>	
2,4,6-Trichlorophenol	CT,NY,NH
<i>SW-846 9014 in Water</i>	
Cyanide	NY,CT,NH,NC,ME,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Public Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017



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CHAIN OF CUSTODY RECORD

39 Spruce Street
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Page 1 of 1

Company Name: Tighe & Bond

Address: 446 Main Street

Worcester, MA 01608

Attention: Sean Hebis, Ryan Basting

Project Location: 350 East Eagle St. Boston, MA

Sampled By: RMB, Gaby Station 131

Telephone: 845-792-2992

Project #

Client PO#

DATA DELIVERY (check all that apply)

☐ FAX ☒ EMAIL ☐ WEBSITE

Fax #

Email:

Format:

☒ PDF ☒ EXCEL ☐ GIS

☐ OTHER Limit Checkers

☐ "Enhanced Data Package"

Collection

Beginning Date/Time

Ending Date/Time

Composite

Grab

Matrix

Date

Date

Comments

Notes to follow RMB

Project #

Client PO#

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☐ FAX ☒ EMAIL ☐ WEBSITE

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Page 1 of 2

Sample Receipt Checklist

CLIENT NAME: Tighe & Bond RECEIVED BY: RLF DATE: 11/18/16

1) Was the chain(s) of custody relinquished and signed? Yes X No No COC Incl.

2) Does the chain agree with the samples? Yes X No

If not, explain:

3) Are all the samples in good condition? Yes X No

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling Ambient In Cooler(s) X (2 coolers)

Were the samples received in Temperature Compliance of (2-6°C)? Yes X No N/A

Temperature °C by Temp blank Temperature °C by Temp gun 5.6/5.7

5) Are there Dissolved samples for the lab to filter? Yes No X

Who was notified Date Time

6) Are there any RUSH or SHORT HOLDING TIME samples? Yes X No

Who was notified Irma Date 11/18 Time 1745

7) Location where samples are stored:



Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature:

8) Do all samples have the proper Acid pH: Yes X No N/A

9) Do all samples have the proper Base pH: Yes X No N/A

10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes N/A X

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	<u>20</u>	16 oz amber	
500 mL Amber	<u>2</u>	8 oz amber/clear jar	
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic	<u>2</u>	2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic	<u>10</u>	SOC Kit	
40 mL Vial - type listed below	<u>16</u>	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle	<u>2</u>	Other glass jar	
Encore		Other	

40 mL vials: # HCl 10 # Methanol

Time and Date Frozen:

Doc# 277 # Bisulfate # DI Water

Rev. 4 August 2013 # Thiosulfate 60 Unpreserved

Page 2 of 2

Login Sample Receipt Checklist
(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

Question	Answer (True/False)	Comment
	T/F/NA	
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T	
21) Samples do not require splitting or compositing.	T	

Doc #277 Rev. 4 August 2013

Who notified of False statements?

Log-In Technician Initials:

Date/Time:

Date/Time:

RLF 11/18/16 1740

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16K1051
Project Location: 350 East Eagle St. Boston, MA	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16K1051-01 thru 16K1051-02

Matrices: Water

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B (X)	MassDEP APH CAM IX A ()
8270 SVOC CAM II B (X)	7010 Metals CAM III C ()	MassDEP EPH CAM IV A ()	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
6010 Metals CAM III A ()	6020 Metals CAM III D (X)	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A (X)	6860 Perchlorate CAM VIII B ()	

Affirmative response to Questions A through F is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☒ Yes ☐ No ¹
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ No ¹
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☒ Yes ☐ No ¹
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?	☒ Yes ☐ No ¹
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes ☐ No ¹
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ¹
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?	☒ Yes ☐ No ¹

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☒ No ¹
----------	---	--

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

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	☐ Yes ☒ No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☒ Yes ☐ No ¹

¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

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

Signature: Lisa A. Worthington

Position: Project Manager

Printed Name: Lisa A. Worthington

Date: 12/02/16

December 12, 2017

Michael Zylich
NSTAR Electric & Gas Corporation - Monthly Billing
One NSTAR Way, SUM SE-250
East Sandwich, MA 02090-9230

Project Location: Mystic to East Eagle
Client Job Number:
Project Number: E-0754-014
Laboratory Work Order Number: 17L0043

Enclosed are results of analyses for samples received by the laboratory on December 1, 2017. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jessica L. Hoffman
Project Manager

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NSTAR Electric & Gas Corporation - Monthly Billir

One NSTAR Way, SUM SE-250

East Sandwich, MA 02090-9230

ATTN: Michael Zylich

REPORT DATE: 12/12/2017

PURCHASE ORDER NUMBER: 64454 Release 1

PROJECT NUMBER: E-0754-014

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 17L0043

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Mystic to East Eagle

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Island End at Mystic	17L0043-01	Surface Water		EPA 200.7	MA M-MA-086/CT PH-0574/NY11148
				EPA 200.8	
				EPA 245.1	
				SM19-22 4500 NH3 C	
				SM21-22 3500 Cr B	
				SM2520B	
Chelsea River	17L0043-02	Surface Water		Tri Chrome Calc.	NY11393/MA-MAI138/M A1110
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				SM19-22 4500 NH3 C	
				SM21-22 3500 Cr B	
				SM2520B	NY11393/MA-MAI138/M A1110
				Tri Chrome Calc.	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

REVISED REPORT - 12/12/2017 - Project location and number revised per the request of Tighe & Bond.

EPA 200.8**Qualifications:****DL-15**

Sample required a dilution due to low internal standard recovery of the lesser diluted digestion, reporting limit is elevated.

Analyte & Samples(s) Qualified:**Antimony**

17L0043-01[Island End at Mystic], 17L0043-02[Chelsea River]

Arsenic

17L0043-01[Island End at Mystic], 17L0043-02[Chelsea River]

Cadmium

17L0043-01[Island End at Mystic], 17L0043-02[Chelsea River]

Chromium

17L0043-01[Island End at Mystic], 17L0043-02[Chelsea River]

Copper

17L0043-01[Island End at Mystic], 17L0043-02[Chelsea River]

Lead

17L0043-01[Island End at Mystic], 17L0043-02[Chelsea River]

Nickel

17L0043-01[Island End at Mystic], 17L0043-02[Chelsea River]

Selenium

17L0043-01[Island End at Mystic], 17L0043-02[Chelsea River]

Silver

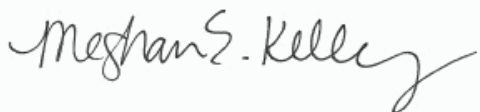
17L0043-01[Island End at Mystic], 17L0043-02[Chelsea River]

Zinc

17L0043-01[Island End at Mystic], 17L0043-02[Chelsea River]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Project Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Mystic to East Eagle

Sample Description:

Work Order: 17L0043

Date Received: 12/1/2017

Field Sample #: Chelsea River

Sampled: 12/1/2017 09:00

Sample ID: 17L0043-02

Sample Matrix: Surface Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	5.0		µg/L	5	DL-15	EPA 200.8	12/4/17	12/6/17 16:02	MJH
Arsenic	50	5.0		µg/L	5	DL-15	EPA 200.8	12/4/17	12/6/17 16:02	MJH
Cadmium	ND	1.0		µg/L	5	DL-15	EPA 200.8	12/4/17	12/6/17 16:02	MJH
Chromium	ND	50		µg/L	5	DL-15	EPA 200.8	12/4/17	12/6/17 16:02	MJH
Chromium, Trivalent	0.0			mg/L	1		Tri Chrome Calc.	12/4/17	12/7/17 5:50	MJH
Copper	98	5.0		µg/L	5	DL-15	EPA 200.8	12/4/17	12/6/17 16:02	MJH
Iron	0.089	0.050		mg/L	1		EPA 200.7	12/4/17	12/5/17 18:36	TJK
Lead	ND	5.0		µg/L	10	DL-15	EPA 200.8	12/4/17	12/6/17 15:55	MJH
Mercury	ND	0.00010		mg/L	1		EPA 245.1	12/6/17	12/7/17 9:26	EJB
Nickel	ND	25		µg/L	5	DL-15	EPA 200.8	12/4/17	12/6/17 16:02	MJH
Selenium	160	25	11	µg/L	5	DL-15	EPA 200.8	12/4/17	12/6/17 16:02	MJH
Silver	ND	1.0		µg/L	5	DL-15	EPA 200.8	12/4/17	12/6/17 16:02	MJH
Zinc	ND	100		µg/L	5	DL-15	EPA 200.8	12/4/17	12/6/17 16:02	MJH

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Project Location: Mystic to East Eagle

Sample Description:

Work Order: 17L0043

Date Received: 12/1/2017

Field Sample #: Chelsea River

Sampled: 12/1/2017 09:00

Sample ID: 17L0043-02

Sample Matrix: Surface Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	12/1/17	12/1/17 18:15	IS

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Project Location: Mystic to East Eagle

Sample Description:

Work Order: 17L0043

Date Received: 12/1/2017

Field Sample #: Chelsea River

Sampled: 12/1/2017 09:00

Sample ID: 17L0043-02

Sample Matrix: Surface Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Salinity	25.8	1	ppt	1		SM2520B		12/8/17 0:00	EURO

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Project Location: Mystic to East Eagle

Sample Description:

Work Order: 17L0043

Date Received: 12/1/2017

Field Sample #: Chelsea River

Sampled: 12/1/2017 09:00

Sample ID: 17L0043-02

Sample Matrix: Surface Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	0.057	0.075	mg/L	1		SM19-22 4500 NH3 C		12/6/17 0:00	ALPHA

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Sample Extraction Data**Prep Method: EPA 200.7-EPA 200.7**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17L0043-01 [Island End at Mystic]	B192415	50.0	50.0	12/04/17
17L0043-02 [Chelsea River]	B192415	50.0	50.0	12/04/17

Prep Method: EPA 200.8-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17L0043-01 [Island End at Mystic]	B192411	50.0	50.0	12/04/17
17L0043-02 [Chelsea River]	B192411	50.0	50.0	12/04/17

Prep Method: EPA 245.1-EPA 245.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17L0043-01 [Island End at Mystic]	B192610	6.00	6.00	12/06/17
17L0043-02 [Chelsea River]	B192610	6.00	6.00	12/06/17

SM21-22 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17L0043-01 [Island End at Mystic]	B192314	50.0	50.0	12/01/17
17L0043-02 [Chelsea River]	B192314	50.0	50.0	12/01/17

Prep Method: SW-846 3005A-Tri Chrome Calc.

Lab Number [Field ID]	Batch	Initial [mL]	Date
17L0043-01 [Island End at Mystic]	B192413	1.00	12/04/17
17L0043-02 [Chelsea River]	B192413	1.00	12/04/17

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QUALITY CONTROL
Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch B192411 - EPA 200.8
Blank (B192411-BLK1)

Prepared: 12/04/17 Analyzed: 12/05/17

Antimony	ND	1.0	µg/L
Arsenic	ND	1.0	µg/L
Cadmium	ND	0.20	µg/L
Chromium	ND	10	µg/L
Copper	ND	1.0	µg/L
Lead	ND	0.50	µg/L
Nickel	ND	5.0	µg/L
Selenium	ND	5.0	µg/L
Silver	ND	0.20	µg/L
Zinc	ND	20	µg/L

LCS (B192411-BS1)

Prepared: 12/04/17 Analyzed: 12/05/17

Antimony	568	10	µg/L	500	114	85-115
Arsenic	568	10	µg/L	500	114	85-115
Cadmium	568	2.0	µg/L	500	114	85-115
Chromium	542	100	µg/L	500	108	85-115
Copper	1060	10	µg/L	1000	106	85-115
Lead	566	5.0	µg/L	500	113	85-115
Nickel	534	50	µg/L	500	107	85-115
Selenium	577	50	µg/L	500	115	85-115
Silver	525	2.0	µg/L	500	105	85-115
Zinc	1120	200	µg/L	1000	112	85-115

LCS Dup (B192411-BSD1)

Prepared: 12/04/17 Analyzed: 12/05/17

Antimony	514	10	µg/L	500	103	85-115	9.91	20
Arsenic	520	10	µg/L	500	104	85-115	8.88	20
Cadmium	518	2.0	µg/L	500	104	85-115	9.30	20
Chromium	497	100	µg/L	500	99.5	85-115	8.50	20
Copper	978	10	µg/L	1000	97.8	85-115	7.93	20
Lead	514	5.0	µg/L	500	103	85-115	9.66	20
Nickel	492	50	µg/L	500	98.5	85-115	8.13	20
Selenium	534	50	µg/L	500	107	85-115	7.66	20
Silver	479	2.0	µg/L	500	95.8	85-115	9.26	20
Zinc	1070	200	µg/L	1000	107	85-115	4.70	20

Batch B192415 - EPA 200.7
Blank (B192415-BLK1)

Prepared: 12/04/17 Analyzed: 12/05/17

Iron	ND	0.050	mg/L
------	----	-------	------

LCS (B192415-BS1)

Prepared: 12/04/17 Analyzed: 12/05/17

Iron	4.27	0.050	mg/L	4.00	107	85-115
------	------	-------	------	------	-----	--------

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QUALITY CONTROL
Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B192415 - EPA 200.7										
LCS Dup (B192415-BSD1)				Prepared: 12/04/17 Analyzed: 12/05/17						
Iron	4.23	0.050	mg/L	4.00		106	85-115	1.12	20	
Batch B192610 - EPA 245.1										
Blank (B192610-BLK1)				Prepared: 12/06/17 Analyzed: 12/07/17						
Mercury	ND	0.00010	mg/L							
LCS (B192610-BS1)				Prepared: 12/06/17 Analyzed: 12/07/17						
Mercury	0.00199	0.00010	mg/L	0.00200		99.4	85-115			
LCS Dup (B192610-BSD1)				Prepared: 12/06/17 Analyzed: 12/07/17						
Mercury	0.00198	0.00010	mg/L	0.00200		99.2	85-115	0.298	20	

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QUALITY CONTROL
Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B192314 - SM21-22 3500 Cr B										
Blank (B192314-BLK1)				Prepared & Analyzed: 12/01/17						
Hexavalent Chromium	ND	0.0040	mg/L							
LCS (B192314-BS1)				Prepared & Analyzed: 12/01/17						
Hexavalent Chromium	0.11	0.0040	mg/L	0.100		112	86.6-115			
LCS Dup (B192314-BSD1)				Prepared & Analyzed: 12/01/17						
Hexavalent Chromium	0.12	0.0040	mg/L	0.100		115	86.6-115	2.46	6.61	
Matrix Spike (B192314-MS1)				Prepared & Analyzed: 12/01/17						
Hexavalent Chromium	0.098	0.0040	mg/L	0.100	ND	98.3	23.5-142			
Matrix Spike Dup (B192314-MSD1)				Prepared & Analyzed: 12/01/17						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100	ND	104	23.5-142	5.54	7.59	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
DL-15	Sample required a dilution due to low internal standard recovery of the lesser diluted digestion, reporting limit is elevated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 200.7 in Water</i>	
Iron	CT,MA,NH,NY,RI,NC,ME,VA
<i>EPA 200.8 in Water</i>	
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Arsenic	CT,MA,NH,NY,RI,NC,ME,VA
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Lead	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Selenium	CT,MA,NH,NY,RI,NC,ME,VA
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,NY,RI,NC,ME,VA
<i>EPA 245.1 in Water</i>	
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
<i>SM19-22 4500 NH3 C in Water</i>	
Ammonia as N	NY,MA,CT,RI,VA,NC,ME
<i>SM21-22 3500 Cr B in Water</i>	
Hexavalent Chromium	NY,CT,NH,RI,ME,VA,NC

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2018
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2018
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2018
RI	Rhode Island Department of Health	LAO00112	12/30/2017
NC	North Carolina Div. of Water Quality	652	12/31/2017
NJ	New Jersey DEP	MA007 NELAP	06/30/2018
FL	Florida Department of Health	E871027 NELAP	06/30/2018
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2018
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2017
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2018
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2018
NC-DW	North Carolina Department of Health	25703	07/31/2018

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con-test®
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

**Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False
Statement will be brought to the attention of the Client - State True or False**

Client NStar
Received By JM Date 12/11/17 Time 1700

How were the samples received? In Cooler T No Cooler On Ice T No Ice
Direct from Sampling Ambient Melted Ice

Were samples within Temperature? 2-6°C T By Gun # 577 Actual Temp - 3.1
By Blank # Actual Temp -

Was Custody Seal Intact? N/A Were Samples Tamed with? N/A
Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? T

Is COC in ink/ Legible? T Were samples received within holding time? T
Did COC include all Client T Analysis T Sampler Name T
pertinent Information? Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? N/A Who was notified?
Are there Rushes? N/A Who was notified?
Are there Short Holds? T Who was notified? Irma

Is there enough Volume? T

Is there Headspace where applicable? N/A MS/MSD? N/A
Proper Media/Containers Used? T Is splitting samples required? N/A
Were trip blanks received? N/A On COC? N/A

Do all samples have the proper pH? Acid T Base

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	2	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	2	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Unused Media

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 17L0043				
Project Location: Mystic , CT	RTN:				
This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)] 17L0043-01 thru 17L0043-02					
Matrices: Water					
CAM Protocol (check all that below)					
8260 VOC CAM II A ()	7470/7471 Hg CAM IIIB ()	MassDEP VPH CAM IV A ()	8081 Pesticides CAM V B ()	7196 Hex Cr CAM VI B ()	MassDEP APH CAM IX A ()
8270 SVOC CAM II B ()	7010 Metals CAM III C ()	MassDEP EPH CAM IV A ()	8151 Herbicides CAM V C ()	8330 Explosives CAM VIII A ()	TO-15 VOC CAM IX B ()
6010 Metals CAM III A ()	6020 Metals CAM III D ()	8082 PCB CAM V A ()	9014 Total Cyanide/PAC CAM VI A ()	6860 Perchlorate CAM VIII B ()	
Affirmative response to Questions A through F is required for "Presumptive Certainty" status					
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?				☒ Yes ☐ No ¹
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				☒ Yes ☐ No ¹
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?				☒ Yes ☐ No ¹
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?				☒ Yes ☐ No ¹
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).				☐ Yes ☐ No ¹
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?				☐ Yes ☐ No ¹
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?				☒ Yes ☐ No ¹
A response to questions G, H and I below is required for "Presumptive Certainty" status					
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				☒ Yes ☐ No ¹
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.					
H	Were all QC performance standards specified in the CAM protocol(s) achieved?				☒ Yes ☐ No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				☒ Yes ☐ No ¹
¹ All Negative responses must be addressed in an attached Environmental Laboratory case narrative.					
I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.					
Signature: 			Position: Director of Operations		
Printed Name: Daren J. Damboragian			Date: 12/08/17		