Tighe&Bond
Engineers | Environmental Specialists

E-0755-006A
November 20, 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 for Coverage Under the Remediation General Permit**
Mystic Generating Station (Station 250)
Construction Dewatering
Discharge of Treated Groundwater to Mystic River
Charlestown/Everett, Massachusetts

Dear Ms. Little:

On behalf of NSTAR Electric Company d/b/a Eversource Energy (Eversource), Tighe & Bond, Inc. (Tighe & Bond) is submitting the attached National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) (Appendix A) for coverage under the Remediation General Permit (RGP) for the replacement of the existing electric substation fence with an upgraded security fence, mostly within the same footprint, surrounding Station 250 (Mystic Generating Station), at 173 Alford Street in Charlestown/Everett, Massachusetts (the Project Site). The boundaries of the Project Site are shown on the Aerial Dewatering Site Plan (Figure 1). A Massachusetts Geographic Information Systems (MassGIS) Priority Resource Map is included as Figure 2, and a Process Flow Diagram are also included as Figure 3 (Appendix B).

As there is a need to treat and discharge water generated during construction dewatering activities, the enclosed NOI provides required information on the Project Site, proposed treatment system, discharge locations, receiving water, and laboratory analytical results from pre-discharge sampling and surface water sampling. The excavation dewatering and discharge of treated groundwater are scheduled to begin in December 2018 and end in December 2020.

Dewatered groundwater at the Project Site will be treated by a treatment system before being discharged to nearby catch basins and into stormwater drainage systems managed by the Boston Water and Sewer Commission (BWSC), or Exelon Corporation. All stormwater drainage systems specified in this NOI eventually discharge to the Mystic River. Post treatment discharge rates will range from 25 gallons per minute (GPM) to 275 GMP, with an average of 150 GPM.

Project Background

The project involves the installation of a new security fence surrounding Station 250 which will be installed majorly in the same footprint as the existing substation fence. This project is necessary to allow Eversource to comply with new federal reliability and physical security standards. Station 250 is located within a mixed industrial and commercial setting. The replacement fencing will be approximately 4,400-feet long and will consist of hardened panels supported by metal pillars and concrete foundations. The Project Site boundaries, or areas of replacement fencing subject to this RGP are shown on Figure 1 (Aerial Dewatering Site Plan), in Appendix B.

MCP History

Based on information maintained on the Massachusetts Department of Environmental Protection (MassDEP) Bureau of Waste Site Cleanup (BWSC) online database, 17 releases of oil or hazardous materials have been reported at the Station 250, Mystic Generating Station. Four of the releases, Release Tracking Number (RTNs) 3-20199, 3-21131, 3-21688 and 3-25900, are associated with Station 250. Containments of concern (COCs) associated with the releases include polychlorinated biphenyls (PCBs), petroleum constituents, lead and light non-aqueous phase liquid (LNAPL). The Disposal Site boundaries associated with each of the reported releases are shown on Figure 1 (Aerial Dewatering Site Plan).

Groundwater Characterization

To determine groundwater quality in the project area, unfiltered groundwater samples were collected from two groundwater monitoring wells (B-3 and B-17) at Station 250. LNAPL was not observed in either groundwater monitoring well during sampling events. Locations of the monitoring wells are shown on Figure 1 (Aerial Dewatering Site Plan) in Appendix B.

The groundwater samples were submitted to ESS Laboratory of Cranston, Rhode Island for laboratory analysis of Environmental Protection Agency (EPA) RGP parameters. Laboratory analytical results are summarized in Table 1 (Appendix E). Copies of the laboratory analytical reports are included in Appendix F.

Laboratory analytical results are compared to the RGP Technology Based Effluent Limitations (TBEL) and Water Quality Based Effluent Limitations (WQBEL). Containments of concern (COCs) are analytes that exceeded the applicable effluent limitation. COCs detected in the monitoring wells include ammonia, chloride, total suspended solids (TSS), copper, iron, nickel, zinc, diethylhexyl phthalate (DEHP), group I PAHs, and polychlorinated biphenyls (PCBs).

Receiving Water Classification

Mystic River (waterbody identification MA71-03) is classified as a Class SB (CSO) impaired water body and is listed in the 303(d) Impaired Waterbodies document. This portion of the Mystic 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 and submitted for laboratory analysis of RGP metals detected in the influent samples, ammonia, and salinity. Temperature and pH of the surface water was recorded in the field at the time of sample collection. Analytical results for the surface water sample, as well as temperature and pH are summarized in Table 2 (Appendix E). The laboratory report for the surface water sample is included in Appendix F.

Treatment System

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

Depending on the level of treatment required, the treatment system may be composed of flocculation tubes, a 9,000 gallon open top fractionation tank with a weir, a series of bag filters/media vessels and organoclay media.

Due to the anticipated influent concentrations of TSS, the addition of flocculants via a series of ChitoSan tubes, may be required to achieve effluent limits. The method of application for the flocculants would be in-line discharge prior to water entering the fractionation tank. The flocculants proposed are part of the HaloKlear Dual Polymer System (DPS). With the DPS, polymers are fixed inside a tube, and continually doses the water as it moves through the tube. The polymer dose will be at a rate of 2 parts-per-million (PPM) per flocculant. When water stops flowing through the system, the polymer dosing will also cease. After water has moved through the flocculant tubes, it will enter the fractionation tank, or settling tank where coagulated solids will settle out. From the fractionation tank, water will be pumped through a series of bag filters/media vessels (i.e, organoclay) for TSS and dissolved metal removal.

Since the flocculant tubes dose the stream of water flowing through the treatment system, the frequency and duration at which the dewatered groundwater is exposed to the flocculant tubes is continuous flow, whenever dewatering is occurring. The flocculants will be added at a constant dosage rate of 2 PPM per minute per flocculant (120 PPM of flocculants per hour). The treatment system will be operated for a maximum of 8 hours per day (480 minutes per day), for a daily maximum concentration of 960 PPM per flocculant.

The proposed flocculants are part of the HaloKlear Dual Polymer System (DPS) and include HaloKlear LBP-2101, HaloKlear DBP-2100, HaloKlear LiquiFloc 2% and HaloKlear GEL-Floc. Material and Safety Data Sheets associated with this treatment system have been included after Figure 3 (Process Flow Diagram) in Appendix B.

The addition of the proposed flocculants will not add any pollutants in concentrations which exceed permit effluent limitations. Chemicals included in the DPS are naturally derived and 100% biodegradable. The HaloKlear DBP-2100 is formulated from a plant-based protein and the HaloKlear GEL-Floc is a Chitosan lactate made from the exoskeletons of crustaceans. The chemical combinations in the proposed HaloKlear DPS has additionally passed fish kill studies.

The addition of the proposed flocculant will not exceed any applicable water quality standard due to the flocculant tubes being derived from plant-based proteins and crustacean exoskeletons.

The addition of the proposed flocculants will not add any pollutants that would justify the application of permit conditions that are different or absent from this permit. There is no concern for the addition of pollutants from the addition of the flocculants; therefore, there is no concern for the application of permit conditions that are different or absent from this permit.

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

Owner and Operator

The Site owner and Site operator will be co-permittees for this NPDES RGP application. The Site operator has not been selected, and notification will be made to the EPA upon selection.

Owner	**Operator**
NSTAR Electric Company d/b/a Eversource Energy 247 Station Drive Westwood, MA 02090	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 Site is not within an ACEC and no National Heritage & Endangered Species Program (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 Site 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 exisiting electrical substation that borders industrial and commercial properties. The discharge will go through a treatment system prior to being discharged, which will remove solids and the COCs identified in groundwater. The discharge will also go through an exisiting drainage network to an exisiting outfall. 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 or dewatering activities.

- According to the United States Fish and Wildlife Services (USFWS) Information, Planning and Conservation (IPaC) tool there are no federally threatened or endangered species within the Project Site or outfall area. There are also no critical habitats for any federally threatened or endangered species in the action area; therefore, the permit eligibility meets "Criterion A".

- 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 Mystic 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 Alford Street, adjacent to the Project Site. 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 B-3 and B-17 in July of 2017. The groundwater samples were submitted for laboratory analysis of RGP parameters. Laboratory analytical results were compared to *Table 1: Parameters, Required Minimum Levels (MLs), and Common Test Methods, used for selecting sufficiently sensitive test methods for RGP NOI preparation*. Although some of the laboratory analytical results do not meet the requirements set in Table 1, it is the opinion of Tighe & Bond that data collected meets the Existing Data Substitution, as specified in the RGP Part 4, Section 5. The laboratory analytical results are summarized in Table 1 included in Appendix E. Copies of the laboratory analytical reports are included in Appendix F. Laboratory analytical results were compared to the RGP TBEL and WQBEL to determine the applicable effluent limitations for the Project Site.

- The surface water sample, Mystic at Boston Inner, was collected from the Mystic River within a quarter mile of the potential outfall location in November of 2017. The surface water sample was submitted for laboratory analysis of RGP parameters that were detected in the influent samples. The laboratory analytical results are summarized in Table 2 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 limits. Treated effluent will be sampled at start up and in accordance with permit requirements and submitted for laboratory analysis of required analysis to confirm the treatment system is operating as designed. Sufficiently sensitive test methods and MLs will be used for influent and effluent monitoring. Additionally, the flowrate, 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) 304-6355 at your convenience.
Very truly yours,

TIGHE & BOND, INC.

Colleen E. Brothers
Environmental Scientist

Michael E. Martin
Project Manager

Enclosures
Copy: Matthew Waldrip - Eversource

List of Appendices

Appendix A	Notice of Intent
Appendix B	Figure 1 Aerial Dewatering Site Plan
	Figure 2 MassGIS Priority Resource Map
	Figure 3 Process Flow Diagram
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 Analytical Results (Table 1)
	Surface Water Analytical Results (Table 2)
	WQBEL Calculations
Appendix F	Laboratory Analytical Reports

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APPENDIX A

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

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:
Mystic Substation (Station 250)</td><td colspan="3">Site address: 173 Alford Street
Street:</td></tr>
<tr><td>City: Charlestown</td><td>State: MA</td><td>Zip: 02129</td></tr>
<tr><td rowspan="4">2. Site owner
NSTAR Electric Company d/b/a Eversource Energy

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Matthew Waldrip</td></tr>
<tr><td colspan="2">Telephone: 781-441-8247</td><td>Email: matthew.waldrip@eversource.com</td></tr>
<tr><td colspan="3">Mailing address: 247 Station Drive, SE 2122
Street:</td></tr>
<tr><td>City: Westwood</td><td>State: MA</td><td>Zip: 02090</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
A separate operator will be selected but is not known at the time of submittal.</td><td colspan="3">Contact Person:</td></tr>
<tr><td colspan="2">Telephone:</td><td>Email:</td></tr>
<tr><td colspan="3">Mailing address:
Street:</td></tr>
<tr><td>City:</td><td>State:</td><td>Zip:</td></tr>
<tr><td>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:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s):
3-20199, 3-21131, 3-21688 and 3-25900
☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:
☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Mystic River	MA71-03	SB (CSO)

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: Discharge is to a surface water body, MassDEP Coastal Wetlands are identified in close proximity to the proposed outfall location.

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. Priority organics, Unionized Ammonia, Organic enrichment/Low DO, Pathogens, Oil and grease, Taste, odor and color, Turbidity

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.	N/A (saltwater)
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.	1:1

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

If yes, indicate date confirmation received:

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

2. Source water contaminants: ammonia, chloride, TSS, copper, iron, nickel, zinc, DEHP,Group I PAHs, total PCBs	
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): BWSC Outfall SD019 BWSC Outfall SD06 Exelon Outfall 001	Outfall location(s): (Latitude, Longitude) 42.390070, -71.070290 42.390478, -71.070708 42.38987, -71.069693
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: There is a private drainage system owned by Exelon Corporation within the substation, BWSC owns the drainage system along Alford Street. ■ 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: The Owner/Operator will obtain the necessary discharge permits from BWSC and Exelon prior to discharge. 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): October 2018 to December 2020 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	

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="5">☐ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
■ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
☐ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✔	2	350.1	0.10mg/L	1.96 mg/L	1.37 mg/L	Report mg/L	---
Chloride		✔	2	300.0	250mg/L	1,040 mg/L	719.50 mg/L	Report µg/l	---
Total Residual Chlorine	✔		2	4500Cl D	20.0	<20.0	0	0.2 mg/L	7.5
Total Suspended Solids		✔	2	2540D	100mg/L	27,600 mg/L	14,037 mg/L	30 mg/L	---
Antimony	✔		2	200.7	10.0	<10.0	<10.0	206 µg/L	640
Arsenic		✔	2	3113B	1.0	3.5	2.70	104 µg/L	36
Cadmium		✔	2	3113B	0.25	0.99	0.71	10.2 µg/L	8.9
Chromium III		✔	2	200.7	10.0	16.7	14.15	323 µg/L	100.0
Chromium VI	✔		2	3500Cr	10.0	<10.0	<10.0	323 µg/L	50
Copper		✔	2	200.7	4.0	62.8	44.9	242 µg/L	3.7
Iron		✔	2	200.7	20.0	9,260	8,345	5,000 µg/L	NE
Lead		✔	2	3113B	1.0	7.6	6.1	160 µg/L	8.5
Mercury	✔		2	245.1	0.200	<0.200	0	0.739 µg/L	1.11
Nickel		✔	2	200.7	10.0	23.2	17.15	1,450 µg/L	8.3
Selenium	✔		2	3113B	2.0	<2.0	<2.0	235.8 µg/L	71
Silver	✔		2	200.7	1.0	<1.0	<1.0	35.1 µg/L	2.2
Zinc		✔	2	200.7	10.0	771	472.5	420 µg/L	86
Cyanide	✔		2	4500CNC	5.0	<0.005	0	178 mg/L	1.0
B. Non-Halogenated VOCs									
Total BTEX	✔		2	524.2	0.5	<0.5	<0.5	100 µg/L	---
Benzene	✔		2	524.2	0.5	<0.5	<0.5	5.0 µg/L	---
1,4 Dioxane		✔	2	8270D	0.250	0.950	0.61	200 µg/L	---
Acetone		✔	2	524.2	5.0	0.0246	0.021	7.97 mg/L	---
Phenol	✔		2	420.1	100	<100	0	1,080 µg/L	300

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	✔		2	524.2	0.3	<0.3	<0.3	4.4 µg/L	1.6
1,2 Dichlorobenzene	✔		2	524.2	0.5	<0.5	<0.5	600 µg/L	---
1,3 Dichlorobenzene	✔		2	524.2	0.5	<0.5	<0.5	320 µg/L	---
1,4 Dichlorobenzene	✔		2	524.2	0.5	<0.5	<0.5	5.0 µg/L	---
Total dichlorobenzene	✔		2	524.2	0.5	<0.5	<0.5	763 µg/L in NH	---
1,1 Dichloroethane	✔		2	524.2	0.5	<0.5	<0.5	70 µg/L	---
1,2 Dichloroethane	✔		2	524.2	0.5	<0.5	<0.5	5.0 µg/L	---
1,1 Dichloroethylene	✔		2	524.2	0.5	<0.5	<0.5	3.2 µg/L	---
Ethylene Dibromide	✔		2	504.1	0.015	<0.015	<0.015	0.05 µg/L	---
Methylene Chloride	✔		2	524.2	0.5	<0.5	<0.5	4.6 µg/L	---
1,1,1 Trichloroethane	✔		2	524.2	0.5	<0.5	<0.5	200 µg/L	---
1,1,2 Trichloroethane	✔		2	524.2	0.5	<0.5	<0.5	5.0 µg/L	---
Trichloroethylene	✔		2	524.2	0.5	<0.5	<0.5	5.0 µg/L	---
Tetrachloroethylene		✔	2	524.2	0.5	1.4	0.825	5.0 µg/L	3.3
cis-1,2 Dichloroethylene	✔		2	524.2	0.5	<0.5	<0.5	70 µg/L	---
Vinyl Chloride	✔		2	524.2	0.2	<0.2	<0.2	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates		✔	2	625	2.34	9.48	2.46	190 µg/L	NE
Diethylhexyl phthalate		✔	2	625	2.34	9.48	8.90	101 µg/L	2.2
Total Group I PAHs		✔	2	625	0.05	1.38	0.14	1.0 µg/L	---
Benzo(a)anthracene		✔	2	625	0.05	0.25	0.18	As Total PAHs	0.0038
Benzo(a)pyrene		✔	2	625	0.05	0.26	0.18		0.0038
Benzo(b)fluoranthene		✔	2	625	0.05	0.33	0.22		0.0038
Benzo(k)fluoranthene		✔	2	625	0.05	0.12	0.07		0.0038
Chrysene		✔	2	625	0.05	0.24	0.18		0.0038
Dibenzo(a,h)anthracene	✔		2	625	0.05	<0.05	<0.05		0.0038
Indeno(1,2,3-cd)pyrene		✔	2	625	0.05	0.18	0.12		0.0038

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs		✔	2	625	0.19	1.44	1.19	100 µg/L	---
Naphthalene		✔	2	625	0.19	0.37	0.23	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs		✔	2	608	0.09	0.10	0.05	0.000064 µg/L	---
Pentachlorophenol	✔		2	625	0.84	<0.84	0	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		2	1664A	5mg/L	<5 mg/L	0	5.0 mg/L	---
Ethanol	✔		2	ASTM	10mg/L	<10 mg/L	<10 mg/L	Report mg/L	---
Methyl-tert-Butyl Ether	✔		2	524.2	0.5	<0.5	<0.5	70 µg/L	20
tert-Butyl Alcohol	✔		2	524.2	25.0	<25	<25	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		2	524.2	1.0	<1.0	<1.0	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									

E. Treatment system information

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

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

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

Groundwater will be pumped from the excavation into the flocculent tube and then into a 9,000 gallon open top fractionation tank with a weir. Water will then be pumped from the fractionation tank into two bag filter systems and then into two media vessels before being discharged.

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:	150
Provide the proposed maximum effluent flow in gpm.	275
Provide the average effluent flow in gpm.	150
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:
MSDS's for each proposed flocculant are included in Appendix B of the NOI Application. Additional information requested below is included in the cover letter.
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:	A BMPP meeting the requirements of this general permit will be developed and implemented upon initiation of discharge.
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ☐
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ■ No ☐ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ■ No ■ NA ☐
Signature: 	Date: 9/25/18
Print Name and Title: Matthew Waldrip, Senior Environmental Specialist	

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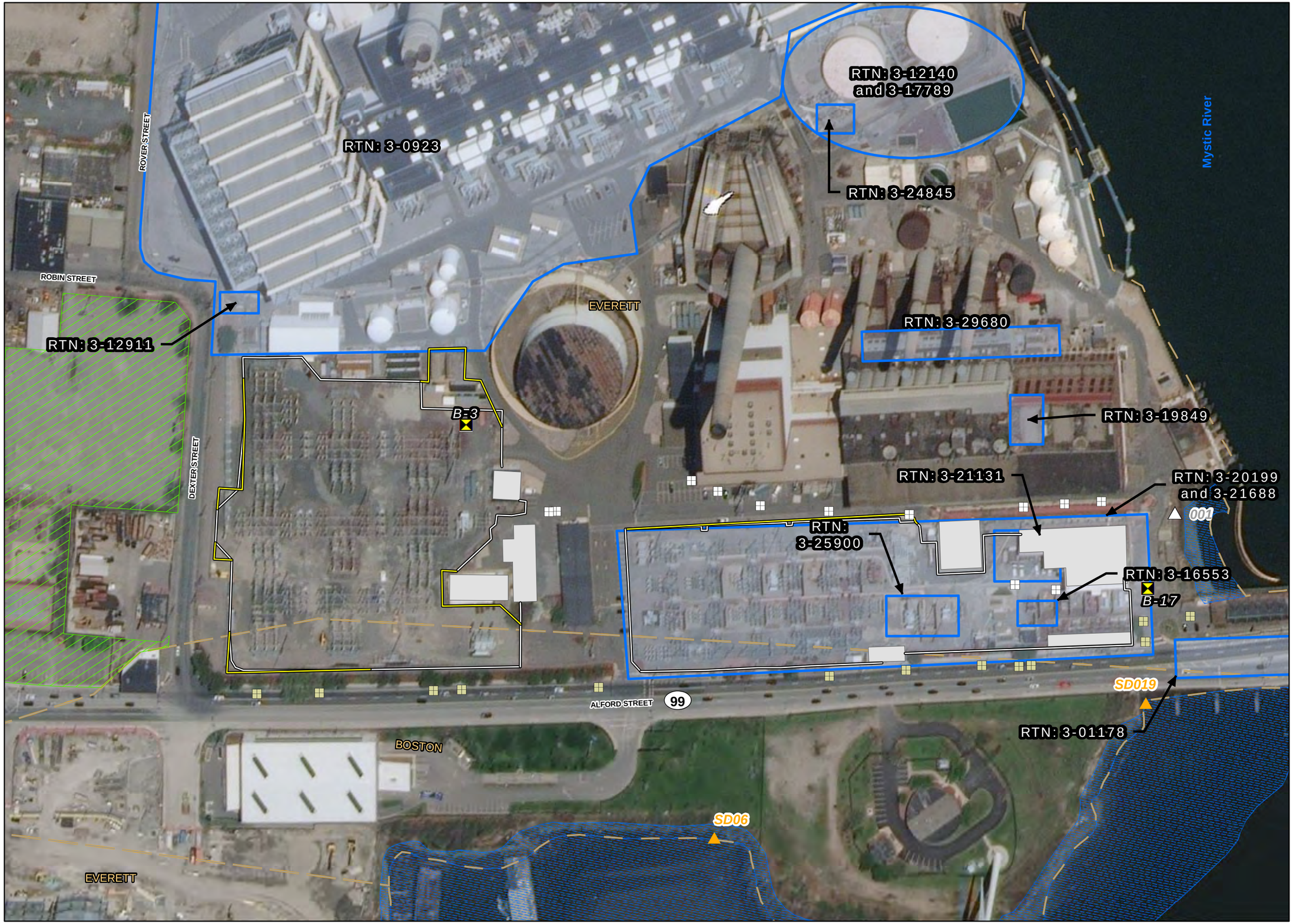
APPENDIX B

Figure 1
Station 250
Soil Management Plan



- BWSC Catch Basin
- Exelon Catch Basin
- BWSC Outfall
- Exelon Outfall
- Boring location/ Monitoring Well
- Disposal Site Boundary
- Town Boundary
- Proposed Fence
- Existing Fence
- MassDEP Coastal Wetlands
- Protected and Recreational Open Space

LOCUS MAP

0 75 150
Feet
1:1,800

NOTES

1. Ortho Source: ESRI Basemap Imagery.

Eversource Energy
Fence Project
Station 250
173 Alford Street
Charlestown, Massachusetts

September 2018

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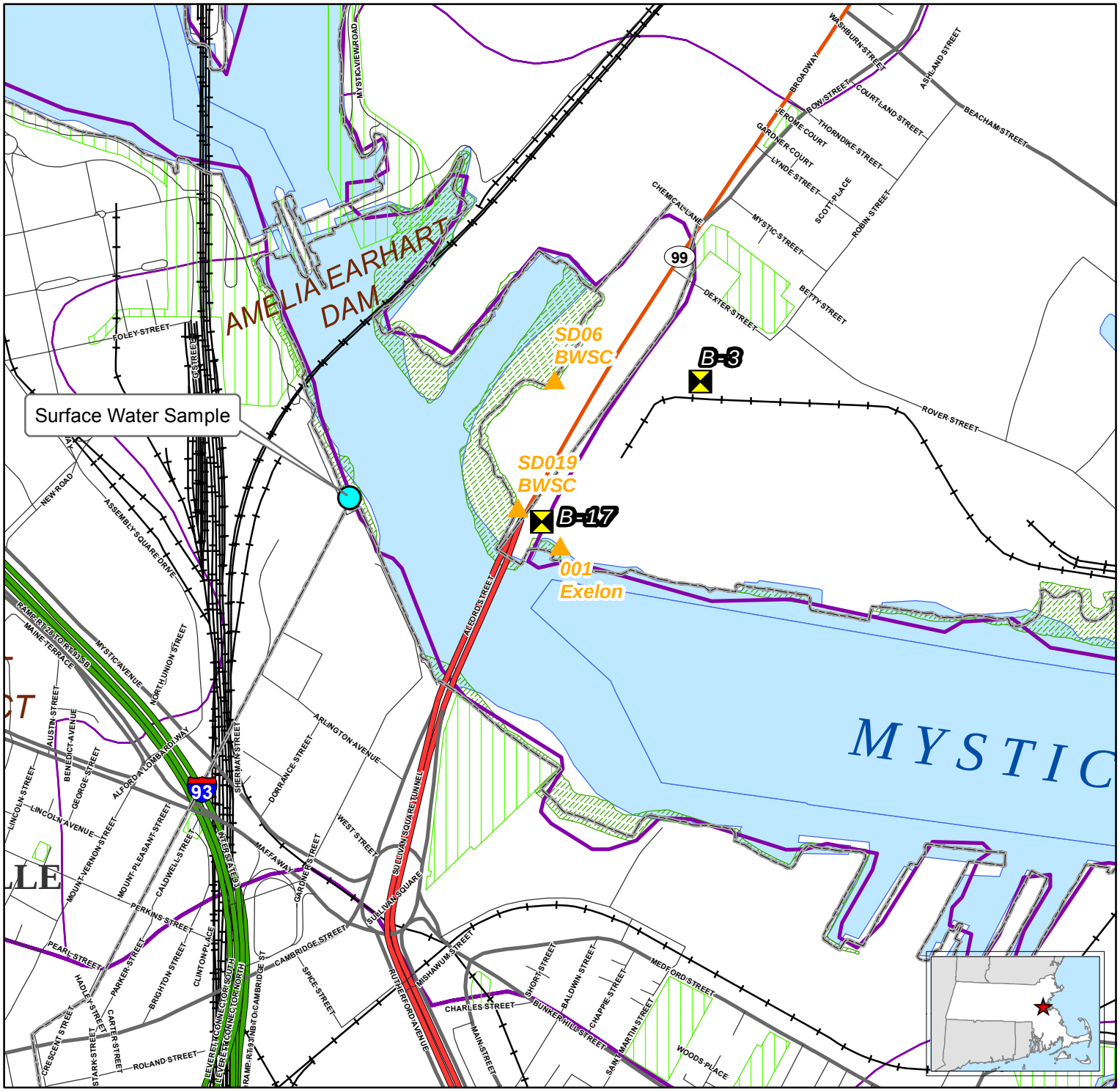

NHESP Certified Vernal Pools
NHESP Potential Vernal Pools
Non-Landfill Solid Waste Sites
Community Public Water Supply - Surface Water
Community Public Water Supply - Groundwater
Non-Community Non-Transient Public Water Supply
Non-Community Transient Public Water Supply
Limited Access Highway
Multi-Lane Highway, NOT Limited Access
Other Numbered Highway
Major Road - Collector
Minor Street or Road
Aqueducts
Hydrologic Connections
Stream/Intermittent Stream

Powerline
Pipeline
Track or Trail
Trains
Public Surface Water Supply Protection Area (Zone A)
DEP Approved Wellhead Protection Area (Zone I)
DEP Approved Wellhead Protection Area (Zone II)
DEP Interim Wellhead Protection Area (IWPA)
Protected and Recreational Open Space
Solid Waste Landfill
Area of Critical Environmental Concern (ACEC)
NHESP Priority Habitats for Rare Species
NHESP Estimated Habitats for Rare Wildlife
EPA Designated Sole Source Aquifer
Major Drainage Basin
Sub Drainage Basin
MassDEP Inland Wetlands

MassDEP Coastal Wetlands
Public Surface Water Supply (PSWS)
Water Bodies
Non-Potential Drinking Water Source Area - High Yield
Non-Potential Drinking Water Source Area - Medium Yield
Potentially Productive Medium Yield Aquifer
Potentially Productive High Yield Aquifer
Town Boundary
Water Surface Sample
Outfall
Boring location/ Monitoring Well

1:9,600
0 400 800
Feet

N

FIGURE 2
PRIORITY RESOURCES

Eversource Energy
Station 250
173 Alford Street
Charlestown, Massachusetts

Data source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology
Circles indicate 500-foot and half-mile radii.
Data valid as of September 2018.

September 2018

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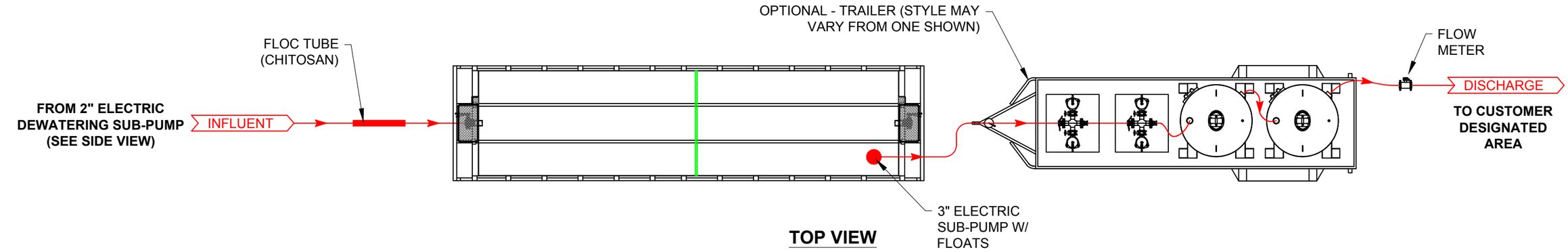
E-0755

CONFIDENTIAL

PROPRIETARY

EVERSOURCE STATION 250 PROJECT - CHARLESTOWN, MA
SYSTEM FOR TSS & METALS UP TO 150 GPM



TOP VIEW

220 BBL EZ CLEAN MUD TANK	
Equipment:	EZ Clean Open Top Container
Capacity:	220 BBL (9,240 Gal.)
Dimensions:	33'x8'x6'

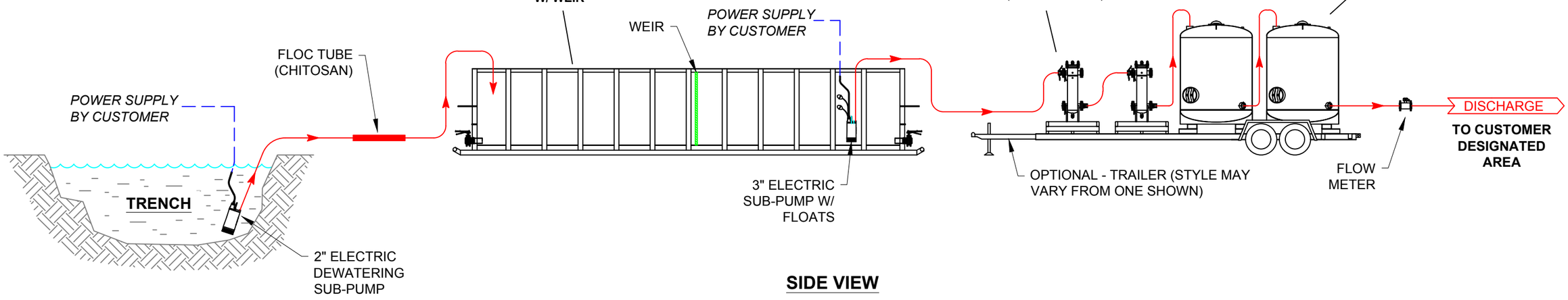
W/ WEIR

DUAL BAG FILTER SYSTEM	
Equipment:	L88303FA41523F4DF
Flow:	200 gpm
Dimensions:	4'x4'x5'

QTY: 2 - EACH W/ STRING WOUND BAGS (LEAD SYSTEM)

3000 HPV MEDIA VESSEL	
Flow Rate:	150 gpm (Max)
Capacity:	102 cu. ft.
Dimensions:	5' Dia. x 8' Tall

QTY: 2



SIDE VIEW

BAKERCORP™ 7800 N. DALLAS PARKWAY, SUITE 500 PLANO, TX 75024-4087

TITLE: **EVERSOURCE STATION 250 PROJECT - CHARLESTOWN, MA PROCESS FLOW DIAGRAM**

SHEET SIZE: B 11" x 17"	MATERIAL:	CUSTOMER: TIGHE & BOND			BRANCH: BOS
		DWG BY: M. BROOKS	DATE: 09-17-18	SCALE: -	SHEET: 1 OF: 1
	FINISH:	CKD BY: M. SCOPELLETI	DATE: 09-17-18	DWG No: **Figure 3**	REV: -

HaloKlear LBP-2101

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 03/03/2016

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : HaloKlear LBP-2101

Product code : 300014

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Water Treatment

1.3. Details of the supplier of the safety data sheet

Dober Chemical Corp.
11230 Katherine's Crossing
Suite 100
Woodridge,IL 60517 - USA
T 630-410-7300 - F 630-410-7444
regulatory@dobergroup.com - www.dober.com

1.4. Emergency telephone number

Emergency number : 1-800-255-3924 / 1-813-248-0585
ChemTel

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labelling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Allow breathing of fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable.

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

None known.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. No smoking.

Hygiene measures : Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well-ventilated place. Keep container closed when not in use.

Incompatible products : None known.

Incompatible materials : None known.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

HaloKlear LBP-2101	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear protective gloves/protective clothing/eye protection/face protection protective gloves.

Eye protection : Chemical goggles or safety glasses.

Respiratory protection	:	Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Other information	:	Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Clear to milky white
Odour	:	vinegar
Odour threshold	:	No data available
pH	:	3.4 - 3.8
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	0.95 - 0.99 g/ml
Solubility	:	Water: 100 %
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Not classified
Skin corrosion/irritation	:	Not classified pH: 3.4 - 3.8
Serious eye damage/irritation	:	Not classified pH: 3.4 - 3.8
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified
Potential adverse human health effects and symptoms	:	Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

HaloKlear LBP-2101	
LC50 fish 1	> 4000 mg/l Rainbow Trout; 96 hr
NOEC (acute)	4000 mg/l

12.2. Persistence and degradability

HaloKlear LBP-2101	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

HaloKlear LBP-2101	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming	:	No known ecological damage caused by this product.
Other information	:	No other effects known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	:	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Waste disposal recommendations	:	Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

UN-No.(DOT)	:	Non Regulated
UN-No. (IMDG)	:	Non Regulated
UN-No. (IATA)	:	Non Regulated

14.2. UN proper shipping name

Proper Shipping Name (DOT)	:	Not applicable
Proper Shipping Name (IMDG)	:	Not applicable
Proper Shipping Name (IATA)	:	Not applicable

14.3. Transport hazard class(es)

Transport hazard class(es) (DOT) : Not applicable

:

Transport hazard class(es) (IMDG) : Not applicable

Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

14.5. Environmental hazards

Marine pollutant(IMDG) : No

Marine pollutant(IATA) : No

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA
No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

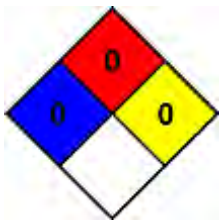
SECTION 16: Other information

Other information : None.

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 0 - No significant risk to health

Flammability : 0

Physical : 0

Personal Protection : B

Safety Data Sheet

acc. to OSHA HCS

1 IDENTIFICATION

· **Product identifier**

Product form	: Substance
Product name	: HaloKlear DBP-2100 Socks
Chemical name	: Xanthan Gum
CAS No	: 11138-66-2
Product code	: 210014

· **Relevant identified uses of the substance or mixture and uses advised against**

Uses of the substance/mixture : Flocculant

· **Manufacturer/Supplier:**

Sound Environmental Concepts
22726 102nd Ave SE, Woodinville, WA 98077
1 (206) 730 - 5376
ray@soundenvirocon.com

· **Information department:** Product safety department

· **Telephone number:**
+ 1 (206) 730 – 5376

· Information department: Product safety department

· Emergency telephone number: +1 (800) 424-9300 (24 Hours)
During normal opening times: +1 (425) 881-6464
CHEMTREC (Domestic, North America) +1-703-527-3887 CHEMTREC (International, collect calls accepted)

2 HAZARD(S) IDENTIFICATION

· **Classification of the substance or mixture**
GHS-US Classification
Not classified

Safety Data Sheet

Trade Name: HaloKlear DBP-2100 Socks

2 HAZARD(S) IDENTIFICATION CONTD.

· **Label Elements**
GHS-US Labelling
No labeling applicable
· **Other hazards**
Other hazards not contributing to the classification : *May form combustible dust concentrations in air. May cause eye irritation.*
· **Unknown acute toxicity (GHS-US)**
Not applicable

3 COMPOSITION/INFORMATION ON INGREDIENTS

· **Substance**
Substance type : *Mono-constituent*
Name : *HaloKlear DBP-2100 Socks*
CAS No : *11138-66-2*
Fulltext of H-statements: see section 16
· **Mixture**
Not applicable

4 FIRST AID MEASURES

· **Description of first aid measures**
First-aid measures general : *Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).*
First-aid measures after inhalation : *Allow breathing of fresh air. Allow the victim to rest.*
First-aid measures after skin contact : *Removed affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.*
First-aid measures after eye contact : *Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.*
First-aid measures after ingestion : *Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.*

Safety Data Sheet

Trade Name: HaloKlear DBP-2100 Socks

4 FIRST AID MEASURES

· **Most important symptoms and effects, both acute and delayed**
Symptoms/Injuries after eye contact : Not expected to present a significant hazard under anticipated conditions of normal use.

· **Indication of any immediate medical attention and special treatment needed**
No additional information available

5 FIRE-FIGHTING MEASURES

· **Extinguishing media**
Suitable extinguished media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.

· **Special hazards arising from the substance or mixture**
Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

· **Advice for firefighters**
Firefighting instructions : Exercise caution when fighting any chemical fire. Eliminate all ignition sources if safe to do so. Use water spray of fog for cooling exposed containers.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
Other information : Spills produce extremely slippery surfaces. Avoid dust formation.

6 ACCIDENTAL RELEASE MEASURES

· **Personal precautions, protective equipment and emergency procedures**

· **For non-emergency personnel**
Emergency procedures : Evacuate unnecessary personnel.

· **For emergency responders**
Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Ventilate area

· **Environmental precautions**
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

Safety Data Sheet

Trade Name: HaloKlear DBP-2100 Socks

6 ACCIDENTAL RELEASE MEASURES

· **Personal precautions, protective equipment and emergency procedures**
General measures : *Use special care to avoid static electric charges.*
· **For non-emergency personnel**
Emergency procedures : *Evacuate unnecessary personnel.*
· **For emergency responders**
Protective equipment : *Equip cleanup crew with proper protection.*
Emergency procedures : *Ventilate area.*
· **Environmental precautions**
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.
· **Methods and material for containment and cleaning up**
Methods of cleaning up : *On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.*
· **Reference to other sections**
See Section 8. Exposure controls and personal protection.

7 HANDLING AND STORAGE

· **Precautions for safe handling**
Precautions for safe handling : *Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and leaving work. Provide good ventilation in process area to prevent formation of vapor. No smoking.*
· **Conditions for safe storage, including and incompatibles**
Storage conditions : *Keep only in the original container in a cool, well-ventilated place. Keep container closed when not in use.*
Incompatible products : *Oxidizing agent.*
Incompatible materials : *Sources of ignition.*
· **Specific end use(s)**
No additional information available

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

· **Control parameters**
HaloKlear DBP-2100 Socks
ACGIH : *Not applicable*
OSHA : *Not applicable*

Safety Data Sheet

Trade Name: HaloKlear DBP-2100 Socks

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

· **Exposure controls**

Personal protective equipment	*: Avoid all unnecessary exposure.*
Hand protection	*: Wear protective gloves/protective clothing/eye protection/face protection protective gloves.*
Eye protection	*: Chemical goggles or safety glasses.*
Respiratory protection	*: Use a property fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.*
Other information	*: Do not eat, drink or smoke during use.*

9 PHYSICAL AND CHEMICAL PROPERTIES

· **Information on basic physical and chemical properties**

Physical state	*: Solid*
Color	*: White to tan*
Odor	*: odorless*
Odour threshold	*: No data available*
pH	*: approximately neutral (1% solution)*
Relative evaporation rate	*: No data available*
Melting point	*: No data available*
Freezing point	*: No data available*
Boiling point	*: No data available*
Flash point	*: No data available*
Auto-ignition temperature	*: No data available*
Decomposition temperature	*: No data available*
Flammability (solid, gas)	*: No data available*
Vapor pressure	*: No data available*
Relative vapor density	*: No data available*
Relative density	*: No data available*
Solubility	*: Water: 100 %*
Log Pow	*: No data available*
Log Kow	*: No data available*
Viscosity, kinematic	*: No data available*

Safety Data Sheet

Trade Name: HaloKlear DBP-2100 Socks

9 PHYSICAL AND CHEMICAL PROPERTIES

Viscosity, dynamic	*: No data available*
Explosive properties	*: No data available*
Oxidizing properties	*: No data available*
Explosive limits	*: No data available*

· **Other Information**

No additional information available

10 STABILITY AND REACTIVITY

· **Reactivity**

The product is non-reactive under normal conditions of use, storage and transport.

· **Chemical stability**

Stable under normal conditions.

· **Possibility of hazardous reactions**

No dangerous reactions known under normal conditions of use.

· **Conditions to avoid**

Avoid dust formation.

· **Incompatible materials**

Oxidizing agent.

· **Hazardous decomposition products**

Thermal decomposition generates: Carbon dioxide. Carbon monoxide. Fume.

11 TOXICOLOGICAL INFORMATION

· **Information on toxicological effects**

Acute toxicity	*: Not classified*
Skin corrosion/irritation	*: Not classified* *pH: approximately neutral (1% solution)*
Serious eye damage/irritation	*: Not classified* *pH: approximately neutral (1% solution)*
Respiratory or skin sensitization	*: Not classified*
Germ cell mutagenicity	*: Not classified*
Carcinogenicity	*: Not classified*
Reproductive toxicity	*: Not classified*
Specific target organ toxicity (single exposure)	*: Not classified*

Safety Data Sheet

Trade Name: HaloKlear DBP-2100 Socks

11 TOXICOLOGICAL INFORMATION

Specific target organ toxicity (repeated exposure)	*: Not classified*
Aspiration hazard	*: Not classified*
Potential adverse human health effects and symptoms	*: Based on available data, the classification criteria are not met.*

12 ECOLOGICAL INFORMATION

· **Toxicity**
HaloKlear DBP-2100 Socks (11138-66-2)
LC50 fish 1 *491 mg/l Rainbow Trout; 96 hour*

· **Persistence and degradability**
HaloKlear DBP-2100 Socks (11138-66-2)
Persistence and degradability *The product is biodegradable*

· **Bioaccumulative potential**
HaloKlear DBP-2100 Socks (11138-66-2)
Bioaccumulative potential *Inherently biodegradable*

· **Mobility in soil**
HaloKlear DBP-2100 Socks (11138-66-2)
Mobility in soil *Not available*

· **Other adverse effects**

Effect on Global warming	*: No known ecological damaged caused by this product.*
Other information	*: No other effects known.*

13 DISPOSAL CONSIDERATIONS

· **Waste treatment methods**

Waste disposal recommendations	*: Dispose of contents/container in accordance with Licensed collector's sorting instructions.*
Ecology – waste materials	*: None known.*

Safety Data Sheet

Trade Name: HaloKlear DBP-2100 Socks

14 TRANSPORT INFORMATION

UN-No.(DOT): *: Non Regulated*
UN-No. (IMDG): *: Non Regulated*
UN-No. (IATA): *: Non Regulated*

· **UN proper shipping name**
Proper Shipping Name (DOT): *: Not applicable*
Proper Shipping Name (IMDG): *: Not applicable*
Proper Shipping Name (IATA): *: Not applicable*

· **Transport hazard class(es)**
Transport hazard class(es) (DOT): *: Not applicable*
Transport hazard class(es) (IMDG): *: Not applicable*
Transport hazard class(es) (IATA): *: Not applicable*

· **Packing group**
Packing group (DOT): *: Not applicable*
Packing group (IMDG): *: Not applicable*
Packing group (IATA): *: Not applicable*

· **Environmental hazards**
Marine pollutant(IMDG): *: No*
Marine pollutant(IATA): *: No*

15 REGULATORY INFORMATION

· **US Federal regulations**
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency ToxicSubstances Control Act (TSCA) inventory.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

· **International Regulations**
Canada
Aluminum chloride hydroxide sulfate (39290-78-3)
No additional information available

Safety Data Sheet

Trade Name: HaloKlear DBP-2100 Socks

15 REGULATORY INFORMATION

· **US State regulations**
California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

16 OTHER INFORMATION

Other information:	*: None*
NFPA health hazard	*: 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.*
NFPA fire hazard	*: 0 - Materials that will not burn.*
NFPA reactivity	*: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.*
NFPA specific hazard	*: NA - Not Applicable*
HMIS III Rating	
Health	*: 0 - No significant risk to health*
Flammability	*: 0*
Physical	*: 0*
Personal Protection	*: B*

HaloKlear®

PRODUCT FACTS

DUAL PRODUCT SYSTEM

WE'VE NEVER KILLED A FISH!

Clean Water.
Naturally.

Description

HaloKlear's All-Natural Water Treatment System

The **Dual Product System (DPS)** is quickly gaining national and international recognition as the premier all-natural stormwater treatment solution, providing unparalleled performance and reliable results in an array of projects across the globe. **HaloKlear DPS** uses biodegradable, natural flocculants that perform on a wide array of soil types and pH ranges. In contrast to other products on the market, the HaloKlear Dual Product System creates dense flocs with great shear strength and a low water content that settle very quickly. Solids can be efficiently removed from the water column – increasing performance and productivity while keeping costs low. In addition, **HaloKlear DPS** is extremely flexible with a successful track record in active, passive, and semi-passive deployment.

GREEN FOR LESS

Don't just clean the water, clean the environment

Our chemistries are less toxic when water is returned to its natural environment. All of HaloKlear's products exhibit exceptionally low toxicity, and the **Dual Product System** has been proven to have zero toxicity.* No bioaccumulation concerns exist when and where HaloKlear products are used, and our products are 100% biodegradable through enzymatic activity.

* Third-party toxicity testing concluded that no fish were killed by the Dual Product System (DPS) when both parts were used in combination of following Best Management Practices.

Product Benefits

- **Biodegradable natural flocculants**
- **Effective on a wide range of pH conditions and soil types**
- **Functions in active, semi-passive and passive applications**
- **Effective in fresh water and salt water**
- **Works with existing equipment of a part of a customized product**
- **Capable of trapping hydrocarbons, metals and nutrients**
- **Increases performance and productivity while keeping costs low**

Part One

LBP-2101 = Liquid
DBP-2100 = Dry socks
DBP-2100 MB = Loose, dry
DPS DC-1 = Dry concentrate for making down into liquid**

Part Two

LiquiFloc = Liquid
GelFloc = Dry socks
GelFloc MB = Loose, dry
DPS DC-2 = Dry concentrate for making down into liquid**

**Not available in the North American market

For additional information contact Dober at:
(800) 323-4983
info@dober.com
www.dober.com/water_treatment

DOBER

HaloKlear LiquiFloc 2%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 03/07/2016 Revision date: 04/25/2017 Supersedes: 03/07/2016 Version: 2.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixtures

Product name : HaloKlear LiquiFloc 2%

Product code : 001401

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Stormwater Flocculant

1.3. Details of the supplier of the safety data sheet

Dober Chemical Corp.
11230 Katherine's Crossing
Suite 100
Woodridge, IL 60517 - USA
T 630-410-7300 - F 630-410-7444
regulatory@dober.com - www.dober.com

1.4. Emergency telephone number

Emergency number : 1-800-255-3924 / 1-813-248-0585
ChemTel

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labeling

No labeling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable.

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable.

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well-ventilated place. Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Storage temperature : 10 - 50 °C will freeze at 3C.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

HaloKlear LiquiFloc 2%	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear protective gloves/protective clothing/eye protection/face protection protective gloves.

Eye protection : Chemical goggles or safety glasses.

Respiratory protection : No respiratory protection needed under normal use conditions.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless to Pale Yellow
Odor	:	vinegar
Odor threshold	:	No data available
pH	:	3 - 4.5
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	99.4 °C
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Specific gravity / density	:	1 - 1.1 g/ml
Solubility	:	Soluble. Water:
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosion limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Not classified
Skin corrosion/irritation	:	Not classified pH: 3 - 4.5

Serious eye damage/irritation	:	Not classified pH: 3 - 4.5
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
STOT-single exposure	:	Not classified
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not classified
Potential Adverse human health effects and symptoms	:	Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

HaloKlear LiquiFloc 2%	
LC50 fish 1	193 mg/l 96 hour, O. mykiss
LOEC (acute)	197 mg/l 96 hour, O. mykiss
LOEC (chronic)	106 mg/l O. mykiss
NOEC (acute)	108 mg/l 96 hour, O. mykiss
NOEC (chronic)	58 mg/l O. mykiss

12.2. Persistence and degradability

HaloKlear LiquiFloc 2%	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

HaloKlear LiquiFloc 2%	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on global warming	:	No known effects from this product.
Other information	:	No other effects known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Ecology - waste materials	:	None known.

SECTION 14: Transport information

UN-No.(DOT)	:	Non Regulated
UN-No. (IMDG)	:	Non Regulated
UN-No. (IATA)	:	Non Regulated

14.2. UN proper shipping name

Proper Shipping Name (DOT)	:	Not applicable.
Proper Shipping Name (IMDG)	:	Not applicable.
Proper Shipping Name (IATA)	:	Not applicable.

14.3. Transport hazard class(es)

Class (DOT) : Not applicable.

:

Transport hazard class(es) (IMDG) : Not applicable.

Transport hazard class(es) (IATA) : Not applicable.

14.4. Packing group

Packing group (DOT) : Not applicable.

Packing group (IMDG) : Not applicable.

Packing group (IATA) : Not applicable.

14.5. Environmental hazards

Marine pollutant(IMDG) : No

Marine pollutant(IATA) : No

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

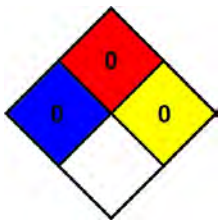
Revision date : 04/25/2017

Other information : None.

NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 0 Minimal Hazard - No significant risk to health

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

Personal protection : B

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SOUND ENVIRONMENTAL CONCEPTS

Safety Data Sheet

acc. to OSHA HCS

1 IDENTIFICATION

· **Product identifier**

· **Trade name:** HaloKlear: Gel-Floc

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**
Sound Environmental Concepts
22726 102nd Ave SE, Woodinville, WA 98077
1 (206) 730 - 5376
ray@soundenvirocon.com

· **Information department:** Product safety department

· **Telephone number:**
+ 1 (206) 730 – 5376

· Information department: Product safety department

· Emergency telephone number: +1 (800) 424-9300 (24 Hours)
During normal opening times: +1 (425) 881-6464
CHEMTREC (Domestic, North America) +1-703-527-3887 CHEMTREC (International, collect calls accepted)

2 HAZARD(S) IDENTIFICATION

· **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** *Not applicable.*
Information concerning particular hazards for human and environment:
The product does not have to be labeled due to the calculation procedure of international guidelines
Classification system:
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

Safety Data Sheet

Trade Name: HaloKlear: Gel-Floc

2 HAZARD(S) IDENTIFICATION CONTD.

· **Label elements**
· **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals. The product is not subject to identification regulations according to directives on hazardous materials.

· **Classification System**
· **NFPA ratings (scale 0 - 4)**
· *Health = 0*
· *Fire = 0*
· *Reactivity = 0*

· **HMIS-ratings (scale 0 - 4)**
· *Health = 0*
· *Fire = 0*
· *Reactivity = 0*

· *Other hazards*
· *Results of PBT and vPvB assessment*
· *PBT: Not applicable*
· *vPvB: Not applicable*

3 COMPOSITION/INFORMATION ON INGREDIENTS

· **Chemical characterization:** *Mixtures*
· **Description:** *Mixture of the substances listed below with nonhazardous additions.*
· **Dangerous components:** *Void*

4 FIRST-AID MEASURES

· **Description of first aid measures**
· **General information:** *No special measures required.*
· **After inhalation:** *Supply fresh air; consult doctor in case of complaints.*
· **After skin contact:** *Generally the product does not irritate the skin.*
· **After eye contact:** *Rinse opened eye for several minutes under running water.*
· **After swallowing:** *If symptoms persist consult doctor.*

Safety Data Sheet

Trade Name: HaloKlear: Gel-Floc

4 FIRST AID MEASURES CONTD.

· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available

5 FIRE-FIGHTING MEASURES

· **Extinguishing media**
· **Suitable extinguishing agents:** *CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*
· **Special hazards arising from the substance or mixture** *No further relevant information available.*
· **Advice for firefighters**
· **Protective equipment:** *No special measures required.*

6 ACCIDENTAL RELEASE MEASURES

· **Personal precautions, protective equipment and emergency procedures** *Not required.*
· **Environmental precautions:** *Do not allow to enter sewers/ surface or ground*
· **Methods and material for containment and cleaning up:** *Pick up mechanically*
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 HANDLING AND STORAGE

· **Handling:**
· **Precautions for safe handling** *No special measures required.*
· **Information about protection against explosions and fires:** *No special measures required.*
· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** *No special requirements.*
· **Information about storage in one common storage facility:** *Not required.*
· **Further information about storage conditions:** *None.*
· **Specific end use(s)** *Water flocculent*

Safety Data Sheet

Trade Name: HaloKlear: Gel-Floc

8 EXPOSURE CONTROLS/PERSONAL PROTECTION CONTD.

· **Additional information about design of technical systems:** *No further data; see item 7.*
· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** *The lists that were valid during the creation were used a basis.*
· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
· **Breathing equipment:** *Not required.*
· **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can't be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:** *Not required.*

9 PHYSICAL AND CHEMICAL PROPERTIES

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**
· **Form:** *Powder*
· **Color:** *Whitish*
· **Odor:** *Product specific*
· **Odour threshold:** *Not determined*

---

pH-value at 20 °C (68 °F): *Not applicable*

Safety Data Sheet

Trade Name: HaloKlear: Gel-Floc

9 PHYSICAL AND CHEMICAL PROPERTIES CONTD.

· **Change in condition**	
· **Melting point/Melting range:**	*Undetermined*
· **Boiling point/Boiling range:**	*> 999 °C (> 1830 °F)*
· **Flash point:**	*Not applicable*
· **Flammability (solid, gaseous):**	*Not determined*
· **Ignition temperature:**	
· **Decomposition temperature:**	*Not determined*
· **Auto igniting:**	*Product is not selfigniting*
· **Danger of explosion:**	*Product does not present an explosion hazard.*
· **Explosion limits:**	
Lower:	*Not determined*
Upper:	*Not determined*
· **Vapor pressure at 20 °C (68 °F):**	*Not applicable*
· **Density at 20 °C (68 °F):**	*Not determined*
· **Relative density**	*Not determined*
· **Vapour density**	*Not applicable*
· **Evaporation rate**	*Not applicable*
· **Solubility in / Miscibility with**	
Water:	*Insoluble*
· **Partition coefficient (n-octanol/water):**	*Not determined*
· **Viscosity:**	
Dynamic:	*Not applicable*
Kinematic:	*Not applicable*

Safety Data Sheet

Trade Name: HaloKlear: Gel-Floc

9 PHYSICAL AND CHEMICAL PROPERTIES CONTD.

· **Solvent content:**
Organic solvents: *0.0 %*
Solids content: 100.0%
· **Other information** *No further relevant information available.*

10 STABILITY AND REACTIVITY

· **Reactivity**
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
· **Possibility of hazardous reactions** *No dangerous reactions known.*
· **Conditions to avoid** *No further relevant information available.*
· **Incompatible materials:** *No further relevant information available.*
· **Hazardous decomposition products:** *No dangerous decomposition products known.*

11 TOXICOLOGICAL INFORMATION

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** *No irritant effect.*
· **on the eye:** *No irritating effect.*
· **Sensitization:** *No sensitizing effects known.*
· **Additional toxicological information:**
The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

Safety Data Sheet

Trade Name: HaloKlear: Gel-Floc

11 TOXICOLOGICAL INFORMATION CONTD.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 ECOLOGICAL INFORMATION

· **Toxicity**
· **Aquatic toxicity:** *No further relevant information available.*
· **Persistence and degradability** *No further relevant information available.*
· **Behavior in environmental systems:**
· **Bioaccumulative potential** *No further relevant information available.*
· **Mobility in soil** *No further relevant information available.*
· **Additional ecological information:**
· **General notes:** *Water hazard class 1 (self-assessment): Slightly hazardous for water.*
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Results of PBT and vPvB assessment**
· **PBT:** *Not applicable.*
· **vPvB:** *Not applicable.*
· **Other adverse effects** *No further relevant information available.*

13 DISPOSAL CONSIDERATIONS

· **Waste treatment methods**
· **Recommendation:** *Smaller quantities can be disposed of with household waste.*
· **Uncleaned packaging:**
· **Recommendation:** *Disposal must be made according to official regulations.*

14 TRANSPORT INFORMATION

· **UN-Number**
· **DOT, IMDG, IATA** *Not regulated*

· **UN proper shipping name**
· **DOT, IMDG, IATA** *Not regulated*

Safety Data Sheet

Trade Name: HaloKlear: Gel-Floc

14 TRANSPORT INFORMATION CONTD.

· **Transport hazard class(es)**
· **DOT, IMDG, IATA**
· **Class** *Not regulated*

· **Packing group**
· **DOT, IMDG, IATA** *Not regulated*

· **Special precautions for user** *Not applicable*

· **Transport in bulk according to Annex II of**
· **MARPOL73/78 and the IBC Code** *Not applicable*

· **UN "Model Regulation":** -

15 REGULATORY INFORMATION

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

Safety Data Sheet

Trade Name: HaloKlear: Gel-Floc

15 REGULATORY INFORMATION CONTD.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients are listed.

· **Product related hazard informations:**
Observe the general safety regulations when handling chemicals. The product is not subject to identification regulations according to directives on hazardous materials.
· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

16 OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** *Environment protection department.*
· **Contact: Mrs. Jackson**
Date of preparation / last revision 02/09/2015 / - Present
· **Abbreviations and acronyms:**
ADR: *Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International*
Carriage of Dangerous Goods by Road)
IMDG: *International Maritime Code for Dangerous Goods*
DOT: US Department of Transportation
IATA: *International Air Transport Association*
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: *European List of Notified Chemical Substances*

Safety Data Sheet

Trade Name: HaloKlear: Gel-Floc

16 OTHER INFORMATION CONTD.

CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: *National Fire Protection Association (USA)*
HMIS: *Hazardous Materials Identification System (USA)*

Tighe&Bond

APPENDIX C

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-3087
Event Code: 05E1NE00-2018-E-07266
Project Name: STA 250

September 14, 2018

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-3087

Event Code: 05E1NE00-2018-E-07266

Project Name: STA 250

Project Type: ** OTHER **

Project Description: Discharging under an RGP

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.39169556178838N71.06750990759909W

Counties: Middlesex, MA | Suffolk, MA

Endangered Species Act Species

There is a total of 0 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Critical habitats

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

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

Updated 02/05/2016

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

[1]Migratory 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.

Updated 02/05/2016

Summary of Essential Fish Habitat (EFH) Designations

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

10° x 10° latitude and longitude squar es 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 (Salmo salar)					
Atlantic cod (Gadus morhua)	S	S	M,S	M,S	S
haddock (Melanogrammus aeglefinus)	S	S			
pollock (Pollachius virens)	S	S	M,S		
whiting (Merluccius bilinearis)	S	S	M,S	M,S	
offshore hake (Merluccius albidus)					
red hake (Urophycis chuss)		S	S	S	
white hake (Urophycis tenuis)	S	S	S	S	
redfish (Sebastes fasciatus)	n/a				
witch flounder (Glyptocephalus cynoglossus)					
winter flounder (Pleuronectes americanus)	M,S	M,S	M,S	M,S	M,S
yellowtail flounder (Pleuronectes ferruginea)	S	S	S	S	S
windowpane flounder (Scopthalmus aquosus)	M,S	M,S	M,S	M,S	M,S
American plaice (Hippoglossoides platessoides)	S	S	S	S	S
ocean pout (Macrozoarces americanus)			S	S	
Atlantic halibut (Hippoglossus hippoglossus)	S	S	S	S	S
Atlantic sea scallop (Placopecten magellanicus)					
Atlantic sea herring (Clupea harengus)		S	M,S	M,S	
monkfish (Lophius americanus)					
bluefish (Pomatomus saltatrix)			M,S	M,S	
long finned squid (Loligo pealei)	n/a	n/a			

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

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APPENDIX D

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Street Name: Alford; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
BOS.9052	Alford Street Bridge - Malden Bridge	Alford St	Boston	1966
BOS.13985	Sullivan Square T Station	Alford St	Boston	
BOS.13984		32 Alford St	Boston	c 1950
BOS.4226	Burbank, Silas and Son Varnish Factory	62 Alford St	Boston	c 1880
BOS.4227	Charlestown Sewerage Pumping Station	171 Alford St	Boston	1895

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APPENDIX E

TABLE 1
Groundwater Analytical Results

		Sample ID / Sample Date	Effluent Limitations	B-3 7/13/2017	B-17 7/13/2017
Inorganics		Ammonia (mg/L)	Report	**1.96**	**0.77**
		Chloride (mg/L)	Report	**1,040**	**399**
		Total Residual Chlorine (TRC) (µg/L)	7.5/50[(1)]	ND (20.0)	ND (20.0)
		Total Suspended Solids (TSS) (mg/L)	30	**27,600**	**474**
	Metals	Antimony (µg/L)	206	ND (10.0)	ND (10.0)
		Arsenic (µg/L)	104	3.5	1.9
		Cadmium (µg/L)	10.2	0.99	0.42
		Chromium III (µg/L)	323	11.6	16.7
		Chromium VI (µg/L)	323	ND (10.0)	ND (10.0)
		Copper (µg/L)	3.7	**62.8**	**27.0**
		Iron (µg/L)	5,000	**7,430**	**9,260**
		Lead (µg/L)	160	7.6	4.6
		Mercury (µg/L)	0.739	ND (0.200)	ND (0.200)
		Nickel (µg/L)	8.3	**23.2**	**11.1**
		Selenium (µg/L)	235.8	ND (2.0)	ND (2.0)
		Silver (µg/L)	35.1	ND (1.0)	ND (1.0)
		Zinc (µg/L)	86	**771**	**174**
		Cyanide (mg/L)	178	ND (0.005)	ND (0.005)
Non-Halogenated VOCs	BTEX	Benzene (µg/L)	5.0	ND (0.5)	ND (0.5)
		Toluene (µg/L)	NE	ND (0.5)	ND (0.5)
		Ethylbenzene (µg/L)	NE	ND (0.5)	ND (0.5)
		Total Xylenes (µg/L)	NE	ND (0.5)	2.0
		Total BTEX (µg/L)	100	ND(0.5)	2.0
		1,4 Dioxane (µg/L)	200	0.263	0.950
		Acetone (µg/L)	7,970	18.1	24.6
		Phenol (µg/L)	1,080	ND (100)	ND (100)
Halogenated VOCs		Carbon Tetrachloride (µg/L)	4.4	ND (0.3)	ND (0.3)
	Dichloro-benzene	1,2-Dichlorobenzene (1,2-DCB) (µg/L)	600	ND (0.5)	ND (0.5)
		1,3-Dichlorobenzene (1,3-DCB) (µg/L)	320	ND (0.5)	ND (0.5)
		1,4-Dichlorobenzene (1,4-DCB) (µg/L)	5.0	ND (0.5)	ND (0.5)
		Total Dichlorobenzene	NE	ND(0.5)	ND (0.5)
		1,1-Dichloroethane (1,1-DCA) (µg/L)	70	ND (0.5)	ND (0.5)
		1,2-Dichloroethane (1,2-DCA) (µg/L)	5.0	ND (0.5)	ND (0.5)
		1,1-Dichloroethylene (1,1-DCE) (µg/L)	3.2	ND (0.5)	ND (0.5)
		Methylene Chloride (µg/L)	4.6	ND (0.5)	ND (0.5)
		1,1,1-Trichloroethane (1,1,1-TCA) (µg/L)	200	ND (0.5)	ND (0.5)
		1,1,2-Trichloroethane (1,1,2-TCA) (µg/L)	5.0	ND (0.5)	ND (0.5)
		Tetrachloroethylene (PCE) (µg/L)	5.0	ND (0.5)	1.4
		Trichloroethylene (TCE) (µg/L)	5.0	ND (0.5)	ND (0.5)
		cis-1,2-Dichloroethylene (DCE) (µg/L)	70	ND (0.5)	ND (0.5)
		Vinyl Chloride (µg/L)	2.0	ND (0.2)	ND (0.2)
		Ethylene Dibromide (EDB) (µg/L)	0.05	ND (0.015)	ND (0.015)
Non-Halogenated SVOCs	Phthalates	Diethylhexyl Phthalate (DEHP) (µg/L)	2.2	**9.48**	**8.31**
		Benzyl Butyl Phthalate (µg/L)	NE	ND (2.34)	ND (2.34)
		Di-n-butly phthalate (µg/L)	NE	ND (2.34)	ND (2.34)
		Diethyl Phthalate (µg/L)	NE	ND (2.34)	ND (2.34)
		Dimethyl Phthalate (µg/L)	NE	ND(2.34)	ND(2.34)
		Di-n-octyl Phthalate (µg/L)	NE	ND (2.34)	ND (2.34)
		Total Phthalates (µg/L)	190	9.48	8.31
	Group I PAHs	Benzo(a)anthracene (µg/L)	0.0038/0.1[(1)]	**0.25**	**0.10**
		Benzo(a)pyrene (µg/L)	0.0038/0.1[(1)]	**0.26**	**0.09**
		Benzo(b)fluoranthene (µg/L)	0.0038/0.1[(1)]	**0.33**	**0.11**
		Benzo(k)fluoranthene (µg/L)	0.0038/0.1[(1)]	**0.12**	ND (0.05)
		Chrysene (µg/L)	0.0038/0.1[(1)]	**0.24**	**0.12**
		Dibenzo(a,h)anthracene (µg/L)	1.0	ND (0.05)	ND (0.05)
		Indeno(1,2,3-cd)pyrene (µg/L)	0.0038/0.1[(1)]	**0.18**	**0.06**
		Total Group I PAHs (µg/L)	1.0	**1.38**	0.48
	Group II PAHs	Acenaphthene (µg/L)	NE	0.35	0.26
		Acenaphthylene (µg/L)	NE	ND (0.19)	ND (0.19)
		Anthracene (µg/L)	NE	ND (0.19)	ND (0.19)
		Benzo(g,h,i)perylene (µg/L)	NE	0.19	ND (0.19)
		Fluoranthene (µg/L)	NE	0.41	0.31
		Fluorene (µg/L)	NE	ND (0.19)	ND (0.19)
		Phenanthrene (µg/L)	NE	ND (0.19)	0.48
		Pyrene (µg/L)	NE	ND (0.19)	0.39
		Total Group II PAHs (µg/L)	100	0.95	1.44
		Naphthalene (µg/L)	20	ND (0.19)	0.37
Halogenated SVOCs	PCBs	1016 (µg/L)	NE	ND (0.09)	ND (0.09)
		1221 (µg/L)	NE	ND (0.09)	ND (0.09)
		1232 (µg/L)	NE	ND (0.09)	ND (0.09)
		1242 (µg/L)	NE	ND (0.09)	ND (0.09)
		1248 (µg/L)	NE	ND (0.09)	ND (0.09)
		1254 (µg/L)	NE	ND (0.09)	ND (0.09)
		1260 (µg/L)	NE	ND (0.09)	0.10
		Total PCBs	0.000064/0.5[(1)]	ND(0.09)	0.10
		Pentachlorophenol (PCP) (µg/L)	1.0	ND (0.84)	ND (0.84)
Fuel Parameters		Total Petroleum Hydrocarbons (TPH) (mg/L)	5.0	ND (5)	ND (5)
		Ethanol (EtOH) (mg/L)	Report	ND (10)	ND (10)
		Methyl tert-Butyl Ether (MtBE) (µg/L)	70	ND (0.5)	ND (0.5)
		tert-Amyl Methyl Ether (tAME) (µg/L)	90	ND (1.0)	ND (1.0)
		tert-Butyl Alcohol (tBA) (µg/L)	120	ND (25)	ND (25)

Notes:

1: The second standard is the compliance level

VOCs= Volatile Organic Compounds

SVOCs= Semi-Volatile Organic Compounds

TPH= Total Petroleum Hydrocarbons

PCBs= Polychlorinated Biphenyls

mg/L= milligrams per Liter

ug/L= micgrogams per Liter

NE= Not Established

ND= Not Detected

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

Bold Text- Exceeds RGP Effluent Limit

TABLE 2

Surface Water Analytical Results

Sample ID Sample Date	Mystic at Boston Inner 11/15/2017
Antimony (µg/L)	NT
Arsenic (µg/L)	ND(5)
Cadmium (µg/L)	ND(10)
Chromium III (µg/L)	ND(20)
Hexavalent Chromium (mg/L)	ND(10)
Copper (µg/L)	ND(10)
Iron (mg/L)	ND(100)
Lead (µg/L)	ND(2)
Mercury (mg/L)	NT
Nickel (µg/L)	ND(20)
Selenium (µg/L)	NT
Silver (µg/L)	NT
Zinc (µg/L)	ND(50)
Ammonia (mg/L)	0.43
Salinity (ppt)	14.9
pH	7.75
Temperature °C	19.9

Notes:

ug/L = micrograms per liter

mg/L = milligram per liter

ND = not detected

NT= not tested

Enter number values in green boxes below

Enter values in the units specified

↓

0	Q_R = Enter upstream flow in **MGD**	Freshwater: Q_R equal to the 7Q10; enter alternate Q_R if approved by the State; enter 0 if no dilution factor approved
0.216	Q_P = Enter discharge flow in **MGD**	Saltwater (estuarine and marine): enter Q_R if approved by the State; enter 0 if no entry
0	Downstream 7Q10	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

Enter a dilution factor, if other than zero

↓

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

Enter values in the units specified

↓

	C_d = Enter influent hardness in **mg/L** $CaCO_3$	Freshwater only
	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$	

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

↓

7.75	pH in **Standard Units**	pH, temperature, and ammonia required for all discharges
19.9	Temperature in **°C**	Hardness required for freshwater
0.43	Ammonia in **mg/L**	Salinity required for saltwater (estuarine and marine)
0	Hardness in **mg/L** $CaCO_3$	Metals required for all discharges if present and if dilution factor is > 1
14.9	Salinity in **ppt**	Enter 0 if non-detect or testing not required
0	Antimony in **µg/L**	
0	Arsenic in **µg/L**	
0	Cadmium in **µg/L**	
0	Chromium III in **µg/L**	
0	Chromium VI in **µg/L**	
0	Copper in **µg/L**	
0	Iron in **µg/L**	
0	Lead in **µg/L**	
0	Mercury in **µg/L**	
0	Nickel in **µg/L**	
0	Selenium in **µg/L**	
0	Silver in **µg/L**	
0	Zinc in **µg/L**	

Enter **influent** concentrations in the units specified

↓

0	TRC in **µg/L**	if >1 sample, enter maximum
1.96	Ammonia in **mg/L**	if >10 samples, may enter 95th percentile
0	Antimony in **µg/L**	Enter 0 if non-detect or testing not required
3.5	Arsenic in **µg/L**	
0.99	Cadmium in **µg/L**	
16.7	Chromium III in **µg/L**	
0	Chromium VI in **µg/L**	
62.8	Copper in **µg/L**	
9260	Iron in **µg/L**	
7.6	Lead in **µg/L**	
0	Mercury in **µg/L**	
23.2	Nickel in **µg/L**	
0	Selenium in **µg/L**	
0	Silver in **µg/L**	
771	Zinc in **µg/L**	
0	Cyanide in **µg/L**	
0	Phenol in **µg/L**	
0	Carbon Tetrachloride in **µg/L**	
1.4	Tetrachloroethylene in **µg/L**	
9.48	Total Phthalates in **µg/L**	
9.48	Diethylhexylphthalate in **µg/L**	
0.25	Benzo(a)anthracene in **µg/L**	
0.26	Benzo(a)pyrene in **µg/L**	
0.33	Benzo(b)fluoranthene in **µg/L**	
0.12	Benzo(k)fluoranthene in **µg/L**	
0.24	Chrysene in **µg/L**	
0	Dibenzo(a,h)anthracene in **µg/L**	
0.18	Indeno(1,2,3-cd)pyrene in **µg/L**	
0	Methyl-tert butyl ether in **µg/L**	

Notes:

I. Dilution Factor Calculation Method

A. 7Q10

No flow assumed at critical low flow for saltwater unless otherwise approved by the State

B. Dilution Factor

No dilution assumed for saltwater, unless otherwise approved by the State

II. Effluent Limitation Calculation Method

A. Calculate Water Quality Criterion:

Step 1. Not applicable to saltwater

Step 2. Not applicable to saltwater

Step 3. Total recoverable water quality criteria for dissolved metals, calculated as follows:

$$\text{WQC in } \mu g/L = \frac{\text{dissolved WQC in } \mu g/L}{\text{dissolved to total recoverable factor}}$$

B. Calculate WQBEL:

Step 1. WQBEL calculated as follows for parameter sampled in and detected in the receiving water:

$$C_d = \frac{Q_r C_r - Q_s C_s}{Q_d}$$

C_r = Water quality criterion in µg/L
Q_d = Discharge flow in MGD
C_d = WQBEL in µg/L
Q_s = Upstream flow (7Q10) in MGD
C_s = Ustream (receiving water) concentration in µg/L
Q_r = Downstream receiving water flow in MGD

Step 2. WQBEL calculated as follows for parameter not sampled in or not detected in receiving water:

$$C_d = (Q_r/Q_d) \times C_r$$

C_r = Water quality criterion in µg/L
Q_d = Discharge flow in MGD
Q_r = Downstream receiving water flow in MGD

C. Determine if a WQBEL applies:

Step 1. For parameter sampled in and detected in receiving water, downstream concentrations calculated as follows:

$$C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$$

C_r = Downstream concentration in µg/L
Q_d = Discharge flow in MGD
C_d = Influent concentration in µg/L
Q_s = Upstream flow (7Q10) in MGD
C_s = Upstream (receiving water) concentration in µg/L
Q_r = Downstream receiving water flow in MGD

The WQBEL applies if:

1) the projected downstream concentration calculated in accordance with Step 1, above, and the discharge concentration of a parameter is greater than the WQC calculated for that parameter in accordance with II.A, above
AND
2) the WQBEL determined for that parameter in accordance with II.B, above, is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in Part 2.1.1 of the RGP for that parameter applies.

Step 2. For a parameter not detected in or not sampled in receiving water, the WQBEL applies if:

1) the discharge concentration of a parameter is greater than the WQBEL determined for that parameter in accordance with II.A or II.B, above;
AND
2) the WQBEL determined for that parameter in accordance with II.A or II.B, above is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in Part 2.1.1 of the RGP for that parameter applies.

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	0.1	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	0.1	µg/L
Chrysene	1.0	µg/L	**0.0038**	µg/L	0.1	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	0.1	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	---			

Tighe&Bond

APPENDIX F

CERTIFICATE OF ANALYSIS

Michael Martin
Tighe & Bond
4 Barlows Landing Road, Unit 15
Pocasset, MA 02559

RE: Station 250/Mystic Charlestown Eversource RGP (N/A)
ESS Laboratory Work Order Number: 1707259

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 3:36 pm, Jul 20, 2017

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

SAMPLE RECEIPT

The following samples were received on July 13, 2017 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the 2017 Remediation General Permit under the National Pollutant Discharge Elimination System (NPDES).

ESS Laboratory is unable to achieve the required detection limit of 0.4 mg/L for Ethanol for the RGP permit. We have also been unable to procure a subcontract laboatory that is able to achieve this limit. The data for Ethanol has been reported using our current method reporting limit.

Lab Number	Sample Name	Matrix	Analysis
1707259-01	B-3	Ground Water	1664A, 200.7, 245.1, 2540D, 300.0, 3113B, 350.1, 3500Cr B-2009, 420.1, 4500 CN CE, 4500Cl D, 504.1, 524.2, 608, 625 SIM, 8270D SIM, ASTM D3695
1707259-02	B-17	Ground Water	1664A, 200.7, 245.1, 2540D, 300.0, 3113B, 350.1, 3500Cr B-2009, 420.1, 4500 CN CE, 4500Cl D, 504.1, 524.2, 608, 625 SIM, 8270D SIM, ASTM D3695

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

PROJECT NARRATIVE

524.2 Volatile Organic Compounds

1707259-01	**Due to high sediment content vials were composited**
1707259-02	**Due to high sediment content vials were composited**
C7G0199-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).** 1,1-Dichloroethene (86% @ 30%), Tertiary-butyl Alcohol (63% @ 30%)
CG71431-BSD1	**Blank Spike recovery is above upper control limit (B+).** 1,1-Dichloroethene (201% @ 70-130%), Tertiary-butyl Alcohol (163% @ 70-130%)
CG71431-BSD1	**Relative percent difference for duplicate is outside of criteria (D+).** 1,1-Dichloroethene (59% @ 20%), Tertiary-butyl Alcohol (33% @ 25%)

625(SIM) Semi-Volatile Organic Compounds

1707259-01	**Present in Method Blank (B).** bis(2-Ethylhexyl)phthalate
1707259-01	**Surrogate recovery(ies) below lower control limit (S-).** 1,2-Dichlorobenzene-d4 (29% @ 30-130%)
1707259-02	**Present in Method Blank (B).** bis(2-Ethylhexyl)phthalate
C7G0249-CCV1	**Continuing Calibration %Diff/Drift is above control limit (CD+).** Di-n-octylphthalate (24% @ 20%)
CG71808-BS2	**Blank Spike recovery is above upper control limit (B+).** Benzo(k)fluoranthene (142% @ 40-140%), bis(2-Ethylhexyl)phthalate (268% @ 40-140%), Di-n-octylphthalate (151% @ 40-140%), Pyrene (144% @ 40-140%)
CG71808-BSD2	**Blank Spike recovery is above upper control limit (B+).** Benzo(a)pyrene (150% @ 40-140%), Benzo(b)fluoranthene (148% @ 40-140%), Benzo(k)fluoranthene (154% @ 40-140%), bis(2-Ethylhexyl)phthalate (244% @ 40-140%), Butylbenzylphthalate (142% @ 40-140%), Di-n-butylphthalate (153% @ 40-140%), Di-n-octylphthalate (159% @ 40-140%), Pyrene (146% @ 40-140%)

8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution

C7G0195-TUN1	**DDT breakdown > 20%**

Classical Chemistry

1707259-01	**The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.**
1707259-02	**The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.**

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-3
Date Sampled: 07/13/17 11:40
Percent Solids: N/A

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-01
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 3005A

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (10.0)		200.7		1	KJK	07/15/17 15:59	100	20	CG71436
Arsenic	**3.5** (1.0)		3113B		1	KJK	07/19/17 5:32	100	20	CG71436
Cadmium	**0.99** (0.25)		3113B		5	KJK	07/18/17 18:35	100	20	CG71436
Chromium	**11.6** (4.0)		200.7		1	KJK	07/15/17 15:59	100	20	CG71436
Chromium III	**11.6** (10.0)		200.7		1	JLK	07/15/17 15:59	1	1	[CALC]
Copper	**62.8** (4.0)		200.7		1	KJK	07/15/17 15:59	100	20	CG71436
Hardness	**239000** (165)		200.7		1	KJK	07/15/17 15:59	1	1	[CALC]
Iron	**7430** (20.0)		200.7		1	KJK	07/15/17 15:59	100	20	CG71436
Lead	**7.6** (1.0)		3113B		1	KJK	07/18/17 23:07	100	20	CG71436
Mercury	ND (0.200)		245.1		1	MJV	07/17/17 20:03	20	40	CG71438
Nickel	**23.2** (10.0)		200.7		1	KJK	07/15/17 15:59	100	20	CG71436
Selenium	ND (2.0)		3113B		1	KJK	07/19/17 8:20	100	20	CG71436
Silver	ND (1.0)		200.7		1	KJK	07/15/17 15:59	100	20	CG71436
Zinc	**771** (10.0)		200.7		1	KJK	07/15/17 15:59	100	20	CG71436

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-3
Date Sampled: 07/13/17 11:40
Percent Solids: N/A
Initial Volume: 25
Final Volume: 25
Extraction Method: 524.2

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: GEM

524.2 Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1-Trichloroethane	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
1,1,2-Trichloroethane	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
1,1-Dichloroethane	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
1,1-Dichloroethene	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
1,2-Dichlorobenzene	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
1,2-Dichloroethane	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
1,3-Dichlorobenzene	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
1,4-Dichlorobenzene	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Acetone	**18.1** (5.0)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Benzene	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Carbon Tetrachloride	ND (0.3)		524.2		1	07/14/17 12:53	C7G0199	CG71431
cis-1,2-Dichloroethene	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Ethylbenzene	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Methyl tert-Butyl Ether	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Methylene Chloride	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Naphthalene	**0.6** (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Tertiary-amyl methyl ether	ND (1.0)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Tertiary-butyl Alcohol	ND (25.0)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Tetrachloroethene	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Toluene	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Trichloroethene	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Vinyl Chloride	ND (0.2)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Xylene O	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431
Xylene P,M	ND (0.5)		524.2		1	07/14/17 12:53	C7G0199	CG71431

	%Recovery	*Qualifier*	*Limits*
Surrogate: 1,2-Dichlorobenzene-d4	*111 %*		*80-120*
Surrogate: 4-Bromofluorobenzene	*104 %*		*80-120*

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-3
Date Sampled: 07/13/17 11:40
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: SMR
Prepared: 7/14/17 11:05

608 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		608		1	07/14/17 19:07		CG71414
Aroclor 1221	ND (0.09)		608		1	07/14/17 19:07		CG71414
Aroclor 1232	ND (0.09)		608		1	07/14/17 19:07		CG71414
Aroclor 1242	ND (0.09)		608		1	07/14/17 19:07		CG71414
Aroclor 1248	ND (0.09)		608		1	07/14/17 19:07		CG71414
Aroclor 1254	ND (0.09)		608		1	07/14/17 19:07		CG71414
Aroclor 1260	ND (0.09)		608		1	07/14/17 19:07		CG71414
Aroclor 1262	ND (0.09)		608		1	07/14/17 19:07		CG71414
Aroclor 1268	ND (0.09)		608		1	07/14/17 19:07		CG71414

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*43 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*47 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*73 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-3
Date Sampled: 07/13/17 11:40
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 0.25
Extraction Method: 3510C

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: IBM
Prepared: 7/18/17 13:45

625(SIM) Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Acenaphthene	**0.35** (0.19)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Acenaphthylene	ND (0.19)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Anthracene	ND (0.19)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Benzo(a)anthracene	**0.25** (0.05)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Benzo(a)pyrene	**0.26** (0.05)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Benzo(b)fluoranthene	**0.33** (0.05)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Benzo(g,h,i)perylene	**0.19** (0.19)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Benzo(k)fluoranthene	**0.12** (0.05)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
bis(2-Ethylhexyl)phthalate	**B 9.48** (2.34)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Butylbenzylphthalate	ND (2.34)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Chrysene	**0.24** (0.05)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Dibenzo(a,h)Anthracene	ND (0.05)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Diethylphthalate	ND (2.34)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Dimethylphthalate	ND (2.34)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Di-n-butylphthalate	ND (2.34)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Di-n-octylphthalate	ND (2.34)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Fluoranthene	**0.41** (0.19)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Fluorene	ND (0.19)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Indeno(1,2,3-cd)Pyrene	**0.18** (0.05)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Naphthalene	ND (0.19)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Pentachlorophenol	ND (0.84)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Phenanthrene	ND (0.19)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808
Pyrene	ND (0.19)		625 SIM		1	07/18/17 19:41	C7G0249	CG71808

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*29 %*	*S-*	*30-130*
Surrogate: 2,4,6-Tribromophenol	*76 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*45 %*		*30-130*
Surrogate: Nitrobenzene-d5	*47 %*		*30-130*
Surrogate: p-Terphenyl-d14	*59 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-3
Date Sampled: 07/13/17 11:40
Percent Solids: N/A
Initial Volume: 500
Final Volume: 0.5
Extraction Method: 3535A

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: VSC
Prepared: 7/14/17 16:30

8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,4-Dioxane	**0.263** (0.250)		8270D SIM		1	07/17/17 16:45	C7G0223	CG71356

	%Recovery	Qualifier	Limits
Surrogate: 1,4-Dioxane-d8	36 %		15-115

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-3
Date Sampled: 07/13/17 11:40
Percent Solids: N/A

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-01
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Ammonia as N	**1.96** (0.10)		350.1		1	EEM	07/18/17 14:46	mg/L	CG71705
Chloride	**1040** (250)		300.0		500	JLK	07/17/17 23:04	mg/L	CG71735
Hexavalent Chromium	ND (10.0)		3500Cr B-2009		1	JLK	07/13/17 22:16	ug/L	CG71352
Phenols	ND (100)		420.1		1	EEM	07/19/17 14:45	ug/L	CG71920
Total Cyanide (LL)	ND (5.00)		4500 CN CE		1	EEM	07/18/17 11:05	ug/L	CG71817
Total Petroleum Hydrocarbon	ND (5)		1664A		1	CRR	07/19/17 15:05	mg/L	CG71740
Total Residual Chlorine	ND (20.0)		4500Cl D		1	JLK	07/13/17 21:46	ug/L	CG71353
Total Suspended Solids	**27600** (100)		2540D		1	EEM	07/14/17 14:30	mg/L	CG71317

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-3
Date Sampled: 07/13/17 11:40
Percent Solids: N/A
Initial Volume: 35
Final Volume: 2
Extraction Method: 504/8011

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: IBM
Prepared: 7/14/17 11:30

504.1 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2-Dibromoethane	ND (0.015)		504.1		1	07/14/17 15:08		CG71426

	%Recovery	Qualifier	Limits
Surrogate: Pentachloroethane	*125 %*		*30-150*
Surrogate: Pentachloroethane [2C]	*116 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-3
Date Sampled: 07/13/17 11:40
Percent Solids: N/A
Initial Volume: 1
Final Volume: 1
Extraction Method: No Prep

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: ZLC
Prepared: 7/19/17 10:04

Alcohol Scan by GC/FID

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Ethanol	ND (10)		ASTM D3695		1	ZLC	07/19/17 11:58		CG71915

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-17
Date Sampled: 07/13/17 13:50
Percent Solids: N/A

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-02
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 3005A

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (10.0)		200.7		1	KJK	07/15/17 16:04	100	20	CG71436
Arsenic	**1.9** (1.0)		3113B		1	KJK	07/19/17 5:43	100	20	CG71436
Cadmium	**0.42** (0.15)		3113B		3	KJK	07/18/17 17:26	100	20	CG71436
Chromium	**16.7** (4.0)		200.7		1	KJK	07/15/17 16:04	100	20	CG71436
Chromium III	**16.7** (10.0)		200.7		1	JLK	07/15/17 16:04	1	1	[CALC]
Copper	**27.0** (4.0)		200.7		1	KJK	07/15/17 16:04	100	20	CG71436
Hardness	**259000** (165)		200.7		1	KJK	07/15/17 16:04	1	1	[CALC]
Iron	**9260** (20.0)		200.7		1	KJK	07/15/17 16:04	100	20	CG71436
Lead	**4.6** (1.0)		3113B		1	KJK	07/19/17 0:44	100	20	CG71436
Mercury	ND (0.200)		245.1		1	MJV	07/17/17 20:05	20	40	CG71438
Nickel	**11.1** (10.0)		200.7		1	KJK	07/15/17 16:04	100	20	CG71436
Selenium	ND (2.0)		3113B		1	KJK	07/19/17 9:00	100	20	CG71436
Silver	ND (1.0)		200.7		1	KJK	07/15/17 16:04	100	20	CG71436
Zinc	**174** (10.0)		200.7		1	KJK	07/15/17 16:04	100	20	CG71436

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-17
Date Sampled: 07/13/17 13:50
Percent Solids: N/A
Initial Volume: 25
Final Volume: 25
Extraction Method: 524.2

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: GEM

524.2 Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1-Trichloroethane	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
1,1,2-Trichloroethane	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
1,1-Dichloroethane	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
1,1-Dichloroethene	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
1,2-Dichlorobenzene	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
1,2-Dichloroethane	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
1,3-Dichlorobenzene	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
1,4-Dichlorobenzene	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Acetone	**24.6** (5.0)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Benzene	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Carbon Tetrachloride	ND (0.3)		524.2		1	07/14/17 13:27	C7G0199	CG71431
cis-1,2-Dichloroethene	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Ethylbenzene	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Methyl tert-Butyl Ether	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Methylene Chloride	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Naphthalene	**1.1** (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Tertiary-amyl methyl ether	ND (1.0)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Tertiary-butyl Alcohol	ND (25.0)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Tetrachloroethene	**1.4** (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Toluene	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Trichloroethene	ND (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Vinyl Chloride	ND (0.2)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Xylene O	**0.7** (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431
Xylene P,M	**1.3** (0.5)		524.2		1	07/14/17 13:27	C7G0199	CG71431

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*106 %*		*80-120*
Surrogate: 4-Bromofluorobenzene	*101 %*		*80-120*

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-17
Date Sampled: 07/13/17 13:50
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: SMR
Prepared: 7/14/17 11:05

608 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		608		1	07/14/17 19:25		CG71414
Aroclor 1221	ND (0.09)		608		1	07/14/17 19:25		CG71414
Aroclor 1232	ND (0.09)		608		1	07/14/17 19:25		CG71414
Aroclor 1242	ND (0.09)		608		1	07/14/17 19:25		CG71414
Aroclor 1248	ND (0.09)		608		1	07/14/17 19:25		CG71414
Aroclor 1254	ND (0.09)		608		1	07/14/17 19:25		CG71414
Aroclor 1260	**0.10** (0.09)		608		1	07/14/17 19:25		CG71414
Aroclor 1262	ND (0.09)		608		1	07/14/17 19:25		CG71414
Aroclor 1268	ND (0.09)		608		1	07/14/17 19:25		CG71414

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*51 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*54 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-17
Date Sampled: 07/13/17 13:50
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 0.25
Extraction Method: 3510C

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: IBM
Prepared: 7/18/17 13:45

625(SIM) Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Acenaphthene	**0.26** (0.19)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Acenaphthylene	ND (0.19)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Anthracene	ND (0.19)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Benzo(a)anthracene	**0.10** (0.05)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Benzo(a)pyrene	**0.09** (0.05)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Benzo(b)fluoranthene	**0.11** (0.05)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Benzo(g,h,i)perylene	ND (0.19)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Benzo(k)fluoranthene	ND (0.05)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
bis(2-Ethylhexyl)phthalate	**B 8.31** (2.34)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Butylbenzylphthalate	ND (2.34)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Chrysene	**0.12** (0.05)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Dibenzo(a,h)Anthracene	ND (0.05)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Diethylphthalate	ND (2.34)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Dimethylphthalate	ND (2.34)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Di-n-butylphthalate	ND (2.34)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Di-n-octylphthalate	ND (2.34)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Fluoranthene	**0.31** (0.19)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Fluorene	ND (0.19)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Indeno(1,2,3-cd)Pyrene	**0.06** (0.05)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Naphthalene	**0.37** (0.19)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Pentachlorophenol	ND (0.84)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Phenanthrene	**0.48** (0.19)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808
Pyrene	**0.39** (0.19)		625 SIM		1	07/18/17 20:28	C7G0249	CG71808

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*30 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*61 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*46 %*		*30-130*
Surrogate: Nitrobenzene-d5	*51 %*		*30-130*
Surrogate: p-Terphenyl-d14	*58 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-17
Date Sampled: 07/13/17 13:50
Percent Solids: N/A
Initial Volume: 500
Final Volume: 0.5
Extraction Method: 3535A

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: VSC
Prepared: 7/14/17 16:30

8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,4-Dioxane	**0.950** (0.250)		8270D SIM		1	07/17/17 17:17	C7G0223	CG71356

	%Recovery	Qualifier	Limits
Surrogate: 1,4-Dioxane-d8	36 %		15-115

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-17
Date Sampled: 07/13/17 13:50
Percent Solids: N/A

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-02
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Ammonia as N	**0.77** (0.10)		350.1		1	EEM	07/18/17 14:47	mg/L	CG71705
Chloride	**399** (50.0)		300.0		100	JLK	07/17/17 20:38	mg/L	CG71735
Hexavalent Chromium	ND (10.0)		3500Cr B-2009		1	JLK	07/13/17 22:16	ug/L	CG71352
Phenols	ND (100)		420.1		1	EEM	07/19/17 14:45	ug/L	CG71920
Total Cyanide (LL)	ND (5.00)		4500 CN CE		1	EEM	07/18/17 11:05	ug/L	CG71817
Total Petroleum Hydrocarbon	ND (5)		1664A		1	CRR	07/19/17 15:05	mg/L	CG71740
Total Residual Chlorine	ND (20.0)		4500Cl D		1	JLK	07/13/17 21:46	ug/L	CG71353
Total Suspended Solids	**474** (10)		2540D		1	EEM	07/14/17 14:30	mg/L	CG71317

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-17
Date Sampled: 07/13/17 13:50
Percent Solids: N/A
Initial Volume: 35
Final Volume: 2
Extraction Method: 504/8011

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: IBM
Prepared: 7/14/17 11:30

504.1 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2-Dibromoethane	ND (0.015)		504.1		1	07/14/17 16:08		CG71426

	%Recovery	Qualifier	Limits
Surrogate: Pentachloroethane	*75 %*		*30-150*
Surrogate: Pentachloroethane [2C]	*72 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP
Client Sample ID: B-17
Date Sampled: 07/13/17 13:50
Percent Solids: N/A
Initial Volume: 1
Final Volume: 1
Extraction Method: No Prep

ESS Laboratory Work Order: 1707259
ESS Laboratory Sample ID: 1707259-02
Sample Matrix: Ground Water
Units: mg/L
Analyst: ZLC
Prepared: 7/19/17 10:04

Alcohol Scan by GC/FID

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Ethanol	ND (10)		ASTM D3695		1	ZLC	07/19/17 12:44		CG71915

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

Quality Control Data

Total Metals

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CG71352 - [CALC]										
Blank										
Chromium III	ND	10.0	ug/L							
LCS										
Chromium III	ND		ug/L							
LCS Dup										
Chromium III	ND		ug/L							
Batch CG71436 - 3005A										
Blank										
Antimony	ND	10.0	ug/L							
Arsenic	ND	1.0	ug/L							
Cadmium	ND	0.05	ug/L							
Chromium	ND	4.0	ug/L							
Chromium III	ND	4.00	ug/L							
Copper	ND	4.0	ug/L							
Hardness	ND	165	ug/L							
Iron	ND	20.0	ug/L							
Lead	ND	1.0	ug/L							
Nickel	ND	10.0	ug/L							
Selenium	ND	2.0	ug/L							
Silver	ND	1.0	ug/L							
Zinc	ND	10.0	ug/L							
LCS										
Antimony	99.1	10.0	ug/L	100.0		99	85-115			
Arsenic	98.8	25.0	ug/L	100.0		99	85-115			
Cadmium	49.8	25.0	ug/L	50.00		100	85-115			
Chromium	100	4.0	ug/L	100.0		100	85-115			
Chromium III	100	4.00	ug/L							
Copper	106	4.0	ug/L	100.0		106	85-115			
Hardness	6520	165	ug/L							
Iron	475	20.0	ug/L	500.0		95	85-115			
Lead	111	25.0	ug/L	100.0		111	85-115			
Nickel	102	10.0	ug/L	100.0		102	85-115			
Selenium	217	50.0	ug/L	200.0		109	85-115			
Silver	46.6	1.0	ug/L	50.00		93	85-115			
Zinc	103	10.0	ug/L	100.0		103	85-115			
LCS Dup										
Antimony	107	10.0	ug/L	100.0		107	85-115	7	20	
Arsenic	96.2	25.0	ug/L	100.0		96	85-115	3	20	
Cadmium	55.3	25.0	ug/L	50.00		111	85-115	10	20	
Chromium	108	4.0	ug/L	100.0		108	85-115	7	20	
Chromium III	108	4.00	ug/L							
Copper	114	4.0	ug/L	100.0		114	85-115	7	20	
Hardness	6960	165	ug/L							
Iron	513	20.0	ug/L	500.0		103	85-115	8	20	

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CG71436 - 3005A										
Lead	107	25.0	ug/L	100.0		107	85-115	4	20	
Nickel	109	10.0	ug/L	100.0		109	85-115	7	20	
Selenium	226	50.0	ug/L	200.0		113	85-115	4	20	
Silver	48.2	1.0	ug/L	50.00		96	85-115	3	20	
Zinc	105	10.0	ug/L	100.0		105	85-115	2	20	
Batch CG71438 - 245.1/7470A										
Blank										
Mercury	ND	0.200	ug/L							
LCS										
Mercury	6.42	0.200	ug/L	6.000		107	85-115			
LCS Dup										
Mercury	6.30	0.200	ug/L	6.000		105	85-115	2	20	
524.2 Volatile Organic Compounds										
Batch CG71431 - 524.2										
Blank										
1,1,1-Trichloroethane	ND	0.5	ug/L							
1,1,2-Trichloroethane	ND	0.5	ug/L							
1,1-Dichloroethane	ND	0.5	ug/L							
1,1-Dichloroethene	ND	0.5	ug/L							
1,2-Dichlorobenzene	ND	0.5	ug/L							
1,2-Dichloroethane	ND	0.5	ug/L							
1,3-Dichlorobenzene	ND	0.5	ug/L							
1,4-Dichlorobenzene	ND	0.5	ug/L							
Acetone	ND	5.0	ug/L							
Benzene	ND	0.5	ug/L							
Carbon Tetrachloride	ND	0.3	ug/L							
cis-1,2-Dichloroethene	ND	0.5	ug/L							
Ethylbenzene	ND	0.5	ug/L							
Methyl tert-Butyl Ether	ND	0.5	ug/L							
Methylene Chloride	ND	0.5	ug/L							
Naphthalene	ND	0.5	ug/L							
Tertiary-amyl methyl ether	ND	1.0	ug/L							
Tertiary-butyl Alcohol	ND	25.0	ug/L							
Tetrachloroethene	ND	0.5	ug/L							
Toluene	ND	0.5	ug/L							
Trichloroethene	ND	0.5	ug/L							
Vinyl Chloride	ND	0.2	ug/L							
Xylene O	ND	0.5	ug/L							
Xylene P,M	ND	0.5	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	*5.10*		ug/L	*5.000*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*5.02*		ug/L	*5.000*		*100*	*80-120*			
LCS										
1,1,1-Trichloroethane	10.6		ug/L	10.00		106	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
524.2 Volatile Organic Compounds										
Batch CG71431 - 524.2										
1,1,2-Trichloroethane	10.2		ug/L	10.00		102	70-130			
1,1-Dichloroethane	10.0		ug/L	10.00		100	70-130			
1,1-Dichloroethene	11.0		ug/L	10.00		110	70-130			
1,2-Dichlorobenzene	10.3		ug/L	10.00		103	70-130			
1,2-Dichloroethane	10.4		ug/L	10.00		104	70-130			
1,3-Dichlorobenzene	10.3		ug/L	10.00		103	70-130			
1,4-Dichlorobenzene	10.5		ug/L	10.00		105	70-130			
Acetone	48.1		ug/L	50.00		96	70-130			
Benzene	10.3		ug/L	10.00		103	70-130			
Carbon Tetrachloride	10.9		ug/L	10.00		109	70-130			
cis-1,2-Dichloroethene	10.5		ug/L	10.00		105	70-130			
Ethylbenzene	10.3		ug/L	10.00		103	70-130			
Methyl tert-Butyl Ether	10.3		ug/L	10.00		103	70-130			
Methylene Chloride	9.1		ug/L	10.00		91	70-130			
Naphthalene	10.5		ug/L	10.00		105	70-130			
Tertiary-amyl methyl ether	9.9		ug/L	10.00		99	70-130			
Tertiary-butyl Alcohol	58.8		ug/L	50.00		118	70-130			
Tetrachloroethene	10.6		ug/L	10.00		106	70-130			
Toluene	10.5		ug/L	10.00		105	70-130			
Trichloroethene	10.6		ug/L	10.00		106	70-130			
Vinyl Chloride	10.3		ug/L	10.00		103	70-130			
Xylene O	10.1		ug/L	10.00		101	70-130			
Xylene P,M	20.4		ug/L	20.00		102	70-130			
Surrogate: 1,2-Dichlorobenzene-d4	*5.05*		ug/L	*5.000*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*4.84*		ug/L	*5.000*		*97*	*80-120*			
LCS Dup										
1,1,1-Trichloroethane	9.5		ug/L	10.00		95	70-130	12	20	
1,1,2-Trichloroethane	10.1		ug/L	10.00		101	70-130	1	20	
1,1-Dichloroethane	10.2		ug/L	10.00		102	70-130	2	20	
1,1-Dichloroethene	20.1		ug/L	10.00		201	70-130	59	20	B+, D+
1,2-Dichlorobenzene	9.1		ug/L	10.00		91	70-130	12	20	
1,2-Dichloroethane	9.8		ug/L	10.00		98	70-130	6	20	
1,3-Dichlorobenzene	9.3		ug/L	10.00		93	70-130	10	20	
1,4-Dichlorobenzene	9.5		ug/L	10.00		95	70-130	10	20	
Acetone	49.0		ug/L	50.00		98	70-130	2	20	
Benzene	10.4		ug/L	10.00		104	70-130	1	20	
Carbon Tetrachloride	9.3		ug/L	10.00		93	70-130	16	20	
cis-1,2-Dichloroethene	9.8		ug/L	10.00		98	70-130	7	20	
Ethylbenzene	9.9		ug/L	10.00		99	70-130	4	20	
Methyl tert-Butyl Ether	9.8		ug/L	10.00		98	70-130	5	20	
Methylene Chloride	10.5		ug/L	10.00		105	70-130	14	20	
Naphthalene	8.6		ug/L	10.00		86	70-130	20	20	
Tertiary-amyl methyl ether	9.1		ug/L	10.00		91	70-130	8	20	
Tertiary-butyl Alcohol	81.7		ug/L	50.00		163	70-130	33	25	B+, D+
Tetrachloroethene	9.6		ug/L	10.00		96	70-130	10	20	

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
524.2 Volatile Organic Compounds										
Batch CG71431 - 524.2										
Toluene	9.7		ug/L	10.00		97	70-130	8	20	
Trichloroethene	10.3		ug/L	10.00		103	70-130	3	20	
Vinyl Chloride	9.8		ug/L	10.00		98	70-130	5	20	
Xylene O	9.4		ug/L	10.00		94	70-130	7	20	
Xylene P,M	18.6		ug/L	20.00		93	70-130	9	20	
Surrogate: 1,2-Dichlorobenzene-d4	*4.47*		ug/L	*5.000*		*89*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*4.99*		ug/L	*5.000*		*100*	*80-120*			
608 Polychlorinated Biphenyls (PCB)										
Batch CG71414 - 3510C										
Blank										
Aroclor 1016	ND	0.10	ug/L							
Aroclor 1016 [2C]	ND	0.10	ug/L							
Aroclor 1221	ND	0.10	ug/L							
Aroclor 1221 [2C]	ND	0.10	ug/L							
Aroclor 1232	ND	0.10	ug/L							
Aroclor 1232 [2C]	ND	0.10	ug/L							
Aroclor 1242	ND	0.10	ug/L							
Aroclor 1242 [2C]	ND	0.10	ug/L							
Aroclor 1248	ND	0.10	ug/L							
Aroclor 1248 [2C]	ND	0.10	ug/L							
Aroclor 1254	ND	0.10	ug/L							
Aroclor 1254 [2C]	ND	0.10	ug/L							
Aroclor 1260	ND	0.10	ug/L							
Aroclor 1260 [2C]	ND	0.10	ug/L							
Aroclor 1262	ND	0.10	ug/L							
Aroclor 1262 [2C]	ND	0.10	ug/L							
Aroclor 1268	ND	0.10	ug/L							
Aroclor 1268 [2C]	ND	0.10	ug/L							
Surrogate: Decachlorobiphenyl	*0.0351*		ug/L	*0.05000*		*70*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0366*		ug/L	*0.05000*		*73*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0268*		ug/L	*0.05000*		*54*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0310*		ug/L	*0.05000*		*62*	*30-150*			
LCS										
Aroclor 1016	0.86	0.10	ug/L	1.000		86	40-140			
Aroclor 1016 [2C]	0.90	0.10	ug/L	1.000		90	40-140			
Aroclor 1260	0.87	0.10	ug/L	1.000		87	40-140			
Aroclor 1260 [2C]	0.83	0.10	ug/L	1.000		83	40-140			
Surrogate: Decachlorobiphenyl	*0.0415*		ug/L	*0.05000*		*83*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0419*		ug/L	*0.05000*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0355*		ug/L	*0.05000*		*71*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0359*		ug/L	*0.05000*		*72*	*30-150*			
LCS Dup										

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
608 Polychlorinated Biphenyls (PCB)										
Batch CG71414 - 3510C										
Aroclor 1016	1.02	0.10	ug/L	1.000		102	40-140	16	20	
Aroclor 1016 [2C]	1.05	0.10	ug/L	1.000		105	40-140	16	20	
Aroclor 1260	0.91	0.10	ug/L	1.000		91	40-140	4	20	
Aroclor 1260 [2C]	0.88	0.10	ug/L	1.000		88	40-140	6	20	
Surrogate: Decachlorobiphenyl	*0.0449*		ug/L	*0.05000*		*90*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0465*		ug/L	*0.05000*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0355*		ug/L	*0.05000*		*71*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0365*		ug/L	*0.05000*		*73*	*30-150*			
625(SIM) Semi-Volatile Organic Compounds										
Batch CG71808 - 3510C										
Blank										
Acenaphthene	ND	0.20	ug/L							
Acenaphthylene	ND	0.20	ug/L							
Anthracene	ND	0.20	ug/L							
Benzo(a)anthracene	ND	0.05	ug/L							
Benzo(a)pyrene	ND	0.05	ug/L							
Benzo(b)fluoranthene	ND	0.05	ug/L							
Benzo(g,h,i)perylene	ND	0.20	ug/L							
Benzo(k)fluoranthene	ND	0.05	ug/L							
bis(2-Ethylhexyl)phthalate	3.08	2.50	ug/L							
Butylbenzylphthalate	ND	2.50	ug/L							
Chrysene	ND	0.05	ug/L							
Dibenzo(a,h)Anthracene	ND	0.05	ug/L							
Diethylphthalate	ND	2.50	ug/L							
Dimethylphthalate	ND	2.50	ug/L							
Di-n-butylphthalate	ND	2.50	ug/L							
Di-n-octylphthalate	ND	2.50	ug/L							
Fluoranthene	ND	0.20	ug/L							
Fluorene	ND	0.20	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	0.05	ug/L							
Naphthalene	ND	0.20	ug/L							
Pentachlorophenol	ND	0.90	ug/L							
Phenanthrene	ND	0.20	ug/L							
Pyrene	ND	0.20	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	*1.01*		ug/L	*2.500*		*40*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.41*		ug/L	*3.750*		*91*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*1.47*		ug/L	*2.500*		*59*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.72*		ug/L	*2.500*		*69*	*30-130*			
Surrogate: p-Terphenyl-d14	*1.76*		ug/L	*2.500*		*70*	*30-130*			
LCS										
Acenaphthene	2.73	0.20	ug/L	2.500		109	40-140			
Acenaphthylene	2.69	0.20	ug/L	2.500		108	40-140			
Anthracene	2.90	0.20	ug/L	2.500		116	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
625(SIM) Semi-Volatile Organic Compounds										
Batch CG71808 - 3510C										
Benzo(a)anthracene	3.02	0.05	ug/L	2.500		121	40-140			
Benzo(a)pyrene	3.50	0.05	ug/L	2.500		140	40-140			
Benzo(b)fluoranthene	3.45	0.05	ug/L	2.500		138	40-140			
Benzo(g,h,i)perylene	2.98	0.20	ug/L	2.500		119	40-140			
Benzo(k)fluoranthene	3.54	0.05	ug/L	2.500		142	40-140			B+
bis(2-Ethylhexyl)phthalate	6.70	2.50	ug/L	2.500		268	40-140			B+
Butylbenzylphthalate	3.45	2.50	ug/L	2.500		138	40-140			
Chrysene	3.14	0.05	ug/L	2.500		126	40-140			
Dibenzo(a,h)Anthracene	2.97	0.05	ug/L	2.500		119	40-140			
Diethylphthalate	2.94	2.50	ug/L	2.500		118	40-140			
Dimethylphthalate	3.28	2.50	ug/L	2.500		131	40-140			
Di-n-butylphthalate	3.40	2.50	ug/L	2.500		136	40-140			
Di-n-octylphthalate	3.77	2.50	ug/L	2.500		151	40-140			B+
Fluoranthene	3.11	0.20	ug/L	2.500		125	40-140			
Fluorene	3.05	0.20	ug/L	2.500		122	40-140			
Indeno(1,2,3-cd)Pyrene	3.09	0.05	ug/L	2.500		124	40-140			
Naphthalene	2.24	0.20	ug/L	2.500		89	40-140			
Pentachlorophenol	2.85	0.90	ug/L	2.500		114	30-130			
Phenanthrene	2.81	0.20	ug/L	2.500		112	40-140			
Pyrene	3.60	0.20	ug/L	2.500		144	40-140			B+
Surrogate: 1,2-Dichlorobenzene-d4	*0.902*		ug/L	*2.500*		*36*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.26*		ug/L	*3.750*		*87*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*1.39*		ug/L	*2.500*		*56*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.45*		ug/L	*2.500*		*58*	*30-130*			
Surrogate: p-Terphenyl-d14	*1.61*		ug/L	*2.500*		*64*	*30-130*			
LCS Dup										
Acenaphthene	2.81	0.20	ug/L	2.500		113	40-140	3	20	
Acenaphthylene	2.81	0.20	ug/L	2.500		112	40-140	4	20	
Anthracene	3.15	0.20	ug/L	2.500		126	40-140	8	20	
Benzo(a)anthracene	3.12	0.05	ug/L	2.500		125	40-140	3	20	
Benzo(a)pyrene	3.74	0.05	ug/L	2.500		150	40-140	7	20	B+
Benzo(b)fluoranthene	3.69	0.05	ug/L	2.500		148	40-140	7	20	B+
Benzo(g,h,i)perylene	3.07	0.20	ug/L	2.500		123	40-140	3	20	
Benzo(k)fluoranthene	3.86	0.05	ug/L	2.500		154	40-140	8	20	B+
bis(2-Ethylhexyl)phthalate	6.09	2.50	ug/L	2.500		244	40-140	10	20	B+
Butylbenzylphthalate	3.54	2.50	ug/L	2.500		142	40-140	3	20	B+
Chrysene	3.29	0.05	ug/L	2.500		131	40-140	5	20	
Dibenzo(a,h)Anthracene	3.02	0.05	ug/L	2.500		121	40-140	2	20	
Diethylphthalate	3.04	2.50	ug/L	2.500		122	40-140	3	20	
Dimethylphthalate	3.39	2.50	ug/L	2.500		136	40-140	3	20	
Di-n-butylphthalate	3.81	2.50	ug/L	2.500		153	40-140	11	20	B+
Di-n-octylphthalate	3.97	2.50	ug/L	2.500		159	40-140	5	20	B+
Fluoranthene	3.39	0.20	ug/L	2.500		135	40-140	8	20	
Fluorene	3.08	0.20	ug/L	2.500		123	40-140	0.9	20	
Indeno(1,2,3-cd)Pyrene	3.09	0.05	ug/L	2.500		123	40-140	0.1	20	

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
625(SIM) Semi-Volatile Organic Compounds										
Batch CG71808 - 3510C										
Naphthalene	2.34	0.20	ug/L	2.500		94	40-140	5	20	
Pentachlorophenol	3.11	0.90	ug/L	2.500		124	30-130	9	20	
Phenanthrene	2.99	0.20	ug/L	2.500		120	40-140	6	20	
Pyrene	3.64	0.20	ug/L	2.500		146	40-140	1	20	B+
Surrogate: 1,2-Dichlorobenzene-d4	*1.10*		ug/L	*2.500*		*44*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.60*		ug/L	*3.750*		*96*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*1.57*		ug/L	*2.500*		*63*	*30-130*			
Surrogate: Nitrobenzene-d5	*1.58*		ug/L	*2.500*		*63*	*30-130*			
Surrogate: p-Terphenyl-d14	*1.55*		ug/L	*2.500*		*62*	*30-130*			
8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution										
Batch CG71356 - 3535A										
Blank										
1,4-Dioxane	ND	0.250	ug/L							
Surrogate: 1,4-Dioxane-d8	*ND*		ug/L	*5.000*		*38*	*15-115*			
LCS										
1,4-Dioxane	12.0	0.250	ug/L	10.00		120	40-140			
Surrogate: 1,4-Dioxane-d8	*1.85*		ug/L	*5.000*		*37*	*15-115*			
LCS Dup										
1,4-Dioxane	10.9	0.250	ug/L	10.00		109	40-140	10	20	
Surrogate: 1,4-Dioxane-d8	*1.70*		ug/L	*5.000*		*34*	*15-115*			
Classical Chemistry										
Batch CG71317 - General Preparation										
Blank										
Total Suspended Solids	ND	5	mg/L							
LCS										
Total Suspended Solids	44		mg/L	43.50		101	80-120			
Batch CG71352 - General Preparation										
Blank										
Hexavalent Chromium	ND	10.0	ug/L							
LCS										
Hexavalent Chromium	0.494		mg/L	0.4998		99	90-110			
LCS Dup										
Hexavalent Chromium	0.493		mg/L	0.4998		99	90-110	0.2	20	
Batch CG71353 - General Preparation										
Blank										
Total Residual Chlorine	ND	20.0	ug/L							
LCS										
Total Residual Chlorine	1.80		mg/L	1.800		100	85-115			
Batch CG71705 - NH4 Prep										

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch CG71705 - NH4 Prep										
Blank										
Ammonia as N	ND	0.10	mg/L							
LCS										
Ammonia as N	0.11	0.10	mg/L	0.09994		112	80-120			
LCS										
Ammonia as N	0.92	0.10	mg/L	0.9994		92	80-120			
Batch CG71735 - NH4 Prep										
Blank										
Chloride	ND	0.5	mg/L							
LCS										
Chloride	2.6		mg/L	2.500		103	90-110			
Batch CG71740 - General Preparation										
Blank										
Total Petroleum Hydrocarbon	ND	5	mg/L							
LCS										
Total Petroleum Hydrocarbon	13	5	mg/L	19.38		69	66-114			
Batch CG71817 - TCN Prep										
Blank										
Total Cyanide (LL)	ND	5.00	ug/L							
LCS										
Total Cyanide (LL)	20.0	5.00	ug/L	20.06		100	90-110			
LCS										
Total Cyanide (LL)	149	5.00	ug/L	150.4		99	90-110			
LCS Dup										
Total Cyanide (LL)	148	5.00	ug/L	150.4		98	90-110	0.6	20	
Batch CG71920 - General Preparation										
Blank										
Phenols	ND	100	ug/L							
LCS										
Phenols	102	100	ug/L	100.0		102	80-120			
LCS										
Phenols	958	100	ug/L	1000		96	80-120			
504.1 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane										
Batch CG71426 - 504/8011										
Blank										
1,2-Dibromoethane	ND	0.015	ug/L							
1,2-Dibromoethane [2C]	ND	0.015	ug/L							
Surrogate: Pentachloroethane	*0.298*		ug/L	*0.2000*		*149*	*30-150*			
Surrogate: Pentachloroethane [2C]	*0.248*		ug/L	*0.2000*		*124*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
504.1 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane										
Batch CG71426 - 504/8011										
LCS										
1,2-Dibromoethane	0.070	0.015	ug/L	0.08000		88	70-130			
1,2-Dibromoethane [2C]	0.064	0.015	ug/L	0.08000		80	70-130			
Surrogate: Pentachloroethane	*0.0877*		ug/L	*0.2000*		*44*	*30-150*			
Surrogate: Pentachloroethane [2C]	*0.0783*		ug/L	*0.2000*		*39*	*30-150*			
LCS										
1,2-Dibromoethane	0.219	0.015	ug/L	0.2000		110	70-130			
1,2-Dibromoethane [2C]	0.212	0.015	ug/L	0.2000		106	70-130			
Surrogate: Pentachloroethane	*0.290*		ug/L	*0.2000*		*145*	*30-150*			
Surrogate: Pentachloroethane [2C]	*0.242*		ug/L	*0.2000*		*121*	*30-150*			
Alcohol Scan by GC/FID										
Batch CG71915 - No Prep										
Blank										
Ethanol	ND	10	mg/L							
LCS										
Ethanol	1270	10	mg/L	1000		127	60-140			
LCS Dup										
Ethanol	1060	10	mg/L	1000		106	60-140	18	30	

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

Notes and Definitions

X5	Due to high sediment content vials were composited
U	Analyte included in the analysis, but not detected
S-	Surrogate recovery(ies) below lower control limit (S-).
HT	The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.
DDT	DDT breakdown > 20%
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
B+	Blank Spike recovery is above upper control limit (B+).
B	Present in Method Blank (B).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Station 250/Mystic Charlestown Eversource RGP ESS Laboratory Work Order: 1707259

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KPB/TB/MM

Shipped/Delivered Via: ESS Courier

ESS Project ID: 1707259
Date Received: 7/13/2017
Project Due Date: 7/20/2017
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.8 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / NA
10. Were any analyses received outside of hold time? Yes / No

11. Any Subcontracting needed? Yes / No
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / No
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA
13. Are the samples properly preserved? Yes / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

COC = B15 Label = B17 LLC 7/13/17

14. Was there a need to contact Project Manager? Yes / No
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	148177	Yes	NA	Yes	1L Poly - Unpres	NP	
01	148179	Yes	NA	Yes	250 mL Poly - Unpres	NP	
01	148181	Yes	NA	Yes	250 mL Poly - NaOH	NaOH	pH>12 W 7/13/17 1830
01	148183	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4	
01	148185	Yes	NA	Yes	1L Amber - H2SO4	H2SO4	
01	148187	Yes	NA	Yes	500 mL Poly - HNO3	HNO3	
01	148194	Yes	NA	Yes	1L Amber - Unpres	NP	
01	148195	Yes	NA	Yes	1L Amber - Unpres	NP	
01	148196	Yes	NA	Yes	1L Amber - Unpres	NP	
01	148197	Yes	NA	Yes	1L Amber - Unpres	NP	
01	148198	Yes	NA	Yes	1L Amber - Unpres	NP	
01	148199	Yes	NA	Yes	1L Amber - Unpres	NP	
01	148201	Yes	NA	Yes	500 mL Poly - HNO3	HNO3	
01	148203	Yes	NA	Yes	1L Amber - H2SO4	H2SO4	
01	148207	Yes	No	Yes	VOA Vial - HCl	HCl	
01	148208	Yes	No	Yes	VOA Vial - HCl	HCl	
01	148209	Yes	No	Yes	VOA Vial - HCl	HCl	
01	148211	Yes	NA	Yes	VOA Vial - Unpres	NP	
01	148215	Yes	No	Yes	VOA Vial - HCl	HCl	
01	148216	Yes	No	Yes	VOA Vial - HCl	HCl	
01	148217	Yes	No	Yes	VOA Vial - HCl	HCl	
02	148176	Yes	NA	Yes	1L Poly - Unpres	NP	
02	148178	Yes	NA	Yes	250 mL Poly - Unpres	NP	
02	148180	Yes	NA	Yes	250 mL Poly - NaOH	NaOH	pH>12 W 7/13/17 1830

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KPB/TB/MM

ESS Project ID: 1707259

Date Received: 7/13/2017

02	148182	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4
02	148184	Yes	NA	Yes	1L Amber - H2SO4	H2SO4
02	148186	Yes	NA	Yes	500 mL Poly - HNO3	HNO3
02	148188	Yes	NA	Yes	1L Amber - Unpres	NP
02	148189	Yes	NA	Yes	1L Amber - Unpres	NP
02	148190	Yes	NA	Yes	1L Amber - Unpres	NP
02	148191	Yes	NA	Yes	1L Amber - Unpres	NP
02	148192	Yes	NA	Yes	1L Amber - Unpres	NP
02	148193	Yes	NA	Yes	1L Amber - Unpres	NP
02	148200	Yes	NA	Yes	500 mL Poly - HNO3	HNO3
02	148202	Yes	NA	Yes	1L Amber - H2SO4	H2SO4
02	148204	Yes	No	Yes	VOA Vial - HCl	HCl
02	148205	Yes	No	Yes	VOA Vial - HCl	HCl
02	148206	Yes	No	Yes	VOA Vial - HCl	HCl
02	148210	Yes	NA	Yes	VOA Vial - Unpres	NP
02	148212	Yes	No	Yes	VOA Vial - HCl	HCl
02	148213	Yes	No	Yes	VOA Vial - HCl	HCl
02	148214	Yes	No	Yes	VOA Vial - HCl	HCl

2nd Review

Are barcode labels on correct containers? Yes / No

Completed By: _____ Date & Time: 7/13/17 1830

Reviewed By: _____ Date & Time: 7/13/17 1910

Delivered By: _____ 7/13/17 1913

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1707259

Turn Time: X Standard Rush _____ Approved By: _____

State where samples were collected: (MA) NH

Reporting Limits - RGP

Is this project for: **RGP**

Electonic Deliverable Yes X No ___
Format: Excel X Access ___ PDF ___ Other ___

Project Manager: Mike Martin
Company: Tighe & Bond
Address: 1 University Ave
Westwood, MA 02559

Project #

Project Name: Station 250 Mystic Charlestown Eversource RGP

PO #

Analysis

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	RGP Metals Total	RGP Metals Dissolved	Hardness (Calculation)	Ethanol ASTM D3695	Chloride 300.0*	Total Cyanide 4500 LL	TPH 1664	TSS 2540D*	TRC 4500-CL D*	Ammonia 350.1	Tri Cr (Calc. MUST run T. Cr)	Hex Cr 3500	Phenol 420.1	RGP VOC Long List 524	1,4-Dioxane 8270-SIM	EDB 504.1	RGP SVOC Log List 625-SIM	PCB 608	Comment #
1	7/13/17	11:40	G	GW	B-3	~~18~~ 21	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1,2
2	7/13/17	1350	G	G	~~B-15~~ B-17	21	X		X	X	X	X X	X	X	X	X	X	X	X	X	X	X	X	X	
Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____							4	4	4	1	1	5	2	1	1	3	-	1	3	2	1	2	1	1	
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA							P	P	P	V	P	P	AG	P	P	P	-	P	AG	V	AG	V	AG	AG	

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ___ No
Seals Intact ___ Yes ___ No NA: X
Cooler Temperature: 2-8 °F

Sampled by : APC

added project name per MEM and updated ID per APC. mkm 7/14/17

Comments: 1) RGP Metals include Sb, As, Cd, Cu, Fe, Pb, Ni, Se, Ag and Zn by 200.7/200.9 and Hg by 245.1
2) Parameters in **BOLD** have Short hold-time **PERMIT ATTACHED**
*** TSS, TRC and Cl taken from the same container**

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	7/13/17	7-13-17 1500		7-13-17 1745	7/13/17 1828
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writi

Page ____ of ____

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Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS LAB PROJECT ID: 1707259

Turn Time: X Standard Rush _____ Approved By: _____

State where samples were collected: (MA) NH

Reporting Limits -

Is this project for: **RGP**

Electonic Deliverable Yes X No ___
Format: Excel X Access ___ PDF ___ Other ___

Project Manager: Mike Martin
Company: Tighe & Bond
Address: 1 University Ave
Westwood, MA 02559

Project #
Project Name:
PO #

ESS Lab Sample ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample Identification	# of Containers	RGP Metals Total	RGP Metals Dissolved	Hardness (Calculation)	Ethanol ASTM D3695	Chloride 300.0*	Total Cyanide 4500 LL	TPH 1664	TSS 2540D*	TRC 4500-CL D*	Ammonia 350.1	Tri Cr (Calc. MUST run T. Cr)	Hex Cr 3500	Phenol 420.1	RGP VOC Long List 524	1,4-Dioxane 8270-SIM	EDB 504.1	RGP SVOC Log List 625-SIM	PCB 608	Comment #
1	7/13/17	11:40	G	GW	B-3	~~28~~ 21	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	1,2
2	7/13/17	1350	G	G	B-15	21	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-_____							4	4	4	1	1	5	2	1	1	3	-	1	3	2	1	2	1	1	
Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA							P	P	P	V	P	P	AG	P	P	P	-	P	AG	V	AG	V	AG	AG	

Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present ✓ Yes ___ No
Seals Intact ___ Yes ___ No NA: X
Cooler Temperature: 2-8 °F

Sampled by : APC

Comments: 1) RGP Metals include Sb, As, Cd, Cu, Fe, Pb, Ni, Se, Ag and Zn by 200.7/200.9 and Hg by 245.1
2) Parameters in **BOLD** have Short hold-time **PERMIT ATTACHED**
*** TSS, TRC and Cl taken from the same container**

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	7/13/17	[signature] 7-13-17 1500	[signature]	7-13-17 1745	[signature] 7/13/17 1828
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Please E-mail all changes to Chain of Custody in writi

Page ____ of ____

CERTIFICATE OF ANALYSIS

Michael Martin
Tighe & Bond
4 Barlows Landing Road, Unit 15
Pocasset, MA 02559

RE: Woburn to Mystic - RGP (N-998-11)
ESS Laboratory Work Order Number: 1711482

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 2:25 pm, Nov 20, 2017

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Woburn to Mystic - RGP

ESS Laboratory Work Order: 1711482

SAMPLE RECEIPT

The following samples were received on November 15, 2017 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the 2017 Remediation General Permit under the National Pollutant Discharge Elimination System (NPDES).

ESS Laboratory is unable to achieve the required detection limit of 0.4 mg/L for Ethanol for the RGP permit. We have also been unable to procure a subcontract laboatory that is able to achieve this limit. The data for Ethanol has been reported using our current method reporting limit.

Lab Number	Sample Name	Matrix	Analysis
1711482-01	Mystic at Winter	Surface Water	200.7, 3113B, 350.1, 3500Cr B-2009, 9040
1711482-02	Mystic	Surface Water	200.7, 3113B, 350.1, 3500Cr B-2009, 9040
1711482-03	Mystic Crossing	Surface Water	200.7, 3113B, 350.1, 3500Cr B-2009, 9040
1711482-04	Aberjona	Surface Water	200.7, 3113B, 350.1, 3500Cr B-2009, 9040
1711482-05	Winter Pond	Surface Water	200.7, 3113B, 350.1, 3500Cr B-2009, 9040
1711482-06	Mystic at Boston Inner	Surface Water	200.7, 2520B, 3113B, 350.1, 3500Cr B-2009, 9040
1711482-07	Mystic at Laydown	Surface Water	200.7, 3113B, 350.1, 3500Cr B-2009, 9040

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Woburn to Mystic - RGP

ESS Laboratory Work Order: 1711482

PROJECT NARRATIVE

Total Metals

1711482-06	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Cadmium , Copper , Nickel
1711482-07	**Elevated Method Reporting Limits due to sample matrix (EL).**
	Cadmium , Copper , Nickel

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Woburn to Mystic - RGP

ESS Laboratory Work Order: 1711482

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH / VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Woburn to Mystic - RGP
Client Sample ID: Mystic at Boston Inner
Date Sampled: 11/15/17 11:30
Percent Solids: N/A

ESS Laboratory Work Order: 1711482
ESS Laboratory Sample ID: 1711482-06
Sample Matrix: Surface Water
Units: ug/L

Extraction Method: 3005A/200.7

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Arsenic	ND (5.0)		3113B		10	KJK	11/19/17 4:59	100	10	CK71531
Cadmium	**EL** ND (10.0)		200.7		10	KJK	11/16/17 15:24	100	10	CK71531
Chromium	ND (20.0)		200.7		10	KJK	11/16/17 15:24	100	10	CK71531
Chromium III	ND (20.0)		200.7		10	JLK	11/16/17 15:24	1	1	[CALC]
Copper	**EL** ND (10.0)		200.7		10	KJK	11/16/17 15:24	100	10	CK71531
Iron	ND (100)		200.7		10	KJK	11/16/17 15:24	100	10	CK71531
Lead	ND (2.0)		3113B		10	KJK	11/17/17 21:31	100	10	CK71531
Nickel	**EL** ND (20.0)		200.7		10	KJK	11/16/17 15:24	100	10	CK71531
Zinc	ND (50.0)		200.7		10	KJK	11/16/17 15:24	100	10	CK71531

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Woburn to Mystic - RGP
Client Sample ID: Mystic at Boston Inner
Date Sampled: 11/15/17 11:30
Percent Solids: N/A

ESS Laboratory Work Order: 1711482
ESS Laboratory Sample ID: 1711482-06
Sample Matrix: Surface Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Ammonia as N	**0.43** (0.10)		350.1		1	EEM	11/17/17 14:51	mg/L	CK71613
Hexavalent Chromium	ND (10.0)		3500Cr B-2009		1	JLK	11/15/17 20:47	ug/L	CK71546
pH	**7.75** (N/A)		9040		1	BCA	11/15/17 21:40	S.U.	CK71549
pH Sample Temp	**Aqueous pH measured in water at 17.2 ºC.** (N/A)								
Salinity	**14.9** (0.1)		2520B		1	JLK	11/16/17 17:10	ppt	CK71644

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Woburn to Mystic - RGP

ESS Laboratory Work Order: 1711482

Quality Control Data

Total Metals

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch CK71531 - 3005A/200.7										
Blank										
Arsenic	ND	0.5	ug/L							
Cadmium	ND	1.00	ug/L							
Chromium	ND	2.0	ug/L							
Chromium III	ND	2.00	ug/L							
Copper	ND	1.0	ug/L							
Hardness	ND	82.4	ug/L							
Iron	ND	10.0	ug/L							
Lead	ND	0.2	ug/L							
Lead	ND	2.0	ug/L							
Nickel	ND	2.0	ug/L							
Silver	ND	0.5	ug/L							
Zinc	ND	5.0	ug/L							
LCS										
Arsenic	44.8	12.5	ug/L	50.00		90	85-115			
Cadmium	23.6	1.00	ug/L	25.00		94	85-115			
Chromium	48.9	2.0	ug/L	50.00		98	85-115			
Chromium III	48.9	2.00	ug/L							
Copper	52.4	1.0	ug/L	50.00		105	85-115			
Hardness	3260	82.4	ug/L							
Iron	239	10.0	ug/L	250.0		96	85-115			
Lead	45.3	5.0	ug/L	50.00		91	85-115			
Lead	49.7	2.0	ug/L	50.00		99	85-115			
Nickel	48.8	2.0	ug/L	50.00		98	85-115			
Silver	26.1	0.5	ug/L	25.00		104	85-115			
Zinc	51.7	5.0	ug/L	50.00		103	85-115			
LCS Dup										
Arsenic	48.5	12.5	ug/L	50.00		97	85-115	8	20	
Cadmium	23.4	1.00	ug/L	25.00		94	85-115	0.7	20	
Chromium	48.7	2.0	ug/L	50.00		97	85-115	0.4	20	
Chromium III	48.7	2.00	ug/L							
Copper	52.0	1.0	ug/L	50.00		104	85-115	0.8	20	
Hardness	3210	82.4	ug/L							
Iron	237	10.0	ug/L	250.0		95	85-115	0.8	20	
Lead	47.5	5.0	ug/L	50.00		95	85-115	5	20	
Lead	49.8	2.0	ug/L	50.00		100	85-115	0.02	20	
Nickel	48.2	2.0	ug/L	50.00		96	85-115	1	20	
Silver	26.0	0.5	ug/L	25.00		104	85-115	0.2	20	
Zinc	53.8	5.0	ug/L	50.00		108	85-115	4	20	
Batch CK71546 - [CALC]										
Blank										
Chromium III	ND	10.0	ug/L							
LCS										
Chromium III	ND		ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Woburn to Mystic - RGP

ESS Laboratory Work Order: 1711482

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CK71546 - [CALC]										
LCS Dup										
Chromium III	ND		ug/L							
Classical Chemistry										
Batch CK71546 - General Preparation										
Blank										
Hexavalent Chromium	ND	10.0	ug/L							
LCS										
Hexavalent Chromium	0.503		mg/L	0.4998		101	90-110			
LCS Dup										
Hexavalent Chromium	0.516		mg/L	0.4998		103	90-110	3	20	
Batch CK71613 - NH4 Prep										
Blank										
Ammonia as N	ND	0.10	mg/L							
LCS										
Ammonia as N	0.08	0.10	mg/L	0.09994		81	80-120			
LCS										
Ammonia as N	1.02	0.10	mg/L	0.9994		102	80-120			
Batch CK71644 - General Preparation										
LCS										
Salinity	1.0		ppt	1.000		96	85-115			

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Woburn to Mystic - RGP

ESS Laboratory Work Order: 1711482

Notes and Definitions

Z16d	Aqueous pH measured in water at 17.7 ºC.
Z16c	Aqueous pH measured in water at 17.6 ºC.
Z16b	Aqueous pH measured in water at 17.4 ºC.
Z16a	Aqueous pH measured in water at 17.2 ºC.
Z16	Aqueous pH measured in water at 17.1 ºC.
U	Analyte included in the analysis, but not detected
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit

CERTIFICATE OF ANALYSIS

Client Name: Tighe & Bond
Client Project ID: Woburn to Mystic - RGP

ESS Laboratory Work Order: 1711482

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KPB/TB/MM

Shipped/Delivered Via: ESS Courier

ESS Project ID: 1711482
Date Received: 11/15/2017
Project Due Date: 11/17/2017
Days for Project: 2 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 0.4 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** (Yes) / No / NA
10. Were any analyses received outside of hold time? Yes / (No)

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / (No)
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / (No)
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	182550	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4	
01	182557	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
01	182570	Yes	NA	Yes	250 mL Poly - Unpres	NP	
01	182571	Yes	NA	Yes	250 mL Poly - Unpres	NP	
01	182578	Yes	NA	Yes	250 mL Amber - Unpres	NP	
02	182549	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4	
02	182556	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
02	182568	Yes	NA	Yes	250 mL Poly - Unpres	NP	
02	182569	Yes	NA	Yes	250 mL Poly - Unpres	NP	
02	182577	Yes	NA	Yes	250 mL Amber - Unpres	NP	
03	182548	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4	
03	182555	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
03	182566	Yes	NA	Yes	250 mL Poly - Unpres	NP	
03	182567	Yes	NA	Yes	250 mL Poly - Unpres	NP	
03	182576	Yes	NA	Yes	250 mL Amber - Unpres	NP	
04	182547	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4	
04	182554	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
04	182564	Yes	NA	Yes	250 mL Poly - Unpres	NP	
04	182565	Yes	NA	Yes	250 mL Poly - Unpres	NP	
04	182575	Yes	NA	Yes	250 mL Amber - Unpres	NP	
05	182546	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4	
05	182553	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
05	182562	Yes	NA	Yes	250 mL Poly - Unpres	NP	
05	182563	Yes	NA	Yes	250 mL Poly - Unpres	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tighe & Bond - KPB/TB/MM

ESS Project ID: 1711482

Date Received: 11/15/2017

05	182574	Yes	NA	Yes	250 mL Amber - Unpres	NP
06	182545	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4
06	182552	Yes	NA	Yes	250 mL Poly - HNO3	HNO3
06	182560	Yes	NA	Yes	250 mL Poly - Unpres	NP
06	182561	Yes	NA	Yes	250 mL Poly - Unpres	NP
06	182573	Yes	NA	Yes	250 mL Amber - Unpres	NP
07	182544	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4
07	182551	Yes	NA	Yes	250 mL Poly - HNO3	HNO3
07	182558	Yes	NA	Yes	250 mL Poly - Unpres	NP
07	182559	Yes	NA	Yes	250 mL Poly - Unpres	NP
07	182572	Yes	NA	Yes	250 mL Amber - Unpres	NP

2nd Review
Are barcode labels on correct containers? (Yes) / No

Completed By: _____ Date & Time: 11/15/17 1907

Reviewed By: _____ Date & Time: 11/15/17 2029

Delivered By: _____ 11/15/17 2029

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # D11482

Turn Time	5-Day	**Rush**	2-Day
Regulatory State	Massachusetts		
Is this project for any of the following?:	○CT RCP	○MA MCP	◉RGP

Reporting Limits: GW-1

Electonic Deliverables: ☑Limit Checker ☑Standard Excel ☑Other (Please Specify →) pdf

Company Name	**Project #**	**Project Name**
Tighe & Bond	N-998-11	Mystic to Woburn
Contact Person	**Address**	
Dean Bebis	1 University Ave	
City	**State**	**Zip Code** / **PO #**
Westwood	MA	02090
Telephone Number	**FAX Number**	**Email Address**
(508) 654-0492		dsbebis@tighebond.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: pH	Hardness	Cr+6	NH4	Salinity	Arsenic	Cadmium	Chromium III	Copper	Iron	Lead	Nickel	Silver	Zinc		
01	11-15-17	10:00	Grab	Surface Water	Mystic at Winter	X	X	X	X		X	X	X	X	X	X	X		X		
02	11-15-17	10:30	Grab	Surface Water	Mystic	X	X	X	X		X	X	X	X	X	X	X		X		
03	11-15-17	9:30	Grab	Surface Water	Mystic Crossing	X	X	X	X		X	X	X	X	X	X	X		X		
04	11-15-17	9:00	Grab	Surface Water	Aberjona	X	X	X	X		X	X	X	X	X	X	X	X	X		
05	11-15-17	8:30	Grab	Surface Water	Winter Pond	X	X	X	X		X	X	X	X	X	X	X	X	X		
06	11-15-17	11:30	Grab	Surface Water	Mystic at Boston Inner	X		X	X	X	X	X	X	X	X	X	X		X		
07	11-15-17	11:00	Grab	Surface Water	Mystic at Laydown	X	X	X	X		X	X	X	X	X	X	X		X		

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*
Number of Containers per Sample:

Laboratory Use Only
Cooler Present: ✓
Seals Intact:
Cooler Temperature: 0.4 °C

Sampled by : Colleen Brothers

Comments: Please specify "Other" preservative and containers types in this space

Eversource Pricing

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
Colleen Brothers 11-15-17 14:00	11/15/17 16:00	11/15/17 17:00	11/15/17 1855
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)