Tighe&Bond
Engineers | Environmental Specialists

E5042-009
February 10, 2022

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

Re: **Submittal of Notice of Intent (NOI) for coverage under the Remediation General Permit (RGP)**
East Boston Distribution Line
Construction Dewatering
East Eagle Street
East Boston, Massachusetts

Dear Ms. Little:

On behalf of NSTAR Electric Company d/b/a Eversource Energy (Eversource), Tighe & Bond, Inc. (Tighe & Bond) is pleased to submit the attached National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) (Appendix A) for coverage under the Remediation General Permit (RGP) for the East Boston Distribution Line Project (the Project) in East Boston, Massachusetts. This application addresses dewatering requirements associated with excavations to facilitate the construction of a new below grade electric distribution line and associated manholes in East Boston, Massachusetts.

Dewatered groundwater from within excavation is proposed to be treated using a mobile or stationary treatment system and discharged to catch basins located within Boston Water and Sewer Commission subcatchment area 29MSDO049 with ultimate discharge to the Chelsea Creek. Permission from BWSC for use of their stormwater drainage system will be obtained prior to discharge activities. The NOI fillable form is attached as Appendix A. A Groundwater Management Plan depicting the Project Route, monitoring well locations, subcatchment area 29MSDO049 and associated catch basins is included in Appendix B as Figure 1.

As there is a need to treat and discharge water generated from the construction dewatering activities, the enclosed NOI form provides required information on general Project Route conditions, proposed treatment systems, discharge locations, receiving water, and laboratory analytical results from pre-discharge sampling and surface water sampling. The proposed treatment systems are depicted shown on Figure 3 (Mobile System) and Figure 4 (Stationary System) in Appendix B. The excavation dewatering and discharge of treated groundwater are scheduled to being in June 2022 and end in December of 2024.

Dewatered groundwater along the Project Route will be treated either by a mobile treatment system before being discharged to nearby catch basins and into stormwater drainage systems managed by the Boston Water and Sewer Commission (BWSC) or will be transported to Eversource's Station 131 site located at 0 Condor Street/338 East Eagle Street in East Boston. All stormwater drainage systems specified in this RGP eventually discharge to the Chelsea River. Post treatment discharge rates will range from 25 gallons per minute (GPM) to 350 GPM.

Project Background

The project involves the installation of a 6,780± linear foot below grade electric distribution line and associated manholes originating at Station 131 (East Eagle Station) and traveling along East Eagle Street, Shelby Street, Chelsea Street, Lexington Street, Glendon Street and Condor Street in East Boston, Massachusetts (the "Project Route"). According to historical

topographic maps and aerial photographs, the Project Route has been public roadways since at least 1893 and is located in a heavily developed area of East Boston.

Regulatory History

During pre-construction soil assessment activities, concentrations of total petroleum hydrocarbons (TPH), benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, 2-methylnaphthalene, phenanthrene and lead were detected in soil samples from within the Project Route above the respective Massachusetts Department of Environmental Protection (MassDEP) Reportable Concentrations (RCS-1) values.

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

Based on information maintained on the Massachusetts Department of Environment Protection (MassDEP) Bureau of Waste Site Cleanup online database, 24 releases of oil or hazardous materials (OHM) have been documented along the Project Route as depicted on Figure 1. Of the 24 releases, the Project Route is located within the Disposal Site Boundary of three sites identified as Release Tracking Number (RTN) 3-0027992, 3-0027100 and 3-0022318.

RTN 3-0027992 was located at the intersection of East Eagle Street and Chelsea Street where anthropogenic fill and petroleum contaminated groundwater was identified during utility work. Contaminated soil and groundwater were removed and disposed of off-site and the RTN was closed with a Utility Related Abatement Measure (URAM) Completion Report.

RTN 3-0027100 was located along Condor Street and East Eagle Street where soil and anthropogenic fill containing polycyclic aromatics hydrocarbons (PAHs) and heavy metals were identified during utility work. Contaminated soil was removed as disposed of off-site and the RTN was closed with a URAM Completion Report.

RTN 3-0022318 was located at the intersection of East Eagle Street and Putnam Street where 28 gallons of mineral oil dielectric fluid (MODF) was released from a pole mounted transformer. MODF was released to the roadway surface and soils were not impacted by the release. The RTN was closed with a Class A1 Response Action Outcome.

Groundwater Characterization

To characterize groundwater at the Site and design the appropriate treatment system, two monitoring wells were installed in July 2021. A soil boring for a third monitoring well was advanced to 27 feet bgs at the intersection of Lexington Street and East Eagle Street; however, groundwater was not encountered at this location. Monitoring well locations are depicted on Figure 1 in Appendix B.

To determine groundwater quality along the Project Route, groundwater samples were collected from MW-113 and MW-117. Monitoring well MW-113 went dry during the initial sampling collection was sampled again on August 23 and 30, 2021. The groundwater samples were submitted to Con-Test for the parameters specified in the EPA Remediation General Permit (RGP), which includes total suspended solids (TSS), total residual chloride (TRC), cyanide, chloride, ammonia, total metals (antimony, arsenic, chromium [trivalent, hexavalent and total], copper, iron, lead, mercury, nickel selenium, silver and zinc) VOCs, SVOCs, TPH, ethylene dibromide (EDB), 1-4-dioxane, total phenols and PCBs. The laboratory analytical

results are summarized in Table 1 in Appendix E. Copies of the laboratory analytical reports are included in Appendix F. Laboratory analytical results were compared to either the RGP Technology Based Effluent Limitations (TBEL) or Water Quality Based Effluent Limitations (WQBEL).

Contaminants of concern (COCs) are analytes that exceeded the applicable effluent limitations. COCs detected in monitoring wells at the Site include TSS and copper. COCs with reporting limits above the applicable effluent limits are carbon tetrachloride, PCBs and TPH; Tighe & Bond would like to elect imposing numeric limits in the authorization for these parameters.

Receiving Water Classification

The Chelsea River (waterbody identification MA71-06) is classified as a Class SB (CSO) and is listed as a Category 5 impaired water body in the 303(d) Impaired Waterbodies document. The SB classification indicates that the River is a saltwater body designated as a habitat for aquatic life including fish and wildlife. The CSO designation indicates that the River is impacted by the discharge of combined sewer overflows and that a long-term control plan has not been approved or fully implemented. 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 a surface water sample ("SW-1") was collected from the Chelsea River within a quarter mile of outfall location. The surface water sample was collected in July 2021 and sent to Con-Test for analysis of ammonia, salinity and RGP metals present at the Site. Temperature and pH of the Chelsea River were recorded in the field at the time of sample collection. The surface water sample location is shown on Figure 1 in Appendix B. Surface water analytical data is summarized in Table 2 of Appendix E with complete Laboratory Reports included in Appendix F.

Treatment Systems

Dewatered groundwater along the Project Route will be treated by a mobile treatment system before being discharged to catch basins in subcatchment area 29MSDO049 and into a stormwater drainage system managed by BWSC. Based on project demands, dewatered groundwater may also be transported to a project Laydown yard located at Station 131 in East Boston, Massachusetts and discharged to a catch basin adjacent to the laydown yard on Condor Street in East Boston. The catch basin on Condor Street is also connected to subcatchment area 29MSDO049. The outfall location is depicted on Figure 1 in Appendix B.

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

Flow Rate (GPM)	Proposed Treatment System
50-150	24-foot trailer with particulate filter units, bag filters and/or GAC/clay filter
150-350	48-foot trailer weir tank, particulate filter units, bag filters and/or GAC/clay filter

Stationary Treatment System

The proposed stationary treatment system is capable of treating water up to 50 gallons per minute (gpm) and begins with one (1) 10,000-gallon weir tank. In the weir tank, sulfuric acid, LRT-E-50 Coagulant and LRT-800 Series Flocculant will be added sequentially as depicted on Figure 4 in Appendix B. The system includes three chemical feed metering pumps and two 55-gallon drums and/or totes. The pH adjustment, flocculant and coagulant chemicals will be stored within secondary containment.

Water from the weir tank will gravity flow into a 10,000-gallon clarifier that contains baffles, settling tube media and clean-out ports along the v-shaped bottom for sludge/sediment removal.

The weir tank will be raised approximately 12 inches above grade to allow for optimal gravity flow to the clarifier. Sludge/sediment that accumulates on the bottom of the clarifier will be pumped to 3,000-gallon cone bottom poly tanks (or equivalent) for sludge consolidation and storage. An electric or gas-powered sludge pump will be used for the transfer.

From the clarifier, a 3-inch submersible pump will transfer water through a duplex bag filter skid with two single bag filters plumbed in parallel, such that one bag filter vessel can operate while the other remains on standby. During a bag filter change-out, one vessel is opened while the other is closed so that water treatment is not interrupted. Each bag filter vessel includes isolation valves, sample ports and pressure gauges on the influent and effluent piping so that it is clear when a bag filter change-out is required.

From the bag filters, water will be discharged to two carbon vessels, each containing 1,000 pounds of activated liquid phase carbon, followed by one media vessel containing 20 cubic feet of anion exchange resin and one media vessel containing 4,000 pounds of zeolite. Each vessel is rated for a maximum flow rate of 50 gpm and 75 PSI and includes isolation valves, sample ports and pressure gauges on the influent and effluent piping so that it is clear when backwashing is required. Water from the media vessels will flow through a flow meter/totalizer meter prior to discharge. The proposed treatment system is depicted on Figure 4 in Appendix B.

Chemical and Additives Information

Based on groundwater samples collected from the Site and in order to achieve the expected effluent limitations for the groundwater, the following chemicals and additives have been proposed for the stationary treatment system: pH adjustment by sodium hydroxide and chemical aided settling systems through coagulants/flocculants. Product names, chemical formula, manufacturer information and Chemical Abstract Services (CAS) Registry numbers are provided on the Safety Data Sheets (SDS) included in Appendix G.

The pH adjustment (sodium hydroxide) will be added in-stream prior to the influent entering the weir tank of the treatment system. The sodium hydroxide will only be added if required to meet effluent limitations. The pH adjustment system includes an automatic metered acid feed system with a mix tank and acid feed pumps. The dosing of sodium hydroxide to the influent will be dependent on the pH of the influent water and flow rate. At maximum, assuming the system operates at 50 gallons per minute (gpm), 24 hours a day for 7 days a week, the maximum dose of sodium hydroxide will be 27.8 parts per million (ppm) (equivalent to 2 gallons per day).

The chemical aided settling system will be added in two parts, the coagulant (LRT-E-50) will be injected into the influent stream prior to entering the weir tanks while the flocculant (LRT-800) will be injected directly into the weir tank. The coagulant and flocculant will continually dose as dewatering activities occur at a maximum dosage rate of 25 ppm. Although the

dosage rate for the coagulant and flocculants will be 25 ppm, the detected concentration in the post bag filter (carryover) has been recorded in the parts per trillion (ppt) range, (about 6 orders of magnitude less than the dosing concentration). This is because nearly all the chemical becomes incorporated in the sludge and removed from the waste stream as a solid from the weir tank.

The additional of the pH adjustment and/or chemical aided settling system will not add any pollutants in concentrations which exceed permit effluent limitations, will not exceed any applicable water quality standard, and will not add any pollutants that would justify the application of permit conditions that are different from or absent in this permit.

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

Owner and Operator

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

Owner
NSTAR Electric Company
d/b/a Eversource Energy
Dean Bebis
1 University Avenue
Westwood, MA 02090

Operator
To Be Determined

Notice of Intent

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

- Review of a MassGIS Priority Resources Map, Figure 2, shows the Project 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 three species listed in Suffolk County, including the Piping Plover, the Red Knot, and the Northern Long-Eared Bat. Piping Plover are reportedly found in Revere and Winthrop. As this Project is not located in either of these towns, the Piping Plover will not be affected by construction activities or the proposed discharge to the Chelsea River. The Red Knot is migratory only, scattered along the coast in small numbers and prefers coastal beaches, rocky shores, and sand and mud flats. The Northern Long-Eared Bat prefers mines and caves during winter months and forested habitats in the summer. The Project consists of entirely of paved area in an urbanized area. Additionally, no coastal beaches, rocky shores, or forested habitats will be disturbed during construction activities. The dewatering discharge will go through a treatment system prior to being discharged to the Chelsea River, which will remove solids and COCs such as metals from the groundwater. The discharge will also travel through an existing drainage network. Based on all of these factors, it is the opinion of Tighe & Bond that the habitats for Red Knot and Northern Long-Eared Bats will not be disturbed during construction and implementation of this Project.

- 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 Route 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 Chelsea River. 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.
- The Massachusetts Cultural Resource Information System database (Appendix D), made available through the Massachusetts Historical Commission, was reviewed for Chelsea Street, Condor Street, East Eagle Street, Lexington Street and Shelby Street. Several historical buildings or areas in the vicinity of the Project Route. No resources were identified on Glendon Street. In addition, according to the National Register of Historic Places, the Eagle Hill Historic District is located on the south side of East Eagle Street and does not overlap with the Project Route. A screen shot of the historic mapping is provided in Appendix D. It is the opinion of Tighe & Bond that discharges and discharge related activities will not affect historic properties as groundwater will be pumped into a treatment system (such as a fractionation tank), treated, and discharged to an existing drainage network. Therefore, permit eligibility meets "Criterion B."
- Laboratory analytical results were compared 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.
- Groundwater samples were collected from MW-113 and MW-117 in July/August 2021. The groundwater samples were submitted for laboratory analysis of RGP parameters. The laboratory analytical results are summarized in Table 1 and are compared to the RGP TBEL and WQBEL to determine the applicable effluent limitations for the Project. Laboratory analytical reports are included in Appendix F.
- A surface water sample was collected from the Chelsea River within a quarter mile of the potential outfall location in July 2021. The surface water sample was submitted for laboratory analysis of RGP metals, ammonia, and salinity. The laboratory analytical results are summarized in Table 2 included in Appendix E. Laboratory analytical reports are 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 for analytes dictated in the authorization to confirm the treatment system is operating as designed. Additionally, the flowrate, pH, and turbidity levels will be monitored in 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 Amanda Cantara at (508) 415-3513 at your convenience.

Very truly yours,

TIGHE & BOND, INC.

Amanda P. Cantara
Project Manager

Michael E. Martin
Project Manager

Enclosures

Copy: Dean Bebis, Eversource
MassDEP, Division of Watershed Management
MassDEP, Boston

List of Appendices

Appendix A	Notice of Intent
Appendix B	Figures
Appendix C	Threatened or Endangered Species Resources
Appendix D	Historic Resources
Appendix E	Analytical Data Tables
Appendix F	Laboratory Analytical Reports
Appendix G	Safety Data Sheets

List of Figures

Figure 1	Groundwater Management Site Plan
Figure 2	MassDEP Priority Resources Map
Figure 3	Mobile Treatment System Process Flow Diagram
Figure 4	Stationary Treatment System Process Flow Diagram

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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:
East Boston Distribution Line Project</td><td colspan="3">Site address: East Eagle Street, Shelby Street, Chelsea Street, Lexington Street, Glendon Street and Condor Street
Street:</td></tr>
<tr><td>City: East Boston</td><td>State: MA</td><td>Zip: 02128</td></tr>
<tr><td rowspan="4">2. Site owner
Eversource Energy d/b/a NSTAR Electric Company

Owner is (check one): ☐ Federal ☐ State/Tribal ☐ Private
■ Other; if so, specify: Utility on Public Right of Way</td><td colspan="3">Contact Person: Dean Bebis</td></tr>
<tr><td colspan="2">Telephone: 508-654-0492</td><td>Email: Dean.Bebis@eversource.com</td></tr>
<tr><td colspan="3">Mailing address: 247 Station Drive, SE270
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
To Be Determined</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 colspan="2">4. NPDES permit number assigned by EPA:
Not yet assigned

NPDES permit is (check all that apply: ☐ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="2">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s):
Not Yet Assigned
☐ 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):
Chelsea River	MA71-06	Class 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: Chelsea River - surface water body, wetland resource areas associated with river

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. Impairments include debris/floatables/trash, ammonia (un-ionized), fecal coliform, other (contaminants in shellfish), dissolved oxygen, PCB in fish

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.	Not Applicable (Saltwater Body)
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: No dilution factor requested

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: TSS, copper, carbon tetrachloride, PCBs, TPH	
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): (1) Outfall 29M049	Outfall location(s): (Latitude, Longitude) 42.382938° by -71.029982°
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Under jurisdiction of Boston Water and Sewer Commission ☐ 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: Permission for discharge being pursued concurrently with RGP 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): Awaiting permitting 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	EPA 350.1	0.1	0.28	0.28	Report mg/L	---
Chloride		✔	2	EPA 300.0	25	560	560	Report µg/l	---
Total Residual Chlorine	✔	✔	2	SM21-23	20	0	0	0.2 mg/L	7.5
Total Suspended Solids		✔	2	SM 21-23	8.3 / 6.2	820	585	30 mg/L	---
Antimony		✔	2	EPA 200.8	1.0	1.0	1.0	206 µg/L	640
Arsenic		✔	2	EPA 200.8	0.80	2.5	1.9	104 µg/L	36
Cadmium	✔		2	EPA 200.8	0.2	0	0	10.2 µg/L	8.9
Chromium III		✔	2	Tri	1	5.4	3.7	323 µg/L	100
Chromium VI		✔	2	SM21-23	10	10	10	323 µg/L	50
Copper		✔	2	EPA 200.8	1.0	18	12.7	242 µg/L	3.7
Iron		✔	2	EPA 200.7	50	3,300	3,250	5,000 µg/L	----
Lead		✔	2	EPA 200.8	0.5	5.4	3.35	160 µg/L	8.5
Mercury	✔		2	EPA 245.1	0.1	0	0	0.739 µg/L	1.11
Nickel		✔	2	EPA 200.8	5.0	8.1	6.55	1,450 µg/L	8.3
Selenium		✔	2	EPA 200.8	0.78	1.7	0.85	235.8 µg/L	71
Silver	✔		2	EPA 200.8	0.2	0	0	35.1 µg/L	2.2
Zinc		✔	2	EPA 200.8	10	18	14.5	420 µg/L	86
Cyanide	✔		2	121.4500C	0.001	0	0	178 mg/L	1
B. Non-Halogenated VOCs									
Total BTEX	✔		2	624.1	0.180	0	0	100 µg/L	---
Benzene	✔		2	624.1	0.130	0	0	5.0 µg/L	---
1,4 Dioxane		✔	2	SW-846	50	50	50	200 µg/L	---
Acetone		✔	2	SW-846	50	50	50	7.97 mg/L	---
Phenol		✔	2	EPA 420.1	50	85	68	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	SW-846	5	5	5	4.4 µg/L	1.6
1,2 Dichlorobenzene	✔		2	SW-846	1.0	0	0	600 µg/L	---
1,3 Dichlorobenzene	✔		2	SW-846	1.0	0	0	320 µg/L	---
1,4 Dichlorobenzene	✔		2	SW-846	1.0	0	0	5.0 µg/L	---
Total dichlorobenzene	✔		2	SW-846	1.0	0	0	763 µg/L in NH	---
1,1 Dichloroethane	✔		2	SW-846	1.0	0	0	70 µg/L	---
1,2 Dichloroethane	✔		2	624.1	0.320	0	0	5.0 µg/L	---
1,1 Dichloroethylene	✔		2	SW-846	1.0	0	0	3.2 µg/L	---
Ethylene Dibromide		✔	2	EPA 504.1	0.019	0.019	0.019	0.05 µg/L	---
Methylene Chloride	✔		2	SW-846	5.0	0	0	4.6 µg/L	---
1,1,1 Trichloroethane	✔		2	SW-846	1.0	0	0	200 µg/L	---
1,1,2 Trichloroethane	✔		2	SW-846	1.0	0	0	5.0 µg/L	---
Trichloroethylene	✔		2	SW-846	1.0	0	0	5.0 µg/L	---
Tetrachloroethylene	✔		2	624.1	0.200	0	0	5.0 µg/L	3.3
cis-1,2 Dichloroethylene	✔		2	SW-846	1.0	0	0	70 µg/L	---
Vinyl Chloride	✔		2	SW-846	2.0	0	0	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates		✔	2	625.1	9.52	9.52	9.52	190 µg/L	---
Diethylhexyl phthalate	✔		2	625.1 SIM	0.45	0	0	101 µg/L	2.2
Total Group I PAHs	✔		2	625.1 SIM	0.033	0	0	1.0 µg/L	---
Benzo(a)anthracene	✔		2	625.1 SIM	0.033	0	0	As Total PAHs	0.0038
Benzo(a)pyrene	✔		2	625.1 SIM	0.021	0	0		0.0038
Benzo(b)fluoranthene	✔		2	625.1 SIM	0.027	0	0		0.0038
Benzo(k)fluoranthene	✔		2	625.1 SIM	0.017	0	0		0.0038
Chrysene	✔		2	625.1 SIM	0.021	0	0		0.0038
Dibenzo(a,h)anthracene	✔		2	625.1 SIM	0.028	0	0		0.0038
Indeno(1,2,3-cd)pyrene	✔		2	625.1 SIM	0.027	0	0		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	625.1 SIM	0.029	0	0	100 µg/L	---
Naphthalene		✔	2	625.1 SIM	0.34	0.54	0.44	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		2	608.3	0.0448	0	0	0.000064 µg/L	---
Pentachlorophenol	✔		2	625.1 SIM	0.38	0	0	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons		✔	2	EPA	5.6 / 2.8	5.6	2.8	5.0 mg/L	---
Ethanol	✔		2	624.1	0.0342	0.0342	0.0342	Report mg/L	---
Methyl-tert-Butyl Ether	✔		2	624.1	0.170	0.79	0.48	70 µg/L	20
tert-Butyl Alcohol	✔		2	624.1	5.34	0	0	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		2	SW-846	0.5	0	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.

The mobile treatment system will consist of a weir tank, particulate filter units, bag filters and/or granular activated carbon (GAC)/clay filter. The stationary treatment system will consist of one or two 10,000-gallon fractionation tanks, one sand filter unit and two particulate filters, two GAC filters, and two clay vessels

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: flow through media vessels Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	50
Provide the proposed maximum effluent flow in gpm.	350
Provide the average effluent flow in gpm.	50
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	N/A

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:
The Safety Data Sheets are provided in Appendix G of the RGP NOI. Dosage information for each chemical additive is provided in the RGP NOI narrative.

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

See attachment
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:
Print Name and Title: Dean Bebis, Senior Program Administrator Materials Management	

Tighe&Bond

APP NDI

FIGURE 1
GROUNDWATER MANAGEMENT PLAN

Outfall 29M049
42.382938° by -71.029982°

RTN 3-27100
Boston Water and Sewer Commission
Condor, Border and East Eagle St
East Boston, MA
URAMC

RTN 3-22318
Boston Edison Company
East Eagle St and Putnam St Intersection
East Boston, MA
RAO

RTN 3-27992
East Eagle St at Chelsea St
East Boston, MA
URAMC

Station 131

SW-1
MW-117
MW-113

CONDOR STREET
FALCON STREET
GLENDON STREET
PUTNAM STREET
WHITE STREET
EUTAW STREET
TRENTON STREET
PRESCOTT STREET
LEXINGTON STREET
LEXINGTON SQUARE
PRINCETON STREET
LAWSON PLACE
SHELBY STREET
EAST EAGLE STREET
EAGLE SQUARE
CHELSEA STREET
GLENDON PLACE
MARTIN A COUGHLIN ROAD
SARATOGA STREET
BREMEN STREET
BENNINGTON STREET
NEPTUNE ROAD
EAST BOSTON EXPRESSWAY
VIENNA STREET

Monitoring Well
Soil Boring
Distribution Line
Station 131
Storm Subcatchment Area - 29MSDO049

LOCUS MAP

N

0 50 100 200
Feet
1:2,400

NOTES

1. Basemap based on MassGIS/USGS 2019 Orthophotography

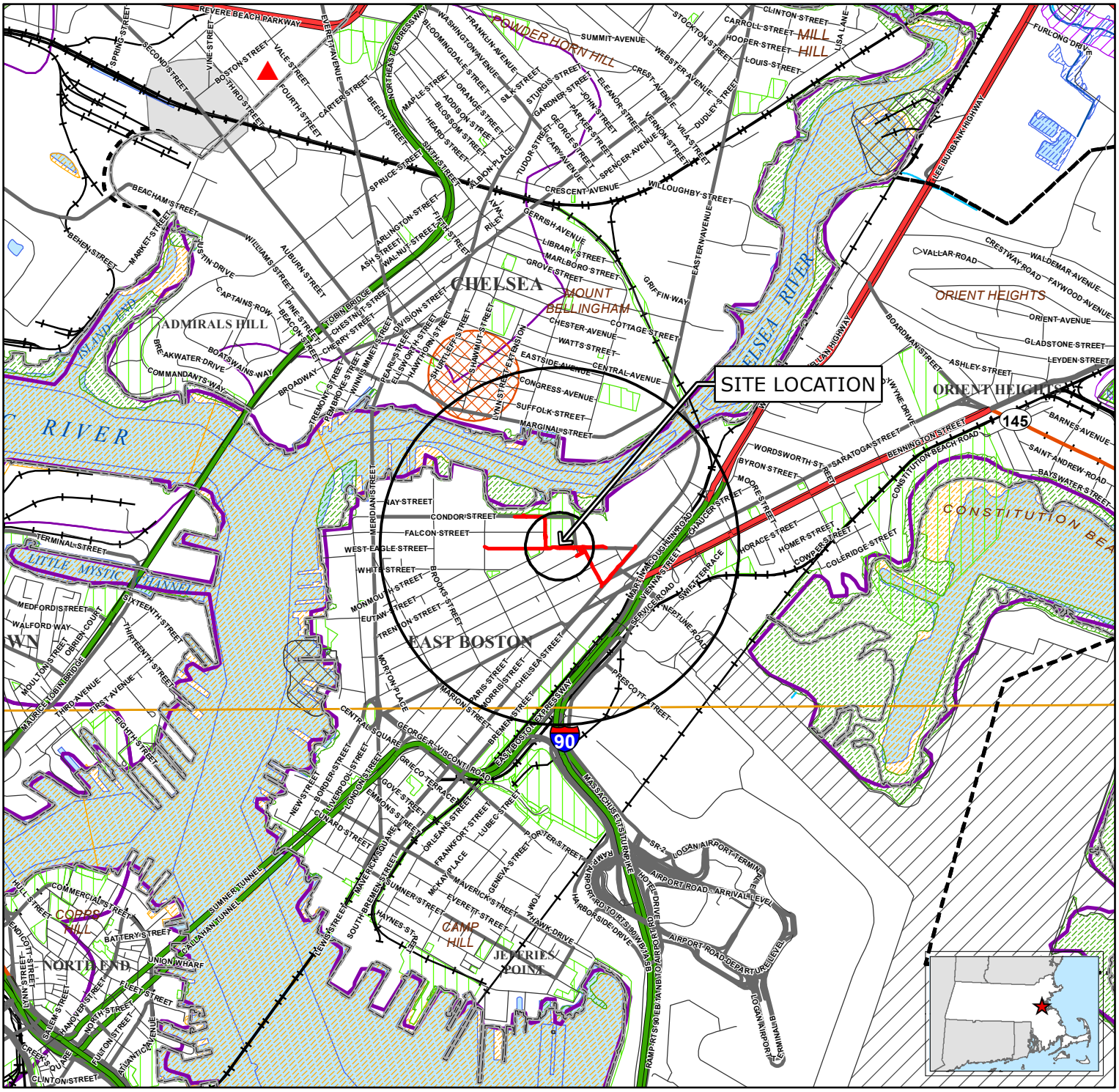
2. Sub catchment area georeferenced from the Boston Water & Sewer Commission 2020 Stormwater Management Report and is approximate.

East Boston Distribution Line
East Boston, Massachusetts

Tighe&Bond

Path: G:\GIS\MA\SiteLocus\Chelsea\Station131_RTN_20220208.mxd

N-102335



Legend

- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- Non-Landfill Solid Waste Sites
- Proposed Well
- Emergency Surface Water
- 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
- Aquaducts
- 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 Open Water
- MassDEP Inland Wetlands
- MassDEP Coastal Wetlands
- MassDEP Not Interpreted 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
- County Boundary
- Municipal Boundary
- USGS Quadrangle Sheet Boundary
- Distribution Line

1:24,000

0 1,000 2,000

Feet

N

FIGURE 2
PRIORITY RESOURCES

East Boston Distribution Line
East Boston, 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 February 2022.

February 2022

Tighe&Bond

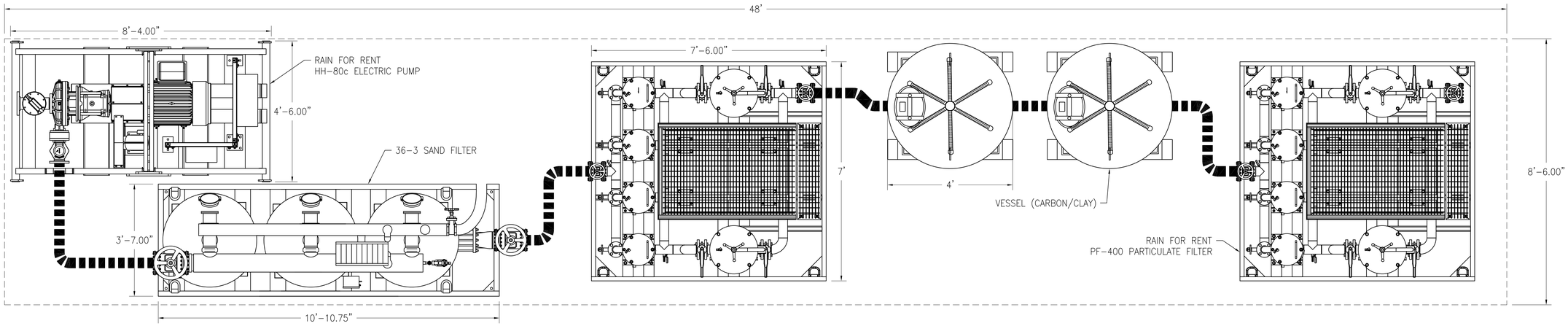
G:\GIS\MA\SiteLocus\Chelsea\Station131_RTN_PriorityResource.mxd [Exported By: AFreudenberg, 2/9/2022, 8:00:41 AM]

E-5042

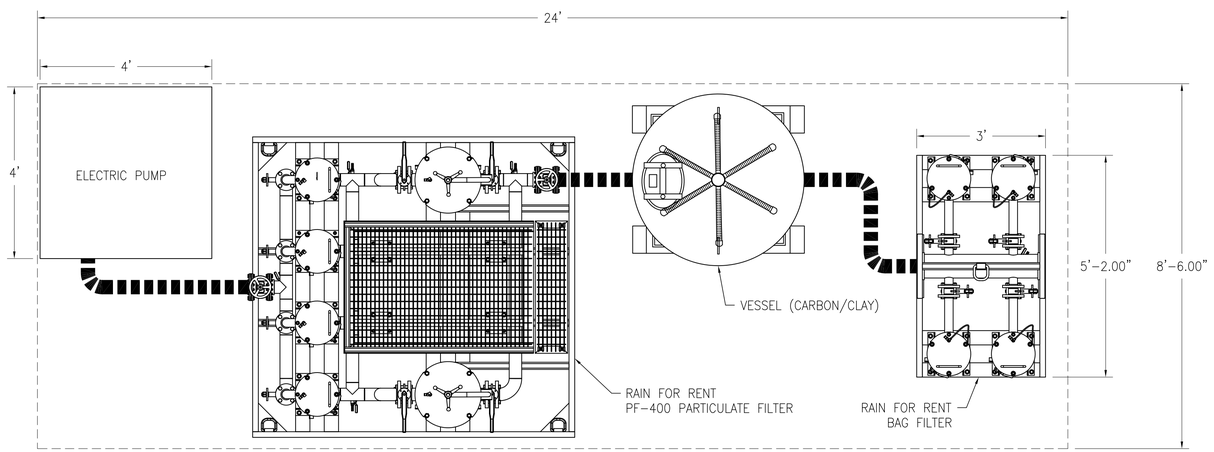
REV.NO.	DESCRIPTION	PREVIOUS DWG	BY	DATE

ITEM	QTY.	REF.	DESCRIPTION

Figure 3
Mobile System - Process Flow Diagram



48ft TRAILER CONCEPT



24ft TRAILER CONCEPT

DATE: 8/4/2017
SCALE: NOT TO SCALE
DESIGNED:
CHECKED: C. CANNELLA
DRAWN: T. TOWERY
SHEET SIZE D

CONCEPT

BOND BROTHERS

Rain for Rent
Engineering
3404 STATE ROAD, P.O. BOX 2248 BAKERSFIELD, CA 93303

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RAIN FOR RENT ENGINEERING DOCUMENT & DRAWING NUMBER
01-15043-02-01

SHEET 1 OF 1

TEXTING & DRIVING... it can wait

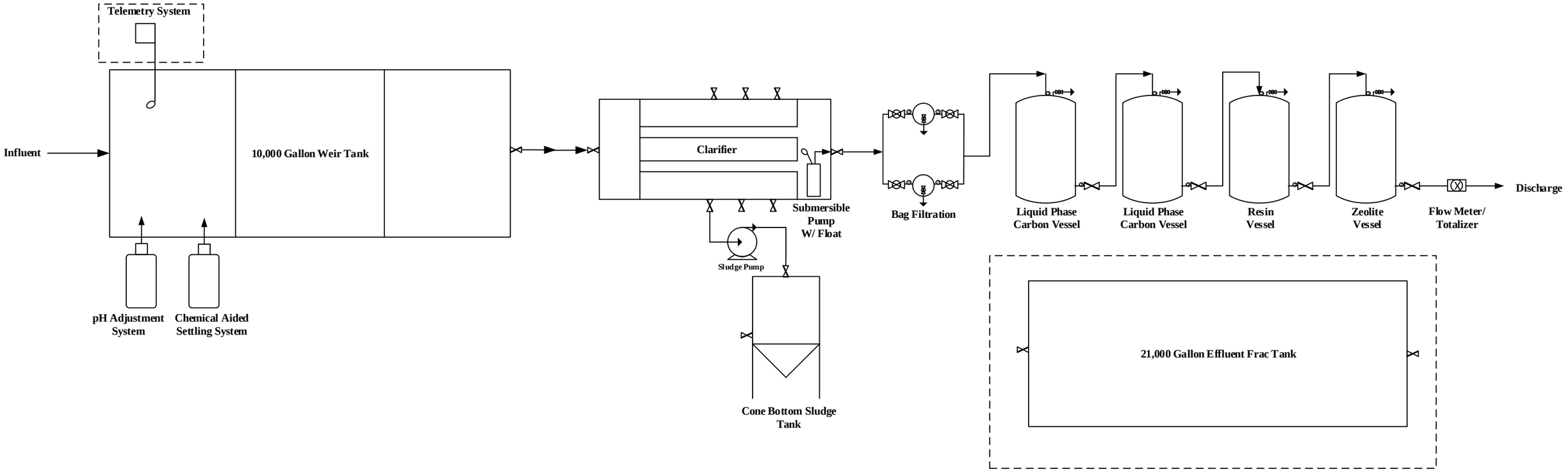
SHOCK HAZARD LOOK UP AND LIVE! KEEP 10 FOOT CLEAR

"CALL BEFORE YOU DIG" USA 811

CONFIDENTIAL

RAIN FOR RENT INFORMATION NUMBER
232101-17

C:\120-ENGINEERING\VAULT\01 ENGINEERING JOBS\01-15043\02 AUTOCAD PROJECTS\01-15043-02-01.DWG



Notes:
1. Figure not drawn to scale
2. System rated for 50 GPM
3. Sampling ports on all treatment system components
4. Weir tank will need to be elevated approx. 1' to facilitate gravity drain into clarifier

Key:
Piping/Hose
Ball Valve
Butterfly Valve
Gate Valve
Bleed Valve Assembly
Pressure Gauge
Check Valve
Optional

Lockwood Remediation Technologies, LLC
89 Crawford Street
Leominster, MA 01453
Office: 774-450-7177

DESIGNED BY: LRT DRAWN BY: JHJ.
DATE: REVISION:

Figure 4
Stationary System - Process Flow Diagram

Water Treatment System

Substation 131
331 East Eagle Street
East Boston, MA

PROJECT No. 2-1891

FIGURE No. 4

Tighe&Bond

APP NDI 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: February 09, 2022
Project Code: 2022-0005240
Project Name: East Boston Distribution Line

Subject: List of threatened and endangered species that may occur in your proposed project location 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

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

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 Code 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

Project Code: 2022-0005240
Event Code: None
Project Name: East Boston Distribution Line
Project Type: Distribution Line - New Construction - Below Ground
Project Description: The project involves the installation of a 6,780± linear foot below grade electric distribution line and associated manholes originating at Station 131 (East Eagle Station) and traveling along East Eagle Street, Shelby Street, Chelsea Street, Lexington Street, Glendon Street and Condor Street in East Boston, Massachusetts

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.3811953,-71.0281149336887,14z

Counties: Suffolk County, Massachusetts

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

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.

---

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.

Birds

NAME	STATUS
Roseate Tern *Sterna dougallii dougallii* Population: Northeast U.S. nesting population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

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

IPaC User Contact Information

Name: Amanda Cantara
Address: One University Avenue
City: Westwood
State: MA
Zip: 02090
Email acantara@tighebond.com
Phone: 5084153513

TABLE 1
FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Redbellied Cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Redbellied Cooter	Endangered	Inland Ponds and Rivers	Taunton
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
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 Longeared 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 Longeared 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 Longeared 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 Longeared 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 Longeared 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 Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Redbellied 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 Longeared 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 Longeared 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 Longeared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 02/05/2016

[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.

Tighe&Bond

APPENDIX D

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Date: 2/8/2022

Search Criteria: Town(s): Boston; Place: East Boston; Street Name: chelsea;

Inv. No.	Property Name	Street	Town	Year	Designations
BOS.9752	Chelsea Street Bridge over Chelsea River	Chelsea St	Boston	1936	
BOS.9463	Street Clock	9 Chelsea St	Boston		LL;
BOS.19	East Boston Steam Sewerage Pumping Station	605 Chelsea St	Boston	1894	

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Date: 2/8/2022

Search Criteria: Town(s): Boston; Place: East Boston; Street Name: condor;

Inv. No.	Property Name	Street	Town	Year	Designations
BOS.12872	Citizens Electric Light Company	84-92 Condor St	Boston	C 1886	
BOS.20	Boston and Lockport Block Company	100 Condor St	Boston	1907	
BOS.21	Boston and Lockport Block Company	102-140 Condor St	Boston	C 1920	

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Date: 2/8/2022

Search Criteria: Town(s): Boston; Place: East Boston; Street Name: east eagle;

Inv. No.	Property Name	Street	Town	Year	Designations
BOS.12873	Boston Ice Company Distribution Building	370 East Eagle St	Boston	C 1927	

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Date: 2/8/2022

Search Criteria: Town(s): Boston; Place: East Boston; Street Name: lexington;

Inv. No.	Property Name	Street	Town	Year	Designations
BOS.87		20 Lexington St	Boston	R 1840	
BOS.38	Carr, William House	38 Lexington St	Boston	C 1846	
BOS.51	Lapham, Mary B. House	69 Lexington St	Boston	R 1860	
BOS.14069		70-74 Lexington St	Boston	C 1851	NRDIS;
BOS.14070		78 Lexington St	Boston	R 1890	NRDIS;
BOS.39	Saint John's Episcopal Church	80-84 Lexington St	Boston	1897	NRDIS;
BOS.52	Bennett, George W. House	93 Lexington St	Boston	C 1880	
BOS.40		100 Lexington St	Boston	C 1851	
BOS.41		104 Lexington St	Boston	C 1851	
BOS.42		108 Lexington St	Boston	C 1851	
BOS.43	Bailey, Paul House	110 Lexington St	Boston	C 1851	
BOS.44	Farwell, George W. House	114 Lexington St	Boston	C 1851	
BOS.45	Robertson, John Q. House	116 Lexington St	Boston	C 1851	
BOS.46	Odiorne, Benjamin House	118 Lexington St	Boston	C 1851	
BOS.47	Hargrave, George House	124 Lexington St	Boston	1872	
BOS.48	Kelly, Daniel D. House	170 Lexington St	Boston	C 1856	
BOS.53	Ginsburg, Louis A. Three Decker	205-207 Lexington St	Boston	1901	
BOS.54	Ginsburg, Louis A. Three Decker	209-211 Lexington St	Boston	1901	
BOS.55	Ginsburg, Louis A. Three Decker	213 Lexington St	Boston	1901	
BOS.56	Burnham, Lewis Three Decker	217 Lexington St	Boston	C 1890	
BOS.49	Hayes, M. House	218 Lexington St	Boston	C 1884	
BOS.57	Burnham, Lewis Three Decker	219 Lexington St	Boston	C 1890	
BOS.50	Knowles, Paul House	220 Lexington St	Boston	C 1884	
BOS.58	Burnham, Lewis Three Decker	221 Lexington St	Boston	C 1890	
BOS.97	Bailey, George J. House	299-303 Meridian St	Boston	1898	
BOS.14182	O'Donnell, Hugh Roe Public Elementary School	33 Trenton St	Boston	1931	NRDIS;

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Date: 2/8/2022

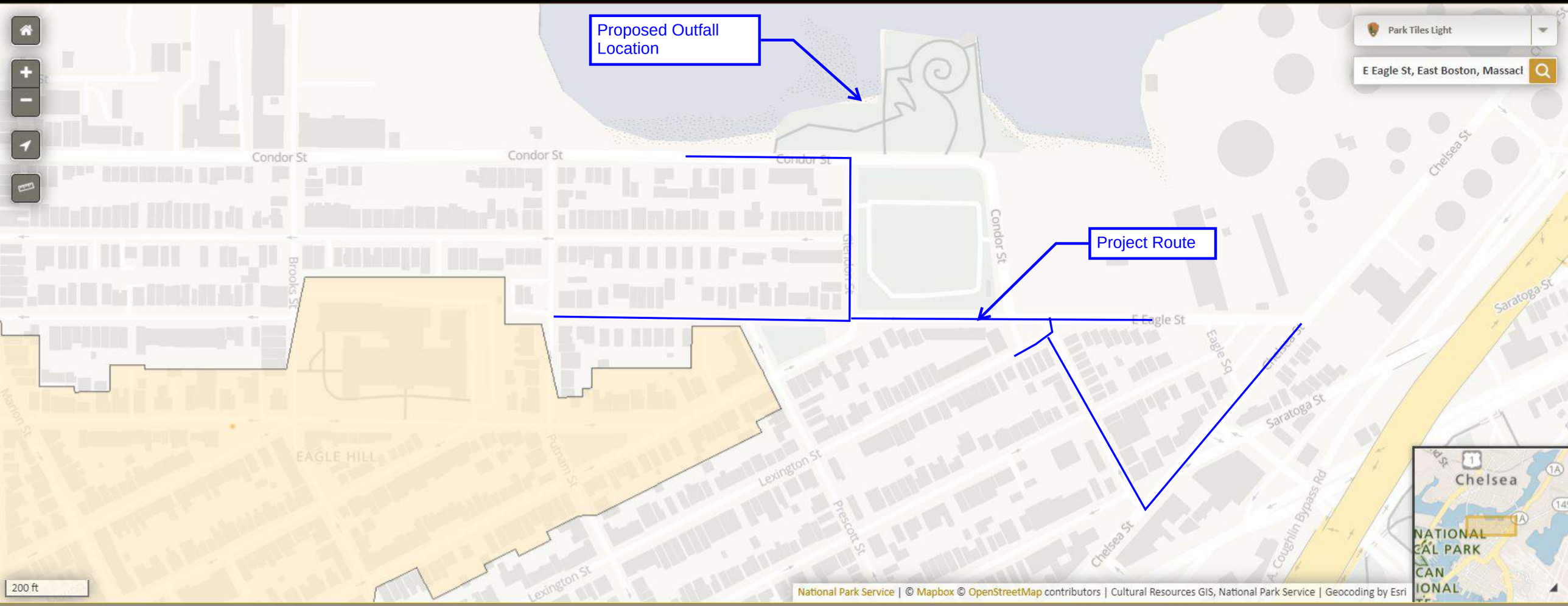
Search Criteria: Town(s): Boston; Place: East Boston; Street Name: Shelby;

Inv. No.	Property Name	Street	Town	Year	Designations
BOS.135	McLaren, Alexander and John Building	263 Princeton St	Boston	1875	
BOS.136	McLaren, Alexander and John Building	265 Princeton St	Boston	1875	
BOS.131	Pinkham - Perry - Sanderson House	296-300 Princeton St	Boston	C 1860	
BOS.132	Noble School and Annex	321 Princeton St	Boston	1874	
BOS.154	Mahoney, Richard House	470-472 Saratoga St	Boston	R 1860	
BOS.155	Lishner, Samuel Building	474-476 Saratoga St	Boston	1912	

National Register of Historic Places

Public, non-restricted data depicting National Register spatial data processed by the Cultural Resources GIS facility. Last minor update, September 2020.

National Park Service
U.S. Department of the Interior



Tighe&Bond

APP NDI

TABLE 1
Source Water Analytical Results
Eversource Energy
East Boston Distribution Line
East Boston, Massachusetts

		Sample ID Sample Date	Test Method	TBEL	WQBEL	Daily Maximum	Daily Average	MW-113 7/27/2021*	MW-117 7/27/2021
Halogenated VOCs	Carbon Tetrachloride (µg/L)		SW-846 8260C-D	4.4	1.6	5	5	**<5.0**	**<5.0**
	Dichlorobenzene	1,2-Dichlorobenzene (1,2-DCB) (µg/L	SW-846 8270D-E	600	---	4.8	4.8	<4.8	<4.8
			SW-846 8260C-D	600	---	0	0	<1.0	<1.0
		1,3-Dichlorobenzene (1,3-DCB) (µg/L	SW-846 8270D-E	320	---	4.8	4.8	<4.8	<4.8
			SW-846 8260C-D	320	---	0	0	<1.0	<1.0
		1,4-Dichlorobenzene (1,4-DCB) (µg/L	SW-846 8270D-E	2.0	---	4.8	4.8	<4.8	<4.8
			SW-846 8260C-D	2.0	---	0	0	<1.0	<1.0
		Total Dichlorobenzene	SW-846 8270D-E	---	---	4.8	4.8	<4.8	<4.8
			SW-846 8260C-D	---	---	0	0	<1.0	<1.0
	1,1-Dichloroethane (1,1-DCA) (µg/L)		SW-846 8260C-D	70	---	0	0	<1.0	<1.0
	1,2-Dichloroethane (1,2-DCA) (µg/L)		624.1	5.0	---	0	0	<0.320	<0.320
			SW-846 8260C-D	5.0	---	0	0	<1.0	<1.0
	1,1-Dichloroethylene (1,1-DCE) (µg/L)		SW-846 8260C-D	3.2	---	0	0	<1.0	<1.0
	Ethylene Dibromide (EDB) (µg/L)		EPA 504.1	0.05	---	0.019	0.019	<0.019	<0.020
			SW-846 8260C-D	0.05	---	0	0	**<0.50**	**<0.50**
	Methylene Chloride (µg/L)		SW-846 8260C-D	4.6	---	0	0	<5.0	<5.0
	1,1,1-Trichloroethane (1,1,1-TCA) (µg/L)		SW-846 8260C-D	200	---	0	0	<1.0	<1.0
	1,1,2-Trichloroethane (1,1,2-TCA) (µg/L)		SW-846 8260C-D	5.0	---	0	0	<1.0	<1.0
	Trichloroethylene (TCE) (µg/L)		SW-846 8260C-D	5.0	---	0	0	<1.0	<1.0
	Tetrachloroethylene (PCE) (µg/L)		624.1	5.0	3.3	0	0	<0.200	<0.200
			SW-846 8260C-D	5.0	3.3	0	0	<1.0	<1.0
	cis-1,2-Dichloroethylene (DCE) (µg/L)		SW-846 8260C-D	70	---	0	0	<1.0	<1.0
	Vinyl Chloride (µg/L)		SW-846 8260C-D	2.0	---	0	0	<2.0	<2.0

TABLE 1
Source Water Analytical Results
Eversource Energy
East Boston Distribution Line
East Boston, Massachusetts

		Sample ID Sample Date	Test Method	TBEL	WQBEL	Daily Maximum	Daily Average	MW-113 7/27/2021*	MW-117 7/27/2021
Halogenated VOCs	Carbon Tetrachloride (µg/L)		SW-846 8260C-D	4.4	1.6	5	5	**<5.0**	**<5.0**
	Dichlorobenzene	1,2-Dichlorobenzene (1,2-DCB) (µg/L	SW-846 8270D-E	600	---	4.8	4.8	<4.8	<4.8
			SW-846 8260C-D	600	---	0	0	<1.0	<1.0
		1,3-Dichlorobenzene (1,3-DCB) (µg/L	SW-846 8270D-E	320	---	4.8	4.8	<4.8	<4.8
			SW-846 8260C-D	320	---	0	0	<1.0	<1.0
		1,4-Dichlorobenzene (1,4-DCB) (µg/L	SW-846 8270D-E	2.0	---	4.8	4.8	<4.8	<4.8
			SW-846 8260C-D	2.0	---	0	0	<1.0	<1.0
		Total Dichlorobenzene	SW-846 8270D-E	---	---	4.8	4.8	<4.8	<4.8
			SW-846 8260C-D	---	---	0	0	<1.0	<1.0
	1,1-Dichloroethane (1,1-DCA) (µg/L)		SW-846 8260C-D	70	---	0	0	<1.0	<1.0
	1,2-Dichloroethane (1,2-DCA) (µg/L)		624.1	5.0	---	0	0	<0.320	<0.320
			SW-846 8260C-D	5.0	---	0	0	<1.0	<1.0
	1,1-Dichloroethylene (1,1-DCE) (µg/L)		SW-846 8260C-D	3.2	---	0	0	<1.0	<1.0
	Ethylene Dibromide (EDB) (µg/L)		EPA 504.1	0.05	---	0.019	0.019	<0.019	<0.020
			SW-846 8260C-D	0.05	---	0	0	**<0.50**	**<0.50**
	Methylene Chloride (µg/L)		SW-846 8260C-D	4.6	---	0	0	<5.0	<5.0
	1,1,1-Trichloroethane (1,1,1-TCA) (µg/L)		SW-846 8260C-D	200	---	0	0	<1.0	<1.0
	1,1,2-Trichloroethane (1,1,2-TCA) (µg/L)		SW-846 8260C-D	5.0	---	0	0	<1.0	<1.0
	Trichloroethylene (TCE) (µg/L)		SW-846 8260C-D	5.0	---	0	0	<1.0	<1.0
	Tetrachloroethylene (PCE) (µg/L)		624.1	5.0	3.3	0	0	<0.200	<0.200
			SW-846 8260C-D	5.0	3.3	0	0	<1.0	<1.0
	cis-1,2-Dichloroethylene (DCE) (µg/L)		SW-846 8260C-D	70	---	0	0	<1.0	<1.0
	Vinyl Chloride (µg/L)		SW-846 8260C-D	2.0	---	0	0	<2.0	<2.0

TABLE 1
Source Water Analytical Results
Eversource Energy
East Boston Distribution Line
East Boston, Massachusetts

			Sample ID Sample Date	Test Method	TBEL	WQBEL	Daily Maximum	Daily Average	MW-113 7/27/2021*	MW-117 7/27/2021
Non-Halogenated SVOCs	Phthalates	Total Phthalates (µg/L)		625.1	190	---	9.52	9.52	<9.52	<9.52
		Diethylhexyl Phthalate (DEHP) (µg/L)		625.1 SIM	101	2.2	0	0	<0.45	<0.45
		Benzyl Butyl Phthalate (µg/L)		625.1	---	---	0	0	<9.52	<9.52
		Di-n-butly phthalate (µg/L)		625.1	---	---	0	0	<9.52	<9.52
		Diethyl Phthalate (µg/L)		625.1	---	---	0	0	<9.52	<9.52
		Dimethyl Phthalate (µg/L)		625.1	---	---	0	0	<9.52	<9.52
		Di-n-octyl Phthalate (µg/L)		625.1	---	---	0	0	<9.52	<9.52
	Group I PAHs	Total Group I PAHs (µg/L)		625.1 SIM	1	---	0	0	<0.033	<0.033
				SW-846 8270D-E	1	---	0	0	<4.8	<4.8
		Benzo(a)anthracene (µg/L)		625.1 SIM	---	0.0038	0	0	<0.033	<0.033
				SW-846 8270D-E	---	0.0038	0	0	<4.8	<4.8
		Benzo(a)pyrene (µg/L)		625.1 SIM	---	0.0038	0	0	<0.021	<0.021
				SW-846 8270D-E	---	0.0038	0	0	<4.8	<4.8
		Benzo(b)fluoranthene (µg/L)		625.1 SIM	---	0.0038	0	0	<0.027	<0.027
				SW-846 8270D-E	---	0.0038	0	0	<4.8	<4.8
		Benzo(k)fluoranthene (µg/L)		625.1 SIM	---	0.0038	0	0	<0.017	<0.017
				SW-846 8270D-E	---	0.0038	0	0	<4.8	<4.8
		Chrysene (µg/L)		625.1 SIM	---	0.0038	0	0	<0.021	<0.021
				SW-846 8270D-E	---	0.0038	0	0	<4.8	<4.8
		Dibenzo(a,h)anthracene (µg/L)		625.1 SIM	---	0.0038	0	0	<0.028	<0.028
				SW-846 8270D-E	---	0.0038	0	0	<4.8	<4.8
		Indeno(1,2,3-cd)pyrene (µg/L)		625.1 SIM	---	0.0038	0	0	<0.027	<0.027
				SW-846 8270D-E	---	0.0038	0	0	<4.8	<4.8
	Group II PAHs	Total Group II PAHs (µg/L)		625.1 SIM	100	---	0	0	0.105	<0.029
				SW-846 8270D-E	100	---	0	0	<4.8	<4.8
		Acenaphthene (µg/L)		625.1 SIM	---	---	0	0	0.037	<0.027
				SW-846 8270D-E	---	---	0	0	<4.8	<4.8
		Acenaphthylene (µg/L)		625.1 SIM	---	---	0	0	<0.025	<0.025
				SW-846 8270D-E	---	---	0	0	<4.8	<4.8
		Anthracene (µg/L)		625.1 SIM	---	---	0	0	<0.019	<0.019
				SW-846 8270D-E	---	---	0	0	<4.8	<4.8
		Benzo(g,h,i)perylene (µg/L)		625.1 SIM	---	---	0	0	<0.027	<0.027
				SW-846 8270D-E	---	---	0	0	<4.8	<4.8
		Fluoranthene (µg/L)		625.1 SIM	---	---	0	0	<0.021	<0.021
				SW-846 8270D-E	---	---	0	0	<4.8	<4.8
		Fluorene (µg/L)		625.1 SIM	---	---	0	0	0.039	<0.026
				SW-846 8270D-E	---	---	0	0	<4.8	<4.8
		Phenanthrene (µg/L)		625.1 SIM	---	---	0	0	0.029	<0.029
				SW-846 8270D-E	---	---	0	0	<4.8	<4.8
		Pyrene (µg/L)		625.1 SIM	---	---	0	0	<0.019	<0.019
				SW-846 8270D-E	---	---	0	0	<4.8	<4.8
	Naphthalene (µg/L)			625.1 SIM	20	---	0.54	0.44	0.54	<0.34
				SW-846 8270D-E	20	---	0	0	<4.8	<4.8
				SW-846 8260C-D	20	---	4.8	2.4	<2.0	<4.8

TABLE 1
Source Water Analytical Results
Eversource Energy
East Boston Distribution Line
East Boston, Massachusetts

		Sample ID Sample Date	**Test Method**	**TBEL**	**WQBEL**	**Daily Maximum**	**Daily Average**	**MW-113** 7/27/2021*	**MW-117** 7/27/2021
Halogenated SVOCs	PCBs	Total PCBs	608.3	0.000064	---	0	0	**<0.0448**	**<0.0448**
		1016 (µg/L)	608.3	---	---	0	0	<0.0424	<0.0424
		1221 (µg/L)	608.3	---	---	0	0	<0.0393	<0.0393
		1232 (µg/L)	608.3	---	---	0	0	<0.0400	<0.0400
		1242 (µg/L)	608.3	---	---	0	0	<0.0419	<0.0419
		1248 (µg/L)	608.3	---	---	0	0	<0.0398	<0.0398
		1254 (µg/L)	608.3	---	---	0	0	<0.0448	<0.0448
		1260 (µg/L)	608.3	---	---	0	0	<0.0390	<0.0390
	Pentachlorophenol (PCP) (µg/L)		625.1 SIM	1.0	---	0	0	<0.38	<0.38
			SW-846 8270D-E	1.0	---	9.5	9.5	<9.5	<9.5
Fuel Parameters	Total Petroleum Hydrocarbons (TPH) (mg/L)		EPA 1664B	5.0	---	5.6	2.8	**<5.6**	<2.8
	Ethanol (EtOH) (mg/L)		624.1	Report	---	0.0342	0.0342	<0.0342	<0.0342
	Methyl tert-Butyl Ether (MtBE) (µg/L)		624.1	70	20	0.79	0.48	<0.170	0.79
			SW-846 8260C-D	70	20	0	0	<1.0	<1.0
	tert-Amyl Methyl Ether (tAME) (µg/L)		SW-846 8260C-D	120	---	0	0	<0.50	<0.50
	tert-Butyl Alcohol (tBA) (µg/L)		624.1	90	---	0	0	<5.34	<5.34
			SW-846 8260C-D	90	---	0	0	<20	<20

Notes:
Bold Text- Exceeds RGP Effluent Limit
ug/L = micrograms per liter
mg/L = milligram per liter
*Additional samples collected on 8/23/21 and 8/30/21 due to poor recharge
Total BTEX is the sum of: benzene, toluene, ethylbenzene and m,p,o xylenes
Total Phthalates is the sum of: diethylhexyl phthalate, butyl benzyl phthalate, di-n-butyl phthalate, diethyl phthalate, dimethyl phthalate and di-n-octyl phthalate
Total Group I PAHs is the sum of: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene
Total Group II PAHS is the sum of: acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorene, naphthalene, phenanthrene and pyrene.
Total PCBs is the sum of the following aroclors: 1016, 1221, 1232, 1242, 1248, 1254 and 1260.
Daily Average calculated using 0 for Non-detected for analytes with reporting limits below the required method limit and using the reporting limit for analytes above the required method limit
"-" Indicates samples not analyzed
"---" Inidicates TBEL or WQBEL not assigned

TABLE 2
Receiving Water Analytical Results
Eversource Energy
East Boston Distribution Line
East Boston, Massachusetts

Sample ID	**SW-1**
Sample Date	7/25/2021
Inorganics	
Ammonia (mg/L)	<0.30
Antimony	<5.0
Arsenic	48
Cadmium	<1.0
Chromium III	0.0
Chromium VI	<0.010
Copper	64
Iron	330
Lead	2.7
Mercury	<0.1
Nickel	<25
Selenium	150
Silver	<1.0
Zinc	<50
General Chemistry	
Salinity (ppt)	22.1

Notes:
Results in ug/L unless otherwise noted
ug/L = micrograms per liter
mg/L = milligram per liter
ppt = part per trillion

Tighe&Bond

APP NDI

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August 5, 2021

Dean S. Bebis
Eversource Energy - MA (Monthly Billing)
One NSTAR Way, SUM SE-250
Westwood, MA 02090-9230

Project Location: East Boston, MA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 21G1516

Enclosed are results of analyses for samples received by the laboratory on July 27, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jessica L. Hoffman
Project Manager

Table of Contents

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

Eversource Energy - MA (Monthly Billing)
One NSTAR Way, SUM SE-250
Westwood, MA 02090-9230
ATTN: Dean S. Bebis

REPORT DATE: 8/5/2021

PURCHASE ORDER NUMBER: 10948702

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21G1516

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

PROJECT LOCATION: East Boston, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SW-1	21G1516-01	Saltwater		EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				SM19-23 4500 NH3 C	
				SM21-23 3500 Cr B	
				SM21-23 4500 H B	
				SM2520B	MA M-RI010/CT PH-0740/NY11673/+ Additional
				Tri Chrome Calc.	

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CASE NARRATIVE SUMMARY

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

EPA 200.7

Qualifications:

MS-19

Sample to spike ratio is greater than or equal to 4:1. Spiked amount is not representative of the native amount in the sample. Appropriate or meaningful recoveries cannot be calculated.

Analyte & Samples(s) Qualified:

Hardness
21G1516-01[SW-1], B286937-MS1

EPA 200.8

Qualifications:

DL-15

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

Analyte & Samples(s) Qualified:

Antimony
21G1516-01[SW-1], B286938-DUP1

Cadmium
21G1516-01[SW-1], B286938-DUP1

Chromium
21G1516-01[SW-1], B286938-DUP1

Nickel
21G1516-01[SW-1], B286938-DUP1

Silver
21G1516-01[SW-1], B286938-DUP1

Zinc
21G1516-01[SW-1], B286938-DUP1

SM21-23 4500 H B

Qualifications:

H-05

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

Analyte & Samples(s) Qualified:

pH
21G1516-01[SW-1], B286920-DUP1

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The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

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Project Location: East Boston, MA | Sample Description: | Work Order: 21G1516

Date Received: 7/27/2021

Field Sample #: SW-1 | Sampled: 7/27/2021 09:00

Sample ID: 21G1516-01

Sample Matrix: Saltwater

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	5.0		µg/L	5	DL-15	EPA 200.8	7/28/21	7/29/21 12:18	QNW
Arsenic	48	4.0		µg/L	5		EPA 200.8	7/28/21	7/29/21 12:18	QNW
Cadmium	ND	1.0		µg/L	5	DL-15	EPA 200.8	7/28/21	7/29/21 12:18	QNW
Chromium	ND	5.0		µg/L	5	DL-15	EPA 200.8	7/28/21	7/29/21 12:18	QNW
Chromium, Trivalent	0.0			mg/L	5		Tri Chrome Calc.	7/28/21	7/29/21 12:18	QNW
Copper	64	5.0		µg/L	5		EPA 200.8	7/28/21	7/29/21 12:18	QNW
Iron	0.33	0.050		mg/L	1		EPA 200.7	7/28/21	7/29/21 0:00	QNW
Lead	2.7	2.5		µg/L	5		EPA 200.8	7/28/21	7/29/21 12:18	QNW
Mercury	ND	0.00010		mg/L	1		EPA 245.1	7/30/21	8/2/21 11:47	CJV
Nickel	ND	25		µg/L	5	DL-15	EPA 200.8	7/28/21	7/29/21 12:18	QNW
Selenium	150	25	3.9	µg/L	5		EPA 200.8	7/28/21	7/29/21 12:18	QNW
Silver	ND	1.0		µg/L	5	DL-15	EPA 200.8	7/28/21	7/29/21 12:18	QNW
Zinc	ND	50		µg/L	5	DL-15	EPA 200.8	7/28/21	7/29/21 12:18	QNW
Hardness	4200	140		mg/L	100	MS-19	EPA 200.7	7/28/21	7/30/21 15:44	MJH

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Project Location: East Boston, MA | Sample Description: | Work Order: 21G1516

Date Received: 7/27/2021

Field Sample #: SW-1 | Sampled: 7/27/2021 09:00

Sample ID: 21G1516-01

Sample Matrix: Saltwater

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	ND	0.30	mg/L	1		SM19-23 4500 NH3 C	7/28/21	7/29/21 9:20	IS
Hexavalent Chromium	ND	0.010	mg/L	1		SM21-23 3500 Cr B	7/27/21	7/27/21 19:15	CB2
pH @18.1°C	7.4		pH Units	1	H-05	SM21-23 4500 H B	7/27/21	7/27/21 21:15	CB2

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Project Location: East Boston, MA | Sample Description: | Work Order: 21G1516

Date Received: 7/27/2021

Field Sample #: SW-1 | Sampled: 7/27/2021 09:00

Sample ID: 21G1516-01

Sample Matrix: Saltwater

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Salinity	22.1	1	ppt	1		SM2520B		7/30/21 0:00	NET

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Sample Extraction Data

Prep Method: EPA 200.7 **Analytical Method: EPA 200.7**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1516-01 [SW-1]	B286937	50.0	50.0	07/28/21
21G1516-01 [SW-1]	B286937	50.0		07/28/21

Prep Method: EPA 200.8 **Analytical Method: EPA 200.8**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1516-01 [SW-1]	B286938	50.0	50.0	07/28/21

Prep Method: EPA 245.1 **Analytical Method: EPA 245.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1516-01 [SW-1]	B287126	6.00	6.00	07/30/21

SM19-23 4500 NH3 C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1516-01 [SW-1]	B286936	100	100	07/28/21

SM21-23 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1516-01 [SW-1]	B286916	50.0	50.0	07/27/21

SM21-23 4500 H B

Lab Number [Field ID]	Batch	Initial [mL]	Date
21G1516-01 [SW-1]	B286920	50.0	07/27/21

Prep Method: EPA 200.8 **Analytical Method: Tri Chrome Calc.**

Lab Number [Field ID]	Batch	Initial [mL]	Date
21G1516-01 [SW-1]	B286938	50.0	07/28/21

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B286937 - EPA 200.7											
Blank (B286937-BLK1)				Prepared & Analyzed: 07/28/21							
Iron	ND	0.050	mg/L								
Hardness	ND	1.4	mg/L								
LCS (B286937-BS1)				Prepared & Analyzed: 07/28/21							
Iron	3.88	0.050	mg/L	4.00		97.0		85-115			
Hardness	26	1.4	mg/L	26.4		97.1		85-115			
LCS Dup (B286937-BSD1)				Prepared & Analyzed: 07/28/21							
Iron	4.01	0.050	mg/L	4.00		100		85-115	3.31	20	
Hardness	26	1.4	mg/L	26.4		99.1		85-115	2.02	20	
Duplicate (B286937-DUP1)	**Source: 21G1516-01**			Prepared & Analyzed: 07/28/21							
Iron	0.298	0.050	mg/L		0.325				8.83	20	
Hardness	4100	140	mg/L		4200				3.92		
Matrix Spike (B286937-MS1)	**Source: 21G1516-01**			Prepared & Analyzed: 07/28/21							
Iron	3.86	0.050	mg/L	4.00	0.325	88.3		70-130			
Hardness	4300	140	mg/L	26.4	4200	**297**	*	70-130			MS-19
Batch B286938 - EPA 200.8											
Blank (B286938-BLK1)				Prepared & Analyzed: 07/28/21							
Antimony	ND	1.0	µg/L								
Arsenic	ND	0.80	µg/L								
Cadmium	ND	0.20	µg/L								
Chromium	ND	1.0	µg/L								
Copper	ND	1.0	µg/L								
Lead	ND	0.50	µg/L								
Nickel	ND	5.0	µg/L								
Selenium	ND	5.0	µg/L								
Silver	ND	0.20	µg/L								
Zinc	ND	10	µg/L								
LCS (B286938-BS1)				Prepared & Analyzed: 07/28/21							
Antimony	546	10	µg/L	500		109		85-115			
Arsenic	494	8.0	µg/L	500		98.8		85-115			
Cadmium	489	2.0	µg/L	500		97.7		85-115			
Chromium	496	10	µg/L	500		99.2		85-115			
Copper	1000	10	µg/L	1000		100		85-115			
Lead	493	5.0	µg/L	500		98.6		85-115			
Nickel	501	50	µg/L	500		100		85-115			
Selenium	484	50	µg/L	500		96.9		85-115			
Silver	488	2.0	µg/L	500		97.6		85-115			
Zinc	997	100	µg/L	1000		99.7		85-115			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B286938 - EPA 200.8										
LCS Dup (B286938-BSD1)				Prepared & Analyzed: 07/28/21						
Antimony	551	10	µg/L	500		110	85-115	1.02	20	
Arsenic	500	8.0	µg/L	500		99.9	85-115	1.11	20	
Cadmium	488	2.0	µg/L	500		97.6	85-115	0.0919	20	
Chromium	497	10	µg/L	500		99.3	85-115	0.172	20	
Copper	999	10	µg/L	1000		99.9	85-115	0.179	20	
Lead	492	5.0	µg/L	500		98.4	85-115	0.261	20	
Nickel	507	50	µg/L	500		101	85-115	1.09	20	
Selenium	486	50	µg/L	500		97.2	85-115	0.382	20	
Silver	491	2.0	µg/L	500		98.2	85-115	0.676	20	
Zinc	1000	100	µg/L	1000		100	85-115	0.603	20	
Duplicate (B286938-DUP1)		**Source: 21G1516-01**		Prepared: 07/28/21 Analyzed: 07/29/21						
Antimony	ND	5.0	µg/L		ND			NC	20	DL-15
Arsenic	45.5	4.0	µg/L		48.3			5.95	20	
Cadmium	ND	1.0	µg/L		ND			NC	20	DL-15
Chromium	ND	5.0	µg/L		ND			NC	20	DL-15
Copper	55.0	5.0	µg/L		64.0			15.1	20	
Lead	2.68	2.5	µg/L		2.68			0.0577	20	
Nickel	ND	25	µg/L		ND			NC	20	DL-15
Selenium	142	25	µg/L		153			7.67	20	
Silver	ND	1.0	µg/L		ND			NC	20	DL-15
Zinc	ND	50	µg/L		ND			NC	20	DL-15
Matrix Spike (B286938-MS1)		**Source: 21G1516-01**		Prepared & Analyzed: 07/28/21						
Antimony	562	10	µg/L	500	ND	112	70-130			
Arsenic	554	8.0	µg/L	500	48.3	101	70-130			
Cadmium	446	2.0	µg/L	500	ND	89.2	70-130			
Chromium	547	10	µg/L	500	ND	109	70-130			
Copper	1020	10	µg/L	1000	64.0	95.8	70-130			
Lead	538	5.0	µg/L	500	2.68	107	70-130			
Nickel	513	50	µg/L	500	13.1	100	70-130			
Selenium	631	50	µg/L	500	153	95.6	70-130			
Silver	435	2.0	µg/L	500	ND	87.0	70-130			
Zinc	939	100	µg/L	1000	ND	93.9	70-130			
Batch B287126 - EPA 245.1										
Blank (B287126-BLK1)				Prepared: 07/30/21 Analyzed: 08/02/21						
Mercury	ND	0.00010	mg/L							
LCS (B287126-BS1)				Prepared: 07/30/21 Analyzed: 08/02/21						
Mercury	0.00437	0.00010	mg/L	0.00400		109	85-115			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287126 - EPA 245.1										
LCS Dup (B287126-BSD1)				Prepared: 07/30/21 Analyzed: 08/02/21						
Mercury	0.00432	0.00010	mg/L	0.00400		108	85-115	1.23	20	

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QUALITY CONTROL

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B286916 - SM21-23 3500 Cr B										
Blank (B286916-BLK1)				Prepared & Analyzed: 07/27/21						
Hexavalent Chromium	ND	0.010	mg/L							
LCS (B286916-BS1)				Prepared & Analyzed: 07/27/21						
Hexavalent Chromium	0.10	0.010	mg/L	0.100		103	90-114			
LCS Dup (B286916-BSD1)				Prepared & Analyzed: 07/27/21						
Hexavalent Chromium	0.10	0.010	mg/L	0.100		101	90-114	1.24	5	
Batch B286920 - SM21-23 4500 H B										
LCS (B286920-BS1)				Prepared & Analyzed: 07/27/21						
pH	5.97		pH Units	6.00		99.5	90-110			
Duplicate (B286920-DUP1)	**Source: 21G1516-01**			Prepared & Analyzed: 07/27/21						
pH	7.5		pH Units		7.4			0.630	5	H-05
Batch B286936 - SM19-23 4500 NH3 C										
Blank (B286936-BLK1)				Prepared: 07/28/21 Analyzed: 07/29/21						
Ammonia as N	ND	0.30	mg/L							
LCS (B286936-BS1)				Prepared: 07/28/21 Analyzed: 07/29/21						
Ammonia as N	4.8	0.30	mg/L	5.00		95.8	86.2-110			
LCS Dup (B286936-BSD1)				Prepared: 07/28/21 Analyzed: 07/29/21						
Ammonia as N	4.7	0.30	mg/L	5.00		93.2	86.2-110	2.75	10	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
DL-15	Sample required a dilution due to low internal standard recovery of the lesser diluted digestion, reporting limit is elevated.
H-05	Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.
MS-19	Sample to spike ratio is greater than or equal to 4:1. Spiked amount is not representative of the native amount in the sample. Appropriate or meaningful recoveries cannot be calculated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.7 in Water	
Iron	CT,MA,NH,NY,RI,NC,ME,VA
Hardness	CT,MA,NH,NY,RI,VA
EPA 200.8 in Water	
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Arsenic	CT,MA,NH,NY,RI,NC,ME,VA
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Lead	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Selenium	CT,MA,NH,NY,RI,NC,ME,VA
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,NY,RI,NC,ME,VA
EPA 245.1 in Water	
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
SM19-23 4500 NH3 C in Water	
Ammonia as N	NY,MA,CT,RI,VA,NC,ME
SM21-23 3500 Cr B in Water	
Hexavalent Chromium	NY,CT,NH,RI,ME,VA,NC
SM21-23 4500 H B in Water	
pH	CT,MA,RI

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

21G1516

ALL SHADED AREAS are for LAB USE ONLY

Company: Eversource Energy	Billing Information: Eversource Energy c/o Dean Bedis
Address: 247 Station Drive Westwood MA	
Report To: Dean Bedis	Email To: dean.bedis@eversource.com
Copy To: Amanda Cantara acantara@tighebond.com	Site Collection Info/Address: East Boston
Customer Project Name/Number: E. Boston D.Line	State: MA County/City: Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Phone: 781 441 3804 Email: acantara@tighebond.com	Site/Facility ID #: E5042009
Collected By (print): Colleen Brothers	Purchase Order #: Quote #: 10948702
Collected By (signature): ColleenEBrothers	Turnaround Date Required: 7 day
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [X] No
	DW PWS ID #: DW Location Code:
	Immediately Packed on Ice: [X] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **: 4 1 4 2 1

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: pH	hardness	solids	Ammonia	Rsd metals (1)	Lab Sample # / Comments
SW-1	Saltwater	Grab	~~7/27/21~~	900					X	X	X	X	X	1

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	(NA)
Custody Signatures Present	Y	N	(NA)
Collector Signature Present	(Y)	N	NA
Bottles Intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples Received on Ice	(Y)	N	NA
VOA - Headspace Acceptable	Y	N	(NA)
USDA Regulated Soils	Y	N	(NA)
Samples in Holding Time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: _____			
Sample pH Acceptable	(Y)	N	NA
pH Strips: _____			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: _____			

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards: Metals - antimony, arsenic, cadmium, chromium III, chromium VI, copper, iron, lead, mercury, nickel, selenium, silver, zinc

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): (Y) N N/A

Lab Tracking #: 2654797

Samples received via: FEDEX UPS Client Courier (Pace Courier)

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: _____oC
Cooler 1 Therm Corr. Factor: _____oC
Cooler 1 Corrected Temp: _____oC
Comments: 2.0

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
ColleenEBrothers TighteBond	~~7/27/21~~	Loyal Chaskey	7-27-21 1610
Loyal Chaskey	7-27-21 1715	Tracy Vilk	7/27/21 1845
Tracy Vilk	7/27/21 1715	[illegible]	7/27/21 1845

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: _____ of: _____

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

August 24, 2021

Dean S. Bebis
Eversource Energy - MA (Monthly Billing)
One NSTAR Way, SUM SE-250
Westwood, MA 02090-9230

Project Location: East Boston, MA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 21G1519

Enclosed are results of analyses for samples received by the laboratory on July 27, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jessica L. Hoffman
Project Manager

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Table of Contents (continued)

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

Eversource Energy - MA (Monthly Billing)
One NSTAR Way, SUM SE-250
Westwood, MA 02090-9230
ATTN: Dean S. Bebis

REPORT DATE: 8/24/2021

PURCHASE ORDER NUMBER: 10948702

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21G1519

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

PROJECT LOCATION: East Boston, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-113	21G1519-01	Ground Water		-	MA M-MA-086/CT PH-0574/NY11148
				121,4500CN-CE	MA M-MA-086/CT PH-0574/NY11148
				608.3	
				625.1	
				EPA 1664B	
MW-117	21G1519-02	Ground Water		-	MA M-MA-086/CT PH-0574/NY11148
				121,4500CN-CE	MA M-MA-086/CT PH-0574/NY11148
				608.3	
				624.1	
				625.1	
				EPA 1664B	
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 300.0	
				EPA 420.1	
				EPA 504.1	
				SM19-23 4500 NH3 C	
				SM21-23 2540D	
				SM21-23 3500 Cr B	
				SM21-23 4500 CL G	
				Tri Chrome Calc.	

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CASE NARRATIVE SUMMARY

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

8/24/2021 REVISON: Client asked to have ethanol added to report.

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

624.1

Qualifications:

V-20

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

Analyte & Samples(s) Qualified:

Ethanol
B286951-BS1, S061897-CCV1

625.1

Qualifications:

V-04

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

Analyte & Samples(s) Qualified:

Benzidine
S061976-CCV1

V-35

Initial calibration verification (ICV) did not meet method specifications and was biased on the high side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

Benzidine
S061976-CCV1

SM21-23 4500 CL G

Qualifications:

W-06

Elevated method reporting limit due to intense color of sample

Analyte & Samples(s) Qualified:

Chlorine, Residual
21G1519-02[MW-117]

SW-846 8260C-D

Qualifications:

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

Bromomethane
S061898-CCV1

Naphthalene
S061898-CCV1

tert-Amyl Methyl Ether (TAME)
S061898-CCV1

tert-Butyl Ethyl Ether (TBEE)
S061898-CCV1

V-20

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

Analyte & Samples(s) Qualified:

Bromochloromethane
S061898-CCV1

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

Bromomethane
S061898-CCV1

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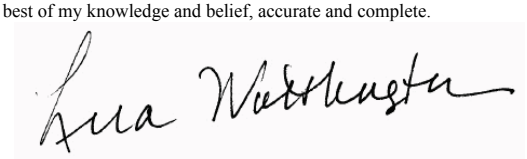
The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

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

Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-113 | Sampled: 7/27/2021 11:50

Sample ID: 21G1519-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene (SIM)	0.037	0.29	0.027	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Acenaphthylene (SIM)	<0.025	0.29	0.025	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Anthracene (SIM)	<0.019	0.19	0.019	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Benzo(a)anthracene (SIM)	<0.033	0.048	0.033	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Benzo(a)pyrene (SIM)	<0.021	0.095	0.021	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Benzo(b)fluoranthene (SIM)	<0.027	0.048	0.027	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Benzo(g,h,i)perylene (SIM)	<0.027	0.48	0.027	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Benzo(k)fluoranthene (SIM)	<0.017	0.19	0.017	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Bis(2-ethylhexyl)phthalate (SIM)	<0.45	0.95	0.45	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Chrysene (SIM)	<0.021	0.19	0.021	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Dibenz(a,h)anthracene (SIM)	<0.028	0.095	0.028	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Fluoranthene (SIM)	<0.021	0.48	0.021	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Fluorene (SIM)	0.039	0.95	0.026	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Indeno(1,2,3-cd)pyrene (SIM)	<0.027	0.095	0.027	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Naphthalene (SIM)	0.54	0.95	0.34	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Pentachlorophenol (SIM)	<0.38	0.95	0.38	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Phenanthrene (SIM)	0.029	0.048	0.029	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR
Pyrene (SIM)	<0.019	0.95	0.019	µg/L	1		625.1	7/29/21	7/30/21 14:51	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol (SIM)	30.6	15-110		7/30/21 14:51
Phenol-d6 (SIM)	29.2	15-110		7/30/21 14:51
Nitrobenzene-d5	45.9	30-130		7/30/21 14:51
2-Fluorobiphenyl	41.8	30-130		7/30/21 14:51
2,4,6-Tribromophenol (SIM)	60.4	15-110		7/30/21 14:51
p-Terphenyl-d14	55.7	30-130		7/30/21 14:51

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

Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-113 | Sampled: 7/27/2021 11:50

Sample ID: 21G1519-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Butylbenzylphthalate	<9.52	9.52	µg/L	1		625.1	7/29/21	7/30/21 19:49	IMR
Di-n-butylphthalate	<9.52	9.52	µg/L	1		625.1	7/29/21	7/30/21 19:49	IMR
Diethylphthalate	<9.52	9.52	µg/L	1		625.1	7/29/21	7/30/21 19:49	IMR
Dimethylphthalate	<9.52	9.52	µg/L	1		625.1	7/29/21	7/30/21 19:49	IMR
Di-n-octylphthalate	<9.52	9.52	µg/L	1		625.1	7/29/21	7/30/21 19:49	IMR
Bis(2-Ethylhexyl)phthalate	<9.52	9.52	µg/L	1		625.1	7/29/21	7/30/21 19:49	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
2-Fluorophenol	37.2	15-110				7/30/21 19:49	
Phenol-d6	36.2	15-110				7/30/21 19:49	
Nitrobenzene-d5	53.2	30-130				7/30/21 19:49	
2-Fluorobiphenyl	51.7	30-130				7/30/21 19:49	
2,4,6-Tribromophenol	69.7	15-110				7/30/21 19:49	
p-Terphenyl-d14	80.0	30-130				7/30/21 19:49	

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Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-113 | Sampled: 7/27/2021 11:50

Sample ID: 21G1519-01

Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	<0.0424	0.0476	0.0424	µg/L	1		608.3	7/28/21	7/29/21 17:32	TG
Aroclor-1221 [1]	<0.0393	0.0476	0.0393	µg/L	1		608.3	7/28/21	7/29/21 17:32	TG
Aroclor-1232 [1]	<0.0400	0.0476	0.0400	µg/L	1		608.3	7/28/21	7/29/21 17:32	TG
Aroclor-1242 [1]	<0.0419	0.0476	0.0419	µg/L	1		608.3	7/28/21	7/29/21 17:32	TG
Aroclor-1248 [1]	<0.0398	0.0476	0.0398	µg/L	1		608.3	7/28/21	7/29/21 17:32	TG
Aroclor-1254 [1]	<0.0448	0.0476	0.0448	µg/L	1		608.3	7/28/21	7/29/21 17:32	TG
Aroclor-1260 [1]	<0.0390	0.0476	0.0390	µg/L	1		608.3	7/28/21	7/29/21 17:32	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	38.7	30-150		7/29/21 17:32
Decachlorobiphenyl [2]	46.6	30-150		7/29/21 17:32
Tetrachloro-m-xylene [1]	71.4	30-150		7/29/21 17:32
Tetrachloro-m-xylene [2]	82.7	30-150		7/29/21 17:32

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Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-113 | Sampled: 7/27/2021 11:50

Sample ID: 21G1519-01

Sample Matrix: Ground Water

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

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Silica Gel Treated HEM (SGT-HEM)	ND	5.6		mg/L	1		EPA 1664B	8/3/21	8/3/21 13:20	LL

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Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-113 | Sampled: 7/27/2021 11:50

Sample ID: 21G1519-01

Sample Matrix: Ground Water

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

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cyanide	ND	0.005	0.001	mg/L	1		121,4500CN-CE	7/28/21	7/28/21 16:29	AAL

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

Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-117 | Sampled: 7/27/2021 08:00

Sample ID: 21G1519-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	4.53	50.0	2.35	µg/L	1		624.1	7/28/21	7/28/21 20:20	EEH
Benzene	<0.130	1.00	0.130	µg/L	1		624.1	7/28/21	7/28/21 20:20	EEH
tert-Butyl Alcohol (TBA)	<5.34	20.0	5.34	µg/L	1		624.1	7/28/21	7/28/21 20:20	EEH
1,2-Dichloroethane	<0.320	2.00	0.320	µg/L	1		624.1	7/28/21	7/28/21 20:20	EEH
1,4-Dioxane	<21.5	50.0	21.5	µg/L	1		624.1	7/28/21	7/28/21 20:20	EEH
Ethanol	<34.2	50.0	34.2	µg/L	1		624.1	7/28/21	7/28/21 20:20	EEH
Ethylbenzene	<0.0900	2.00	0.0900	µg/L	1		624.1	7/28/21	7/28/21 20:20	EEH
Methyl tert-Butyl Ether (MTBE)	0.790	2.00	0.170	µg/L	1		624.1	7/28/21	7/28/21 20:20	EEH
Tetrachloroethylene	<0.200	2.00	0.200	µg/L	1		624.1	7/28/21	7/28/21 20:20	EEH
Toluene	<0.110	1.00	0.110	µg/L	1		624.1	7/28/21	7/28/21 20:20	EEH
m+p Xylene	<0.180	2.00	0.180	µg/L	1		624.1	7/28/21	7/28/21 20:20	EEH
o-Xylene	<0.0900	1.00	0.0900	µg/L	1		624.1	7/28/21	7/28/21 20:20	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	99.9	70-130		7/28/21 20:20
Toluene-d8	98.0	70-130		7/28/21 20:20
4-Bromofluorobenzene	95.8	70-130		7/28/21 20:20

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Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-117 | Sampled: 7/27/2021 08:00

Sample ID: 21G1519-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene (SIM)	<0.027	0.29	0.027	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Acenaphthylene (SIM)	<0.025	0.29	0.025	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Anthracene (SIM)	<0.019	0.19	0.019	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Benzo(a)anthracene (SIM)	<0.033	0.048	0.033	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Benzo(a)pyrene (SIM)	<0.021	0.095	0.021	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Benzo(b)fluoranthene (SIM)	<0.027	0.048	0.027	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Benzo(g,h,i)perylene (SIM)	<0.027	0.48	0.027	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Benzo(k)fluoranthene (SIM)	<0.017	0.19	0.017	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Bis(2-ethylhexyl)phthalate (SIM)	<0.45	0.95	0.45	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Chrysene (SIM)	<0.021	0.19	0.021	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Dibenz(a,h)anthracene (SIM)	<0.028	0.095	0.028	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Fluoranthene (SIM)	<0.021	0.48	0.021	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Fluorene (SIM)	<0.026	0.95	0.026	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Indeno(1,2,3-cd)pyrene (SIM)	<0.027	0.095	0.027	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Naphthalene (SIM)	<0.34	0.95	0.34	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Pentachlorophenol (SIM)	<0.38	0.95	0.38	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Phenanthrene (SIM)	<0.029	0.048	0.029	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR
Pyrene (SIM)	<0.019	0.95	0.019	µg/L	1		625.1	7/29/21	7/30/21 15:20	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol (SIM)	30.7	15-110		7/30/21 15:20
Phenol-d6 (SIM)	27.9	15-110		7/30/21 15:20
Nitrobenzene-d5	54.7	30-130		7/30/21 15:20
2-Fluorobiphenyl	50.8	30-130		7/30/21 15:20
2,4,6-Tribromophenol (SIM)	69.8	15-110		7/30/21 15:20
p-Terphenyl-d14	65.0	30-130		7/30/21 15:20

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

Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-117 | Sampled: 7/27/2021 08:00

Sample ID: 21G1519-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Butylbenzylphthalate	<9.52	9.52	µg/L	1		625.1	7/29/21	7/30/21 20:16	IMR
Di-n-butylphthalate	<9.52	9.52	µg/L	1		625.1	7/29/21	7/30/21 20:16	IMR
Diethylphthalate	<9.52	9.52	µg/L	1		625.1	7/29/21	7/30/21 20:16	IMR
Dimethylphthalate	<9.52	9.52	µg/L	1		625.1	7/29/21	7/30/21 20:16	IMR
Di-n-octylphthalate	<9.52	9.52	µg/L	1		625.1	7/29/21	7/30/21 20:16	IMR
Bis(2-Ethylhexyl)phthalate	<9.52	9.52	µg/L	1		625.1	7/29/21	7/30/21 20:16	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	35.0	15-110		7/30/21 20:16
Phenol-d6	32.0	15-110		7/30/21 20:16
Nitrobenzene-d5	58.8	30-130		7/30/21 20:16
2-Fluorobiphenyl	60.6	30-130		7/30/21 20:16
2,4,6-Tribromophenol	82.1	15-110		7/30/21 20:16
p-Terphenyl-d14	90.5	30-130		7/30/21 20:16

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

Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-117 | Sampled: 7/27/2021 08:00

Sample ID: 21G1519-02

Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	<0.0424	0.0476	0.0424	µg/L	1		608.3	7/28/21	7/29/21 17:45	TG
Aroclor-1221 [1]	<0.0393	0.0476	0.0393	µg/L	1		608.3	7/28/21	7/29/21 17:45	TG
Aroclor-1232 [1]	<0.0400	0.0476	0.0400	µg/L	1		608.3	7/28/21	7/29/21 17:45	TG
Aroclor-1242 [1]	<0.0419	0.0476	0.0419	µg/L	1		608.3	7/28/21	7/29/21 17:45	TG
Aroclor-1248 [1]	<0.0398	0.0476	0.0398	µg/L	1		608.3	7/28/21	7/29/21 17:45	TG
Aroclor-1254 [1]	<0.0448	0.0476	0.0448	µg/L	1		608.3	7/28/21	7/29/21 17:45	TG
Aroclor-1260 [1]	<0.0390	0.0476	0.0390	µg/L	1		608.3	7/28/21	7/29/21 17:45	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	68.5	30-150		7/29/21 17:45
Decachlorobiphenyl [2]	84.6	30-150		7/29/21 17:45
Tetrachloro-m-xylene [1]	82.3	30-150		7/29/21 17:45
Tetrachloro-m-xylene [2]	92.5	30-150		7/29/21 17:45

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Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-117 | Sampled: 7/27/2021 08:00

Sample ID: 21G1519-02

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0		µg/L	1		EPA 200.8	7/28/21	7/28/21 18:05	QNW
Arsenic	1.3	0.80		µg/L	1		EPA 200.8	7/28/21	7/28/21 18:05	QNW
Cadmium	ND	0.20		µg/L	1		EPA 200.8	7/28/21	7/28/21 18:05	QNW
Chromium	5.4	1.0		µg/L	1		EPA 200.8	7/28/21	7/28/21 18:05	QNW
Chromium, Trivalent	0.0054			mg/L	1		Tri Chrome Calc.	7/28/21	7/28/21 18:05	QNW
Copper	18	1.0		µg/L	1		EPA 200.8	7/28/21	7/28/21 18:05	QNW
Iron	3.2	0.050		mg/L	1		EPA 200.7	7/28/21	7/29/21 0:24	QNW
Lead	5.4	0.50		µg/L	1		EPA 200.8	7/28/21	7/28/21 18:05	QNW
Mercury	ND	0.00010		mg/L	1		EPA 245.1	7/30/21	8/2/21 11:54	CJV
Nickel	8.1	5.0		µg/L	1		EPA 200.8	7/28/21	7/28/21 18:05	QNW
Selenium	1.7	5.0	0.78	µg/L	1	J	EPA 200.8	7/28/21	7/28/21 18:05	QNW
Silver	ND	0.20		µg/L	1		EPA 200.8	7/28/21	7/28/21 18:05	QNW
Zinc	18	10		µg/L	1		EPA 200.8	7/28/21	7/28/21 18:05	QNW
Hardness	130	1.4		mg/L	1		EPA 200.7	7/28/21	7/30/21 16:41	MJH

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Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-117 | Sampled: 7/27/2021 08:00

Sample ID: 21G1519-02

Sample Matrix: Ground Water

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

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	ND	0.30		mg/L	1		SM19-23 4500 NH3 C	7/28/21	7/29/21 9:20	IS
Chloride	560	25		mg/L	25		EPA 300.0	7/30/21	7/30/21 20:31	is
Chlorine, Residual	ND	0.20		mg/L	10	W-06	SM21-23 4500 CL G	7/27/21	7/27/21 20:00	ALG
Hexavalent Chromium	ND	0.010		mg/L	1		SM21-23 3500 Cr B	7/27/21	7/27/21 19:15	CB2
Phenol	ND	0.050		mg/L	1		EPA 420.1	7/28/21	8/2/21 10:45	LL
Total Suspended Solids	350	6.2		mg/L	1		SM21-23 2540D	7/29/21	7/29/21 11:55	LL
Silica Gel Treated HEM (SGT-HEM)	ND	2.8		mg/L	1		EPA 1664B	8/3/21	8/3/21 13:20	LL

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Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-117 | Sampled: 7/27/2021 08:00

Sample ID: 21G1519-02

Sample Matrix: Ground Water

Drinking Water Organics EPA 504.1

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.020	µg/L	1		EPA 504.1	7/30/21	7/30/21 18:26	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
1,3-Dibromopropane (1)	109	70-130				7/30/21 18:26	

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Project Location: East Boston, MA | Sample Description: | Work Order: 21G1519

Date Received: 7/27/2021

Field Sample #: MW-117 | Sampled: 7/27/2021 08:00

Sample ID: 21G1519-02

Sample Matrix: Ground Water

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

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cyanide	ND	0.005	0.001	mg/L	1		121,4500CN-CE	7/28/21	7/28/21 16:30	AAL

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Sample Extraction Data

Prep Method: SW-846 3510C **Analytical Method: 608.3**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-01 [MW-113]	B286925	1050	5.00	07/28/21
21G1519-02 [MW-117]	B286925	1050	5.00	07/28/21

Prep Method: SW-846 5030B **Analytical Method: 624.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-02 [MW-117]	B286951	5	5.00	07/28/21

Prep Method: SW-846 3510C **Analytical Method: 625.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-01 [MW-113]	B287021	1050	1.00	07/29/21
21G1519-02 [MW-117]	B287021	1050	1.00	07/29/21

Prep Method: SW-846 3510C **Analytical Method: 625.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-01 [MW-113]	B287156	1050	1.00	07/29/21
21G1519-02 [MW-117]	B287156	1050	1.00	07/29/21

EPA 1664B

Lab Number [Field ID]	Batch	Initial [mL]	Date
21G1519-01 [MW-113]	B287327	250	08/03/21
21G1519-02 [MW-117]	B287327	500	08/03/21

Prep Method: EPA 200.7 **Analytical Method: EPA 200.7**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-02 [MW-117]	B286937	50.0	50.0	07/28/21
21G1519-02 [MW-117]	B286937	50.0		07/28/21

Prep Method: EPA 200.8 **Analytical Method: EPA 200.8**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-02 [MW-117]	B286938	50.0	50.0	07/28/21

Prep Method: EPA 245.1 **Analytical Method: EPA 245.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-02 [MW-117]	B287126	6.00	6.00	07/30/21

Prep Method: EPA 300.0 **Analytical Method: EPA 300.0**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date

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Sample Extraction Data

Prep Method: EPA 300.0 **Analytical Method: EPA 300.0**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-02 [MW-117]	B287190	10.0	10.0	07/30/21

EPA 420.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-02 [MW-117]	B286927	50.0	50.0	07/28/21

Prep Method: EPA 504 water **Analytical Method: EPA 504.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-02 [MW-117]	B287168	35.5	35.0	07/30/21

SM19-23 4500 NH3 C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-02 [MW-117]	B286936	100	100	07/28/21

SM21-23 2540D

Lab Number [Field ID]	Batch	Initial [mL]	Date
21G1519-02 [MW-117]	B287012	80.0	07/29/21

SM21-23 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-02 [MW-117]	B286916	50.0	50.0	07/27/21

SM21-23 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21G1519-02 [MW-117]	B286915	100	100	07/27/21

Prep Method: EPA 200.8 **Analytical Method: Tri Chrome Calc.**

Lab Number [Field ID]	Batch	Initial [mL]	Date
21G1519-02 [MW-117]	B286938	50.0	07/28/21

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B286951 - SW-846 5030B											
Blank (B286951-BLK1)				Prepared & Analyzed: 07/28/21							
Acetone	ND	50.0	µg/L								
Benzene	ND	1.00	µg/L								
tert-Butyl Alcohol (TBA)	ND	20.0	µg/L								
1,2-Dichloroethane	ND	2.00	µg/L								
1,4-Dioxane	ND	50.0	µg/L								
Ethanol	ND	50.0	µg/L								
Ethylbenzene	ND	2.00	µg/L								
Methyl tert-Butyl Ether (MTBE)	ND	2.00	µg/L								
Tetrachloroethylene	ND	2.00	µg/L								
Toluene	ND	1.00	µg/L								
m+p Xylene	ND	2.00	µg/L								
o-Xylene	ND	1.00	µg/L								
Surrogate: 1,2-Dichloroethane-d4	*25.4*		µg/L	25.0		102	70-130				
Surrogate: Toluene-d8	*24.7*		µg/L	25.0		98.7	70-130				
Surrogate: 4-Bromofluorobenzene	*23.7*		µg/L	25.0		95.0	70-130				
LCS (B286951-BS1)				Prepared & Analyzed: 07/28/21							
Acetone	200	50.0	µg/L	200		99.5	70-160				†
Benzene	19	1.00	µg/L	20.0		96.1	65-135				
tert-Butyl Alcohol (TBA)	170	20.0	µg/L	200		87.2	40-160				†
1,2-Dichloroethane	21	2.00	µg/L	20.0		103	70-130				
1,4-Dioxane	200	50.0	µg/L	200		100	40-130				†
Ethanol	280	50.0	µg/L	200		141	40-160			V-20	
Ethylbenzene	19	2.00	µg/L	20.0		94.2	60-140				
Methyl tert-Butyl Ether (MTBE)	21	2.00	µg/L	20.0		106	70-130				
Tetrachloroethylene	19	2.00	µg/L	20.0		94.4	70-130				
Toluene	20	1.00	µg/L	20.0		98.4	70-130				
m+p Xylene	38	2.00	µg/L	40.0		95.1	70-130				
o-Xylene	20	1.00	µg/L	20.0		97.8	70-130				
Surrogate: 1,2-Dichloroethane-d4	*26.0*		µg/L	25.0		104	70-130				
Surrogate: Toluene-d8	*24.6*		µg/L	25.0		98.2	70-130				
Surrogate: 4-Bromofluorobenzene	*25.0*		µg/L	25.0		99.8	70-130				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287156 - SW-846 3510C										
Blank (B287156-BLK1)				Prepared: 07/29/21 Analyzed: 07/30/21						
Acenaphthene (SIM)	ND	0.30	µg/L							
Acenaphthylene (SIM)	ND	0.30	µg/L							
Anthracene (SIM)	ND	0.20	µg/L							
Benzo(a)anthracene (SIM)	ND	0.050	µg/L							
Benzo(a)pyrene (SIM)	ND	0.10	µg/L							
Benzo(b)fluoranthene (SIM)	ND	0.050	µg/L							
Benzo(g,h,i)perylene (SIM)	ND	0.50	µg/L							
Benzo(k)fluoranthene (SIM)	ND	0.20	µg/L							
Bis(2-ethylhexyl)phthalate (SIM)	ND	1.0	µg/L							
Chrysene (SIM)	ND	0.20	µg/L							
Dibenz(a,h)anthracene (SIM)	ND	0.10	µg/L							
Fluoranthene (SIM)	ND	0.50	µg/L							
Fluorene (SIM)	ND	1.0	µg/L							
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.10	µg/L							
Naphthalene (SIM)	ND	1.0	µg/L							
Pentachlorophenol (SIM)	ND	1.0	µg/L							
Phenanthrene (SIM)	ND	0.050	µg/L							
Pyrene (SIM)	ND	1.0	µg/L							
Surrogate: 2-Fluorophenol (SIM)	*76.9*		µg/L	200		38.4	15-110			
Surrogate: Phenol-d6 (SIM)	*71.9*		µg/L	200		35.9	15-110			
Surrogate: Nitrobenzene-d5	*70.3*		µg/L	100		70.3	30-130			
Surrogate: 2-Fluorobiphenyl	*67.1*		µg/L	100		67.1	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*172*		µg/L	200		85.8	15-110			
Surrogate: p-Terphenyl-d14	*87.4*		µg/L	100		87.4	30-130			
LCS (B287156-BS1)				Prepared: 07/29/21 Analyzed: 07/30/21						
Acenaphthene (SIM)	29.1	6.0	µg/L	50.0		58.3	47-145			
Acenaphthylene (SIM)	30.6	6.0	µg/L	50.0		61.2	33-145			
Anthracene (SIM)	35.1	4.0	µg/L	50.0		70.1	27-133			
Benzo(a)anthracene (SIM)	34.3	1.0	µg/L	50.0		68.7	33-143			
Benzo(a)pyrene (SIM)	35.8	2.0	µg/L	50.0		71.6	17-163			
Benzo(b)fluoranthene (SIM)	38.4	1.0	µg/L	50.0		76.7	24-159			
Benzo(g,h,i)perylene (SIM)	36.1	10	µg/L	50.0		72.1	10-219			
Benzo(k)fluoranthene (SIM)	37.4	4.0	µg/L	50.0		74.8	11-162			
Bis(2-ethylhexyl)phthalate (SIM)	43.8	20	µg/L	50.0		87.6	8-158			
Chrysene (SIM)	34.2	4.0	µg/L	50.0		68.4	17-168			
Dibenz(a,h)anthracene (SIM)	35.2	2.0	µg/L	50.0		70.4	10-227			
Fluoranthene (SIM)	34.0	10	µg/L	50.0		68.0	26-137			
Fluorene (SIM)	31.8	20	µg/L	50.0		63.5	59-121			
Indeno(1,2,3-cd)pyrene (SIM)	37.4	2.0	µg/L	50.0		74.8	10-171			
Naphthalene (SIM)	27.0	20	µg/L	50.0		54.0	21-133			
Pentachlorophenol (SIM)	27.3	20	µg/L	50.0		54.6	14-176			
Phenanthrene (SIM)	33.2	1.0	µg/L	50.0		66.4	54-120			
Pyrene (SIM)	34.7	20	µg/L	50.0		69.4	52-120			
Surrogate: 2-Fluorophenol (SIM)	*68.0*		µg/L	200		34.0	15-110			
Surrogate: Phenol-d6 (SIM)	*63.5*		µg/L	200		31.8	15-110			
Surrogate: Nitrobenzene-d5	*65.3*		µg/L	100		65.3	30-130			
Surrogate: 2-Fluorobiphenyl	*61.1*		µg/L	100		61.1	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*154*		µg/L	200		77.2	15-110			
Surrogate: p-Terphenyl-d14	*67.2*		µg/L	100		67.2	30-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287156 - SW-846 3510C										
LCS Dup (B287156-BSD1)				Prepared: 07/29/21 Analyzed: 07/30/21						
Acenaphthene (SIM)	30.7	6.0	µg/L	50.0		61.5	47-145	5.34	48	
Acenaphthylene (SIM)	32.6	6.0	µg/L	50.0		65.1	33-145	6.27	74	
Anthracene (SIM)	36.6	4.0	µg/L	50.0		73.2	27-133	4.30	66	
Benzo(a)anthracene (SIM)	35.8	1.0	µg/L	50.0		71.7	33-143	4.27	53	
Benzo(a)pyrene (SIM)	37.6	2.0	µg/L	50.0		75.2	17-163	4.90	72	
Benzo(b)fluoranthene (SIM)	39.8	1.0	µg/L	50.0		79.6	24-159	3.68	71	
Benzo(g,h,i)perylene (SIM)	38.5	10	µg/L	50.0		77.0	10-219	6.49	97	
Benzo(k)fluoranthene (SIM)	38.5	4.0	µg/L	50.0		77.1	11-162	3.06	63	
Bis(2-ethylhexyl)phthalate (SIM)	43.9	20	µg/L	50.0		87.7	8-158	0.137	82	
Chrysene (SIM)	35.6	4.0	µg/L	50.0		71.1	17-168	3.96	87	
Dibenz(a,h)anthracene (SIM)	37.6	2.0	µg/L	50.0		75.2	10-227	6.54	126	
Fluoranthene (SIM)	35.6	10	µg/L	50.0		71.2	26-137	4.66	66	
Fluorene (SIM)	33.9	20	µg/L	50.0		67.8	59-121	6.46	38	
Indeno(1,2,3-cd)pyrene (SIM)	39.8	2.0	µg/L	50.0		79.5	10-171	6.06	99	
Naphthalene (SIM)	28.3	20	µg/L	50.0		56.6	21-133	4.63	65	
Pentachlorophenol (SIM)	30.4	20	µg/L	50.0		60.7	14-176	10.7	86	
Phenanthrene (SIM)	34.4	1.0	µg/L	50.0		68.8	54-120	3.61	39	
Pyrene (SIM)	35.2	20	µg/L	50.0		70.5	52-120	1.54	49	
Surrogate: 2-Fluorophenol (SIM)	*70.0*		µg/L	200		35.0	15-110			
Surrogate: Phenol-d6 (SIM)	*65.6*		µg/L	200		32.8	15-110			
Surrogate: Nitrobenzene-d5	*69.9*		µg/L	100		69.9	30-130			
Surrogate: 2-Fluorobiphenyl	*65.6*		µg/L	100		65.6	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*167*		µg/L	200		83.4	15-110			
Surrogate: p-Terphenyl-d14	*67.5*		µg/L	100		67.5	30-130			
Matrix Spike (B287156-MS1)	**Source: 21G1519-02**			Prepared: 07/29/21 Analyzed: 07/30/21						
Acenaphthene (SIM)	29.2	5.7	µg/L	47.6	ND	61.2	47-145			
Acenaphthylene (SIM)	30.6	5.7	µg/L	47.6	ND	64.3	33-145			
Anthracene (SIM)	36.2	3.8	µg/L	47.6	ND	76.1	27-133			
Benzo(a)anthracene (SIM)	35.9	0.95	µg/L	47.6	ND	75.5	33-143			
Benzo(a)pyrene (SIM)	37.4	1.9	µg/L	47.6	ND	78.5	17-163			
Benzo(b)fluoranthene (SIM)	40.2	0.95	µg/L	47.6	ND	84.4	24-159			
Benzo(g,h,i)perylene (SIM)	38.3	9.5	µg/L	47.6	ND	80.4	10-219			
Benzo(k)fluoranthene (SIM)	39.1	3.8	µg/L	47.6	ND	82.0	11-162			
Bis(2-ethylhexyl)phthalate (SIM)	47.8	19	µg/L	47.6	ND	100	8-158			
Chrysene (SIM)	35.9	3.8	µg/L	47.6	ND	75.4	17-168			
Dibenz(a,h)anthracene (SIM)	37.0	1.9	µg/L	47.6	ND	77.7	10-227			
Fluoranthene (SIM)	35.3	9.5	µg/L	47.6	ND	74.2	26-137			
Fluorene (SIM)	32.5	19	µg/L	47.6	ND	68.2	59-121			
Indeno(1,2,3-cd)pyrene (SIM)	39.3	1.9	µg/L	47.6	ND	82.5	10-171			
Naphthalene (SIM)	26.1	19	µg/L	47.6	ND	54.8	21-133			
Pentachlorophenol (SIM)	31.3	19	µg/L	47.6	ND	65.8	14-176			
Phenanthrene (SIM)	34.4	0.95	µg/L	47.6	ND	72.2	54-120			
Pyrene (SIM)	36.9	19	µg/L	47.6	ND	77.5	52-120			
Surrogate: 2-Fluorophenol (SIM)	*64.2*		µg/L	190		33.7	15-110			
Surrogate: Phenol-d6 (SIM)	*60.5*		µg/L	190		31.8	15-110			
Surrogate: Nitrobenzene-d5	*61.1*		µg/L	95.2		64.2	30-130			
Surrogate: 2-Fluorobiphenyl	*59.9*		µg/L	95.2		62.9	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*166*		µg/L	190		87.2	15-110			
Surrogate: p-Terphenyl-d14	*69.2*		µg/L	95.2		72.6	30-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287156 - SW-846 3510C										
Matrix Spike Dup (B287156-MSD1)	**Source: 21G1519-02**			Prepared: 07/29/21 Analyzed: 07/30/21						
Acenaphthene (SIM)	28.1	5.7	µg/L	47.6	ND	59.0	47-145	3.73	48	
Acenaphthylene (SIM)	30.0	5.7	µg/L	47.6	ND	62.9	33-145	2.14	74	
Anthracene (SIM)	34.8	3.8	µg/L	47.6	ND	73.0	27-133	4.08	66	
Benzo(a)anthracene (SIM)	34.1	0.95	µg/L	47.6	ND	71.5	33-143	5.39	53	
Benzo(a)pyrene (SIM)	35.5	1.9	µg/L	47.6	ND	74.6	17-163	5.12	72	
Benzo(b)fluoranthene (SIM)	38.0	0.95	µg/L	47.6	ND	79.7	24-159	5.75	71	
Benzo(g,h,i)perylene (SIM)	36.4	9.5	µg/L	47.6	ND	76.5	10-219	4.95	97	
Benzo(k)fluoranthene (SIM)	37.1	3.8	µg/L	47.6	ND	78.0	11-162	5.05	63	
Bis(2-ethylhexyl)phthalate (SIM)	44.6	19	µg/L	47.6	ND	93.6	8-158	7.13	82	
Chrysene (SIM)	34.0	3.8	µg/L	47.6	ND	71.4	17-168	5.51	87	
Dibenz(a,h)anthracene (SIM)	34.8	1.9	µg/L	47.6	ND	73.2	10-227	6.04	126	
Fluoranthene (SIM)	33.8	9.5	µg/L	47.6	ND	71.0	26-137	4.35	66	
Fluorene (SIM)	31.2	19	µg/L	47.6	ND	65.5	59-121	4.01	38	
Indeno(1,2,3-cd)pyrene (SIM)	36.9	1.9	µg/L	47.6	ND	77.5	10-171	6.20	99	
Naphthalene (SIM)	27.2	19	µg/L	47.6	ND	57.1	21-133	4.15	65	
Pentachlorophenol (SIM)	30.0	19	µg/L	47.6	ND	62.9	14-176	4.47	86	
Phenanthrene (SIM)	32.8	0.95	µg/L	47.6	ND	68.9	54-120	4.59	39	
Pyrene (SIM)	34.9	19	µg/L	47.6	ND	73.2	52-120	5.73	49	
Surrogate: 2-Fluorophenol (SIM)	*64.7*		µg/L	190		34.0	15-110			
Surrogate: Phenol-d6 (SIM)	*58.0*		µg/L	190		30.5	15-110			
Surrogate: Nitrobenzene-d5	*65.8*		µg/L	95.2		69.1	30-130			
Surrogate: 2-Fluorobiphenyl	*61.7*		µg/L	95.2		64.8	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*158*		µg/L	190		82.9	15-110			
Surrogate: p-Terphenyl-d14	*65.2*		µg/L	95.2		68.5	30-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287021 - SW-846 3510C										
Blank (B287021-BLK1)				Prepared: 07/29/21 Analyzed: 07/30/21						
Acenaphthene	ND	5.00	µg/L							
Acenaphthylene	ND	5.00	µg/L							
Benzo(g,h,i)perylene	ND	5.00	µg/L							
Butylbenzylphthalate	ND	10.0	µg/L							
Di-n-butylphthalate	ND	10.0	µg/L							
Diethylphthalate	ND	10.0	µg/L							
Dimethylphthalate	ND	10.0	µg/L							
Di-n-octylphthalate	ND	10.0	µg/L							
Bis(2-Ethylhexyl)phthalate	ND	10.0	µg/L							
Fluoranthene	ND	5.00	µg/L							
Fluorene	ND	5.00	µg/L							
Naphthalene	ND	5.00	µg/L							
Pentachlorophenol	ND	10.0	µg/L							
Phenanthrene	ND	5.00	µg/L							
Pyrene	ND	5.00	µg/L							
Surrogate: 2-Fluorophenol	*84.8*		µg/L	200		42.4	15-110			
Surrogate: Phenol-d6	*83.0*		µg/L	200		41.5	15-110			
Surrogate: Nitrobenzene-d5	*70.3*		µg/L	100		70.3	30-130			
Surrogate: 2-Fluorobiphenyl	*70.9*		µg/L	100		70.9	30-130			
Surrogate: 2,4,6-Tribromophenol	*173*		µg/L	200		86.5	15-110			
Surrogate: p-Terphenyl-d14	*109*		µg/L	100		109	30-130			
LCS (B287021-BS1)				Prepared: 07/29/21 Analyzed: 07/30/21						
Acenaphthene	34.7	5.00	µg/L	50.0		69.4	47-145			
Acenaphthylene	32.8	5.00	µg/L	50.0		65.6	33-145			
Benzo(g,h,i)perylene	40.9	5.00	µg/L	50.0		81.8	10-219			
Butylbenzylphthalate	37.5	10.0	µg/L	50.0		75.0	10-152			
Di-n-butylphthalate	37.9	10.0	µg/L	50.0		75.7	10-120			
Diethylphthalate	37.1	10.0	µg/L	50.0		74.2	10-120			
Dimethylphthalate	36.6	10.0	µg/L	50.0		73.1	10-120			
Di-n-octylphthalate	36.3	10.0	µg/L	50.0		72.6	4-146			
Bis(2-Ethylhexyl)phthalate	37.0	10.0	µg/L	50.0		74.0	8-158			
Fluoranthene	37.6	5.00	µg/L	50.0		75.3	26-137			
Fluorene	36.0	5.00	µg/L	50.0		72.0	59-121			
Naphthalene	29.6	5.00	µg/L	50.0		59.3	21-133			
Pentachlorophenol	37.2	10.0	µg/L	50.0		74.4	14-176			
Phenanthrene	36.7	5.00	µg/L	50.0		73.3	54-120			
Pyrene	37.2	5.00	µg/L	50.0		74.3	52-120			
Surrogate: 2-Fluorophenol	*80.8*		µg/L	200		40.4	15-110			
Surrogate: Phenol-d6	*79.2*		µg/L	200		39.6	15-110			
Surrogate: Nitrobenzene-d5	*67.3*		µg/L	100		67.3	30-130			
Surrogate: 2-Fluorobiphenyl	*72.0*		µg/L	100		72.0	30-130			
Surrogate: 2,4,6-Tribromophenol	*177*		µg/L	200		88.7	15-110			
Surrogate: p-Terphenyl-d14	*96.9*		µg/L	100		96.9	30-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287021 - SW-846 3510C										
LCS Dup (B287021-BSD1)				Prepared: 07/29/21 Analyzed: 07/30/21						
Acenaphthene	34.2	5.00	µg/L	50.0		68.5	47-145	1.36	48	
Acenaphthylene	32.8	5.00	µg/L	50.0		65.5	33-145	0.0915	74	
Benzo(g,h,i)perylene	40.2	5.00	µg/L	50.0		80.4	10-219	1.68	97	
Butylbenzylphthalate	37.2	10.0	µg/L	50.0		74.5	10-152	0.722	60	
Di-n-butylphthalate	37.2	10.0	µg/L	50.0		74.4	10-120	1.76	47	
Diethylphthalate	36.6	10.0	µg/L	50.0		73.2	10-120	1.30	100	
Dimethylphthalate	35.8	10.0	µg/L	50.0		71.6	10-120	2.07	183	
Di-n-octylphthalate	37.0	10.0	µg/L	50.0		74.1	4-146	1.99	69	
Bis(2-Ethylhexyl)phthalate	37.4	10.0	µg/L	50.0		74.8	8-158	0.995	82	
Fluoranthene	36.2	5.00	µg/L	50.0		72.4	26-137	3.98	66	
Fluorene	35.3	5.00	µg/L	50.0		70.6	59-121	1.85	38	
Naphthalene	30.6	5.00	µg/L	50.0		61.2	21-133	3.15	65	
Pentachlorophenol	36.5	10.0	µg/L	50.0		73.0	14-176	1.90	86	
Phenanthrene	35.8	5.00	µg/L	50.0		71.6	54-120	2.40	39	
Pyrene	36.2	5.00	µg/L	50.0		72.4	52-120	2.62	49	
Surrogate: 2-Fluorophenol	*86.0*		µg/L	200		43.0	15-110			
Surrogate: Phenol-d6	*83.1*		µg/L	200		41.6	15-110			
Surrogate: Nitrobenzene-d5	*73.4*		µg/L	100		73.4	30-130			
Surrogate: 2-Fluorobiphenyl	*71.4*		µg/L	100		71.4	30-130			
Surrogate: 2,4,6-Tribromophenol	*167*		µg/L	200		83.4	15-110			
Surrogate: p-Terphenyl-d14	*91.9*		µg/L	100		91.9	30-130			
Matrix Spike (B287021-MS1)		**Source: 21G1519-02**		Prepared: 07/29/21 Analyzed: 07/30/21						
Acenaphthene	30.0	4.76	µg/L	47.6	ND	63.0	47-145			
Acenaphthylene	32.1	4.76	µg/L	47.6	ND	67.5	33-145			
Benzo(g,h,i)perylene	33.9	4.76	µg/L	47.6	ND	71.2	10-219			
Butylbenzylphthalate	33.8	9.52	µg/L	47.6	ND	71.0	10-152			
Di-n-butylphthalate	35.7	9.52	µg/L	47.6	ND	74.9	10-120			
Diethylphthalate	37.8	9.52	µg/L	47.6	ND	79.4	10-120			
Dimethylphthalate	37.8	9.52	µg/L	47.6	ND	79.4	10-120			
Di-n-octylphthalate	30.0	9.52	µg/L	47.6	ND	62.9	4-146			
Bis(2-Ethylhexyl)phthalate	30.9	9.52	µg/L	47.6	ND	64.9	8-158			
Fluoranthene	40.2	4.76	µg/L	47.6	ND	84.5	26-137			
Fluorene	35.3	4.76	µg/L	47.6	ND	74.2	59-121			
Naphthalene	28.4	4.76	µg/L	47.6	ND	59.6	21-133			
Pentachlorophenol	24.6	9.52	µg/L	47.6	ND	51.7	14-176			
Phenanthrene	35.9	4.76	µg/L	47.6	ND	75.4	54-120			
Pyrene	38.2	4.76	µg/L	47.6	ND	80.3	52-120			
Surrogate: 2-Fluorophenol	*74.4*		µg/L	190		39.1	15-110			
Surrogate: Phenol-d6	*73.5*		µg/L	190		38.6	15-110			
Surrogate: Nitrobenzene-d5	*62.5*		µg/L	95.2		65.6	30-130			
Surrogate: 2-Fluorobiphenyl	*70.0*		µg/L	95.2		73.5	30-130			
Surrogate: 2,4,6-Tribromophenol	*191*		µg/L	190		100	15-110			
Surrogate: p-Terphenyl-d14	*101*		µg/L	95.2		106	30-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287021 - SW-846 3510C										
Matrix Spike Dup (B287021-MSD1)	**Source: 21G1519-02**			Prepared: 07/29/21 Analyzed: 07/30/21						
Acenaphthene	31.3	4.76	µg/L	47.6	ND	65.7	47-145	4.23	48	
Acenaphthylene	33.3	4.76	µg/L	47.6	ND	69.9	33-145	3.58	74	
Benzo(g,h,i)perylene	34.5	4.76	µg/L	47.6	ND	72.5	10-219	1.73	97	
Butylbenzylphthalate	35.3	9.52	µg/L	47.6	ND	74.1	10-152	4.36	60	
Di-n-butylphthalate	35.6	9.52	µg/L	47.6	ND	74.8	10-120	0.160	47	
Diethylphthalate	39.5	9.52	µg/L	47.6	ND	83.0	10-120	4.44	100	
Dimethylphthalate	38.4	9.52	µg/L	47.6	ND	80.6	10-120	1.40	183	
Di-n-octylphthalate	32.8	9.52	µg/L	47.6	ND	68.8	4-146	8.93	69	
Bis(2-Ethylhexyl)phthalate	32.6	9.52	µg/L	47.6	ND	68.4	8-158	5.34	82	
Fluoranthene	39.3	4.76	µg/L	47.6	ND	82.5	26-137	2.42	66	
Fluorene	35.8	4.76	µg/L	47.6	ND	75.3	59-121	1.42	38	
Naphthalene	31.2	4.76	µg/L	47.6	ND	65.5	21-133	9.53	65	
Pentachlorophenol	24.8	9.52	µg/L	47.6	ND	52.0	14-176	0.617	86	
Phenanthrene	37.0	4.76	µg/L	47.6	ND	77.8	54-120	3.13	39	
Pyrene	37.8	4.76	µg/L	47.6	ND	79.4	52-120	1.13	49	
Surrogate: 2-Fluorophenol	*78.8*		µg/L	190		41.4	15-110			
Surrogate: Phenol-d6	*74.1*		µg/L	190		38.9	15-110			
Surrogate: Nitrobenzene-d5	*71.8*		µg/L	95.2		75.4	30-130			
Surrogate: 2-Fluorobiphenyl	*75.4*		µg/L	95.2		79.1	30-130			
Surrogate: 2,4,6-Tribromophenol	*192*		µg/L	190		101	15-110			
Surrogate: p-Terphenyl-d14	*101*		µg/L	95.2		106	30-130			

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B286925 - SW-846 3510C										
Blank (B286925-BLK1)				Prepared: 07/28/21 Analyzed: 07/29/21						
Aroclor-1016	ND	0.0500	µg/L							
Aroclor-1016 [2C]	ND	0.0500	µg/L							
Aroclor-1221	ND	0.0500	µg/L							
Aroclor-1221 [2C]	ND	0.0500	µg/L							
Aroclor-1232	ND	0.0500	µg/L							
Aroclor-1232 [2C]	ND	0.0500	µg/L							
Aroclor-1242	ND	0.0500	µg/L							
Aroclor-1242 [2C]	ND	0.0500	µg/L							
Aroclor-1248	ND	0.0500	µg/L							
Aroclor-1248 [2C]	ND	0.0500	µg/L							
Aroclor-1254	ND	0.0500	µg/L							
Aroclor-1254 [2C]	ND	0.0500	µg/L							
Aroclor-1260	ND	0.0500	µg/L							
Aroclor-1260 [2C]	ND	0.0500	µg/L							
Surrogate: Decachlorobiphenyl	*0.906*		µg/L	2.00		45.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.03*		µg/L	2.00		51.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.866*		µg/L	2.00		43.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.926*		µg/L	2.00		46.3	30-150			
LCS (B286925-BS1)				Prepared: 07/28/21 Analyzed: 07/29/21						
Aroclor-1016	0.423	0.200	µg/L	0.500		84.6	50-140			
Aroclor-1016 [2C]	0.478	0.200	µg/L	0.500		95.5	50-140			
Aroclor-1260	0.391	0.200	µg/L	0.500		78.3	8-140			
Aroclor-1260 [2C]	0.442	0.200	µg/L	0.500		88.4	8-140			
Surrogate: Decachlorobiphenyl	*1.44*		µg/L	2.00		72.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.77*		µg/L	2.00		88.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.49*		µg/L	2.00		74.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.73*		µg/L	2.00		86.4	30-150			
LCS Dup (B286925-BSD1)				Prepared: 07/28/21 Analyzed: 07/29/21						
Aroclor-1016	0.455	0.200	µg/L	0.500		90.9	50-140	7.20		
Aroclor-1016 [2C]	0.510	0.200	µg/L	0.500		102	50-140	6.57		
Aroclor-1260	0.434	0.200	µg/L	0.500		86.9	8-140	10.4		
Aroclor-1260 [2C]	0.494	0.200	µg/L	0.500		98.8	8-140	11.1		
Surrogate: Decachlorobiphenyl	*1.62*		µg/L	2.00		81.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.95*		µg/L	2.00		97.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.59*		µg/L	2.00		79.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.75*		µg/L	2.00		87.5	30-150			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B286937 - EPA 200.7										
Blank (B286937-BLK1)				Prepared & Analyzed: 07/28/21						
Iron	ND	0.050	mg/L							
Hardness	ND	1.4	mg/L							
LCS (B286937-BS1)				Prepared & Analyzed: 07/28/21						
Iron	3.88	0.050	mg/L	4.00		97.0	85-115			
Hardness	26	1.4	mg/L	26.4		97.1	85-115			
LCS Dup (B286937-BSD1)				Prepared & Analyzed: 07/28/21						
Iron	4.01	0.050	mg/L	4.00		100	85-115	3.31	20	
Hardness	26	1.4	mg/L	26.4		99.1	85-115	2.02	20	
Batch B286938 - EPA 200.8										
Blank (B286938-BLK1)				Prepared & Analyzed: 07/28/21						
Antimony	ND	1.0	µg/L							
Arsenic	ND	0.80	µg/L							
Cadmium	ND	0.20	µg/L							
Chromium	ND	1.0	µg/L							
Copper	ND	1.0	µg/L							
Lead	ND	0.50	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	ND	5.0	µg/L							
Silver	ND	0.20	µg/L							
Zinc	ND	10	µg/L							
LCS (B286938-BS1)				Prepared & Analyzed: 07/28/21						
Antimony	546	10	µg/L	500		109	85-115			
Arsenic	494	8.0	µg/L	500		98.8	85-115			
Cadmium	489	2.0	µg/L	500		97.7	85-115			
Chromium	496	10	µg/L	500		99.2	85-115			
Copper	1000	10	µg/L	1000		100	85-115			
Lead	493	5.0	µg/L	500		98.6	85-115			
Nickel	501	50	µg/L	500		100	85-115			
Selenium	484	50	µg/L	500		96.9	85-115			
Silver	488	2.0	µg/L	500		97.6	85-115			
Zinc	997	100	µg/L	1000		99.7	85-115			
LCS Dup (B286938-BSD1)				Prepared & Analyzed: 07/28/21						
Antimony	551	10	µg/L	500		110	85-115	1.02	20	
Arsenic	500	8.0	µg/L	500		99.9	85-115	1.11	20	
Cadmium	488	2.0	µg/L	500		97.6	85-115	0.0919	20	
Chromium	497	10	µg/L	500		99.3	85-115	0.172	20	
Copper	999	10	µg/L	1000		99.9	85-115	0.179	20	
Lead	492	5.0	µg/L	500		98.4	85-115	0.261	20	
Nickel	507	50	µg/L	500		101	85-115	1.09	20	
Selenium	486	50	µg/L	500		97.2	85-115	0.382	20	
Silver	491	2.0	µg/L	500		98.2	85-115	0.676	20	
Zinc	1000	100	µg/L	1000		100	85-115	0.603	20	

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287126 - EPA 245.1										
Blank (B287126-BLK1)				Prepared: 07/30/21 Analyzed: 08/02/21						
Mercury	ND	0.00010	mg/L							
LCS (B287126-BS1)				Prepared: 07/30/21 Analyzed: 08/02/21						
Mercury	0.00437	0.00010	mg/L	0.00400		109	85-115			
LCS Dup (B287126-BSD1)				Prepared: 07/30/21 Analyzed: 08/02/21						
Mercury	0.00432	0.00010	mg/L	0.00400		108	85-115	1.23	20	

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QUALITY CONTROL

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B286915 - SM21-23 4500 CL G										
Blank (B286915-BLK1)				Prepared & Analyzed: 07/27/21						
Chlorine, Residual	ND	0.020	mg/L							
LCS (B286915-BS1)				Prepared & Analyzed: 07/27/21						
Chlorine, Residual	0.67	0.020	mg/L	0.663		101	80.3-122			
LCS Dup (B286915-BSD1)				Prepared & Analyzed: 07/27/21						
Chlorine, Residual	0.67	0.020	mg/L	0.663		102	80.3-122	1.08	10.7	
Batch B286916 - SM21-23 3500 Cr B										
Blank (B286916-BLK1)				Prepared & Analyzed: 07/27/21						
Hexavalent Chromium	ND	0.010	mg/L							
LCS (B286916-BS1)				Prepared & Analyzed: 07/27/21						
Hexavalent Chromium	0.10	0.010	mg/L	0.100		103	90-114			
LCS Dup (B286916-BSD1)				Prepared & Analyzed: 07/27/21						
Hexavalent Chromium	0.10	0.010	mg/L	0.100		101	90-114	1.24	5	
Batch B286927 - EPA 420.1										
Blank (B286927-BLK1)				Prepared: 07/28/21 Analyzed: 08/02/21						
Phenol	ND	0.050	mg/L							
LCS (B286927-BS1)				Prepared: 07/28/21 Analyzed: 08/02/21						
Phenol	0.53	0.050	mg/L	0.500		105	73-123			
LCS Dup (B286927-BSD1)				Prepared: 07/28/21 Analyzed: 08/02/21						
Phenol	0.51	0.050	mg/L	0.500		102	73-123	2.93	9.13	
Duplicate (B286927-DUP1)	**Source: 21G1519-02**			Prepared: 07/28/21 Analyzed: 08/02/21						
Phenol	ND	0.050	mg/L		ND			NC	31.6	
Matrix Spike (B286927-MS1)	**Source: 21G1519-02**			Prepared: 07/28/21 Analyzed: 08/02/21						
Phenol	0.50	0.050	mg/L	0.500	ND	99.1	29.7-144			
Batch B286936 - SM19-23 4500 NH3 C										
Blank (B286936-BLK1)				Prepared: 07/28/21 Analyzed: 07/29/21						
Ammonia as N	ND	0.30	mg/L							

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QUALITY CONTROL

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B286936 - SM19-23 4500 NH3 C										
LCS (B286936-BS1)				Prepared: 07/28/21 Analyzed: 07/29/21						
Ammonia as N	4.8	0.30	mg/L	5.00		95.8	86.2-110			
LCS Dup (B286936-BSD1)				Prepared: 07/28/21 Analyzed: 07/29/21						
Ammonia as N	4.7	0.30	mg/L	5.00		93.2	86.2-110	2.75	10	
Batch B287012 - SM21-23 2540D										
Blank (B287012-BLK1)				Prepared & Analyzed: 07/29/21						
Total Suspended Solids	ND	2.5	mg/L							
LCS (B287012-BS1)				Prepared & Analyzed: 07/29/21						
Total Suspended Solids	175	5.0	mg/L	200		87.5	53.8-124			
Batch B287190 - EPA 300.0										
Blank (B287190-BLK1)				Prepared & Analyzed: 07/30/21						
Chloride	ND	1.0	mg/L							
LCS (B287190-BS1)				Prepared & Analyzed: 07/30/21						
Chloride	9.8	1.0	mg/L	10.0		97.6	90-110			
LCS Dup (B287190-BSD1)				Prepared & Analyzed: 07/30/21						
Chloride	9.8	1.0	mg/L	10.0		97.7	90-110	0.0880	20	
Batch B287327 - EPA 1664B										
Blank (B287327-BLK1)				Prepared & Analyzed: 08/03/21						
Silica Gel Treated HEM (SGT-HEM)	ND	1.4	mg/L							
LCS (B287327-BS1)				Prepared & Analyzed: 08/03/21						
Silica Gel Treated HEM (SGT-HEM)	9.8		mg/L	10.0		98.0	64-132			

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QUALITY CONTROL

Drinking Water Organics EPA 504.1 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287168 - EPA 504 water										
Blank (B287168-BLK1)				Prepared & Analyzed: 07/30/21						
1,2-Dibromoethane (EDB)	ND	0.021	µg/L							
1,2-Dibromoethane (EDB) [2C]	ND	0.021	µg/L							
Surrogate: 1,3-Dibromopropane	*1.05*		µg/L	1.04		101	70-130			
Surrogate: 1,3-Dibromopropane [2C]	*1.06*		µg/L	1.04		102	70-130			
LCS (B287168-BS1)				Prepared & Analyzed: 07/30/21						
1,2-Dibromoethane (EDB)	0.250	0.021	µg/L	0.261		96.0	70-130			
1,2-Dibromoethane (EDB) [2C]	0.244	0.021	µg/L	0.261		93.6	70-130			
Surrogate: 1,3-Dibromopropane	*1.13*		µg/L	1.04		108	70-130			
Surrogate: 1,3-Dibromopropane [2C]	*1.08*		µg/L	1.04		104	70-130			
LCS Dup (B287168-BSD1)				Prepared & Analyzed: 07/30/21						
1,2-Dibromoethane (EDB)	0.257	0.021	µg/L	0.261		98.4	70-130	2.59		
1,2-Dibromoethane (EDB) [2C]	0.253	0.021	µg/L	0.261		96.8	70-130	3.48		
Surrogate: 1,3-Dibromopropane	*1.17*		µg/L	1.04		112	70-130			
Surrogate: 1,3-Dibromopropane [2C]	*1.13*		µg/L	1.04		108	70-130			

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

608.3

LCS

Lab Sample ID: B286925-BS1 Date(s) Analyzed: 07/29/2021 07/29/2021

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

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

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.423	
	2	0.000	0.000	0.000	0.478	12.9
Aroclor-1260	1	0.000	0.000	0.000	0.391	
	2	0.000	0.000	0.000	0.442	12.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

608.3

LCS Dup

Lab Sample ID: B286925-BSD1 Date(s) Analyzed: 07/29/2021 07/29/2021

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

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

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.455	
	2	0.000	0.000	0.000	0.510	10.3
Aroclor-1260	1	0.000	0.000	0.000	0.434	
	2	0.000	0.000	0.000	0.494	13.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

EPA 504.1

LCS

Lab Sample ID: B287168-BS1

Date(s) Analyzed: 07/30/2021 07/30/2021

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
1,2-Dibromoethane (EDB)	1	2.831	0.000	0.000	0.250	
	2	2.696	0.000	0.000	0.244	2.4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

EPA 504.1

LCS Dup

Lab Sample ID: B287168-BSD1 Date(s) Analyzed: 07/30/2021 07/30/2021

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

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

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
1,2-Dibromoethane (EDB)	1	2.832	0.000	0.000	0.257	
	2	2.698	0.000	0.000	0.253	2.7

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
V-04	Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria. Reported result is estimated.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.
V-35	Initial calibration verification (ICV) did not meet method specifications and was biased on the high side for this compound. Reported result is estimated.
W-06	Elevated method reporting limit due to intense color of sample

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
- in Water	
Cyanide	CT,MA,NH,NY,RI,NC,ME,VA
608.3 in Water	
Aroclor-1016	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1016 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1221	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1221 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1232	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1232 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1242	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1242 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1248	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1248 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1254	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1254 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1260	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1260 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
624.1 in Water	
Acetone	CT,NY,MA,NH
Benzene	CT,NY,MA,NH,RI,NC,ME,VA
tert-Butyl Alcohol (TBA)	NY,MA
1,2-Dichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
1,4-Dioxane	MA
Ethanol	NY,MA,NH
Ethylbenzene	CT,NY,MA,NH,RI,NC,ME,VA
Methyl tert-Butyl Ether (MTBE)	NY,MA,NH,NC
Tetrachloroethylene	CT,NY,MA,NH,RI,NC,ME,VA
Toluene	CT,NY,MA,NH,RI,NC,ME,VA
m+p Xylene	CT,NY,MA,NH,RI,NC
o-Xylene	CT,NY,MA,NH,RI,NC
625.1 in Water	
Butylbenzylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-butylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
Diethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
Dimethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-octylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
Bis(2-Ethylhexyl)phthalate	CT,MA,NH,NY,NC,RI,ME,VA
Phenol	CT,MA,NH,NY,NC,RI,ME,VA
2-Fluorophenol	NC,VA
2-Fluorophenol	NC
Phenol-d6	VA
Nitrobenzene-d5	VA
EPA 200.7 in Water	
Iron	CT,MA,NH,NY,RI,NC,ME,VA
Hardness	CT,MA,NH,NY,RI,VA
EPA 200.8 in Water	

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Arsenic	CT,MA,NH,NY,RI,NC,ME,VA
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Lead	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Selenium	CT,MA,NH,NY,RI,NC,ME,VA
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,NY,RI,NC,ME,VA
EPA 245.1 in Water	
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
EPA 300.0 in Water	
Chloride	NC,NY,MA,VA,ME,NH,CT,RI
EPA 420.1 in Water	
Phenol	CT,MA,NH,NY,RI,NC,ME,VA
SM19-23 4500 NH3 C in Water	
Ammonia as N	NY,MA,CT,RI,VA,NC,ME
SM21-23 2540D in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
SM21-23 3500 Cr B in Water	
Hexavalent Chromium	NY,CT,NH,RI,ME,VA,NC
SM21-23 4500 CL G in Water	
Chlorine, Residual	CT,MA,RI,ME
SW-846 8260C-D in Water	
Acetone	CT,ME,NH,VA,NY
Benzene	CT,ME,NH,VA,NY
tert-Butyl Alcohol (TBA)	ME,NH,VA,NY
1,2-Dibromoethane (EDB)	ME,NY
1,2-Dichloroethane	CT,ME,NH,VA,NY
1,4-Dioxane	ME,NY
Ethylbenzene	CT,ME,NH,VA,NY
Methyl tert-Butyl Ether (MTBE)	CT,ME,NH,VA,NY
Tetrachloroethylene	CT,ME,NH,VA,NY
Toluene	CT,ME,NH,VA,NY
m+p Xylene	CT,ME,NH,VA,NY
o-Xylene	CT,ME,NH,VA,NY
SW-846 8270D-E in Water	
2-Fluorophenol	NC,VA
Phenol-d6	VA
Nitrobenzene-d5	VA

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Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

216179

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Phone: 612-607-6400
Fax: 612-607-6344

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Minneapolis, MN 55414

Doc # 381 Rev 2_06262019

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Eversource Energy
Address:	247 Station Drive, Westwood MA
Phone:	7814413804
Project Name:	E. Boston D. Line
Project Location:	East Boston
Project Number:	E5042009
Project Manager:	Dean Bebis
Pace Analytical Quote Name/Number	10948702
Invoice Recipient:	Eversource Energy c/o Dean Bebis
Sampled By:	C. Brothers (Tighe & Bond)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

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

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Envirodata EDD to Jlibby@tighebond.com
CLP Like Data Pkg Required: ☐
Email To: acantara@tighebond.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED — 2 Preservation Code

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	1/N RGP Metals * 200.7, 200.8 and 245.1	1/U Hardness SM 2340	2V/U Ethanol by 624.1	1/U Chloride EPA 300.0		2L/S TPH 1664	1/U Total Residual Chlorine SM 4500	1/S Ammonia 350.1	1/N Hexavalent Chromium	1/U Trivalent Chromium	2/H VOC 624	2L/A 1,4 Dioxane by 624.1	2V/T 504 EDB	2L/U SVOC 625	2L/U SVOC 625 low level for Group I PAHs and PCB	2L/U 608 PCB	1L/U Total Suspended Solis SM 2540D	500A/S Phenols 420.1
1	MW-113	7/27/21	1130	Grab	GW	U	0	11	1	0	0						X						X		X	X	X		
2	MW-117	7/27/21	800	Grab	GW	U	7	14	7	0	0	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X

client canceling the 1,4 dioxin on sample -02 due to lack of volume. JLH 7/28/2021

Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: * (RGP metals - antimoy, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, zinc)

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

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

Matrix Codes
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air S = Soil
SL = Sludge
SOL = Solid
O = Other _____

Preservation Codes
I = Iced
H = HCL
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
M = Methanol
DI = DI Water
O = Other _____

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Courier Use Only
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here: 216519

ALL SHADED AREAS are for LAB USE ONLY

Company: Eversource Energy	Billing Information: Eversource Energy c/o Dean Bebis
Address: 247 Station Drive Westwood	
Report To: Dean Bebis	Email To: dean.bebis@eversource.com
Copy To: Amanda Cantara acantara@tighebond.com	Site Collection Info/Address: East Boston
Customer Project Name/Number: E. Boston D. Line	State: MA County/City: Time Zone Collected: [ ] PT [X] MT [ ] CT [X] ET
Phone: 7814413604 Email: acantara@tighebond.com	Site/Facility ID #: ES042009 Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Colleen Brothers	Purchase Order #: Quote #: 10948702 DW PWS ID #: DW Location Code:
Collected By (signature): ColleenBrothers	Turnaround Date Required: 7 day Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Container Preservative Type **: 3 U

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

Lab Project Manager:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: 8260	Analyses: 8270	Lab Profile/Line
MW-113	GW	GRAB	7/27/21	1130						X	1
MW-117	GW	GRAB	7/27/21	800					X	X	2

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

LAB USE ONLY:
Lab Sample # / Comments: Cassie notified of short holds

these test will be going onto a different work order per client. JLH 8/4/2021

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 2654798

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#:
Cooler 1 Temp Upon Receipt: ____oC
Cooler 1 Therm Corr. Factor: ____oC
Cooler 1 Corrected Temp: ____oC
Comments: 2.0

Relinquished by/Company: (Signature) ColleenBrothers Tighe Bond	Date/Time: 7/27/21 1300	Received by/Company: (Signature) Paul Chastney	Date/Time: 7-27-21 1610	MTJL LAB USE ONLY
Relinquished by/Company: (Signature) Paul Chastney	Date/Time: 7-27-21 1715	Received by/Company: (Signature)	Date/Time: 7/27/21 1845	Table #: Acctnum: Template: Prelogin: PM: PB:
Relinquished by/Company: (Signature)	Date/Time: 7/27/21 1715	Received by/Company: (Signature)	Date/Time: 7/27/21 1845	

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

CHAIN-OF-CUSTODY Analytical Request Document

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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

216519

ALL SHADED AREAS are for LAB USE ONLY

Company: Eversource Energy	Billing Information: Eversource c/o Dean Bebis Energy
Address: 247 Station Drive Westwood	
Report To: Dean Bebis	Email To: dean.bebis@eversource.com
Copy To: Amanda Cantara Tighe + Bond	Site Collection Info/Address: East Boston
Customer Project Name/Number: E. Boston D. Line.	State: MA County/City: Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Phone: 7814413804 Email:	Site/Facility ID #: ES042009
Collected By (print): Colleen Brothers	Purchase Order #: Quote #: 10945702
Collected By (signature): Colleen Brothers	Turnaround Date Required: 7-day
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [X] No
	DW PWS ID #: DW Location Code:
	Immediately Packed on Ice: [X] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **: 4

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: Total Cyanide	Lab Profile/Line
MW-113	GW	Grab	7/27/21	1130					X	1
MW-117	GW	Grab	7/27/21	800					X	2

Per lab cancel 8270 as it is the same list as the 625. JLH 8/4/2021

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips: _____	
Sample pH Acceptable	Y N NA
pH Strips: _____	
Sulfide Present	Y N NA
Lead Acetate Strips: _____	

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 2654795

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: _____oC
Cooler 1 Therm Corr. Factor: _____oC
Cooler 1 Corrected Temp: _____oC
Comments:

Relinquished by/Company: (Signature) Colleen Brothers Tighe+Bond	Date/Time: 7/27/21 1300	Received by/Company: (Signature) Paul Charteny	Date/Time: 7-27-21 1610
Relinquished by/Company: (Signature) Paul Charteny	Date/Time: 7-27-21 1718	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: _____ of: _____

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CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY - Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Company: Eversource Energy
Address: 247 Station Drive Westwood
Billing Information: Eversource c/o Dean Bebis Energy
Report To: Dean Bebis
Email To: dean.bebis@eversource.com
Copy To: Amanda Cantara Tighe+Bond
Site Collection Info/Address: East Boston
Customer Project Name/Number: E. Boston D. Line.
State: MA
County/City:
Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Phone: 781 4413804
Email:
Site/Facility ID #: ES042009
Compliance Monitoring? [ ] Yes [X] No
Collected By (print): Colleen Brothers
Purchase Order #:
Quote #: 10948702
DW PWS ID #:
DW Location Code:
Collected By (signature): Colleen Brothers
Turnaround Date Required: 7-day.
Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: Dispose as appropriate [ ] Return
Archive:
Hold:
Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
Field Filtered (if applicable): [ ] Yes [ ] No
Analysis:

Container Preservative Type **

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Ctns	Analyses: Total Cyanide
MW-113	GW	Grab	7/27/21	11:30					X
MW-117	GW	Grab	7/27/21	8:00					X

Lab Profile/Line:
Lab Sample Receipt Checklist:
Custody Seals Present/Intact Y N NA
Custody Signatures Present Y N NA
Collector Signature Present Y N NA
Bottles Intact Y N NA
Correct Bottles Y N NA
Sufficient Volume Y N NA
Samples Received on Ice Y N NA
VOA - Headspace Acceptable Y N NA
USDA Regulated Soils Y N NA
Samples in Holding Time Y N NA
Residual Chlorine Present Y N NA
Cl Strips:
Sample pH Acceptable Y N NA
pH Strips:
Sulfide Present Y N NA
Lead Acetate Strips:

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:
Packing Material Used:
Radchem sample(s) screened (<500 cpm): Y N NA
Lab Tracking #: 2654795
Samples received via: FEDEX UPS Client Courier Pace Courier
Temp Blank Received: Y N NA
Therm ID#:
Cooler 1 Temp Upon Receipt: ___ oC
Cooler 1 Therm Corr. Factor: ___ oC
Cooler 1 Corrected Temp: ___ oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Colleen Brothers Tighe+Bond	7/21/21 1300	Paul Chatkey	7-27-21 1610
Paul Chatkey	7-27-21 1715	Allen M	7/27/21 1715

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:

Trip Blank Received: Y N NA
HCL MeOH TSP Other
Non Conformance(s): Page: ___

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

August 11, 2021

Dean S. Bebis
Eversource Energy - MA (Monthly Billing)
One NSTAR Way, SUM SE-250
Westwood, MA 02090-9230

Project Location: East Boston, MA
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 21H0164

Enclosed are results of analyses for samples received by the laboratory on August 4, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jessica L. Hoffman
Project Manager

Table of Contents

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

Eversource Energy - MA (Monthly Billing)
One NSTAR Way, SUM SE-250
Westwood, MA 02090-9230
ATTN: Dean S. Bebis

REPORT DATE: 8/11/2021

PURCHASE ORDER NUMBER: 10948702

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21H0164

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

PROJECT LOCATION: East Boston, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-113	21H0164-01	Ground Water		SW-846 8270D-E	
MW-117	21H0164-02	Ground Water		SW-846 8260C-D	
				SW-846 8270D-E	

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CASE NARRATIVE SUMMARY

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

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

SW-846 8260C-D

Qualifications:

R-05

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

Analyte & Samples(s) Qualified:

Bromomethane
21H0164-02[MW-117], B287488-BLK1, B287488-BS1, B287488-BSD1

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

Bromomethane
21H0164-02[MW-117], B287488-BLK1, B287488-BS1, B287488-BSD1, S062124-CCV1

Naphthalene
21H0164-02[MW-117], B287488-BLK1, B287488-BS1, B287488-BSD1, S062124-CCV1

tert-Amyl Methyl Ether (TAME)
21H0164-02[MW-117], B287488-BLK1, B287488-BS1, B287488-BSD1, S062124-CCV1

tert-Butyl Ethyl Ether (TBEE)
21H0164-02[MW-117], B287488-BLK1, B287488-BS1, B287488-BSD1, S062124-CCV1

V-20

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

Analyte & Samples(s) Qualified:

Bromochloromethane
B287488-BS1, B287488-BSD1, S062124-CCV1

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

Bromomethane
21H0164-02[MW-117], B287488-BLK1, B287488-BS1, B287488-BSD1, S062124-CCV1

SW-846 8270D-E

Qualifications:

L-04

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

Analyte & Samples(s) Qualified:

Hexachlorobutadiene
21H0164-01[MW-113], 21H0164-02[MW-117], B287021-BLK1, B287021-BS1, B287021-BSD1

Hexachloroethane
21H0164-01[MW-113], 21H0164-02[MW-117], B287021-BLK1, B287021-BS1, B287021-BSD1

R-05

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

Analyte & Samples(s) Qualified:

Benzidine
21H0164-01[MW-113], 21H0164-02[MW-117], B287021-BLK1, B287021-BS1, B287021-BSD1

Pyridine
21H0164-01[MW-113], 21H0164-02[MW-117], B287021-BLK1, B287021-BS1, B287021-BSD1

V-04

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

Analyte & Samples(s) Qualified:

Benzidine
21H0164-01[MW-113], 21H0164-02[MW-117], B287021-BLK1, B287021-BS1, B287021-BSD1, S061976-CCV1

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

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

Hexachlorocyclopentadiene
21H0164-01[MW-113], 21H0164-02[MW-117]

Pentachlorophenol
21H0164-01[MW-113], 21H0164-02[MW-117]

V-06

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

Analyte & Samples(s) Qualified:

2,4-Dinitrophenol
B287021-BS1, B287021-BSD1, S061976-CCV1

4,6-Dinitro-2-methylphenol
B287021-BS1, B287021-BSD1, S061976-CCV1

V-20

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

Analyte & Samples(s) Qualified:

2,4-Dinitrophenol
B287021-BLK1

2,4-Dinitrotoluene
21H0164-01[MW-113], 21H0164-02[MW-117]

2,6-Dinitrotoluene
21H0164-01[MW-113], 21H0164-02[MW-117]

4,6-Dinitro-2-methylphenol
21H0164-01[MW-113], 21H0164-02[MW-117], B287021-BLK1

4-Nitrophenol
21H0164-01[MW-113], 21H0164-02[MW-117]

Aniline
21H0164-01[MW-113], 21H0164-02[MW-117]

Pentachloronitrobenzene
21H0164-01[MW-113], 21H0164-02[MW-117]

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

4-Chloroaniline
21H0164-01[MW-113], 21H0164-02[MW-117], B287021-BLK1, B287021-BS1, B287021-BSD1, S061976-CCV1

Benzidine
21H0164-01[MW-113], 21H0164-02[MW-117]

V-35

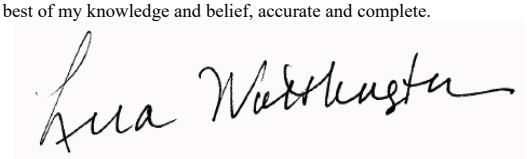
Initial calibration verification (ICV) did not meet method specifications and was biased on the high side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

Benzidine
B287021-BLK1, B287021-BS1, B287021-BSD1, S061976-CCV1

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

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

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

Project Location: East Boston, MA | Sample Description: | Work Order: 21H0164

Date Received: 8/4/2021

Field Sample #: MW-113 | Sampled: 7/27/2021 11:50

Sample ID: 21H0164-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Acenaphthylene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Acetophenone	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Aniline	ND	4.8	µg/L	1	V-20	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Anthracene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Benzidine	ND	19	µg/L	1	R-05, V-04, V-34	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Benzo(a)anthracene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Benzo(a)pyrene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Benzo(b)fluoranthene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Benzo(g,h,i)perylene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Benzo(k)fluoranthene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Benzoic Acid	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Bis(2-chloroethoxy)methane	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Bis(2-chloroethyl)ether	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Bis(2-chloroisopropyl)ether	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Bis(2-Ethylhexyl)phthalate	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
4-Bromophenylphenylether	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Butylbenzylphthalate	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Carbazole	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
4-Chloroaniline	ND	9.5	µg/L	1	V-34	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
4-Chloro-3-methylphenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2-Chloronaphthalene	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2-Chlorophenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
4-Chlorophenylphenylether	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Chrysene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Dibenz(a,h)anthracene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Dibenzofuran	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Di-n-butylphthalate	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
1,2-Dichlorobenzene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
1,3-Dichlorobenzene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
1,4-Dichlorobenzene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
3,3-Dichlorobenzidine	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2,4-Dichlorophenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Diethylphthalate	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2,4-Dimethylphenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Dimethylphthalate	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
4,6-Dinitro-2-methylphenol	ND	9.5	µg/L	1	V-20	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2,4-Dinitrophenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2,4-Dinitrotoluene	ND	9.5	µg/L	1	V-20	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2,6-Dinitrotoluene	ND	9.5	µg/L	1	V-20	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Di-n-octylphthalate	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
1,2-Diphenylhydrazine/Azobenzene	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Fluoranthene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Fluorene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR

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

Project Location: East Boston, MA | Sample Description: | Work Order: 21H0164

Date Received: 8/4/2021

Field Sample #: MW-113 | Sampled: 7/27/2021 11:50

Sample ID: 21H0164-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobenzene	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Hexachlorobutadiene	ND	9.5	µg/L	1	L-04	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Hexachlorocyclopentadiene	ND	9.5	µg/L	1	V-05	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Hexachloroethane	ND	9.5	µg/L	1	L-04	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Indeno(1,2,3-cd)pyrene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Isophorone	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
1-Methylnaphthalene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2-Methylnaphthalene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2-Methylphenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
3/4-Methylphenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Naphthalene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2-Nitroaniline	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
3-Nitroaniline	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
4-Nitroaniline	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Nitrobenzene	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2-Nitrophenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
4-Nitrophenol	ND	9.5	µg/L	1	V-20	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
N-Nitrosodimethylamine	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
N-Nitrosodiphenylamine/Diphenylamine	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
N-Nitrosodi-n-propylamine	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Pentachloronitrobenzene	ND	9.5	µg/L	1	V-20	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Pentachlorophenol	ND	9.5	µg/L	1	V-05	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Phenanthrene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Phenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Pyrene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
Pyridine	ND	4.8	µg/L	1	R-05	SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
1,2,4,5-Tetrachlorobenzene	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
1,2,4-Trichlorobenzene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2,4,5-Trichlorophenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR
2,4,6-Trichlorophenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 19:49	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	37.2	15-110		7/30/21 19:49
Phenol-d6	36.2	15-110		7/30/21 19:49
Nitrobenzene-d5	53.2	30-130		7/30/21 19:49
2-Fluorobiphenyl	51.7	30-130		7/30/21 19:49
2,4,6-Tribromophenol	69.7	15-110		7/30/21 19:49
p-Terphenyl-d14	80.0	30-130		7/30/21 19:49

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

Project Location: East Boston, MA | Sample Description: | Work Order: 21H0164

Date Received: 8/4/2021

Field Sample #: MW-117 | Sampled: 7/27/2021 08:00

Sample ID: 21H0164-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1	V-05	SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Bromomethane	ND	2.0	µg/L	1	R-05, V-05, V-34	SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1	V-05	SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH

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

Project Location: East Boston, MA | Sample Description: | Work Order: 21H0164

Date Received: 8/4/2021

Field Sample #: MW-117 | Sampled: 7/27/2021 08:00

Sample ID: 21H0164-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Methyl Acetate	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Naphthalene	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/28/21	7/28/21 20:20	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	99.9	70-130		7/28/21 20:20
Toluene-d8	98.0	70-130		7/28/21 20:20
4-Bromofluorobenzene	95.8	70-130		7/28/21 20:20

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

Project Location: East Boston, MA | Sample Description: | Work Order: 21H0164

Date Received: 8/4/2021

Field Sample #: MW-117 | Sampled: 7/27/2021 08:00

Sample ID: 21H0164-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Acenaphthylene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Acetophenone	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Aniline	ND	4.8	µg/L	1	V-20	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Anthracene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Benzidine	ND	19	µg/L	1	R-05, V-04, V-34	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Benzo(a)anthracene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Benzo(a)pyrene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Benzo(b)fluoranthene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Benzo(g,h,i)perylene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Benzo(k)fluoranthene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Benzoic Acid	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Bis(2-chloroethoxy)methane	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Bis(2-chloroethyl)ether	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Bis(2-chloroisopropyl)ether	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Bis(2-Ethylhexyl)phthalate	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
4-Bromophenylphenylether	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Butylbenzylphthalate	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Carbazole	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
4-Chloroaniline	ND	9.5	µg/L	1	V-34	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
4-Chloro-3-methylphenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2-Chloronaphthalene	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2-Chlorophenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
4-Chlorophenylphenylether	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Chrysene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Dibenz(a,h)anthracene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Dibenzofuran	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Di-n-butylphthalate	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
1,2-Dichlorobenzene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
1,3-Dichlorobenzene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
1,4-Dichlorobenzene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
3,3-Dichlorobenzidine	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2,4-Dichlorophenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Diethylphthalate	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2,4-Dimethylphenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Dimethylphthalate	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
4,6-Dinitro-2-methylphenol	ND	9.5	µg/L	1	V-20	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2,4-Dinitrophenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2,4-Dinitrotoluene	ND	9.5	µg/L	1	V-20	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2,6-Dinitrotoluene	ND	9.5	µg/L	1	V-20	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Di-n-octylphthalate	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
1,2-Diphenylhydrazine/Azobenzene	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Fluoranthene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Fluorene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR

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

Project Location: East Boston, MA | Sample Description: | Work Order: 21H0164

Date Received: 8/4/2021

Field Sample #: MW-117 | Sampled: 7/27/2021 08:00

Sample ID: 21H0164-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobenzene	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Hexachlorobutadiene	ND	9.5	µg/L	1	L-04	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Hexachlorocyclopentadiene	ND	9.5	µg/L	1	V-05	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Hexachloroethane	ND	9.5	µg/L	1	L-04	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Indeno(1,2,3-cd)pyrene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Isophorone	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
1-Methylnaphthalene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2-Methylnaphthalene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2-Methylphenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
3/4-Methylphenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Naphthalene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2-Nitroaniline	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
3-Nitroaniline	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
4-Nitroaniline	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Nitrobenzene	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2-Nitrophenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
4-Nitrophenol	ND	9.5	µg/L	1	V-20	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
N-Nitrosodimethylamine	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
N-Nitrosodiphenylamine/Diphenylamine	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
N-Nitrosodi-n-propylamine	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Pentachloronitrobenzene	ND	9.5	µg/L	1	V-20	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Pentachlorophenol	ND	9.5	µg/L	1	V-05	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Phenanthrene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Phenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Pyrene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
Pyridine	ND	4.8	µg/L	1	R-05	SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
1,2,4,5-Tetrachlorobenzene	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
1,2,4-Trichlorobenzene	ND	4.8	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2,4,5-Trichlorophenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR
2,4,6-Trichlorophenol	ND	9.5	µg/L	1		SW-846 8270D-E	7/29/21	7/30/21 20:16	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	35.0	15-110		7/30/21 20:16
Phenol-d6	32.0	15-110		7/30/21 20:16
Nitrobenzene-d5	58.8	30-130		7/30/21 20:16
2-Fluorobiphenyl	60.6	30-130		7/30/21 20:16
2,4,6-Tribromophenol	82.1	15-110		7/30/21 20:16
p-Terphenyl-d14	90.5	30-130		7/30/21 20:16

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Sample Extraction Data

Prep Method: SW-846 5035 **Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H0164-02 [MW-117]	B287488	5	5.00	07/28/21

Prep Method: SW-846 3510C **Analytical Method: SW-846 8270D-E**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H0164-01 [MW-113]	B287021	1050	1.00	07/29/21
21H0164-02 [MW-117]	B287021	1050	1.00	07/29/21

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287488 - SW-846 5035										
Blank (B287488-BLK1)				Prepared & Analyzed: 07/28/21						
Acetone	ND	50	µg/L							
Acrylonitrile	ND	5.0	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							V-05
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							R-05, V-05, V-34
2-Butanone (MEK)	ND	20	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							V-05
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	5.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	2.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.60	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl Acetate	ND	1.0	µg/L							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B287488 - SW-846 5035											
Blank (B287488-BLK1)				Prepared & Analyzed: 07/28/21							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L								
Methyl Cyclohexane	ND	1.0	µg/L								
Methylene Chloride	ND	5.0	µg/L								
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L								
Naphthalene	ND	2.0	µg/L							V-05	
n-Propylbenzene	ND	1.0	µg/L								
Styrene	ND	1.0	µg/L								
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L								
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L								
Tetrachloroethylene	ND	1.0	µg/L								
Tetrahydrofuran	ND	10	µg/L								
Toluene	ND	1.0	µg/L								
1,2,3-Trichlorobenzene	ND	5.0	µg/L								
1,2,4-Trichlorobenzene	ND	1.0	µg/L								
1,3,5-Trichlorobenzene	ND	1.0	µg/L								
1,1,1-Trichloroethane	ND	1.0	µg/L								
1,1,2-Trichloroethane	ND	1.0	µg/L								
Trichloroethylene	ND	1.0	µg/L								
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L								
1,2,3-Trichloropropane	ND	2.0	µg/L								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L								
1,2,4-Trimethylbenzene	ND	1.0	µg/L								
1,3,5-Trimethylbenzene	ND	1.0	µg/L								
Vinyl Chloride	ND	2.0	µg/L								
m+p Xylene	ND	2.0	µg/L								
o-Xylene	ND	1.0	µg/L								
Surrogate: 1,2-Dichloroethane-d4	*25.4*		µg/L	25.0		102	70-130				
Surrogate: Toluene-d8	*24.7*		µg/L	25.0		98.7	70-130				
Surrogate: 4-Bromofluorobenzene	*23.7*		µg/L	25.0		95.0	70-130				
LCS (B287488-BS1)				Prepared & Analyzed: 07/28/21							
Acetone	209	50	µg/L	200		105	70-160				†
Acrylonitrile	23.6	5.0	µg/L	20.0		118	70-130				
tert-Amyl Methyl Ether (TAME)	15.7	0.50	µg/L	20.0		78.5	70-130			V-05	
Benzene	19.8	1.0	µg/L	20.0		99.0	70-130				
Bromobenzene	19.9	1.0	µg/L	20.0		99.4	70-130				
Bromochloromethane	23.2	1.0	µg/L	20.0		116	70-130			V-20	
Bromodichloromethane	22.4	0.50	µg/L	20.0		112	70-130				
Bromoform	21.1	1.0	µg/L	20.0		105	70-130				
Bromomethane	9.25	2.0	µg/L	20.0		46.2	40-160			R-05, V-05, V-34	†
2-Butanone (MEK)	205	20	µg/L	200		103	40-160				†
tert-Butyl Alcohol (TBA)	178	20	µg/L	200		89.2	40-160				†
n-Butylbenzene	17.6	1.0	µg/L	20.0		88.2	70-130				
sec-Butylbenzene	19.0	1.0	µg/L	20.0		94.8	70-130				
tert-Butylbenzene	18.2	1.0	µg/L	20.0		91.2	70-130				
tert-Butyl Ethyl Ether (TBEE)	17.6	0.50	µg/L	20.0		88.0	70-130			V-05	
Carbon Disulfide	21.1	5.0	µg/L	20.0		105	70-130				
Carbon Tetrachloride	21.0	5.0	µg/L	20.0		105	70-130				
Chlorobenzene	19.0	1.0	µg/L	20.0		95.1	70-130				
Chlorodibromomethane	21.3	0.50	µg/L	20.0		107	70-130				
Chloroethane	17.5	2.0	µg/L	20.0		87.6	70-130				
Chloroform	21.2	2.0	µg/L	20.0		106	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B287488 - SW-846 5035											
LCS (B287488-BS1)				Prepared & Analyzed: 07/28/21							
Chloromethane	13.6	2.0	µg/L	20.0		67.8	40-160				†
2-Chlorotoluene	18.2	1.0	µg/L	20.0		90.8	70-130				
4-Chlorotoluene	19.3	1.0	µg/L	20.0		96.6	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	17.0	5.0	µg/L	20.0		84.8	70-130				
1,2-Dibromoethane (EDB)	20.5	0.50	µg/L	20.0		102	70-130				
Dibromomethane	21.2	1.0	µg/L	20.0		106	70-130				
1,2-Dichlorobenzene	19.1	1.0	µg/L	20.0		95.4	70-130				
1,3-Dichlorobenzene	19.2	1.0	µg/L	20.0		95.8	70-130				
1,4-Dichlorobenzene	18.8	1.0	µg/L	20.0		94.0	70-130				
trans-1,4-Dichloro-2-butene	19.9	2.0	µg/L	20.0		99.6	70-130				
Dichlorodifluoromethane (Freon 12)	18.5	2.0	µg/L	20.0		92.4	40-160				†
1,1-Dichloroethane	21.7	1.0	µg/L	20.0		108	70-130				
1,2-Dichloroethane	20.4	1.0	µg/L	20.0		102	70-130				
1,1-Dichloroethylene	20.1	1.0	µg/L	20.0		100	70-130				
cis-1,2-Dichloroethylene	22.1	1.0	µg/L	20.0		110	70-130				
trans-1,2-Dichloroethylene	18.3	1.0	µg/L	20.0		91.4	70-130				
1,2-Dichloropropane	21.4	1.0	µg/L	20.0		107	70-130				
1,3-Dichloropropane	20.8	0.50	µg/L	20.0		104	70-130				
2,2-Dichloropropane	19.8	1.0	µg/L	20.0		99.0	40-130				†
1,1-Dichloropropene	19.0	2.0	µg/L	20.0		95.2	70-130				
cis-1,3-Dichloropropene	20.2	0.50	µg/L	20.0		101	70-130				
trans-1,3-Dichloropropene	21.2	0.50	µg/L	20.0		106	70-130				
Diethyl Ether	23.3	2.0	µg/L	20.0		116	70-130				
Diisopropyl Ether (DIPE)	24.2	0.50	µg/L	20.0		121	70-130				
1,4-Dioxane	185	50	µg/L	200		92.5	40-130				†
Ethylbenzene	19.0	1.0	µg/L	20.0		95.1	70-130				
Hexachlorobutadiene	17.3	0.60	µg/L	20.0		86.7	70-130				
2-Hexanone (MBK)	218	10	µg/L	200		109	70-160				†
Isopropylbenzene (Cumene)	18.8	1.0	µg/L	20.0		93.9	70-130				
p-Isopropyltoluene (p-Cymene)	18.5	1.0	µg/L	20.0		92.6	70-130				
Methyl Acetate	20.2	1.0	µg/L	20.0		101	70-130				
Methyl tert-Butyl Ether (MTBE)	20.3	1.0	µg/L	20.0		101	70-130				
Methyl Cyclohexane	20.2	1.0	µg/L	20.0		101	70-130				
Methylene Chloride	21.5	5.0	µg/L	20.0		108	70-130				
4-Methyl-2-pentanone (MIBK)	215	10	µg/L	200		107	70-160				†
Naphthalene	14.2	2.0	µg/L	20.0		71.0	40-130			V-05	†
n-Propylbenzene	18.6	1.0	µg/L	20.0		93.1	70-130				
Styrene	19.3	1.0	µg/L	20.0		96.7	70-130				
1,1,1,2-Tetrachloroethane	20.3	1.0	µg/L	20.0		101	70-130				
1,1,2,2-Tetrachloroethane	20.0	0.50	µg/L	20.0		100	70-130				
Tetrachloroethylene	19.1	1.0	µg/L	20.0		95.6	70-130				
Tetrahydrofuran	21.1	10	µg/L	20.0		106	70-130				
Toluene	19.8	1.0	µg/L	20.0		99.0	70-130				
1,2,3-Trichlorobenzene	14.8	5.0	µg/L	20.0		73.9	70-130				
1,2,4-Trichlorobenzene	16.3	1.0	µg/L	20.0		81.4	70-130				
1,3,5-Trichlorobenzene	18.0	1.0	µg/L	20.0		90.0	70-130				
1,1,1-Trichloroethane	20.8	1.0	µg/L	20.0		104	70-130				
1,1,2-Trichloroethane	21.5	1.0	µg/L	20.0		107	70-130				
Trichloroethylene	20.4	1.0	µg/L	20.0		102	70-130				
Trichlorofluoromethane (Freon 11)	20.4	2.0	µg/L	20.0		102	70-130				
1,2,3-Trichloropropane	20.4	2.0	µg/L	20.0		102	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD		RPD Limit	Notes	
Batch B287488 - SW-846 5035												
LCS (B287488-BS1)				Prepared & Analyzed: 07/28/21								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	25.0	1.0	µg/L	20.0		125	70-130					
1,2,4-Trimethylbenzene	18.3	1.0	µg/L	20.0		91.3	70-130					
1,3,5-Trimethylbenzene	18.3	1.0	µg/L	20.0		91.3	70-130					
Vinyl Chloride	15.5	2.0	µg/L	20.0		77.4	40-160					†
m+p Xylene	38.2	2.0	µg/L	40.0		95.5	70-130					
o-Xylene	19.6	1.0	µg/L	20.0		98.0	70-130					
Surrogate: 1,2-Dichloroethane-d4	*26.0*		µg/L	25.0		104	70-130					
Surrogate: Toluene-d8	*24.5*		µg/L	25.0		98.0	70-130					
Surrogate: 4-Bromofluorobenzene	*25.1*		µg/L	25.0		100	70-130					
LCS Dup (B287488-BSD1)				Prepared & Analyzed: 07/28/21								
Acetone	199	50	µg/L	200		99.5	70-160	4.91		25		†
Acrylonitrile	24.4	5.0	µg/L	20.0		122	70-130	3.37		25		
tert-Amyl Methyl Ether (TAME)	16.4	0.50	µg/L	20.0		81.8	70-130	4.06		25	V-05	
Benzene	19.2	1.0	µg/L	20.0		96.1	70-130	2.97		25		
Bromobenzene	19.9	1.0	µg/L	20.0		99.3	70-130	0.101		25		
Bromochloromethane	24.2	1.0	µg/L	20.0		121	70-130	4.31		25	V-20	
Bromodichloromethane	21.8	0.50	µg/L	20.0		109	70-130	2.85		25		
Bromoform	21.4	1.0	µg/L	20.0		107	70-130	1.41		25		
Bromomethane	13.0	2.0	µg/L	20.0		64.8	40-160	**33.3**	*	25	R-05, V-05, V-34	†
2-Butanone (MEK)	207	20	µg/L	200		103	40-160	0.679		25		†
tert-Butyl Alcohol (TBA)	174	20	µg/L	200		87.2	40-160	2.27		25		†
n-Butylbenzene	17.5	1.0	µg/L	20.0		87.7	70-130	0.625		25		
sec-Butylbenzene	19.0	1.0	µg/L	20.0		94.8	70-130	0.0527		25		
tert-Butylbenzene	18.2	1.0	µg/L	20.0		90.8	70-130	0.440		25		
tert-Butyl Ethyl Ether (TBEE)	18.1	0.50	µg/L	20.0		90.4	70-130	2.69		25	V-05	
Carbon Disulfide	21.0	5.0	µg/L	20.0		105	70-130	0.428		25		
Carbon Tetrachloride	20.4	5.0	µg/L	20.0		102	70-130	3.38		25		
Chlorobenzene	19.3	1.0	µg/L	20.0		96.4	70-130	1.31		25		
Chlorodibromomethane	21.5	0.50	µg/L	20.0		107	70-130	0.747		25		
Chloroethane	20.4	2.0	µg/L	20.0		102	70-130	15.0		25		
Chloroform	20.9	2.0	µg/L	20.0		104	70-130	1.38		25		
Chloromethane	16.0	2.0	µg/L	20.0		80.2	40-160	16.7		25		†
2-Chlorotoluene	18.4	1.0	µg/L	20.0		92.0	70-130	1.42		25		
4-Chlorotoluene	19.2	1.0	µg/L	20.0		96.2	70-130	0.467		25		
1,2-Dibromo-3-chloropropane (DBCP)	18.2	5.0	µg/L	20.0		91.0	70-130	7.11		25		
1,2-Dibromoethane (EDB)	21.1	0.50	µg/L	20.0		106	70-130	3.27		25		
Dibromomethane	21.6	1.0	µg/L	20.0		108	70-130	1.68		25		
1,2-Dichlorobenzene	19.5	1.0	µg/L	20.0		97.4	70-130	2.13		25		
1,3-Dichlorobenzene	19.3	1.0	µg/L	20.0		96.6	70-130	0.936		25		
1,4-Dichlorobenzene	18.8	1.0	µg/L	20.0		93.8	70-130	0.213		25		
trans-1,4-Dichloro-2-butene	20.7	2.0	µg/L	20.0		104	70-130	4.04		25		
Dichlorodifluoromethane (Freon 12)	18.6	2.0	µg/L	20.0		93.0	40-160	0.593		25		†
1,1-Dichloroethane	21.5	1.0	µg/L	20.0		107	70-130	0.973		25		
1,2-Dichloroethane	20.6	1.0	µg/L	20.0		103	70-130	0.732		25		
1,1-Dichloroethylene	19.7	1.0	µg/L	20.0		98.4	70-130	2.01		25		
cis-1,2-Dichloroethylene	22.1	1.0	µg/L	20.0		110	70-130	0.0453		25		
trans-1,2-Dichloroethylene	18.4	1.0	µg/L	20.0		92.2	70-130	0.980		25		
1,2-Dichloropropane	21.6	1.0	µg/L	20.0		108	70-130	0.558		25		
1,3-Dichloropropane	21.3	0.50	µg/L	20.0		107	70-130	2.61		25		
2,2-Dichloropropane	20.0	1.0	µg/L	20.0		100	40-130	1.10		25		†
1,1-Dichloropropene	18.9	2.0	µg/L	20.0		94.4	70-130	0.844		25		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B287488 - SW-846 5035											
LCS Dup (B287488-BSD1)				Prepared & Analyzed: 07/28/21							
cis-1,3-Dichloropropene	20.3	0.50	µg/L	20.0		101	70-130	0.544	25		
trans-1,3-Dichloropropene	21.8	0.50	µg/L	20.0		109	70-130	2.88	25		
Diethyl Ether	23.3	2.0	µg/L	20.0		117	70-130	0.214	25		
Diisopropyl Ether (DIPE)	24.0	0.50	µg/L	20.0		120	70-130	0.997	25		
1,4-Dioxane	200	50	µg/L	200		100	40-130	7.89	50		† ‡
Ethylbenzene	18.8	1.0	µg/L	20.0		94.2	70-130	0.898	25		
Hexachlorobutadiene	17.5	0.60	µg/L	20.0		87.6	70-130	1.03	25		
2-Hexanone (MBK)	221	10	µg/L	200		110	70-160	1.44	25		†
Isopropylbenzene (Cumene)	18.4	1.0	µg/L	20.0		92.2	70-130	1.83	25		
p-Isopropyltoluene (p-Cymene)	18.5	1.0	µg/L	20.0		92.7	70-130	0.0540	25		
Methyl Acetate	19.4	1.0	µg/L	20.0		96.9	70-130	4.04	25		
Methyl tert-Butyl Ether (MTBE)	21.3	1.0	µg/L	20.0		106	70-130	4.86	25		
Methyl Cyclohexane	19.9	1.0	µg/L	20.0		99.7	70-130	1.34	25		
Methylene Chloride	22.6	5.0	µg/L	20.0		113	70-130	4.89	25		
4-Methyl-2-pentanone (MIBK)	216	10	µg/L	200		108	70-160	0.891	25		†
Naphthalene	14.8	2.0	µg/L	20.0		74.2	40-130	4.34	25	V-05	†
n-Propylbenzene	18.5	1.0	µg/L	20.0		92.7	70-130	0.431	25		
Styrene	19.4	1.0	µg/L	20.0		96.9	70-130	0.207	25		
1,1,1,2-Tetrachloroethane	20.0	1.0	µg/L	20.0		100	70-130	1.24	25		
1,1,2,2-Tetrachloroethane	20.3	0.50	µg/L	20.0		102	70-130	1.49	25		
Tetrachloroethylene	18.9	1.0	µg/L	20.0		94.4	70-130	1.26	25		
Tetrahydrofuran	22.7	10	µg/L	20.0		113	70-130	7.22	25		
Toluene	19.7	1.0	µg/L	20.0		98.4	70-130	0.608	25		
1,2,3-Trichlorobenzene	15.6	5.0	µg/L	20.0		78.0	70-130	5.40	25		
1,2,4-Trichlorobenzene	16.7	1.0	µg/L	20.0		83.4	70-130	2.49	25		
1,3,5-Trichlorobenzene	17.9	1.0	µg/L	20.0		89.5	70-130	0.502	25		
1,1,1-Trichloroethane	20.6	1.0	µg/L	20.0		103	70-130	1.11	25		
1,1,2-Trichloroethane	21.3	1.0	µg/L	20.0		107	70-130	0.701	25		
Trichloroethylene	20.3	1.0	µg/L	20.0		101	70-130	0.541	25		
Trichlorofluoromethane (Freon 11)	20.7	2.0	µg/L	20.0		103	70-130	1.27	25		
1,2,3-Trichloropropane	20.6	2.0	µg/L	20.0		103	70-130	0.634	25		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	24.4	1.0	µg/L	20.0		122	70-130	2.55	25		
1,2,4-Trimethylbenzene	18.4	1.0	µg/L	20.0		91.9	70-130	0.655	25		
1,3,5-Trimethylbenzene	18.1	1.0	µg/L	20.0		90.7	70-130	0.659	25		
Vinyl Chloride	15.4	2.0	µg/L	20.0		76.9	40-160	0.583	25		†
m+p Xylene	38.0	2.0	µg/L	40.0		95.1	70-130	0.446	25		
o-Xylene	19.6	1.0	µg/L	20.0		97.8	70-130	0.204	25		
Surrogate: 1,2-Dichloroethane-d4	*26.0*		µg/L	25.0		104	70-130				
Surrogate: Toluene-d8	*24.6*		µg/L	25.0		98.2	70-130				
Surrogate: 4-Bromofluorobenzene	*25.0*		µg/L	25.0		99.8	70-130				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287021 - SW-846 3510C										
Blank (B287021-BLK1)				Prepared: 07/29/21 Analyzed: 07/30/21						
Acenaphthene	ND	5.0	µg/L							
Acenaphthylene	ND	5.0	µg/L							
Acetophenone	ND	10	µg/L							
Aniline	ND	5.0	µg/L							
Anthracene	ND	5.0	µg/L							
Benzidine	ND	20	µg/L							R-05, V-04, V-35
Benzo(a)anthracene	ND	5.0	µg/L							
Benzo(a)pyrene	ND	5.0	µg/L							
Benzo(b)fluoranthene	ND	5.0	µg/L							
Benzo(g,h,i)perylene	ND	5.0	µg/L							
Benzo(k)fluoranthene	ND	5.0	µg/L							
Benzoic Acid	ND	10	µg/L							
Bis(2-chloroethoxy)methane	ND	10	µg/L							
Bis(2-chloroethyl)ether	ND	10	µg/L							
Bis(2-chloroisopropyl)ether	ND	10	µg/L							
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L							
4-Bromophenylphenylether	ND	10	µg/L							
Butylbenzylphthalate	ND	10	µg/L							
Carbazole	ND	10	µg/L							
4-Chloroaniline	ND	10	µg/L							V-34
4-Chloro-3-methylphenol	ND	10	µg/L							
2-Chloronaphthalene	ND	10	µg/L							
2-Chlorophenol	ND	10	µg/L							
4-Chlorophenylphenylether	ND	10	µg/L							
Chrysene	ND	5.0	µg/L							
Dibenz(a,h)anthracene	ND	5.0	µg/L							
Dibenzofuran	ND	5.0	µg/L							
Di-n-butylphthalate	ND	10	µg/L							
1,2-Dichlorobenzene	ND	5.0	µg/L							
1,3-Dichlorobenzene	ND	5.0	µg/L							
1,4-Dichlorobenzene	ND	5.0	µg/L							
3,3-Dichlorobenzidine	ND	10	µg/L							
2,4-Dichlorophenol	ND	10	µg/L							
Diethylphthalate	ND	10	µg/L							
2,4-Dimethylphenol	ND	10	µg/L							
Dimethylphthalate	ND	10	µg/L							
4,6-Dinitro-2-methylphenol	ND	10	µg/L							V-20
2,4-Dinitrophenol	ND	10	µg/L							V-20
2,4-Dinitrotoluene	ND	10	µg/L							
2,6-Dinitrotoluene	ND	10	µg/L							
Di-n-octylphthalate	ND	10	µg/L							
1,2-Diphenylhydrazine/Azobenzene	ND	10	µg/L							
Fluoranthene	ND	5.0	µg/L							
Fluorene	ND	5.0	µg/L							
Hexachlorobenzene	ND	10	µg/L							
Hexachlorobutadiene	ND	10	µg/L							L-04
Hexachlorocyclopentadiene	ND	10	µg/L							
Hexachloroethane	ND	10	µg/L							L-04
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L							
Isophorone	ND	10	µg/L							
1-Methylnaphthalene	ND	5.0	µg/L							
2-Methylnaphthalene	ND	5.0	µg/L							

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B287021 - SW-846 3510C										
Blank (B287021-BLK1)				Prepared: 07/29/21 Analyzed: 07/30/21						
2-Methylphenol	ND	10	µg/L							
3/4-Methylphenol	ND	10	µg/L							
Naphthalene	ND	5.0	µg/L							
2-Nitroaniline	ND	10	µg/L							
3-Nitroaniline	ND	10	µg/L							
4-Nitroaniline	ND	10	µg/L							
Nitrobenzene	ND	10	µg/L							
2-Nitrophenol	ND	10	µg/L							
4-Nitrophenol	ND	10	µg/L							
N-Nitrosodimethylamine	ND	10	µg/L							
N-Nitrosodiphenylamine/Diphenylamine	ND	10	µg/L							
N-Nitrosodi-n-propylamine	ND	10	µg/L							
Pentachloronitrobenzene	ND	10	µg/L							
Pentachlorophenol	ND	10	µg/L							
Phenanthrene	ND	5.0	µg/L							
Phenol	ND	10	µg/L							
Pyrene	ND	5.0	µg/L							
Pyridine	ND	5.0	µg/L							R-05
1,2,4,5-Tetrachlorobenzene	ND	10	µg/L							
1,2,4-Trichlorobenzene	ND	5.0	µg/L							
2,4,5-Trichlorophenol	ND	10	µg/L							
2,4,6-Trichlorophenol	ND	10	µg/L							
Surrogate: 2-Fluorophenol	*84.8*		µg/L	200		42.4	15-110			
Surrogate: Phenol-d6	*83.0*		µg/L	200		41.5	15-110			
Surrogate: Nitrobenzene-d5	*70.3*		µg/L	100		70.3	30-130			
Surrogate: 2-Fluorobiphenyl	*70.9*		µg/L	100		70.9	30-130			
Surrogate: 2,4,6-Tribromophenol	*173*		µg/L	200		86.5	15-110			
Surrogate: p-Terphenyl-d14	*109*		µg/L	100		109	30-130			
LCS (B287021-BS1)				Prepared: 07/29/21 Analyzed: 07/30/21						
Acenaphthene	34.7	5.0	µg/L	50.0		69.4	40-140			
Acenaphthylene	32.8	5.0	µg/L	50.0		65.6	40-140			
Acetophenone	33.8	10	µg/L	50.0		67.5	40-140			
Aniline	32.4	5.0	µg/L	50.0		64.7	40-140			
Anthracene	37.6	5.0	µg/L	50.0		75.2	40-140			
Benzidine	23.5	20	µg/L	50.0		47.0	40-140			R-05, V-04, V-35
Benzo(a)anthracene	35.9	5.0	µg/L	50.0		71.9	40-140			
Benzo(a)pyrene	37.2	5.0	µg/L	50.0		74.4	40-140			
Benzo(b)fluoranthene	37.1	5.0	µg/L	50.0		74.2	40-140			
Benzo(g,h,i)perylene	40.9	5.0	µg/L	50.0		81.8	40-140			
Benzo(k)fluoranthene	36.9	5.0	µg/L	50.0		73.9	40-140			
Benzoic Acid	21.8	10	µg/L	50.0		43.6	10-130			†
Bis(2-chloroethoxy)methane	33.1	10	µg/L	50.0		66.1	40-140			
Bis(2-chloroethyl)ether	26.6	10	µg/L	50.0		53.1	40-140			
Bis(2-chloroisopropyl)ether	38.9	10	µg/L	50.0		77.8	40-140			
Bis(2-Ethylhexyl)phthalate	37.0	10	µg/L	50.0		74.0	40-140			
4-Bromophenylphenylether	34.4	10	µg/L	50.0		68.9	40-140			
Butylbenzylphthalate	37.5	10	µg/L	50.0		75.0	40-140			
Carbazole	37.8	10	µg/L	50.0		75.5	40-140			
4-Chloroaniline	41.3	10	µg/L	50.0		82.5	40-140			V-34
4-Chloro-3-methylphenol	36.2	10	µg/L	50.0		72.5	30-130			
2-Chloronaphthalene	28.7	10	µg/L	50.0		57.3	40-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B287021 - SW-846 3510C												
LCS (B287021-BS1)				Prepared: 07/29/21 Analyzed: 07/30/21								
2-Chlorophenol	31.4	10	µg/L	50.0		62.8		30-130				
4-Chlorophenylphenylether	34.0	10	µg/L	50.0		68.0		40-140				
Chrysene	36.6	5.0	µg/L	50.0		73.3		40-140				
Dibenz(a,h)anthracene	38.5	5.0	µg/L	50.0		77.0		40-140				
Dibenzofuran	34.9	5.0	µg/L	50.0		69.9		40-140				
Di-n-butylphthalate	37.9	10	µg/L	50.0		75.7		40-140				
1,2-Dichlorobenzene	23.0	5.0	µg/L	50.0		46.1		40-140				
1,3-Dichlorobenzene	20.4	5.0	µg/L	50.0		40.9		40-140				
1,4-Dichlorobenzene	21.5	5.0	µg/L	50.0		43.0		40-140				
3,3-Dichlorobenzidine	39.8	10	µg/L	50.0		79.7		40-140				
2,4-Dichlorophenol	35.0	10	µg/L	50.0		70.0		30-130				
Diethylphthalate	37.1	10	µg/L	50.0		74.2		40-140				
2,4-Dimethylphenol	32.9	10	µg/L	50.0		65.8		30-130				
Dimethylphthalate	36.6	10	µg/L	50.0		73.1		40-140				
4,6-Dinitro-2-methylphenol	47.2	10	µg/L	50.0		94.3		30-130			V-06	
2,4-Dinitrophenol	47.6	10	µg/L	50.0		95.3		30-130			V-06	
2,4-Dinitrotoluene	41.1	10	µg/L	50.0		82.2		40-140				
2,6-Dinitrotoluene	40.0	10	µg/L	50.0		80.0		40-140				
Di-n-octylphthalate	36.3	10	µg/L	50.0		72.6		40-140				
1,2-Diphenylhydrazine/Azobenzene	34.8	10	µg/L	50.0		69.5		40-140				
Fluoranthene	37.6	5.0	µg/L	50.0		75.3		40-140				
Fluorene	36.0	5.0	µg/L	50.0		72.0		40-140				
Hexachlorobenzene	37.5	10	µg/L	50.0		75.0		40-140				
Hexachlorobutadiene	17.5	10	µg/L	50.0		**34.9**	*	40-140			L-04	
Hexachlorocyclopentadiene	21.2	10	µg/L	50.0		42.4		30-140				†
Hexachloroethane	16.5	10	µg/L	50.0		**32.9**	*	40-140			L-04	
Indeno(1,2,3-cd)pyrene	39.8	5.0	µg/L	50.0		79.5		40-140				
Isophorone	35.0	10	µg/L	50.0		69.9		40-140				
1-Methylnaphthalene	31.1	5.0	µg/L	50.0		62.2		40-140				
2-Methylnaphthalene	34.0	5.0	µg/L	50.0		68.0		40-140				
2-Methylphenol	28.8	10	µg/L	50.0		57.5		30-130				
3/4-Methylphenol	30.6	10	µg/L	50.0		61.3		30-130				
Naphthalene	29.6	5.0	µg/L	50.0		59.3		40-140				
2-Nitroaniline	39.1	10	µg/L	50.0		78.2		40-140				
3-Nitroaniline	43.4	10	µg/L	50.0		86.8		40-140				
4-Nitroaniline	42.6	10	µg/L	50.0		85.1		40-140				
Nitrobenzene	31.2	10	µg/L	50.0		62.3		40-140				
2-Nitrophenol	36.8	10	µg/L	50.0		73.6		30-130				
4-Nitrophenol	21.4	10	µg/L	50.0		42.7		10-130				†
N-Nitrosodimethylamine	24.4	10	µg/L	50.0		48.8		40-140				
N-Nitrosodiphenylamine/Diphenylamine	40.9	10	µg/L	50.0		81.8		40-140				
N-Nitrosodi-n-propylamine	31.8	10	µg/L	50.0		63.6		40-140				
Pentachloronitrobenzene	42.0	10	µg/L	50.0		84.1		40-140				
Pentachlorophenol	37.2	10	µg/L	50.0		74.4		30-130				
Phenanthrene	36.7	5.0	µg/L	50.0		73.3		40-140				
Phenol	16.1	10	µg/L	50.0		32.2		20-130				†
Pyrene	37.2	5.0	µg/L	50.0		74.3		40-140				
Pyridine	6.93	5.0	µg/L	50.0		13.9		10-140			R-05	†
1,2,4,5-Tetrachlorobenzene	28.1	10	µg/L	50.0		56.2		40-140				
1,2,4-Trichlorobenzene	25.2	5.0	µg/L	50.0		50.4		40-140				
2,4,5-Trichlorophenol	38.4	10	µg/L	50.0		76.8		30-130				
2,4,6-Trichlorophenol	37.4	10	µg/L	50.0		74.7		30-130				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B287021 - SW-846 3510C											
LCS (B287021-BS1)				Prepared: 07/29/21 Analyzed: 07/30/21							
Surrogate: 2-Fluorophenol	*80.8*		µg/L	200		40.4	15-110				
Surrogate: Phenol-d6	*79.2*		µg/L	200		39.6	15-110				
Surrogate: Nitrobenzene-d5	*67.3*		µg/L	100		67.3	30-130				
Surrogate: 2-Fluorobiphenyl	*72.0*		µg/L	100		72.0	30-130				
Surrogate: 2,4,6-Tribromophenol	*177*		µg/L	200		88.7	15-110				
Surrogate: p-Terphenyl-d14	*96.9*		µg/L	100		96.9	30-130				
LCS Dup (B287021-BSD1)				Prepared: 07/29/21 Analyzed: 07/30/21							
Acenaphthene	34.2	5.0	µg/L	50.0		68.5	40-140	1.36	20		
Acenaphthylene	32.8	5.0	µg/L	50.0		65.5	40-140	0.0915	20		
Acetophenone	35.9	10	µg/L	50.0		71.8	40-140	6.09	20		
Aniline	35.1	5.0	µg/L	50.0		70.2	40-140	8.09	50		‡
Anthracene	36.6	5.0	µg/L	50.0		73.1	40-140	2.75	20		
Benzidine	34.1	20	µg/L	50.0		68.2	40-140	**36.8** *	20	R-05, V-04, V-35	
Benzo(a)anthracene	35.0	5.0	µg/L	50.0		70.0	40-140	2.71	20		
Benzo(a)pyrene	36.4	5.0	µg/L	50.0		72.8	40-140	2.23	20		
Benzo(b)fluoranthene	36.4	5.0	µg/L	50.0		72.8	40-140	1.93	20		
Benzo(g,h,i)perylene	40.2	5.0	µg/L	50.0		80.4	40-140	1.68	20		
Benzo(k)fluoranthene	36.2	5.0	µg/L	50.0		72.4	40-140	2.00	20		
Benzoic Acid	22.3	10	µg/L	50.0		44.7	10-130	2.54	50		† ‡
Bis(2-chloroethoxy)methane	35.2	10	µg/L	50.0		70.4	40-140	6.30	20		
Bis(2-chloroethyl)ether	29.7	10	µg/L	50.0		59.4	40-140	11.2	20		
Bis(2-chloroisopropyl)ether	44.2	10	µg/L	50.0		88.5	40-140	12.9	20		
Bis(2-Ethylhexyl)phthalate	37.4	10	µg/L	50.0		74.8	40-140	0.995	20		
4-Bromophenylphenylether	33.4	10	µg/L	50.0		66.8	40-140	3.04	20		
Butylbenzylphthalate	37.2	10	µg/L	50.0		74.5	40-140	0.722	20		
Carbazole	36.6	10	µg/L	50.0		73.2	40-140	3.09	20		
4-Chloroaniline	38.9	10	µg/L	50.0		77.9	40-140	5.79	20	V-34	
4-Chloro-3-methylphenol	37.2	10	µg/L	50.0		74.3	30-130	2.48	20		
2-Chloronaphthalene	28.3	10	µg/L	50.0		56.6	40-140	1.30	20		
2-Chlorophenol	33.2	10	µg/L	50.0		66.4	30-130	5.61	20		
4-Chlorophenylphenylether	33.2	10	µg/L	50.0		66.4	40-140	2.41	20		
Chrysene	35.9	5.0	µg/L	50.0		71.7	40-140	2.18	20		
Dibenz(a,h)anthracene	38.6	5.0	µg/L	50.0		77.2	40-140	0.337	20		
Dibenzofuran	34.2	5.0	µg/L	50.0		68.5	40-140	2.05	20		
Di-n-butylphthalate	37.2	10	µg/L	50.0		74.4	40-140	1.76	20		
1,2-Dichlorobenzene	23.9	5.0	µg/L	50.0		47.8	40-140	3.66	20		
1,3-Dichlorobenzene	21.0	5.0	µg/L	50.0		41.9	40-140	2.46	20		
1,4-Dichlorobenzene	22.0	5.0	µg/L	50.0		44.1	40-140	2.48	20		
3,3-Dichlorobenzidine	38.7	10	µg/L	50.0		77.4	40-140	2.95	20		
2,4-Dichlorophenol	36.6	10	µg/L	50.0		73.1	30-130	4.33	20		
Diethylphthalate	36.6	10	µg/L	50.0		73.2	40-140	1.30	20		
2,4-Dimethylphenol	33.6	10	µg/L	50.0		67.2	30-130	2.14	20		
Dimethylphthalate	35.8	10	µg/L	50.0		71.6	40-140	2.07	50		‡
4,6-Dinitro-2-methylphenol	45.8	10	µg/L	50.0		91.5	30-130	3.03	50	V-06	‡
2,4-Dinitrophenol	45.8	10	µg/L	50.0		91.6	30-130	3.96	50	V-06	‡
2,4-Dinitrotoluene	40.6	10	µg/L	50.0		81.3	40-140	1.10	20		
2,6-Dinitrotoluene	39.7	10	µg/L	50.0		79.5	40-140	0.677	20		
Di-n-octylphthalate	37.0	10	µg/L	50.0		74.1	40-140	1.99	20		
1,2-Diphenylhydrazine/Azobenzene	36.0	10	µg/L	50.0		72.0	40-140	3.59	20		
Fluoranthene	36.2	5.0	µg/L	50.0		72.4	40-140	3.98	20		
Fluorene	35.3	5.0	µg/L	50.0		70.6	40-140	1.85	20		

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes	
Batch B287021 - SW-846 3510C													
LCS Dup (B287021-BSD1)				Prepared: 07/29/21 Analyzed: 07/30/21									
Hexachlorobenzene	35.6	10	µg/L	50.0		71.2		40-140	5.17		20		
Hexachlorobutadiene	17.2	10	µg/L	50.0		**34.3**	*	40-140	1.85		20	L-04	
Hexachlorocyclopentadiene	20.1	10	µg/L	50.0		40.3		30-140	5.08		50		† ‡
Hexachloroethane	17.1	10	µg/L	50.0		**34.3**	*	40-140	3.99		50	L-04	‡
Indeno(1,2,3-cd)pyrene	39.2	5.0	µg/L	50.0		78.4		40-140	1.49		50		‡
Isophorone	37.6	10	µg/L	50.0		75.2		40-140	7.25		20		
1-Methylnaphthalene	31.4	5.0	µg/L	50.0		62.8		40-140	1.09		20		
2-Methylnaphthalene	34.8	5.0	µg/L	50.0		69.5		40-140	2.18		20		
2-Methylphenol	30.1	10	µg/L	50.0		60.1		30-130	4.42		20		
3/4-Methylphenol	32.1	10	µg/L	50.0		64.3		30-130	4.75		20		
Naphthalene	30.6	5.0	µg/L	50.0		61.2		40-140	3.15		20		
2-Nitroaniline	41.4	10	µg/L	50.0		82.7		40-140	5.64		20		
3-Nitroaniline	41.7	10	µg/L	50.0		83.3		40-140	4.09		20		
4-Nitroaniline	41.8	10	µg/L	50.0		83.6		40-140	1.80		20		
Nitrobenzene	34.2	10	µg/L	50.0		68.3		40-140	9.15		20		
2-Nitrophenol	38.4	10	µg/L	50.0		76.9		30-130	4.31		20		
4-Nitrophenol	20.6	10	µg/L	50.0		41.3		10-130	3.48		50		† ‡
N-Nitrosodimethylamine	28.0	10	µg/L	50.0		55.9		40-140	13.6		20		
N-Nitrosodiphenylamine/Diphenylamine	39.8	10	µg/L	50.0		79.7		40-140	2.63		20		
N-Nitrosodi-n-propylamine	34.5	10	µg/L	50.0		69.1		40-140	8.20		20		
Pentachloronitrobenzene	39.0	10	µg/L	50.0		77.9		40-140	7.61		20		
Pentachlorophenol	36.5	10	µg/L	50.0		73.0		30-130	1.90		50		‡
Phenanthrene	35.8	5.0	µg/L	50.0		71.6		40-140	2.40		20		
Phenol	17.2	10	µg/L	50.0		34.4		20-130	6.61		20		†
Pyrene	36.2	5.0	µg/L	50.0		72.4		40-140	2.62		20		
Pyridine	11.6	5.0	µg/L	50.0		23.2		10-140	**50.5**	*	50	R-05	† ‡
1,2,4,5-Tetrachlorobenzene	27.8	10	µg/L	50.0		55.5		40-140	1.25		20		
1,2,4-Trichlorobenzene	25.1	5.0	µg/L	50.0		50.2		40-140	0.398		20		
2,4,5-Trichlorophenol	37.0	10	µg/L	50.0		74.0		30-130	3.71		20		
2,4,6-Trichlorophenol	36.8	10	µg/L	50.0		73.7		30-130	1.40		50		‡
Surrogate: 2-Fluorophenol	*86.0*		µg/L	200		43.0		15-110					
Surrogate: Phenol-d6	*83.1*		µg/L	200		41.6		15-110					
Surrogate: Nitrobenzene-d5	*73.4*		µg/L	100		73.4		30-130					
Surrogate: 2-Fluorobiphenyl	*71.4*		µg/L	100		71.4		30-130					
Surrogate: 2,4,6-Tribromophenol	*167*		µg/L	200		83.4		15-110					
Surrogate: p-Terphenyl-d14	*91.9*		µg/L	100		91.9		30-130					

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
V-04	Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria. Reported result is estimated.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.
V-35	Initial calibration verification (ICV) did not meet method specifications and was biased on the high side for this compound. Reported result is estimated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Water	
Acetone	CT,ME,NH,VA,NY
Acrylonitrile	CT,ME,NH,VA,NY
tert-Amyl Methyl Ether (TAME)	ME,NH,VA,NY
Benzene	CT,ME,NH,VA,NY
Bromobenzene	ME,NY
Bromochloromethane	ME,NH,VA,NY
Bromodichloromethane	CT,ME,NH,VA,NY
Bromoform	CT,ME,NH,VA,NY
Bromomethane	CT,ME,NH,VA,NY
2-Butanone (MEK)	CT,ME,NH,VA,NY
tert-Butyl Alcohol (TBA)	ME,NH,VA,NY
n-Butylbenzene	ME,VA,NY
sec-Butylbenzene	ME,VA,NY
tert-Butylbenzene	ME,VA,NY
tert-Butyl Ethyl Ether (TBEE)	ME,NH,VA,NY
Carbon Disulfide	CT,ME,NH,VA,NY
Carbon Tetrachloride	CT,ME,NH,VA,NY
Chlorobenzene	CT,ME,NH,VA,NY
Chlorodibromomethane	CT,ME,NH,VA,NY
Chloroethane	CT,ME,NH,VA,NY
Chloroform	CT,ME,NH,VA,NY
Chloromethane	CT,ME,NH,VA,NY
2-Chlorotoluene	ME,NH,VA,NY
4-Chlorotoluene	ME,NH,VA,NY
1,2-Dibromo-3-chloropropane (DBCP)	ME,NY
1,2-Dibromoethane (EDB)	ME,NY
Dibromomethane	ME,NH,VA,NY
1,2-Dichlorobenzene	CT,ME,NH,VA,NY
1,3-Dichlorobenzene	CT,ME,NH,VA,NY
1,4-Dichlorobenzene	CT,ME,NH,VA,NY
trans-1,4-Dichloro-2-butene	ME,NH,VA,NY
Dichlorodifluoromethane (Freon 12)	ME,NH,VA,NY
1,1-Dichloroethane	CT,ME,NH,VA,NY
1,2-Dichloroethane	CT,ME,NH,VA,NY
1,1-Dichloroethylene	CT,ME,NH,VA,NY
cis-1,2-Dichloroethylene	ME,NY
trans-1,2-Dichloroethylene	CT,ME,NH,VA,NY
1,2-Dichloropropane	CT,ME,NH,VA,NY
1,3-Dichloropropane	ME,VA,NY
2,2-Dichloropropane	ME,NH,VA,NY
1,1-Dichloropropene	ME,NH,VA,NY
cis-1,3-Dichloropropene	CT,ME,NH,VA,NY
trans-1,3-Dichloropropene	CT,ME,NH,VA,NY
Diethyl Ether	ME,NY
Diisopropyl Ether (DIPE)	ME,NH,VA,NY
1,4-Dioxane	ME,NY
Ethylbenzene	CT,ME,NH,VA,NY

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Water	
Hexachlorobutadiene	CT,ME,NH,VA,NY
2-Hexanone (MBK)	CT,ME,NH,VA,NY
Isopropylbenzene (Cumene)	ME,VA,NY
p-Isopropyltoluene (p-Cymene)	CT,ME,NH,VA,NY
Methyl Acetate	ME,NY
Methyl tert-Butyl Ether (MTBE)	CT,ME,NH,VA,NY
Methyl Cyclohexane	NY
Methylene Chloride	CT,ME,NH,VA,NY
4-Methyl-2-pentanone (MIBK)	CT,ME,NH,VA,NY
Naphthalene	ME,NH,VA,NY
n-Propylbenzene	CT,ME,NH,VA,NY
Styrene	CT,ME,NH,VA,NY
1,1,1,2-Tetrachloroethane	CT,ME,NH,VA,NY
1,1,2,2-Tetrachloroethane	CT,ME,NH,VA,NY
Tetrachloroethylene	CT,ME,NH,VA,NY
Toluene	CT,ME,NH,VA,NY
1,2,3-Trichlorobenzene	ME,NH,VA,NY
1,2,4-Trichlorobenzene	CT,ME,NH,VA,NY
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT,ME,NH,VA,NY
1,1,2-Trichloroethane	CT,ME,NH,VA,NY
Trichloroethylene	CT,ME,NH,VA,NY
Trichlorofluoromethane (Freon 11)	CT,ME,NH,VA,NY
1,2,3-Trichloropropane	ME,NH,VA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	VA,NY
1,2,4-Trimethylbenzene	ME,VA,NY
1,3,5-Trimethylbenzene	ME,VA,NY
Vinyl Chloride	CT,ME,NH,VA,NY
m+p Xylene	CT,ME,NH,VA,NY
o-Xylene	CT,ME,NH,VA,NY
SW-846 8270D-E in Water	
Acenaphthene	CT,NY,NC,ME,NH,VA
Acenaphthylene	CT,NY,NC,ME,NH,VA
Acetophenone	NY,NC
Aniline	CT,NY,NC,ME,VA
Anthracene	CT,NY,NC,ME,NH,VA
Benzidine	CT,NY,NC,ME,NH,VA
Benzo(a)anthracene	CT,NY,NC,ME,NH,VA
Benzo(a)pyrene	CT,NY,NC,ME,NH,VA
Benzo(b)fluoranthene	CT,NY,NC,ME,NH,VA
Benzo(g,h,i)perylene	CT,NY,NC,ME,NH,VA
Benzo(k)fluoranthene	CT,NY,NC,ME,NH,VA
Benzoic Acid	NY,NC,ME,NH,VA
Bis(2-chloroethoxy)methane	CT,NY,NC,ME,NH,VA
Bis(2-chloroethyl)ether	CT,NY,NC,ME,NH,VA
Bis(2-chloroisopropyl)ether	CT,NY,NC,ME,NH,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D-E in Water	
Bis(2-Ethylhexyl)phthalate	CT,NY,NC,ME,NH,VA
4-Bromophenylphenylether	CT,NY,NC,ME,NH,VA
Butylbenzylphthalate	CT,NY,NC,ME,NH,VA
Carbazole	NC
4-Chloroaniline	CT,NY,NC,ME,NH,VA
4-Chloro-3-methylphenol	CT,NY,NC,ME,NH,VA
2-Chloronaphthalene	CT,NY,NC,ME,NH,VA
2-Chlorophenol	CT,NY,NC,ME,NH,VA
4-Chlorophenylphenylether	CT,NY,NC,ME,NH,VA
Chrysene	CT,NY,NC,ME,NH,VA
Dibenz(a,h)anthracene	CT,NY,NC,ME,NH,VA
Dibenzofuran	CT,NY,NC,ME,NH,VA
Di-n-butylphthalate	CT,NY,NC,ME,NH,VA
1,2-Dichlorobenzene	CT,NY,NC,ME,NH,VA
1,3-Dichlorobenzene	CT,NY,NC,ME,NH,VA
1,4-Dichlorobenzene	CT,NY,NC,ME,NH,VA
3,3-Dichlorobenzidine	CT,NY,NC,ME,NH,VA
2,4-Dichlorophenol	CT,NY,NC,ME,NH,VA
Diethylphthalate	CT,NY,NC,ME,NH,VA
2,4-Dimethylphenol	CT,NY,NC,ME,NH,VA
Dimethylphthalate	CT,NY,NC,ME,NH,VA
4,6-Dinitro-2-methylphenol	CT,NY,NC,ME,NH,VA
2,4-Dinitrophenol	CT,NY,NC,ME,NH,VA
2,4-Dinitrotoluene	CT,NY,NC,ME,NH,VA
2,6-Dinitrotoluene	CT,NY,NC,ME,NH,VA
Di-n-octylphthalate	CT,NY,NC,ME,NH,VA
1,2-Diphenylhydrazine/Azobenzene	NY,NC
Fluoranthene	CT,NY,NC,ME,NH,VA
Fluorene	NY,NC,ME,NH,VA
Hexachlorobenzene	CT,NY,NC,ME,NH,VA
Hexachlorobutadiene	CT,NY,NC,ME,NH,VA
Hexachlorocyclopentadiene	CT,NY,NC,ME,NH,VA
Hexachloroethane	CT,NY,NC,ME,NH,VA
Indeno(1,2,3-cd)pyrene	CT,NY,NC,ME,NH,VA
Isophorone	CT,NY,NC,ME,NH,VA
1-Methylnaphthalene	NC
2-Methylnaphthalene	CT,NY,NC,ME,NH,VA
2-Methylphenol	CT,NY,NC,NH,VA
3/4-Methylphenol	CT,NY,NC,NH,VA
Naphthalene	CT,NY,NC,ME,NH,VA
2-Nitroaniline	CT,NY,NC,ME,NH,VA
3-Nitroaniline	CT,NY,NC,ME,NH,VA
4-Nitroaniline	CT,NY,NC,ME,NH,VA
Nitrobenzene	CT,NY,NC,ME,NH,VA
2-Nitrophenol	CT,NY,NC,ME,NH,VA
4-Nitrophenol	CT,NY,NC,ME,NH,VA
N-Nitrosodimethylamine	CT,NY,NC,ME,NH,VA

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A Pace Analytical® Laboratory

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D-E in Water	
N-Nitrosodi-n-propylamine	CT,NY,NC,ME,NH,VA
Pentachloronitrobenzene	NC
Pentachlorophenol	CT,NY,NC,ME,NH,VA
Phenanthrene	CT,NY,NC,ME,NH,VA
Phenol	CT,NY,NC,ME,NH,VA
Pyrene	CT,NY,NC,ME,NH,VA
Pyridine	CT,NY,NC,ME,NH,VA
1,2,4,5-Tetrachlorobenzene	NY,NC
1,2,4-Trichlorobenzene	CT,NY,NC,ME,NH,VA
2,4,5-Trichlorophenol	CT,NY,NC,ME,NH,VA
2,4,6-Trichlorophenol	CT,NY,NC,ME,NH,VA
2-Fluorophenol	NC

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

21H0164

216529

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

1800 Elm Street SE
Minneapolis, MN 55414

Doc # 381 Rev 2_06262019

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Eversource Energy
Address:	247 Station Drive, Westwood MA
Phone:	7814413804
Project Name:	E. Boston D. Line
Project Location:	East Boston
Project Number:	E5042009
Project Manager:	Dean Bebis
Pace Analytical Quote Name/Number	10948702
Invoice Recipient:	Eversource Energy c/o Dean Bebis
Sampled By:	C. Brothers (Tighe & Bond)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

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

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Envirodata EDD to Jlibby@tighebond.
CLP Like Data Pkg Required: ☐
Email To: acantara@tighebond.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED — 2 Preservation Code

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	1/N RGP Metals * 200.7, 200.8 and 245.1	1/U Hardness SM 2340	2V/U Ethanol by 624.1	1/U Chloride EPA 300.0		2L/S TPH 1664	1/U Total Residual Chlorine SM 4500	1/S Ammonia 350.1	1/N Hexavalent Chromium	1/U Trivalent Chromium	2/H VOC 624	2L/A 1,4 Dioxane by 624.1	2V/T 504 EDB	2L/U SVOC 625	2L/U SVOC 625 low level for Group I PAHs and PCB	2L/U 608 PCB	1L/U Total Suspended Solis SM 2540D	500A/S Phenols 420.1
1	MW-113	7/27/21	1130	Grab	GW	U	0	11	1	0	0						X						X		X	X	X		
2	MW-117	7/27/21	800	Grab	GW	U	7	14	7	0	0	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X

client canceling the 1,4 dioxin on sample -02 due to lack of volume. JLH 7/28/2021

running analysis on page 2 for the std 8260/8270 list. JLH 8/4/2021

Relinquished by: (signature)	Date/Time:
Colleen Brothers	7/27/21 1300
Received by: (signature)	Date/Time:
Paul Courtney	7-27-21 16 90
Relinquished by: (signature)	Date/Time:
Paul Courtney	7/27/21 17 13
Received by: (signature)	Date/Time:
[illegible]	7/27/21 1715
Relinquished by: (signature)	Date/Time:
[illegible]	7/27/21 1845
Received by: (signature)	Date/Time:
[illegible] 2.0	7/27/21 1850
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: * (RGP metals - antimoy, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, zinc)

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

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

Matrix Codes
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air S = Soil
SL = Sludge
SOL = Solid
O = Other _____

Preservation Codes
I = Iced
H = HCL
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
M = Methanol
DI = DI Water
O = Other _____

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Courier Use Only
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Pace Analytical

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here: 216519

ALL SHADED AREAS are for LAB USE ONLY

Company: Eversource Energy	Billing Information: Eversource Energy c/o Dean Bebis
Address: 247 Station Dr Westwood	
Report To: Dean Bebis	Email To: dean.bebis@eversource.com
Copy To: Amanda Cantara acantara@tighebond.com	Site Collection Info/Address: East Boston
Customer Project Name/Number: E. Boston D. Line	State: MA County/City: Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Phone: 7814413604 Email: acantara@tighebond.com	Site/Facility ID #: E5042009
Collected By (print): Colleen Bromers	Purchase Order #: Quote #: 10948702
Collected By (signature): Colleen Bromers	Turnaround Date Required: 7 day
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [X] No
	DW PWS ID #: DW Location Code:
	Immediately Packed on Ice: [X] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

Container Preservative Type **: 3 U

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

Lab Project Manager:

Analyses: 8260 8270

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

LAB USE ONLY:
Lab Sample # / Comments: Cassie notified of short holds

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260	8270	Lab Sample # / Comments
MW-113	GW	GRAB	7/27/21	1130						X	1
MW-117	GW	GRAB	7/27/21	800					X	X	2

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): (Y) N N/A

Lab Tracking #: 2654798

Samples received via: FEDEX UPS Client Courier (Pace Courier)

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#:
Cooler 1 Temp Upon Receipt: ____oC
Cooler 1 Therm Corr. Factor: ____oC
Cooler 1 Corrected Temp: ____oC
Comments: 2.0

Trip Blank Received: Y N NA
HCL MeOH TSP Other

	Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
1	Colleen Bromers Tighe & Bond	7/27/21 1300	Paul Chastney	7-27-21 1610
2	Paul Chastney	7-27-21 1715	Laura Hill	7/27/21 1845
3	Laura Hill	7/27/21 1715	Andrew Hill	7/27/21 1845

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Non Conformance(s): YES / NO

Page: 2 of: 2

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

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LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

216519

ALL SHADED AREAS are for LAB USE ONLY

Company: Eversource Energy	Billing Information: Eversource c/o Dean Bebis Energy
Address: 247 Station Drive Westwood	
Report To: Dean Bebis	Email To: dean.bebis@eversource.com
Copy To: Amanda Cantara Tighe + Bond	Site Collection Info/Address: East Boston
Customer Project Name/Number: E. Boston D. Line.	State: MA County/City: Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Phone: 7814413804 Email:	Site/Facility ID #: ES042009
Collected By (print): Colleen Brothers	Purchase Order #: Quote #: 10945702
Collected By (signature): Colleen Brothers	Turnaround Date Required: 7-day
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [X] No
	DW PWS ID #: DW Location Code:
	Immediately Packed on Ice: [X] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **: 4

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: Total Cyanide	Lab Profile/Line
MW-113	GW	Grab	7/27/21	1130					X	1
MW-117	GW	Grab	7/27/21	800					X	2

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips: _____	
Sample pH Acceptable	Y N NA
pH Strips: _____	
Sulfide Present	Y N NA
Lead Acetate Strips: _____	

LAB USE ONLY:
Lab Sample # / Comments:

Per lab cancel 8270 as it is the same list as the 625. JLH 8/4/2021

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 2654795

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: _____oC
Cooler 1 Therm Corr. Factor: _____oC
Cooler 1 Corrected Temp: _____oC
Comments:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: _____ of: _____

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Colleen Brothers Tighe+Bond	7/27/21 1300	Paul Charlton	7-27-21 1610
Paul Charlton	7-27-21 1718	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY

Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

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Pace Analytical®

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

Company: Eversource Energy
Address: 247 Station Drive Westwood
Report To: Dean Bebis
Copy To: Amanda Cantara Tighe+Bond
Customer Project Name/Number: E. Boston D. Line.
Phone: 781 4413804
Email:
Collected By (print): Colleen Brothers
Collected By (signature): ColleenBroth

Billing Information: Eversource c/o Dean Bebis Energy
Email To: dean.bebis@eversource.com
Site Collection Info/Address: East Boston
State: MA County/City: Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Site/Facility ID #: ES042009
Compliance Monitoring? [ ] Yes [X] No
Purchase Order #:
Quote #: 10948702
DW PWS ID #:
DW Location Code:
Turnaround Date Required: 7-day.
Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return
Archive:
Hold:
Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
Field Filtered (if applicable): [ ] Yes [ ] No
Analysis:

Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Ctns	Total Cyanide
MW-113	GW	Grab	7/27/21	11:30					X
MW-117	GW	Grab	7/27/21	8:00					X

Customer Remarks / Special Conditions / Possible Hazards:

LAB USE ONLY - Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Container Preservative Type **

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

Analyses

Lab Profile/Line:

Lab Sample Receipt Checklist:
Custody Seals Present/Intact Y N NA
Custody Signatures Present Y N NA
Collector Signature Present Y N NA
Bottles Intact Y N NA
Correct Bottles Y N NA
Sufficient Volume Y N NA
Samples Received on Ice Y N NA
VOA - Headspace Acceptable Y N NA
USDA Regulated Soils Y N NA
Samples in Holding Time Y N NA
Residual Chlorine Present Y N NA
Cl Strips:
Sample pH Acceptable Y N NA
pH Strips:
Sulfide Present Y N NA
Lead Acetate Strips:

LAB USE ONLY:
Lab Sample # / Comments:

Packing Material Used:
Lab Tracking #: 2654795
Radchem sample(s) screened (<500 cpm): Y N NA
Samples received via: FEDEX UPS Client Courier Pace Courier

Temp Blank Received: Y N NA
Therm ID#:
Cooler 1 Temp Upon Receipt: ___ oC
Cooler 1 Therm Corr. Factor: ___ oC
Cooler 1 Corrected Temp: ___ oC
Comments:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): Page: ___

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Colleen Brothers Tighe+Bond	7/27/21 1500	Paul Chatterley	7-27-21 1610
Paul Chatterley	7-27-21 1715	Allen M	7/27/21 1715

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

September 2, 2021

Dean S. Bebis
Eversource Energy - MA (Monthly Billing)
One NSTAR Way, SUM SE-250
Westwood, MA 02090-9230

Project Location: East Boston
Client Job Number:
Project Number: E5042009
Laboratory Work Order Number: 21H1215

Enclosed are results of analyses for samples received by the laboratory on August 24, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jessica L. Hoffman
Project Manager

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

Eversource Energy - MA (Monthly Billing)
One NSTAR Way, SUM SE-250
Westwood, MA 02090-9230
ATTN: Dean S. Bebis

REPORT DATE: 9/2/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: E5042009

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21H1215

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

PROJECT LOCATION: East Boston

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-113	21H1215-01	Water		624.1	
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 350.1	
				EPA 420.1	
				EPA 504.1	
				SM21-23 2540D	
				SM21-23 4500 CL B	
				SW-846 8260C-D	

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

CASE NARRATIVE SUMMARY

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

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

624.1

Qualifications:

L-03

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

Analyte & Samples(s) Qualified:

Acetone
21H1215-01[MW-113], B288895-BLK1, B288895-BS1

EPA 200.8

Qualifications:

L-07

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

Analyte & Samples(s) Qualified:

Antimony
B288950-BS1

SW-846 8260C-D

Qualifications:

L-04

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

Analyte & Samples(s) Qualified:

Chloromethane
21H1215-01[MW-113], B288913-BLK1, B288913-BS1, B288913-BSD1

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

2-Butanone (MEK)
21H1215-01[MW-113], B288913-BLK1, B288913-BS1, B288913-BSD1, S062690-CCV1

2-Hexanone (MBK)
21H1215-01[MW-113], B288913-BLK1, B288913-BS1, B288913-BSD1, S062690-CCV1

Acetone
21H1215-01[MW-113], B288913-BLK1, B288913-BS1, B288913-BSD1, S062690-CCV1

Chloromethane
21H1215-01[MW-113], B288913-BLK1, B288913-BS1, B288913-BSD1, S062690-CCV1

Tetrahydrofuran
21H1215-01[MW-113], B288913-BLK1, B288913-BS1, B288913-BSD1, S062690-CCV1

V-20

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

Analyte & Samples(s) Qualified:

Bromomethane
B288913-BS1, B288913-BSD1, S062690-CCV1

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

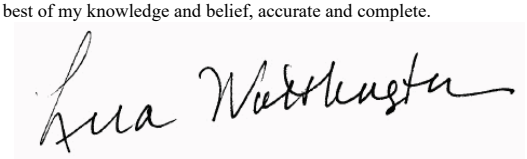
Analyte & Samples(s) Qualified:

Bromomethane
21H1215-01[MW-113], B288913-BLK1, B288913-BS1, B288913-BSD1, S062690-CCV1

Chloromethane
21H1215-01[MW-113], B288913-BLK1, B288913-BS1, B288913-BSD1, S062690-CCV1

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

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

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

Project Location: East Boston | Sample Description: | Work Order: 21H1215

Date Received: 8/24/2021

Field Sample #: MW-113

Sample ID: 21H1215-01 | Start Date/Time: 8/23/2021 9:30:00AM

Sample Matrix: Water | Stop Date/Time: 8/23/2021 9:50:00AM

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1	V-05	SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Bromomethane	ND	5.0	µg/L	1	V-34	SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
2-Butanone (MEK)	ND	20	µg/L	1	V-05	SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Chloromethane	ND	2.0	µg/L	1	L-04, V-05, V-34	SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH

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

Project Location: East Boston | Sample Description: | Work Order: 21H1215

Date Received: 8/24/2021

Field Sample #: MW-113

Sample ID: 21H1215-01 | Start Date/Time: 8/23/2021 9:30:00AM

Sample Matrix: Water | Stop Date/Time: 8/23/2021 9:50:00AM

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
2-Hexanone (MBK)	ND	10	µg/L	1	V-05	SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Methyl Acetate	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Tetrahydrofuran	ND	10	µg/L	1	V-05	SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/25/21	8/26/21 1:19	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
1,2-Dichloroethane-d4	78.4	70-130		8/26/21	1:19
Toluene-d8	91.0	70-130		8/26/21	1:19
4-Bromofluorobenzene	96.3	70-130		8/26/21	1:19

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Project Location: East Boston | Sample Description: | Work Order: 21H1215

Date Received: 8/24/2021

Field Sample #: MW-113

Sample ID: 21H1215-01 | Start Date/Time: 8/23/2021 9:30:00AM

Sample Matrix: Water | Stop Date/Time: 8/23/2021 9:50:00AM

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	<2.35	50.0	2.35	µg/L	1	L-03	624.1	8/25/21	8/26/21 1:19	EEH
Benzene	<0.130	1.00	0.130	µg/L	1		624.1	8/25/21	8/26/21 1:19	EEH
tert-Butyl Alcohol (TBA)	<5.34	20.0	5.34	µg/L	1		624.1	8/25/21	8/26/21 1:19	EEH
1,2-Dichloroethane	<0.320	2.00	0.320	µg/L	1		624.1	8/25/21	8/26/21 1:19	EEH
1,4-Dioxane	<21.5	50.0	21.5	µg/L	1		624.1	8/25/21	8/26/21 1:19	EEH
Ethanol	<34.2	50.0	34.2	µg/L	1		624.1	8/25/21	8/26/21 1:19	EEH
Ethylbenzene	<0.0900	2.00	0.0900	µg/L	1		624.1	8/25/21	8/26/21 1:19	EEH
Methyl tert-Butyl Ether (MTBE)	<0.170	2.00	0.170	µg/L	1		624.1	8/25/21	8/26/21 1:19	EEH
Tetrachloroethylene	<0.200	2.00	0.200	µg/L	1		624.1	8/25/21	8/26/21 1:19	EEH
Toluene	<0.110	1.00	0.110	µg/L	1		624.1	8/25/21	8/26/21 1:19	EEH
m+p Xylene	<0.180	2.00	0.180	µg/L	1		624.1	8/25/21	8/26/21 1:19	EEH
o-Xylene	<0.0900	1.00	0.0900	µg/L	1		624.1	8/25/21	8/26/21 1:19	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	78.4	70-130		8/26/21 1:19
Toluene-d8	91.0	70-130		8/26/21 1:19
4-Bromofluorobenzene	96.3	70-130		8/26/21 1:19

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Project Location: East Boston | Sample Description: | Work Order: 21H1215

Date Received: 8/24/2021

Field Sample #: MW-113

Sample ID: 21H1215-01 | Start Date/Time: 8/23/2021 9:30:00AM

Sample Matrix: Water | Stop Date/Time: 8/23/2021 9:50:00AM

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0		µg/L	1		EPA 200.8	8/25/21	8/26/21 14:25	QNW
Arsenic	2.5	0.80		µg/L	1		EPA 200.8	8/25/21	8/26/21 14:44	QNW
Cadmium	ND	0.20		µg/L	1		EPA 200.8	8/25/21	8/26/21 14:25	QNW
Chromium	3.6	1.0		µg/L	1		EPA 200.8	8/25/21	8/26/21 14:25	QNW
Copper	7.4	1.0		µg/L	1		EPA 200.8	8/25/21	8/26/21 14:25	QNW
Iron	3.3	0.050		mg/L	1		EPA 200.7	8/25/21	8/26/21 17:54	MJH
Lead	1.3	0.50		µg/L	1		EPA 200.8	8/25/21	8/26/21 14:25	QNW
Mercury	ND	0.00010		mg/L	1		EPA 245.1	8/25/21	8/26/21 12:26	CJV
Nickel	ND	5.0		µg/L	1		EPA 200.8	8/25/21	8/26/21 14:25	QNW
Selenium	ND	5.0	0.78	µg/L	1		EPA 200.8	8/25/21	8/26/21 14:25	QNW
Silver	ND	0.20		µg/L	1		EPA 200.8	8/25/21	8/26/21 14:25	QNW
Zinc	11	10		µg/L	1		EPA 200.8	8/25/21	8/26/21 14:25	QNW
Hardness	470	1.4		mg/L	1		EPA 200.7	8/25/21	8/26/21 17:54	MJH

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Project Location: East Boston | Sample Description: | Work Order: 21H1215

Date Received: 8/24/2021

Field Sample #: MW-113

Sample ID: 21H1215-01 | Start Date/Time: 8/23/2021 9:30:00AM

Sample Matrix: Water | Stop Date/Time: 8/23/2021 9:50:00AM

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	0.28	0.10	mg/L	1		EPA 350.1	8/30/21	8/30/21 13:57	IS
Chloride	880	50	mg/L	50		SM21-23 4500 CL B	9/2/21	9/2/21 8:23	YR
Phenol	0.085	0.050	mg/L	1		EPA 420.1	8/30/21	8/31/21 11:00	LL
Total Suspended Solids	820	8.3	mg/L	1		SM21-23 2540D	8/25/21	8/25/21 11:35	LL

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Project Location: East Boston | Sample Description: | Work Order: 21H1215

Date Received: 8/24/2021

Field Sample #: MW-113

Sample ID: 21H1215-01 | Start Date/Time: 8/23/2021 9:30:00AM

Sample Matrix: Water | Stop Date/Time: 8/23/2021 9:50:00AM

Drinking Water Organics EPA 504.1

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.019	µg/L	1		EPA 504.1	8/26/21	8/26/21 18:11	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,3-Dibromopropane (1)	94.0	70-130		8/26/21 18:11

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Sample Extraction Data

Prep Method: SW-846 5030B **Analytical Method: 624.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H1215-01 [MW-113]	B288895	5	5.00	08/25/21

Prep Method: EPA 200.7 **Analytical Method: EPA 200.7**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H1215-01 [MW-113]	B288949	50.0	50.0	08/25/21
21H1215-01 [MW-113]	B288949	50.0		08/25/21

Prep Method: EPA 200.8 **Analytical Method: EPA 200.8**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H1215-01 [MW-113]	B288950	50.0	50.0	08/25/21

Prep Method: EPA 245.1 **Analytical Method: EPA 245.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H1215-01 [MW-113]	B288888	6.00	6.00	08/25/21

EPA 350.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H1215-01 [MW-113]	B289228	100	100	08/30/21

EPA 420.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H1215-01 [MW-113]	B289214	50.0	50.0	08/30/21

Prep Method: EPA 504 water **Analytical Method: EPA 504.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H1215-01 [MW-113]	B289030	35.9	35.0	08/26/21

SM21-23 2540D

Lab Number [Field ID]	Batch	Initial [mL]	Date
21H1215-01 [MW-113]	B288862	60.0	08/25/21

SM21-23 4500 CL B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H1215-01 [MW-113]	B289485	100	100	09/02/21

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

Sample Extraction Data

Prep Method: SW-846 5030B **Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H1215-01 [MW-113]	B288913	5	5.00	08/25/21

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B288913 - SW-846 5030B										
Blank (B288913-BLK1)				Prepared: 08/25/21 Analyzed: 08/26/21						
Acetone	ND	50	µg/L							V-05
Acrylonitrile	ND	5.0	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							V-34
2-Butanone (MEK)	ND	20	µg/L							V-05
tert-Butyl Alcohol (TBA)	ND	20	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	5.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							L-04, V-05, V-34
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	2.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.60	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							V-05
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl Acetate	ND	1.0	µg/L							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B288913 - SW-846 5030B											
Blank (B288913-BLK1)				Prepared: 08/25/21 Analyzed: 08/26/21							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L								
Methyl Cyclohexane	ND	1.0	µg/L								
Methylene Chloride	ND	5.0	µg/L								
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L								
Naphthalene	ND	2.0	µg/L								
n-Propylbenzene	ND	1.0	µg/L								
Styrene	ND	1.0	µg/L								
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L								
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L								
Tetrachloroethylene	ND	1.0	µg/L								
Tetrahydrofuran	ND	10	µg/L							V-05	
Toluene	ND	1.0	µg/L								
1,2,3-Trichlorobenzene	ND	5.0	µg/L								
1,2,4-Trichlorobenzene	ND	1.0	µg/L								
1,3,5-Trichlorobenzene	ND	1.0	µg/L								
1,1,1-Trichloroethane	ND	1.0	µg/L								
1,1,2-Trichloroethane	ND	1.0	µg/L								
Trichloroethylene	ND	1.0	µg/L								
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L								
1,2,3-Trichloropropane	ND	2.0	µg/L								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L								
1,2,4-Trimethylbenzene	ND	1.0	µg/L								
1,3,5-Trimethylbenzene	ND	1.0	µg/L								
Vinyl Chloride	ND	2.0	µg/L								
m+p Xylene	ND	2.0	µg/L								
o-Xylene	ND	1.0	µg/L								
Surrogate: 1,2-Dichloroethane-d4	*20.0*		µg/L	25.0		80.0	70-130				
Surrogate: Toluene-d8	*22.7*		µg/L	25.0		90.8	70-130				
Surrogate: 4-Bromofluorobenzene	*24.0*		µg/L	25.0		95.8	70-130				
LCS (B288913-BS1)				Prepared & Analyzed: 08/25/21							
Acetone	75.0	50	µg/L	100		75.0	70-160			V-05	†
Acrylonitrile	9.25	5.0	µg/L	10.0		92.5	70-130				
tert-Amyl Methyl Ether (TAME)	9.31	0.50	µg/L	10.0		93.1	70-130				
Benzene	9.18	1.0	µg/L	10.0		91.8	70-130				
Bromobenzene	10.3	1.0	µg/L	10.0		103	70-130				
Bromochloromethane	11.0	1.0	µg/L	10.0		110	70-130				
Bromodichloromethane	10.2	0.50	µg/L	10.0		102	70-130				
Bromoform	11.6	1.0	µg/L	10.0		116	70-130				
Bromomethane	14.7	2.0	µg/L	10.0		147	40-160			V-20, V-34	†
2-Butanone (MEK)	75.8	20	µg/L	100		75.8	40-160			V-05	†
tert-Butyl Alcohol (TBA)	81.2	20	µg/L	100		81.2	40-160				†
n-Butylbenzene	8.92	1.0	µg/L	10.0		89.2	70-130				
sec-Butylbenzene	9.36	1.0	µg/L	10.0		93.6	70-130				
tert-Butylbenzene	9.90	1.0	µg/L	10.0		99.0	70-130				
tert-Butyl Ethyl Ether (TBEE)	8.88	0.50	µg/L	10.0		88.8	70-130				
Carbon Disulfide	86.2	5.0	µg/L	100		86.2	70-130				
Carbon Tetrachloride	9.86	5.0	µg/L	10.0		98.6	70-130				
Chlorobenzene	10.8	1.0	µg/L	10.0		108	70-130				
Chlorodibromomethane	11.0	0.50	µg/L	10.0		110	70-130				
Chloroethane	8.56	2.0	µg/L	10.0		85.6	70-130				
Chloroform	9.30	2.0	µg/L	10.0		93.0	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B288913 - SW-846 5030B												
LCS (B288913-BS1)				Prepared & Analyzed: 08/25/21								
Chloromethane	3.29	2.0	µg/L	10.0		**32.9**	*	40-160			L-04, V-05, V-34	†
2-Chlorotoluene	10.2	1.0	µg/L	10.0		102		70-130				
4-Chlorotoluene	10.4	1.0	µg/L	10.0		104		70-130				
1,2-Dibromo-3-chloropropane (DBCP)	8.99	5.0	µg/L	10.0		89.9		70-130				
1,2-Dibromoethane (EDB)	10.8	0.50	µg/L	10.0		108		70-130				
Dibromomethane	10.6	1.0	µg/L	10.0		106		70-130				
1,2-Dichlorobenzene	10.5	1.0	µg/L	10.0		105		70-130				
1,3-Dichlorobenzene	10.3	1.0	µg/L	10.0		103		70-130				
1,4-Dichlorobenzene	10.3	1.0	µg/L	10.0		103		70-130				
trans-1,4-Dichloro-2-butene	9.90	2.0	µg/L	10.0		99.0		70-130				
Dichlorodifluoromethane (Freon 12)	8.07	2.0	µg/L	10.0		80.7		40-160				†
1,1-Dichloroethane	9.40	1.0	µg/L	10.0		94.0		70-130				
1,2-Dichloroethane	10.2	1.0	µg/L	10.0		102		70-130				
1,1-Dichloroethylene	9.00	1.0	µg/L	10.0		90.0		70-130				
cis-1,2-Dichloroethylene	9.15	1.0	µg/L	10.0		91.5		70-130				
trans-1,2-Dichloroethylene	9.33	1.0	µg/L	10.0		93.3		70-130				
1,2-Dichloropropane	10.4	1.0	µg/L	10.0		104		70-130				
1,3-Dichloropropane	10.5	0.50	µg/L	10.0		105		70-130				
2,2-Dichloropropane	8.22	1.0	µg/L	10.0		82.2		40-130				†
1,1-Dichloropropene	9.32	2.0	µg/L	10.0		93.2		70-130				
cis-1,3-Dichloropropene	10.1	0.50	µg/L	10.0		101		70-130				
trans-1,3-Dichloropropene	10.0	0.50	µg/L	10.0		100		70-130				
Diethyl Ether	8.63	2.0	µg/L	10.0		86.3		70-130				
Diisopropyl Ether (DIPE)	8.19	0.50	µg/L	10.0		81.9		70-130				
1,4-Dioxane	98.1	50	µg/L	100		98.1		40-130				†
Ethylbenzene	10.6	1.0	µg/L	10.0		106		70-130				
Hexachlorobutadiene	10.1	0.60	µg/L	10.0		101		70-130				
2-Hexanone (MBK)	79.9	10	µg/L	100		79.9		70-160			V-05	†
Isopropylbenzene (Cumene)	10.5	1.0	µg/L	10.0		105		70-130				
p-Isopropyltoluene (p-Cymene)	9.76	1.0	µg/L	10.0		97.6		70-130				
Methyl Acetate	8.48	1.0	µg/L	10.0		84.8		70-130				
Methyl tert-Butyl Ether (MTBE)	9.23	1.0	µg/L	10.0		92.3		70-130				
Methyl Cyclohexane	9.80	1.0	µg/L	10.0		98.0		70-130				
Methylene Chloride	8.08	5.0	µg/L	10.0		80.8		70-130				
4-Methyl-2-pentanone (MIBK)	84.3	10	µg/L	100		84.3		70-160				†
Naphthalene	8.22	2.0	µg/L	10.0		82.2		40-130				†
n-Propylbenzene	9.98	1.0	µg/L	10.0		99.8		70-130				
Styrene	11.0	1.0	µg/L	10.0		110		70-130				
1,1,1,2-Tetrachloroethane	12.2	1.0	µg/L	10.0		122		70-130				
1,1,2,2-Tetrachloroethane	10.8	0.50	µg/L	10.0		108		70-130				
Tetrachloroethylene	11.4	1.0	µg/L	10.0		114		70-130				
Tetrahydrofuran	7.09	10	µg/L	10.0		70.9		70-130			V-05	
Toluene	10.3	1.0	µg/L	10.0		103		70-130				
1,2,3-Trichlorobenzene	9.19	5.0	µg/L	10.0		91.9		70-130				
1,2,4-Trichlorobenzene	9.80	1.0	µg/L	10.0		98.0		70-130				
1,3,5-Trichlorobenzene	10.2	1.0	µg/L	10.0		102		70-130				
1,1,1-Trichloroethane	9.95	1.0	µg/L	10.0		99.5		70-130				
1,1,2-Trichloroethane	10.7	1.0	µg/L	10.0		107		70-130				
Trichloroethylene	10.7	1.0	µg/L	10.0		107		70-130				
Trichlorofluoromethane (Freon 11)	8.55	2.0	µg/L	10.0		85.5		70-130				
1,2,3-Trichloropropane	11.6	2.0	µg/L	10.0		116		70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B288913 - SW-846 5030B												
LCS (B288913-BS1)				Prepared & Analyzed: 08/25/21								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.63	1.0	µg/L	10.0		96.3		70-130				
1,2,4-Trimethylbenzene	9.77	1.0	µg/L	10.0		97.7		70-130				
1,3,5-Trimethylbenzene	10.7	1.0	µg/L	10.0		107		70-130				
Vinyl Chloride	8.46	2.0	µg/L	10.0		84.6		40-160				†
m+p Xylene	21.6	2.0	µg/L	20.0		108		70-130				
o-Xylene	10.6	1.0	µg/L	10.0		106		70-130				
Surrogate: 1,2-Dichloroethane-d4	*20.0*		µg/L	25.0		80.1		70-130				
Surrogate: Toluene-d8	*24.0*		µg/L	25.0		96.0		70-130				
Surrogate: 4-Bromofluorobenzene	*23.4*		µg/L	25.0		93.8		70-130				
LCS Dup (B288913-BSD1)				Prepared & Analyzed: 08/25/21								
Acetone	76.4	50	µg/L	100		76.4		70-160	1.97	25	V-05	†
Acrylonitrile	8.78	5.0	µg/L	10.0		87.8		70-130	5.21	25		
tert-Amyl Methyl Ether (TAME)	8.73	0.50	µg/L	10.0		87.3		70-130	6.43	25		
Benzene	9.28	1.0	µg/L	10.0		92.8		70-130	1.08	25		
Bromobenzene	10.8	1.0	µg/L	10.0		108		70-130	5.21	25		
Bromochloromethane	11.6	1.0	µg/L	10.0		116		70-130	4.79	25		
Bromodichloromethane	10.5	0.50	µg/L	10.0		105		70-130	2.42	25		
Bromoform	11.9	1.0	µg/L	10.0		119		70-130	2.47	25		
Bromomethane	15.6	2.0	µg/L	10.0		156		40-160	6.26	25	V-20, V-34	†
2-Butanone (MEK)	76.4	20	µg/L	100		76.4		40-160	0.762	25	V-05	†
tert-Butyl Alcohol (TBA)	85.3	20	µg/L	100		85.3		40-160	4.92	25		†
n-Butylbenzene	9.40	1.0	µg/L	10.0		94.0		70-130	5.24	25		
sec-Butylbenzene	9.52	1.0	µg/L	10.0		95.2		70-130	1.69	25		
tert-Butylbenzene	10.3	1.0	µg/L	10.0		103		70-130	3.77	25		
tert-Butyl Ethyl Ether (TBEE)	9.19	0.50	µg/L	10.0		91.9		70-130	3.43	25		
Carbon Disulfide	87.8	5.0	µg/L	100		87.8		70-130	1.80	25		
Carbon Tetrachloride	9.98	5.0	µg/L	10.0		99.8		70-130	1.21	25		
Chlorobenzene	11.3	1.0	µg/L	10.0		113		70-130	4.79	25		
Chlorodibromomethane	10.9	0.50	µg/L	10.0		109		70-130	0.549	25		
Chloroethane	8.98	2.0	µg/L	10.0		89.8		70-130	4.79	25		
Chloroform	9.45	2.0	µg/L	10.0		94.5		70-130	1.60	25		
Chloromethane	3.30	2.0	µg/L	10.0		**33.0**	*	40-160	0.303	25	L-04, V-05, V-34	†
2-Chlorotoluene	10.7	1.0	µg/L	10.0		107		70-130	4.67	25		
4-Chlorotoluene	10.8	1.0	µg/L	10.0		108		70-130	3.98	25		
1,2-Dibromo-3-chloropropane (DBCP)	9.49	5.0	µg/L	10.0		94.9		70-130	5.41	25		
1,2-Dibromoethane (EDB)	11.1	0.50	µg/L	10.0		111		70-130	2.74	25		
Dibromomethane	10.9	1.0	µg/L	10.0		109		70-130	2.42	25		
1,2-Dichlorobenzene	10.6	1.0	µg/L	10.0		106		70-130	1.23	25		
1,3-Dichlorobenzene	10.6	1.0	µg/L	10.0		106		70-130	3.25	25		
1,4-Dichlorobenzene	10.4	1.0	µg/L	10.0		104		70-130	1.06	25		
trans-1,4-Dichloro-2-butene	9.71	2.0	µg/L	10.0		97.1		70-130	1.94	25		
Dichlorodifluoromethane (Freon 12)	8.38	2.0	µg/L	10.0		83.8		40-160	3.77	25		†
1,1-Dichloroethane	9.60	1.0	µg/L	10.0		96.0		70-130	2.11	25		
1,2-Dichloroethane	10.1	1.0	µg/L	10.0		101		70-130	1.28	25		
1,1-Dichloroethylene	9.36	1.0	µg/L	10.0		93.6		70-130	3.92	25		
cis-1,2-Dichloroethylene	9.02	1.0	µg/L	10.0		90.2		70-130	1.43	25		
trans-1,2-Dichloroethylene	9.62	1.0	µg/L	10.0		96.2		70-130	3.06	25		
1,2-Dichloropropane	10.4	1.0	µg/L	10.0		104		70-130	0.00	25		
1,3-Dichloropropane	11.0	0.50	µg/L	10.0		110		70-130	4.28	25		
2,2-Dichloropropane	8.34	1.0	µg/L	10.0		83.4		40-130	1.45	25		†
1,1-Dichloropropene	9.53	2.0	µg/L	10.0		95.3		70-130	2.23	25		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B288913 - SW-846 5030B											
LCS Dup (B288913-BSD1)				Prepared & Analyzed: 08/25/21							
cis-1,3-Dichloropropene	10.4	0.50	µg/L	10.0		104	70-130	2.34	25		
trans-1,3-Dichloropropene	10.2	0.50	µg/L	10.0		102	70-130	2.47	25		
Diethyl Ether	8.88	2.0	µg/L	10.0		88.8	70-130	2.86	25		
Diisopropyl Ether (DIPE)	8.30	0.50	µg/L	10.0		83.0	70-130	1.33	25		
1,4-Dioxane	103	50	µg/L	100		103	40-130	4.57	50		† ‡
Ethylbenzene	10.9	1.0	µg/L	10.0		109	70-130	2.14	25		
Hexachlorobutadiene	10.5	0.60	µg/L	10.0		105	70-130	3.80	25		
2-Hexanone (MBK)	83.1	10	µg/L	100		83.1	70-160	3.94	25	V-05	†
Isopropylbenzene (Cumene)	10.7	1.0	µg/L	10.0		107	70-130	1.79	25		
p-Isopropyltoluene (p-Cymene)	10.1	1.0	µg/L	10.0		101	70-130	3.52	25		
Methyl Acetate	10.1	1.0	µg/L	10.0		101	70-130	17.7	25		
Methyl tert-Butyl Ether (MTBE)	9.16	1.0	µg/L	10.0		91.6	70-130	0.761	25		
Methyl Cyclohexane	10.3	1.0	µg/L	10.0		103	70-130	5.07	25		
Methylene Chloride	8.24	5.0	µg/L	10.0		82.4	70-130	1.96	25		
4-Methyl-2-pentanone (MIBK)	86.7	10	µg/L	100		86.7	70-160	2.85	25		†
Naphthalene	8.64	2.0	µg/L	10.0		86.4	40-130	4.98	25		†
n-Propylbenzene	10.4	1.0	µg/L	10.0		104	70-130	4.22	25		
Styrene	11.1	1.0	µg/L	10.0		111	70-130	0.817	25		
1,1,1,2-Tetrachloroethane	12.5	1.0	µg/L	10.0		125	70-130	2.92	25		
1,1,2,2-Tetrachloroethane	10.6	0.50	µg/L	10.0		106	70-130	2.05	25		
Tetrachloroethylene	12.3	1.0	µg/L	10.0		123	70-130	7.44	25		
Tetrahydrofuran	7.28	10	µg/L	10.0		72.8	70-130	2.64	25	V-05	
Toluene	10.4	1.0	µg/L	10.0		104	70-130	0.775	25		
1,2,3-Trichlorobenzene	9.56	5.0	µg/L	10.0		95.6	70-130	3.95	25		
1,2,4-Trichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130	5.27	25		
1,3,5-Trichlorobenzene	10.5	1.0	µg/L	10.0		105	70-130	2.60	25		
1,1,1-Trichloroethane	9.79	1.0	µg/L	10.0		97.9	70-130	1.62	25		
1,1,2-Trichloroethane	11.4	1.0	µg/L	10.0		114	70-130	6.52	25		
Trichloroethylene	11.6	1.0	µg/L	10.0		116	70-130	7.73	25		
Trichlorofluoromethane (Freon 11)	9.56	2.0	µg/L	10.0		95.6	70-130	11.2	25		
1,2,3-Trichloropropane	11.6	2.0	µg/L	10.0		116	70-130	0.00	25		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.1	1.0	µg/L	10.0		101	70-130	4.47	25		
1,2,4-Trimethylbenzene	10.2	1.0	µg/L	10.0		102	70-130	4.80	25		
1,3,5-Trimethylbenzene	11.3	1.0	µg/L	10.0		113	70-130	5.92	25		
Vinyl Chloride	8.16	2.0	µg/L	10.0		81.6	40-160	3.61	25		†
m+p Xylene	22.0	2.0	µg/L	20.0		110	70-130	1.61	25		
o-Xylene	10.6	1.0	µg/L	10.0		106	70-130	0.849	25		
Surrogate: 1,2-Dichloroethane-d4	*19.7*		µg/L	25.0		78.9	70-130				
Surrogate: Toluene-d8	*23.6*		µg/L	25.0		94.4	70-130				
Surrogate: 4-Bromofluorobenzene	*24.0*		µg/L	25.0		96.0	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B288895 - SW-846 5030B												
Blank (B288895-BLK1)				Prepared: 08/25/21 Analyzed: 08/26/21								
Acetone	ND	50.0	µg/L								L-03	
Benzene	ND	1.00	µg/L									
tert-Butyl Alcohol (TBA)	ND	20.0	µg/L									
1,2-Dichloroethane	ND	2.00	µg/L									
1,4-Dioxane	ND	50.0	µg/L									
Ethanol	ND	50.0	µg/L									
Ethylbenzene	ND	2.00	µg/L									
Methyl tert-Butyl Ether (MTBE)	ND	2.00	µg/L									
Tetrachloroethylene	ND	2.00	µg/L									
Toluene	ND	1.00	µg/L									
m+p Xylene	ND	2.00	µg/L									
o-Xylene	ND	1.00	µg/L									
Surrogate: 1,2-Dichloroethane-d4	*20.0*		µg/L	25.0		80.0		70-130				
Surrogate: Toluene-d8	*22.7*		µg/L	25.0		90.8		70-130				
Surrogate: 4-Bromofluorobenzene	*24.0*		µg/L	25.0		95.8		70-130				
LCS (B288895-BS1)				Prepared & Analyzed: 08/25/21								
Acetone	140	50.0	µg/L	200		**69.1**	*	70-160			L-03	†
Benzene	17	1.00	µg/L	20.0		84.6		65-135				
tert-Butyl Alcohol (TBA)	150	20.0	µg/L	200		74.4		40-160				†
1,2-Dichloroethane	18	2.00	µg/L	20.0		91.7		70-130				
1,4-Dioxane	180	50.0	µg/L	200		88.5		40-130				†
Ethanol	120	50.0	µg/L	200		58.2		40-160				
Ethylbenzene	22	2.00	µg/L	20.0		108		60-140				
Methyl tert-Butyl Ether (MTBE)	18	2.00	µg/L	20.0		88.2		70-130				
Tetrachloroethylene	23	2.00	µg/L	20.0		113		70-130				
Toluene	19	1.00	µg/L	20.0		96.8		70-130				
m+p Xylene	43	2.00	µg/L	40.0		108		70-130				
o-Xylene	22	1.00	µg/L	20.0		108		70-130				
Surrogate: 1,2-Dichloroethane-d4	*19.8*		µg/L	25.0		79.4		70-130				
Surrogate: Toluene-d8	*23.0*		µg/L	25.0		92.0		70-130				
Surrogate: 4-Bromofluorobenzene	*24.3*		µg/L	25.0		97.1		70-130				

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B288888 - EPA 245.1										
Blank (B288888-BLK1)				Prepared: 08/25/21 Analyzed: 08/26/21						
Mercury	ND	0.00010	mg/L							
LCS (B288888-BS1)				Prepared: 08/25/21 Analyzed: 08/26/21						
Mercury	0.00386	0.00010	mg/L	0.00400		96.4	85-115			
LCS Dup (B288888-BSD1)				Prepared: 08/25/21 Analyzed: 08/26/21						
Mercury	0.00385	0.00010	mg/L	0.00400		96.2	85-115	0.220	20	
Duplicate (B288888-DUP1)		**Source: 21H1215-01**		Prepared: 08/25/21 Analyzed: 08/26/21						
Mercury	ND	0.00010	mg/L		ND			NC	30	
Matrix Spike (B288888-MS1)		**Source: 21H1215-01**		Prepared: 08/25/21 Analyzed: 08/26/21						
Mercury	0.00380	0.00010	mg/L	0.00400	ND	94.9	75-125			
Batch B288949 - EPA 200.7										
Blank (B288949-BLK1)				Prepared: 08/25/21 Analyzed: 08/26/21						
Iron	ND	0.050	mg/L							
Hardness	ND	1.4	mg/L							
LCS (B288949-BS1)				Prepared: 08/25/21 Analyzed: 08/26/21						
Iron	4.05	0.050	mg/L	4.00		101	85-115			
Hardness	27	1.4	mg/L	26.4		100	85-115			
LCS Dup (B288949-BSD1)				Prepared: 08/25/21 Analyzed: 08/26/21						
Iron	4.07	0.050	mg/L	4.00		102	85-115	0.652	20	
Hardness	27	1.4	mg/L	26.4		102	85-115	1.19	20	
Batch B288950 - EPA 200.8										
Blank (B288950-BLK1)				Prepared: 08/25/21 Analyzed: 08/26/21						
Antimony	ND	1.0	µg/L							
Arsenic	ND	0.80	µg/L							
Cadmium	ND	0.20	µg/L							
Chromium	ND	1.0	µg/L							
Copper	ND	1.0	µg/L							
Lead	ND	0.50	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	1.4	5.0	µg/L							J
Silver	ND	0.20	µg/L							
Zinc	ND	10	µg/L							

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B288950 - EPA 200.8											
LCS (B288950-BS1)				Prepared: 08/25/21 Analyzed: 08/26/21							
Antimony	588	10	µg/L	500		**118**	*	85-115			L-07
Arsenic	523	8.0	µg/L	500		105		85-115			
Cadmium	553	2.0	µg/L	500		111		85-115			
Chromium	550	10	µg/L	500		110		85-115			
Copper	1080	10	µg/L	1000		108		85-115			
Lead	532	5.0	µg/L	500		106		85-115			
Nickel	533	50	µg/L	500		107		85-115			
Selenium	546	50	µg/L	500		109		85-115			
Silver	543	2.0	µg/L	500		109		85-115			
Zinc	1100	100	µg/L	1000		110		85-115			
LCS Dup (B288950-BSD1)				Prepared: 08/25/21 Analyzed: 08/26/21							
Antimony	540	10	µg/L	500		108		85-115	8.50	20	
Arsenic	540	8.0	µg/L	500		108		85-115	3.16	20	
Cadmium	505	2.0	µg/L	500		101		85-115	9.12	20	
Chromium	511	10	µg/L	500		102		85-115	7.28	20	
Copper	1000	10	µg/L	1000		100		85-115	7.92	20	
Lead	493	5.0	µg/L	500		98.5		85-115	7.65	20	
Nickel	494	50	µg/L	500		98.8		85-115	7.54	20	
Selenium	502	50	µg/L	500		100		85-115	8.44	20	
Silver	493	2.0	µg/L	500		98.5		85-115	9.74	20	
Zinc	1010	100	µg/L	1000		101		85-115	8.70	20	

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QUALITY CONTROL

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B288862 - SM21-23 2540D										
Blank (B288862-BLK1)				Prepared & Analyzed: 08/25/21						
Total Suspended Solids	ND	2.5	mg/L							
LCS (B288862-BS1)				Prepared & Analyzed: 08/25/21						
Total Suspended Solids	198	5.0	mg/L	200		99.0	53.8-124			
Duplicate (B288862-DUP2)	**Source: 21H1215-01**			Prepared & Analyzed: 08/25/21						
Total Suspended Solids	840	8.3	mg/L		820			2.40	5	
Batch B289214 - EPA 420.1										
Blank (B289214-BLK1)				Prepared: 08/30/21 Analyzed: 08/31/21						
Phenol	ND	0.050	mg/L							
LCS (B289214-BS1)				Prepared: 08/30/21 Analyzed: 08/31/21						
Phenol	0.52	0.050	mg/L	0.500		104	73-123			
LCS Dup (B289214-BSD1)				Prepared: 08/30/21 Analyzed: 08/31/21						
Phenol	0.51	0.050	mg/L	0.500		103	73-123	1.45	9.13	
Batch B289228 - EPA 350.1										
Blank (B289228-BLK1)				Prepared & Analyzed: 08/30/21						
Ammonia as N	ND	0.10	mg/L							
LCS (B289228-BS1)				Prepared & Analyzed: 08/30/21						
Ammonia as N	2.1	0.10	mg/L	2.00		106	90-110			
LCS Dup (B289228-BSD1)				Prepared & Analyzed: 08/30/21						
Ammonia as N	2.1	0.10	mg/L	2.00		103	90-110	2.20	20	
Batch B289485 - SM21-23 4500 CL B										
Blank (B289485-BLK1)				Prepared & Analyzed: 09/02/21						
Chloride	ND	1.0	mg/L							
LCS (B289485-BS1)				Prepared & Analyzed: 09/02/21						
Chloride	14	1.0	mg/L	15.0		93.9	84.4-111			
LCS Dup (B289485-BSD1)				Prepared & Analyzed: 09/02/21						
Chloride	14	1.0	mg/L	15.0		93.9	84.4-111	0.00	6.19	

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QUALITY CONTROL

Drinking Water Organics EPA 504.1 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B289030 - EPA 504 water										
Blank (B289030-BLK1)				Prepared & Analyzed: 08/26/21						
1,2-Dibromoethane (EDB)	ND	0.021	µg/L							
1,2-Dibromoethane (EDB) [2C]	ND	0.021	µg/L							
Surrogate: 1,3-Dibromopropane	*1.00*		µg/L	1.05		95.1	70-130			
Surrogate: 1,3-Dibromopropane [2C]	*1.05*		µg/L	1.05		100	70-130			
LCS (B289030-BS1)				Prepared & Analyzed: 08/26/21						
1,2-Dibromoethane (EDB)	0.257	0.021	µg/L	0.260		98.8	70-130			
1,2-Dibromoethane (EDB) [2C]	0.218	0.021	µg/L	0.260		84.0	70-130			
Surrogate: 1,3-Dibromopropane	*0.984*		µg/L	1.04		94.7	70-130			
Surrogate: 1,3-Dibromopropane [2C]	*1.08*		µg/L	1.04		104	70-130			
LCS Dup (B289030-BSD1)				Prepared & Analyzed: 08/26/21						
1,2-Dibromoethane (EDB)	0.244	0.021	µg/L	0.259		94.4	70-130	4.94		
1,2-Dibromoethane (EDB) [2C]	0.212	0.021	µg/L	0.259		82.0	70-130	2.79		
Surrogate: 1,3-Dibromopropane	*0.987*		µg/L	1.03		95.4	70-130			
Surrogate: 1,3-Dibromopropane [2C]	*1.06*		µg/L	1.03		102	70-130			
Matrix Spike (B289030-MS1)	**Source: 21H1215-01**			Prepared & Analyzed: 08/26/21						
1,2-Dibromoethane (EDB)	0.230	0.019	µg/L	0.241	ND	95.2	65-135			
1,2-Dibromoethane (EDB) [2C]	0.189	0.019	µg/L	0.241	ND	78.4	65-135			
Surrogate: 1,3-Dibromopropane	*0.859*		µg/L	0.966		89.0	70-130			
Surrogate: 1,3-Dibromopropane [2C]	*0.925*		µg/L	0.966		95.8	70-130			

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

EPA 504.1

LCS

Lab Sample ID: B289030-BS1 Date(s) Analyzed: 08/26/2021 08/26/2021

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

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

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
1,2-Dibromoethane (EDB)	1	2.506	0.000	0.000	0.257	
	2	2.380	0.000	0.000	0.218	17.6

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

EPA 504.1

LCS Dup

Lab Sample ID: B289030-BSD1 Date(s) Analyzed: 08/26/2021 08/26/2021

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

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

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
1,2-Dibromoethane (EDB)	1	2.525	0.000	0.000	0.244	
	2	2.400	0.000	0.000	0.212	12.4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

EPA 504.1

Matrix Spike

Lab Sample ID: B289030-MS1 Date(s) Analyzed: 08/26/2021 08/26/2021

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

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

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
1,2-Dibromoethane (EDB)	1	2.508	0.000	0.000	0.230	
	2	2.379	0.000	0.000	0.189	19.6

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
L-03	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
624.1 in Water	
Acetone	CT,NY,MA,NH
Acrylonitrile	CT,NY,MA,NH,RI,NC,ME,VA
tert-Amyl Methyl Ether (TAME)	MA
Benzene	CT,NY,MA,NH,RI,NC,ME,VA
Bromodichloromethane	CT,NY,MA,NH,RI,NC,ME,VA
Bromoform	CT,NY,MA,NH,RI,NC,ME,VA
2-Butanone (MEK)	MA
Bromomethane	CT,NY,MA,NH,RI,NC,ME,VA
tert-Butyl Alcohol (TBA)	NY,MA
Carbon Disulfide	MA
Carbon Tetrachloride	CT,NY,MA,NH,RI,NC,ME,VA
Chlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA
Chlorodibromomethane	CT,NY,MA,NH,RI,NC,ME,VA
Chloroethane	CT,NY,MA,NH,RI,NC,ME,VA
Chloroform	CT,NY,MA,NH,RI,NC,ME,VA
Chloromethane	CT,NY,MA,NH,RI,NC,ME,VA
Dibromomethane	MA
1,2-Dichlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA
1,3-Dichlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA
Dichlorodifluoromethane (Freon 12)	NY,MA
1,4-Dichlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA
1,2-Dichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
cis-1,2-Dichloroethylene	NY,MA
1,1-Dichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
1,1-Dichloroethylene	CT,NY,MA,NH,RI,NC,ME,VA
trans-1,2-Dichloroethylene	CT,NY,MA,NH,RI,NC,ME,VA
1,2-Dichloropropane	CT,NY,MA,NH,RI,NC,ME,VA
cis-1,3-Dichloropropene	CT,NY,MA,NH,RI,NC,ME,VA
1,4-Dioxane	MA
trans-1,3-Dichloropropene	CT,NY,MA,NH,RI,NC,ME,VA
Ethanol	NY,MA,NH
2-Hexanone (MBK)	MA
Ethylbenzene	CT,NY,MA,NH,RI,NC,ME,VA
4-Methyl-2-pentanone (MIBK)	NY,MA
Methyl tert-Butyl Ether (MTBE)	NY,MA,NH,NC
Methylene Chloride	CT,NY,MA,NH,RI,NC,ME,VA
Styrene	NY,MA
Naphthalene	NY,MA,NC
1,1,2,2-Tetrachloroethane	CT,NY,MA,NH,RI,NC,ME,VA
Tetrachloroethylene	CT,NY,MA,NH,RI,NC,ME,VA
Toluene	CT,NY,MA,NH,RI,NC,ME,VA
1,2,4-Trichlorobenzene	MA,NC
1,2,4-Trimethylbenzene	MA
1,1,1-Trichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
1,3,5-Trimethylbenzene	MA
1,1,2-Trichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
Trichloroethylene	CT,NY,MA,NH,RI,NC,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
624.1 in Water	
Trichlorofluoromethane (Freon 11)	CT,NY,MA,NH,RI,NC,ME,VA
Vinyl Chloride	CT,NY,MA,NH,RI,NC,ME,VA
m+p Xylene	CT,NY,MA,NH,RI,NC
o-Xylene	CT,NY,MA,NH,RI,NC
EPA 200.7 in Water	
Iron	CT,MA,NH,NY,RI,NC,ME,VA
Hardness	CT,MA,NH,NY,RI,VA
EPA 200.8 in Water	
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Arsenic	CT,MA,NH,NY,RI,NC,ME,VA
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Lead	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Selenium	CT,MA,NH,NY,RI,NC,ME,VA
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,NY,RI,NC,ME,VA
EPA 245.1 in Water	
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
EPA 350.1 in Water	
Ammonia as N	NC,NY,MA,NH,RI,ME,VA
EPA 420.1 in Water	
Phenol	CT,MA,NH,NY,RI,NC,ME,VA
SM21-23 2540D in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
SM21-23 4500 CL B in Water	
Chloride	NH,CT,MA,RI,NC,ME,VA,NY
SW-846 8260C-D in Water	
Acetone	CT,ME,NH,VA,NY
Acrylonitrile	CT,ME,NH,VA,NY
tert-Amyl Methyl Ether (TAME)	ME,NH,VA,NY
Benzene	CT,ME,NH,VA,NY
Bromobenzene	ME,NY
Bromochloromethane	ME,NH,VA,NY
Bromodichloromethane	CT,ME,NH,VA,NY
Bromoform	CT,ME,NH,VA,NY
Bromomethane	CT,ME,NH,VA,NY
2-Butanone (MEK)	CT,ME,NH,VA,NY
tert-Butyl Alcohol (TBA)	ME,NH,VA,NY
n-Butylbenzene	ME,VA,NY
sec-Butylbenzene	ME,VA,NY
tert-Butylbenzene	ME,VA,NY
tert-Butyl Ethyl Ether (TBEE)	ME,NH,VA,NY

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Water	
Carbon Disulfide	CT,ME,NH,VA,NY
Carbon Tetrachloride	CT,ME,NH,VA,NY
Chlorobenzene	CT,ME,NH,VA,NY
Chlorodibromomethane	CT,ME,NH,VA,NY
Chloroethane	CT,ME,NH,VA,NY
Chloroform	CT,ME,NH,VA,NY
Chloromethane	CT,ME,NH,VA,NY
2-Chlorotoluene	ME,NH,VA,NY
4-Chlorotoluene	ME,NH,VA,NY
1,2-Dibromo-3-chloropropane (DBCP)	ME,NY
1,2-Dibromoethane (EDB)	ME,NY
Dibromomethane	ME,NH,VA,NY
1,2-Dichlorobenzene	CT,ME,NH,VA,NY
1,3-Dichlorobenzene	CT,ME,NH,VA,NY
1,4-Dichlorobenzene	CT,ME,NH,VA,NY
trans-1,4-Dichloro-2-butene	ME,NH,VA,NY
Dichlorodifluoromethane (Freon 12)	ME,NH,VA,NY
1,1-Dichloroethane	CT,ME,NH,VA,NY
1,2-Dichloroethane	CT,ME,NH,VA,NY
1,1-Dichloroethylene	CT,ME,NH,VA,NY
cis-1,2-Dichloroethylene	ME,NY
trans-1,2-Dichloroethylene	CT,ME,NH,VA,NY
1,2-Dichloropropane	CT,ME,NH,VA,NY
1,3-Dichloropropane	ME,VA,NY
2,2-Dichloropropane	ME,NH,VA,NY
1,1-Dichloropropene	ME,NH,VA,NY
cis-1,3-Dichloropropene	CT,ME,NH,VA,NY
trans-1,3-Dichloropropene	CT,ME,NH,VA,NY
Diethyl Ether	ME,NY
Diisopropyl Ether (DIPE)	ME,NH,VA,NY
1,4-Dioxane	ME,NY
Ethylbenzene	CT,ME,NH,VA,NY
Hexachlorobutadiene	CT,ME,NH,VA,NY
2-Hexanone (MBK)	CT,ME,NH,VA,NY
Isopropylbenzene (Cumene)	ME,VA,NY
p-Isopropyltoluene (p-Cymene)	CT,ME,NH,VA,NY
Methyl Acetate	ME,NY
Methyl tert-Butyl Ether (MTBE)	CT,ME,NH,VA,NY
Methyl Cyclohexane	NY
Methylene Chloride	CT,ME,NH,VA,NY
4-Methyl-2-pentanone (MIBK)	CT,ME,NH,VA,NY
Naphthalene	ME,NH,VA,NY
n-Propylbenzene	CT,ME,NH,VA,NY
Styrene	CT,ME,NH,VA,NY
1,1,1,2-Tetrachloroethane	CT,ME,NH,VA,NY
1,1,2,2-Tetrachloroethane	CT,ME,NH,VA,NY
Tetrachloroethylene	CT,ME,NH,VA,NY

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Water	
Toluene	CT,ME,NH,VA,NY
1,2,3-Trichlorobenzene	ME,NH,VA,NY
1,2,4-Trichlorobenzene	CT,ME,NH,VA,NY
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT,ME,NH,VA,NY
1,1,2-Trichloroethane	CT,ME,NH,VA,NY
Trichloroethylene	CT,ME,NH,VA,NY
Trichlorofluoromethane (Freon 11)	CT,ME,NH,VA,NY
1,2,3-Trichloropropane	ME,NH,VA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	VA,NY
1,2,4-Trimethylbenzene	ME,VA,NY
1,3,5-Trimethylbenzene	ME,VA,NY
Vinyl Chloride	CT,ME,NH,VA,NY
m+p Xylene	CT,ME,NH,VA,NY
o-Xylene	CT,ME,NH,VA,NY

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

Pace Analytical®

214715

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

1800 Elm Street SE
Minneapolis, MN 55414

Doc # 381 Rev 2_06262019

Page 1 of 1

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Eversource Energy
Address:	247 Station Drive, Westwood MA
Phone:	7814413804
Project Name:	E. Boston D. Line
Project Location:	East Boston
Project Number:	E5042009
Project Manager:	Dean Bebis
Pace Analytical Quote Name/Number	10948702
Invoice Recipient:	Eversource Energy c/o Dean Bebis
Sampled By:	Ryan Basting (Tighe & Bond)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Envirodata EDD to Jlibby@tighebond.
CLP Like Data Pkg Required: ☐
Email To: acantara@tighebond.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

2 Preservation Code

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	1/N RGP Metals * 200.7, 200.8 and 245.1	1/U Hardness SM 2340	2V/U Ethanol by 624.1	1/U Chloride EPA 300.0	Total cyanide	TPH 1664	1/U Total Residual Chlorine SM 4500	1/5 Ammonia 350.1	1/N Hexavalent Chromium	1/U Trivalent Chromium	2/H VOC 624	2L/A 1,4 Dioxane by 624.1	2V/T2L/U 504 EDB	SVOC 625	SVOC 625 low level for Group I PAHs and BCP	2L/U 608 PCB	1L/U Total Suspended Solis SM 2540D	500A/S Phenols 420.1
1	MW-113						x		x			X	X	X	X			X	X	X	X	X	X	X				X	X

Relinquished by: (signature) — Date/Time: 10:45 8/23/21
Received by: (signature) Refrigerator WS0 — Date/Time: 10:45 8/23/21
Relinquished by: (signature) — Date/Time: 15:23 8/24/21
Received by: (signature) — Date/Time: 15:23 8-24-21
Relinquished by: (signature) — Date/Time: 16:02 8-24-21
Received by: (signature) — Date/Time: 8/24/21 1620
Relinquished by: (signature) — Date/Time: 8/24/21 1745
Received by: (signature) 53 — Date/Time: 8/24/21 1745

Lab Comments:

Client Comments: * (RGP metals - antimoy, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, zinc)

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

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

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ AIHA-LAP,LLC

Matrix Codes

GW= Ground Water
WW = Waste Water
DW = Drinking Water
A = Air S = Soil
SL = Sludge
SOL = Solid
O = Other

Preservation Codes

I = Iced
H = HCL
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
M = Methanol
DI = DI Water
O = Other

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Courier Use Only

VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Pace Analytical

Table of Contents

Pace Analytical®
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Fax: 612-607-6344
https://www.pacelabs.com/
1800 Elm Street SE
Minneapolis, MN 55414

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 2_06262019

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Eversource Energy
Address:	247 Station Drive, Westwood MA
Phone:	508-415-3513
Project Name:	E. Boston D. Line
Project Location:	East Boston
Project Number:	E5042009
Project Manager:	Dean Bebis
Pace Analytical Quote Name/Number	10948702
Invoice Recipient:	Eversource Energy c/o Dean Bebis
Sampled By:	Ryan Basting (Tighe & Bond)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

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

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Envirodata EDD to Jlibby@tighebond
CLP Like Data Pkg Required: ☐
Email To: acantara@tighebond.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

2 Preservation Code

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	8260 - Globalcycle (3/H)
1	MW-113	9:30	9:50				x					X

Signature	Date/Time
Relinquished by: (signature) [signature]	10:45 8/23/21
Received by: (signature) Refrigerator WWO	10:45 8/23/21
Relinquished by: (signature) [signature]	15:23 8/24/21
Received by: (signature) Paul Chastenay	15:22 8-24-21
Relinquished by: (signature) Paul Chastenay	16:22 8-24-21
Received by: (signature) [signature]	8/24/21 16:22
Relinquished by: (signature) [signature]	8/24/21 17:4[illegible]
Received by: (signature) [signature] 5.8	8/24/21 17:45

Comments:

Detection Limit Requirements
MA:
CT:
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

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

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Matrix Codes
GW= Ground Water
WW = Waste Water
DW = Drinking Water
A = Air S = Soil
SL = Sludge
SOL = Solid
O = Other ______

Preservation Codes
I = Iced
H = HCL
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
M = Methanol
DI = DI Water
O = Other ______

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Courier Use Only
VIALS______
GLASS______
PLASTIC______
BACTERIA______
ENCORE______
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Table of Contents

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client EVERSOURCE

Received By GL Date 8/24/21 Time 1745

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

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 5.3 By Blank # ____ Actual Temp - ____

Was Custody Seal Intact? NA Were Samples Tampered with? NA

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

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

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

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

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? ____

Are there Rushes? F Who was notified? ____

Are there Short Holds? T Who was notified? David

Is there enough Volume? T

Is there Headspace where applicable? F MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

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

Vials	#	Containers:	#		#		#
Unp-	3	1 Liter Amb.		1 Liter Plastic	1	16 oz Amb.	
HCL-	3	500 mL Amb.	2	500 mL Plastic	1	8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic	3	4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-	3	SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

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

Comments:

Took date + time off samples (8/23/21 @ 950am).

Hex chrome received past hold.

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CHAIN OF CUSTODY RECORD

1800 Elm Street SE
Minneapolis, MN 55414

Doc # 381 Rev 2_06262019

Page 1 of 1

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Eversource Energy
Address:	247 Station Drive, Westwood MA
Phone:	7814413804
Project Name:	E. Boston D. Line
Project Location:	East Boston
Project Number:	E5042009
Project Manager:	Dean Bebis
Pace Analytical Quote Name/Number	10948702
Invoice Recipient:	Eversource Energy c/o Dean Bebis
Sampled By:	Ryan Basting (Tighe & Bond)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Envirodata EDD to Jlibby@tighebond.
CLP Like Data Pkg Required: ☐
Email To: acantara@tighebond.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☐

NON SOXHLET ☐

ANALYSIS REQUESTED — 2 Preservation Code

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	1/N RGP Metals * 200.7, 200.8 and 245.1	1/U Hardness SM 2340	2V/U Ethanol by 624.1	1/U Chloride EPA 300.0	Total cyanide	TPH 1664	1/U Total Residual Chlorine SM 4500	1/5 Ammonia 350.1	1/N Hexavalent Chromium	1/U Trivalent Chromium	2/H VOC 624	2L/A 1,4 Dioxane by 624.1	2V/T2L/U 504 EDB	SVOC 625	SVOC 625 low level for Group I PAHs and PCP	2L/U 608 PCB	1L/U Total Suspended Solis SM 2540D	500A/S Phenols 420.1
1	MW-113						x		x			X	X	X	X			X	X	X	X	X	X	X				X	X

Hex and Tri Cr canceled per client. JLH 8/25/2021

	Relinquished by: (signature)	Date/Time:
1		10:45 8/23/21
2	Received by: (signature) Refrigerator WL10	Date/Time: 10:45 8/23/21
3	Relinquished by: (signature)	Date/Time: 15:23 8/24/21
4	Received by: (signature)	Date/Time: 15:23 8-24-21
5	Relinquished by: (signature)	Date/Time: 16 #2 8-24-21
6	Received by: (signature)	Date/Time: 8/24/21 1620
7	Relinquished by: (signature)	Date/Time: 8/24/21 1745
8	Received by: (signature) 58	Date/Time: 8/24/21 1745

Client Comments: * (RGP metals - antimoy, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, zinc)

Lab Comments:

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

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

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ AIHA-LAP,LLC

Matrix Codes

GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air S = Soil
SL = Sludge
SOL = Solid
O = Other

Preservation Codes

I = Iced
H = HCL
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
M = Methanol
DI = DI Water
O = Other

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Courier Use Only

VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Pace Analytical®

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Page 1 of 1

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Invoice Recipient:	Eversource Energy c/o Dean Bebis
Sampled By:	Ryan Basting (Tighe & Bond)

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PFAS 10-Day (std) ☐ Due Date:

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1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

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Format: PDF ☑ EXCEL ☑
Other: Envirodata EDD to Jlibby@tighebond
CLP Like Data Pkg Required: ☐
Email To: acantara@tighebond.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

2 Preservation Code: 3/H

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	8260 - Globalcycle
1	MW-113	9:30	9:50				x					X

Signature	Date/Time:
Relinquished by: (signature) [signature]	10:45 8/23/21
Received by: (signature) Refrigerator WWO	10:45 8/23/21
Relinquished by: (signature) [signature]	15:23 8/24/21
Received by: (signature) Paul Chastenay	15:22 8-24-21
Relinquished by: (signature) Paul Chastenay	16:22 8-24-21
Received by: (signature) [signature]	8/24/21 16:22
Relinquished by: (signature) [signature]	8/24/21 1743
Received by: (signature) [signature] 5.3	8/24/21 1743

Detection Limit Requirements

MA:
CT:
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

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

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐	Municipality ☐	MWRA ☐	WRTA ☐
Federal ☐	21 J ☐	School ☐	
City ☐	Brownfield ☐	MBTA ☐	

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Matrix Codes
GW= Ground Water
WW = Waste Water
DW = Drinking Water
A = Air S = Soil
SL = Sludge
SOL = Solid
O = Other ______

Preservation Codes
I = Iced
H = HCL
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
M = Methanol
DI = DI Water
O = Other ______

Comments:

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Courier Use Only
VIALS______
GLASS______
PLASTIC______
BACTERIA______
ENCORE______

Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client EVERSOURCE

Received By GL Date 8/24/21 Time 1745

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

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 5.3 By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? NA Were Samples Tampered with? NA

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

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

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

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

Are Sample labels filled out and legible? T

Are there Lab to Filters? F

Are there Rushes? F

Are there Short Holds? T

Is there enough Volume? T

Is there Headspace where applicable? F

Proper Media/Containers Used? T

Were trip blanks received? F

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

Who was notified? _____

Who was notified? _____

Who was notified? David

MS/MSD? F

Is splitting samples required? F

On COC? F

Vials	#	Containers:	#		#		#
Unp-	3	1 Liter Amb.		1 Liter Plastic	1	16 oz Amb.	
HCL-	3	500 mL Amb.	2	500 mL Plastic	1	8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic	3	4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-	3	SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

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

Comments:

Took date + time off samples (8/23/21 @ 950am).

Hex chrome received past hold.

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September 9, 2021

Dean S. Bebis
Eversource Energy - MA (Monthly Billing)
One NSTAR Way, SUM SE-250
Westwood, MA 02090-9230

Project Location: East Boston
Client Job Number:
Project Number: E5042009
Laboratory Work Order Number: 21H1550

Enclosed are results of analyses for samples received by the laboratory on August 30, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jessica L. Hoffman
Project Manager

Table of Contents

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

Eversource Energy - MA (Monthly Billing)
One NSTAR Way, SUM SE-250
Westwood, MA 02090-9230
ATTN: Dean S. Bebis

REPORT DATE: 9/9/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: E5042009

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21H1550

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

PROJECT LOCATION: East Boston

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-113	21H1550-01	Ground Water		EPA 200.8	
				SM21-23 3500 Cr B	
				SM21-23 4500 CL G	
				Tri Chrome Calc.	

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CASE NARRATIVE SUMMARY

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

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

con-test® A Pace Analytical® Laboratory

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

Project Location: East Boston | Sample Description: | Work Order: 21H1550

Date Received: 8/30/2021

Field Sample #: MW-113 | Sampled: 8/30/2021 08:00

Sample ID: 21H1550-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium	1.9	1.0	µg/L	1		EPA 200.8	9/3/21	9/5/21 16:10	MJH
Chromium, Trivalent	0.0019		mg/L	1		Tri Chrome Calc.	9/3/21	9/5/21 16:10	MJH

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Project Location: East Boston | Sample Description: | Work Order: 21H1550

Date Received: 8/30/2021

Field Sample #: MW-113 | Sampled: 8/30/2021 08:00

Sample ID: 21H1550-01

Sample Matrix: Ground Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlorine, Residual	ND	0.020	mg/L	1		SM21-23 4500 CL G	8/30/21	8/30/21 18:50	CB2
Hexavalent Chromium	ND	0.010	mg/L	1		SM21-23 3500 Cr B	8/30/21	8/30/21 22:55	DJM

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Sample Extraction Data

Prep Method: EPA 200.8 **Analytical Method: EPA 200.8**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H1550-01 [MW-113]	B289588	50.0	50.0	09/03/21

SM21-23 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H1550-01 [MW-113]	B289284	50.0	50.0	08/30/21

SM21-23 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H1550-01 [MW-113]	B289275	100	100	08/30/21

Prep Method: EPA 200.8 **Analytical Method: Tri Chrome Calc.**

Lab Number [Field ID]	Batch	Initial [mL]	Date
21H1550-01 [MW-113]	B289588	50.0	09/03/21

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B289588 - EPA 200.8										
Blank (B289588-BLK1)				Prepared: 09/03/21 Analyzed: 09/05/21						
Chromium	ND	1.0	µg/L							
LCS (B289588-BS1)				Prepared: 09/03/21 Analyzed: 09/05/21						
Chromium	479	10	µg/L	500		95.8	85-115			
LCS Dup (B289588-BSD1)				Prepared: 09/03/21 Analyzed: 09/05/21						
Chromium	491	10	µg/L	500		98.2	85-115	2.46	20	

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QUALITY CONTROL

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B289275 - SM21-23 4500 CL G										
Blank (B289275-BLK1)				Prepared & Analyzed: 08/30/21						
Chlorine, Residual	ND	0.020	mg/L							
LCS (B289275-BS1)				Prepared & Analyzed: 08/30/21						
Chlorine, Residual	0.67	0.020	mg/L	0.663		100	80.3-122			
LCS Dup (B289275-BSD1)				Prepared & Analyzed: 08/30/21						
Chlorine, Residual	0.68	0.020	mg/L	0.663		102	80.3-122	1.57	10.7	
Duplicate (B289275-DUP1)	**Source: 21H1550-01**			Prepared & Analyzed: 08/30/21						
Chlorine, Residual	ND	0.020	mg/L		ND			NC	27.6	
Matrix Spike (B289275-MS1)	**Source: 21H1550-01**			Prepared & Analyzed: 08/30/21						
Chlorine, Residual	0.17	0.020	mg/L	0.300	0.016	51.5	10-169			
Batch B289284 - SM21-23 3500 Cr B										
Blank (B289284-BLK1)				Prepared & Analyzed: 08/30/21						
Hexavalent Chromium	ND	0.010	mg/L							
LCS (B289284-BS1)				Prepared & Analyzed: 08/30/21						
Hexavalent Chromium	0.097	0.010	mg/L	0.100		97.4	90-114			
LCS Dup (B289284-BSD1)				Prepared & Analyzed: 08/30/21						
Hexavalent Chromium	0.097	0.010	mg/L	0.100		97.4	90-114	0.00	5	
Duplicate (B289284-DUP1)	**Source: 21H1550-01**			Prepared & Analyzed: 08/30/21						
Hexavalent Chromium	ND	0.010	mg/L		ND			NC	5	
Matrix Spike (B289284-MS1)	**Source: 21H1550-01**			Prepared & Analyzed: 08/30/21						
Hexavalent Chromium	0.085	0.010	mg/L	0.100	ND	85.1	60.5-130			
Matrix Spike Dup (B289284-MSD1)	**Source: 21H1550-01**			Prepared & Analyzed: 08/30/21						
Hexavalent Chromium	0.089	0.010	mg/L	0.100	ND	88.8	60.5-130	4.24	7.53	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
SM21-23 3500 Cr B in Water	
Hexavalent Chromium	NY,CT,NH,RI,ME,VA,NC
SM21-23 4500 CL G in Water	
Chlorine, Residual	CT,MA,RI,ME

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2022
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

21H1550

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

1800 Elm Street SE
Minneapolis, MN 55414

Doc # 381 Rev 2_06262019

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Eversource Energy
Address:	247 Station Drive, Westwood MA
Phone:	7814413804
Project Name:	E. Boston D. Line
Project Location:	East Boston
Project Number:	E5042009
Project Manager:	Dean Bebis
Pace Analytical Quote Name/Number	10948702
Invoice Recipient:	Eversource Energy c/o Dean Bebis
Sampled By:	Shelby Marokhovsky (Tighe & Bond)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

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

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Envirodata EDD to Jtibby@tighebond
CLP Like Data Pkg Required: ☐
Email To: acantara@tighebond.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED — 2 Preservation Code

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	RGP Metals * 200.7, 200.8 and 245.1 1/N	Hardness SM 2340 1/U	Ethanol by 624.1 2V/U	Chloride EPA 300.0 1/U	Total cyanide	TPH 1664	Total Residual Chlorine SM 4500 1/U	Ammonia 350.1 1/S	Hexavalent Chromium 1/N	Trivalent Chromium 1/U	VOC 624 2/H	1,4 Dioxane by 624.1 2L/A	504 EDB 2V/TZL/U	SVOC 625	SVOC 625 low level for Group I PAHs and PCB	608 PCB 2L/U	Total Suspended Solis SM 2540D 1L/U	Phenols 420.1 500A/S
	MW-113	8/30/2021	800	Grab	GW	U			x									X		X	X								

Client Comments: * (RGP metals - antimoy, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, zinc)

Relinquished by: (signature)	Shelby Marokhovsky	Date/Time: 8/30/2021 1317
Received by: (signature)	Paul Chadbourne	Date/Time: 8-30-21 1317
Relinquished by: (signature)	Paul Chadbourne	Date/Time: 8/30/21 1400
Received by: (signature)	[illegible]	Date/Time: 8/30/21 1400
Relinquished by: (signature)	[illegible]	Date/Time: 8/30/21 1730
Received by: (signature)	[illegible]	Date/Time: 8/30/21 1730
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

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

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Matrix Codes
GW= Ground Water
WW = Waste Water
DW = Drinking Water
A = Air S = Soil
SL = Sludge
SOL = Solid
O = Other

Preservation Codes
I = Iced
H = HCL
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
M = Methanol
DI = DI Water
O = Other

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Courier Use Only
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Table of Contents

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client Enersource

Received By _____ Date 8/30/21 Time 1730

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

Were samples within Temperature? 2-6°C T By Gun # 3 Actual Temp - 5.3 By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? n/a Were Samples Tampered with? n/a

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

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

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

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

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? _____

Are there Rushes? F Who was notified? _____

Are there Short Holds? T Who was notified? David

Is there enough Volume? T

Is there Headspace where applicable? n/a MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? Acid T Base n/a

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

Unused Media

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

Comments:

Tighe&Bond

APP NDI

Revision date 2019-15-4

SAFETY DATA SHEET

Revision number 1

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

Product ID:	Redux-823
Product Name:	Processing aid for industrial applications
Revision Date:	Apr 15, 2019
Supersedes Date:	Jan 25, 2018
Manufacturer's Name:	Azure Water Services
Address:	280 Callegari Drive West Haven, CT, US, 06516
Emergency Phone:	Chemtrec 800-424-9300, in US and Canada only

SECTION 2) HAZARDS IDENTIFICATION

Classification of the substance or mixture

Not a hazardous substance or mixture according to United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200).

Hazards Not Otherwise Classified (HNOC)

None.

SECTION 3) COMPOSITION / INFORMATION ON INGREDIENTS

None of the chemicals in this product are hazardous according to the GHS.

SECTION 4) FIRST-AID MEASURES

Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor/. If breathing has stopped, trained personnel should begin rescue breathing or, if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED).

Eye Contact

Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a flushing duration of 30 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER/doctor.

Skin Contact

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Rinse skin with lukewarm, gently flowing water/shower for a duration of 30 minutes or until medical aid is available. Immediately call a POISON CENTER/doctor. Wash contaminated clothing before re-use or discard.

Ingestion

Rinse mouth with water. Do NOT induce vomiting. Give 1 to 2 cups of milk or water to drink. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, lie on your side, in the recovery position. Immediately call a POISON CENTER/doctor.

Most Important Symptoms and Effects, Both acute and Delayed

No data available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

No data available.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical, foam, carbon dioxide. Sand or earth may be used for small fires only.

Use extinguishing agent suitable for type of surrounding fire.

Unsuitable Extinguishing Media

Do not use direct water stream since this may cause fire to spread.

Specific Hazards in Case of Fire

In case of fire, hazardous decomposition products may include sulphur oxides.

Fire-Fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure

Isolate hazard area and keep unnecessary people away. Remove all possible sources of ignition in the surrounding area. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

Absorb spill with absorbent material or vacuum spill into polyethylene lined steel or plastic drums.

Do not touch or walk through spilled material.

If spilled material is cleaned up using a regulated solvent, the resulting waste mixture may be regulated.

Recommended Equipment

Positive pressure, full-facepiece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

Personal Precautions

Avoid breathing vapor or mist. Avoid contact with skin, eye or clothing. Ensure adequate ventilation. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

Methods and Materials for Containment and Cleaning Up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilled product.

SECTION 7) HANDLING AND STORAGE

General

Wash hands after use.
Do not get in eyes, on skin or on clothing.
Do not breathe vapors or mists.
Use good personal hygiene practices.
Eating, drinking and smoking in work areas is prohibited.
Remove contaminated clothing and protective equipment before entering eating areas.
Eyewash stations and showers should be available in areas where this material is used and stored.

Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight and strong oxidizers. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers retain residue and may be dangerous.
Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

SECTION 8) EXPOSURE CONTROLS, PERSONAL PROTECTION

Eye Protection

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers.

Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density	6.26 lb/gal
Specific Gravity	0.6 - 0.9
Appearance	granular, white solid
pH	5 - 9 @ 5 g/L
Odor Threshold	N/A
Odor Description	N/A
Water Solubility	Complete
Viscosity	N/A
Vapor Pressure	Similar to water
Vapor Density	N/A
Freezing Point	<32 °F
Boiling Point	>212 °F
Evaporation Rate	N/A
Flammability	Will not burn

SECTION 10) STABILITY AND REACTIVITY

Stability

Stable under normal storage and handling conditions.

Conditions To Avoid

Avoid heat, sparks, flame, high temperature and contact with incompatible materials.

Hazardous Reactions/Polymerization

Hazardous polymerization will not occur.

Incompatible Materials

Strong bases, acids, oxidizing and reducing agents.

Hazardous Decomposition Products

May produce carbon monoxide, carbon dioxide.

SECTION 11) TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

No Data Available

Acute Toxicity

Inhalation, Testing: Not expected to be toxic by inhalation.
Ingestion, Testing: LD50, Rat > 5,00 mg/kg
Dermal, Testing: LD50, Rat > 5,000 mg/kg

Respiratory/Skin Sensitization

No Data Available

Serious Eye Damage/Irritation

No Data Available

Skin Corrosion/Irritation

No Data Available

Specific Target Organ Toxicity - Repeated Exposure

No Data Available

Specific Target Organ Toxicity - Single Exposure

No Data Available

SECTION 12) ECOLOGICAL INFORMATION

Acute Ecotoxicity

Danio Rerio: 96 hr LC50 >100 mg/l (OECD 203)

Fathead Minnow (pimephales promelas): 96hr LC50 >100 mg/l (OECD 203)

Daphnia Magna: 48hr EC50 >100 mg/l (OECD 202)

Scenedesmus Subspicatus: 72hr IC50 >100 mg/l (OECD 201)

Mobility in Soil

No data available.

Bio-accumulative Potential

Not bioaccumulating.

Persistence and Degradability

Not readily biodegradable.

Other Adverse Effect

No data available.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal

Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws.
Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14) TRANSPORT INFORMATION

U.S. DOT Information

For all transportation accidents, call CHEMTREC at 800/424-9300. All spills and leaks of this material must be handled in accordance with local, state, and federal regulations.

DOT Shipping Designation:

Non-hazardous under 29-CFR 1910.1200. Water treatment compound

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
No applicable CAS	No applicable chemical	-	-

SECTION 16) OTHER INFORMATION

Glossary

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDGCanadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center(US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self Contained Breathing Apparatus; STEL-Short Term Exposure Limit; TCEQ Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

Additional Information

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Version 1.0:

Revision Date: Jan 25, 2018
First Edition.

DISCLAIMER

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. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

Revision date 2019-15-4

SAFETY DATA SHEET

Revision number 1

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

Product Name:	Redux E50
Product Use:	Water and Wastewater Treatment Coagulant/Flocculant
Revision Date:	Apr 15, 2019
Supersedes Date:	Mar 5, 2015
Manufacturer's Name:	Azure Water Services
Address:	280 Callegari Dr. West Haven CT, 06516
Emergency Phone:	Chemtrec, (1) 800-424-9300, in US and Canada only

SECTION 2) HAZARDS IDENTIFICATION

Classification

Corrosive to metals - Category 1

Eye Irritation - Category 2

Skin Irritation - Category 2

Pictograms

Signal Word

Warning

Hazardous Statements - Health

Causes serious eye irritation

Causes skin irritation

Hazardous Statements - Physical

May be corrosive to metals

Precautionary Statements - General

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Precautionary Statements - Prevention

Keep only in original packaging.

Wash thoroughly after handling.

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

Precautionary Statements - Response

Absorb spillage to prevent material damage.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of water.

Specific treatment (see first-aid on this SDS).

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing. And wash it before reuse.

Precautionary Statements - Storage

Store in a corrosive resistant container with a resistant inner liner.

Precautionary Statements - Disposal

No precautionary statement available.

Hazards Not Otherwise Classified (HNOC)

None.

SECTION 3) COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
PROPRIETARY	Trade Secret Ingredient	45 - 55%

Specific chemical identity and/or exact percentage (concentration) of the composition has been withheld to protect confidentiality.

SECTION 4) FIRST-AID MEASURES

Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor/. If breathing has stopped, trained personnel should begin rescue breathing or, if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED).

Eye Contact

Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a flushing duration of 30 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER/doctor.

Skin Contact

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Rinse skin with lukewarm, gently flowing water/shower for a duration of 30 minutes or until medical aid is available. Immediately call a POISON CENTER/doctor. Wash contaminated clothing before re-use or discard.

Ingestion

Rinse mouth with water. Do NOT induce vomiting. Give 1 to 2 cups of milk or water to drink. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, lie on your side, in the recovery position. Immediately call a POISON CENTER/doctor.

Most Important Symptoms and Effects, Both acute and Delayed

No data available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

No data available.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical, foam, carbon dioxide. Sand or earth may be used for small fires only.

Use extinguishing agent suitable for type of surrounding fire.

Unsuitable Extinguishing Media

Do not use direct water stream since this may cause fire to spread.

Specific Hazards in Case of Fire

In case of fire, hazardous decomposition products may include sulphur oxides.

Fire-Fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure

Isolate hazard area and keep unnecessary people away. Remove all possible sources of ignition in the surrounding area. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

Absorb spill with absorbent material or vacuum spill into polyethylene lined steel or plastic drums.

Do not touch or walk through spilled material.

If spilled material is cleaned up using a regulated solvent, the resulting waste mixture may be regulated.

Recommended Equipment

Positive pressure, full-facepiece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

Personal Precautions

Avoid breathing vapor or mist. Avoid contact with skin, eye or clothing. Ensure adequate ventilation. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

Methods and Materials for Containment and Cleaning Up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilled product.

SECTION 7) HANDLING AND STORAGE

General

Wash hands after use.
Do not get in eyes, on skin or on clothing.
Do not breathe vapors or mists.
Use good personal hygiene practices.
Eating, drinking and smoking in work areas is prohibited.
Remove contaminated clothing and protective equipment before entering eating areas.
Eyewash stations and showers should be available in areas where this material is used and stored.

Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight and strong oxidizers. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers retain residue and may be dangerous.

Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

SECTION 8) EXPOSURE CONTROLS, PERSONAL PROTECTION

Eye Protection

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers.

Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density	11.10 lb/gal
Specific Gravity	1.33 - 1.35
Appearance	Colorless to yellow liquid
pH	3 - 4
Odor Threshold	N/A
Odor Description	N/A
Water Solubility	complete
Viscosity	< 100cps @20C
Vapor Pressure	Similar to water
Vapor Density	N/A
Freezing Point	<19 °F
Boiling Point	>212 °F
Evaporation Rate	N/A
Flammability	Will not burn

SECTION 10) STABILITY AND REACTIVITY

Stability

Stable under normal storage and handling conditions.

Conditions To Avoid

Avoid heat, sparks, flame, high temperature and contact with incompatible materials.

Hazardous Reactions/Polymerization

Hazardous polymerization will not occur.

Incompatible Materials

Strong bases, acids, oxidizing and reducing agents.

Hazardous Decomposition Products

May produce carbon monoxide, carbon dioxide.

SECTION 11) TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation LC50 : Not Available
Oral LD50 : Not Available
Dermal LD50 : Not Available

Acute Toxicity

Component	weight-%	Oral LD50	Dermal LD50	Inhalation LC50
Trade Secret Ingredient	45 - 55%	= 9187 mg/kg (Rat)	> 2000 mg/k (Rat)	--

Aspiration Hazard

No Data Available

Respiratory/Skin Sensitization

No Data Available

Serious Eye Damage/Irritation

Causes serious eye irritation

Skin Corrosion/Irritation

Causes skin irritation

Specific Target Organ Toxicity - Repeated Exposure

No Data Available

Specific Target Organ Toxicity - Single Exposure

No Data Available

SECTION 12) ECOLOGICAL INFORMATION

Ecotoxicity

Acute aquatic toxicity - Product Information

Fish
LC 50 (96 hour, static) 776.4 mg/L *Pimephales promelas* (Fathead Minnow) [1]
EC 50 (96 hour, static) 265.5 mg/L *Pimephales promelas* (Fathead Minnow) [1]

Crustacea
LC 50 (48 hour, static) 803.8 mg/L *Ceriodaphnia dubia* (Water Flea) [1]
EC 50 (48 hour, static) 33.2 mg/L *Ceriodaphnia dubia* (Water Flea) [1]

Algae/aquatic plants
No information available

Acute aquatic toxicity - Component Information

Component	weight-%	Algae/aquatic plants	Fish	Toxicity to daphnia and other aquatic invertebrates
Trade Secret Ingredient	45 - 55%	--	LC50 (96 h static) 100 - 500 mg/L (Brachydanio rerio)	--

Mobility in Soil

No data available.

Bio-accumulative Potential

No data available.

Persistence and Degradability

No data available.

Other Adverse Effect

No data available.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal

Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws.
Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14) TRANSPORT INFORMATION

U.S. DOT Information

NOT REGULATED FOR TRANSPORTATION

This product is excepted from DOT regulations under 49 CFR 173.154(d) when shipped by road or railway. The product exception is referenced in 49 CFR 172.101 Table. Packaging material must not be aluminum, steel or be degraded by this product

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
No applicable CAS	No applicable chemical	-	-

SECTION 16) OTHER INFORMATION

Glossary

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDGCanadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center(US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self Contained Breathing Apparatus; STEL-Short Term Exposure Limit; TCEQ Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

Additional Information

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Version 1.0:

Revision Date: Apr 15,2019

First Edition.

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Sulfuric Acid, 70-100%

Safety Data Sheet

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

Regulations Revision Date: 05/15/15 Version: 1.0

SECTION 1: IDENTIFICATION

Product Identifier

Product Name: Sulfuric Acid, 70-100%

Formula: H_2-O_4-S

Intended Use of the Product

Use of the Substance/Mixture: Industrial use.

Name, Address, and Telephone of the Responsible Party

Manufacturer

Emergency Telephone Number

Emergency number : CHEMTREC 1-800-424-9300

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Acute Tox. 2 (Inhalation:dust,mist)	H330
Skin Corr. 1A	H314
Eye Dam. 1	H318
Carc. 1A	H350

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

GHS05 GHS06 GHS08

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H330 - Fatal if inhaled
H350 - May cause cancer

Precautionary Statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe fume, mist, vapors, spray
P264 - Wash hands and forearms thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, face protection, protective gloves, protective clothing
P284 - Wear respiratory protection
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P308+P313 - If exposed or concerned: Get medical advice/attention
P310 - Immediately call a POISON CENTER or doctor/physician
P320 - Specific treatment is urgent (see Section 4)
P363 - Wash contaminated clothing before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container according to local, regional, national, and international regulations

Other Hazards

Other Hazards Not Contributing to the Classification: Not available

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Name	Product identifier	% (w/w)	Classification (GHS-US)
Sulfuric acid	(CAS No) 7664-93-9	70 - 100	Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318 Carc. 1A, H350

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Seek immediate medical advice. Symptoms may be delayed.

Skin Contact: Remove/Take off immediately all contaminated clothing. Rinse immediately with plenty of water (for at least 15 minutes). Seek medical attention immediately if exposure is severe. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

Eye Contact: Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Seek medical attention immediately if exposure is severe. Obtain medical attention if irritation develops or persists.

Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Most Important Symptoms and Effects Both Acute and Delayed

General: Corrosive. Causes burns.

Inhalation: Causes severe respiratory irritation if inhaled. Symptoms may include burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum. Contact may cause immediate severe irritation progressing quickly to chemical burns. May cause pulmonary edema. Symptoms may be delayed.

Skin Contact: Contact may cause immediate severe irritation progressing quickly to chemical burns.

Eye Contact: Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.

Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.

Chronic Symptoms: Repeated or prolonged inhalation may damage lungs. Prolonged and repeated contact will eventually cause permanent tissue damage.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not get water inside containers. Do not apply water stream directly at source of leak. Do not use a heavy water stream. A direct water stream will cause violent splattering and generation of heat.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable. Under conditions of fire this material may produce: Sulphur oxides.

Explosion Hazard: Product is not explosive.

Reactivity: Reacts with water.

Advice for Firefighters

Precautionary Measures Fire: Not available

Firefighting Instructions: Keep upwind. Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Firefighters must use full bunker gear including NIOSH-approved positive-pressure self-contained breathing apparatus to protect against potential hazardous combustion and decomposition products.

Hazardous Combustion Products: Sulphur oxides.

Other information: Do not allow run-off from fire fighting to enter drains or water courses.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe vapour or mist.

For Non-Emergency Personnel

Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.

Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area. Keep upwind.

For Emergency Personnel

Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.

Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area.

Environmental Precautions

If spill could potentially enter any waterway, including intermittent dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC at 800-424-9300

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Ventilate area. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Collect absorbed material and place into a sealed, labeled container for proper disposal. Practice good housekeeping - spillage can be slippery on smooth surface either wet or dry. Liquid spill: neutralize with powdered limestone or sodium bicarbonate.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Wash contaminated clothing before reuse.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Detached outside storage is preferable.

Incompatible Materials: Reducing agents. Organic materials. Alkalis. Moisture.

Storage Area: Store in dry, cool area. Store in a well-ventilated place. Keep away from combustible materials.

Specific End Use(s) Not available

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Sulfuric acid (7664-93-9)		
Mexico	OEL TWA (mg/m³)	1 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	1 mg/m³
USA IDLH	US IDLH (mg/m³)	15 mg/m³

Alberta	OEL STEL (mg/m³)	3 mg/m³
Alberta	OEL TWA (mg/m³)	1 mg/m³
British Columbia	OEL TWA (mg/m³)	0.2 mg/m³ (Thoracic, contained in strong inorganic acid mists)
Manitoba	OEL TWA (mg/m³)	0.2 mg/m³
New Brunswick	OEL STEL (mg/m³)	3 mg/m³
New Brunswick	OEL TWA (mg/m³)	1 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.2 mg/m³
Nova Scotia	OEL TWA (mg/m³)	0.2 mg/m³
Nunavut	OEL STEL (mg/m³)	3 mg/m³
Nunavut	OEL TWA (mg/m³)	1 mg/m³
Northwest Territories	OEL STEL (mg/m³)	3 mg/m³
Northwest Territories	OEL TWA (mg/m³)	1 mg/m³
Ontario	OEL TWA (mg/m³)	0.2 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	0.2 mg/m³
Québec	VECD (mg/m³)	3 mg/m³
Québec	VEMP (mg/m³)	1 mg/m³
Saskatchewan	OEL STEL (mg/m³)	0.6 mg/m³
Saskatchewan	OEL TWA (mg/m³)	0.2 mg/m³
Yukon	OEL STEL (mg/m³)	1 mg/m³
Yukon	OEL TWA (mg/m³)	1 mg/m³

Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment: Face shield. Gas mask at concentration in the air > > TLV. Corrosionproof clothing.

Materials for Protective Clothing: Acid-resistant clothing.

Hand Protection: Impermeable protective gloves.

Eye Protection: Face shield.

Skin and Body Protection: Wear suitable protective clothing. Chemical resistant suit. Rubber apron, boots.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Environmental Exposure Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	:	Liquid
Appearance	:	Clear,Colorless to Amber,Oily
Odor	:	Pungent.
Odor Threshold	:	Not available
pH	:	0.3
Relative Evaporation Rate (butylacetate=1)	:	Not available
Melting Point	:	10.56 °C (51.08 °F)
Freezing Point	:	Not available
Boiling Point	:	290 °C (554 °F)
Flash Point	:	Not available
Auto-ignition Temperature	:	Not available
Decomposition Temperature	:	Not available
Flammability (solid, gas)	:	Not available
Lower Flammable Limit	:	Not available
Upper Flammable Limit	:	Not available
Vapor Pressure	:	0.00027 - 0.16 kPa at 25 °C (77 °F)

Relative Vapor Density at 20 °C	:	3.4
Relative Density	:	Not available
Specific Gravity	:	1.84 g/l
Solubility	:	Water: Miscible
Partition coefficient: n-octanol/water	:	Not available
Viscosity	:	Not available
Explosion Data – Sensitivity to Mechanical Impact	:	Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	:	Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Reacts with water.

Chemical Stability: Stable at standard temperature and pressure.

Possibility of Hazardous Reactions: Hazardous polymerization can occur in contact with certain incompatible materials.

Conditions to Avoid: Protect from moisture.

Incompatible Materials: Avoid contact with most metals, carbides, hydrogen sulfide, turpentine, organic acids, combustibles (wood, paper, cotton) and other organic and readily oxidized materials.

Hazardous Decomposition Products: Under conditions of fire this material may produce: Sulphur oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Fatal if inhaled.

LD50 and LC50 Data:

Sulfuric Acid, 70-100%	
ATE US (dust, mist)	0.05000000 mg/l/4h

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

pH: 0.3

Serious Eye Damage/Irritation: Causes serious eye damage.

pH: 0.3

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: May cause cancer.

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Causes severe respiratory irritation if inhaled. Symptoms may include burning of nose and throat, constriction of airway, difficulty breathing, shortness of breath, bronchial spasms, chest pain, and pink frothy sputum. Contact may cause immediate severe irritation progressing quickly to chemical burns. May cause pulmonary edema. Symptoms may be delayed.

Symptoms/Injuries After Skin Contact: Contact may cause immediate severe irritation progressing quickly to chemical burns.

Symptoms/Injuries After Eye Contact: Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.

Symptoms/Injuries After Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.

Chronic Symptoms: Repeated or prolonged inhalation may damage lungs. Prolonged and repeated contact will eventually cause permanent tissue damage.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Sulfuric acid (7664-93-9)	
LD50 Oral Rat	2140 mg/kg
LC50 Inhalation Rat (mg/l)	510 mg/m³ (Exposure time: 2 h)

Sulfuric acid (7664-93-9)	
IARC Group	1

SECTION 12: ECOLOGICAL INFORMATION

Toxicity Not classified

Sulfuric acid (7664-93-9)	
LC50 Fish 1	500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])

Persistence and Degradability

Sulfuric Acid, 70-100%	
Persistence and Degradability	Product is biodegradable.

Bioaccumulative Potential

Sulfuric Acid, 70-100%	
Bioaccumulative Potential	Not expected to bioaccumulate.

Sulfuric acid (7664-93-9)	
BCF fish 1	(no bioaccumulation)

Mobility in Soil Not available

Other Adverse Effects Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Sewage Disposal Recommendations: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 In Accordance with DOT

Proper Shipping Name : SULFURIC ACIDwith more than 51 percent acid

Hazard Class : 8

Identification Number : UN1830

Label Codes : 8

Packing Group : II

ERG Number : 157

14.2 In Accordance with IMDG

Proper Shipping Name : SULPHURIC ACID

Hazard Class : 8

Identification Number : UN1830

Packing Group : II

Label Codes : 8

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-B

14.3 In Accordance with IATA

Proper Shipping Name : SULPHURIC ACID

Packing Group : II

Identification Number : UN1830

Hazard Class : 8

Label Codes : 8

ERG Code (IATA) : 8L

14.4 In Accordance with TDG

Proper Shipping Name : SULPHURIC ACIDwith more than 51 per cent acid

Packing Group : II

Hazard Class : 8

Identification Number : UN1830

Label Codes : 8

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Sulfuric Acid, 70-100%	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Reactive hazard

Sulfuric acid (7664-93-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 302 (Specific toxic chemical listings) Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 302 Threshold Planning Quantity (TPQ)	1000
SARA Section 313 - Emission Reporting	1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

US State Regulations

Sulfuric Acid, 70-100%()

Sulfuric acid (7664-93-9)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

Sulfuric acid (7664-93-9)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

Canadian Regulations

Sulfuric Acid, 70-100%	
WHMIS Classification	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material

Sulfuric acid (7664-93-9)	
Listed on the Canadian DSL (Domestic Substances List) inventory. Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class E - Corrosive Material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1

Met. Corr. 1	Corrosive to metals Category 1
Skin Corr. 1A	Skin corrosion/irritation Category 1A
H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H350	May cause cancer

Handle product with due care and avoid unnecessary contact. This information is supplied under U.S. OSHA'S "Right to Know" (29 CFR 1910.1200) and Canada's WHMIS regulations. Although certain hazards are described herein, we cannot guarantee these are the only hazards that exist. The information contained herein is based on data available to us and is believed to be true and accurate but it is not offered as a product specification. No warranty, expressed or implied, regarding the accuracy of this data, the hazards connected with the use of the product, or the results to be obtained from the use thereof, is made and Mann Distribution assume no responsibility.

Lockwood Remediation Technologies, LLC
89 Crawford Street
Leominster, Massachusetts 01453
O: 774-450-7177
F: 888-835-0617

Back to HS-200 page

HS-200

Media to Remove Oil, Heavy Metals and Similar Organics from Water Safety Data Sheet

Revision date : 2017

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

1.1 - Product Identifier

Product Name: HS-200

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

Use of the substance/mixture : Filtration

1.3 - Details of the supplier of the safety data sheet

Hydrosil International Ltd.
125 Prairie Lake Rd
East Dundee, IL 60118

T 847-844-0680 - F 847-844-0799
www.hydrosilintl.com

1.4 - Emergency telephone number

Emergency number : 1-847-844-0680

Section 2: Hazards Identification

2.1 - Classification of the substance or mixture

GHS-US classification
Eye Dam. 1 H318
STOT SE 3 H335

2.2 - Label Elements

GHS-US labeling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) :

H318 - Causes serious eye damage
H335 - May cause respiratory irritation

Precautionary statements (GHS-US) :

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER/doctor/…
P312 - Call a POISON CENTER/doctor/…/if you feel unwell
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to ...

2.3 - Other Hazards

No additional information available

2.4 - Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1 - Substances

Not applicable

3.2 - Mixture

Name	Product Identifier	%	GHS-US Classification
Zeolite	(CAS No.) 1318-02-1	85.2 - 86.2	STOT SE 3, H335
Water	(CAS No.) 7732-18-5	8.4 - 11.4	Not classified
N,N,N-Trimethyl-1-hexadecanaminium chloride	(CAS No.) 112-02-7	3.4 - 5.4	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400

SECTION 4: First aid measures

4.1 - Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air. If not breathing, administer CPR or artificial respiration. Get immediate medical attention.
First-aid measures after skin contact : If skin reddening or irritation develops, seek medical attention.
First-aid measures after eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention.
First-aid measures after ingestion : If the material is swallowed, get immediate medical attention or advice. DO NOT induce vomiting unless directed to do so by medical personnel.

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

Symptoms/injuries after inhalation : May cause respiratory irritation.
Symptoms/injuries after skin contact : Causes skin irritation.
Symptoms/injuries after eye contact : Causes serious eye irritation.
Symptoms/injuries after ingestion : May be harmful if swallowed.

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 : If involved with fire, flood with plenty of water.
Unsuitable extinguishing media : None.

5.2 - Special hazards arising from the substance or mixture

Fire hazard : None known.
Explosion hazard : None known.

5.3 - Advice for firefighters

Protection during firefighting : Firefighters should wear full protective gear.

SECTION 6: Accidental release measures

6.1 - Personal precautions, protective equipment and emergency procedures

General measures : Avoid contact with the skin and the eyes.
For non-emergency personnel : No additional information available
For emergency responders : No additional information available

6.2 - Environmental precautions

None.

6.3 - Methods and material for containment and cleaning up

For containment : If possible, stop flow of product.
Methods for cleaning up : Shovel or sweep up and put in a closed container for disposal.

6.4 - Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1 - Precautions for safe handling

Precautions for safe handling : Wet carbon/coal removes oxygen from air causing a severe hazard to workers inside carbon vessels or confined spaces.

7.2 - Conditions for safe storage, including any incompatibilities

Storage conditions : Protect containers from physical damage. Store in dry, cool, well-ventilated area.

7.3 - Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1 - Control parameters

No additional information available

8.2 - Exposure controls

Appropriate engineering controls : Local exhaust and general ventilation must be adequate to meet exposure standards.
Hand protection : Use impervious gloves.
Eye protection : Safety glasses.
Skin and body protection : Wear suitable working clothes.
Respiratory protection : If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

SECTION 9: Physical and chemical properties

9.1 - Information on basic physical and chemical properties

Physical state : Solid
Appearance : Irregular shaped.
Color : White
Odor : No data available
Odor threshold : No data available
pH : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Self 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 : 57-59 lb/ft3
Solubility : No data available
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematics : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Explosive limits : No data available

9.1 - Other information

No additional information available

SECTION 10: Stability and Reactivity

10.1 - Reactivity

No additional information available

10.2 - Chemical stability

Stable under normal conditions.

10.3 - Possibility of hazardous reactions

Will not occur

10.4 - Conditions to avoid

None

10.5 - Incompatible materials

Strong oxidizing and reducing agents.

10.6 - Hazardous decomposition products

Organic chlorides, amines, hydrogen chloride may be produced.

SECTION 11: Toxicological information

11.1 - Information on toxicological effects

Acute toxicity : Not classified

Zeolite (1318-02-1)	
LD50 oral rat	5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	2.4 mg/l (Exposure time: 1 h)
ATE (oral)	5000 mg/kg

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Zeolite (1318-02-1)	
IARC group	3

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : May cause respiratory irritation.
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1 - Toxicity

Zeolite (1318-02-1)	
LC50 fishes 1	1800 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [semi-static])
EC50 Daphnia 1	1000 - 1800 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	18 mg/l (Exposure time: 96 h - Species: Desmodesmus subspicatus)
LC50 fish 2	3200 - 5600 mg/l (Exposure time: 96 h - Species: Oryzias latipes [semi-static])

12.2 - Persistence and degradability

No additional information available

12.3 - Bioaccumulative potential

No additional information available

12.4 - Mobility in soil

No additional information available

12.5 - Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1 - Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

In accordance with DOT / ADR / RID / ADNR / IMDG / ICAO / IATA

14.1 - UN number

Not applicable

14.2 - UN proper shipping name

Not applicable

SECTION 15: Regulatory information

15.1 - US Federal regulations

15.2 - US State regulations

No additional information available

SECTION 16: Other information

Full text of H-phrases:

Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Irrit. 2	skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation
H400	Very toxic to aquatic life

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt
medical attention is given.
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