89 Crawford Street
Leominster, Massachusetts 01453
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

August 27, 2020

U.S. Environmental Protection Agency
Office of Ecosystem Protection
EPA/OEP RGP Applications Coordinator
5 Post Office Square, Suite 100 (OEP06-4)
Boston, Massachusetts 02109-3912

Reference: **Notice of Intent (NOI) - Remediation General Permit (RGP)**
Seaport 115kV underground Pipe
Northern Avenue
Boston, Massachusetts

Dear Sir/Madam:

On behalf of McCourt Construction Company (McCourt) and Vanasse Hangen Brustlin, Inc. (VHB) Lockwood Remediation Technologies, LLC (LRT) has prepared this Notice of Intent (NOI) requesting a determination of coverage under the United States Environmental Protection Agency's (EPA's) Remediation General Permit (RGP), pursuant EPA's National Pollutant Discharge Elimination System (NPDES) program. This NOI was prepared in accordance with the general requirements of the NPDES RGP and related guidance documentation provided by EPA. The completed NOI Form is provided in **Appendix A**.

Site Information

This NOI has been prepared for the management groundwater that will be generated during dewatering activities associated with the installation a new underground 115kV pipe-type cable and associated utility structures located on Northern Avenue and Pier Four Blvd. in Boston, Massachusetts (the Site). This work will take place on and along the roadway of Northern Ave and Pier Four Blvd. and is anticipated to be completed within twelve months. A Site Locus is provided as **Figure 1** and a Site Plan satisfying the requirements of RGP Appendix IV Part I.B and I.D is provided as **Figure 2**.

Work Summary

The work includes the installation of a new underground pipe-type cable system. To complete portions of the underground cable installation and related manhole structures excavations, dewatering will be required to lower the groundwater table as work is being performed. To do this, filtered sumps will be placed in low spots within the excavations. The water generated during dewatering (Source water) will be pumped to a treatment system prior to discharge to four (4) proposed stormwater catch basins located along the work route all with a final outfall in the Boston Inner Harbor. Drawings of the storm water drainage system, which depicts the path of water from the catch basin to the outfall in the Boston Inner

Harbor, are provided in **Appendix A**. To characterize groundwater from the proposed excavation area, VHB collected representative groundwater samples from an onsite monitoring well on August 14, 2020 (**Figure 2)**. A sample of the receiving water (Boston Inner Harbor) was also collected on August 14, 2020. The samples were analyzed for various parameters in accordance with the NPDES RGP Activity Category III-G.

Discharge and Receiving Surface Water Information

A summary of the analytical results is provided in **Tables 1 and 2** included within **Appendix A**, and copies of the laboratory data reports are provided in **Appendix B**. Concentrations of total suspended solids (TSS), Non-Halogenated SVOCs (Benzo(a)anthracene, Benzo(a)pyrene and Chrysene), Cyanide and Metals (Copper, Iron, Lead and Nickel) were detected in groundwater at concentrations above the respective NPDES RGP Effluent Limitations. To meet these standards, Source water will undergo treatment that includes bag filtration, carbon filtration and ion exchange prior to discharge. It is assumed that the majority of metal concentrations will be treated through settling and bag filtration. Details of the water treatment system are provided below.

Water Treatment System

A water treatment system schematic is provided as **Figure 3**. Cutsheets of the system components, product information and Safety Data Sheets (SDS) are included in **Appendix C**.

Source water will be pumped to a treatment system with a design flow of up to 150 gallons per minute (gpm); the average effluent flow of the system is estimated to be 75 gpm, and the maximum flow will not exceed 150 gpm. Source water will enter one 18,000-gallon weir tank at the head of the system from the weir tank, the water will be pumped to a triple-bag filter skid (with three single bag filters) Discharge from the bag filter will pass through two carbon vessels plumbed in series. Each carbon vessel will contain 3,000 pounds of reactivated liquid-phase carbon. Water will then be pumped through one ion exchange vessel containing 60 cubic feet of cation ion exchange media. Treated water will flow through a flow/totalizer meter prior to discharge into a storm drain with an outfall in Boston inner Harbor.

If required, a zeolite media vessel will be installed into the treatment train prior to the carbon vessels. The vessel will contain 6,000lbs zeolite.

The discharge has been proposed at four catch basin locations with three outfall locations throughout the job (Outfall 001 - 003) as depicted on **Figure 2**. Effluent sampling will correspond with these discharge locations.

Consultation with Federal Services

LRT reviewed online electronic data viewers and databases from the Massachusetts Geographical Information System (MassGIS), the Massachusetts Division of Fisheries and Wildlife (MassWildlife; Natural Heritage and Endangered Species Program), and the U.S. National Parks Service Natural Historic Places (NPS). Based on this review, the Site and the point where the proposed discharge reaches the

receiving surface water body are not located within an Area of Critical Environmental Concern (ACEC). The Site and the proposed discharge point are not located within Habitats of Rare Wetland Wildlife, Habitats of Rare Species, Estimated Habitats of Rare Wildlife, or listed as a National Historic Place. Documentation is included in **Appendix D**.

Coverage under NPDES RGP

It is our opinion that the proposed discharge is eligible for coverage under the NPDES RGP. On behalf of McCourt Construction Company and Vanasse Hangen Brustlin, Inc. We are requesting coverage under the NPDES RGP for the discharge of treated wastewater to the Boston Inner harbor in support of construction dewatering activities that are to take place on Northern Ave.

The enclosed NOI form provides required information on the general site conditions, discharge, treatment system, receiving water, and consultation with federal services. For this project, McCourt is considered the Operator and has operational control over the construction plans and specifications, including the ability to make modifications to those plans and specifications.

Please feel free to contact us at 774-450-7177 if you have any questions or if you require additional information.

Sincerely,
Lockwood Remediation Technologies, LLC

Jacob Jennings

Jacob Jennings
Staff Scientist

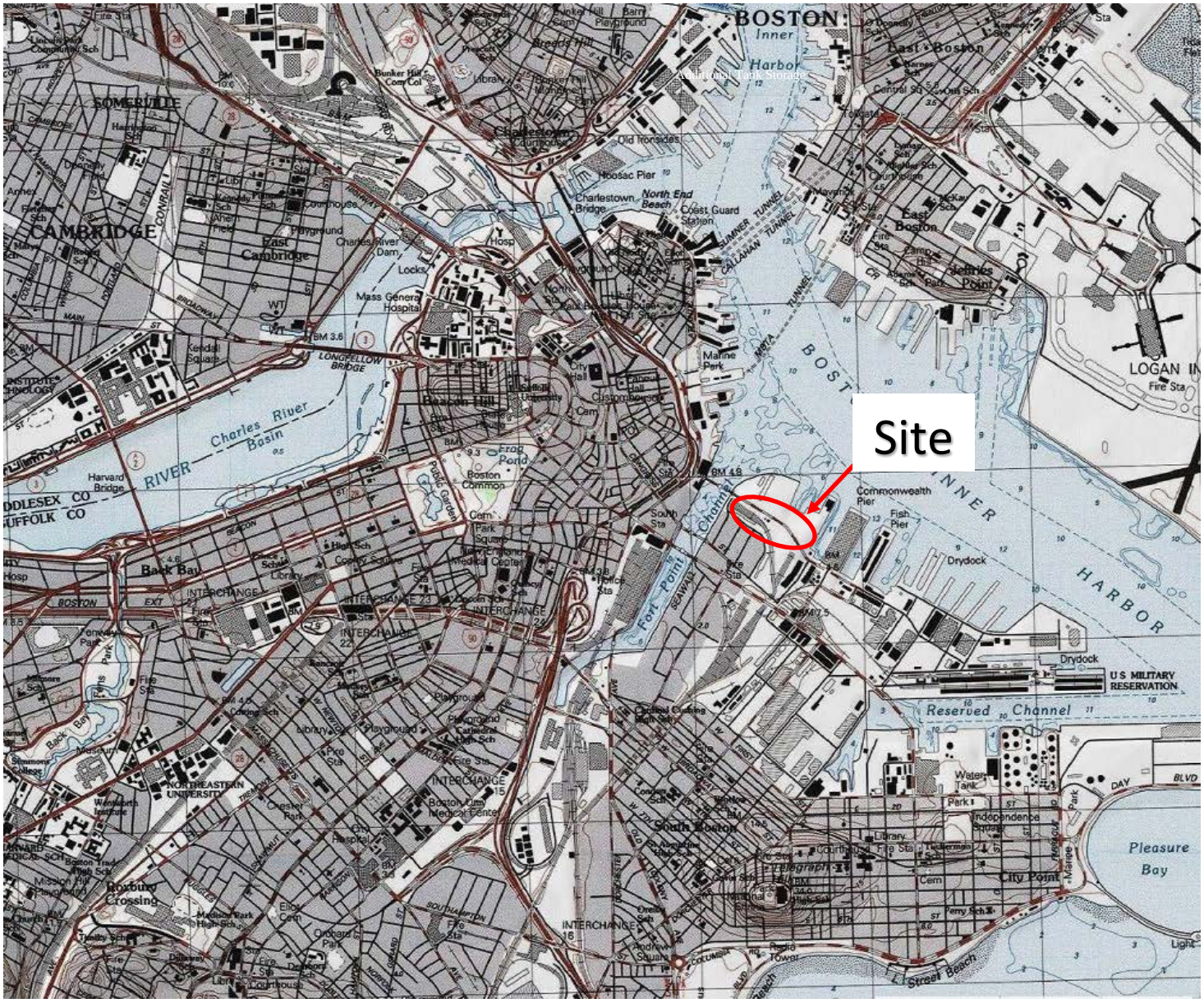
Kim Gravelle

Kim Gravelle, P.G.
Senior Project Manager

Encl: Figure 1 - Locus Plan
Figure 2 - Site Plan
Figure 3 - Water Treatment System Schematic
Appendix A - NOI Form
Appendix B - Laboratory Data
Appendix C - Water Treatment System
Appendix D - Supplemental Information

cc: Matt McCourt – McCourt Construction Company
Katherine Kudzma - VHB
Dean Bebis – Eversource Energy
Cathy Vakalopoulos – Mass DEP
Matthew Tuttle - BWSC

Figures



Notes

1. Figure is not to scale.

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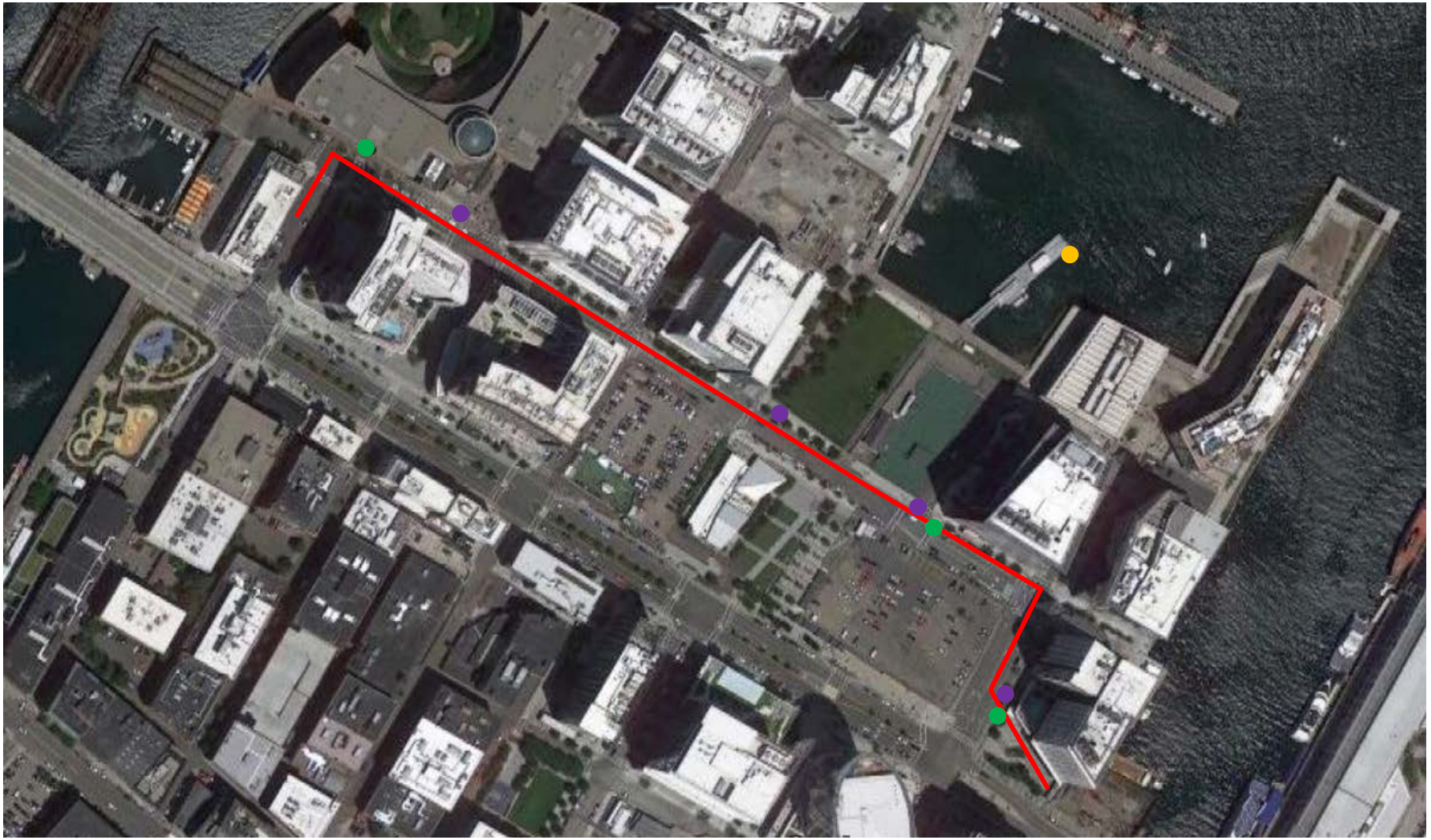
Figure 1 – Locus Plan
Seaport 115kV Underground Pipeline
Northern Ave.
Boston, MA



Source: Google Maps

Key:
Approximate Work Route
Ground Water Sample Locations
Surface Water Sample Location
Proposed Discharge Catch basins

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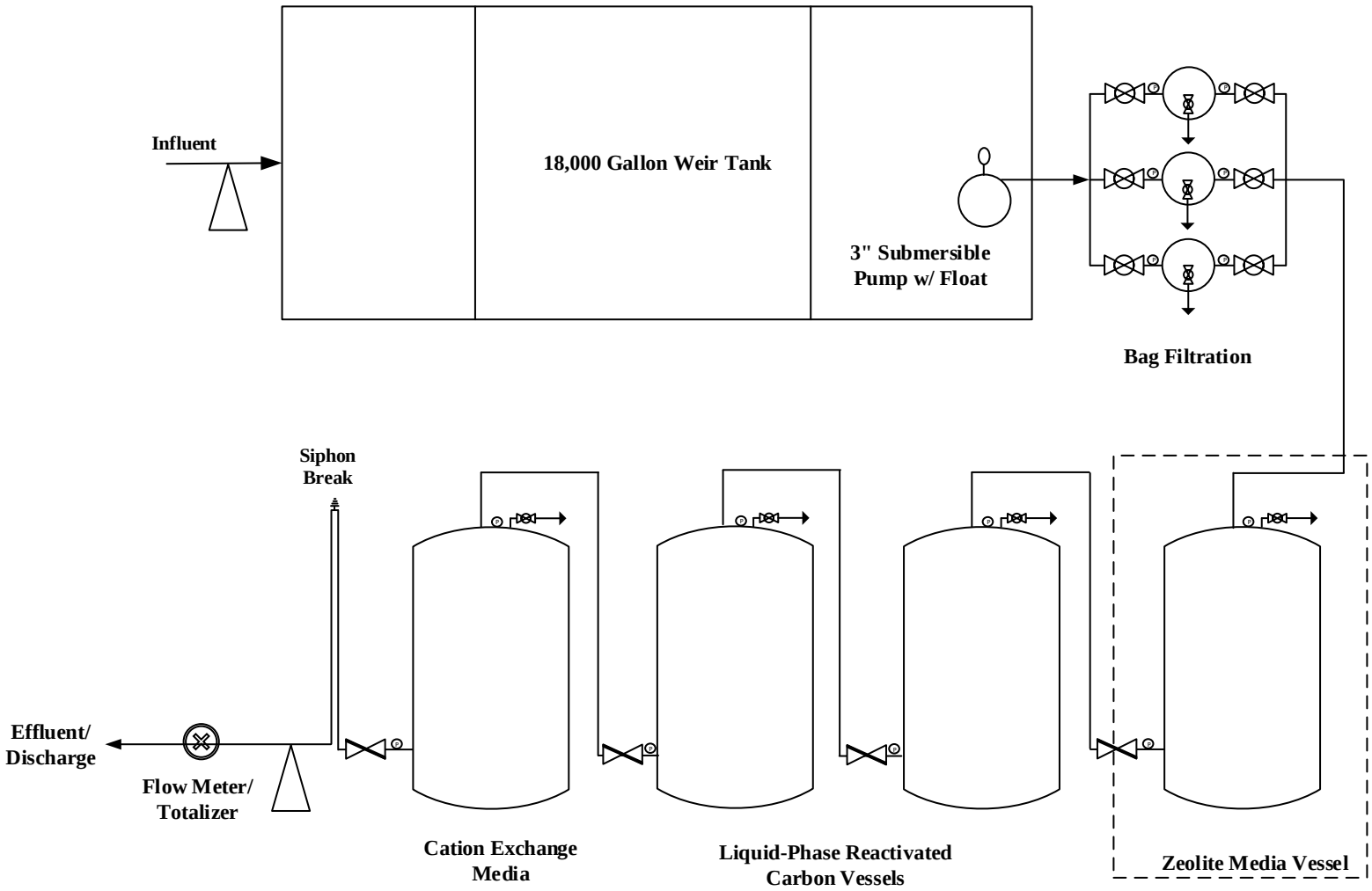
Figure 2 – Site Plan
Seaport 115kV Underground Pipeline
Northern Ave.
Boston, MA



Key:
Piping/Hose
Sample Port
Ball Valve
Butterfly Valve
Pressure Gauge
Contingency

Notes:

1.) Figure is not to scale
2.) System rated for 150 GPM

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

DESIGNED BY: LRT **DRAWN BY:** JHJ

CHECKED BY: **DATE:**

Water Treatment System Schematic

Seaport 115kV Underground Pipeline
Boston, MA

PROJECT No. 2-2076

FIGURE No. 3

Appendix A

NOI Form

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:
Boston Seaport Northern Ave</td><td colspan="3">Site address: Northern Ave
Street:</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02210</td></tr>
<tr><td rowspan="4">2. Site owner
Eversource Energy

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</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 SE210
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
McCourt Construction Co.</td><td colspan="3">Contact Person: Steve Winn</td></tr>
<tr><td colspan="2">Telephone: 617-735-7413</td><td>Email: swinn@mccourtconstruction.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 60 K Street</td></tr>
<tr><td>City: South Boston</td><td>State: MA</td><td>Zip: 02127</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:

NPDES permit is (check all that apply: ☐ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
☐ MA Chapter 21e; list RTN(s):
☐ 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):
Boston Inner Harbor	MA07-02	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:

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

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	N/A (salt water)
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.	N/A (salt water)

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

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

C. Source water information:

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

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

2. Source water contaminants: Inorganics , Non-Halogenated SVOCs	
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): SDO195 SDO22 SDO15	Outfall location(s): (Latitude, Longitude) 42.350721, -71.042681 42.355159, -71.045425 42.353250, -71.043912
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Treated water will be discharged to several catch basins along the project route which all ultimately discharge to the Boston Inner Harbor ☐ 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: BWSC discharge permit application to be submitted concurrently with submittal of RGP NOI 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): 9/1/2020 - 9/1/2021 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="4">☐ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
■ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
☐ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✔	3	350	100	18000	8766	Report mg/L	---
Chloride		✔	3	300	50000	7000000	3110000	Report µg/l	---
Total Residual Chlorine	✔		3	4500	200	<200	<200	0.2 mg/L	
Total Suspended Solids		✔	3	2540	2500	220000	94333	30 mg/L	---
Antimony		✔	3	200.8	1.0	1.2	0.4	206 µg/L	
Arsenic		✔	3	200.8	0.80	14	8.1	104 µg/L	
Cadmium	✔		3	200.8	0.20	<0.20	<0.20	10.2 µg/L	
Chromium III		✔	3	200.8	3.2	3.2	3.2	323 µg/L	
Chromium VI	✔		3	3500	4	<4	<4	323 µg/L	
Copper		✔	3	200.8	1.0	50	23.7	242 µg/L	3.7
Iron		✔	3	200.7	50	14000	8333	5,000 µg/L	
Lead		✔	3	200.8	0.50	12	5	160 µg/L	8.5
Mercury		✔	3	245.1	0.1	.29	0.096	0.739 µg/L	
Nickel		✔	3	200.8	5.0	9	3	1,450 µg/L	8.3
Selenium		✔	3	200.8	5.0	2.4	0.8	235.8 µg/L	
Silver	✔		3	200.8	0.2	<0.2	<0.2	35.1 µg/L	
Zinc		✔	3	200.8	10	24	15	420 µg/L	
Cyanide		✔	3	4500	1	21	12	178 mg/L	1.0
B. Non-Halogenated VOCs									
Total BTEX								100 µg/L	---
Benzene	✔		3	624.1	0.900	<0.900	<0.900	5.0 µg/L	---
1,4 Dioxane	✔		3	624.1	112	<112	<112	200 µg/L	---
Acetone	✔		3	624.1	19	<19	<19	7.97 mg/L	---
Phenol	✔		3	625.1	230	<230	<230	1,080 µg/L	

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✔		3	624.1	0.550	<0.550	<0.550	4.4 µg/L	
1,2 Dichlorobenzene	✔		3	624.1	0.800	<0.800	<0.800	600 µg/L	---
1,3 Dichlorobenzene	✔		3	624.1	0.600	<0.600	<0.600	320 µg/L	---
1,4 Dichlorobenzene	✔		3	624.1	0.650	<0.650	<0.650	5.0 µg/L	---
Total dichlorobenzene								763 µg/L in NH	---
1,1 Dichloroethane	✔		3	624.1	0.800	<0.800	<0.800	70 µg/L	---
1,2 Dichloroethane	✔		3	624.1	2.05	<2.05	<2.05	5.0 µg/L	---
1,1 Dichloroethylene	✔		3	624.1	1.60	<1.60	<1.60	3.2 µg/L	---
Ethylene Dibromide	✔		3	504.1	0.012	<0.012	<0.012	0.05 µg/L	---
Methylene Chloride	✔		3	624.1	1.70	<1.70	<1.70	4.6 µg/L	---
1,1,1 Trichloroethane	✔		3	624.1	1.00	<1.00	<1.00	200 µg/L	---
1,1,2 Trichloroethane	✔		3	624.1	0.800	<0.800	<0.800	5.0 µg/L	---
Trichloroethylene	✔		3	624.1	1.10	<1.10	<1.10	5.0 µg/L	---
Tetrachloroethylene	✔		3	624.1	0.900	<0.900	<0.900	5.0 µg/L	
cis-1,2 Dichloroethylene	✔		3	624.1	1.55	<1.55	<1.55	70 µg/L	---
Vinyl Chloride	✔		3	624.1	2.25	<2.25	<2.25	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates		✔	3	625.1		4.58	1.9	190 µg/L	
Diethylhexyl phthalate	✔		3	625.1	0.173	4.58	1.9	101 µg/L	
Total Group I PAHs			3	625.1		0.15	0.055	1.0 µg/L	---
Benzo(a)anthracene		✔	3	625.1	0.019	0.074	0.024	As Total PAHs	0.0038
Benzo(a)pyrene		✔	3	625.1	0.014	0.033	0.017		0.0038
Benzo(b)fluoranthene	✔		3	625.1	0.012	<0.012	<0.012		
Benzo(k)fluoranthene	✔		3	625.1	0.0092	<0.0092	<0.0092		
Chrysene		✔	3	625.1	0.017	0.043	0.014		0.0038
Dibenzo(a,h)anthracene	✔		3	625.1	0.013	<0.013	<0.013		
Indeno(1,2,3-cd)pyrene	✔		3	625.1	0.014	<0.014	<0.014		

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs		✔	3	625.1		4.5	1.5	100 µg/L	---
Naphthalene	✔		3	625.1	0.20	<0.20	<0.20	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		3	608.3		<0.000064	<0.000064	0.000064 µg/L	---
Pentachlorophenol	✔		3	625.1	0.26	<0.26	<0.26	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		3	1664	1800	<1800	<1800	5.0 mg/L	---
Ethanol	✔		3	624.1	52.7	<52.7	<52.7	Report mg/L	---
Methyl-tert-Butyl Ether	✔		3	624.1	1.25	<1.25	<1.25	70 µg/L	
tert-Butyl Alcohol	✔		3	624.1	20.8	<20.8	<20.8	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		3	624.1	0.700	<0.700	<0.700	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:									
Receiving water									
Arsenic			1	200.8	0.8	9.2	9.2		
Chromium			1	200.8	1.0	1.3	1.3		
Copper			1	200.8	1.0	110	110		
Nickel			1	200.8	5.0	8.7	8.7		
Selenium			1	200.8	5	35	35		
Zinc			1	200.8	10	14	14		
Ammonia			1	350.1	100	65	65		
Salinity			1	2520B	1	27.9ppt	27.9ppt		

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:

Zeolite Media

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

Source water will be pumped to a treatment system with a design flow of up to 150 gallons per minute (gpm); the average effluent flow of the system is estimated to be 75 gpm, and the maximum flow will not exceed 150 gpm. Source water will enter one 18,000-gallon weir tank at the head of the system from the weir tank, the water will be pumped to a triple-bag filter skid (with three single bag filters) Discharge from the bag filter will pass through two carbon vessels plumbed in series. Each carbon vessel will contain 3,000 pounds of reactivated liquid-phase carbon. Water will then be pumped through one ion exchange vessel containing 60 cubic feet of cation ion exchange media. Treated water will flow through a flow/totalizer

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: Media vessels Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	150
Provide the proposed maximum effluent flow in gpm.	150
Provide the average effluent flow in gpm.	75
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

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

F. Chemical and additive information

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

☐ Algaecides/biocides ☐ Antifoams ☐ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ☐ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ☐ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ☐ Other; if so, specify:

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

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

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

G. Endangered Species Act eligibility determination

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

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

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

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

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

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

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

H. National Historic Preservation Act eligibility determination

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

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

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

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

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

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

I. Supplemental information

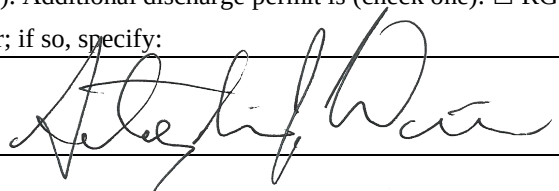
Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.

Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ■ Yes ☐ No

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

J. Certification requirement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BMPP certification statement:	A BMPP will be developed and maintained to meet the requirements of this permit. The BMPP will be implemented on-site prior to the 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: 08/27/20
Print Name and Title:	Steve Winn, McCourt Construction, Project Manager

MA Limits

WQBEL

Enter number values in green boxes below

Enter values in the units specified

↓

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

Enter a dilution factor, if other than zero

↓

0

Enter values in the units specified

↓

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

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

↓

6.7	pH in **Standard Units**
15	Temperature in **^oC**
65	Ammonia in **mg/L**
0	Hardness in **mg/L** $CaCO_3$
27.9	Salinity in **ppt**
0	Antimony in **µg/L**
9.2	Arsenic in **µg/L**
0	Cadmium in **µg/L**
1.3	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
110	Copper in **µg/L**
0	Iron in **µg/L**
0	Lead in **µg/L**
0	Mercury in **µg/L**
8.7	Nickel in **µg/L**
35	Selenium in **µg/L**
0	Silver in **µg/L**
14	Zinc in **µg/L**

Enter **influent** concentrations in the units specified

↓

0	TRC in **µg/L**
18	Ammonia in **mg/L**
12	Antimony in **µg/L**
14	Arsenic in **µg/L**
0	Cadmium in **µg/L**
3.2	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
50	Copper in **µg/L**
14000	Iron in **µg/L**
12	Lead in **µg/L**
0.29	Mercury in **µg/L**
9	Nickel in **µg/L**
2.4	Selenium in **µg/L**
0	Silver in **µg/L**
24	Zinc in **µg/L**
21	Cyanide in **µg/L**
0	Phenol in **µg/L**
0	Carbon Tetrachloride in **µg/L**
0	Tetrachloroethylene in **µg/L**
4.58	Total Phthalates in **µg/L**
4.58	Diethylhexylphthalate in **µg/L**
0.074	Benzo(a)anthracene in **µg/L**
0.033	Benzo(a)pyrene in **µg/L**
0	Benzo(b)fluoranthene in **µg/L**
0	Benzo(k)fluoranthene in **µg/L**
0.043	Chrysene in **µg/L**
0	Dibenzo(a,h)anthracene in **µg/L**
0	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

Dilution Factor	0.0			
A. Inorganics	TBEL applies if bolded		WQBEL applies if bolded	
Ammonia	**Report**	mg/L	---	
Chloride	**Report**	µg/L	---	
Total Residual Chlorine	0.2	mg/L	**7.5**	µg/L
Total Suspended Solids	**30**	mg/L	---	
Antimony	**206**	µg/L	640	µg/L
Arsenic	**104**	µg/L	36	µg/L
Cadmium	**10.2**	µg/L	8.9	µg/L
Chromium III	**323**	µg/L	100.0	µg/L
Chromium VI	**323**	µg/L	50	µg/L
Copper	242	µg/L	**3.7**	µg/L
Iron	**5000**	µg/L	---	µg/L
Lead	160	µg/L	**8.5**	µg/L
Mercury	**0.739**	µg/L	1.11	µg/L
Nickel	1450	µg/L	**8.3**	µg/L
Selenium	**235.8**	µg/L	71	µg/L
Silver	**35.1**	µg/L	2.2	µg/L
Zinc	**420**	µg/L	86	µg/L
Cyanide	178	mg/L	**1.0**	µg/L
B. Non-Halogenated VOCs				
Total BTEX	**100**	µg/L	---	
Benzene	**5.0**	µg/L	---	
1,4 Dioxane	**200**	µg/L	---	
Acetone	**7.97**	mg/L	---	
Phenol	**1,080**	µg/L	300	µg/L
C. Halogenated VOCs				
Carbon Tetrachloride	**4.4**		1.6	µg/L
1,2 Dichlorobenzene	**600**	µg/L	---	
1,3 Dichlorobenzene	**320**	µg/L	---	
1,4 Dichlorobenzene	**5.0**	µg/L	---	
Total dichlorobenzene	**---**	µg/L	---	
1,1 Dichloroethane	**70**	µg/L	---	
1,2 Dichloroethane	**5.0**	µg/L	---	
1,1 Dichloroethylene	**3.2**	µg/L	---	
Ethylene Dibromide	**0.05**	µg/L	---	
Methylene Chloride	**4.6**	µg/L	---	
1,1,1 Trichloroethane	**200**	µg/L	---	
1,1,2 Trichloroethane	**5.0**	µg/L	---	
Trichloroethylene	**5.0**	µg/L	---	
Tetrachloroethylene	**5.0**	µg/L	3.3	µg/L
cis-1,2 Dichloroethylene	**70**	µg/L	---	

Vinyl Chloride	**2.0**	µg/L	---	
D. Non-Halogenated SVOCs				
Total Phthalates	**190**	µg/L	---	µg/L
Diethylhexyl phthalate	101	µg/L	**2.2**	µg/L
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---	
Benzo(a)anthracene	1.0	µg/L	**0.0038**	µg/L
Benzo(a)pyrene	1.0	µg/L	**0.0038**	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.0038	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.0038	µg/L
Chrysene	1.0	µg/L	**0.0038**	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.0038	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.0038	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---	
Naphthalene	**20**	µg/L	---	
E. Halogenated SVOCs				
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---	
Pentachlorophenol	**1.0**	µg/L	---	
F. Fuels Parameters				
Total Petroleum Hydrocarbons	**5.0**	mg/L	---	
Ethanol	**Report**	mg/L	---	
Methyl-tert-Butyl Ether	**70**	µg/L	20	µg/L
tert-Butyl Alcohol	**120**	µg/L	---	
tert-Amyl Methyl Ether	**90**	µg/L	---	

BWSC Stormwater System Map

FORT POINT CHANNEL
BOSTON INNER HARBOR
NORTHERN AV
NEW NORTHERN AV
LIBERTY DR
WATERSIDE AV
COURTHOUSE WY
FAN PIER BLVD
BOND DR
MARINA PARK DR
HARBOR SHORE DR
PIER 4 BLVD
SEAPORT BLVD
CONGRESS ST
SLEEPER ST
FARNSWORTH ST
THOMSON PL
CALVIN PL
STILLINGS ST
PRIVATE RD
BOSTON WHARF RD
AUTUMN LN
HARBOR WY
SERVICE RD
SILVER LINE TUNNEL
B ST
SUMMER ST
MELCHER ST
EAST
CHILDREN'S MUSEUM
PARKING
FIRE STATION
SOIL IN THIS AREA IS CONTAMINATED WITH LEAD
BURIED MH252
INLINE CHECK VALVE
High Inlet Line
World Trade Center

Appendix B

Laboratory Data

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

August 14, 2020

Katherine Kudzma
Vanasse Hangen Brustlin, Inc.
101 Walnut Street
Watertown, MA 02472

Project Location: Northern Ave., Boston, MA
Client Job Number:
Project Number: 13874.01
Laboratory Work Order Number: 20H0160

Enclosed are results of analyses for samples received by the laboratory on August 4, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kerry K. McGee
Project Manager

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

Vanasse Hangen Brustlin, Inc.
101 Walnut Street
Watertown, MA 02472
ATTN: Katherine Kudzma

REPORT DATE: 8/14/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 13874.01

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 20H0160

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

PROJECT LOCATION: Northern Ave., Boston, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MH-1 (MW)	20H0160-01	Ground Water		608.3	
				624.1	
				625.1	
				EPA 1664B	
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 300.0	
				EPA 350.1	
				EPA 420.1	
				EPA 504.1	
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL G	
				SM21-22 4500 CN E	MA M-MA-086/CT PH-0574/NY11148
				Tri Chrome Calc.	
DB-4 (MW)	20H0160-02	Ground Water		608.3	
				624.1	
				625.1	
				EPA 1664B	
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 300.0	
				EPA 350.1	
				EPA 420.1	
				EPA 504.1	
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL G	
				SM21-22 4500 CN E	MA M-MA-086/CT PH-0574/NY11148
				Tri Chrome Calc.	

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

Vanasse Hangen Brustlin, Inc.
101 Walnut Street
Watertown, MA 02472
ATTN: Katherine Kudzma

REPORT DATE: 8/14/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 13874.01

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 20H0160

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

PROJECT LOCATION: Northern Ave., Boston, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
DB-11 (MW)	20H0160-03	Ground Water		608.3	
				624.1	
				625.1	
				EPA 1664B	
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 300.0	
				EPA 350.1	
				EPA 420.1	
				EPA 504.1	
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL G	
				SM21-22 4500 CN E	MA M-MA-086/CT PH-0574/NY11148
				Tri Chrome Calc.	
SW-1	20H0160-04	Surface Water		EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 350.1	
				SM21-22 3500 Cr B	
				SM2520B	MA M-RI010/CT PH-0740/NY11673/+ Additional
				Tri Chrome Calc.	

con-test® ANALYTICAL LABORATORY
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:

DL-01

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

Analyte & Samples(s) Qualified:

20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)]

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:

1,1-Dichloroethane
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263546-BLK1, B263546-BS1

Acetone
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263546-BLK1, B263546-BS1

Methyl tert-Butyl Ether (MTBE)
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263546-BLK1, B263546-BS1

Methylene Chloride
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263546-BLK1, B263546-BS1

trans-1,2-Dichloroethylene
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263546-BLK1, B263546-BS1

625.1

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:

1,2,4-Trichlorobenzene
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263919-BLK1, B263919-BS1, B263919-BSD1

2-Chloronaphthalene
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263919-BLK1, B263919-BS1, B263919-BSD1, B263919-MS1, B263919-MSD1

Fluorene
B263919-BLK1, B263919-BS1, B263919-BSD1

Hexachlorocyclopentadiene
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263919-BLK1, B263919-BS1, B263919-BSD1

Hexachloroethane
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263919-BLK1, B263919-BS1, B263919-BSD1

MS-09

Matrix spike recovery and/or matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a low bias for reported result or non-homogeneous sample aliquots cannot be eliminated.

Analyte & Samples(s) Qualified:

2-Chloronaphthalene
20H0160-03[DB-11 (MW)], B263919-MS1, B263919-MSD1

Benzidine
20H0160-03[DB-11 (MW)], B263919-MS1, B263919-MSD1

Hexachlorocyclopentadiene
20H0160-03[DB-11 (MW)], B263919-MS1, B263919-MSD1

MS-22

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

Analyte & Samples(s) Qualified:

1,2,4-Trichlorobenzene
B263919-MSD1

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MS-23

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is outside of the method specified criteria. Reduced precision anticipated for any reported result for this compound.

Analyte & Samples(s) Qualified:

1,2-Dichlorobenzene
B263919-MSD1

Hexachloroethane
B263919-MSD1

N-Nitrosodimethylamine
B263919-MSD1

R-06

Matrix spike duplicate RPD is outside of control limits. Reduced precision is anticipated for reported result for this compound in this sample.

Analyte & Samples(s) Qualified:

1,2-Dichlorobenzene
20H0160-03[DB-11 (MW)], B263919-MS1

1,3-Dichlorobenzene
20H0160-03[DB-11 (MW)], B263919-MS1, B263919-MSD1

1,4-Dichlorobenzene
20H0160-03[DB-11 (MW)], B263919-MS1, B263919-MSD1

2-Methylphenol
20H0160-03[DB-11 (MW)], B263919-MS1, B263919-MSD1

Hexachlorocyclopentadiene
20H0160-03[DB-11 (MW)], B263919-MS1, B263919-MSD1

Hexachloroethane
20H0160-03[DB-11 (MW)], B263919-MS1

N-Nitrosodimethylamine
20H0160-03[DB-11 (MW)], B263919-MS1

S-07

One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.

Analyte & Samples(s) Qualified:

2,4,6-Tribromophenol (SIM)
B264075-BS1, B264075-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
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263919-BLK1, B263919-BS1, B263919-BSD1, B263919-MS1, B263919-MSD1, S051193-CCV1, S051231-CCV1

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:

Benzidine
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263919-BLK1, B263919-BS1, B263919-BSD1, B263919-MS1, B263919-MSD1, S051193-CCV1, S051231-CCV1

Hexachlorocyclopentadiene
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263919-BLK1, B263919-BS1, B263919-BSD1, B263919-MS1, B263919-MSD1, S051193-CCV1, S051231-CCV1

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:

N-Nitrosodimethylamine
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)], B263919-BLK1, B263919-BS1, B263919-BSD1, B263919-MS1, B263919-MSD1, S051193-CCV1, S051231-CCV1

EPA 200.7

Qualifications:

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

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:

Iron
20H0160-04[SW-1]

EPA 200.8

Qualifications:

DL-03

Elevated reporting limit due to matrix interference.

Analyte & Samples(s) Qualified:

Selenium
20H0160-01[MH-1 (MW)]

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:

Lead
20H0160-01[MH-1 (MW)], 20H0160-04[SW-1]

Silver
20H0160-04[SW-1]

EPA 300.0

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:

Chloride
20H0160-03[DB-11 (MW)]

SM21-22 3500 Cr B

Qualifications:

MS-09

Matrix spike recovery and/or matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a low bias for reported result or non-homogeneous sample aliquots cannot be eliminated.

Analyte & Samples(s) Qualified:

Hexavalent Chromium
20H0160-03[DB-11 (MW)], B263516-MS1, B263516-MSD1

SM21-22 4500 CL G

Qualifications:

W-06

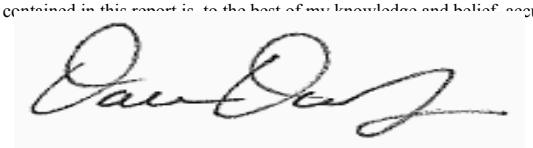
Elevated method reporting limit due to intense color of sample

Analyte & Samples(s) Qualified:

Chlorine, Residual
20H0160-01[MH-1 (MW)], 20H0160-02[DB-4 (MW)], 20H0160-03[DB-11 (MW)]

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



Daren J. Damboragian
Director of Operations

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: MH-1 (MW) | Sampled: 8/4/2020 11:15

Sample ID: 20H0160-01

Sample Matrix: Ground Water

Sample Flags: DL-01

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	<19.0	250	19.0	µg/L	5	L-03	624.1	8/6/20	8/7/20 1:07	BRF
tert-Amyl Methyl Ether (TAME)	<0.700	2.50	0.700	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Benzene	<0.900	5.00	0.900	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Bromodichloromethane	<0.800	10.0	0.800	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Bromoform	<2.30	10.0	2.30	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Bromomethane	<6.90	10.0	6.90	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
tert-Butyl Alcohol (TBA)	<20.8	100	20.8	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Carbon Tetrachloride	<0.550	10.0	0.550	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Chlorobenzene	<0.750	10.0	0.750	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Chlorodibromomethane	<1.05	10.0	1.05	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Chloroethane	<1.80	10.0	1.80	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Chloroform	<0.850	10.0	0.850	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Chloromethane	<2.25	10.0	2.25	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
1,2-Dichlorobenzene	<0.800	10.0	0.800	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
1,3-Dichlorobenzene	<0.600	10.0	0.600	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
1,4-Dichlorobenzene	<0.650	10.0	0.650	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
1,2-Dichloroethane	<2.05	10.0	2.05	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
cis-1,2-Dichloroethylene	<0.650	5.00	0.650	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
1,1-Dichloroethane	<0.800	10.0	0.800	µg/L	5	L-03	624.1	8/6/20	8/7/20 1:07	BRF
1,1-Dichloroethylene	<1.60	10.0	1.60	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
trans-1,2-Dichloroethylene	<1.55	10.0	1.55	µg/L	5	L-03	624.1	8/6/20	8/7/20 1:07	BRF
1,2-Dichloropropane	<1.00	10.0	1.00	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
cis-1,3-Dichloropropene	<0.650	10.0	0.650	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
1,4-Dioxane	<112	250	112	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
trans-1,3-Dichloropropene	<1.15	10.0	1.15	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Ethanol	<52.7	250	52.7	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Ethylbenzene	<0.650	10.0	0.650	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Methyl tert-Butyl Ether (MTBE)	<1.25	10.0	1.25	µg/L	5	L-03	624.1	8/6/20	8/7/20 1:07	BRF
Methylene Chloride	<1.70	25.0	1.70	µg/L	5	L-03	624.1	8/6/20	8/7/20 1:07	BRF
1,1,2,2-Tetrachloroethane	<1.10	10.0	1.10	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Tetrachloroethylene	<0.900	10.0	0.900	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Toluene	<0.700	5.00	0.700	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
1,1,1-Trichloroethane	<1.00	10.0	1.00	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
1,1,2-Trichloroethane	<0.800	10.0	0.800	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Trichloroethylene	<1.20	10.0	1.20	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Trichlorofluoromethane (Freon 11)	<1.65	10.0	1.65	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
Vinyl Chloride	<2.25	10.0	2.25	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
m+p Xylene	<1.50	10.0	1.50	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF
o-Xylene	<0.850	5.00	0.850	µg/L	5		624.1	8/6/20	8/7/20 1:07	BRF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	88.4	70-130		8/7/20 1:07
Toluene-d8	98.0	70-130		8/7/20 1:07
4-Bromofluorobenzene	104	70-130		8/7/20 1:07

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: MH-1 (MW) | Sampled: 8/4/2020 11:15

Sample ID: 20H0160-01

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)	<0.025	0.23	0.025	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Acenaphthylene (SIM)	<0.027	0.23	0.027	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Anthracene (SIM)	0.063	0.15	0.025	µg/L	1	J	625.1	8/10/20	8/11/20 14:36	RMW
Benzo(a)anthracene (SIM)	<0.012	0.038	0.012	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Benzo(a)pyrene (SIM)	<0.0092	0.077	0.0092	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Benzo(b)fluoranthene (SIM)	<0.012	0.038	0.012	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Benzo(g,h,i)perylene (SIM)	<0.014	0.38	0.014	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Benzo(k)fluoranthene (SIM)	<0.0092	0.15	0.0092	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Bis(2-ethylhexyl)phthalate (SIM)	<0.33	0.77	0.33	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Chrysene (SIM)	<0.012	0.15	0.012	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Dibenz(a,h)anthracene (SIM)	<0.013	0.077	0.013	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Fluoranthene (SIM)	0.029	0.38	0.019	µg/L	1	J	625.1	8/10/20	8/11/20 14:36	RMW
Fluorene (SIM)	<0.026	0.77	0.026	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Indeno(1,2,3-cd)pyrene (SIM)	<0.014	0.077	0.014	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
2-Methylnaphthalene (SIM)	0.050	0.77	0.048	µg/L	1	J	625.1	8/10/20	8/11/20 14:36	RMW
Naphthalene (SIM)	<0.20	0.77	0.20	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Pentachlorophenol (SIM)	<0.26	0.77	0.26	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW
Phenanthrene (SIM)	0.029	0.038	0.023	µg/L	1	J	625.1	8/10/20	8/11/20 14:36	RMW
Pyrene (SIM)	<0.018	0.77	0.018	µg/L	1		625.1	8/10/20	8/11/20 14:36	RMW

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol (SIM)	49.5	15-110		8/11/20 14:36
Phenol-d6 (SIM)	44.1	15-110		8/11/20 14:36
Nitrobenzene-d5	62.5	30-130		8/11/20 14:36
2-Fluorobiphenyl	60.5	30-130		8/11/20 14:36
2,4,6-Tribromophenol (SIM)	96.1	15-110		8/11/20 14:36
p-Terphenyl-d14	61.7	30-130		8/11/20 14:36

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: MH-1 (MW) | Sampled: 8/4/2020 11:15

Sample ID: 20H0160-01

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
Benzidine	<12.6	15.4	12.6	µg/L	1	V-04, V-05	625.1	8/10/20	8/11/20 13:36	BGL
4-Bromophenylphenylether	<0.228	7.69	0.228	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Butylbenzylphthalate	<0.227	7.69	0.227	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
4-Chloro-3-methylphenol	<0.370	7.69	0.370	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Bis(2-chloroethoxy)methane	<0.362	7.69	0.362	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Bis(2-chloroethyl)ether	<0.394	7.69	0.394	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Bis(2-chloroisopropyl)ether	<0.561	7.69	0.561	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
2-Chloronaphthalene	<0.349	7.69	0.349	µg/L	1	L-04	625.1	8/10/20	8/11/20 13:36	BGL
2-Chlorophenol	<0.289	7.69	0.289	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
4-Chlorophenylphenylether	<0.242	7.69	0.242	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Di-n-butylphthalate	<0.352	7.69	0.352	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
1,3-Dichlorobenzene	<0.356	3.85	0.356	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
1,4-Dichlorobenzene	<0.295	3.85	0.295	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
1,2-Dichlorobenzene	<0.353	3.85	0.353	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
3,3-Dichlorobenzidine	<0.276	7.69	0.276	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
2,4-Dichlorophenol	<0.231	7.69	0.231	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Diethylphthalate	4.58	7.69	0.173	µg/L	1	J	625.1	8/10/20	8/11/20 13:36	BGL
2,4-Dimethylphenol	<0.612	7.69	0.612	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Dimethylphthalate	<0.236	7.69	0.236	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
4,6-Dinitro-2-methylphenol	<1.50	7.69	1.50	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
2,4-Dinitrophenol	<1.25	7.69	1.25	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
2,4-Dinitrotoluene	<0.252	7.69	0.252	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
2,6-Dinitrotoluene	<0.266	7.69	0.266	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Di-n-octylphthalate	<0.402	7.69	0.402	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
1,2-Diphenylhydrazine/Azobenzene	<0.288	7.69	0.288	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Hexachlorobenzene	<0.333	7.69	0.333	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Hexachlorobutadiene	<0.455	7.69	0.455	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Hexachlorocyclopentadiene	<3.69	7.69	3.69	µg/L	1	V-05, L-04	625.1	8/10/20	8/11/20 13:36	BGL
Hexachloroethane	<0.407	7.69	0.407	µg/L	1	L-04	625.1	8/10/20	8/11/20 13:36	BGL
Isophorone	<0.231	7.69	0.231	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Nitrobenzene	<0.315	7.69	0.315	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
2-Nitrophenol	<0.319	7.69	0.319	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
4-Nitrophenol	<0.482	7.69	0.482	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
N-Nitrosodimethylamine	<1.41	7.69	1.41	µg/L	1	V-06	625.1	8/10/20	8/11/20 13:36	BGL
N-Nitrosodiphenylamine/Diphenylamine	<0.226	7.69	0.226	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
N-Nitrosodi-n-propylamine	<0.398	7.69	0.398	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
2-Methylphenol	<0.351	7.69	0.351	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
Phenol	<0.152	7.69	0.152	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
3/4-Methylphenol	<0.157	15.4	0.157	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL
1,2,4-Trichlorobenzene	<0.429	3.85	0.429	µg/L	1	L-04	625.1	8/10/20	8/11/20 13:36	BGL
2,4,6-Trichlorophenol	<0.256	7.69	0.256	µg/L	1		625.1	8/10/20	8/11/20 13:36	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	50.3	15-110		8/11/20 13:36

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: MH-1 (MW) | Sampled: 8/4/2020 11:15

Sample ID: 20H0160-01

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
Surrogates		**% Recovery**		**Recovery Limits**		**Flag/Qual**				
Phenol-d6		45.7		15-110					8/11/20 13:36	
Nitrobenzene-d5		66.0		30-130					8/11/20 13:36	
2-Fluorobiphenyl		65.1		30-130					8/11/20 13:36	
2,4,6-Tribromophenol		61.3		15-110					8/11/20 13:36	
p-Terphenyl-d14		82.8		30-130					8/11/20 13:36	

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: MH-1 (MW) | Sampled: 8/4/2020 11:15

Sample ID: 20H0160-01

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]	<0.102	0.111	0.102	µg/L	1		608.3	8/9/20	8/11/20 10:35	TG
Aroclor-1221 [1]	<0.0894	0.111	0.0894	µg/L	1		608.3	8/9/20	8/11/20 10:35	TG
Aroclor-1232 [1]	<0.111	0.111	0.111	µg/L	1		608.3	8/9/20	8/11/20 10:35	TG
Aroclor-1242 [1]	<0.0961	0.111	0.0961	µg/L	1		608.3	8/9/20	8/11/20 10:35	TG
Aroclor-1248 [1]	<0.106	0.111	0.106	µg/L	1		608.3	8/9/20	8/11/20 10:35	TG
Aroclor-1254 [1]	<0.0583	0.111	0.0583	µg/L	1		608.3	8/9/20	8/11/20 10:35	TG
Aroclor-1260 [1]	<0.109	0.111	0.109	µg/L	1		608.3	8/9/20	8/11/20 10:35	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	69.1	30-150		8/11/20 10:35
Decachlorobiphenyl [2]	66.8	30-150		8/11/20 10:35
Tetrachloro-m-xylene [1]	78.3	30-150		8/11/20 10:35
Tetrachloro-m-xylene [2]	88.6	30-150		8/11/20 10:35

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: MH-1 (MW) | Sampled: 8/4/2020 11:15

Sample ID: 20H0160-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	1.2	1.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:13	QNW
Arsenic	14	0.80		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:13	QNW
Cadmium	ND	0.20		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:13	QNW
Chromium	3.2	1.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:13	QNW
Chromium, Trivalent	0.0032			mg/L	1		Tri Chrome Calc.	8/5/20	8/6/20 16:13	QNW
Copper	50	1.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:13	QNW
Iron	14	0.050		mg/L	1		EPA 200.7	8/5/20	8/6/20 17:15	TBC
Lead	3.0	2.5		µg/L	5		EPA 200.8	8/5/20	8/10/20 13:59	QNW
Mercury	ND	0.00010		mg/L	1		EPA 245.1	8/6/20	8/7/20 12:40	CJV
Nickel	9.0	5.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:13	QNW
Selenium	ND	5.0	1.6	µg/L	1		EPA 200.8	8/5/20	8/6/20 16:13	QNW
Silver	ND	0.20		µg/L	1		EPA 200.8	8/5/20	8/6/20 15:52	QNW
Zinc	24	10		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:13	QNW

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: MH-1 (MW) | Sampled: 8/4/2020 11:15

Sample ID: 20H0160-01

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

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	8/6/20	8/7/20 17:06	QNW
Arsenic	4.5	0.80		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:06	QNW
Cadmium	ND	0.20		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:06	QNW
Chromium	1.1	1.0		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:06	QNW
Copper	73	1.0		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:06	QNW
Iron	8.9	0.050		mg/L	1		EPA 200.7	8/6/20	8/7/20 14:54	TBC
Lead	ND	2.5		µg/L	5	DL-15	EPA 200.8	8/6/20	8/11/20 14:03	QNW
Mercury	ND	0.00010		mg/L	1		EPA 245.1	8/6/20	8/7/20 13:18	CJV
Nickel	9.2	5.0		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:06	QNW
Selenium	ND	25	8.2	µg/L	5	DL-03	EPA 200.8	8/6/20	8/11/20 14:03	QNW
Silver	ND	0.20		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:06	QNW
Zinc	13	10		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:06	QNW

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: MH-1 (MW) | Sampled: 8/4/2020 11:15

Sample ID: 20H0160-01

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
Ammonia as N	7.7	0.50	0.22	mg/L	5		EPA 350.1	8/10/20	8/11/20 10:10	MMH
Chloride	7000	500		mg/L	500		EPA 300.0	8/10/20	8/10/20 13:19	MMH
Chlorine, Residual	ND	0.20		mg/L	10	W-06	SM21-22 4500 CL G	8/4/20	8/4/20 23:45	AWA
Hexavalent Chromium	ND	0.0040		mg/L	1		SM21-22 3500 Cr B	8/4/20	8/4/20 22:55	AWA/CB2
Phenol	ND	0.050		mg/L	1		EPA 420.1	8/7/20	8/10/20 11:00	LL
Total Suspended Solids	220	5.0		mg/L	1		SM21-22 2540D	8/5/20	8/5/20 13:55	LL
Silica Gel Treated HEM (SGT-HEM)	ND	1.8		mg/L	1		EPA 1664B	8/11/20	8/11/20 11:55	LL

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: MH-1 (MW) | Sampled: 8/4/2020 11:15

Sample ID: 20H0160-01

Sample Matrix: Ground Water

Drinking Water Organics EPA 504.1

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.020	0.012	µg/L	1		EPA 504.1	8/7/20	8/7/20 18:10	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,3-Dibromopropane (1)	86.3	70-130		8/7/20 18:10

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: MH-1 (MW) | Sampled: 8/4/2020 11:15

Sample ID: 20H0160-01

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	0.021	0.005	0.001	mg/L	1		SM21-22 4500 CN E		8/10/20 14:56	AAL

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-4 (MW) | Sampled: 8/4/2020 08:45

Sample ID: 20H0160-02

Sample Matrix: Ground Water

Sample Flags: DL-01

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	<19.0	250	19.0	µg/L	5	L-03	624.1	8/6/20	8/6/20 23:21	BRF
tert-Amyl Methyl Ether (TAME)	<0.700	2.50	0.700	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Benzene	<0.900	5.00	0.900	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Bromodichloromethane	<0.800	10.0	0.800	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Bromoform	<2.30	10.0	2.30	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Bromomethane	<6.90	10.0	6.90	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
tert-Butyl Alcohol (TBA)	<20.8	100	20.8	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Carbon Tetrachloride	<0.550	10.0	0.550	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Chlorobenzene	<0.750	10.0	0.750	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Chlorodibromomethane	<1.05	10.0	1.05	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Chloroethane	<1.80	10.0	1.80	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Chloroform	<0.850	10.0	0.850	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Chloromethane	<2.25	10.0	2.25	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
1,2-Dichlorobenzene	<0.800	10.0	0.800	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
1,3-Dichlorobenzene	<0.600	10.0	0.600	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
1,4-Dichlorobenzene	<0.650	10.0	0.650	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
1,2-Dichloroethane	<2.05	10.0	2.05	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
cis-1,2-Dichloroethylene	<0.650	5.00	0.650	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
1,1-Dichloroethane	<0.800	10.0	0.800	µg/L	5	L-03	624.1	8/6/20	8/6/20 23:21	BRF
1,1-Dichloroethylene	<1.60	10.0	1.60	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
trans-1,2-Dichloroethylene	<1.55	10.0	1.55	µg/L	5	L-03	624.1	8/6/20	8/6/20 23:21	BRF
1,2-Dichloropropane	<1.00	10.0	1.00	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
cis-1,3-Dichloropropene	<0.650	10.0	0.650	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
1,4-Dioxane	<112	250	112	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
trans-1,3-Dichloropropene	<1.15	10.0	1.15	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Ethanol	<52.7	250	52.7	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Ethylbenzene	<0.650	10.0	0.650	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Methyl tert-Butyl Ether (MTBE)	<1.25	10.0	1.25	µg/L	5	L-03	624.1	8/6/20	8/6/20 23:21	BRF
Methylene Chloride	<1.70	25.0	1.70	µg/L	5	L-03	624.1	8/6/20	8/6/20 23:21	BRF
1,1,2,2-Tetrachloroethane	<1.10	10.0	1.10	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Tetrachloroethylene	<0.900	10.0	0.900	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Toluene	<0.700	5.00	0.700	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
1,1,1-Trichloroethane	<1.00	10.0	1.00	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
1,1,2-Trichloroethane	<0.800	10.0	0.800	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Trichloroethylene	<1.20	10.0	1.20	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Trichlorofluoromethane (Freon 11)	<1.65	10.0	1.65	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
Vinyl Chloride	<2.25	10.0	2.25	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
m+p Xylene	<1.50	10.0	1.50	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF
o-Xylene	<0.850	5.00	0.850	µg/L	5		624.1	8/6/20	8/6/20 23:21	BRF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	88.8	70-130		8/6/20 23:21
Toluene-d8	99.6	70-130		8/6/20 23:21
4-Bromofluorobenzene	101	70-130		8/6/20 23:21

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-4 (MW) | Sampled: 8/4/2020 08:45

Sample ID: 20H0160-02

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)	3.1	0.35	0.038	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Acenaphthylene (SIM)	0.25	0.35	0.041	µg/L	1	J	625.1	8/10/20	8/11/20 15:05	RMW
Anthracene (SIM)	1.1	0.23	0.037	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Benzo(a)anthracene (SIM)	0.074	0.058	0.019	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Benzo(a)pyrene (SIM)	0.033	0.12	0.014	µg/L	1	J	625.1	8/10/20	8/11/20 15:05	RMW
Benzo(b)fluoranthene (SIM)	<0.017	0.058	0.017	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Benzo(g,h,i)perylene (SIM)	<0.021	0.58	0.021	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Benzo(k)fluoranthene (SIM)	<0.014	0.23	0.014	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Bis(2-ethylhexyl)phthalate (SIM)	<0.50	1.2	0.50	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Chrysene (SIM)	0.043	0.23	0.017	µg/L	1	J	625.1	8/10/20	8/11/20 15:05	RMW
Dibenz(a,h)anthracene (SIM)	<0.020	0.12	0.020	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Fluoranthene (SIM)	0.58	0.58	0.029	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Fluorene (SIM)	1.0	1.2	0.040	µg/L	1	J	625.1	8/10/20	8/11/20 15:05	RMW
Indeno(1,2,3-cd)pyrene (SIM)	<0.021	0.12	0.021	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
2-Methylnaphthalene (SIM)	<0.072	1.2	0.072	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Naphthalene (SIM)	<0.30	1.2	0.30	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Pentachlorophenol (SIM)	<0.39	1.2	0.39	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Phenanthrene (SIM)	0.15	0.058	0.035	µg/L	1		625.1	8/10/20	8/11/20 15:05	RMW
Pyrene (SIM)	0.36	1.2	0.027	µg/L	1	J	625.1	8/10/20	8/11/20 15:05	RMW

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol (SIM)	44.7	15-110		8/11/20 15:05
Phenol-d6 (SIM)	35.5	15-110		8/11/20 15:05
Nitrobenzene-d5	61.9	30-130		8/11/20 15:05
2-Fluorobiphenyl	61.1	30-130		8/11/20 15:05
2,4,6-Tribromophenol (SIM)	102	15-110		8/11/20 15:05
p-Terphenyl-d14	62.6	30-130		8/11/20 15:05

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-4 (MW) | Sampled: 8/4/2020 08:45

Sample ID: 20H0160-02

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
Benzidine	<19.1	23.3	19.1	µg/L	1	V-04, V-05	625.1	8/10/20	8/11/20 14:03	BGL
4-Bromophenylphenylether	<0.344	11.6	0.344	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Butylbenzylphthalate	<0.343	11.6	0.343	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
4-Chloro-3-methylphenol	<0.559	11.6	0.559	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Bis(2-chloroethoxy)methane	<0.548	11.6	0.548	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Bis(2-chloroethyl)ether	<0.595	11.6	0.595	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Bis(2-chloroisopropyl)ether	<0.848	11.6	0.848	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
2-Chloronaphthalene	<0.528	11.6	0.528	µg/L	1	L-04	625.1	8/10/20	8/11/20 14:03	BGL
2-Chlorophenol	<0.437	11.6	0.437	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
4-Chlorophenylphenylether	<0.365	11.6	0.365	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Di-n-butylphthalate	<0.533	11.6	0.533	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
1,3-Dichlorobenzene	<0.538	5.81	0.538	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
1,4-Dichlorobenzene	<0.445	5.81	0.445	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
1,2-Dichlorobenzene	<0.534	5.81	0.534	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
3,3-Dichlorobenzidine	<0.417	11.6	0.417	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
2,4-Dichlorophenol	<0.349	11.6	0.349	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Diethylphthalate	0.663	11.6	0.262	µg/L	1	J	625.1	8/10/20	8/11/20 14:03	BGL
2,4-Dimethylphenol	<0.924	11.6	0.924	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Dimethylphthalate	<0.357	11.6	0.357	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
4,6-Dinitro-2-methylphenol	<2.27	11.6	2.27	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
2,4-Dinitrophenol	<1.90	11.6	1.90	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
2,4-Dinitrotoluene	<0.380	11.6	0.380	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
2,6-Dinitrotoluene	<0.402	11.6	0.402	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Di-n-octylphthalate	<0.607	11.6	0.607	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
1,2-Diphenylhydrazine/Azobenzene	<0.436	11.6	0.436	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Hexachlorobenzene	<0.503	11.6	0.503	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Hexachlorobutadiene	<0.688	11.6	0.688	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Hexachlorocyclopentadiene	<5.58	11.6	5.58	µg/L	1	L-04, V-05	625.1	8/10/20	8/11/20 14:03	BGL
Hexachloroethane	<0.615	11.6	0.615	µg/L	1	L-04	625.1	8/10/20	8/11/20 14:03	BGL
Isophorone	<0.349	11.6	0.349	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Nitrobenzene	<0.477	11.6	0.477	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
2-Nitrophenol	<0.483	11.6	0.483	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
4-Nitrophenol	<0.729	11.6	0.729	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
N-Nitrosodimethylamine	<2.13	11.6	2.13	µg/L	1	V-06	625.1	8/10/20	8/11/20 14:03	BGL
N-Nitrosodiphenylamine/Diphenylamine	<0.342	11.6	0.342	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
N-Nitrosodi-n-propylamine	<0.602	11.6	0.602	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
2-Methylphenol	<0.530	11.6	0.530	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
Phenol	<0.230	11.6	0.230	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
3/4-Methylphenol	<0.237	23.3	0.237	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL
1,2,4-Trichlorobenzene	<0.649	5.81	0.649	µg/L	1	L-04	625.1	8/10/20	8/11/20 14:03	BGL
2,4,6-Trichlorophenol	<0.387	11.6	0.387	µg/L	1		625.1	8/10/20	8/11/20 14:03	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	41.5	15-110		8/11/20 14:03

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-4 (MW) | Sampled: 8/4/2020 08:45

Sample ID: 20H0160-02

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
Surrogates		**% Recovery**		**Recovery Limits**		**Flag/Qual**				
Phenol-d6		33.1		15-110					8/11/20 14:03	
Nitrobenzene-d5		63.5		30-130					8/11/20 14:03	
2-Fluorobiphenyl		60.5		30-130					8/11/20 14:03	
2,4,6-Tribromophenol		59.9		15-110					8/11/20 14:03	
p-Terphenyl-d14		77.1		30-130					8/11/20 14:03	

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-4 (MW) | Sampled: 8/4/2020 08:45

Sample ID: 20H0160-02

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]	<0.102	0.111	0.102	µg/L	1		608.3	8/9/20	8/11/20 10:47	TG
Aroclor-1221 [1]	<0.0894	0.111	0.0894	µg/L	1		608.3	8/9/20	8/11/20 10:47	TG
Aroclor-1232 [1]	<0.111	0.111	0.111	µg/L	1		608.3	8/9/20	8/11/20 10:47	TG
Aroclor-1242 [1]	<0.0961	0.111	0.0961	µg/L	1		608.3	8/9/20	8/11/20 10:47	TG
Aroclor-1248 [1]	<0.106	0.111	0.106	µg/L	1		608.3	8/9/20	8/11/20 10:47	TG
Aroclor-1254 [1]	<0.0583	0.111	0.0583	µg/L	1		608.3	8/9/20	8/11/20 10:47	TG
Aroclor-1260 [1]	<0.109	0.111	0.109	µg/L	1		608.3	8/9/20	8/11/20 10:47	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	60.7	30-150		8/11/20 10:47
Decachlorobiphenyl [2]	58.2	30-150		8/11/20 10:47
Tetrachloro-m-xylene [1]	77.5	30-150		8/11/20 10:47
Tetrachloro-m-xylene [2]	84.2	30-150		8/11/20 10:47

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-4 (MW) | Sampled: 8/4/2020 08:45

Sample ID: 20H0160-02

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	8/5/20	8/6/20 16:16	QNW
Arsenic	6.1	0.80		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:16	QNW
Cadmium	ND	0.20		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:16	QNW
Chromium	1.7	1.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:16	QNW
Chromium, Trivalent	0.0017			mg/L	1		Tri Chrome Calc.	8/5/20	8/6/20 16:16	QNW
Copper	13	1.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:16	QNW
Iron	6.8	0.050		mg/L	1		EPA 200.7	8/5/20	8/6/20 17:22	TBC
Lead	12	0.50		µg/L	1		EPA 200.8	8/5/20	8/6/20 15:54	QNW
Mercury	0.00029	0.00010		mg/L	1		EPA 245.1	8/6/20	8/7/20 12:42	CJV
Nickel	ND	5.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:16	QNW
Selenium	ND	5.0	1.6	µg/L	1		EPA 200.8	8/5/20	8/6/20 16:16	QNW
Silver	ND	0.20		µg/L	1		EPA 200.8	8/5/20	8/6/20 15:54	QNW
Zinc	21	10		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:16	QNW

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-4 (MW) | Sampled: 8/4/2020 08:45

Sample ID: 20H0160-02

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:09	QNW
Arsenic	4.8	0.80		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:09	QNW
Cadmium	ND	0.20		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:09	QNW
Chromium	1.3	1.0		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:09	QNW
Copper	12	1.0		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:09	QNW
Iron	3.8	0.050		mg/L	1		EPA 200.7	8/6/20	8/7/20 15:00	TBC
Lead	2.7	0.50		µg/L	1		EPA 200.8	8/6/20	8/10/20 14:45	QNW
Mercury	0.00037	0.00010		mg/L	1		EPA 245.1	8/6/20	8/7/20 13:20	CJV
Nickel	ND	5.0		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:09	QNW
Selenium	ND	5.0	1.6	µg/L	1		EPA 200.8	8/6/20	8/7/20 17:09	QNW
Silver	ND	0.20		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:09	QNW
Zinc	11	10		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:09	QNW

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-4 (MW) | Sampled: 8/4/2020 08:45

Sample ID: 20H0160-02

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	18	0.50	0.22	mg/L	5		EPA 350.1	8/10/20	8/11/20 10:10	MMH
Chloride	1500	50		mg/L	50		EPA 300.0	8/9/20	8/9/20 18:41	EC
Chlorine, Residual	ND	0.20		mg/L	10	W-06	SM21-22 4500 CL G	8/4/20	8/4/20 23:45	AWA
Hexavalent Chromium	ND	0.0040		mg/L	1		SM21-22 3500 Cr B	8/4/20	8/4/20 22:55	AWA/CB2
Phenol	ND	0.050		mg/L	1		EPA 420.1	8/7/20	8/10/20 11:00	LL
Total Suspended Solids	42	2.5		mg/L	1		SM21-22 2540D	8/5/20	8/5/20 13:55	LL
Silica Gel Treated HEM (SGT-HEM)	ND	1.6		mg/L	1		EPA 1664B	8/11/20	8/11/20 11:55	LL

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-4 (MW) | Sampled: 8/4/2020 08:45

Sample ID: 20H0160-02

Sample Matrix: Ground Water

Drinking Water Organics EPA 504.1

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.020	0.012	µg/L	1		EPA 504.1	8/7/20	8/7/20 18:34	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,3-Dibromopropane (1)	87.5	70-130		8/7/20 18:34

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-4 (MW) | Sampled: 8/4/2020 08:45

Sample ID: 20H0160-02

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	0.005	0.005	0.001	mg/L	1		SM21-22 4500 CN E		8/10/20 14:57	AAL

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-11 (MW) | Sampled: 8/4/2020 13:00

Sample ID: 20H0160-03

Sample Matrix: Ground Water

Sample Flags: DL-01

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	<19.0	250	19.0	µg/L	5	L-03	624.1	8/6/20	8/7/20 0:14	BRF
tert-Amyl Methyl Ether (TAME)	<0.700	2.50	0.700	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Benzene	<0.900	5.00	0.900	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Bromodichloromethane	<0.800	10.0	0.800	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Bromoform	<2.30	10.0	2.30	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Bromomethane	<6.90	10.0	6.90	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
tert-Butyl Alcohol (TBA)	<20.8	100	20.8	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Carbon Tetrachloride	<0.550	10.0	0.550	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Chlorobenzene	<0.750	10.0	0.750	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Chlorodibromomethane	<1.05	10.0	1.05	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Chloroethane	<1.80	10.0	1.80	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Chloroform	<0.850	10.0	0.850	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Chloromethane	<2.25	10.0	2.25	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
1,2-Dichlorobenzene	<0.800	10.0	0.800	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
1,3-Dichlorobenzene	<0.600	10.0	0.600	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
1,4-Dichlorobenzene	<0.650	10.0	0.650	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
1,2-Dichloroethane	<2.05	10.0	2.05	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
cis-1,2-Dichloroethylene	<0.650	5.00	0.650	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
1,1-Dichloroethane	<0.800	10.0	0.800	µg/L	5	L-03	624.1	8/6/20	8/7/20 0:14	BRF
1,1-Dichloroethylene	<1.60	10.0	1.60	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
trans-1,2-Dichloroethylene	<1.55	10.0	1.55	µg/L	5	L-03	624.1	8/6/20	8/7/20 0:14	BRF
1,2-Dichloropropane	<1.00	10.0	1.00	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
cis-1,3-Dichloropropene	<0.650	10.0	0.650	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
1,4-Dioxane	<112	250	112	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
trans-1,3-Dichloropropene	<1.15	10.0	1.15	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Ethanol	<52.7	250	52.7	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Ethylbenzene	<0.650	10.0	0.650	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Methyl tert-Butyl Ether (MTBE)	<1.25	10.0	1.25	µg/L	5	L-03	624.1	8/6/20	8/7/20 0:14	BRF
Methylene Chloride	<1.70	25.0	1.70	µg/L	5	L-03	624.1	8/6/20	8/7/20 0:14	BRF
1,1,2,2-Tetrachloroethane	<1.10	10.0	1.10	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Tetrachloroethylene	<0.900	10.0	0.900	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Toluene	<0.700	5.00	0.700	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
1,1,1-Trichloroethane	<1.00	10.0	1.00	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
1,1,2-Trichloroethane	<0.800	10.0	0.800	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Trichloroethylene	<1.20	10.0	1.20	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Trichlorofluoromethane (Freon 11)	<1.65	10.0	1.65	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
Vinyl Chloride	<2.25	10.0	2.25	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
m+p Xylene	<1.50	10.0	1.50	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF
o-Xylene	<0.850	5.00	0.850	µg/L	5		624.1	8/6/20	8/7/20 0:14	BRF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	90.3	70-130		8/7/20 0:14
Toluene-d8	98.6	70-130		8/7/20 0:14
4-Bromofluorobenzene	100	70-130		8/7/20 0:14

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-11 (MW) | Sampled: 8/4/2020 13:00

Sample ID: 20H0160-03

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	0.33	0.037	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Acenaphthylene (SIM)	<0.039	0.33	0.039	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Anthracene (SIM)	<0.036	0.22	0.036	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Benzo(a)anthracene (SIM)	<0.018	0.056	0.018	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Benzo(a)pyrene (SIM)	<0.013	0.11	0.013	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Benzo(b)fluoranthene (SIM)	<0.017	0.056	0.017	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Benzo(g,h,i)perylene (SIM)	<0.020	0.56	0.020	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Benzo(k)fluoranthene (SIM)	<0.013	0.22	0.013	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Bis(2-ethylhexyl)phthalate (SIM)	<0.47	1.1	0.47	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Chrysene (SIM)	<0.017	0.22	0.017	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Dibenz(a,h)anthracene (SIM)	<0.019	0.11	0.019	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Fluoranthene (SIM)	0.036	0.56	0.028	µg/L	1	J	625.1	8/10/20	8/11/20 15:34	RMW
Fluorene (SIM)	<0.038	1.1	0.038	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Indeno(1,2,3-cd)pyrene (SIM)	<0.020	0.11	0.020	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
2-Methylnaphthalene (SIM)	<0.069	1.1	0.069	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Naphthalene (SIM)	<0.28	1.1	0.28	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Pentachlorophenol (SIM)	<0.37	1.1	0.37	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Phenanthrene (SIM)	<0.033	0.056	0.033	µg/L	1		625.1	8/10/20	8/11/20 15:34	RMW
Pyrene (SIM)	0.042	1.1	0.026	µg/L	1	J	625.1	8/10/20	8/11/20 15:34	RMW

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol (SIM)	41.1	15-110		8/11/20 15:34
Phenol-d6 (SIM)	31.8	15-110		8/11/20 15:34
Nitrobenzene-d5	60.9	30-130		8/11/20 15:34
2-Fluorobiphenyl	61.2	30-130		8/11/20 15:34
2,4,6-Tribromophenol (SIM)	97.5	15-110		8/11/20 15:34
p-Terphenyl-d14	62.6	30-130		8/11/20 15:34

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

Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-11 (MW) | Sampled: 8/4/2020 13:00

Sample ID: 20H0160-03

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
Benzidine	<18.2	22.2	18.2	µg/L	1	MS-09, V-04, V-05	625.1	8/10/20	8/11/20 14:30	BGL
4-Bromophenylphenylether	<0.329	11.1	0.329	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
Butylbenzylphthalate	<0.328	11.1	0.328	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
4-Chloro-3-methylphenol	<0.534	11.1	0.534	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
Bis(2-chloroethoxy)methane	<0.523	11.1	0.523	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
Bis(2-chloroethyl)ether	<0.569	11.1	0.569	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
Bis(2-chloroisopropyl)ether	<0.810	11.1	0.810	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
2-Chloronaphthalene	<0.504	11.1	0.504	µg/L	1	L-04, MS-09	625.1	8/10/20	8/11/20 14:30	BGL
2-Chlorophenol	<0.418	11.1	0.418	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
4-Chlorophenylphenylether	<0.349	11.1	0.349	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
Di-n-butylphthalate	<0.509	11.1	0.509	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
1,3-Dichlorobenzene	<0.514	5.56	0.514	µg/L	1	R-06	625.1	8/10/20	8/11/20 14:30	BGL
1,4-Dichlorobenzene	<0.426	5.56	0.426	µg/L	1	R-06	625.1	8/10/20	8/11/20 14:30	BGL
1,2-Dichlorobenzene	<0.510	5.56	0.510	µg/L	1	R-06	625.1	8/10/20	8/11/20 14:30	BGL
3,3-Dichlorobenzidine	<0.399	11.1	0.399	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
2,4-Dichlorophenol	<0.333	11.1	0.333	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
Diethylphthalate	0.478	11.1	0.250	µg/L	1	J	625.1	8/10/20	8/11/20 14:30	BGL
2,4-Dimethylphenol	<0.883	11.1	0.883	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
Dimethylphthalate	<0.341	11.1	0.341	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
4,6-Dinitro-2-methylphenol	<2.17	11.1	2.17	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
2,4-Dinitrophenol	<1.81	11.1	1.81	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
2,4-Dinitrotoluene	<0.363	11.1	0.363	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
2,6-Dinitrotoluene	<0.384	11.1	0.384	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
Di-n-octylphthalate	<0.580	11.1	0.580	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
1,2-Diphenylhydrazine/Azobenzene	<0.417	11.1	0.417	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
Hexachlorobenzene	<0.481	11.1	0.481	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
Hexachlorobutadiene	<0.658	11.1	0.658	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
Hexachlorocyclopentadiene	<5.33	11.1	5.33	µg/L	1	L-04, MS-09, R-06, V-05	625.1	8/10/20	8/11/20 14:30	BGL
Hexachloroethane	<0.588	11.1	0.588	µg/L	1	L-04, R-06	625.1	8/10/20	8/11/20 14:30	BGL
Isophorone	<0.333	11.1	0.333	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
Nitrobenzene	<0.456	11.1	0.456	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
2-Nitrophenol	<0.461	11.1	0.461	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
4-Nitrophenol	<0.697	11.1	0.697	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
N-Nitrosodimethylamine	<2.03	11.1	2.03	µg/L	1	R-06, V-06	625.1	8/10/20	8/11/20 14:30	BGL
N-Nitrosodiphenylamine/Diphenylamine	<0.327	11.1	0.327	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
N-Nitrosodi-n-propylamine	<0.576	11.1	0.576	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
2-Methylphenol	<0.507	11.1	0.507	µg/L	1	R-06	625.1	8/10/20	8/11/20 14:30	BGL
Phenol	<0.220	11.1	0.220	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
3/4-Methylphenol	<0.227	22.2	0.227	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL
1,2,4-Trichlorobenzene	<0.620	5.56	0.620	µg/L	1	L-04	625.1	8/10/20	8/11/20 14:30	BGL
2,4,6-Trichlorophenol	<0.370	11.1	0.370	µg/L	1		625.1	8/10/20	8/11/20 14:30	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	38.4	15-110		8/11/20 14:30

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-11 (MW) | Sampled: 8/4/2020 13:00

Sample ID: 20H0160-03

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
Surrogates		**% Recovery**		**Recovery Limits**		**Flag/Qual**				
Phenol-d6		29.6		15-110					8/11/20 14:30	
Nitrobenzene-d5		58.8		30-130					8/11/20 14:30	
2-Fluorobiphenyl		53.9		30-130					8/11/20 14:30	
2,4,6-Tribromophenol		52.4		15-110					8/11/20 14:30	
p-Terphenyl-d14		69.4		30-130					8/11/20 14:30	

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-11 (MW) | Sampled: 8/4/2020 13:00

Sample ID: 20H0160-03

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]	<0.0958	0.104	0.0958	µg/L	1		608.3	8/9/20	8/11/20 10:59	TG
Aroclor-1221 [1]	<0.0839	0.104	0.0839	µg/L	1		608.3	8/9/20	8/11/20 10:59	TG
Aroclor-1232 [1]	<0.104	0.104	0.104	µg/L	1		608.3	8/9/20	8/11/20 10:59	TG
Aroclor-1242 [1]	<0.0901	0.104	0.0901	µg/L	1		608.3	8/9/20	8/11/20 10:59	TG
Aroclor-1248 [1]	<0.0990	0.104	0.0990	µg/L	1		608.3	8/9/20	8/11/20 10:59	TG
Aroclor-1254 [1]	<0.0547	0.104	0.0547	µg/L	1		608.3	8/9/20	8/11/20 10:59	TG
Aroclor-1260 [1]	<0.102	0.104	0.102	µg/L	1		608.3	8/9/20	8/11/20 10:59	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	80.9	30-150		8/11/20 10:59
Decachlorobiphenyl [2]	80.3	30-150		8/11/20 10:59
Tetrachloro-m-xylene [1]	76.0	30-150		8/11/20 10:59
Tetrachloro-m-xylene [2]	85.7	30-150		8/11/20 10:59

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-11 (MW) | Sampled: 8/4/2020 13:00

Sample ID: 20H0160-03

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	8/5/20	8/6/20 16:10	QNW
Arsenic	4.3	0.80		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:10	QNW
Cadmium	ND	0.20		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:10	QNW
Chromium	ND	1.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:10	QNW
Chromium, Trivalent	0.0			mg/L	1		Tri Chrome Calc.	8/5/20	8/6/20 16:10	QNW
Copper	8.3	1.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:10	QNW
Iron	4.2	0.050		mg/L	1		EPA 200.7	8/5/20	8/6/20 16:48	TBC
Lead	ND	0.50		µg/L	1		EPA 200.8	8/5/20	8/6/20 15:50	QNW
Mercury	ND	0.00010		mg/L	1		EPA 245.1	8/6/20	8/7/20 12:44	CJV
Nickel	ND	5.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:10	QNW
Selenium	2.4	5.0	1.6	µg/L	1	J	EPA 200.8	8/5/20	8/6/20 16:10	QNW
Silver	ND	0.20		µg/L	1		EPA 200.8	8/5/20	8/6/20 15:50	QNW
Zinc	ND	10		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:10	QNW

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-11 (MW) | Sampled: 8/4/2020 13:00

Sample ID: 20H0160-03

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

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	8/6/20	8/7/20 17:04	QNW
Arsenic	3.5	0.80		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:04	QNW
Cadmium	ND	0.20		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:04	QNW
Chromium	ND	1.0		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:04	QNW
Copper	9.8	1.0		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:04	QNW
Iron	3.9	0.050		mg/L	1		EPA 200.7	8/6/20	8/7/20 14:47	TBC
Lead	ND	0.50		µg/L	1		EPA 200.8	8/6/20	8/10/20 14:39	QNW
Mercury	ND	0.00010		mg/L	1		EPA 245.1	8/6/20	8/7/20 13:22	CJV
Nickel	ND	5.0		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:04	QNW
Selenium	1.7	5.0	1.6	µg/L	1	J	EPA 200.8	8/6/20	8/7/20 17:04	QNW
Silver	ND	0.20		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:04	QNW
Zinc	ND	10		µg/L	1		EPA 200.8	8/6/20	8/7/20 17:04	QNW

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-11 (MW) | Sampled: 8/4/2020 13:00

Sample ID: 20H0160-03

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	0.60	0.10	0.045	mg/L	1		EPA 350.1	8/10/20	8/11/20 9:59	MMH
Chloride	830	50		mg/L	50	MS-19	EPA 300.0	8/9/20	8/9/20 19:04	EC
Chlorine, Residual	ND	0.20		mg/L	10	W-06	SM21-22 4500 CL G	8/4/20	8/4/20 23:45	AWA
Hexavalent Chromium	ND	0.0040		mg/L	1	MS-09	SM21-22 3500 Cr B	8/4/20	8/4/20 22:55	AWA/CB2
Phenol	ND	0.050		mg/L	1		EPA 420.1	8/7/20	8/10/20 11:00	LL
Total Suspended Solids	21	2.5		mg/L	1		SM21-22 2540D	8/5/20	8/5/20 13:55	LL
Silica Gel Treated HEM (SGT-HEM)	ND	1.6		mg/L	1		EPA 1664B	8/11/20	8/11/20 11:55	LL

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-11 (MW) | Sampled: 8/4/2020 13:00

Sample ID: 20H0160-03

Sample Matrix: Ground Water

Drinking Water Organics EPA 504.1

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.020	0.012	µg/L	1		EPA 504.1	8/7/20	8/7/20 18:58	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
1,3-Dibromopropane (1)	90.1	70-130			8/7/20 18:58

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: DB-11 (MW) | Sampled: 8/4/2020 13:00

Sample ID: 20H0160-03

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	0.01	0.005	0.001	mg/L	1		SM21-22 4500 CN E		8/10/20 14:58	AAL

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: SW-1 | Sampled: 8/4/2020 14:00

Sample ID: 20H0160-04

Sample Matrix: Surface 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	8/5/20	8/6/20 16:19	QNW
Arsenic	9.2	0.80		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:19	QNW
Cadmium	ND	0.20		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:19	QNW
Chromium	1.3	1.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:19	QNW
Chromium, Trivalent	0.0013			mg/L	1		Tri Chrome Calc.	8/5/20	8/6/20 16:19	QNW
Copper	110	1.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:19	QNW
Iron	ND	0.10		mg/L	2	DL-15	EPA 200.7	8/5/20	8/7/20 21:56	TBC
Lead	ND	5.0		µg/L	10	DL-15	EPA 200.8	8/5/20	8/10/20 14:14	QNW
Mercury	ND	0.00010		mg/L	1		EPA 245.1	8/6/20	8/7/20 12:45	CJV
Nickel	8.7	5.0		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:19	QNW
Selenium	35	5.0	1.6	µg/L	1		EPA 200.8	8/5/20	8/6/20 16:19	QNW
Silver	ND	1.0		µg/L	5	DL-15	EPA 200.8	8/5/20	8/7/20 17:15	QNW
Zinc	14	10		µg/L	1		EPA 200.8	8/5/20	8/6/20 16:19	QNW

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: SW-1 | Sampled: 8/4/2020 14:00

Sample ID: 20H0160-04

Sample Matrix: Surface 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	0.065	0.10	0.045	mg/L	1	J	EPA 350.1	8/10/20	8/11/20 9:59	MMH
Hexavalent Chromium	ND	0.0040		mg/L	1		SM21-22 3500 Cr B	8/4/20	8/4/20 22:55	AWA/CB2

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Project Location: Northern Ave., Boston, MA | Sample Description: | Work Order: 20H0160

Date Received: 8/4/2020

Field Sample #: SW-1 | Sampled: 8/4/2020 14:00

Sample ID: 20H0160-04

Sample Matrix: Surface 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
Salinity	27.9	1		ppt	1		SM2520B		8/6/20 0:00	NET

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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
20H0160-01 [MH-1 (MW)]	B263850	450	2.50	08/09/20
20H0160-02 [DB-4 (MW)]	B263850	900	5.00	08/09/20
20H0160-03 [DB-11 (MW)]	B263850	960	5.00	08/09/20

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263546	1	5.00	08/06/20
20H0160-02 [DB-4 (MW)]	B263546	1	5.00	08/06/20
20H0160-03 [DB-11 (MW)]	B263546	1	5.00	08/06/20

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263919	650	0.500	08/10/20
20H0160-02 [DB-4 (MW)]	B263919	860	1.00	08/10/20
20H0160-03 [DB-11 (MW)]	B263919	900	1.00	08/10/20

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B264075	650	0.500	08/10/20
20H0160-02 [DB-4 (MW)]	B264075	860	1.00	08/10/20
20H0160-03 [DB-11 (MW)]	B264075	900	1.00	08/10/20

EPA 1664B

Lab Number [Field ID]	Batch	Initial [mL]	Date
20H0160-01 [MH-1 (MW)]	B264011	800	08/11/20
20H0160-02 [DB-4 (MW)]	B264011	900	08/11/20
20H0160-03 [DB-11 (MW)]	B264011	900	08/11/20

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263573	50.0	50.0	08/05/20
20H0160-02 [DB-4 (MW)]	B263573	50.0	50.0	08/05/20
20H0160-03 [DB-11 (MW)]	B263573	50.0	50.0	08/05/20
20H0160-04 [SW-1]	B263573	50.0	50.0	08/05/20

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263700	50.0	50.0	08/06/20
20H0160-02 [DB-4 (MW)]	B263700	50.0	50.0	08/06/20
20H0160-03 [DB-11 (MW)]	B263700	50.0	50.0	08/06/20

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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
20H0160-01 [MH-1 (MW)]	B263574	50.0	50.0	08/05/20
20H0160-02 [DB-4 (MW)]	B263574	50.0	50.0	08/05/20
20H0160-03 [DB-11 (MW)]	B263574	50.0	50.0	08/05/20
20H0160-04 [SW-1]	B263574	50.0	50.0	08/05/20

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263701	50.0	50.0	08/06/20
20H0160-02 [DB-4 (MW)]	B263701	50.0	50.0	08/06/20
20H0160-03 [DB-11 (MW)]	B263701	50.0	50.0	08/06/20

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263634	6.00	6.00	08/06/20
20H0160-02 [DB-4 (MW)]	B263634	6.00	6.00	08/06/20
20H0160-03 [DB-11 (MW)]	B263634	6.00	6.00	08/06/20
20H0160-04 [SW-1]	B263634	6.00	6.00	08/06/20

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263635	6.00	6.00	08/06/20
20H0160-02 [DB-4 (MW)]	B263635	6.00	6.00	08/06/20
20H0160-03 [DB-11 (MW)]	B263635	6.00	6.00	08/06/20

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-02 [DB-4 (MW)]	B263869	10.0	10.0	08/09/20
20H0160-03 [DB-11 (MW)]	B263869	10.0	10.0	08/09/20

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263934	10.0	10.0	08/10/20

EPA 350.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263983	50.0	50.0	08/10/20
20H0160-02 [DB-4 (MW)]	B263983	50.0	50.0	08/10/20
20H0160-03 [DB-11 (MW)]	B263983	50.0	50.0	08/10/20
20H0160-04 [SW-1]	B263983	50.0	50.0	08/10/20

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Sample Extraction Data

EPA 420.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263726	50.0	50.0	08/07/20
20H0160-02 [DB-4 (MW)]	B263726	50.0	50.0	08/07/20
20H0160-03 [DB-11 (MW)]	B263726	50.0	50.0	08/07/20

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263772	34.6	35.0	08/07/20
20H0160-02 [DB-4 (MW)]	B263772	35.9	35.0	08/07/20
20H0160-03 [DB-11 (MW)]	B263772	35.4	35.0	08/07/20

SM21-22 2540D

Lab Number [Field ID]	Batch	Initial [mL]	Date
20H0160-01 [MH-1 (MW)]	B263524	100	08/05/20
20H0160-02 [DB-4 (MW)]	B263524	200	08/05/20
20H0160-03 [DB-11 (MW)]	B263524	200	08/05/20

SM21-22 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263516	50.0	50.0	08/04/20
20H0160-02 [DB-4 (MW)]	B263516	50.0	50.0	08/04/20
20H0160-03 [DB-11 (MW)]	B263516	50.0	50.0	08/04/20
20H0160-04 [SW-1]	B263516	50.0	50.0	08/04/20

SM21-22 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20H0160-01 [MH-1 (MW)]	B263515	100	100	08/04/20
20H0160-02 [DB-4 (MW)]	B263515	100	100	08/04/20
20H0160-03 [DB-11 (MW)]	B263515	100	100	08/04/20

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

Lab Number [Field ID]	Batch	Initial [mL]	Date
20H0160-01 [MH-1 (MW)]	B263574	50.0	08/05/20
20H0160-02 [DB-4 (MW)]	B263574	50.0	08/05/20
20H0160-03 [DB-11 (MW)]	B263574	50.0	08/05/20
20H0160-04 [SW-1]	B263574	50.0	08/05/20

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B263546 - SW-846 5030B										
Blank (B263546-BLK1)				Prepared: 08/05/20 Analyzed: 08/06/20						
Acetone	ND	50.0	µg/L							L-03
tert-Amyl Methyl Ether (TAME)	ND	0.500	µg/L							
Benzene	ND	1.00	µg/L							
Bromodichloromethane	ND	2.00	µg/L							
Bromoform	ND	2.00	µg/L							
Bromomethane	ND	2.00	µg/L							
tert-Butyl Alcohol (TBA)	ND	20.0	µg/L							
Carbon Tetrachloride	ND	2.00	µg/L							
Chlorobenzene	ND	2.00	µg/L							
Chlorodibromomethane	ND	2.00	µg/L							
Chloroethane	ND	2.00	µg/L							
Chloroform	ND	2.00	µg/L							
Chloromethane	ND	2.00	µg/L							
1,2-Dichlorobenzene	ND	2.00	µg/L							
1,3-Dichlorobenzene	ND	2.00	µg/L							
1,4-Dichlorobenzene	ND	2.00	µg/L							
1,2-Dichloroethane	ND	2.00	µg/L							
cis-1,2-Dichloroethylene	ND	1.00	µg/L							
1,1-Dichloroethane	ND	2.00	µg/L							L-03
1,1-Dichloroethylene	ND	2.00	µg/L							
trans-1,2-Dichloroethylene	ND	2.00	µg/L							L-03
1,2-Dichloropropane	ND	2.00	µg/L							
cis-1,3-Dichloropropene	ND	2.00	µg/L							
1,4-Dioxane	ND	50.0	µg/L							
trans-1,3-Dichloropropene	ND	2.00	µg/L							
Ethanol	ND	50.0	µg/L							
Ethylbenzene	ND	2.00	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	2.00	µg/L							L-03
Methylene Chloride	ND	5.00	µg/L							L-03
1,1,2,2-Tetrachloroethane	ND	2.00	µg/L							
Tetrachloroethylene	ND	2.00	µg/L							
Toluene	ND	1.00	µg/L							
1,1,1-Trichloroethane	ND	2.00	µg/L							
1,1,2-Trichloroethane	ND	2.00	µg/L							
Trichloroethylene	ND	2.00	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.00	µg/L							
Vinyl Chloride	ND	2.00	µg/L							
m+p Xylene	ND	2.00	µg/L							
o-Xylene	ND	1.00	µg/L							
Surrogate: 1,2-Dichloroethane-d4	*20.2*		µg/L	25.0		80.8	70-130			
Surrogate: Toluene-d8	*30.5*		µg/L	25.0		122	70-130			
Surrogate: 4-Bromofluorobenzene	*24.4*		µg/L	25.0		97.7	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 B263546 - SW-846 5030B												
LCS (B263546-BS1)				Prepared: 08/05/20 Analyzed: 08/06/20								
Acetone	110	50.0	µg/L	200		**55.6**	*	70-160			L-03	†
tert-Amyl Methyl Ether (TAME)	17	0.500	µg/L	20.0		84.8		70-130				
Benzene	17	1.00	µg/L	20.0		86.2		65-135				
Bromodichloromethane	19	2.00	µg/L	20.0		92.8		65-135				
Bromoform	21	2.00	µg/L	20.0		105		70-130				
Bromomethane	8.0	2.00	µg/L	20.0		40.2		15-185				
tert-Butyl Alcohol (TBA)	110	20.0	µg/L	200		53.3		40-160				†
Carbon Tetrachloride	17	2.00	µg/L	20.0		85.1		70-130				
Chlorobenzene	21	2.00	µg/L	20.0		104		65-135				
Chlorodibromomethane	19	2.00	µg/L	20.0		96.0		70-135				
Chloroethane	13	2.00	µg/L	20.0		63.2		40-160				
Chloroform	17	2.00	µg/L	20.0		87.2		70-135				
Chloromethane	13	2.00	µg/L	20.0		62.6		20-205				
1,2-Dichlorobenzene	20	2.00	µg/L	20.0		100		65-135				
1,3-Dichlorobenzene	20	2.00	µg/L	20.0		102		70-130				
1,4-Dichlorobenzene	19	2.00	µg/L	20.0		96.9		65-135				
1,2-Dichloroethane	17	2.00	µg/L	20.0		86.2		70-130				
cis-1,2-Dichloroethylene	17	1.00	µg/L	20.0		83.6		70-130				
1,1-Dichloroethane	13	2.00	µg/L	20.0		**63.0**	*	70-130			L-03	
1,1-Dichloroethylene	12	2.00	µg/L	20.0		59.0		50-150				
trans-1,2-Dichloroethylene	11	2.00	µg/L	20.0		**53.7**	*	70-130			L-03	
1,2-Dichloropropane	18	2.00	µg/L	20.0		90.4		35-165				
cis-1,3-Dichloropropene	18	2.00	µg/L	20.0		90.7		25-175				
1,4-Dioxane	180	50.0	µg/L	200		88.8		40-130				†
trans-1,3-Dichloropropene	18	2.00	µg/L	20.0		90.2		50-150				
Ethanol	110	50.0	µg/L	200		53.0		40-160				
Ethylbenzene	19	2.00	µg/L	20.0		97.4		60-140				
Methyl tert-Butyl Ether (MTBE)	13	2.00	µg/L	20.0		**63.0**	*	70-130			L-03	
Methylene Chloride	11	5.00	µg/L	20.0		**54.6**	*	60-140			L-03	
1,1,2,2-Tetrachloroethane	21	2.00	µg/L	20.0		103		60-140				
Tetrachloroethylene	20	2.00	µg/L	20.0		100		70-130				
Toluene	19	1.00	µg/L	20.0		93.0		70-130				
1,1,1-Trichloroethane	17	2.00	µg/L	20.0		86.2		70-130				
1,1,2-Trichloroethane	21	2.00	µg/L	20.0		103		70-130				
Trichloroethylene	18	2.00	µg/L	20.0		90.5		65-135				
Trichlorofluoromethane (Freon 11)	11	2.00	µg/L	20.0		56.4		50-150				
Vinyl Chloride	13	2.00	µg/L	20.0		65.8		5-195				
m+p Xylene	39	2.00	µg/L	40.0		96.7		70-130				
o-Xylene	20	1.00	µg/L	20.0		100		70-130				
Surrogate: 1,2-Dichloroethane-d4	*22.0*		µg/L	25.0		87.9		70-130				
Surrogate: Toluene-d8	*24.8*		µg/L	25.0		99.2		70-130				
Surrogate: 4-Bromofluorobenzene	*25.5*		µg/L	25.0		102		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 B264075 - SW-846 3510C											
Blank (B264075-BLK1)				Prepared & Analyzed: 08/11/20							
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								
2-Methylnaphthalene (SIM)	ND	1.0	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)	*89.4*		µg/L	200		44.7		15-110			
Surrogate: Phenol-d6 (SIM)	*65.5*		µg/L	200		32.8		15-110			
Surrogate: Nitrobenzene-d5	*74.1*		µg/L	100		74.1		30-130			
Surrogate: 2-Fluorobiphenyl	*71.0*		µg/L	100		71.0		30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*219*		µg/L	200		109		15-110			
Surrogate: p-Terphenyl-d14	*75.5*		µg/L	100		75.5		30-130			
LCS (B264075-BS1)				Prepared & Analyzed: 08/11/20							
Acenaphthene (SIM)	39.0	6.0	µg/L	50.0		77.9		47-145			
Acenaphthylene (SIM)	39.3	6.0	µg/L	50.0		78.6		33-145			
Anthracene (SIM)	42.7	4.0	µg/L	50.0		85.4		27-133			
Benzo(a)anthracene (SIM)	44.6	1.0	µg/L	50.0		89.1		33-143			
Benzo(a)pyrene (SIM)	45.3	2.0	µg/L	50.0		90.7		17-163			
Benzo(b)fluoranthene (SIM)	50.8	1.0	µg/L	50.0		102		24-159			
Benzo(g,h,i)perylene (SIM)	46.4	10	µg/L	50.0		92.8		10-219			
Benzo(k)fluoranthene (SIM)	46.1	4.0	µg/L	50.0		92.3		11-162			
Bis(2-ethylhexyl)phthalate (SIM)	45.4	20	µg/L	50.0		90.7		8-158			
Chrysene (SIM)	43.1	4.0	µg/L	50.0		86.2		17-168			
Dibenz(a,h)anthracene (SIM)	49.7	2.0	µg/L	50.0		99.3		10-227			
Fluoranthene (SIM)	44.7	10	µg/L	50.0		89.3		26-137			
Fluorene (SIM)	41.9	20	µg/L	50.0		83.9		59-121			
Indeno(1,2,3-cd)pyrene (SIM)	51.5	2.0	µg/L	50.0		103		10-171			
2-Methylnaphthalene (SIM)	36.4	20	µg/L	50.0		72.8		40-140			
Naphthalene (SIM)	32.7	20	µg/L	50.0		65.4		21-133			
Pentachlorophenol (SIM)	34.6	20	µg/L	50.0		69.1		14-176			
Phenanthrene (SIM)	40.7	1.0	µg/L	50.0		81.4		54-120			
Pyrene (SIM)	42.1	20	µg/L	50.0		84.3		52-120			
Surrogate: 2-Fluorophenol (SIM)	*91.3*		µg/L	200		45.7		15-110			
Surrogate: Phenol-d6 (SIM)	*68.2*		µg/L	200		34.1		15-110			
Surrogate: Nitrobenzene-d5	*77.8*		µg/L	100		77.8		30-130			
Surrogate: 2-Fluorobiphenyl	*80.7*		µg/L	100		80.7		30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*231*		µg/L	200		**115**	*	15-110			S-07

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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 B264075 - SW-846 3510C											
LCS (B264075-BS1)				Prepared & Analyzed: 08/11/20							
Surrogate: p-Terphenyl-d14	*71.7*		µg/L	100		71.7		30-130			
LCS Dup (B264075-BSD1)				Prepared & Analyzed: 08/11/20							
Acenaphthene (SIM)	39.8	6.0	µg/L	50.0		79.5		47-145	2.03	48	
Acenaphthylene (SIM)	39.9	6.0	µg/L	50.0		79.7		33-145	1.36	74	
Anthracene (SIM)	43.8	4.0	µg/L	50.0		87.7		27-133	2.63	66	
Benzo(a)anthracene (SIM)	45.4	1.0	µg/L	50.0		90.8		33-143	1.87	53	
Benzo(a)pyrene (SIM)	45.8	2.0	µg/L	50.0		91.5		17-163	0.922	72	
Benzo(b)fluoranthene (SIM)	51.8	1.0	µg/L	50.0		104		24-159	2.11	71	
Benzo(g,h,i)perylene (SIM)	47.0	10	µg/L	50.0		94.0		10-219	1.28	97	
Benzo(k)fluoranthene (SIM)	47.3	4.0	µg/L	50.0		94.6		11-162	2.44	63	
Bis(2-ethylhexyl)phthalate (SIM)	46.4	20	µg/L	50.0		92.8		8-158	2.31	82	
Chrysene (SIM)	44.1	4.0	µg/L	50.0		88.3		17-168	2.38	87	
Dibenz(a,h)anthracene (SIM)	49.7	2.0	µg/L	50.0		99.4		10-227	0.0805	126	
Fluoranthene (SIM)	45.7	10	µg/L	50.0		91.3		26-137	2.21	66	
Fluorene (SIM)	42.5	20	µg/L	50.0		85.0		59-121	1.33	38	
Indeno(1,2,3-cd)pyrene (SIM)	52.5	2.0	µg/L	50.0		105		10-171	1.96	99	
2-Methylnaphthalene (SIM)	36.9	20	µg/L	50.0		73.9		40-140	1.47	20	
Naphthalene (SIM)	33.1	20	µg/L	50.0		66.2		21-133	1.28	65	
Pentachlorophenol (SIM)	34.2	20	µg/L	50.0		68.4		14-176	1.11	86	
Phenanthrene (SIM)	41.5	1.0	µg/L	50.0		83.0		54-120	1.95	39	
Pyrene (SIM)	43.0	20	µg/L	50.0		86.1		52-120	2.11	49	
Surrogate: 2-Fluorophenol (SIM)	*89.1*		µg/L	200		44.5		15-110			
Surrogate: Phenol-d6 (SIM)	*65.4*		µg/L	200		32.7		15-110			
Surrogate: Nitrobenzene-d5	*72.6*		µg/L	100		72.6		30-130			
Surrogate: 2-Fluorobiphenyl	*82.6*		µg/L	100		82.6		30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*228*		µg/L	200		**114**	*	15-110			S-07
Surrogate: p-Terphenyl-d14	*72.1*		µg/L	100		72.1		30-130			
Matrix Spike (B264075-MS1)	**Source: 20H0160-03**			Prepared & Analyzed: 08/11/20							
Acenaphthene (SIM)	38.8	6.1	µg/L	51.0	ND	76.1		47-145			
Acenaphthylene (SIM)	38.2	6.1	µg/L	51.0	ND	74.9		33-145			
Anthracene (SIM)	42.4	4.1	µg/L	51.0	ND	83.1		27-133			
Benzo(a)anthracene (SIM)	44.2	1.0	µg/L	51.0	ND	86.7		33-143			
Benzo(a)pyrene (SIM)	44.0	2.0	µg/L	51.0	ND	86.2		17-163			
Benzo(b)fluoranthene (SIM)	48.2	1.0	µg/L	51.0	ND	94.4		24-159			
Benzo(g,h,i)perylene (SIM)	46.2	10	µg/L	51.0	ND	90.6		10-219			
Benzo(k)fluoranthene (SIM)	43.1	4.1	µg/L	51.0	ND	84.6		11-162			
Bis(2-ethylhexyl)phthalate (SIM)	46.1	20	µg/L	51.0	ND	90.4		8-158			
Chrysene (SIM)	42.3	4.1	µg/L	51.0	ND	83.0		17-168			
Dibenz(a,h)anthracene (SIM)	47.5	2.0	µg/L	51.0	ND	93.1		10-227			
Fluoranthene (SIM)	44.2	10	µg/L	51.0	ND	86.7		26-137			
Fluorene (SIM)	41.0	20	µg/L	51.0	ND	80.4		59-121			
Indeno(1,2,3-cd)pyrene (SIM)	50.9	2.0	µg/L	51.0	ND	99.8		10-171			
2-Methylnaphthalene (SIM)	39.0	20	µg/L	51.0	ND	76.5		40-140			
Naphthalene (SIM)	35.4	20	µg/L	51.0	ND	69.3		21-133			
Pentachlorophenol (SIM)	34.0	20	µg/L	51.0	ND	66.6		14-176			
Phenanthrene (SIM)	40.0	1.0	µg/L	51.0	ND	78.4		54-120			
Pyrene (SIM)	42.1	20	µg/L	51.0	ND	82.6		52-120			
Surrogate: 2-Fluorophenol (SIM)	*92.2*		µg/L	204		45.2		15-110			
Surrogate: Phenol-d6 (SIM)	*68.1*		µg/L	204		33.4		15-110			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B264075 - SW-846 3510C										
Matrix Spike (B264075-MS1)	**Source: 20H0160-03**			Prepared & Analyzed: 08/11/20						
Surrogate: Nitrobenzene-d5	*73.5*		µg/L	102		72.0	30-130			
Surrogate: 2-Fluorobiphenyl	*78.9*		µg/L	102		77.3	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*217*		µg/L	204		106	15-110			
Surrogate: p-Terphenyl-d14	*70.3*		µg/L	102		68.9	30-130			
Matrix Spike Dup (B264075-MSD1)	**Source: 20H0160-03**			Prepared & Analyzed: 08/11/20						
Acenaphthene (SIM)	37.5	6.2	µg/L	51.5	ND	72.7	47-145	3.54	48	
Acenaphthylene (SIM)	36.8	6.2	µg/L	51.5	ND	71.4	33-145	3.73	74	
Anthracene (SIM)	42.1	4.1	µg/L	51.5	ND	81.7	27-133	0.673	66	
Benzo(a)anthracene (SIM)	43.9	1.0	µg/L	51.5	ND	85.2	33-143	0.697	53	
Benzo(a)pyrene (SIM)	44.1	2.1	µg/L	51.5	ND	85.5	17-163	0.140	72	
Benzo(b)fluoranthene (SIM)	48.4	1.0	µg/L	51.5	ND	93.8	24-159	0.388	71	
Benzo(g,h,i)perylene (SIM)	46.3	10	µg/L	51.5	ND	89.9	10-219	0.228	97	
Benzo(k)fluoranthene (SIM)	43.5	4.1	µg/L	51.5	ND	84.4	11-162	0.836	63	
Bis(2-ethylhexyl)phthalate (SIM)	45.9	21	µg/L	51.5	ND	89.0	8-158	0.579	82	
Chrysene (SIM)	42.1	4.1	µg/L	51.5	ND	81.6	17-168	0.627	87	
Dibenz(a,h)anthracene (SIM)	48.1	2.1	µg/L	51.5	ND	93.3	10-227	1.28	126	
Fluoranthene (SIM)	44.2	10	µg/L	51.5	ND	85.8	26-137	0.0409	66	
Fluorene (SIM)	40.5	21	µg/L	51.5	ND	78.6	59-121	1.19	38	
Indeno(1,2,3-cd)pyrene (SIM)	51.3	2.1	µg/L	51.5	ND	99.4	10-171	0.664	99	
2-Methylnaphthalene (SIM)	33.5	21	µg/L	51.5	ND	65.0	40-140	15.2	30	
Naphthalene (SIM)	26.7	21	µg/L	51.5	ND	51.8	21-133	27.9	65	
Pentachlorophenol (SIM)	33.1	21	µg/L	51.5	ND	64.2	14-176	2.64	86	
Phenanthrene (SIM)	40.0	1.0	µg/L	51.5	ND	77.7	54-120	0.154	39	
Pyrene (SIM)	41.8	21	µg/L	51.5	ND	81.1	52-120	0.734	49	
Surrogate: 2-Fluorophenol (SIM)	*59.0*		µg/L	206		28.6	15-110			
Surrogate: Phenol-d6 (SIM)	*54.0*		µg/L	206		26.2	15-110			
Surrogate: Nitrobenzene-d5	*53.6*		µg/L	103		52.0	30-130			
Surrogate: 2-Fluorobiphenyl	*72.2*		µg/L	103		70.0	30-130			
Surrogate: 2,4,6-Tribromophenol (SIM)	*216*		µg/L	206		105	15-110			
Surrogate: p-Terphenyl-d14	*68.8*		µg/L	103		66.8	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 B263919 - SW-846 3510C										
Blank (B263919-BLK1)				Prepared & Analyzed: 08/10/20						
Acenaphthene	ND	5.00	µg/L							
Acenaphthylene	ND	5.00	µg/L							
Anthracene	ND	5.00	µg/L							
Benzidine	ND	20.0	µg/L							V-04, V-05
Benzo(a)anthracene	ND	5.00	µg/L							
Benzo(a)pyrene	ND	5.00	µg/L							
Benzo(b)fluoranthene	ND	5.00	µg/L							
Benzo(g,h,i)perylene	ND	5.00	µg/L							
Benzo(k)fluoranthene	ND	5.00	µg/L							
4-Bromophenylphenylether	ND	10.0	µg/L							
Butylbenzylphthalate	ND	10.0	µg/L							
4-Chloro-3-methylphenol	ND	10.0	µg/L							
Bis(2-chloroethoxy)methane	ND	10.0	µg/L							
Bis(2-chloroethyl)ether	ND	10.0	µg/L							
Bis(2-chloroisopropyl)ether	ND	10.0	µg/L							
2-Chloronaphthalene	ND	10.0	µg/L							L-04
2-Chlorophenol	ND	10.0	µg/L							
4-Chlorophenylphenylether	ND	10.0	µg/L							
Chrysene	ND	5.00	µg/L							
Dibenz(a,h)anthracene	ND	5.00	µg/L							
Di-n-butylphthalate	ND	10.0	µg/L							
1,3-Dichlorobenzene	ND	5.00	µg/L							
1,4-Dichlorobenzene	ND	5.00	µg/L							
1,2-Dichlorobenzene	ND	5.00	µg/L							
3,3-Dichlorobenzidine	ND	10.0	µg/L							
2,4-Dichlorophenol	ND	10.0	µg/L							
Diethylphthalate	ND	10.0	µg/L							
2,4-Dimethylphenol	ND	10.0	µg/L							
Dimethylphthalate	ND	10.0	µg/L							
4,6-Dinitro-2-methylphenol	ND	10.0	µg/L							
2,4-Dinitrophenol	ND	10.0	µg/L							
2,4-Dinitrotoluene	ND	10.0	µg/L							
2,6-Dinitrotoluene	ND	10.0	µg/L							
Di-n-octylphthalate	ND	10.0	µg/L							
1,2-Diphenylhydrazine/Azobenzene	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							L-04
Hexachlorobenzene	ND	10.0	µg/L							
Hexachlorobutadiene	ND	10.0	µg/L							
Hexachlorocyclopentadiene	ND	10.0	µg/L							L-04, V-05
Hexachloroethane	ND	10.0	µg/L							L-04
Indeno(1,2,3-cd)pyrene	ND	5.00	µg/L							
Isophorone	ND	10.0	µg/L							
Naphthalene	ND	5.00	µg/L							
Nitrobenzene	ND	10.0	µg/L							
2-Nitrophenol	ND	10.0	µg/L							
4-Nitrophenol	ND	10.0	µg/L							
N-Nitrosodimethylamine	ND	10.0	µg/L							V-06
N-Nitrosodiphenylamine/Diphenylamine	ND	10.0	µg/L							
N-Nitrosodi-n-propylamine	ND	10.0	µg/L							
Pentachlorophenol	ND	10.0	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 B263919 - SW-846 3510C											
Blank (B263919-BLK1)				Prepared & Analyzed: 08/10/20							
2-Methylnaphthalene	ND	5.00	µg/L								
Phenanthrene	ND	5.00	µg/L								
2-Methylphenol	ND	10.0	µg/L								
Phenol	ND	10.0	µg/L								
3/4-Methylphenol	ND	20.0	µg/L								
Pyrene	ND	5.00	µg/L								
1,2,4-Trichlorobenzene	ND	5.00	µg/L								L-04
2,4,6-Trichlorophenol	ND	10.0	µg/L								
Surrogate: 2-Fluorophenol	*95.1*		µg/L	200		47.5		15-110			
Surrogate: Phenol-d6	*71.5*		µg/L	200		35.8		15-110			
Surrogate: Nitrobenzene-d5	*83.4*		µg/L	100		83.4		30-130			
Surrogate: 2-Fluorobiphenyl	*72.1*		µg/L	100		72.1		30-130			
Surrogate: 2,4,6-Tribromophenol	*134*		µg/L	200		66.8		15-110			
Surrogate: p-Terphenyl-d14	*88.8*		µg/L	100		88.8		30-130			
LCS (B263919-BS1)				Prepared & Analyzed: 08/10/20							
Acenaphthene	28.9	5.00	µg/L	50.0		57.7		47-145			
Acenaphthylene	27.8	5.00	µg/L	50.0		55.7		33-145			
Anthracene	33.1	5.00	µg/L	50.0		66.3		27-133			
Benzidine	38.0	20.0	µg/L	50.0		75.9		40-140			V-04, V-05
Benzo(a)anthracene	33.5	5.00	µg/L	50.0		67.0		33-143			
Benzo(a)pyrene	33.6	5.00	µg/L	50.0		67.2		17-163			
Benzo(b)fluoranthene	34.9	5.00	µg/L	50.0		69.9		24-159			
Benzo(g,h,i)perylene	33.1	5.00	µg/L	50.0		66.2		10-219			
Benzo(k)fluoranthene	34.1	5.00	µg/L	50.0		68.3		11-162			
4-Bromophenylphenylether	30.7	10.0	µg/L	50.0		61.4		53-127			
Butylbenzylphthalate	35.1	10.0	µg/L	50.0		70.2		10-152			
4-Chloro-3-methylphenol	34.6	10.0	µg/L	50.0		69.3		22-147			
Bis(2-chloroethoxy)methane	36.3	10.0	µg/L	50.0		72.6		33-184			
Bis(2-chloroethyl)ether	43.5	10.0	µg/L	50.0		87.0		12-158			
Bis(2-chloroisopropyl)ether	50.1	10.0	µg/L	50.0		100		36-166			
2-Chloronaphthalene	25.5	10.0	µg/L	50.0		**51.0**	*	60-120			L-04
2-Chlorophenol	29.0	10.0	µg/L	50.0		58.1		23-134			
4-Chlorophenylphenylether	28.7	10.0	µg/L	50.0		57.4		25-158			
Chrysene	32.6	5.00	µg/L	50.0		65.3		17-168			
Dibenz(a,h)anthracene	34.5	5.00	µg/L	50.0		69.0		10-227			
Di-n-butylphthalate	35.7	10.0	µg/L	50.0		71.4		10-120			
1,3-Dichlorobenzene	19.1	5.00	µg/L	50.0		38.2		10-172			
1,4-Dichlorobenzene	19.2	5.00	µg/L	50.0		38.5		20-124			
1,2-Dichlorobenzene	20.4	5.00	µg/L	50.0		40.8		32-129			
3,3-Dichlorobenzidine	35.4	10.0	µg/L	50.0		70.8		10-262			
2,4-Dichlorophenol	30.5	10.0	µg/L	50.0		61.0		39-135			
Diethylphthalate	30.3	10.0	µg/L	50.0		60.6		10-120			
2,4-Dimethylphenol	30.7	10.0	µg/L	50.0		61.4		32-120			
Dimethylphthalate	32.4	10.0	µg/L	50.0		64.9		10-120			
4,6-Dinitro-2-methylphenol	33.6	10.0	µg/L	50.0		67.3		10-181			
2,4-Dinitrophenol	29.2	10.0	µg/L	50.0		58.3		10-191			
2,4-Dinitrotoluene	32.2	10.0	µg/L	50.0		64.4		39-139			
2,6-Dinitrotoluene	33.0	10.0	µg/L	50.0		66.1		50-158			
Di-n-octylphthalate	37.9	10.0	µg/L	50.0		75.8		4-146			
1,2-Diphenylhydrazine/Azobenzene	35.3	10.0	µg/L	50.0		70.6		40-140			
Bis(2-Ethylhexyl)phthalate	34.6	10.0	µg/L	50.0		69.1		8-158			

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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 B263919 - SW-846 3510C											
LCS (B263919-BS1)				Prepared & Analyzed: 08/10/20							
Fluoranthene	34.3	5.00	µg/L	50.0		68.7		26-137			
Fluorene	28.7	5.00	µg/L	50.0		**57.4**	*	59-121			L-04
Hexachlorobenzene	28.0	10.0	µg/L	50.0		55.9		10-152			
Hexachlorobutadiene	19.4	10.0	µg/L	50.0		38.7		24-120			
Hexachlorocyclopentadiene	14.4	10.0	µg/L	50.0		**28.7**	*	40-140			L-04, V-05
Hexachloroethane	18.3	10.0	µg/L	50.0		**36.6**	*	40-120			L-04
Indeno(1,2,3-cd)pyrene	36.1	5.00	µg/L	50.0		72.3		10-171			
Isophorone	39.0	10.0	µg/L	50.0		78.0		21-196			
Naphthalene	26.6	5.00	µg/L	50.0		53.2		21-133			
Nitrobenzene	34.2	10.0	µg/L	50.0		68.3		35-180			
2-Nitrophenol	30.0	10.0	µg/L	50.0		60.0		29-182			
4-Nitrophenol	17.9	10.0	µg/L	50.0		35.7		10-132			
N-Nitrosodimethylamine	26.2	10.0	µg/L	50.0		52.4		40-140			V-06
N-Nitrosodiphenylamine/Diphenylamine	33.4	10.0	µg/L	50.0		66.7		40-140			
N-Nitrosodi-n-propylamine	39.0	10.0	µg/L	50.0		78.0		10-230			
Pentachlorophenol	23.8	10.0	µg/L	50.0		47.7		14-176			
2-Methylnaphthalene	31.1	5.00	µg/L	50.0		62.1		40-140			
Phenanthrene	32.9	5.00	µg/L	50.0		65.8		54-120			
2-Methylphenol	28.9	10.0	µg/L	50.0		57.7		40-140			
Phenol	16.0	10.0	µg/L	50.0		32.0		5-120			
3/4-Methylphenol	28.3	20.0	µg/L	50.0		56.6		40-140			
Pyrene	32.8	5.00	µg/L	50.0		65.5		52-120			
1,2,4-Trichlorobenzene	21.7	5.00	µg/L	50.0		**43.4**	*	44-142			L-04
2,4,6-Trichlorophenol	29.9	10.0	µg/L	50.0		59.9		37-144			
Surrogate: 2-Fluorophenol	*85.6*		µg/L	200		42.8		15-110			
Surrogate: Phenol-d6	*65.0*		µg/L	200		32.5		15-110			
Surrogate: Nitrobenzene-d5	*75.2*		µg/L	100		75.2		30-130			
Surrogate: 2-Fluorobiphenyl	*65.6*		µg/L	100		65.6		30-130			
Surrogate: 2,4,6-Tribromophenol	*122*		µg/L	200		61.1		15-110			
Surrogate: p-Terphenyl-d14	*79.3*		µg/L	100		79.3		30-130			
LCS Dup (B263919-BSD1)				Prepared & Analyzed: 08/10/20							
Acenaphthene	28.7	5.00	µg/L	50.0		57.4		47-145	0.660	48	
Acenaphthylene	27.6	5.00	µg/L	50.0		55.1		33-145	1.05	74	
Anthracene	32.2	5.00	µg/L	50.0		64.4		27-133	2.91	66	
Benzidine	31.9	20.0	µg/L	50.0		63.8		40-140	17.3	30	V-04, V-05
Benzo(a)anthracene	33.1	5.00	µg/L	50.0		66.2		33-143	1.11	53	
Benzo(a)pyrene	33.3	5.00	µg/L	50.0		66.5		17-163	0.957	72	
Benzo(b)fluoranthene	34.5	5.00	µg/L	50.0		69.0		24-159	1.30	71	
Benzo(g,h,i)perylene	33.1	5.00	µg/L	50.0		66.2		10-219	0.121	97	
Benzo(k)fluoranthene	33.8	5.00	µg/L	50.0		67.5		11-162	1.09	63	
4-Bromophenylphenylether	29.6	10.0	µg/L	50.0		59.1		53-127	3.75	43	
Butylbenzylphthalate	32.9	10.0	µg/L	50.0		65.8		10-152	6.47	60	
4-Chloro-3-methylphenol	33.2	10.0	µg/L	50.0		66.3		22-147	4.37	73	
Bis(2-chloroethoxy)methane	35.3	10.0	µg/L	50.0		70.6		33-184	2.76	54	
Bis(2-chloroethyl)ether	42.8	10.0	µg/L	50.0		85.6		12-158	1.62	108	
Bis(2-chloroisopropyl)ether	49.7	10.0	µg/L	50.0		99.4		36-166	0.761	76	
2-Chloronaphthalene	25.4	10.0	µg/L	50.0		**50.7**	*	60-120	0.629	24	L-04
2-Chlorophenol	28.0	10.0	µg/L	50.0		56.0		23-134	3.58	61	
4-Chlorophenylphenylether	28.0	10.0	µg/L	50.0		56.1		25-158	2.40	61	
Chrysene	32.2	5.00	µg/L	50.0		64.4		17-168	1.33	87	
Dibenz(a,h)anthracene	34.3	5.00	µg/L	50.0		68.6		10-227	0.523	126	

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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 B263919 - SW-846 3510C											
LCS Dup (B263919-BSD1)				Prepared & Analyzed: 08/10/20							
Di-n-butylphthalate	33.5	10.0	µg/L	50.0		67.1		10-120	6.21	47	
1,3-Dichlorobenzene	19.9	5.00	µg/L	50.0		39.9		10-172	4.15	30	
1,4-Dichlorobenzene	19.6	5.00	µg/L	50.0		39.2		20-124	1.80	30	
1,2-Dichlorobenzene	21.0	5.00	µg/L	50.0		41.9		32-129	2.71	30	
3,3-Dichlorobenzidine	35.7	10.0	µg/L	50.0		71.3		10-262	0.788	108	
2,4-Dichlorophenol	29.5	10.0	µg/L	50.0		58.9		39-135	3.47	50	
Diethylphthalate	29.2	10.0	µg/L	50.0		58.5		10-120	3.66	100	
2,4-Dimethylphenol	28.7	10.0	µg/L	50.0		57.4		32-120	6.70	58	
Dimethylphthalate	31.4	10.0	µg/L	50.0		62.8		10-120	3.26	183	
4,6-Dinitro-2-methylphenol	31.6	10.0	µg/L	50.0		63.3		10-181	6.10	203	
2,4-Dinitrophenol	28.7	10.0	µg/L	50.0		57.4		10-191	1.52	132	
2,4-Dinitrotoluene	30.9	10.0	µg/L	50.0		61.8		39-139	4.15	42	
2,6-Dinitrotoluene	33.9	10.0	µg/L	50.0		67.8		50-158	2.60	48	
Di-n-octylphthalate	34.2	10.0	µg/L	50.0		68.3		4-146	10.3	69	
1,2-Diphenylhydrazine/Azobenzene	34.3	10.0	µg/L	50.0		68.7		40-140	2.81	30	
Bis(2-Ethylhexyl)phthalate	31.7	10.0	µg/L	50.0		63.5		8-158	8.51	82	
Fluoranthene	33.8	5.00	µg/L	50.0		67.6		26-137	1.53	66	
Fluorene	28.5	5.00	µg/L	50.0		**57.1**	*	59-121	0.594	38	L-04
Hexachlorobenzene	26.5	10.0	µg/L	50.0		53.0		10-152	5.29	55	
Hexachlorobutadiene	19.6	10.0	µg/L	50.0		39.2		24-120	1.33	62	
Hexachlorocyclopentadiene	14.3	10.0	µg/L	50.0		**28.6**	*	40-140	0.419	30	V-05, L-04
Hexachloroethane	18.8	10.0	µg/L	50.0		**37.5**	*	40-120	2.54	52	L-04
Indeno(1,2,3-cd)pyrene	36.1	5.00	µg/L	50.0		72.1		10-171	0.194	99	
Isophorone	36.9	10.0	µg/L	50.0		73.8		21-196	5.58	93	
Naphthalene	27.1	5.00	µg/L	50.0		54.2		21-133	1.94	65	
Nitrobenzene	33.2	10.0	µg/L	50.0		66.5		35-180	2.73	62	
2-Nitrophenol	29.4	10.0	µg/L	50.0		58.7		29-182	2.16	55	
4-Nitrophenol	18.2	10.0	µg/L	50.0		36.4		10-132	1.89	131	
N-Nitrosodimethylamine	25.8	10.0	µg/L	50.0		51.6		40-140	1.58	30	V-06
N-Nitrosodiphenylamine/Diphenylamine	32.6	10.0	µg/L	50.0		65.3		40-140	2.24	30	
N-Nitrosodi-n-propylamine	38.0	10.0	µg/L	50.0		75.9		10-230	2.68	87	
Pentachlorophenol	23.1	10.0	µg/L	50.0		46.2		14-176	3.15	86	
2-Methylnaphthalene	30.2	5.00	µg/L	50.0		60.5		40-140	2.74	30	
Phenanthrene	32.2	5.00	µg/L	50.0		64.5		54-120	2.06	39	
2-Methylphenol	29.0	10.0	µg/L	50.0		57.9		40-140	0.277	30	
Phenol	15.6	10.0	µg/L	50.0		31.1		5-120	2.72	64	
3/4-Methylphenol	27.5	20.0	µg/L	50.0		55.1		40-140	2.76	30	
Pyrene	32.2	5.00	µg/L	50.0		64.3		52-120	1.85	49	
1,2,4-Trichlorobenzene	21.4	5.00	µg/L	50.0		**42.8**	*	44-142	1.53	50	L-04
2,4,6-Trichlorophenol	29.6	10.0	µg/L	50.0		59.1		37-144	1.28	58	
Surrogate: 2-Fluorophenol	*84.9*		µg/L	200		42.4		15-110			
Surrogate: Phenol-d6	*62.8*		µg/L	200		31.4		15-110			
Surrogate: Nitrobenzene-d5	*73.0*		µg/L	100		73.0		30-130			
Surrogate: 2-Fluorobiphenyl	*63.9*		µg/L	100		63.9		30-130			
Surrogate: 2,4,6-Tribromophenol	*114*		µg/L	200		57.0		15-110			
Surrogate: p-Terphenyl-d14	*74.5*		µg/L	100		74.5		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 B263919 - SW-846 3510C											
Matrix Spike (B263919-MS1)		**Source: 20H0160-03**		Prepared: 08/10/20 Analyzed: 08/11/20							
Benzidine	2.65	20.4	µg/L	51.0	ND	**5.20**	*	40-140			V-04, V-05, J, MS-09
4-Bromophenylphenylether	34.1	10.2	µg/L	51.0	ND	66.8		53-127			
Butylbenzylphthalate	34.0	10.2	µg/L	51.0	ND	66.6		10-152			
4-Chloro-3-methylphenol	37.4	10.2	µg/L	51.0	ND	73.2		22-147			
Bis(2-chloroethoxy)methane	37.9	10.2	µg/L	51.0	ND	74.3		33-184			
Bis(2-chloroethyl)ether	46.7	10.2	µg/L	51.0	ND	91.5		12-158			
Bis(2-chloroisopropyl)ether	55.4	10.2	µg/L	51.0	ND	109		36-166			
2-Chloronaphthalene	27.8	10.2	µg/L	51.0	ND	**54.5**	*	60-120			L-04, MS-09
2-Chlorophenol	31.9	10.2	µg/L	51.0	ND	62.5		23-134			
4-Chlorophenylphenylether	31.4	10.2	µg/L	51.0	ND	61.6		25-158			
Di-n-butylphthalate	35.2	10.2	µg/L	51.0	ND	68.9		10-120			
1,3-Dichlorobenzene	25.9	5.10	µg/L	51.0	ND	50.9		10-172			R-06
1,4-Dichlorobenzene	25.8	5.10	µg/L	51.0	ND	50.5		20-124			R-06
1,2-Dichlorobenzene	27.0	5.10	µg/L	51.0	ND	52.9		32-129			R-06
3,3-Dichlorobenzidine	26.0	10.2	µg/L	51.0	ND	50.9		10-262			
2,4-Dichlorophenol	33.2	10.2	µg/L	51.0	ND	65.1		39-135			
Diethylphthalate	31.7	10.2	µg/L	51.0	0.478	61.2		10-120			
2,4-Dimethylphenol	32.9	10.2	µg/L	51.0	ND	64.4		32-120			
Dimethylphthalate	33.6	10.2	µg/L	51.0	ND	65.9		10-120			
4,6-Dinitro-2-methylphenol	33.4	10.2	µg/L	51.0	ND	65.4		10-181			
2,4-Dinitrophenol	31.0	10.2	µg/L	51.0	ND	60.8		10-191			
2,4-Dinitrotoluene	33.3	10.2	µg/L	51.0	ND	65.3		39-139			
2,6-Dinitrotoluene	35.7	10.2	µg/L	51.0	ND	69.9		50-158			
Di-n-octylphthalate	34.3	10.2	µg/L	51.0	ND	67.3		4-146			
1,2-Diphenylhydrazine/Azobenzene	36.9	10.2	µg/L	51.0	ND	72.4		40-140			
Hexachlorobenzene	30.5	10.2	µg/L	51.0	ND	59.9		10-152			
Hexachlorobutadiene	26.9	10.2	µg/L	51.0	ND	52.7		24-120			
Hexachlorocyclopentadiene	19.9	10.2	µg/L	51.0	ND	**39.0**	*	40-140			V-05, MS-09, R-06
Hexachloroethane	25.6	10.2	µg/L	51.0	ND	50.1		40-120			R-06
Isophorone	40.2	10.2	µg/L	51.0	ND	78.9		21-196			
Nitrobenzene	36.1	10.2	µg/L	51.0	ND	70.8		35-180			
2-Nitrophenol	32.5	10.2	µg/L	51.0	ND	63.7		29-182			
4-Nitrophenol	19.5	10.2	µg/L	51.0	ND	38.2		10-132			
N-Nitrosodimethylamine	30.8	10.2	µg/L	51.0	ND	60.3		40-140			V-06, R-06
N-Nitrosodiphenylamine/Diphenylamine	35.7	10.2	µg/L	51.0	ND	70.0		40-140			
N-Nitrosodi-n-propylamine	42.1	10.2	µg/L	51.0	ND	82.5		10-230			
2-Methylphenol	32.7	10.2	µg/L	51.0	ND	64.1		40-140			R-06
Phenol	17.9	10.2	µg/L	51.0	ND	35.2		5-120			
3/4-Methylphenol	31.6	20.4	µg/L	51.0	ND	61.8		40-140			
1,2,4-Trichlorobenzene	27.9	5.10	µg/L	51.0	ND	54.7		44-142			
2,4,6-Trichlorophenol	32.2	10.2	µg/L	51.0	ND	63.0		37-144			
Surrogate: 2-Fluorophenol	*99.2*		µg/L	204		48.6		15-110			
Surrogate: Phenol-d6	*74.1*		µg/L	204		36.3		15-110			
Surrogate: Nitrobenzene-d5	*80.2*		µg/L	102		78.6		30-130			
Surrogate: 2-Fluorobiphenyl	*69.3*		µg/L	102		67.9		30-130			
Surrogate: 2,4,6-Tribromophenol	*126*		µg/L	204		61.9		15-110			
Surrogate: p-Terphenyl-d14	*85.5*		µg/L	102		83.8		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 B263919 - SW-846 3510C												
Matrix Spike Dup (B263919-MSD1)	**Source: 20H0160-03**			Prepared: 08/10/20 Analyzed: 08/11/20								
Benzidine	3.06	20.6	µg/L	51.5	ND	**5.94**	*	40-140			30	J, MS-09, V-04, V-05
4-Bromophenylphenylether	30.9	10.3	µg/L	51.5	ND	60.0		53-127	9.77		43	
Butylbenzylphthalate	32.4	10.3	µg/L	51.5	ND	62.8		10-152	4.94		60	
4-Chloro-3-methylphenol	33.2	10.3	µg/L	51.5	ND	64.5		22-147	11.7		73	
Bis(2-chloroethoxy)methane	30.1	10.3	µg/L	51.5	ND	58.4		33-184	23.0		54	
Bis(2-chloroethyl)ether	26.5	10.3	µg/L	51.5	ND	51.4		12-158	55.1		108	
Bis(2-chloroisopropyl)ether	32.4	10.3	µg/L	51.5	ND	62.8		36-166	52.6		76	
2-Chloronaphthalene	23.8	10.3	µg/L	51.5	ND	**46.2**	*	60-120	15.4		24	L-04, MS-09
2-Chlorophenol	20.0	10.3	µg/L	51.5	ND	38.7		23-134	46.0		61	
4-Chlorophenylphenylether	29.7	10.3	µg/L	51.5	ND	57.7		25-158	5.65		61	
Di-n-butylphthalate	33.3	10.3	µg/L	51.5	ND	64.7		10-120	5.32		47	
1,3-Dichlorobenzene	13.5	5.15	µg/L	51.5	ND	26.2		10-172	**63.2**	*	30	R-06
1,4-Dichlorobenzene	13.7	5.15	µg/L	51.5	ND	26.6		20-124	**61.0**	*	30	R-06
1,2-Dichlorobenzene	14.5	5.15	µg/L	51.5	ND	**28.1**	*	32-129	**60.3**	*	30	MS-23
3,3-Dichlorobenzidine	26.0	10.3	µg/L	51.5	ND	50.5		10-262	0.158		108	
2,4-Dichlorophenol	26.8	10.3	µg/L	51.5	ND	51.9		39-135	21.5		50	
Diethylphthalate	30.4	10.3	µg/L	51.5	0.478	58.0		10-120	4.33		100	
2,4-Dimethylphenol	27.1	10.3	µg/L	51.5	ND	52.6		32-120	19.2		58	
Dimethylphthalate	31.9	10.3	µg/L	51.5	ND	61.9		10-120	5.14		183	
4,6-Dinitro-2-methylphenol	32.8	10.3	µg/L	51.5	ND	63.6		10-181	1.76		203	
2,4-Dinitrophenol	29.9	10.3	µg/L	51.5	ND	57.9		10-191	3.76		132	
2,4-Dinitrotoluene	30.7	10.3	µg/L	51.5	ND	59.5		39-139	8.21		42	
2,6-Dinitrotoluene	33.9	10.3	µg/L	51.5	ND	65.7		50-158	5.23		48	
Di-n-octylphthalate	32.4	10.3	µg/L	51.5	ND	62.9		4-146	5.67		69	
1,2-Diphenylhydrazine/Azobenzene	34.1	10.3	µg/L	51.5	ND	66.2		40-140	7.98		30	
Hexachlorobenzene	27.0	10.3	µg/L	51.5	ND	52.3		10-152	12.4		55	
Hexachlorobutadiene	17.2	10.3	µg/L	51.5	ND	33.3		24-120	44.2		62	
Hexachlorocyclopentadiene	13.2	10.3	µg/L	51.5	ND	**25.6**	*	40-140	**40.4**	*	30	R-06, MS-09, V-05
Hexachloroethane	13.7	10.3	µg/L	51.5	ND	**26.6**	*	40-120	**60.5**	*	52	MS-23
Isophorone	32.7	10.3	µg/L	51.5	ND	63.5		21-196	20.6		93	
Nitrobenzene	23.9	10.3	µg/L	51.5	ND	46.4		35-180	40.5		62	
2-Nitrophenol	23.1	10.3	µg/L	51.5	ND	44.9		29-182	33.7		55	
4-Nitrophenol	19.0	10.3	µg/L	51.5	ND	36.8		10-132	2.81		131	
N-Nitrosodimethylamine	16.9	10.3	µg/L	51.5	ND	**32.9**	*	40-140	**58.0**	*	30	MS-23, V-06
N-Nitrosodiphenylamine/Diphenylamine	32.9	10.3	µg/L	51.5	ND	63.7		40-140	8.39		30	
N-Nitrosodi-n-propylamine	30.9	10.3	µg/L	51.5	ND	60.0		10-230	30.5		87	
2-Methylphenol	24.0	10.3	µg/L	51.5	ND	46.6		40-140	**30.7**	*	30	R-06
Phenol	12.7	10.3	µg/L	51.5	ND	24.6		5-120	34.3		64	
3/4-Methylphenol	25.4	20.6	µg/L	51.5	ND	49.4		40-140	21.4		30	
1,2,4-Trichlorobenzene	18.6	5.15	µg/L	51.5	ND	**36.0**	*	44-142	40.2		50	MS-22
2,4,6-Trichlorophenol	28.7	10.3	µg/L	51.5	ND	55.7		37-144	11.3		58	
Surrogate: 2-Fluorophenol	*55.2*		µg/L	206		26.8		15-110				
Surrogate: Phenol-d6	*51.6*		µg/L	206		25.0		15-110				
Surrogate: Nitrobenzene-d5	*52.6*		µg/L	103		51.1		30-130				
Surrogate: 2-Fluorobiphenyl	*60.5*		µg/L	103		58.7		30-130				
Surrogate: 2,4,6-Tribromophenol	*119*		µg/L	206		57.8		15-110				
Surrogate: p-Terphenyl-d14	*79.1*		µg/L	103		76.7		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 B263850 - SW-846 3510C										
Blank (B263850-BLK1)				Prepared: 08/09/20 Analyzed: 08/11/20						
Aroclor-1016	ND	0.0200	µg/L							
Aroclor-1016 [2C]	ND	0.0200	µg/L							
Aroclor-1221	ND	0.0200	µg/L							
Aroclor-1221 [2C]	ND	0.0200	µg/L							
Aroclor-1232	ND	0.0200	µg/L							
Aroclor-1232 [2C]	ND	0.0200	µg/L							
Aroclor-1242	ND	0.0200	µg/L							
Aroclor-1242 [2C]	ND	0.0200	µg/L							
Aroclor-1248	ND	0.0200	µg/L							
Aroclor-1248 [2C]	ND	0.0200	µg/L							
Aroclor-1254	ND	0.0200	µg/L							
Aroclor-1254 [2C]	ND	0.0200	µg/L							
Aroclor-1260	ND	0.0200	µg/L							
Aroclor-1260 [2C]	ND	0.0200	µg/L							
Surrogate: Decachlorobiphenyl	*0.182*		µg/L	0.200		90.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.180*		µg/L	0.200		89.9	30-150			
Surrogate: Tetrachloro-m-xylene	*0.150*		µg/L	0.200		74.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.169*		µg/L	0.200		84.4	30-150			
LCS (B263850-BS1)				Prepared: 08/09/20 Analyzed: 08/11/20						
Aroclor-1016	0.414	0.200	µg/L	0.500		82.8	50-140			
Aroclor-1016 [2C]	0.442	0.200	µg/L	0.500		88.4	50-140			
Aroclor-1260	0.414	0.200	µg/L	0.500		82.7	8-140			
Aroclor-1260 [2C]	0.406	0.200	µg/L	0.500		81.2	8-140			
Surrogate: Decachlorobiphenyl	*1.70*		µg/L	2.00		85.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.69*		µg/L	2.00		84.4	30-150			
Surrogate: Tetrachloro-m-xylene	*1.50*		µg/L	2.00		74.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.69*		µg/L	2.00		84.5	30-150			
LCS Dup (B263850-BSD1)				Prepared: 08/09/20 Analyzed: 08/11/20						
Aroclor-1016	0.387	0.200	µg/L	0.500		77.4	50-140	6.77		
Aroclor-1016 [2C]	0.412	0.200	µg/L	0.500		82.5	50-140	6.96		
Aroclor-1260	0.399	0.200	µg/L	0.500		79.8	8-140	3.56		
Aroclor-1260 [2C]	0.391	0.200	µg/L	0.500		78.2	8-140	3.77		
Surrogate: Decachlorobiphenyl	*1.61*		µg/L	2.00		80.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.60*		µg/L	2.00		80.1	30-150			
Surrogate: Tetrachloro-m-xylene	*1.44*		µg/L	2.00		72.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.62*		µg/L	2.00		81.2	30-150			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B263573 - EPA 200.7										
Blank (B263573-BLK1)				Prepared: 08/05/20 Analyzed: 08/06/20						
Iron	ND	0.050	mg/L							
LCS (B263573-BS1)				Prepared: 08/05/20 Analyzed: 08/06/20						
Iron	4.07	0.050	mg/L	4.00		102	85-115			
LCS Dup (B263573-BSD1)				Prepared: 08/05/20 Analyzed: 08/06/20						
Iron	4.31	0.050	mg/L	4.00		108	85-115	5.67	20	
Duplicate (B263573-DUP1)	**Source: 20H0160-03**			Prepared: 08/05/20 Analyzed: 08/06/20						
Iron	4.10	0.050	mg/L		4.20			2.37	20	
Matrix Spike (B263573-MS1)	**Source: 20H0160-03**			Prepared: 08/05/20 Analyzed: 08/06/20						
Iron	8.28	0.050	mg/L	4.00	4.20	102	70-130			
Batch B263574 - EPA 200.8										
Blank (B263574-BLK1)				Prepared: 08/05/20 Analyzed: 08/06/20						
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 (B263574-BS1)				Prepared: 08/05/20 Analyzed: 08/06/20						
Antimony	510	10	µg/L	500		102	85-115			
Arsenic	512	8.0	µg/L	500		102	85-115			
Cadmium	502	2.0	µg/L	500		100	85-115			
Chromium	490	10	µg/L	500		98.1	85-115			
Copper	939	10	µg/L	1000		93.9	85-115			
Lead	504	5.0	µg/L	500		101	85-115			
Nickel	495	50	µg/L	500		98.9	85-115			
Selenium	521	50	µg/L	500		104	85-115			
Silver	492	2.0	µg/L	500		98.4	85-115			
Zinc	983	100	µg/L	1000		98.3	85-115			
LCS Dup (B263574-BSD1)				Prepared: 08/05/20 Analyzed: 08/06/20						
Antimony	518	10	µg/L	500		104	85-115	1.57	20	
Arsenic	523	8.0	µg/L	500		105	85-115	2.12	20	
Cadmium	508	2.0	µg/L	500		102	85-115	1.04	20	
Chromium	495	10	µg/L	500		99.0	85-115	0.982	20	
Copper	951	10	µg/L	1000		95.1	85-115	1.29	20	
Lead	497	5.0	µg/L	500		99.3	85-115	1.43	20	
Nickel	499	50	µg/L	500		99.9	85-115	0.956	20	
Selenium	517	50	µg/L	500		103	85-115	0.716	20	
Silver	487	2.0	µg/L	500		97.4	85-115	1.03	20	
Zinc	1020	100	µg/L	1000		102	85-115	3.63	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 B263574 - EPA 200.8											
Duplicate (B263574-DUP1)	**Source: 20H0160-03**			Prepared: 08/05/20 Analyzed: 08/06/20							
Antimony	ND	1.0	µg/L		ND			NC		20	
Arsenic	3.63	0.80	µg/L		4.32			17.4		20	
Cadmium	ND	0.20	µg/L		ND			NC		20	
Chromium	ND	1.0	µg/L		ND			NC		20	
Copper	8.50	1.0	µg/L		8.29			2.48		20	
Lead	ND	0.50	µg/L		ND			NC		20	
Nickel	ND	5.0	µg/L		ND			NC		20	
Selenium	1.72	5.0	µg/L		2.42			**34.0**	*	20	J
Silver	ND	0.20	µg/L		ND			NC		20	
Zinc	ND	10	µg/L		ND			NC		20	
Matrix Spike (B263574-MS1)	**Source: 20H0160-03**			Prepared: 08/05/20 Analyzed: 08/06/20							
Antimony	520	10	µg/L	500	ND	104	70-130				
Arsenic	528	8.0	µg/L	500	ND	106	70-130				
Cadmium	504	2.0	µg/L	500	ND	101	70-130				
Chromium	489	10	µg/L	500	ND	97.8	70-130				
Copper	961	10	µg/L	1000	ND	96.1	70-130				
Lead	503	5.0	µg/L	500	ND	101	70-130				
Nickel	492	50	µg/L	500	ND	98.4	70-130				
Selenium	521	50	µg/L	500	ND	104	70-130				
Silver	475	2.0	µg/L	500	ND	95.1	70-130				
Zinc	1010	100	µg/L	1000	ND	101	70-130				
Batch B263634 - EPA 245.1											
Blank (B263634-BLK1)				Prepared: 08/06/20 Analyzed: 08/07/20							
Mercury	ND	0.00010	mg/L								
LCS (B263634-BS1)				Prepared: 08/06/20 Analyzed: 08/07/20							
Mercury	0.00374	0.00010	mg/L	0.00400		93.6	85-115				
LCS Dup (B263634-BSD1)				Prepared: 08/06/20 Analyzed: 08/07/20							
Mercury	0.00376	0.00010	mg/L	0.00400		94.0	85-115	0.488		20	

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QUALITY CONTROL

Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B263635 - EPA 245.1 Dissolved										
Blank (B263635-BLK1)				Prepared: 08/06/20 Analyzed: 08/07/20						
Mercury	ND	0.00010	mg/L							
LCS (B263635-BS1)				Prepared: 08/06/20 Analyzed: 08/07/20						
Mercury	0.00382	0.00010	mg/L	0.00400		95.4	85-115			
LCS Dup (B263635-BSD1)				Prepared: 08/06/20 Analyzed: 08/07/20						
Mercury	0.00377	0.00010	mg/L	0.00400		94.1	85-115	1.37	20	
Duplicate (B263635-DUP1)		**Source: 20H0160-01**		Prepared: 08/06/20 Analyzed: 08/07/20						
Mercury	ND	0.00010	mg/L		ND			NC	30	
Matrix Spike (B263635-MS1)		**Source: 20H0160-01**		Prepared: 08/06/20 Analyzed: 08/07/20						
Mercury	0.00362	0.00010	mg/L	0.00400	ND	90.6	70-130			
Batch B263700 - EPA 200.7 Dissolved										
Blank (B263700-BLK1)				Prepared: 08/06/20 Analyzed: 08/07/20						
Iron	ND	0.050	mg/L							
LCS (B263700-BS1)				Prepared: 08/06/20 Analyzed: 08/07/20						
Iron	4.33	0.050	mg/L	4.00		108	85-115			
LCS Dup (B263700-BSD1)				Prepared: 08/06/20 Analyzed: 08/07/20						
Iron	4.25	0.050	mg/L	4.00		106	85-115	1.83	20	
Duplicate (B263700-DUP1)		**Source: 20H0160-03**		Prepared: 08/06/20 Analyzed: 08/07/20						
Iron	3.88	0.050	mg/L		3.85			0.739	20	
Matrix Spike (B263700-MS1)		**Source: 20H0160-03**		Prepared: 08/06/20 Analyzed: 08/07/20						
Iron	8.09	0.050	mg/L	4.00	3.85	106	70-130			
Batch B263701 - EPA 200.8 Dissolved										
Blank (B263701-BLK1)				Prepared: 08/06/20 Analyzed: 08/07/20						
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							

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QUALITY CONTROL

Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD		RPD Limit	Notes
Batch B263701 - EPA 200.8 Dissolved											
LCS (B263701-BS1)				Prepared: 08/06/20 Analyzed: 08/07/20							
Antimony	493	10	µg/L	500		98.7	85-115				
Arsenic	497	8.0	µg/L	500		99.3	85-115				
Cadmium	490	2.0	µg/L	500		98.0	85-115				
Chromium	526	10	µg/L	500		105	85-115				
Copper	1030	10	µg/L	1000		103	85-115				
Lead	491	5.0	µg/L	500		98.1	85-115				
Nickel	501	50	µg/L	500		100	85-115				
Selenium	507	50	µg/L	500		101	85-115				
Silver	462	2.0	µg/L	500		92.4	85-115				
Zinc	993	100	µg/L	1000		99.3	85-115				
LCS Dup (B263701-BSD1)				Prepared: 08/06/20 Analyzed: 08/07/20							
Antimony	502	10	µg/L	500		100	85-115	1.64		20	
Arsenic	505	8.0	µg/L	500		101	85-115	1.71		20	
Cadmium	500	2.0	µg/L	500		100	85-115	2.08		20	
Chromium	533	10	µg/L	500		107	85-115	1.32		20	
Copper	1030	10	µg/L	1000		103	85-115	0.161		20	
Lead	498	5.0	µg/L	500		99.6	85-115	1.54		20	
Nickel	506	50	µg/L	500		101	85-115	1.08		20	
Selenium	518	50	µg/L	500		104	85-115	2.06		20	
Silver	471	2.0	µg/L	500		94.2	85-115	1.92		20	
Zinc	1010	100	µg/L	1000		101	85-115	1.26		20	
Duplicate (B263701-DUP1)	**Source: 20H0160-03**			Prepared: 08/06/20 Analyzed: 08/07/20							
Antimony	ND	1.0	µg/L		ND			NC		20	
Arsenic	3.75	0.80	µg/L		3.47			7.68		20	
Cadmium	ND	0.20	µg/L		ND			NC		20	
Chromium	ND	1.0	µg/L		ND			NC		20	
Copper	9.95	1.0	µg/L		9.81			1.41		20	
Lead	ND	0.50	µg/L		ND			NC		20	
Nickel	ND	5.0	µg/L		ND			NC		20	
Selenium	2.30	5.0	µg/L		1.70			**29.9**	*	20	J
Silver	ND	0.20	µg/L		ND			NC		20	
Zinc	ND	10	µg/L		ND			NC		20	
Matrix Spike (B263701-MS1)	**Source: 20H0160-03**			Prepared: 08/06/20 Analyzed: 08/07/20							
Antimony	491	10	µg/L	500	ND	98.1	70-130				
Arsenic	489	8.0	µg/L	500	ND	97.7	70-130				
Cadmium	480	2.0	µg/L	500	ND	96.1	70-130				
Chromium	496	10	µg/L	500	ND	99.3	70-130				
Copper	982	10	µg/L	1000	9.81	97.3	70-130				
Lead	503	5.0	µg/L	500	ND	101	70-130				
Nickel	469	50	µg/L	500	ND	93.8	70-130				
Selenium	491	50	µg/L	500	ND	98.3	70-130				
Silver	447	2.0	µg/L	500	ND	89.4	70-130				
Zinc	962	100	µg/L	1000	ND	96.2	70-130				

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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 B263515 - SM21-22 4500 CL G											
Blank (B263515-BLK1)				Prepared & Analyzed: 08/04/20							
Chlorine, Residual	ND	0.020	mg/L								
LCS (B263515-BS1)				Prepared & Analyzed: 08/04/20							
Chlorine, Residual	0.67	0.020	mg/L	0.614		110		85.3-130			
LCS Dup (B263515-BSD1)				Prepared & Analyzed: 08/04/20							
Chlorine, Residual	0.66	0.020	mg/L	0.614		107		85.3-130	2.75	13.6	
Duplicate (B263515-DUP1)	**Source: 20H0160-03**			Prepared & Analyzed: 08/04/20							
Chlorine, Residual	ND	0.20	mg/L		ND				NC	29.4	
Matrix Spike (B263515-MS1)	**Source: 20H0160-03**			Prepared & Analyzed: 08/04/20							
Chlorine, Residual	1.7	0.20	mg/L	10.0	ND	17.0		10-169			
Batch B263516 - SM21-22 3500 Cr B											
Blank (B263516-BLK1)				Prepared & Analyzed: 08/04/20							
Hexavalent Chromium	ND	0.0040	mg/L								
LCS (B263516-BS1)				Prepared & Analyzed: 08/04/20							
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		103		90-115			
LCS Dup (B263516-BSD1)				Prepared & Analyzed: 08/04/20							
Hexavalent Chromium	0.11	0.0040	mg/L	0.100		106		90-115	2.36	11	
Matrix Spike (B263516-MS1)	**Source: 20H0160-03**			Prepared & Analyzed: 08/04/20							
Hexavalent Chromium	0.011	0.0040	mg/L	0.100	ND	**10.7**	*	34.7-148			MS-09
Matrix Spike Dup (B263516-MSD1)	**Source: 20H0160-03**			Prepared & Analyzed: 08/04/20							
Hexavalent Chromium	0.012	0.0040	mg/L	0.100	ND	**11.9**	*	34.7-148	10.9	13.2	MS-09
Batch B263524 - SM21-22 2540D											
Blank (B263524-BLK1)				Prepared & Analyzed: 08/05/20							
Total Suspended Solids	ND	2.5	mg/L								
LCS (B263524-BS1)				Prepared & Analyzed: 08/05/20							
Total Suspended Solids	182	10	mg/L	200		91.0		57.4-123			
Batch B263726 - EPA 420.1											
Blank (B263726-BLK1)				Prepared: 08/07/20 Analyzed: 08/10/20							
Phenol	ND	0.050	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 B263726 - EPA 420.1										
LCS (B263726-BS1)				Prepared: 08/07/20 Analyzed: 08/10/20						
Phenol	0.50	0.050	mg/L	0.500		99.8	75.6-130			
LCS Dup (B263726-BSD1)				Prepared: 08/07/20 Analyzed: 08/10/20						
Phenol	0.51	0.050	mg/L	0.500		101	75.6-130	1.50	10.3	
Duplicate (B263726-DUP1)		**Source: 20H0160-02**		Prepared: 08/07/20 Analyzed: 08/10/20						
Phenol	ND	0.050	mg/L		ND			NC	37.2	
Matrix Spike (B263726-MS1)		**Source: 20H0160-02**		Prepared: 08/07/20 Analyzed: 08/10/20						
Phenol	0.45	0.050	mg/L	0.500	ND	90.8	34.1-149			
Batch B263869 - EPA 300.0										
Blank (B263869-BLK1)				Prepared & Analyzed: 08/09/20						
Chloride	ND	1.0	mg/L							
LCS (B263869-BS1)				Prepared & Analyzed: 08/09/20						
Chloride	10		mg/L	10.0		105	90-110			
LCS Dup (B263869-BSD1)				Prepared & Analyzed: 08/09/20						
Chloride	10		mg/L	10.0		105	90-110	0.0382	20	
Duplicate (B263869-DUP1)		**Source: 20H0160-03**		Prepared & Analyzed: 08/09/20						
Chloride	830	50	mg/L		830			0.0360	20	
Matrix Spike (B263869-MS1)		**Source: 20H0160-03**		Prepared & Analyzed: 08/09/20						
Chloride	1300	50	mg/L	500	830	86.1	80-120			
Batch B263934 - EPA 300.0										
Blank (B263934-BLK1)				Prepared & Analyzed: 08/10/20						
Chloride	ND	1.0	mg/L							
LCS (B263934-BS1)				Prepared & Analyzed: 08/10/20						
Chloride	11		mg/L	10.0		106	90-110			
LCS Dup (B263934-BSD1)				Prepared & Analyzed: 08/10/20						
Chloride	11		mg/L	10.0		106	90-110	0.107	20	
Duplicate (B263934-DUP1)		**Source: 20H0160-01**		Prepared & Analyzed: 08/10/20						
Chloride	7000	500	mg/L		7000			0.121	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 B263934 - EPA 300.0										
Matrix Spike (B263934-MS1)	**Source: 20H0160-01**			Prepared & Analyzed: 08/10/20						
Chloride	12000	500	mg/L	5000	7000	90.9	80-120			
Batch B263983 - EPA 350.1										
Blank (B263983-BLK1)				Prepared: 08/10/20 Analyzed: 08/11/20						
Ammonia as N	ND	0.10	mg/L							
LCS (B263983-BS1)				Prepared: 08/10/20 Analyzed: 08/11/20						
Ammonia as N	2.1	0.10	mg/L	2.00		104	90-110			
LCS Dup (B263983-BSD1)				Prepared: 08/10/20 Analyzed: 08/11/20						
Ammonia as N	2.0	0.10	mg/L	2.00		101	90-110	2.78	20	
Batch B264011 - EPA 1664B										
Blank (B264011-BLK1)				Prepared & Analyzed: 08/11/20						
Silica Gel Treated HEM (SGT-HEM)	ND	1.4	mg/L							
LCS (B264011-BS1)				Prepared & Analyzed: 08/11/20						
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 B263772 - EPA 504 water										
Blank (B263772-BLK1)				Prepared & Analyzed: 08/07/20						
1,2-Dibromoethane (EDB)	ND	0.021	µg/L							
Surrogate: 1,3-Dibromopropane	*0.948*		µg/L	1.05		90.3	70-130			
LCS (B263772-BS1)				Prepared & Analyzed: 08/07/20						
1,2-Dibromoethane (EDB)	0.222	0.021	µg/L	0.259		85.6	70-130			
Surrogate: 1,3-Dibromopropane	*0.874*		µg/L	1.04		84.3	70-130			
LCS Dup (B263772-BSD1)				Prepared & Analyzed: 08/07/20						
1,2-Dibromoethane (EDB)	0.213	0.021	µg/L	0.262		81.6	70-130	3.86		
Surrogate: 1,3-Dibromopropane	*0.867*		µg/L	1.05		82.9	70-130			
Matrix Spike (B263772-MS1)	**Source: 20H0160-03**			Prepared & Analyzed: 08/07/20						
1,2-Dibromoethane (EDB)	0.208	0.020	µg/L	0.251	ND	83.2	65-135			
Surrogate: 1,3-Dibromopropane	*0.875*		µg/L	1.00		87.3	70-130			

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT

EPA 504.1

LCS

Lab Sample ID: B263772-BS1 Date(s) Analyzed 08/07/2020 08/07/2020

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	3.630	0.000	0.000	0.222	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT

EPA 504.1

LCS Dup

Lab Sample ID: B263772-BSD1 Date(s) Analyzed 08/07/2020 08/07/2020

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	3.632	0.000	0.000	0.213	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT

EPA 504.1

Matrix Spike

Lab Sample ID: B263772-MS1 Date(s) Analyzed 08/07/2020 08/07/2020

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	3.633	0.000	0.000	0.208	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT

608.3

LCS

Lab Sample ID: B263850-BS1 Date(s) Analyzed 08/11/2020 08/11/2020

Instrument ID (1): ECD5 Instrument ID (2): ECD5

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	0.414	
	2	0.000	0.000	0.000	0.442	7.5
Aroclor-1260	1	0.000	0.000	0.000	0.414	
	2	0.000	0.000	0.000	0.406	1.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT

608.3

LCS Dup

Lab Sample ID: B263850-BSD1 Date(s) Analyzed 08/11/2020 08/11/2020

Instrument ID (1): ECD5 Instrument ID (2): ECD5

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	0.387	
	2	0.000	0.000	0.000	0.412	5.5
Aroclor-1260	1	0.000	0.000	0.000	0.399	
	2	0.000	0.000	0.000	0.391	2.3

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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-01	Elevated reporting limits for all volatile compounds due to foaming sample matrix.
DL-03	Elevated reporting limit due to matrix interference.
DL-15	Sample required a dilution due to low internal standard recovery of the lesser diluted digestion, reporting limit is elevated.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
L-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.
MS-09	Matrix spike recovery and/or matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a low bias for reported result or non-homogeneous sample aliquots cannot be eliminated.
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.
MS-22	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.
MS-23	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is outside of the method specified criteria. Reduced precision anticipated for any reported result for this compound.
R-06	Matrix spike duplicate RPD is outside of control limits. Reduced precision is anticipated for reported result for this compound in this sample.
S-07	One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.
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.
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
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
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
Bromomethane	CT,NY,MA,NH,RI,NC,ME,VA
tert-Butyl Alcohol (TBA)	NY,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
1,2-Dichlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA
1,3-Dichlorobenzene	CT,NY,MA,NH,RI,NC,ME,VA
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
Ethylbenzene	CT,NY,MA,NH,RI,NC,ME,VA
Methyl tert-Butyl Ether (MTBE)	NY,MA,NH,NC
Methylene Chloride	CT,NY,MA,NH,RI,NC,ME,VA
1,1,2,2-Tetrachloroethane	CT,NY,MA,NH,RI,NC,ME,VA
Tetrachloroethylene	CT,NY,MA,NH,RI,NC,ME,VA

con-test® 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
624.1 in Water	
Toluene	CT,NY,MA,NH,RI,NC,ME,VA
1,2,4-Trichlorobenzene	MA,NC
1,1,1-Trichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
1,1,2-Trichloroethane	CT,NY,MA,NH,RI,NC,ME,VA
Trichloroethylene	CT,NY,MA,NH,RI,NC,ME,VA
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
625.1 in Water	
Benzidine	CT,MA,NH,NY,NC,RI,ME,VA
4-Bromophenylphenylether	CT,MA,NH,NY,NC,RI,ME,VA
Butylbenzylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
4-Chloro-3-methylphenol	CT,MA,NH,NY,NC,RI,VA
Bis(2-chloroethoxy)methane	CT,MA,NH,NY,NC,RI,ME,VA
Bis(2-chloroethyl)ether	CT,MA,NH,NY,NC,RI,ME,VA
Bis(2-chloroisopropyl)ether	CT,MA,NH,NY,NC,RI,ME,VA
2-Chloronaphthalene	CT,MA,NH,NY,NC,RI,ME,VA
2-Chlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
4-Chlorophenylphenylether	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-butylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
1,3-Dichlorobenzene	MA,NC
1,4-Dichlorobenzene	MA,NC
1,2-Dichlorobenzene	MA,NC
3,3-Dichlorobenzidine	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
Diethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dimethylphenol	CT,MA,NH,NY,NC,RI,ME,VA
Dimethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
4,6-Dinitro-2-methylphenol	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dinitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dinitrotoluene	CT,MA,NH,NY,NC,RI,ME,VA
2,6-Dinitrotoluene	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-octylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
1,2-Diphenylhydrazine/Azobenzene	NC
Hexachlorobenzene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorobutadiene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorocyclopentadiene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachloroethane	CT,MA,NH,NY,NC,RI,ME,VA
Isophorone	CT,MA,NH,NY,NC,RI,ME,VA
Nitrobenzene	CT,MA,NH,NY,NC,RI,ME,VA
2-Nitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
4-Nitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodimethylamine	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodi-n-propylamine	CT,MA,NH,NY,NC,RI,ME,VA
2-Methylphenol	NY,NC

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
625.1 in Water	
Phenol	CT,MA,NH,NY,NC,RI,ME,VA
3/4-Methylphenol	NY,NC
1,2,4-Trichlorobenzene	CT,MA,NH,NY,NC,RI,ME,VA
2,4,6-Trichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
2-Fluorophenol	NC
2-Fluorophenol	NC,VA
Phenol-d6	VA
Nitrobenzene-d5	VA
EPA 200.7 in Water	
Iron	CT,MA,NH,NY,RI,NC,ME,VA
Iron	CT,MA,NH,NY,RI,NC,ME,VA
EPA 200.8 in Water	
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Arsenic	CT,MA,NH,NY,RI,NC,ME,VA
Arsenic	CT,MA,NH,NY,RI,NC,ME,VA
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Lead	CT,MA,NH,NY,RI,NC,ME,VA
Lead	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Selenium	CT,MA,NH,NY,RI,NC,ME,VA
Selenium	CT,MA,NH,NY,RI,NC,ME,VA
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,RI,NY,NC,ME,VA
EPA 245.1 in Water	
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
EPA 300.0 in Water	
Chloride	NC,NY,MA,VA,ME,NH,CT,RI
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
SM21-22 2540D in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
SM21-22 3500 Cr B in Water	

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SM21-22 3500 Cr B in Water	
Hexavalent Chromium	NY,CT,NH,RI,ME,VA,NC
SM21-22 4500 CL G in Water	
Chlorine, Residual	CT,MA,RI,ME
SM21-22 4500 CN E in Water	
Cyanide	CT,MA,NH,NY,RI,NC,ME,VA

The CON-TEST 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	06/30/2021
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2021
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021
MI	Dept. of Env, Great Lakes, and Energy	9100	10/1/2020

20H0160

con-test ANALYTICAL LABORATORY

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

http://www.contestlabs.com

39 Spruce Street
East Longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 2_06262019

Company Name:	VHB
Address:	101 Walnut St, Watertown MA
Phone:	609-385-3919
Project Name:	Northern Ave
Project Location:	Boston, MA
Project Number:	13874.01
Project Manager:	Katie Kurzma
Con-Test Quote Name/Number:	B20200728
Invoice Recipient:	
Sampled By:	MJM

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date: 5-Day 8/11

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

Dissolved Metals Samples
☒ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: mmozzone@vhb.com; kkurzma@vhb.com
Fax To #:

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	② Total Metals	Ammonia-N by gallery	Phenol - EPA 420.1	SO4 - ED3 only, 624.1	Cl - EPA 300.0, TSS by SM5 4500	Cl by SM4500 TRC	Trivalent Cr by 200.8 Cr III + Cr IV	TPH (Oils), 625 PAH, 625 SIM, 625 [illegible]	S-Cyanide EPA 335.4	Dissolved Metals	Salinity
1	MH-1 (MW)		08/14 2115	GRAB	GW	U	6	~~5~~ 5	8			X	X	X	X	X	X	X	X	X	X	
2	DB-4 (MW)		08/14 845	GRAB	GW	U	6	7	8			X	X	X	X	X	X	X	X	X	X	
3	DB-11 (MW)		08/14 1300	GRAB	GW	U	6	7	8			X	X	X	X	X	X	X	X	X	X	
4	SW-1		08/14 ~~[illegible]~~ 1400	GRAB	O	U	-	4	1			X	X					X				X

[2] Preservation Code

Courier Use Only

Total Number Of:
VIALS____
GLASS____
PLASTIC____
BACTERIA____
ENCORE____

Glassware in the fridge? Y / N
3 COOLERS
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Contest is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:
[signature]	8/14 1545
Received by: (signature)	Date/Time:
[signature]	8/14/20 1545
Relinquished by: (signature)	Date/Time:
[signature]	8/14/20 1720
Received by: (signature)	Date/Time:
[signature] 6.0	8/14/20 1720
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: ~~① [illegible] Analysis on SW-1, 500 ml Salinity~~
② Total metals include (Ag, As, Cd, Cu, Hg, Ni, Pb, Sb + Zn)
Dissolved + Fe, Se
③ Hold Dissolved Metals for SW-1
① Limited sample volume for MH-1 (MW)

Detection Limit Requirements
MA: MA-RGP
CT:
Other: EPA-RGP

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

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define) Surface Water

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

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

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

PCB ONLY
☐ Soxhlet
☐ Non Soxhlet

Comments:

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 VHB

Received By GL Date 3/4/20 Time 1720

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

By Gun # 4 Actual Temp - 6.0

Were samples within Temperature? 2-6°C T 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? T

Did COC include all Client T Analysis T Sampler Name T

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

Are Sample labels filled out and legible? T

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

Are there Rushes? F Who was notified? ____

Are there Short Holds? T Who was notified? Mandi

Is there enough Volume? T

Is there Headspace where applicable? T 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 T

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.	17	1 Liter Plastic	3	16 oz Amb.	
HCL-	9	500 mL Amb.	3	500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic	25	4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-	9	SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

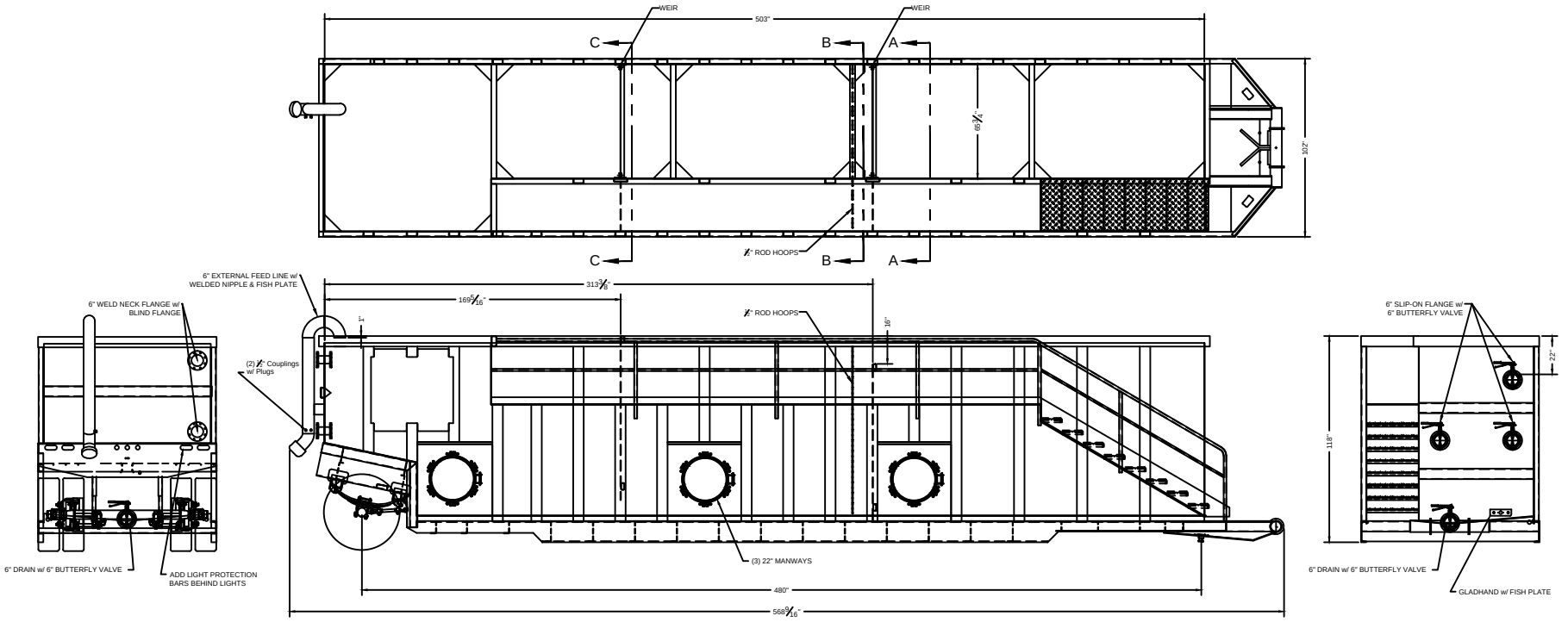
Unused Media

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:

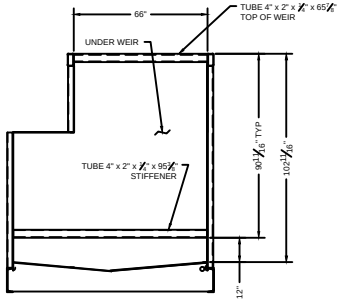
Appendix C

Cutsheets

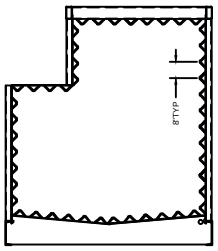


STANDARD SPECIFICATION

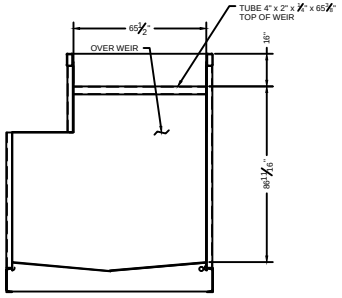
CAPACITY: .... 18,480 GALLONS (440 BBL)
SIDE SHEETS: .... 1/4" A36 PLATE
FRONT SHEET: .... 1/4" A36 PLATE
REAR SHEET: .... 1/4" A36 PLATE
FLOOR: .... 1/4" A36 PLATE
MAIN FLOOR RAILS: .... 12" x 20.7# STRUCTURAL CHANNEL
FLOOR CROSSMEMBERS: .... 1/4" A36 PLATE
SIDE STAKES: .... ONE PIECE 3/16" A36 PLATE
SUSPENSION: .... 3 LEAF SPRING, 22,500 LBS. CACPACITY
AXLE: .... 77.5" TRACK, 22,500 LBS. CAPACITY
TIRES: .... 11R22.5 RADIAL
WHEELS: .... 8.25 x 22.5 STEEL
MANWAYS: .... 3 - 22" DIA. CURB SIDE
VALVES: .... 3 - 6" BUTTERFLY VALVE (FRONT)
1 - 6" DRAIN BUTTERFLY VALVE (FRONT)
1 - 6" DRAIN BUTTERFLY VALVE (REAR)
2 - 6" BLIND FLANGE CONNECTION (REAR)
INLET PIPING: .... 1 - 6" PIPE SYSTEM (REAR)
BLAST: .... (INTERIOR) SSPC-SP-10 (NEAR WHITE)
(EXTERIOR) SSPC-SP-6 (COMMERCIAL BLAST)
PAINT: .... (INTERIOR) EPOXYPHENOLIC 100% SOLID 20.0 MILS D.F.T.
(EXTERIOR) FINISH COAT POLURETHANE 4.0 TO 5.0 D.F.T.



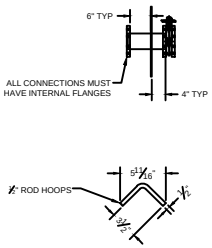
SECTION VIEW "C-C"



SECTION VIEW "B-B"



SECTION VIEW "A-A"



18,000 Gal. Weir Tank

Lockwood Remediation Technologies, LLC

89 Crawford Street
Leominster, Massachusetts 01453
O: 774-450-7177
F: 888-835-0617

Electric Motor Driven

Submersible Pump

Models S3B1-E6 *and* S3B1

Size 3”

CERTIFIED PERFORMANCE

The manufacturer of this pump certifies that it was manufactured in accordance with the standards of the Contractors Pump Bureau.

PUMP SPECIFICATIONS

Suction Head: Aluminum Alloy 356-T6 With Bonded Nitrile Lining; Maximum Operating Pressure 50 psi (345 kPa).*
Impeller: Ductile Iron 65-45-12.
Seal Plate: Aluminum Alloy 356-T6 With Bonded Nitrile Lining.
Intermediate: Aluminum Alloy 356-T6.
Motor Housing: Aluminum Alloy 356-T6.
Motor Shaft: Stainless Steel 416.
Bearings: Upper, Open Single Row Ball Bearing.
Lower, Two Shield, Double Row Ball Bearing.
Shaft Sleeve: Stainless Steel 304.
Discharge Flange: Aluminum Alloy 356-T6.
Gaskets: Cork with Nitrile Binder (NC710).
O-Rings: Buna-N.
Wetted Hardware: Standard Plated Steel and Stainless Steel.
Strainer: Urethane Coated Steel. 51% Open Area, 0.375” (9,5 mm) Diameter Openings.
Hoisting Bail: Urethane Coated Steel.

Standard Equipment

NEMA Type 3R Rainproof Control Box. *(See Section130, Pages 80 and 85.)*
Provides On-Off, Circuit Breaker and Motor Overload Protection.

Optional Equipment

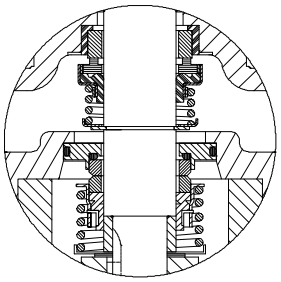
Liquid Level Control: *(See Sec. 130, Page 150.)*
a. Turtle Type Pressure Activated Level Switch.
b. .Float Activated Level Switch.
Staging Adapter Kit.

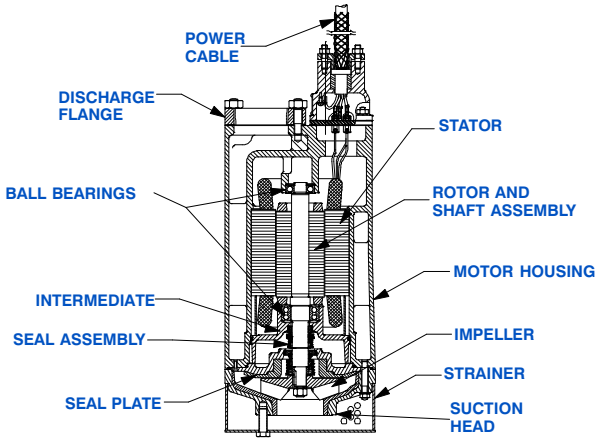
MOTOR/CABLE SPECIFICATIONS

Motor: Oil Filled Enclosure; 6.0 H.P.; 3450 R.P.M.
Single Phase: 230 Volt, 60 Hz, 34 Full Load AMPS, 7.2 kW (Max.)
Three Phase: 200/230/460/575 Volt, 60 Hz, 26.5/23/11.5/9.2 Full Load AMPS, 6.8 kW (Max.)
Power Cable: 4 Wire; Type SO/SOW/SOOW; 10 AWG; 3 Power Conductors, Plus 1 Ground. Nominal Length 50 Feet (15 m). Standard. (*Specify Alternate Length at Time of Order.*)
Recommended Generator Size: 15 kW Across the Line Start.

**Consult Factory for Applications Exceeding Maximum Pressure and/or Temperature Indicated.*

WARNING!
Do not use in explosive atmosphere or for pumping volatile flammable liquids.





SEAL SPECIFICATIONS

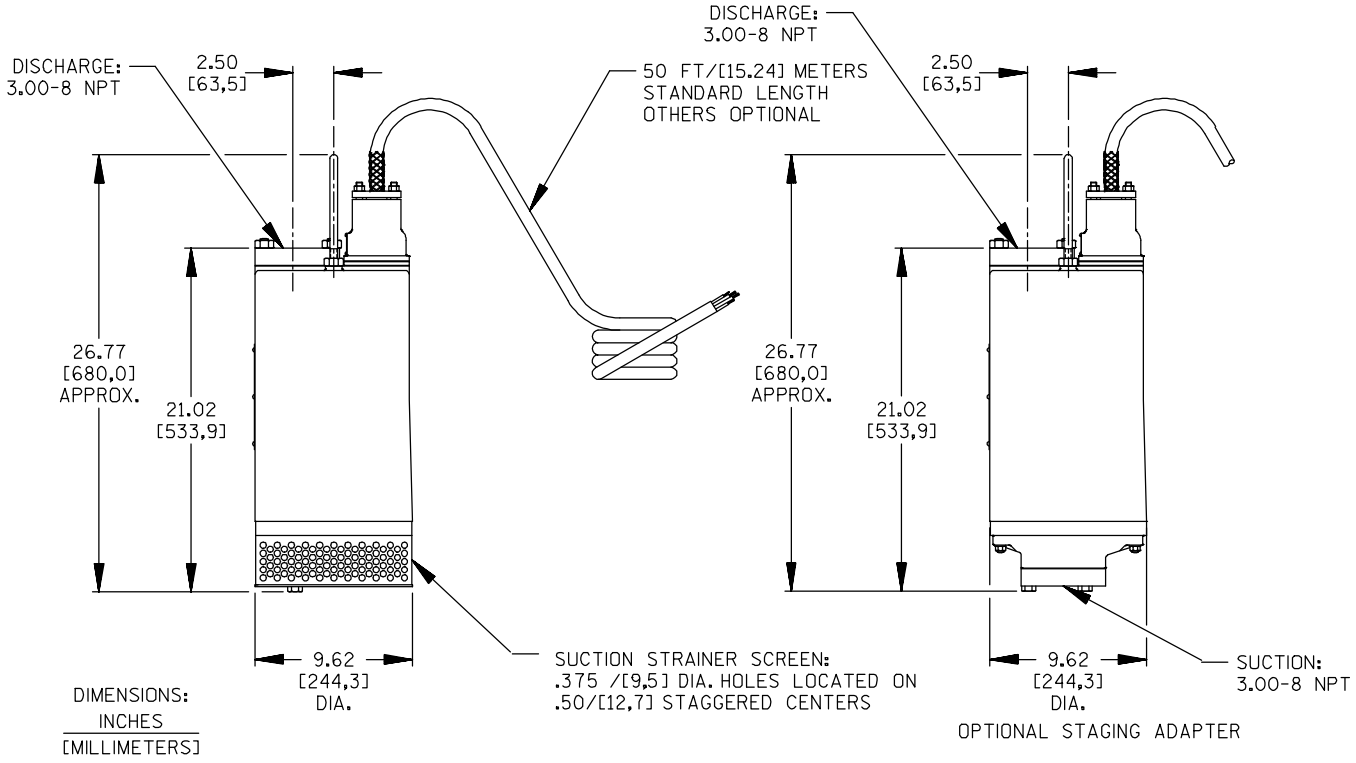
Tandem, Oil Lubricated.

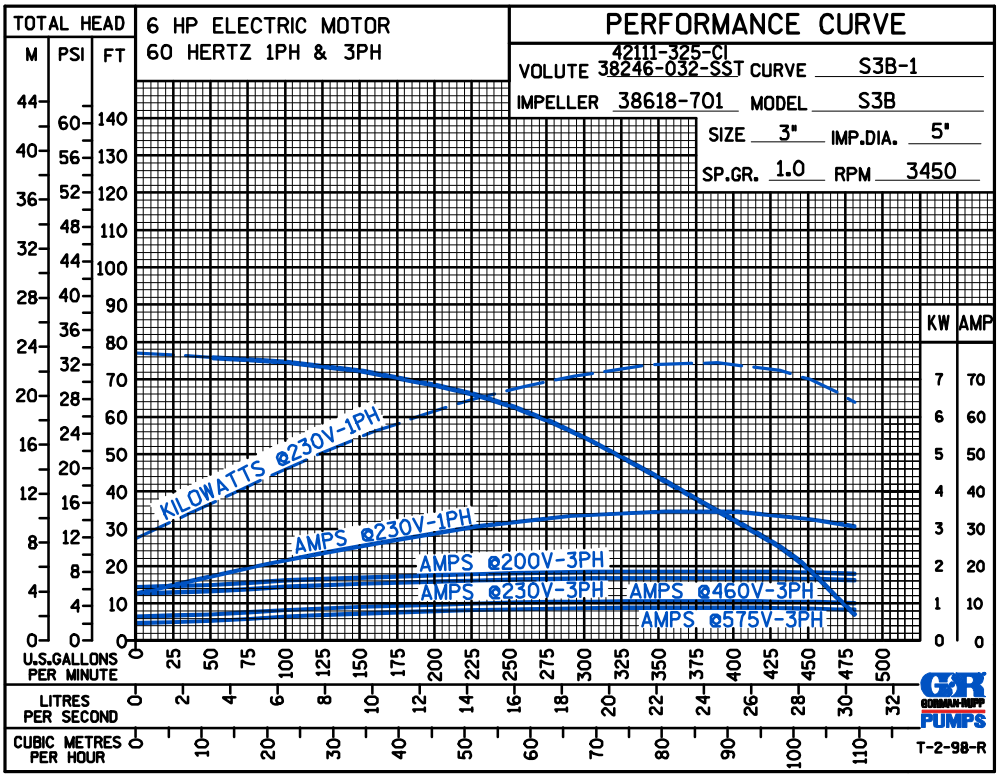
Upper Seal: Type 21, Mechanical. Carbon Rotating Face. Ni-Resist Stationary Face. Buna-N Elastomers. Stainless Steel 18-8 Cage and Spring.

Lower Seal: Type 2, Mechanical. Tungsten Titanium Carbide Rotating and Stationary Faces. Stainless Steel 316 Stationary Seat. Fluorocarbon Elastomers (DuPont Viton® or Equivalent). Stainless Steel 303/304 Cage and Spring.

Maximum Temperature of Liquid Pumped, 122°F (50°C).*

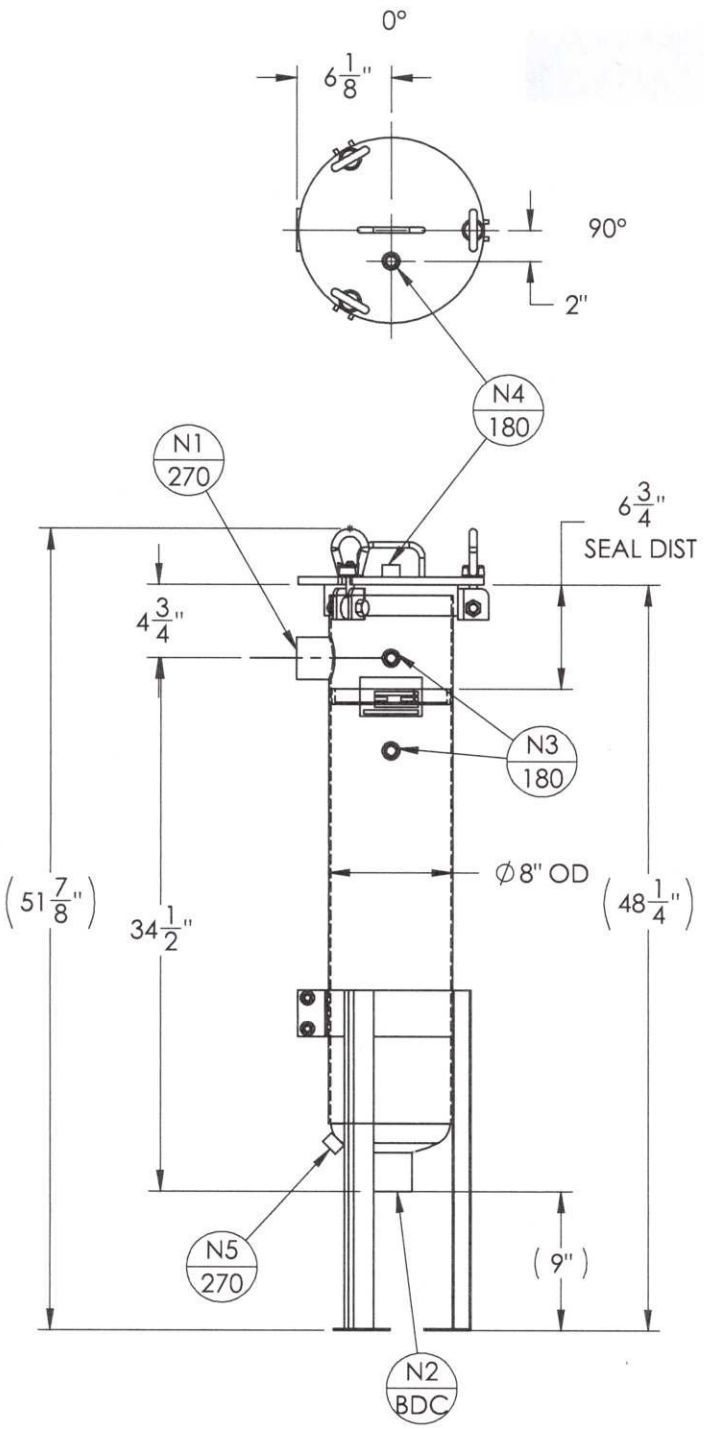
Specification Data	APPROXIMATE DIMENSIONS and WEIGHTS	NET WEIGHT: 145 LBS. (65,8 KG.) SHIPPING WEIGHT: 155 LBS. (70,3 KG.) EXPORT CRATE SIZE: 7.8 CU. FT. (0,22 CU. M.)
SECTION 130, PAGE 660		



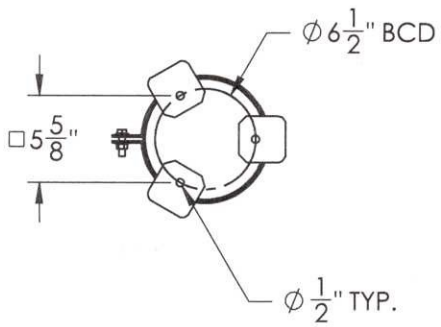


NOZZLE SCHEDULE			
MARK	QTY	SIZE / RATING	DESCRIPTION
N1	1	2" 150# NPT	INLET
N2	1	2" 150# NPT	OUTLET
N3	2	1/2" 3000# NPT	PRESS GA
N4	1	1/2" 3000# NPT	VENT
N5	1	1/2" 3000# NPT	CLEAN DRAIN
N6	-	-	DIRTY DRAIN

VESSEL DESIGN CONDITIONS			
CODE:	BEST COMMERCIAL PRACTICE		
M.A.W.P.:	150 PSI @ 250°F	M.D.M.T.:	-20° F @ 150 PSI
M.A.E.P.:	15 PSI @ 250°F		
CORROSION ALLOWANCE:	NONE	HYDROTEST PRESS:	195 PSI
STAMP:	'NC'	SERVICE:	NON LETHAL
PWHT:	N/A	RADIOGRAPHY:	N/A
MATERIAL:	SS 304/L	GASKET:	BUNA-N



DRY WEIGHT: 77.62 #'s
FLOODED WEIGHT: 140 #'s
SHIPPING WEIGHT: 100 #'s
VESSEL VOLUME: 1.0 C.F.



1:1

NOTES:
- VESSEL WILL HOUSE (QTY=1) DOUBLE LENGTH BASKET.

THIRD ANGLE PROJECTION

TOLERANCES-UNLESS OTHERWISE NOTED
DECIMAL .X =±.1" .XX =±.02" .XXX =±.005"
FRACTIONAL ≤24" =±1/16" >24" =±1/8"
ANGULAR =± 1°
MAX. MACHINED SURFACE FINISH 125

REV.	DATE	REVISION	DRAWN	APP'D

LRT Lockwood Remediation Technologies LLC
89 Crawford Street
Leominster, MA 01453
Tel: 774.450.7177
Fax: 888.835.0617

LRT Provided Bag Filter Housing

EQUIPMENT:	BAG FILTER HOUSING (EB SERIES)
MODEL NO:	S4EB112-2P-SW
CUSTOMER:	-

PARENT: NONE	DRAWN: CR	DATE: JAN 13 2011	JOB No. V-	DWG. No. 001-0123	REV. No. 0
PAGE: 1 OF 4	CHK'D: JM	SCALE: NTS			

Polyester Liquid Filter Bag

Features

* Polyester liquid bag filter are available with a carbon steel ring, stainless steel ring or plastic flanges.
* Heavy-duty handle eases installation and removal
* Metal ring sewn into bag top for increased durability and positive sealing
* Wide array of media fibers to meet needed temperature and micron specifications

Applications

Polyester liquid filter bags can be used in the filtering of a wide array of industrial and commercial process fluids

Sizes

Our liquid filter bags are available for all common liquid bag housings. Dimensions range from 4.12" diameter X 8" length thru 9" diameter X 32" length.

Micron Ratings

Available fibers range from 1 to 1500 microns

Options

* Bag finish or covers for strict migration requirements.
* Plastic top O.E.M. replacements
* Multi-layered filtering capabilities for higher dirt holding capacities

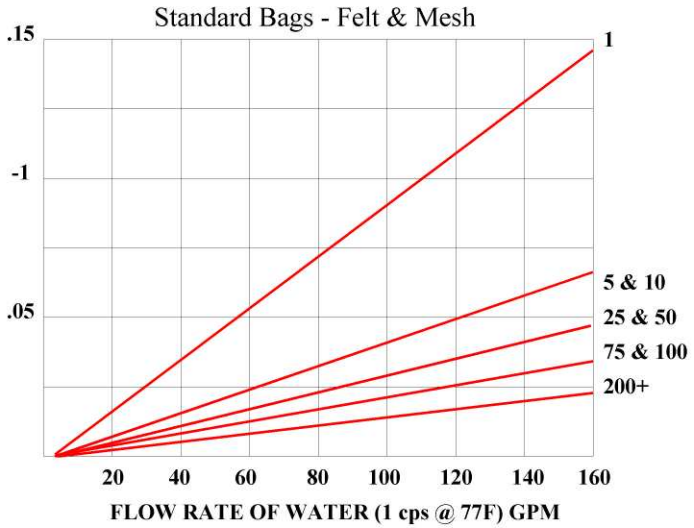
Optional Filter Media

Felt: Nomex, Polyester, Polypropylene

Monofilament: Nylon, Polyester, Polypropylene

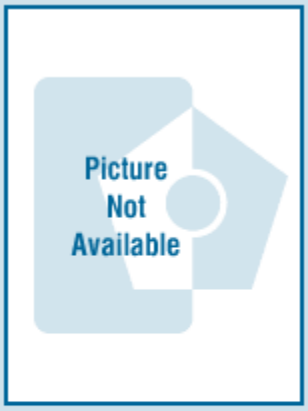
Multifilament: Nylon, Polyester

Polypropylene: Oil Removal



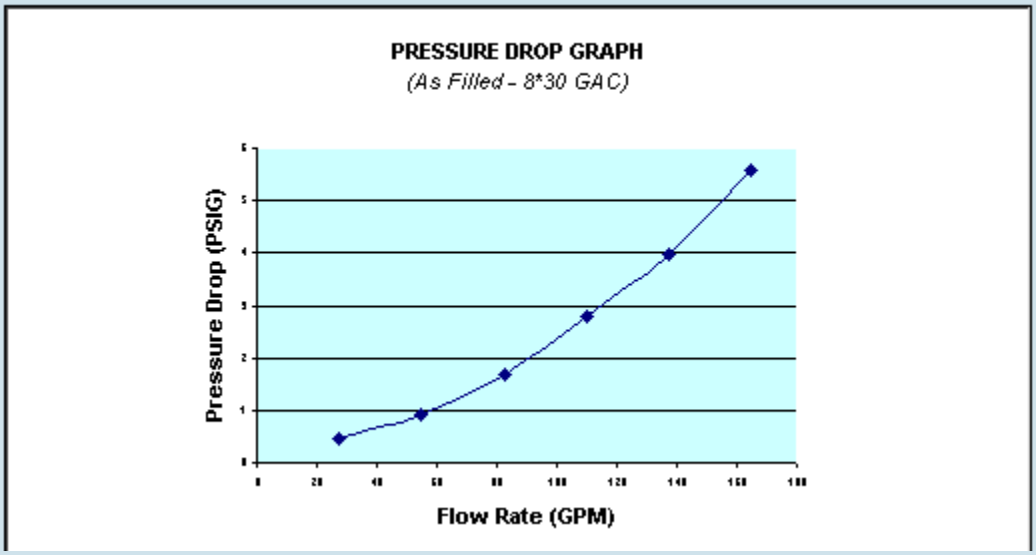
89 Crawford Street
Leominster, Massachusetts 01453
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

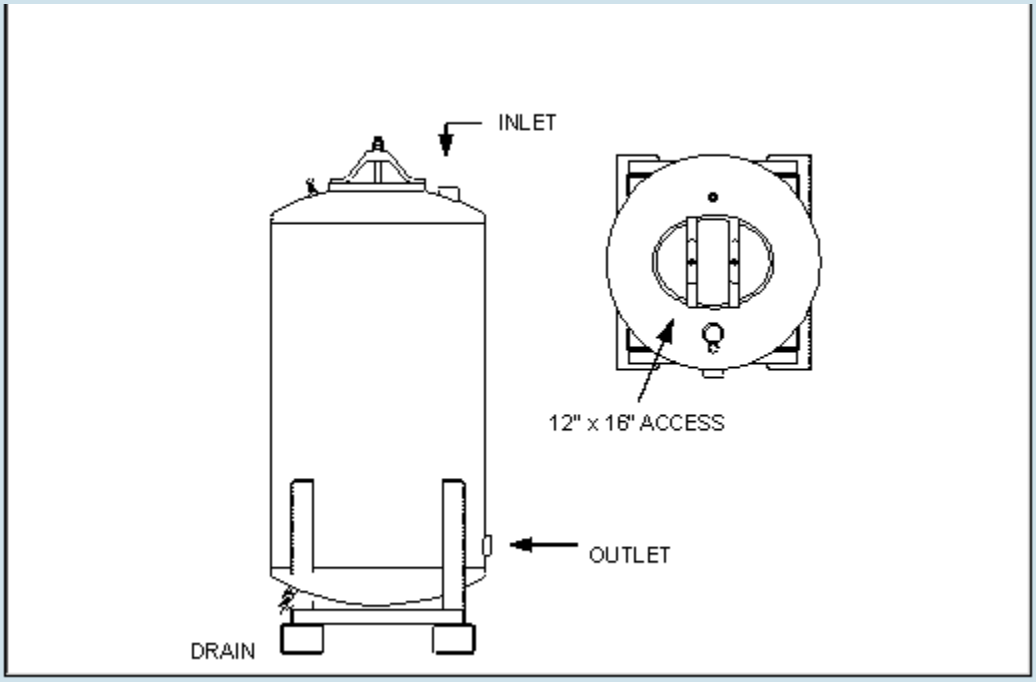
HPAF SERIES FILTERS
MODEL HPAF-3000



The HPAF-3000 filter is a media filter vessel designed to treat liquid streams. While the typical design application is a activated carbon adsorbtion unit, the filter can easily accommodate many medias. Some applications include:

- Dissolved Organic Removal (Activated Carbon)
- Suspended Solids Removal (Sand Filter)
- Dissolved Minerals (Softener Resin)
- Oil and Grease Removal (Organo-Clays)
- Dissolved and Precipitated Metals Removal
- Special Organics (Resin/Carbon Blend)
- Catalytic Reactor (Chlorine and Peroxide Removal)
- Bio-Remediation Contactor Unit





HPAF-3000 SPECIFICATIONS			
Overall Height	8'11"	Vessel/Internal Piping Materials	CS (SA-36) / SCH 40 PVC
Diameter	60"	Internal Coating	Polyamide Epoxy Resin
Inlet / Outlet (FNPT)	3"	External Coating	Epoxy Mastic
Drain / Vent (FNPT)	1" / 1/2"	Maximum Pressure / Temp	75 PSIG / 140° F
GAC Fill (lbs)	3,000	Cross Sectional Bed Area	19.5 FT^2
Shipping / Operational Weight (lbs)	3,525/10,635	Bed Depth/Volume	5.5 FT / 107 FT^3

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

89 Crawford Street
Leominster, Massachusetts 01453
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

FILTRATION MEDIA :
8x30 RE-ACTIVATED CARBON
4x10 RE-ACTIVATED CARBON

GENERAL DESCRIPTION

Select Re-Activated carbon from domestic sources is quality screened during our purchasing process for activity, density and fines. The use of re-activated carbon is recommended as a lower cost alternative for most sites where drinking water quality is not necessary. In many cases our re-activated carbon meets and exceeds imported virgin carbon. In addition all carbon either sold by itself or installed in our filtration units traced by lot number to the installation or sale.

8x30 (Liquid Phase) Standard Specifications:	Standard	Value
Iodine Number	ASTM D-4607	800 Minimum
Moisture Content	ASTM D-2867	5% Maximum (as packed)
Particle Size	ASTM D-2862	8x30 US Mesh
Ash		10% Maximum
Total Surface Area (N2BET)		1050 Minimum
Pore Volume (cc/g)		0.75

4*10 (Vapor Phase) Standard Specifications:	Standard	Value
Carbon Tetrachloride Activity Level	ASTM D-3467	40 Minimum
Moisture Content	ASTM D-2867	5% Maximum (as packed)
Particle Size	ASTM D-2862	4x10 US Mesh
Ash		10% Maximum
Total Surface Area (N2BET)		1050 Minimum
Pore Volume (cc/g)		0.75

RESINTECH INC
INNOVATIONS IN ION EXCHANGE

CGS

CATION EXCHANGE RESIN
SOFTENING GRADE
Na FORM

RESINTECH CGS is a sodium form standard crosslinked gel strong acid cation resin. *CGS* is optimized for residential applications that require good regeneration efficiency and high capacity. *RESINTECH CGS* is intended for use in all residential and commercial softening applications that do not have significant amounts of chlorine in the feedwater. *CGS* is supplied in the sodium form.

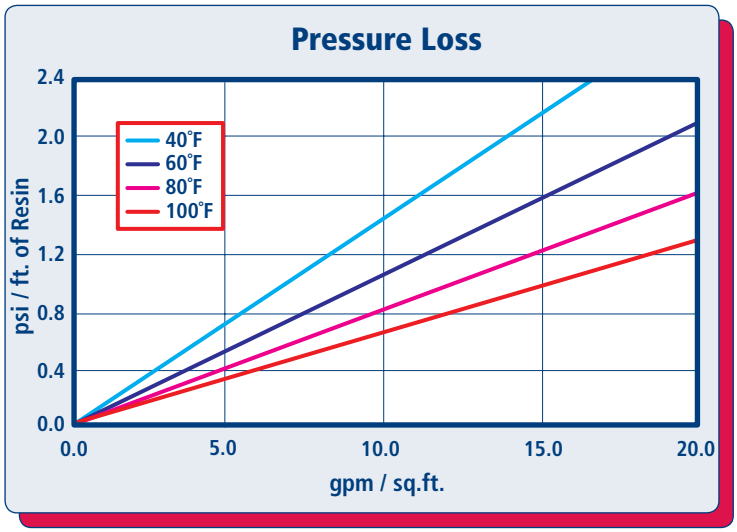
NSF/ANSI 44-61 CERTIFIED FOR MATERIAL SAFETY

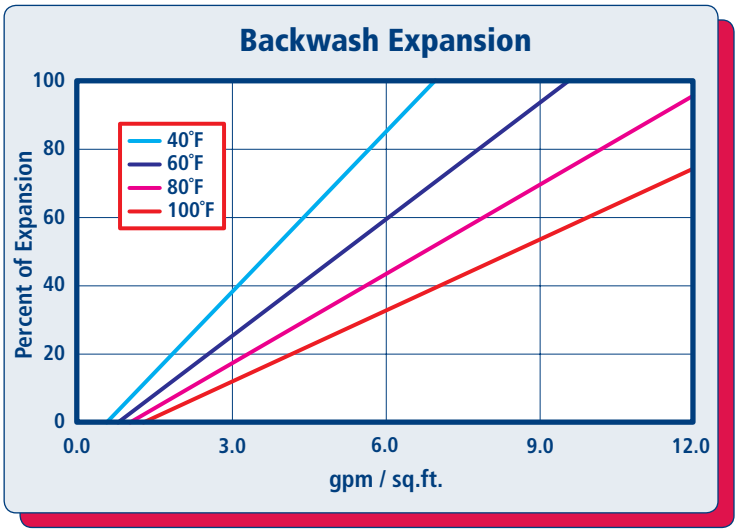
FEATURES & BENEFITS

- **RESIDENTIAL SOFTENING APPLICATIONS**
  Resin parameters are optimized for residential softeners
- **LOW COLOR THROW**
- **SUPERIOR PHYSICAL STABILITY**
  93% plus sphericity and high crush strengths together with carefully controlled particle distribution provides long life and low pressure drop
- **COMPLIES WITH US FDA REGULATIONS**
  Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the US FDA

Prior to first use for potable water, resin should be backwashed for a minimum of 20 minutes, followed by 10 bed volumes of downflow rinse.

HYDRAULIC PROPERTIES





PRESSURE LOSS

The graph above shows the expected pressure loss of *ResinTech CGS* per foot of bed depth as a function of flow rate at various temperatures.

BACKWASH

The graph above shows the expansion characteristics of *ResinTech CGS* as a function of flow rate at various temperatures.

160 Cooper Road • West Berlin, NJ 08091 USA • p: 856.768.9600 • f: 856.768.9601 • e: ixresin@resintech.com • w: resintech.com

RESINTECH® CGS

PHYSICAL PROPERTIES

Polymer Structure	Styrene/DVB
Polymer Type	Gel
Functional Group	Sulfonic Acid
Physical Form	Spherical beads
Ionic Form as shipped	Sodium
Total Capacity	
Sodium form	>1.8 meq/mL
Water Retention	
Sodium form	40 to 52 percent
Approximate Shipping Weight	
Sodium form	50 lbs./cu.ft.
Screen Size Distribution (U.S. mesh)	16 to 50
Maximum Fines Content (<50 mesh)	1 percent
Minimum Sphericity	90 percent
Uniformity Coefficient	1.6 approx.
Resin Color	Amber

Note: Physical properties can be certified on a per lot basis, available upon request

SUGGESTED OPERATING CONDITIONS

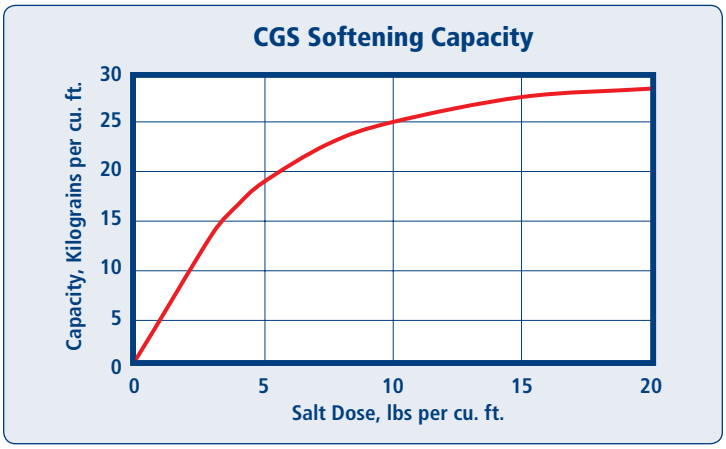
Maximum continuous temperature	
Sodium form	250˚F
Minimum bed depth	24 inches
Backwash expansion	25 to 50 percent
Maximum pressure loss	25 psi
Operating pH range	0 to 14 SU
Regenerant Concentration	
Salt cycle	10 to 15 percent NaCl
Regenerant level	4 to 15 lbs./cu.ft.
Regenerant flow rate.	0.5 to 1.5 gpm/cu.ft.
Regenerant contact time	>20 minutes
Displacement flow rate	Same as dilution water
Displacement volume	10 to 15 gallons/cu.ft.
Rinse flow rate	Same as service flow
Rinse volume	35 to 60 gallons/cu.ft.
Service flow rate	1 to 10 gpm/cu.ft.

Note: These guidelines describe average low risk operating conditions. They are not intended to be absolute minimums or maximums.
For operation outside these guidelines, contact ResinTech Technical Support

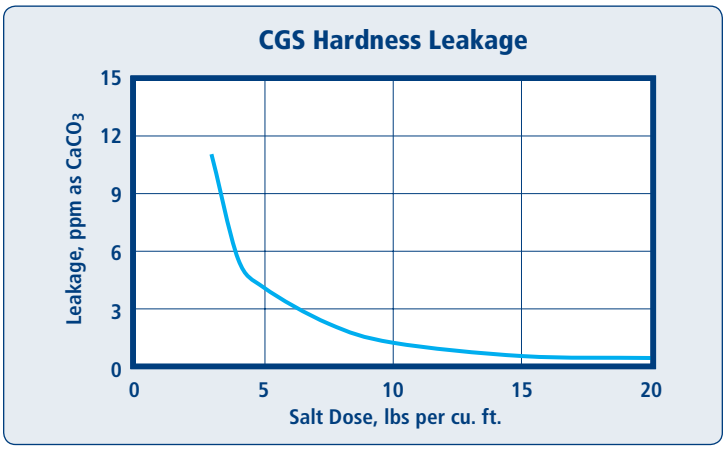
APPLICATIONS

SOFTENING

ResinTech CGS is a standard crosslinked cation resin optimized for residential and commercial applications. This type of resin is easier to regenerate than the higher crosslinked resins. CGS has marginal resistance to chlorine and other oxidants and is not ideal for high temperature and other high stress applications.



Capacity and leakage data are based on the following: 2:1 Ca:Mg ratio, 500 ppm TDS as CaCO3, 0.2% hardness in the salt and 10% brine concentration applied co-currently through the resin over 30 minutes. No engineering downgrade has been applied.



RESINTECH INC.
INNOVATIONS IN ION EXCHANGE

East Coast - West Berlin, NJ p:856.768.9600 • Midwest - Chicago, IL p:708.777.1167 • West Coast - Los Angeles, CA p:323.262.1600

GROOVED & SMOOTH-END FLOWMETER MODEL MG/MS100

SPECIFICATIONS

PERFORMANCE

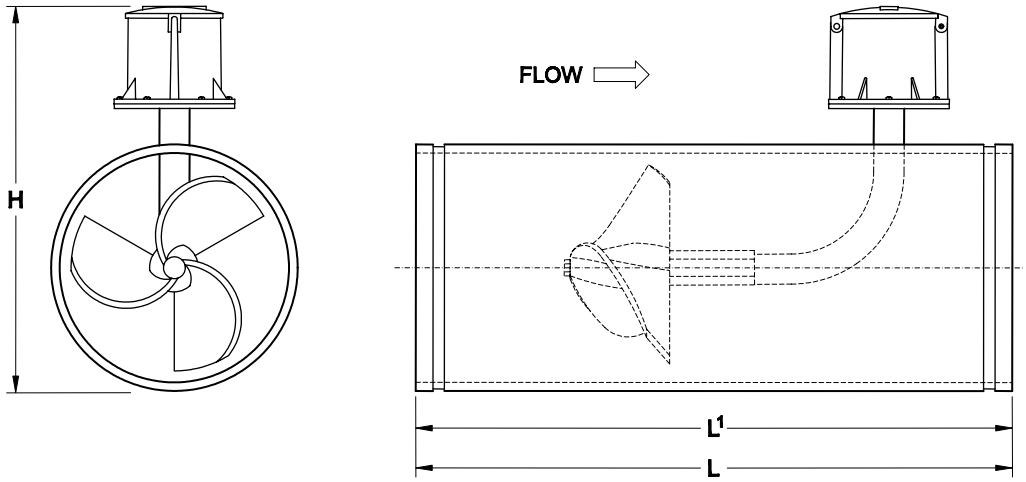
ACCURACY/REPEATABILITY: ±2% of reading guaranteed throughout full range. ±1% over reduced range. Repeatability 0.25% or better.
RANGE: (see dimensions chart below)
HEAD LOSS: (see dimensions chart below)
MAXIMUM TEMPERATURE: (Standard Construction) 160°F constant
PRESSURE RATING: 150 psi

MATERIALS

TUBE: Epoxy-coated carbon steel.
BEARING ASSEMBLY: Impeller shaft is 316 stainless steel. Ball bearings are 440C stainless steel.
MAGNETS: (Permanent type) Cast or sintered alnico
BEARING HOUSING: Brass; Stainless Steel optional
IMPELLER: Impellers are manufactured of high-impact plastic, retaining their shape and accuracy over the life of the meter. High temperature impeller is optional.
REGISTER: An instantaneous flowrate indicator and six-digit straight-reading totalizer are standard. The register is hermetically sealed within a die cast aluminum case. This protective housing includes a domed acrylic lens and hinged lens cover with locking hasp.
COATING: Fusion-bonded epoxy

OPTIONS

- Forward/reverse flow measurement
- High temperature construction
- "Over Run" bearing assembly for higher-than-normal flowrates
- Electronic Propeller Meter available in all sizes of this model
- A complete line of flow recording/control instrumentation
- Straightening vanes and register extensions available
- Certified calibration test results



McCrometer reserves the right to change design or specifications without notice.

MG100 / MS100	DIMENSIONS												
Meter Size (inches)	**2**	**2 ½**	**3**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**24**
Maximum Flow U.S. GPM	250	250	250	600	1200	1500	1800	2500	3000	4000	5000	6000	8500
Minimum Flow U.S. GPM	40	40	40	50	90	100	125	150	250	275	400	475	700
Head Loss in Inches at Max. Flow	29.50	29.50	29.50	23.00	17.00	6.75	3.75	2.75	2.00	1.75	1.50	1.25	1.00
Shipping Weight, lbs.	* See Special Note		17	40	54	68	87	106	140	144	172	181	223
H (inches)			10.9	12.78	13.84	14.84	16.91	18.90	20.53	22.53	25.53	26.53	30.53
L (inches) MG100			13	20	20	20	20	20	20	22	22	22	22
L^1 (inches) MS100			13	20	22	22	22	22	22	24	24	24	24
O.D. of Meter Tube			3.50	4.500	6.625	8.625	10.750	12.750	14.00	16.00	18.00	20.00	24.00

Special Note—
Reducing fittings incorporating grooves are supplied to adapt the 3-inch model to smaller line sizes.

Larger flowmeters on special order.

Appendix D

Supporting Information

MassDEP - Bureau of Waste Site Cleanup

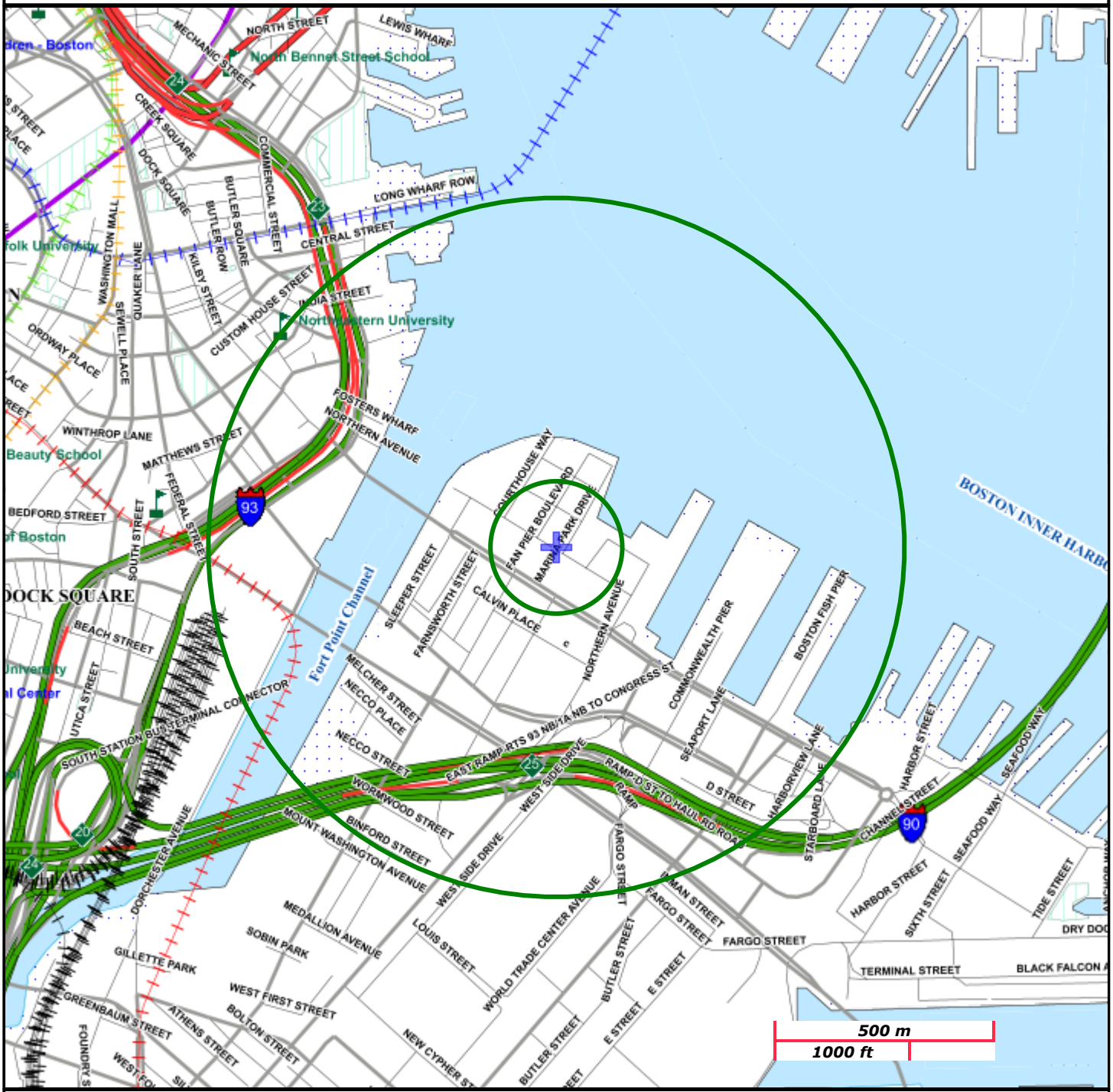
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
SEAPORT NORTHERN AVE.
NORTHERN AVE BOSTON, MA

NAD83 UTM Meters:
4690975mN , 331535mE (Zone: 19)
August 11, 2020

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: https://www.mass.gov/orgs/massgis-bureau-of-geographic-information.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

Documentation of the Results of the ESA Eligibility Determination:

Using information in Appendix II of the NPDES RGP, the project located on Northern Avenue, Boston, MA is eligible for coverage under this general permit under FWS Criterion A. This project is located in Suffolk County. No designated critical habitats were listed in the project area. An Endangered Species Consultation was conducted on the U.S. Fish & Wildlife Service New England Field Office ECOS IPaC webpage for the Site:

No Endangered species found at this location.

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: August 11, 2020
Consultation Code: 05E1NE00-2020-SLI-3624
Event Code: 05E1NE00-2020-E-11128
Project Name: Seaport 115kV Underground Pipe-Type Cable Relocation

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2020-SLI-3624

Event Code: 05E1NE00-2020-E-11128

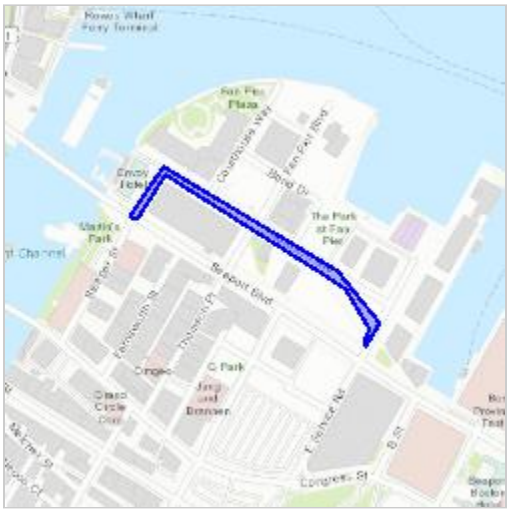
Project Name: Seaport 115kV Underground Pipe-Type Cable Relocation

Project Type: Water Withdrawal / Depletion

Project Description: Construction Dewatering

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.3525540153357N71.04505528063285W



Counties: Suffolk, MA

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

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

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

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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

Critical habitats

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

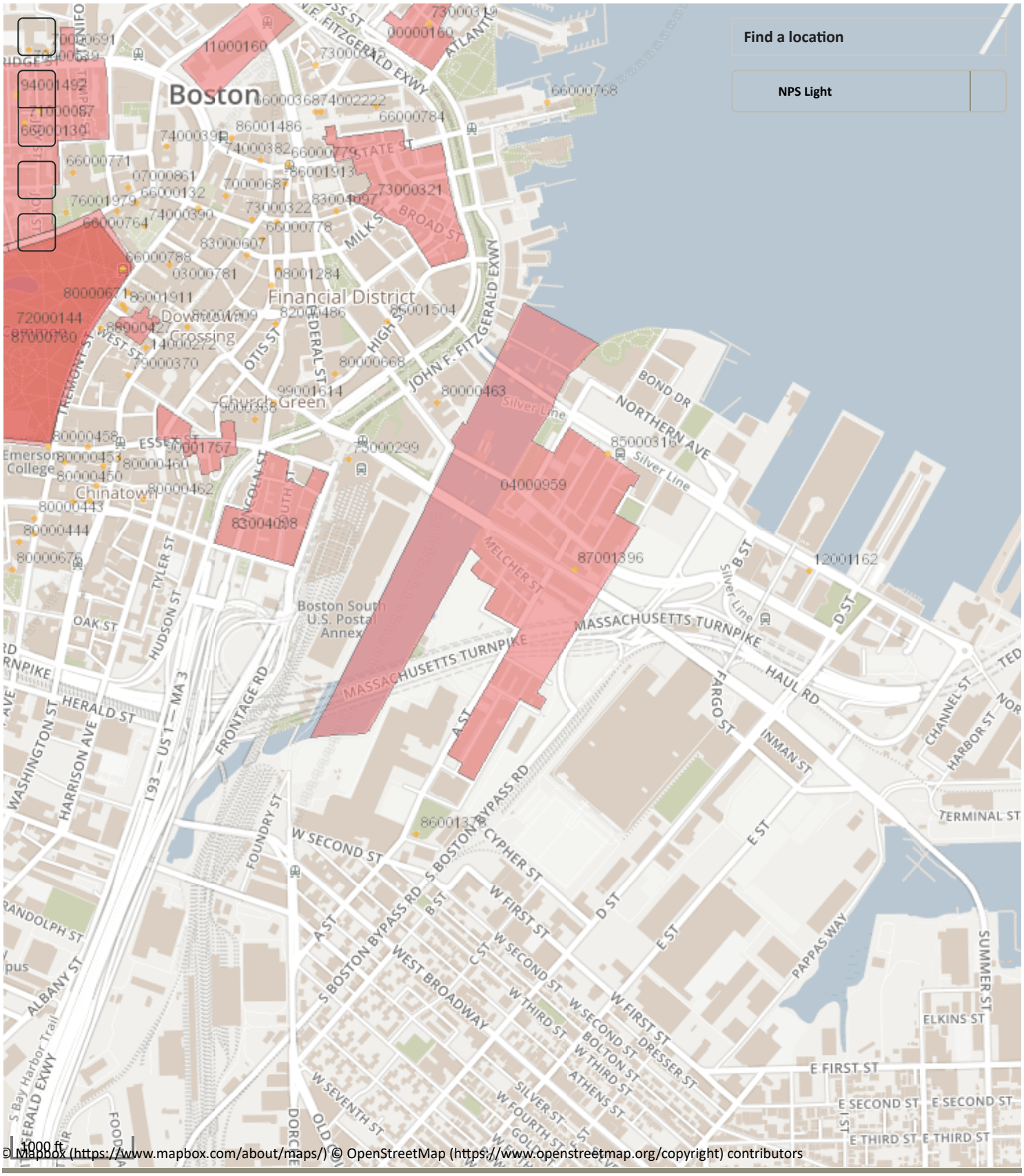
Documentation of the National Historic Preservation Act Eligibility Determination:

As part of this permit, a determination was made as to whether there were any historic properties or places listed on the national register in the path of the discharge or in the vicinity of the construction of treatment systems or BMPs related to the discharge. A search on the Massachusetts Cultural Resource Information System Database and the National Register of Historic Places found no properties are located on or near the project route. In addition, construction and dewatering / water treatment work will be conducted on and along the roadway and will not impact surrounding areas. Therefore, the proposed discharge will not have the potential to cause effects on historical properties.

National Register of Histori...

National Park Service
U.S. Department of the Interior

Public, non-restricted data depicting National Register spatial data proce...



Appendix E

Public Notification Letter

89 Crawford Street
Leominster, Massachusetts 01453
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

August 20, 2020

Mayor Marty Walsh
Mayor
Boston City Hall
1 City Hall Square
Boston, Massachusetts 02201

Reference: Notification of Filing of Notice of Intent - Remediation General Permit
Seaport Northern Ave
115kV pipe-type cable Project
Boston, Massachusetts

Dear Mayor Walsh:

On behalf of McCourt Construction Company (McCourt) and Vanasse Hangen Brustlin, Inc. (VHB) Lockwood Remediation Technologies, LLC (LRT) is providing notification that a Notice of Intent (NOI) has been filed with the United States Environmental Protection Agency (EPA) requesting coverage under the EPA's Remediation General Permit (RGP) for the above-referenced project. Specifically, the project is located on Northern Ave and Pier Four Blvd the RGP will allow the treatment and discharge of groundwater that is generated during dewatering of the new underground 115 kV pipe-type cable excavations. Treated water will be discharged to a stormwater catch basin with a final outfall in the Boston Inner Harbor the work is anticipated to begin in early Fall 2020. A copy of the NOI can be provided upon request.

Please contact me at 774-450-7177 with any questions or if you require additional information.

Sincerely,
Lockwood Remediation Technologies, LLC

Jake Jennings

Jake Jennings
Staff Scientist

cc: Shauna Little – EPA

BWSC Discharge Permit

Boston Water and Sewer Commission
980 Harrison Avenue
Boston, MA 02119-2540

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: McCourt Construction Address: 60 K Street South Boston, MA 02127

Phone Number: (617) 269-2330 Fax number: (617) 269-2313

Contact person name: Matt McCourt Title: Senior Project Manager

Cell number: _____ Email address: kgravelle@lrt-llc.net

Permit Request (check one): ☑ New Application ☐ Permit Extension ☐ Other (Specify): _____

Owner's Information (if different from above):

Owner of property being dewatered: Eversource Energy

Owner's mailing address: 247 Station Drive SE210 Westwood, MA 02210 Phone number: 508-654-0492

Location of Discharge & Proposed Treatment System(s):

Street number and name: Northern Ave Neighborhood _____

Discharge is to a: ☐ Sanitary Sewer ☐ Combined Sewer ☑ Storm Drain ☐ Other (specify): _____

Describe Proposed Pre-Treatment System(s): Wier Tank, Bag Filtration, Contingency carbon and metals treatment systems

BWSC Outfall No. SDO22, SDO15, SDO195 Receiving Waters Boston Inner harbor

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Temporary Discharges (Provide Anticipated Dates of Discharge): From 10/01/2020 To 09/01/2021

☑ Groundwater Remediation	☐ Tank Removal/Installation	☐ Foundation Excavation
☐ Utility/Manhole Pumping	☐ Test Pipe	☑ Trench Excavation
☐ Accumulated Surface Water	☐ Hydrogeologic Testing	☐ Other _____

Permanent Discharges

☐ Foundation Drainage	☐ Crawl Space/Footing Drain
☐ Accumulated Surface Water	☐ Non-contact/Uncontaminated Cooling
☐ Non-contact/Uncontaminated Process	☐ Other; _____

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1. Attach a Site Plan showing the source of the discharge and the location of the point of discharge (i.e. the sewer pipe or catch basin). Include meter type, meter number, size, make and start reading. Note. All discharges to the Commission's sewer system will be assessed current sewer charges.
2. If discharging to a sanitary or combined sewer, attach a copy of MWRA's Sewer Use Discharge permit or application.
3. If discharging to a separate storm drain, attach a copy of EPA's NPDES Permit or NOI application, or NPDES Permit exclusion letter for the discharge, as well as other relevant information.
4. Dewatering Drainage Permit will be denied or revoked if applicant fails to obtain the necessary permits from MWRA or EPA.

Submit Completed Application to: Boston Water and Sewer Commission
Engineering Customer Services
980 Harrison Avenue, Boston, MA 02119
Attn: Matthew Tuttle, Engineering Customer Service
E-mail: tuttlemp@bwsc.org
Phone: 617-989-7204 Fax: 617-989-7716

Signature of Authorized Representative for Property Owner:  Date: 08/27/2020