January 11, 2021

US Environmental Protection Agency
Office of Ecosystem Protection
EPA/OEP RGP Applications Coordinator
5 Post Office Square – Suite 100 (OEP06-01)
Boston, Massachusetts 02109-3912

RE: Remediation General Permit (RGP) Notice of Intent (NOI)
Temporary Construction Dewatering
Bulfinch Crossing – Enabling
50 New Sudbury Street
Boston, MA 02114
VERTEX Project No. 27026

To Whom It May Concern:

On behalf of our client, Bulfinch Unit A Owner, LLC (the "Owner"), and in accordance with the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit for Dewatering Activities – Massachusetts General Permit, MAG910000, included herewith are the Notice of Intent (NOI) and applicable documentation as required by the US Environmental Protection Agency (USEPA) and Massachusetts Department of Environmental protection (MassDEP) for construction site dewatering under the Remediation General Permit. A copy of the "Suggested Format for the Remediation General Permit Notice of Intent (NOI)" form is attached.

Construction dewatering is planned in support of the demolition of structural support columns and beams that will facilitate future development of the property located at 50 New Sudbury Street in Boston, Massachusetts (the "site"). Redevelopment activities which will require dewatering include excavation to expose underground structural supports for demolition in support of future redevelopment activities at the site. We anticipate dewatering will be conducted continuously during the excavation activities for proposed redevelopment.

SITE DESCRIPTION

The site is located at 50 New Sudbury Street in Boston, Massachusetts. The site is also a portion of the larger One Congress development project located in Boston, Massachusetts. The One Congress development project currently consists of a multi-story open air parking garage building, which previously maintained office spaces on the 10th and 11th floors and

commercial/retail related areas located at ground level. Redevelopment of this building is currently ongoing, which will include the construction of high rise residential and commercial office structures, as well as commercial retail spaces.

The portion of the One Congress development project that includes the site is located to the east of Congress Street and north of New Sudbury Street. This area also includes the Massachusetts Bay Transportation Authority (MBTA) bus station and access to the Haymarket MBTA subway station, which partially underlies the site. The site is bounded to the northwest by New Chardon Street, beyond which are multiple commercial, government, and residential buildings. The site is bounded to the northeast by John F. Fitzgerald Surface Road, the Rose Kennedy Greenway, and US Interstate Highway 93. The site is bounded to the southeast by Sudbury Street, beyond which are a mixed-use parking garage and commercial building, and the John F. Kennedy Federal building. The site is bordered to the southwest by Congress Street, beyond which are the other portions of the One Congress Development project. The location of the site is depicted on Figure 1 – Project Locus, with the specific limits of the site depicted on Figure 2 – Site Schematic.

According to the Massachusetts Department of Environmental Protection (MassDEP) Phase I Site Assessment Map, the site is not located within the limits of a medium or high yield aquifer or a Public Water Supply (PWS) Protection Area. In addition, there are no aquifers or PWS Protection Areas located within 500 feet of the site. Public or private drinking water wells were not identified on-site or within 500 feet of the site. Estimated rare wetland, vernal pools, freshwater/saltwater wetlands, protected open spaces, or Areas of Critical Environmental Concern (ACEC) were not identified within the limits of the site. There are no naturally occurring open surface water bodies located within the limits of the site. The closest surface water body is Boston Harbor, located approximately 0.4 miles east of the site. A copy of the MassDEP Phase I Map is included in Attachment B.

SITE OWNER & OPERATOR

The owner of the site subject to this NOI is:

Bulfinch Unit A Owner, LLC
c/o The HYM Investment Group LLC
One Congress Street, 1st Floor
Boston, MA 02114

The Applicant & Operator subject to this NOI is:

John Moriarty and Associates
3 Church Street
Winchester, MA 01890
Attention: Joe Cameron

The Waste Water Treatment Plant Operator:

Lockwood Remediation Technologies, LLC
89 Crawford Street
Leominster, MA 01453

SITE COMPLIANCE AND BACKGROUND

According to information on file with the Massachusetts Department of Environmental Protection (MassDEP) Searchable Sites Database, there are no documented releases located within the limits of the site. In addition, environmental due diligence investigations conducted for the site and nearby surrounding areas have not identified any documented releases within the limits of the site. However, there is one reported release in connection with the larger One Congress development project, which is related to the detection of lead in soil above applicable Reportable Concentrations (RCs) which was assigned Release Tracking Number (RTN) 3-35238. The area of identified impacts is located opposite Congress Street and further west-southwest of the site. The release condition has been attributed to the presence of Urban Fill which underlies the Government Center Garage property and nearby surrounding areas. This area is also indicated on the attached Figure 2 – Site Schematic.

Subsurface investigations have not been performed within the limits of the site. However, previous investigations have been performed by VERTEX and others for the larger One Congress Development project. It is expected that similar conditions are present in the area subject to this NOI. The work was performed in support of the planned redevelopment activities, which included the collection and analysis of soil and groundwater samples to evaluate disposal and reuse options for excavated material and potential treatment requirements for groundwater generated from construction dewatering operations. These investigations have documented the presence of Urban Fill, which contains both metal and polycyclic aromatic hydrocarbon (PAH) constituents. Urban Fill is commonly known to contain debris, including brick, coal ash, wood, ash, glass, and concrete. Native materials have been documented to underlie the fill, consisting of varying amounts of sand, silt and clay (locally known as the Boston Blue Clay).

PROPOSED CONSTRUCTION AND MANAGEMENT OF DEWATERING EFFLUENT

Demolition of structural support columns and beams will be performed within the limits of the site to support future proposed development activities. The demolition will include excavation around structural support columns and cutting of the concrete and steel components. During the concrete cutting activities, potable water will be used to suppress dust and facilitate the cutting efforts. The portable water will be supplied by the City of Boston/Massachusetts Water Resource Authority (MWRA) municipal system. The wash water generated during the demolition process will be collected within the limits of the excavation and then pumped into a dewatering treatment system. At this time, it is assumed that dewatering of the excavation will be conducted on an intermittent basis over the course of approximately 18 months to facilitate demolition as

well as worker safety. Site work and associated dewatering are anticipated to begin in January 2021 and are estimated to be completed before June 2022.

Water used as part of the demolition efforts will be recirculated on-site and reused as necessary. If wash water requires removal/off-site discharge, it will be treated prior to being discharged. The treated wash water will be discharged to the existing storm drain system via catch basins located to the northeast of the site along New Chardon Street. These drains collect water in underground piping with eventual discharge to the Charles River. A copy of the Boston Water and Sewer Commission (BWSC) map depicting the location of the stormwater drain, proposed drainage path, and outfall to the Charlies River (outfall BOS-049) is included in Attachment C.

The site contractor will provide a treatment system as described in the Water Treatment System Schematic included in Attachment D. The system will be designed to meet the permit requirements for suspended solids, pH, and other constituents (as required) in the effluent stream prior to discharge into the on-site storm drain. At this time, it is assumed that the treatment system will consist of a 18,000-gallon sedimentation/fractionation tank and bag filters. The system will also be equipped with a flow meter and totalizer to monitor the discharge volume and various test ports for the collection of samples. As a contingency, a pH adjustment system, an oil-water separator system, a carbon vessel treatment system, and a cation resin system will be available but will only be implemented, if necessary. The implementation of these system components will be based upon the results of effluent testing during system startup.

Once operations begin, the licensed wastewater treatment plant operator will conduct system monitoring, as required. On behalf of the Owner, VERTEX will perform the required sampling and testing of the dewatering effluent and will report the results as required by the permit. Results will be provided to the site contractor, and sedimentation and treatment system and/or dewatering procedures will be modified as necessary to comply with the Permit Discharge Criteria.

Summary of Water Analytical Testing and Results

On December 8, 2020, VERTEX implemented a sampling program to obtain representative samples of water both from the site as well as the proposed receiving water body (the Charles River). Because the proposed demolition activities will include wetting of concrete and other structural components, potable water was pumped into a small excavation test pit that was advanced within the limits of the site, which is considered to be representative of the water that will be proposed for treatment and discharge. A sample of the water was then collected from the test pit, which was identified as ENABLING-SRC. A sample of water was also collected from the Charles River, adjacent to the proposed stormwater outfall (BOS-049), which was identified as ENABLING-REC. The samples were collected in laboratory supplied glassware and submitted to Alpha Analytical of Westborough, Massachusetts for analysis RGP required compounds including the following:

- Ammonia via USEPA Method 4500NH3;
- Chloride via USEPA Method 300.0;
- Total Residual Chlorine via USEPA Method 4500CL;
- Total Suspended Solids via USEPA Method 2540D;
- Total Metals via USEPA Methods 200.7/200.8/107/245.1/7196A;
- Cyanide via USEPA Method 4500CN;
- Non-Halogenated Volatile Organic Compounds (VOCs) via USEPA Method 8260C/624.1;
- Halogenated VOCs via USEPA Method 624.1;
- Phenol via USEPA Method 420.1;
- Non-Halogenated Semi-Volatile Organic Compounds (SVOCs) via USEPA Method 625.1;
- Halogenated SVOCs via USEPA Method 625.1;
- Polychlorinated Biphenyls (PCBs) via USEPA Method 608.3;
- Pentachlorophenol via USEPA Method 625.1;
- Total Petroleum Hydrocarbons (TPH) via USEPA Method 1664A;
- Ethanol via USEPA Method 1671A;
- Methyl-Tert-Butyl Ether (MTBE) via USEPA Method 624.1;
- Tert-Butyl Alcohol via USEPA Method 624.1;
- Tert-Amyl Methyl Ether via USEPA Method 624.1;
- Corrosivity (pH); and
- Temperature (measured in the field)

The laboratory analytical results for the samples are summarized in Table 1.

SUPPORTING DOCUMENTATION & PUBLIC CORRESPONDENCE

A copy of the NOI to conduct construction site dewatering is provided in Attachment A. The NOI indicates that the proposed discharge point (The Charles River) was calculated to have a 7-day consecutive low flow discharge (7Q10) of 29.7 cubic feet per second (cfs) which equates to 19.2 million gallons per day (MGD). This was developed using United States Geological Survey (USGS) StreamStats application. Based upon the calculated 7Q10, and assuming that the dewatering system will have a maximum average flow rate of 100 gallons per minute (gpm), a dilution factor of 212.8 has been calculated for the site's dewatering effluent. Notification of the proposed dilution factor was provided to the USEPA and State of Massachusetts via email correspondence and was confirmed. Because this is a non-MCP site which is being managed by a non-municipal operator, the NOI is also being forwarded to the MassDEP Surface Water Discharge Permit Program in accordance with the WM15.

The Boston Water and Sewer Commission (BWSC) was also notified of the proposed dewatering operations. The Dewatering Permit Application form, included in Attachment F, was completed and submitted via email to BWSC.

The site is not known to be or located within the limits of a known Massachusetts Area of Critical Environmental Concern (ACEC), a historic place, or within a critical habitat for endangered species. Please refer to Attachments G, H, and I for supporting correspondence and research documentation which was used to determine the site's status. Copies of laboratory analytical results are provided in Attachment J.

BEST MANAGEMENT PRACTICES PLAN

Prior to the initiation of dewatering activities or discharge of dewatering effluent, a Best Management Practices Plan (BMPP) will be prepared and implemented. At this time, it is anticipated that the BMPP will be incorporated within the Site's existing Stormwater Pollution Prevention Plan (SWPPP).

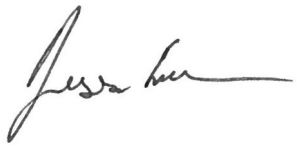
CLOSING

Thank you very much for your consideration of this NOI. Please feel free to contact us should you wish to discuss the information contained herein or if you need additional information.

Sincerely,

The Vertex Companies, Inc.,

Benjamin Sivonen, EIT
Project Manager



Jesse M. Freeman, PE
Senior Project Manager

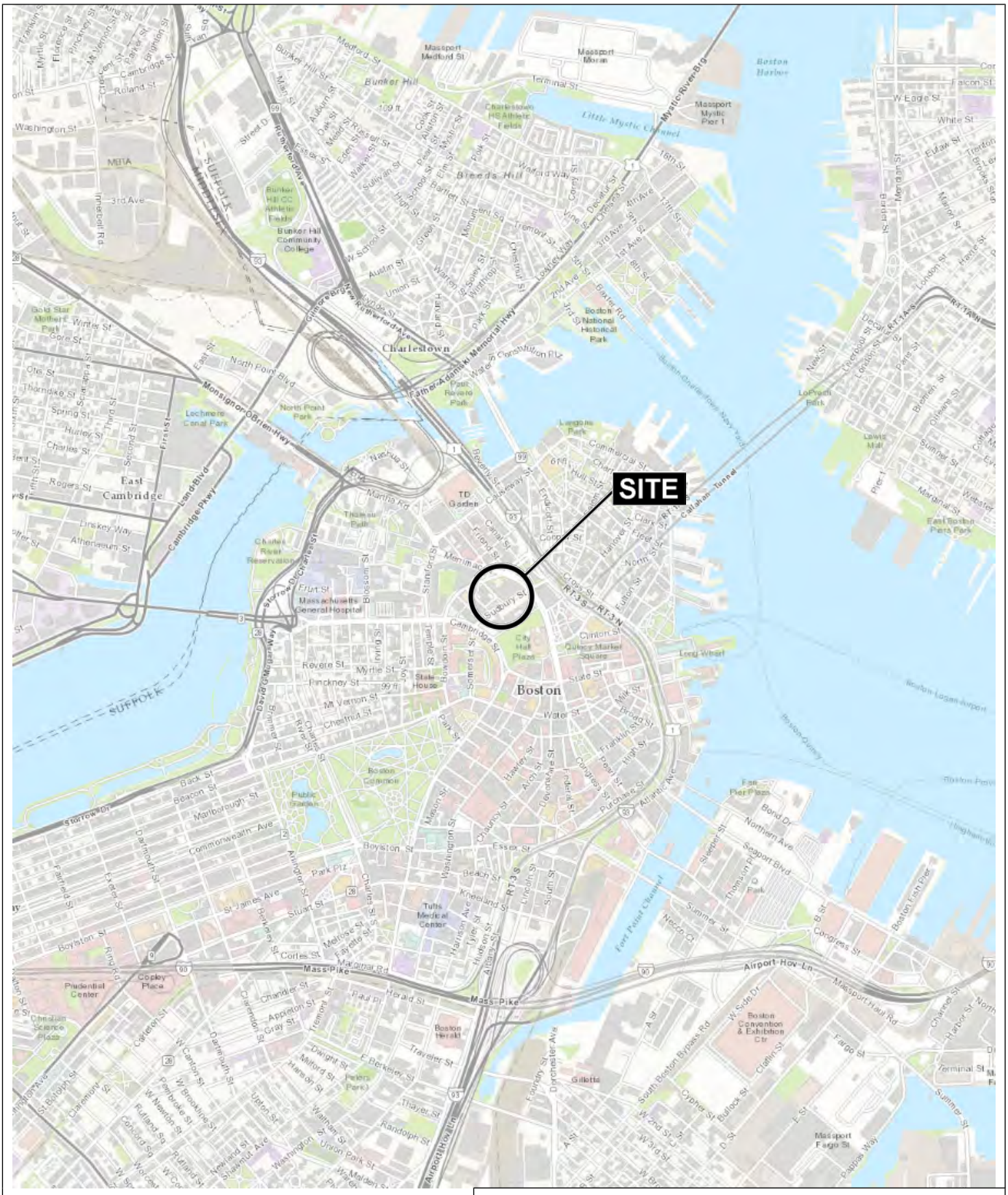
Attachments:

Figures

Tables

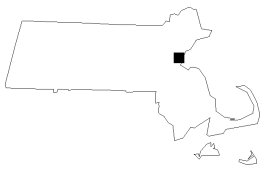
Attachments

FIGURES



MAP SOURCE: ESRI

SITE COORDINATES: 42°21'44"N, 71°3'35"W



VERTEX

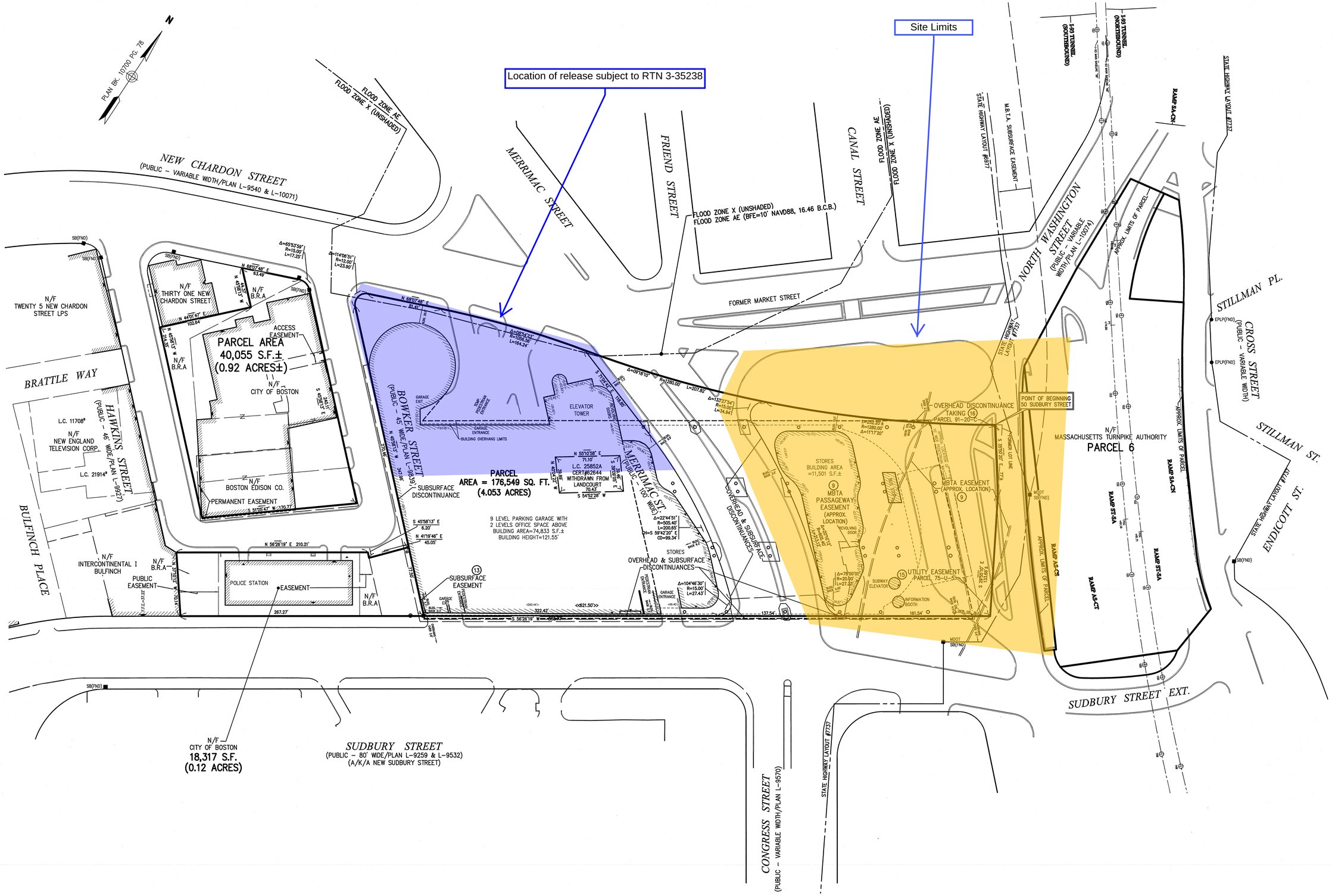
BULFINCH CROSSING
50 NEW SUDBURY STREET
BOSTON, MASSACHUSETTS

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
FEBRUARY 2019

FIGURE 1

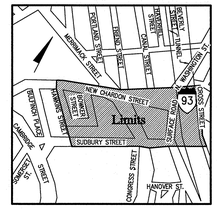
40181-030_1_LOCUS.PDF



SITE SCHEMATIC

BULFINCH CROSSING
50 NEW SUDBURY STREET
BOSTON, MASSACHUSETTS

vhb.com
vhb
101 Walnut Street
PO Box 9151
Watertown, MA 02471
617.924.1770



Locus Map

Legend

- DRAIN MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- ELECTRIC MANHOLE
- TELEPHONE/TELEPORT MANHOLE
- MANHOLE
- HANDHOLE
- WATER GATES
- FIRE HYDRANT
- GAS GATE
- STREET SIGN
- LIGHT POLE
- UTILITY POLE
- GUY WIRE
- GUY POLE
- FFE=32.18' FIRST FLOOR ELEVATION
- MONITORING WELL
- EDGE OF PAVEMENT
- CONCRETE CURB
- VERTICAL GRANITE CURB
- SLOPED GRANITE EDGE
- BITUMINOUS BERM
- GUARD RAIL
- CHAIN LINK FENCE
- DRAINAGE LINE
- SEWER LINE
- OVERHEAD WIRE
- UNDERGROUND ELECTRIC
- UNDERGROUND ELECTRIC PTC
- TELEPHONE LINE
- GAS LINE
- WATER LINE
- TELEPORT LINE
- WESTERN UNION LINE
- GROUND WATER EQUILIBRATION LINE
- STEAM LINE
- FUEL LINE
- FIBER OPTIC LINE

Government Center Garage

50 Sudbury Street
Boston, Massachusetts

No.	Revision	Date	Appvd.

Designed by | Checked by

Issued for | Date
April 17, 2017

Drawing Title:
ALTA/NSPS
Land Title Survey
(Title Information)

COMMONWEALTH OF MASSACHUSETTS
RUSSELL J. BOUSQUET
NO. 35389
REGISTERED PROFESSIONAL LAND SURVEYOR
5/17/17

FIGURE
2

Project Number:
27026

VERTEX®

TABLES

TABLE 1
SUMMARY OF NPDES ANALYTICAL DATA
50 NEW SUDBURY STREET
BOSTON, MASSACHUSETTS
VERTEX PROJECT NO. 27026

Sample Location	USEPA Effluent Limitations		Units	SOURCE WATER	RECEIVING WATER
Sample Designation				ENABLING-SRC	ENABLING-REC
Laboratory Sample ID				L2054652-01	L2054652-02
Sample Date	TBEL	WQBEL		12/8/2020	12/8/2020
Inorganics					
Ammonia	Report		mg/L	0.363	0.099
Chloride	Report		ug/L	37900	436000
Total Residual Chlorine	200	2.269	ug/L	**600**	ND(10)
Total Suspended Solids	30		mg/L	**60**	**9900**
Total Metals					
Antimony	206	131,742	ug/L	1.61	1.25
Arsenic	104	1,931	ug/L	0.85	0.64
Cadmium	10.2	0.0699	ug/L	0.06	ND(0.1)
Chromium III	323	3,978.3	ug/L	ND(5)	ND(5)
Chromium VI	323	1,739.6	ug/L	ND(5)	3
Copper	242	2	ug/L	**3039**	3.13
Iron	5,000	110,756	ug/L	232	463
Lead	160	0.31	ug/L	2.19	2.73
Mercury	0.739	186.84	ug/L	ND(0.1)	ND(0.1)
Nickel	1450	2,292	ug/L	4.34	ND(1.0)
Selenium	235.8	1,031.3	ug/L	ND(2.5)	ND(2.5)
Silver	35.1	33.7	ug/L	ND(0.2)	ND(0.2)
Zinc	420	1,801.6	ug/L	197.1	16.73
Cyanide	178,000	1,072,500	ug/L	ND(5)	1
Non-Halogenated Volatile Organic Compounds					
Total BTEX	100		ug/L	ND(CS)	ND(CS)
Benzene	5		ug/L	ND(0.5)	ND(0.5)
Toluene	NS	NS	ug/L	ND(0.5)	ND(0.5)
Ethylbenzene	NS	NS	ug/L	ND(0.5)	ND(0.5)
Xylene O	NS	NS	ug/L	ND(0.5)	ND(0.5)
Xylene P,M	NS	NS	ug/L	ND(1)	ND(1)
Xylenes (Total)	NS	NS	ug/L	ND(CS)	ND(CS)
1,4-Dioxane	200		ug/L	ND(25)	ND(25)
Acetone	7,970		ug/L	12	ND(5.0)
Phenols	1,080	61,875	ug/L	ND(15)	ND(15)
Halogenated Volatile Organic Compounds					
Carbon Tetrachloride	4.4	330	ug/L	ND(0.5)	ND(0.5)
1,2-Dichlorobenzene	600		ug/L	ND(2.5)	ND(2.5)
1,3-Dichlorobenzene	320		ug/L	ND(2.5)	ND(2.5)
1,4-Dichlorobenzene	5		ug/L	ND(2.5)	ND(2.5)
1,1-Dichloroethane	70		ug/L	ND(0.75)	ND(0.75)
1,2-Dichloroethane	5		ug/L	ND(0.75)	ND(0.75)
1,1-Dichloroethene	3.2		ug/L	ND(0.5)	ND(0.5)
1,2-Dibromoethane	0.05		ug/L	**0.996**	0.028
Methylene Chloride	4.6		ug/L	ND(0.5)	ND(0.5)
1,1,1-Trichloroethane	200		ug/L	ND(1.0)	ND(1.0)
1,1,2-Trichloroethane	5		ug/L	ND(0.75)	ND(0.75)
Trichloroethene	5		ug/L	ND(0.5)	ND(0.5)
Tetrachloroethene	5	680.6	ug/L	ND(0.5)	ND(0.5)
cis-1,2-Dichloroethene	70		ug/L	ND(0.5)	ND(0.5)
Vinyl Chloride	2		ug/L	ND(0.5)	ND(0.5)
Non-Halogenated Semi-Volatile Organic Compounds					
Total Phthalates	190	---	ug/L	ND(CS)	ND(CS)
bis(2-Ethylhexyl)phthalate	101	453.8	ug/L	ND(1.1)	ND(1.1)
Butylbenzylphthalate	NS	NS	ug/L	ND(2.5)	ND(2.5)
Diethylphthalate	NS	NS	ug/L	ND(2.5)	ND(2.5)
Dimethylphthalate	NS	NS	ug/L	ND(2.5)	ND(2.5)
Di-n-butylphthalate	NS	NS	ug/L	ND(2.5)	ND(2.5)
Di-n-octylphthalate	NS	NS	ug/L	ND(2.5)	ND(2.5)
Total Group I PAHs	1	As Individual	ug/L	ND(0.05)	0.065
Benzo(a)anthracene	As Total Group I PAHs	0.7838	ug/L	ND(0.05)	0.017
Benzo(a)pyrene		0.7838	ug/L	ND(0.05)	ND(0.05)
Benzo(b)fluoranthene		0.7838	ug/L	ND(0.05)	0.028
Benzo(k)fluoranthene		0.7838	ug/L	ND(0.05)	ND(0.05)
Chrysene		0.7838	ug/L	ND(0.05)	0.02
Dibenzo(a,h)Anthracene		0.7838	ug/L	ND(0.05)	ND(0.05)
Indeno(1,2,3-cd)Pyrene		0.7838	ug/L	ND(0.05)	ND(0.05)
Total Group II PAHs	100		ug/L	0.071	0.057
Acenaphthene	As Total Group II PAHs		ug/L	ND(0.05)	ND(0.05)
Acenaphthylene			ug/L	ND(0.05)	ND(0.05)
Anthracene			ug/L	ND(0.05)	ND(0.05)
Benzo(g,h,i)perylene			ug/L	ND(0.05)	ND(0.05)
Fluoranthene			ug/L	ND(0.05)	ND(0.05)
Fluorene			ug/L	ND(0.05)	ND(0.05)
Naphthalene	20		ug/L	0.04	0.019
Phenanthrene	As Total Group II PAHs		ug/L	0.031	ND(0.05)
Pyrene			ug/L	ND(0.05)	0.038
Polychlorinated Biphenyls (PCBs)					
Aroclor 1016	0.000064		ug/L	ND(0.125)	ND(0.125)
Aroclor 1221	0.000064		ug/L	ND(0.125)	ND(0.125)
Aroclor 1232	0.000064		ug/L	ND(0.125)	ND(0.125)
Aroclor 1242	0.000064		ug/L	ND(0.125)	ND(0.125)
Aroclor 1248	0.000064		ug/L	ND(0.125)	ND(0.125)
Aroclor 1254	0.000064		ug/L	ND(0.125)	ND(0.125)
Aroclor 1260	0.000064		ug/L	ND(0.1)	ND(0.1)
TOTAL PCBs	0.000064		ug/L	ND(CS)	ND(CS)
Pentachlorophenol	1		ug/L	ND(0.05)	0.13
Fuel Parameters					
Total Petroleum Hydrocarbons	5		mg/L	ND(2)	ND(2)
Methyl tert-Butyl Ether	70	4,125	ug/L	ND(5.0)	ND(5.0)
Tert-Butyl Alcohol	120		ug/L	ND(50)	ND(50)
Tertiary-amyl methyl ether	90		ug/L	ND(10)	ND(10)
General Chemistry					
pH	6.5 to 8.3		Standard Units	**8.4**	7.3

Notes
- USEPA = United States Environmental Protection Agency
- TBEL = Technology Based Effluent Limitation
- WQBEL = Water Quality Based Effluent Limitation
- µg/L = micrograms per liter
- mg/L = milligrams per liter
- ND = Not Detected above the laboratory reporting limit shown in parenthesis.
- CS = Compound Specific
- NS = No Standard for Target Analyte
- --- = Sample not analyzed for Target Analyte

ATTACHMENT A:

NOTICE OF INTENT FORM

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

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:
Bulfinch Crossing - Enabling</td><td colspan="3">Site address:
Street: 50 New Sudbury Street</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02114</td></tr>
<tr><td rowspan="4">2. Site owner
Bulfinch Unit A Owner, LLC
c/o The HYM Investment Group, LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: David Ambrose - Vice President, Construction</td></tr>
<tr><td colspan="2">Telephone: 617-593-8697</td><td>Email: dambrose@hyminvestments.com</td></tr>
<tr><td colspan="3">Mailing address: One Congress Street, 1st Floor
Street:</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02114</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
John Moriarty and Associates</td><td colspan="3">Contact Person: Joe Cameron</td></tr>
<tr><td colspan="2">Telephone: 617-828-6276</td><td>Email: jcameron@jm-a.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 3 Church Street</td></tr>
<tr><td>City: Winchester</td><td>State: MA</td><td>Zip: 01890</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):
Charles River	MA72-38	Class B

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

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

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. TMDL for pathogens and nutrients

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.	29.7 cfs
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.	212.8

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: 12/23/2020

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: City of Boston - MWRA ☐ Other; if so, specify:

2. Source water contaminants: Sediment	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): ☐ Yes ■ No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): ☐ Yes ■ No
3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): ■ Yes ☐ No	

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ☐ Existing discharge ■ New discharge ☐ New source	
Outfall(s): BWSC Storm Drain Outfall No. 049	Outfall location(s): (Latitude, Longitude) 42 degrees 22' 02.79"N 71 degrees 04' 04.95" W
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Stormwater Drain ☐ A private storm sewer system ■ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ■ Yes ☐ No, if so, explain, with an estimated timeframe for obtaining permission: Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☐ Yes ■ No	
Provide the expected start and end dates of discharge(s) (month/year): January 2021 through June 2022 Indicate if the discharge is expected to occur over a duration of: ☐ less than 12 months ■ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

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

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✔	1	4500NH3	0.075	0.363	0.363	Report mg/L	---
Chloride		✔	1	300.0	50	37900	37900	Report µg/l	---
Total Residual Chlorine		✔	1	4500CL	40	600	600	0.2 mg/L	2.269
Total Suspended Solids		✔	1	2540D	5	60	60	30 mg/L	---
Antimony		✔	1	200.8	4	1.61	1.61	206 µg/L	131742
Arsenic		✔	1	200.8	10	0.85	0.85	104 µg/L	1931
Cadmium		✔	1	200.8	0.2	0.06	0.06	10.2 µg/L	0.0699
Chromium III	✔		1	107	10	0	0	323 µg/L	3978.3
Chromium VI	✔		1	7196A	10	0	0	323 µg/L	1739.6
Copper		✔	1	200.8	1	303.9	303.9	242 µg/L	2.0
Iron		✔	1	200.8	50	232	232	5,000 µg/L	110756
Lead		✔	1	200.8	1	2.19	2.19	160 µg/L	0.31
Mercury	✔		1	245.1	0.2	0	0	0.739 µg/L	186.84
Nickel		✔	1	200.8	20	4.34	4.34	1,450 µg/L	2292
Selenium	✔		1	200.8	5	0	0	235.8 µg/L	1031.3
Silver	✔		1	200.8	0.4	0	0	35.1 µg/L	33.7
Zinc		✔	1	200.8	10	197.1	197.1	420 µg/L	1801.6
Cyanide	✔		1	4500CN	0.005	0	0	178 mg/L	1072.5
B. Non-Halogenated VOCs									
Total BTEX	✔		1	624.1	NA	0	0	100 µg/L	---
Benzene	✔		1	624.1	1	0	0	5.0 µg/L	---
1,4 Dioxane	✔		1	624.1	50	0	0	200 µg/L	---
Acetone		✔	1	624.1	10	12	12	7.97 mg/L	---
Phenol	✔	✔		624.1	30	0	0	1,080 µg/L	61875

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	✔		1	624.1	0.5	0	0	4.4 µg/L	330
1,2 Dichlorobenzene	✔		1	624.1	2.5	0	0	600 µg/L	---
1,3 Dichlorobenzene	✔		1	624.1	2.5	0	0	320 µg/L	---
1,4 Dichlorobenzene	✔		1	624.1	2.5	0	0	5.0 µg/L	---
Total dichlorobenzene	✔		1	624.1	2.5	0	0	763 µg/L in NH	---
1,1 Dichloroethane	✔		1	624.1	0.75	0	0	70 µg/L	---
1,2 Dichloroethane	✔		1	624.1	0.75	0	0	5.0 µg/L	---
1,1 Dichloroethylene	✔		1	624.1	0.5	0	0	3.2 µg/L	---
Ethylene Dibromide		✔	1	624.1	0.05	0.996	0.996	0.05 µg/L	---
Methylene Chloride	✔		1	624.1	0.5	0	0	4.6 µg/L	---
1,1,1 Trichloroethane	✔		1	624.1	1	0	0	200 µg/L	---
1,1,2 Trichloroethane	✔		1	624.1	0.75	0	0	5.0 µg/L	---
Trichloroethylene	✔		1	624.1	0.5	0	0	5.0 µg/L	---
Tetrachloroethylene	✔		1	624.1	0.5	0	0	5.0 µg/L	680.6
cis-1,2 Dichloroethylene	✔		1	624.1	0.5	0	0	70 µg/L	---
Vinyl Chloride	✔		1	624.1	0.5	0		2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		1	625.1	5	0	0	190 µg/L	
Diethylhexyl phthalate	✔		0	-	-	-	-	101 µg/L	453.8
Total Group I PAHs	✔		1	625.1	0.1	0	0	1.0 µg/L	---
Benzo(a)anthracene	✔		1	625.1	0.1	0	0	As Total PAHs	0.7838
Benzo(a)pyrene	✔		1	625.1	0.1	0	0		0.7838
Benzo(b)fluoranthene	✔		1	625.1	0.1	0	0		0.7838
Benzo(k)fluoranthene	✔		1	625.1	0.1	0	0		0.7838
Chrysene	✔		1	625.1	0.1	0	0		0.7838
Dibenzo(a,h)anthracene	✔		1	625.1	0.1	0	0		0.7838
Indeno(1,2,3-cd)pyrene	✔		1	625.1	0.1	0	0		0.7838

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		✔	1	625.1	0.1	0.071	0.071	100 µg/L	---
Naphthalene		✔	1	625.1	0.1	0.04	0.04	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		1	608.3	0.250	0	0	0.000064 µg/L	---
Pentachlorophenol	✔		1	625.1	1	0	0	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		1	1664A	4	0	0	5.0 mg/L	---
Ethanol	✔		1	1671A	20000	0	0	Report mg/L	---
Methyl-tert-Butyl Ether	✔		1	624.1	10	0	0	70 µg/L	4125
tert-Butyl Alcohol	✔		1	624.1	100	0	0	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		1	624.1	20	0	0	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
Temperature		✔	1	Field		1.11	1.11		
pH		✔	1	4500H		8.4	8.4		

E. Treatment system information

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

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

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.
The system will consist of, at a minimum, a settling tank and bag filtration. The use of Carbon vessels and Ion Exchange will be implemented if needed.

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: Sump Pump Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	125
Provide the proposed maximum effluent flow in gpm.	125
Provide the average effluent flow in gpm.	100
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:
NA
a. Product name, chemical formula, and manufacturer of the chemical/additive;
b. Purpose or use of the chemical/additive or remedial agent;
c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive;
d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive;
e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and
f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).

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

G. Endangered Species Act eligibility determination

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

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

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

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

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

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

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

H. National Historic Preservation Act eligibility determination

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

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

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

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

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

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

I. Supplemental information

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

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

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

J. Certification requirement

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

BMPP certification statement:	A BMPP meeting the requirements of this general permit will be developed and implemented 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: 11/11/2021
Print Name and Title:	Thomas O'Brien, Authorized Signatory

ATTACHMENT B:

MASSDEP PHASE I SITE ASSESSMENT MAP

MassDEP - Bureau of Waste Site Cleanup

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

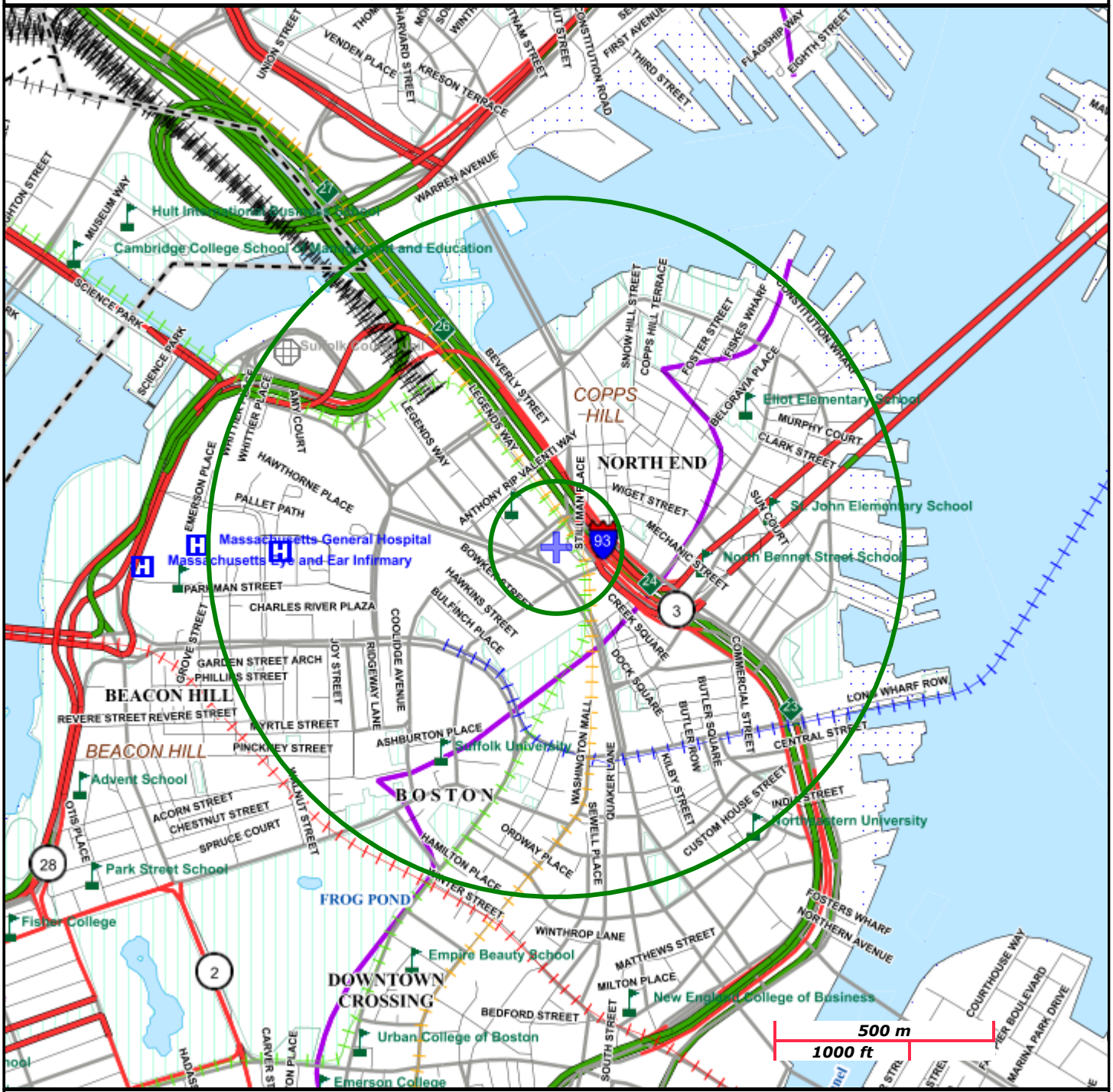
Site Information:

50 NEW SUDBURY STREET BOSTON, MA

NAD83 UTM Meters:
4692152mN , 330471mE (Zone: 19)
December 17, 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

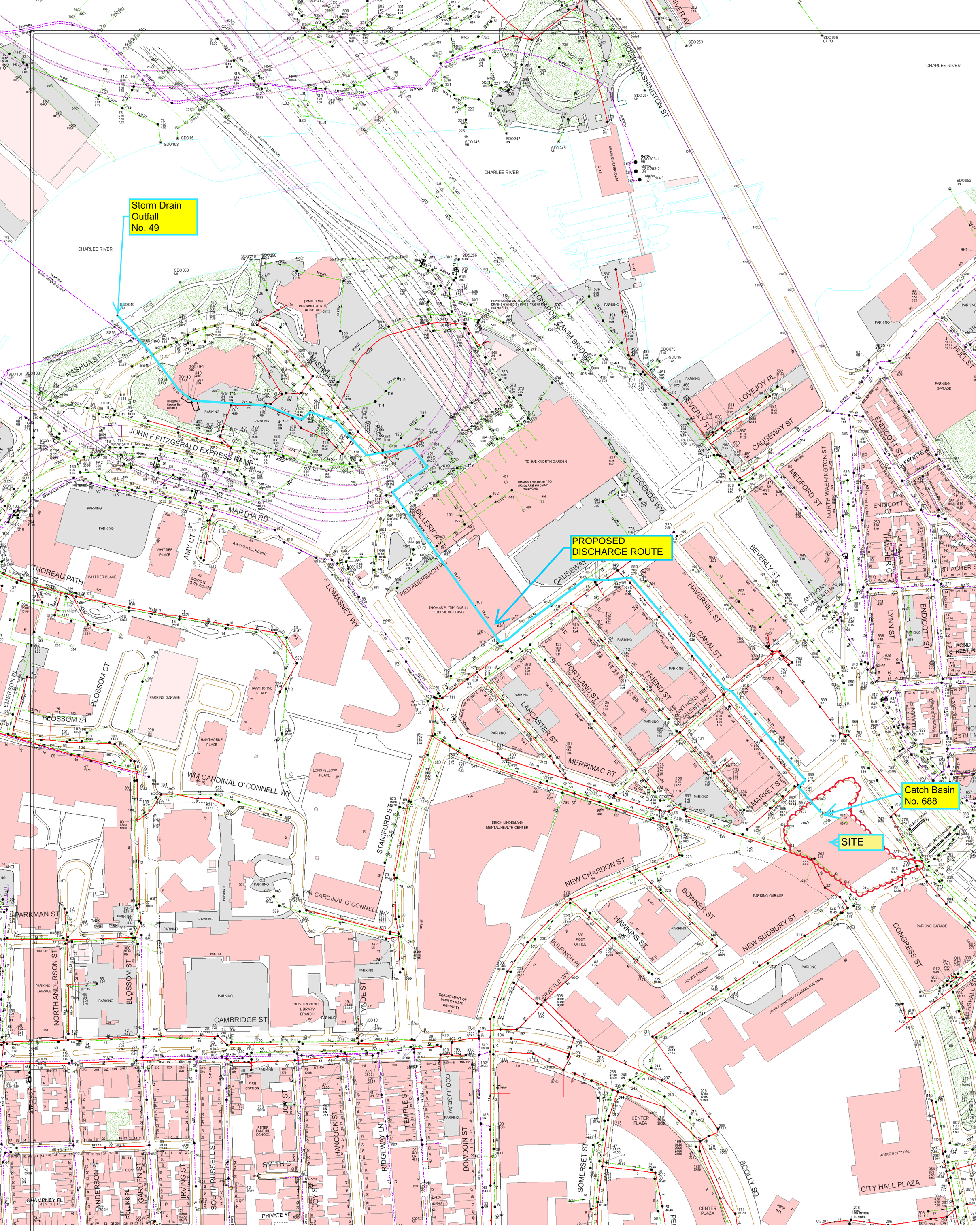
FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

ATTACHMENT C:

PROPOSED DRAINAGE PATH



BOSTON WATER AND SEWER

DEWATERING DISCHARGE ROUTE

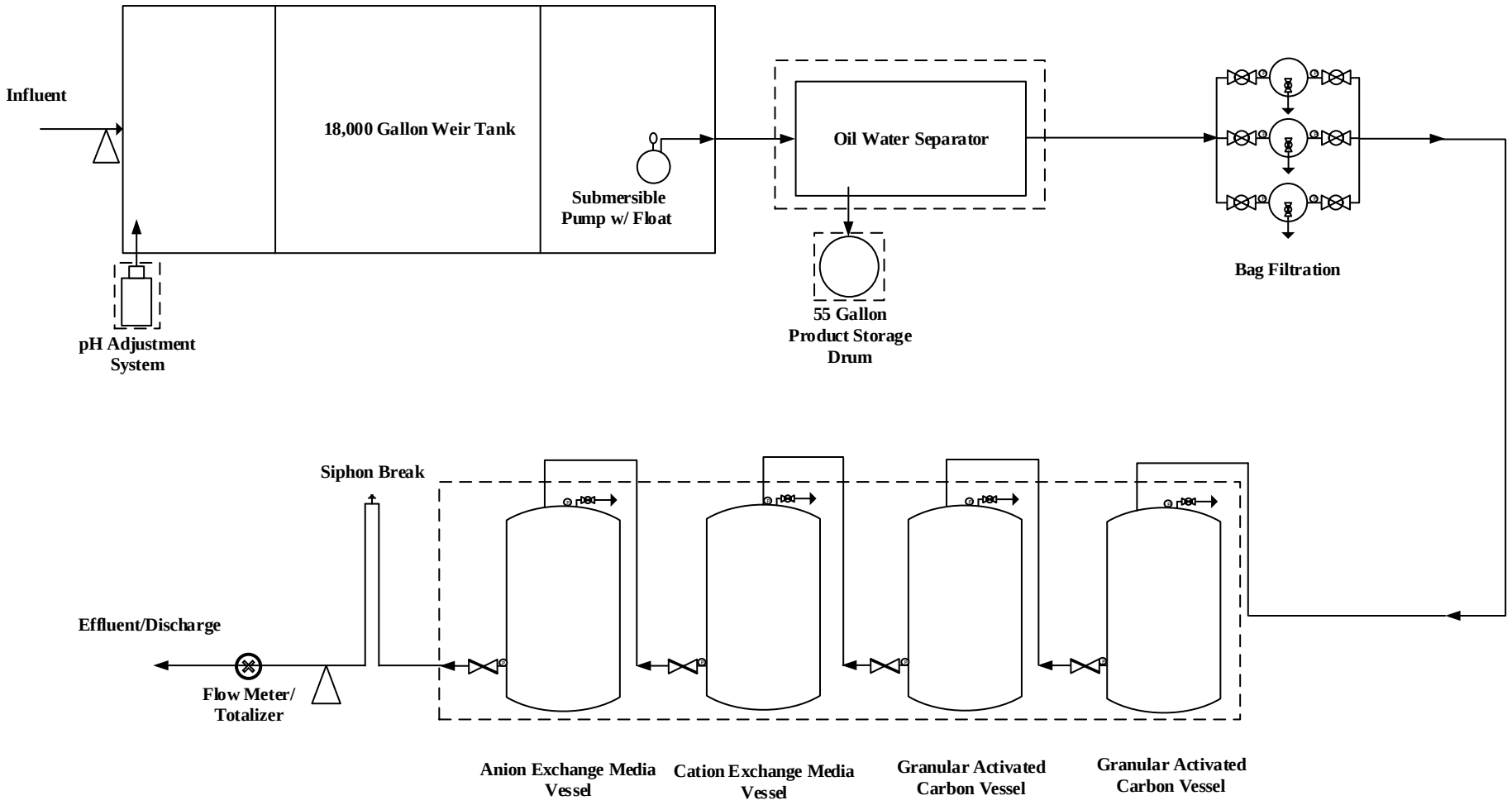
Bulfinch Crossing
50 New Sudbury Street
Boston, Massachusetts

VERTEX

Figure 5

ATTACHMENT D:

PROPOSED TREATMENT SYSTEM SCHEMATIC AND CUT SHEETS



Notes:

1.) Figure is not to scale
2.) System rated for 100 GPM

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

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

DESIGNED BY: LRT DRAWN BY: JHJ
CHECKED BY: DATE:

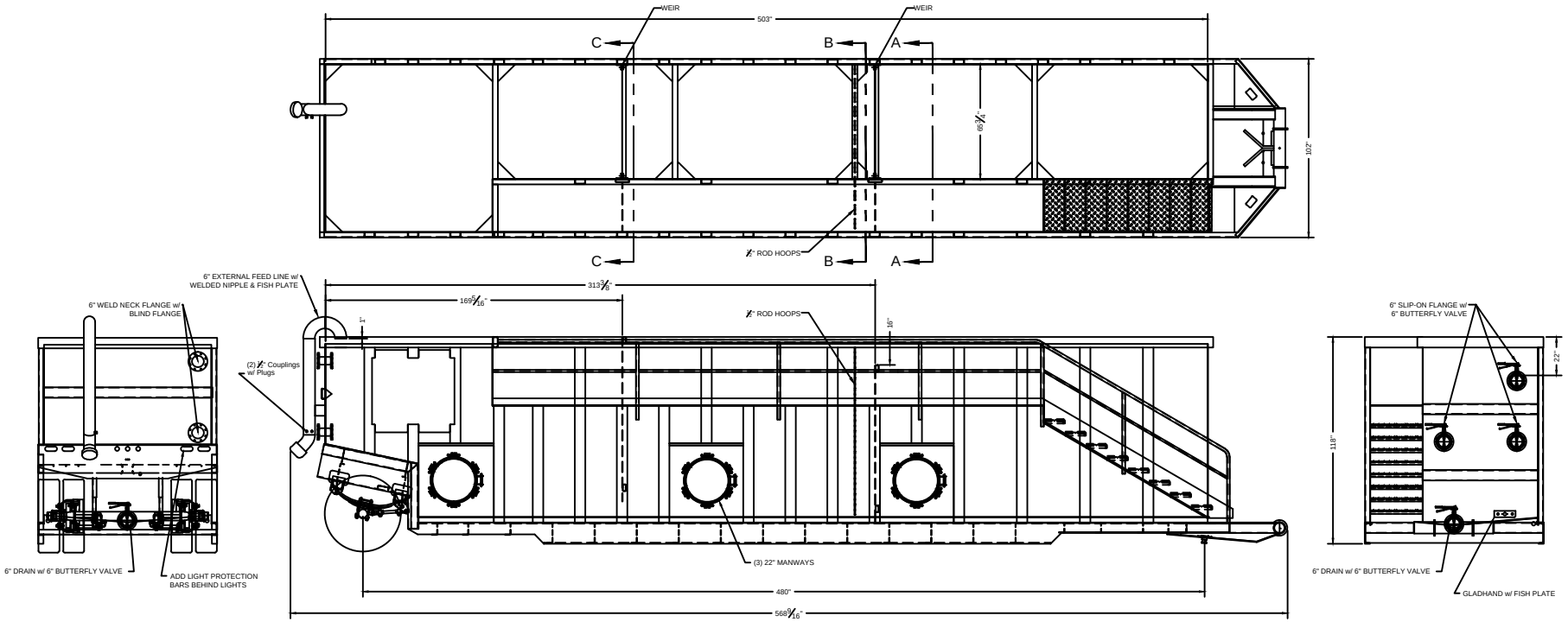
Water Treatment System Schematic

Bulfinch Crossing - Enabling
50 New Sudbury Street
Boston, MA

PROJECT No.

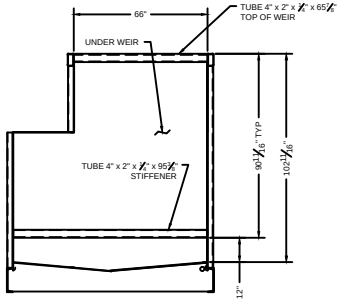
FIGURE No.

Cut Sheets

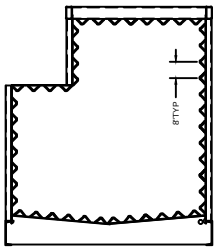


STANDARD SPECIFICATION

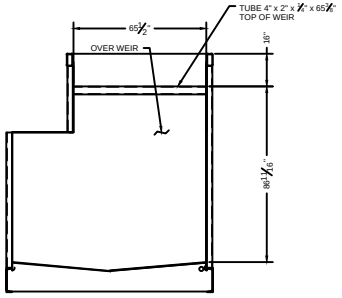
CAPACITY: .... 18,480 GALLONS (440 BBL)
SIDE SHEETS: .... 1/4" A36 PLATE
FRONT SHEET: .... 1/4" A36 PLATE
REAR SHEET: .... 1/4" A36 PLATE
FLOOR: .... 1/4" A36 PLATE
MAIN FLOOR RAILS: .... 12" x 20.7# STRUCTURAL CHANNEL
FLOOR CROSSMEMBERS: .... 1/4" A36 PLATE
SIDE STAKES: .... ONE PIECE 3/16" A36 PLATE
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.



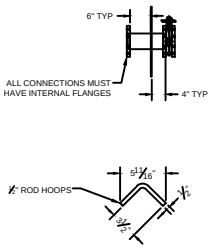
SECTION VIEW "C-C"



SECTION VIEW "B-B"



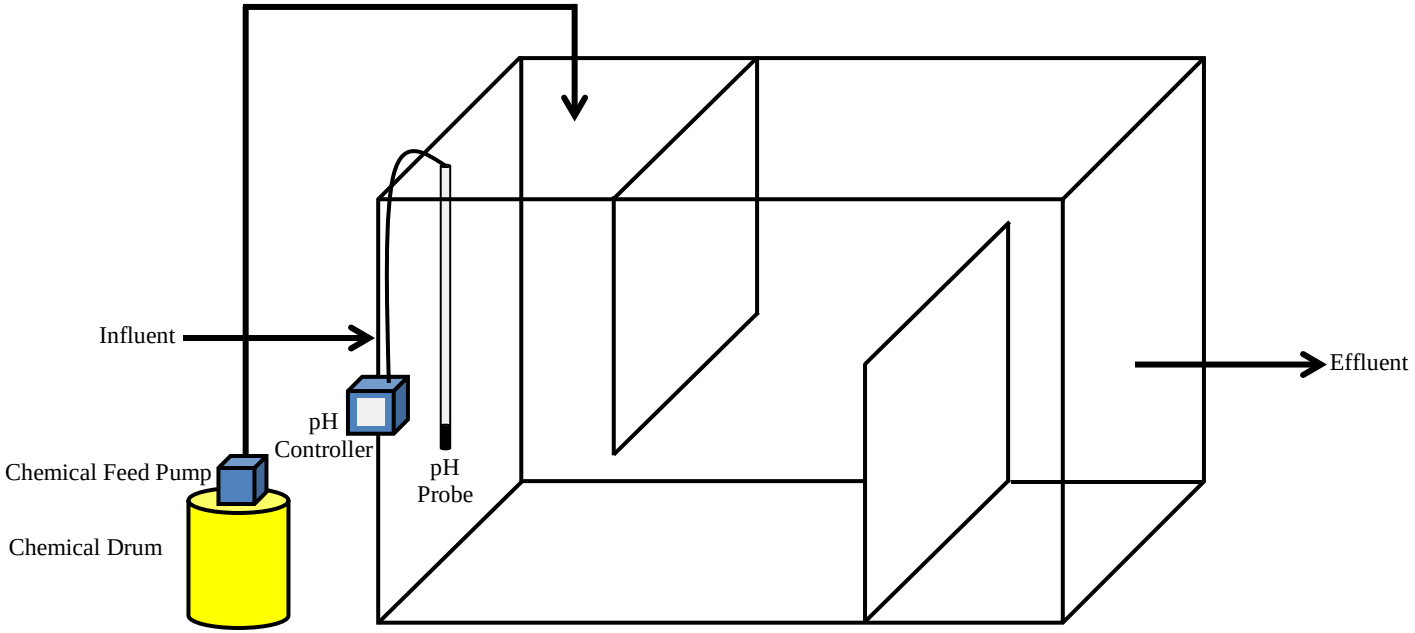
SECTION VIEW "A-A"



18,000 Gal. Weir Tank

Lockwood Remediation Technologies, LLC

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



Notes:

1.) Figure is not to scale.
2.) System layout can vary with site conditions.

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

Configuration of pH Adjustment System

One Controller for the Broadest Range of Sensors.

Choose from 30 digital and analog sensor families for up to 17 di:erent parameters.

Maximum Versatility

The sc200 controller allows the use of digital and analog sensors, either alone or in combination, to provide compatibility with Hach's broad range of sensors, eliminating the need for dedicated, parameter-specific controllers.

Ease of Use and Confidence in Results

Large, high-resolution, transreflective display provides optimal viewing resolution in any lighting condition. Guided calibration procedures in 19 languages minimize complexity and reduce operator error. Password-protected SD card reader o:ers a simple solution for data download and transfer. Visual warning system provides critical alerts.

Wide Variety of Communication Options

Utilize two to five analog outputs to transmit primary and secondary values for each sensor, or integrate Hach sensors and analyzers into MODBUS RS232/RS485, Profibus® DP, and HART networks.

Password protected SD card reader offers a simple solution for data download and transfer, and sc200 and digital sensor configuration file duplication and backup.

Controller Comparison

Features	Previous Models sc100™ Controller	Previous Models GLI53 Controller	sc200™ Controller	Benefits
Display	64 x 128 pixels 33 x 66 mm (1.3 x 2.6 in.)	64 x 128 pixels 33 x 66 mm (1.3 x 2.6 in.)	160 x 240 pixels 48 x 68 mm (1.89 x 2.67 in.) Transreflective	• Improved user interface—50% bigger • Easier to read in daylight and sunlight
Data Management	irDA Port/PDA Service Cable	N/A	SD Card Service Cable	• Simplifies data transfer • Standardized accessories/max compatibility
Sensor Inputs	2 Max Direct Digital Analog via External Gateway	2 Max Analog Depending on Parameter	2 Max Digital and/or Analog with Sensor Card	• Simplifies analog sensor connections • Works with analog and digital sensors
Analog Inputs	N/A	N/A	1 Analog Input Signal Analog 4-20mA Card	• Enables non-sc analyzer monitoring • Accepts mA signals from other analyzers for local display • Consolidates analog mA signals to a digital output
4-20 mA Outputs	2 Standard	2 Standard	2 Standard Optional 3 Additional	• Total of five (5) 4-20 mA outputs allows multiple mA outputs per sensor input
Digital Communication	MODBUS RS232/RS485 Profibus DP V1.0	HART	MODBUS RS232/RS485 Profibus DP V1.0 HART 7.2	• Unprecedented combination of sensor breadth and digital communication options

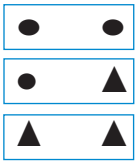
Choose from Hach's Broad Range of Digital and Analog Sensors

Parameter	Sensor	Digital or Analog
Ammonia	AMTAX™ sc, NH4D sc, AISE sc, AN-ISE sc	●
Chlorine	CLF10 sc, CLT10 sc, 9184 sc	●
Chlorine Dioxide	9185 sc	●
Conductivity	GLI 3400 Contacting, GLI 3700 Inductive	▲
Dissolved Oxygen	LDO® Model 2, 5740 sc	●
Dissolved Oxygen	5500	▲
Flow	U53, F53 Sensors	▲
Nitrate	NITRATAX™ sc, NO3D sc, NISE sc, AN-ISE sc	●
Oil in Water	FP360 sc	●
Organics	UVAS sc	●
Ozone	9187 sc	●
pH/ORP	pHD	●
pH/ORP	pHD, pH Combination, LCP	▲
Phosphate	PHOSPHAX™ sc	●
Sludge Level	SONATAX™ sc	●
Suspended Solids	SOLITAX™ sc, TSS sc	●
Turbidity	1720E, FT660 sc, SS7 sc, ULTRATURB sc, SOLITAX sc, TSS sc	●
Ultra Pure Conductivity	8310, 8311, 8312, 8315, 8316, 8317 Contacting	▲
Ultra Pure pH/ORP	8362	▲

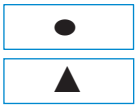
● = Digital ▲ = Analog

Connect up to two of any of the sensors listed above, in any combination, to meet your application needs. The diagrams below demonstrate the potential configurations. Operation of analog sensors requires the controller to be equipped with the appropriate sensor module. Contact Hach Technical Support for help with selecting the appropriate module.

2 Channel Configurations



1 Channel Configurations



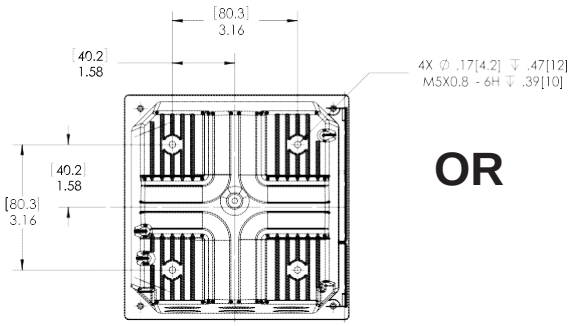
Specifications*

Dimensions (H x W x D)	5.7 in x 5.7 in x 7.1 in (144 mm x 144 mm x 181 mm)
Display	Graphic dot matrix LCD with LED backlighting, transreflective
Display Size	1.9 x 2.7 in. (48 mm x 68 mm)
Display Resolution	240 x 160 pixels
Weight	3.75 lbs. (1.70 kg)
Power Requirements (Voltage)	100 - 240 V AC, 24 V DC
Power Requirements (Hz)	50/60 Hz
Operating Temperature Range	-20 to 60 °C , 0 to 95% RH non-condensing
Analog Outputs	Two (Five with optional expansion module) to isolated current outputs, max 550 Ω , Accuracy: ± 0.1% of FS (20mA) at 25 °C, ± 0.5% of FS over -20 °C to 60 °C range Operational Mode: measurement or calculated value
Analog Output Functional Mode	Linear, Logarithmic, Bi-linear, PID
Security Levels	2 password-protected levels
Mounting Configurations	Wall, pole, and panel mounting
Enclosure Rating	NEMA 4X/IP66
Conduit Openings	1/2 in NPT Conduit
Relay: Operational Mode	Primary or secondary measurement, calculated value (dual channel only) or timer
Relay Functions	Scheduler (Timer), Alarm, Feeder Control, Event Control, Pulse Width Modulation, Frequency Control, and Warning
Relays	Four electromechanical SPDT (Form C) contacts, 1200 W, 5 A
Communication	MODBUS RS232/RS485, PROFIBUS DPV1, or HART 7.2 optional
Memory Backup	Flash memory
Electrical Certifications	EMC CE compliant for conducted and radiated emissions: - CISPR 11 (Class A limits) - EMC Immunity EN 61326-1 (Industrial limits) Safety cETLus safety mark for: - General Locations per ANSI/UL 61010-1 & CAN/CSA C22.2. No. 61010-1 - Hazardous Location Class I, Division 2, Groups A,B,C & D (Zone 2, Group IIC) per FM 3600 / FM 3611 & CSA C22.2 No. 213 M1987 with approved options and appropriately rated Class I, Division 2 or Zone 2 sensors cULus safety mark - General Locations per UL 61010-1 & CAN/CSA C22.2. No. 61010-1

**Subject to change without notice.*

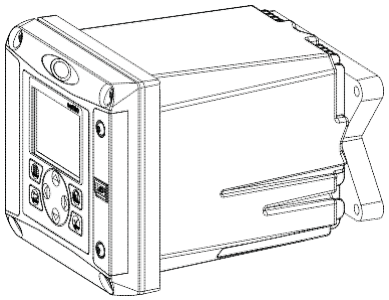
Dimensions

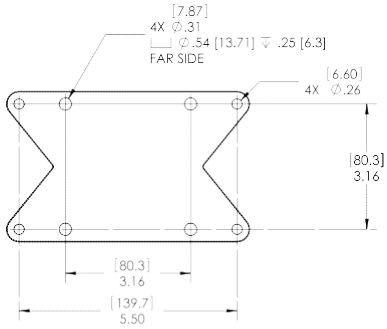
Surface Mounting Dimensions



Mounting Dimensions
(Rear View)

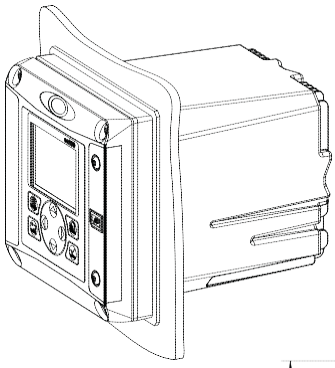
OR

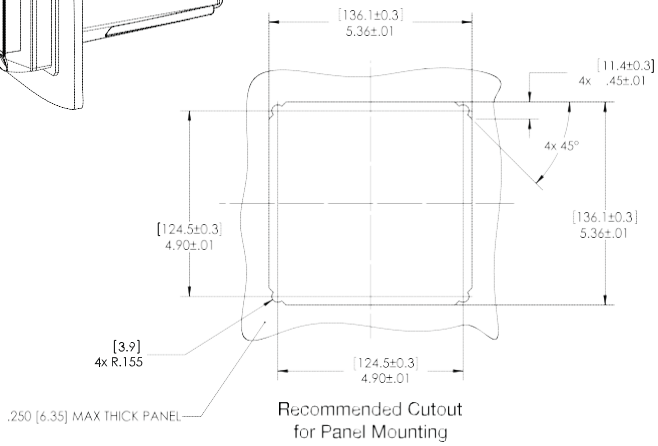




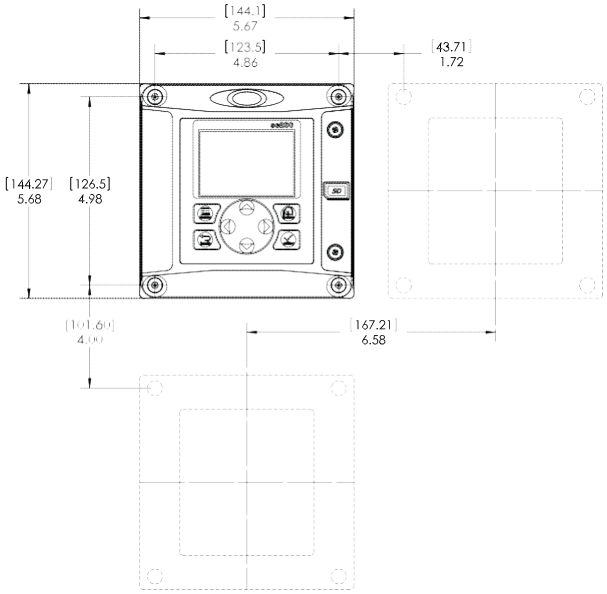
Bracket (supplied) for Surface Mounting
(Not compatible with Weather and Sun Shield
p/n 9220600 when surface mounting.)

Panel Mounting Dimensions



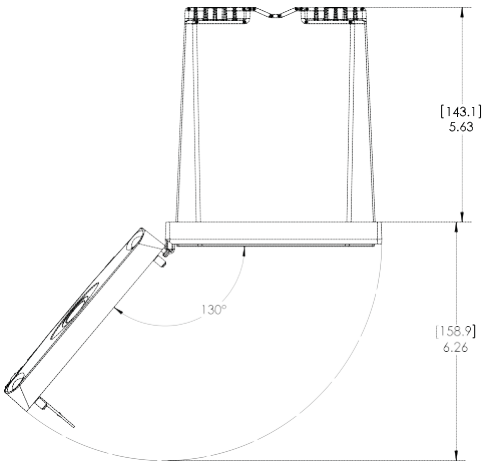


Recommended Cutout
for Panel Mounting

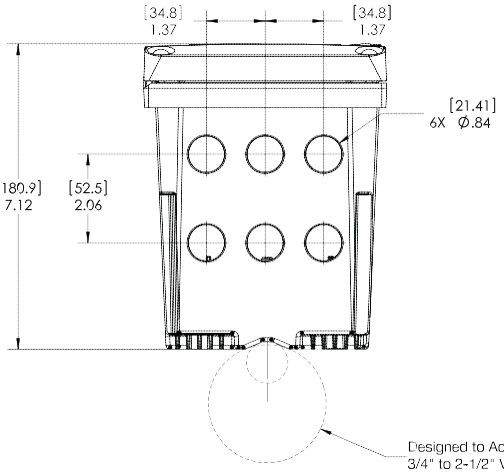


Minimum Spacing Dimensions
for Group Mounting

Top and Bottom Views



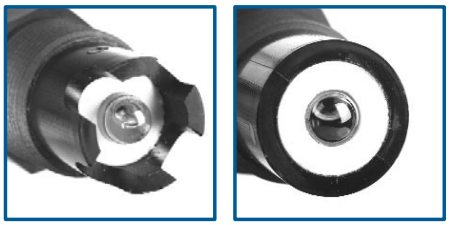
Door Opening Details



Designed to Accommodate
3/4" to 2-1/2" Vertical / Horizontal Pipe

3/4-inch Combination pH and ORP Sensor Kits

Use the Digital Gateway to make any Hach analog combination pH or ORP sensor compatible with the Hach sc1000 Controller.



Digital combination pH and ORP sensors are available in convertible, insertion, and sanitary mounting styles. Choose from rugged dome electrodes or "easy-to-clean" flat glass electrodes.

Features and Benefits

Low Price—High Performance

These combination sensors are designed for specialty applications for immersion or in-line mounting. The reference cell features a double-junction design for extended service life, and a built-in solution ground. The body is molded from chemically-resistant Ryton® or PVDF, and the reference junction is coaxial porous Teflon®. All sensors are rated 0 to 105ºC up to 100 psig, and have integral 4.5 m (15 ft.) cables with tinned leads. The PC-series (for pH) and RC-series (for ORP) combination sensors are ideal for measuring mild and aggressive media.

Special Electrode Configurations

Sensors with rugged dome electrodes, "easy-to-clean" flat glass electrodes, and even HF (hydrofluoric acid) resistant glass electrodes are available for a wide variety of process solutions.

Temperature Compensation Element Option

The PC-series combination pH sensors are available with or without a Pt 1000 ohm RTD temperature element. The RC-series combination ORP sensors are supplied without a temperature element.

Versatile Mounting Styles

Sensors are available in three mounting styles—convertible, insertion, and sanitary. Please turn to page 3 for more information.

Full-Featured "Plug and Play" Hach sc Digital Controllers

There are no complicated wiring or set up procedures with any Hach sc controller. Just plug in any combination of Hach digital sensors and it's ready to use—it's "plug and play."

One or multiple sensors—The sc controller family allows you to receive data from up to eight Hach digital sensors in any combination using a single controller.

Communications—Multiple alarm/control schemes are available using the relays and PID control outputs. Available communications include analog 4-20 mA, digital MODBUS® (RS485 and RS232) or Profibus DP protocols. (Other digital protocols are available. Contact your Hach representative for details.)

Data logger—A built-in data logger collects measurement data, calibration, verification points, and alarm history.

Specifications*

Most pH applications fall in the 2.5-12.5 pH range. General purpose pH glass electrodes perform well in this range. Some industrial applications require accurate measurements and control at pH values below 2 or above 12. Consult Hach Technical Support for details on these applications.

Combination pH Sensors

Measuring Range
0 to 14 pH

Accuracy
Less than 0.1 pH under reference conditions

Temperature Range
0 to 105ºC (32 to 221ºF)

Flow Rate
0 to 2 m/s (0 to 6.6 ft./s); non-abrasive

Pressure Range
0 to 6.9 bar at 100ºC (0 to 100 psig at 212ºF)

Signal Transmission Distance
100 m (328 ft.) when used with the Hach Digital Gateway and a Hach sc Digital Controller.

1000 m (3280 ft.) when used with the Hach Digital Gateway, Termination Box, and a Hach sc Digital Controller.

Sensor Cable
Integral coaxial cable (plus two conductors for temperature compensator option); 4.5 m (15 ft.) long

Wetted Materials

Convertible style: Ryton® body (glass filled)

Insertion style: PVDF body (Kynar®)

Sanitary style: 316 stainless steel sleeved PVDF body

Common materials for all sensor styles include PTFE Teflon double junction, glass process electrode, and Viton® O-rings

Warranty
90 days

Combination ORP Sensors

Measuring Range
-2000 to +2000 millivolts

Accuracy
Limited to calibration solution accuracy (± 20 mV)

Temperature Range
0 to 105ºC (32 to 221ºF)

Flow Rate
0 to 2 m/s (0 to 6.6 ft./s); non-abrasive

Pressure Range
0 to 6.9 bar at 100ºC (0 to 100 psig at 212ºF)

Signal Transmission Distance
100 m (328 ft.) when used with the Hach Digital Gateway and a Hach sc Digital Controller.

1000 m (3280 ft.) when used with the Hach Digital Gateway, Termination Box, and a Hach sc Digital Controller.

Sensor Cable
Integral coaxial cable; 4.5 m (15 ft.) long; terminated with stripped and tinned wires

Wetted Materials

Convertible style: Ryton® body (glass filled)

Insertion style: PVDF body (Kynar®)

Common materials for all sensor styles include PTFE Teflon double junction, glass with platinum process electrode, and Viton® O-rings

Warranty
90 days

**Specifications subject to change without notice.*

Engineering Specifications

1. The pH sensor shall be available in convertible, insertion or sanitary styles. The ORP sensor shall be available in only convertible or insertion styles.
2. The convertible style sensor shall have a Ryton® body. The insertion style sensor shall have a PVDF body. The sanitary style sensor shall have a 316 stainless steel sleeved PVDF body. Common materials for all sensor styles shall include a PTFE Teflon® double junction, and Viton® O-rings. The pH sensor shall have a glass pH electrode. The ORP sensor shall have a platinum ORP electrode.
3. The convertible style pH sensor shall be available with or without a built-in Pt 1000 ohm RTD temperature element. Insertion and sanitary style pH sensors shall have a built-in Pt 1000 ohm RTD temperature element. Convertible and insertion style ORP sensors shall not have a built-in temperature element.
4. The sensor shall communicate via MODBUS® RS-485 to a Hach sc Digital Controller.
5. The sensor shall be Hach Company Model PC sc or PC-series for pH measurement or Model PC sc or RC-series for ORP measurement.

Dimensions

Convertible Style Sensor

The convertible style sensor has a Ryton® body that features 3/4-inch NPT threads on both ends. The sensor can be directly mounted into a standard 3/4-inch pipe tee for flow-through mounting or fastened onto the end of a pipe for immersion mounting. The convertible style sensor enables inventory consolidation, thereby reducing associated costs. Mounting tees and immersion mounting hardware are offered in a variety of materials to suit application requirements.

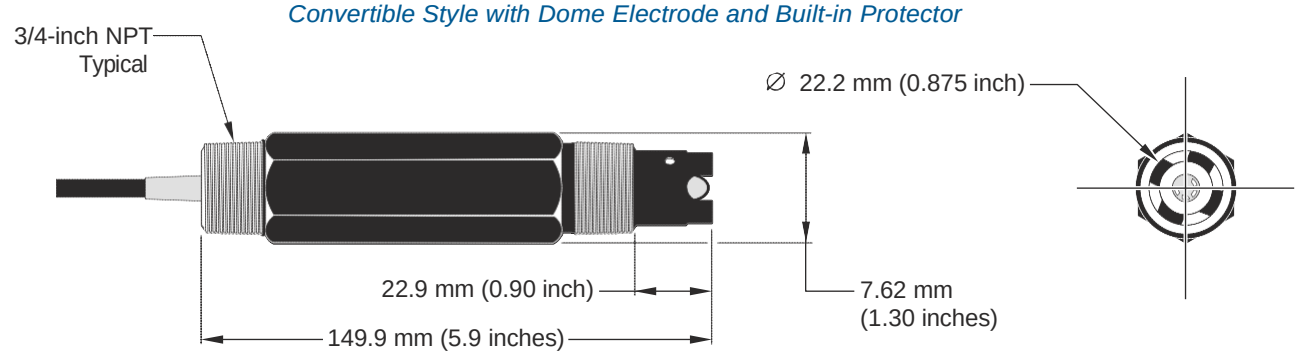
Insertion Style Sensor

Insertion style sensors feature a longer, non-threaded PVDF body with two Viton® O-rings, providing a seal when used with the optional Hach insertion mount hardware assembly. This ball valve hardware enables sensor insertion and retraction from a pipe or vessel without having to stop the process flow.

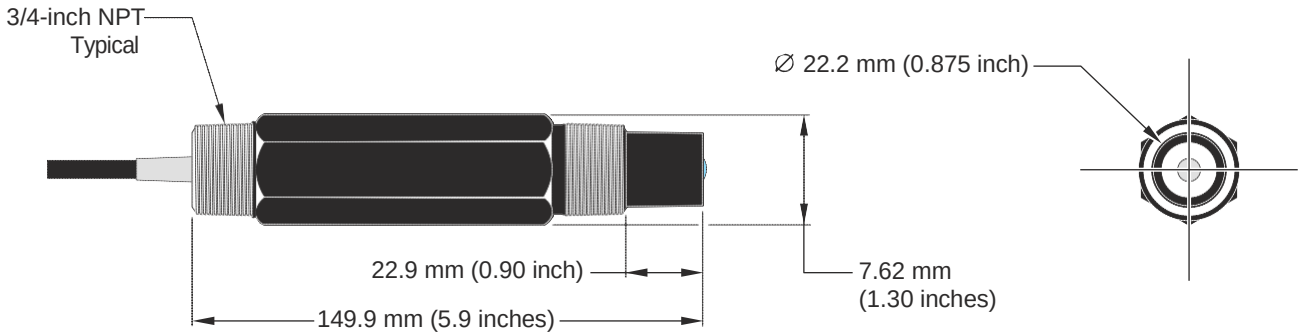
Sanitary Style Sensor

The sanitary style sensor, offered for pH measurement, has a 316 stainless steel-sleeved PVDF body with a 2-inch flange. The sensor mates to a standard 2-inch Tri-Clover fitting. The optional Hach sanitary mounting hardware includes a standard 2-inch sanitary tee, sanitary clamp, and Viton® sanitary gasket.

Convertible Style with Dome Electrode and Built-in Protector



Convertible Style with Flat Electrode



Lockwood Remediation Technologies, LLC

The Pulsatron Series A Plus offers manual function controls over stroke length and stroke rate as standard with the option to select external pace for automatic control.

Ten distinct models are available, having pressure capabilities to 250 PSIG (17 BAR) @ 12 GPO (1.9 lph), and flow capacities to 58 GPO (9.1 lph) @ 100 PSIG (7.0 BAR), with a standard turndown ratio of 100:1, and optional ratio of 1000:1. Metering performance is reproducible to within ± 3% of maximum capacity.

Features

- Manual Control by on-line adjustable stroke rate and stroke length.
- Highly Reliable timing circuit.
- Circuit Protection against voltage and current upsets.
- Solenoid Protection by thermal overload with auto-reset.
- Water Resistant, for outdoor and indoor applications.
- Internally Dampened To Reduce Noise.
- Guided Ball Check Valve Systems, to reduce back flow and enhance outstanding priming characteristics.
- Few Moving Parts and Wall Mountable.
- Safe & Easy Priming with durable leak-free bleed valve assembly (standard).
- Optional Control: External pace with auto/manual selection.

Controls

Manual Stroke Rate

Manual Stroke Length

External Pacing - Optional

External Pace With Stop - Optional (125 SPM only)

Controls Options		
Feature	Standard Configuration	Optional Configuration [1]
External Pacing	--	Auto / Manual Selection
External Pace w/ Stop (125 SPM only)	--	Auto / Manual Selection [2]
Manual Stroke Rate	10:1 Ratio	100:1 Raio
Manual Stroke Length	10:1 Ratio	10:1 Ratio
Total Turndown Ratio	100:1 Ratio	1000:1 Ratio

Note 1: On S2, S3 & S4 sizes only.

Note 2: Not available on 1000:1 turndown pumps.

Operating Benefits

- Reliable metering performance.
- Rated "hot" for continuous duty.
- High viscosity capability.
- Leak-free, sealless, liquid end.

Aftermarket

- KOPkits
- Gauges
- Dampeners
- Pressure Relief Valves
- Tanks
- Pre-Engineered Systems
- Process Controllers (PULSAblue, MicroVision)

Series A Plus
Electronic Metering Pumps

Lockwood Remediation Technologies, LLC

Series A Plus

Specifications and Model Selection

MODEL			LBC2	LB02	LBC3	LB03	LB04	LB64	LBC4	LBS2	LBS3	LBS4
Capacity nominal (max.)		GPH	0.25	0.25	0.42	0.50	1.00	1.25	2.00	0.50	1.38	2.42
		GPO	6	6	10	12	24	30	48	12	33	58
		LPH	0.9	0.9	1.6	1.9	3.8	4.7	7.6	1.9	5.2	9.14
Pressure[3] (max.)	GFPP, PVDF, 316SS or PVC <;N code) wITFE Seats)	PSIG (Bar)	250 (17)	150 (10)	250 (17)	150 (10)	100 (7)	100 (7)	50 (3.3)	250 (17)	150 (10)	100 (7)
	PVC (V code) Viton or CSPE Seats IDegas Liquid End		150 (10)							150 (10)		
Connections:		Tubina	1.14" ID X 3.8" OD						3.8" D X 1.2" OD	1.14" D X 3.8" OD		
		Pioina	1.14" FNPT									
Strokes/Minute		SPM	125							250		

Note 3: Pumps with rated pressure above 150 PSI will be de-rated to 150 PSI Max. when selecting certain valve options, see Price Book for details.

Engineering Data

Pump Head Materials Available:	GFPPL
	PVC
	PVDF
	316 SS
Diaphragm:	PTFE-faced CSPE-backed
Check Valves Materials Available:	
Seats/0-Rings:	PTFE
	CSPE
	Viton
Balls:	Ceramic
	PTFE
	316 SS
	Alloy C
Fittings Materials Available:	GFPPL
	PVC
	PVDF
Bleed Valve:	Same as fitting and check valve selected, except 316SS
Injection Valve & Foot Valve Assy:	Same as fitting and check valve selected
Tubing:	Clear PVC
	White PE

Important: Material Code - GFPPL=Glass-filled Polypropylene, PVC=Polyvinyl Chloride, PE=Polyethylene, PVDF=Polyvinylidene Fluoride, CSPE=Generic formulation of Hypalon, a registered trademark of E.I. DuPont Company. Viton is a registered trademark of E.I. DuPont Company. PVC wetted end recommended for sodium hypochlorite.

Engineering Data

Reproducibility:	+/- 3% at maximum capacty
Viscosity Max CPS:	1000 CPS
Stroke Frequency Max SPM:	125 / 250 by Model
Stroke Frequency Turn-Down Ratio:	10:1 / 100:1 by Model
Stroke Length Turn-Down Ratio:	10:1
Power Input:	115 VAC/50-60 HZ/1 ph
	230 VAC/50-60 HZ/1 ph
Average Current Draw:	
@ 115 VAC; Amps:	0.6 Amps
@ 230 VAC; Amps:	0.3 Amps
Peak hput Power:	130 Watts
Average Input Power @ Max SPM:	50 Watts

Custom Engineered Designs - Pre-Engineered Systems

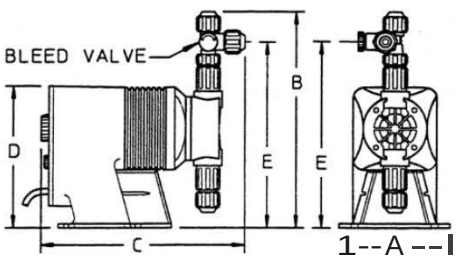
Pre-Engineered Systems

Pulsafeeder's Pre-Engineered Systems are designed to provide complete chemical feed solutions for all electronic metering applications. From stand alone simplex pH control applications to full-featured, redundant sodium hypochlorite disinfection metering, these rugged fabricated assemblies offer turn-key simplicity and industrial-grade durability. The UV-stabilized, high-grade HOPE frame offers maximum chemical compatibility and structural rigidity. Each system is factory assembled and hydrostatically tested prior to shipment.

Dimensions

Series A PLUS Dimensions (inches)						
Model No.	A	B	C	D	E	Shipping Weight
LB02 IS2	5.0	9.6	9.5	6.5	8.2	10
LBC2	5.0	9.9	9.5	6.5	8.5	10
LBC3	5.0	9.9	9.5	6.5	8.5	10
LB03 IS3	5.0	9.9	9.5	6.5	8.5	10
LB0B4	5.0	9.9	9.5	6.5	8.5	10
LB64	5.0	9.9	9.5	6.5	8.5	10
LBC4	5.0	9.9	9.5	6.5	8.5	10

NOTE: Inches X 2.54 cm



95-Gallon OverPack - 32" dia x 41.5", 1 each/package

Stock a SpillTech® OverPack with sorbents for emergency spill response, or use it as a salvage drum to ship damaged containers or hazardous waste.

- DOT-Approved for Salvage: All SpillTech® OverPacks are DOT-approved and X-rated for use as salvage drums. Helps companies conform to federal regulations when shipping damaged or leaking containers of hazardous materials, or absorbents contaminated with hazardous substances.
- Perfect for Spill Kits: Stores sorbent products (not included) for easy access as needed for spill control. Saves time when quick response is necessary.
- Sturdy Construction: 100% polyethylene OverPack resists chemicals, rust and corrosion for years of use. Integrated handles make them easy to lift, move or carry with standard material handling equipment. Twist-on, double-wall lid with closed-cell gasket provides sealed, secure closure to prevent leaks and protect contents from moisture, dirt and damage. Durable to withstand rough handling.
- Customized for You: We can customize a Spill Kit to your exact specifications, including the container, its contents and accessories, with no upcharge! Contact your local Distributor for details.

A95OVER Specifications

Dimensions:	ext. dia. 32" x 41.5" H
Shipping Dimensions:	31.75" W x 41.5" L x 31.75" H
Sold as:	1 per package
Color:	Yellow
Composition:	Polyethylene
# per Pallet:	3
Incinerable:	No
Ship Class:	250

Metric Equivalent Specifications

Dimensions:	ext. dia. 81.3cm x 105.4cm H
Shipping Dimensions:	80.6cm W x 105.4cm L x 80.6cm H

A95OVER Technical Information

Warnings & Restrictions:
There are no known warnings and restrictions for this product.

Regulations and Compliance:
49 CFR 173.3(c)(1) - If a container of hazardous waste is damaged or leaking, it can be placed in a compatible salvage drum that meets UN criteria for shipping

49 CFR 173.12(b)(2)(iv) - When labpacking, "Inner packagings…must be surrounded by a chemically compatible absorbent material in sufficient quantity to absorb the total liquid contents."

49 CFR 173.12(b) - A container used for labpacking must be "a UN 1A2 or UN 1B2 metal drum, a UN 1D plywood drum, a UN 1G fiber drum or a UN 1H2 plastic drum tested and marked at least for the Packing Group III performance level for liquids or solids."

LB Series

Top discharge provides maximum motor cooling while allowing continuous duty operation.

Available in single-phase or three-phase. Pumps fit into 8-inch pipes.

LB Series Features

LB(T)-1500:

High chrome semi-open impeller resists wear for adhesive particles.

Diode motor protectors prevent stator damage in high amperage or run-dry situations.

Up to 70' shut off head

Slimline design allows pumps to fit into 8" pipes.

LB Series Features

LB-800:

Designed to fit an 8" pipe.

Up to 60' shut off head.

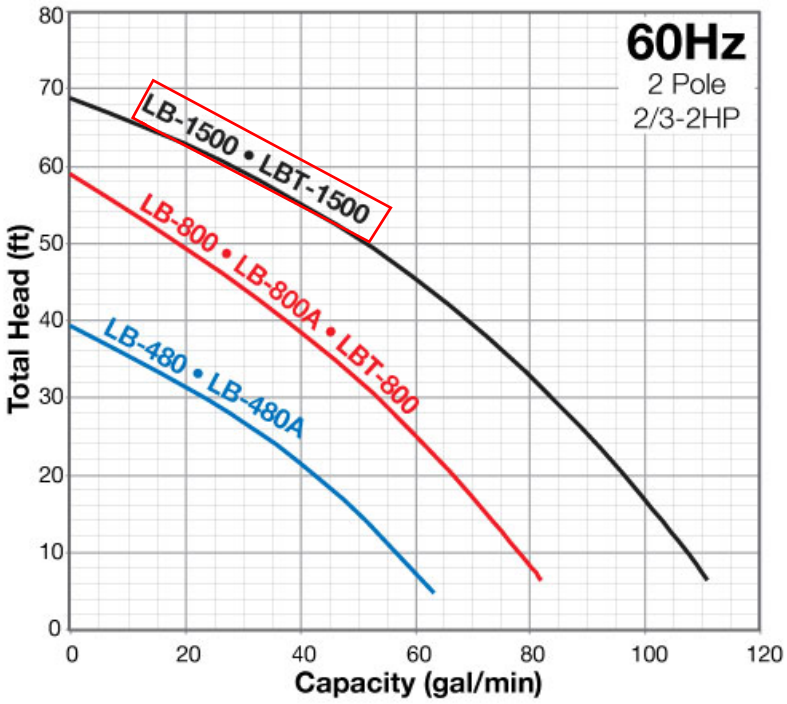
Available in 110V and 220V single-phase with 50 foot cables.

Double Inside Mechanical Seal With SiC faces provides the longest operational life.

Oil Lifter provides lubrication of the seal faces.

OPTIONAL ACCESSORIES
Float Switch for automatic operation
TS-302 for 110V, TS-303 for 220V.

Performance Range



Model	Discharge Size (in.)	Motor Output (HP)	Voltage (V)	Cable Length (ft.)	Diameter (in.)	Height (in.)	Weight (lbs.)
LB-1500	3	2	110V or 220V	50	7 3/8	23 5/16	72
LB-480	2	2/3	110V	32	7 3/8	11 1/4	28
LB-480A	2	2/3	110V	32	8 3/4	11 1/4	30
LB-800	2	1	115V or 230V	50	7 3/8	13 7/16	35
LB-800A	2	1	115 or 230	50	8 3/4	23 5/16	38
LBT-1500	2 or 3	2	230 or 460 or 575V	50	7 3/8	23 5/16	85
LBT-800	2	1	230 or 460 or 575V	50	7 3/8	13 7/16	35

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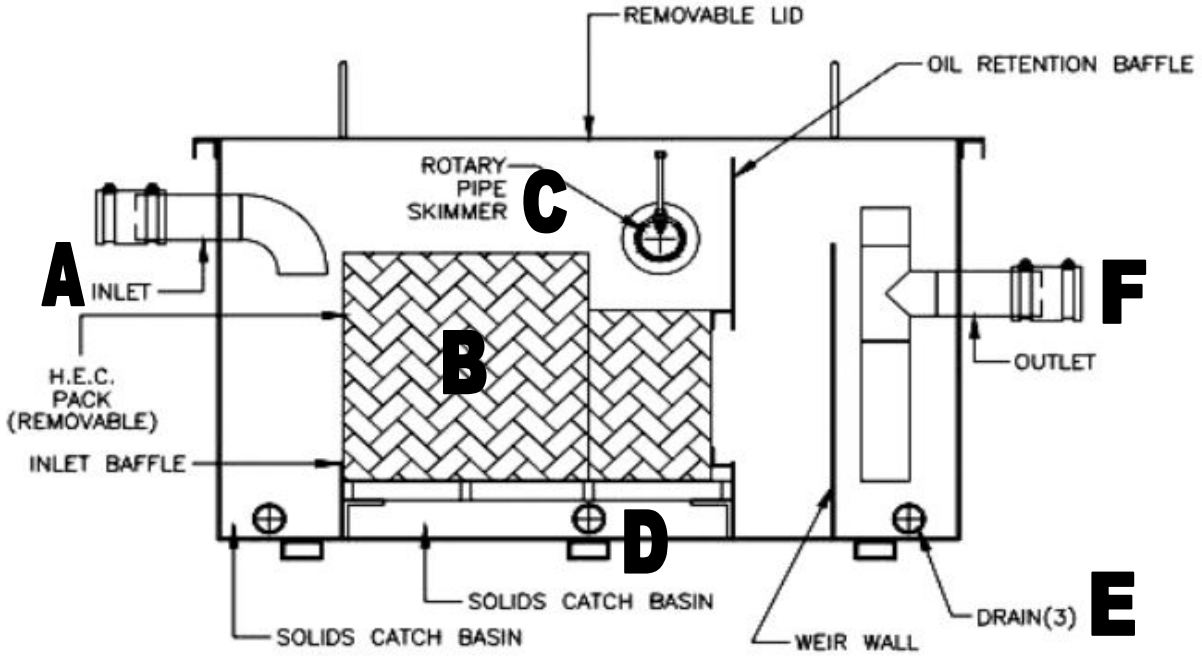
Environmental
Oil Water Separator



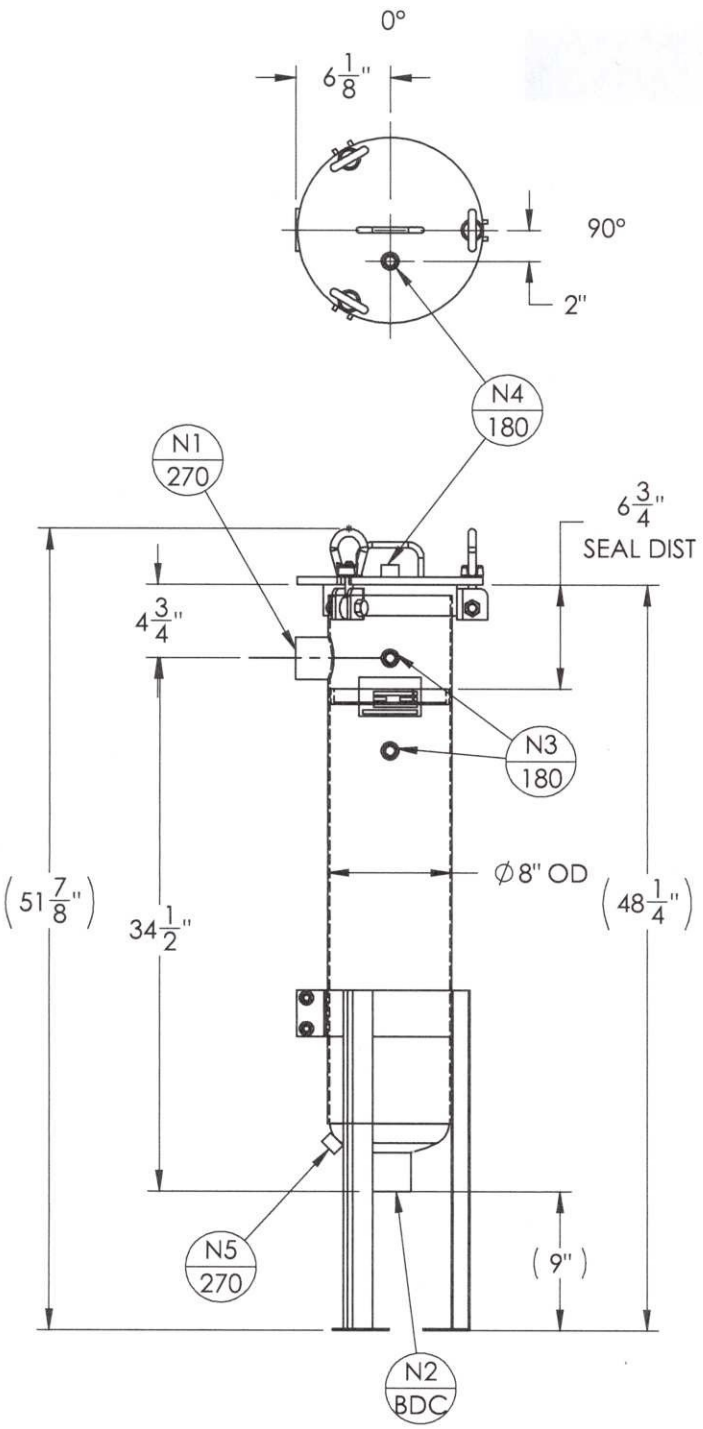
Specifications:

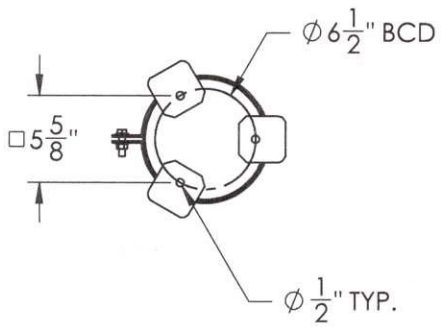
- Rated for 100 gpm
- Manual drain line for NAPL
- Coalescing Media

A: Inlet
B: Separation Chamber with Coalescing Media
C: Drain Line for Oil/NAPL
D: Clarifier with Sludge Drain Line
E: Clean Water Chamber

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.

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

1:1

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

89 Crawford Street
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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

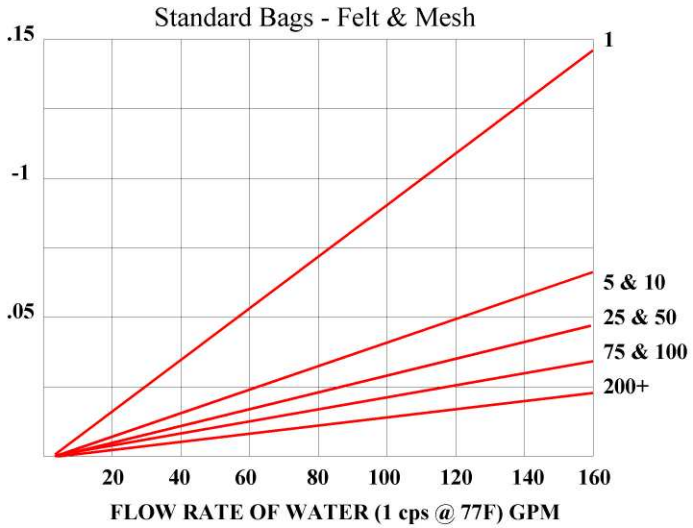
Optional Filter Media

Felt: Nomex, Polyester, Polypropylene

Monofilament: Nylon, Polyester, Polypropylene

Multifilament: Nylon, Polyester

Polypropylene: Oil Removal



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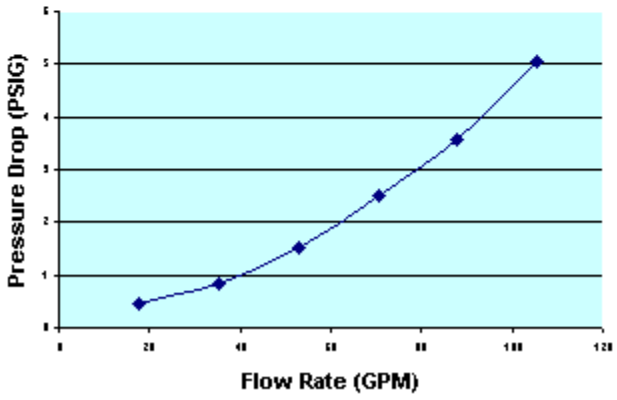
HPAF SERIES FILTERS
MODEL HPAF-2000

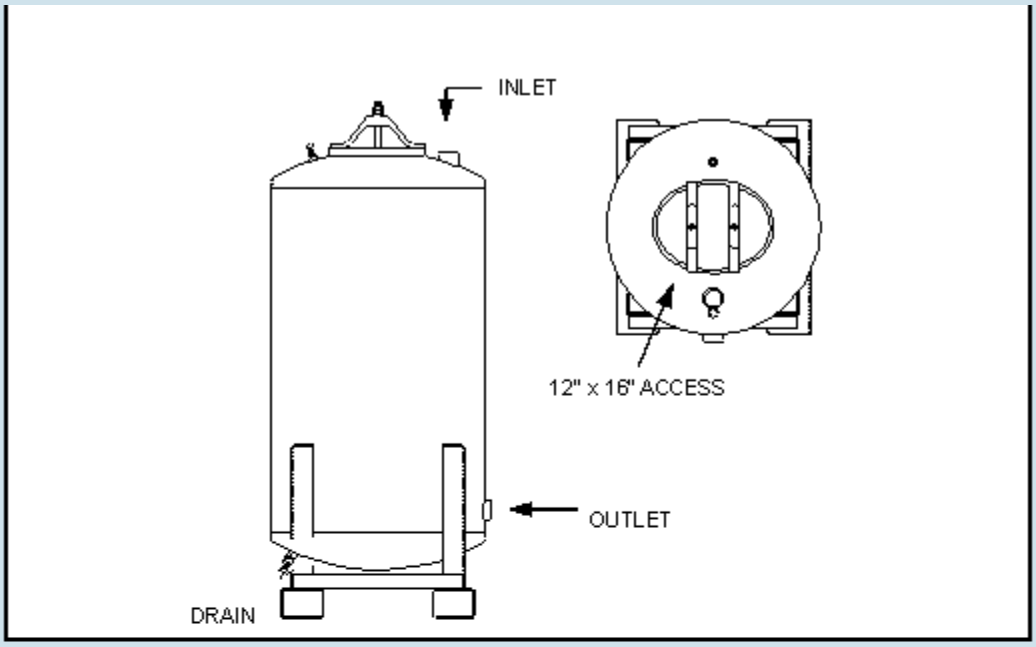
The HPAF-2000 filter is a media filter vessel designed to treat liquid streams. While the typical design application is a activated carbon adsorbtion unit, the filter can easily accommodate many medias. Some applications include:

- 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

PRESSURE DROP GRAPH

*(As Filled - 8*30 GAC)*





HPAF-2000 SPECIFICATIONS			
Overall Height	8'6"	Vessel/Internal Piping Materials	CS (SA-36) / SCH 40 PVC
Diameter	48"	Internal Coating	Polyamide Epoxy Resin
Inlet / Outlet (FNPT)	3"	External Coating	Epoxy Mastic
Drain / Vent (FNPT)	3/4" / 1/2"	Maximum Pressure / Temp	75 PSIG / 140° F
GAC Fill (lbs)	2,000	Cross Sectional Bed Area	12.5 FT^2
Shipping / Operational Weight (lbs)	1,295 / 3,295	Bed Depth/Volume	5.5 FT / 68.7 FT^3

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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.

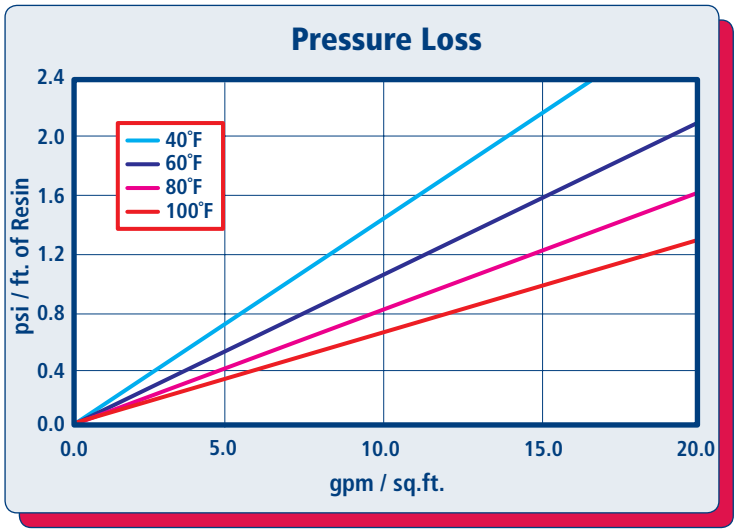
NSF/ANSI 44-61 CERTIFIED FOR MATERIAL SAFETY

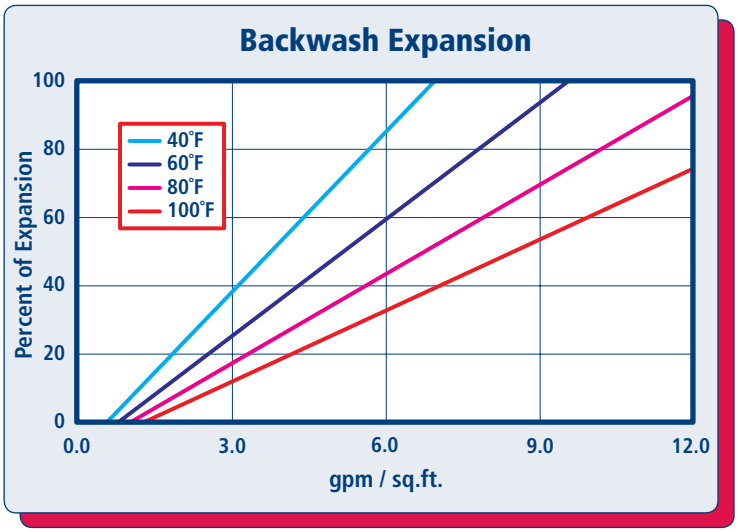
FEATURES & BENEFITS

- **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

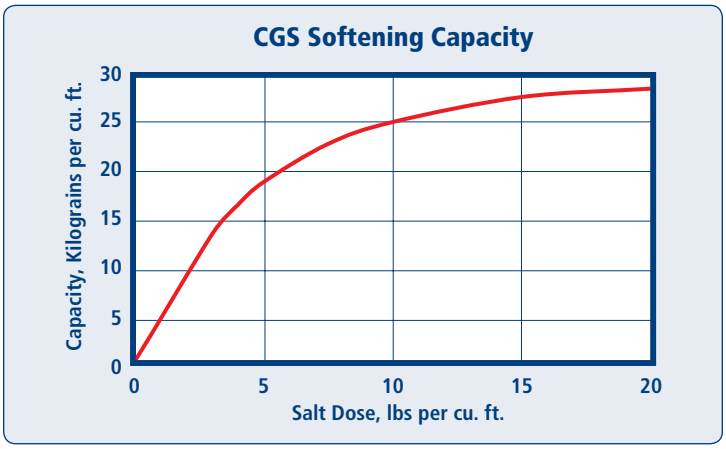
Maximum continuous temperature	
Sodium form	250˚F
Minimum bed depth	24 inches
Backwash expansion	25 to 50 percent
Maximum pressure loss	25 psi
Operating pH range	0 to 14 SU
Regenerant Concentration	
Salt cycle	10 to 15 percent NaCl
Regenerant level	4 to 15 lbs./cu.ft.
Regenerant flow rate.	0.5 to 1.5 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

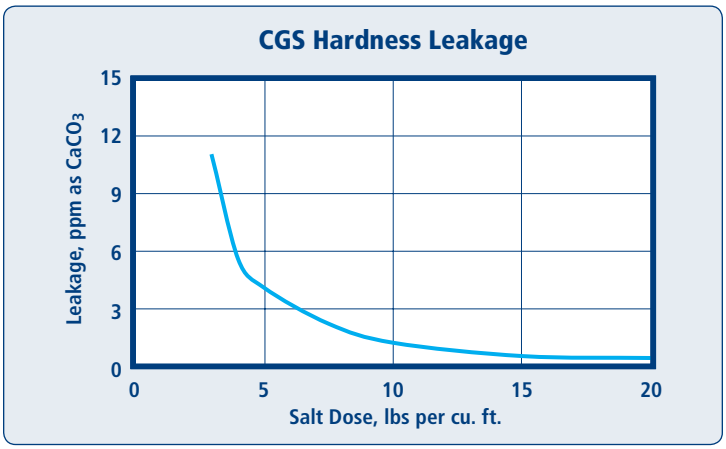
APPLICATIONS

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

SBG1

ANION EXCHANGE RESIN TYPE ONE GEL Cl OR OH FORM

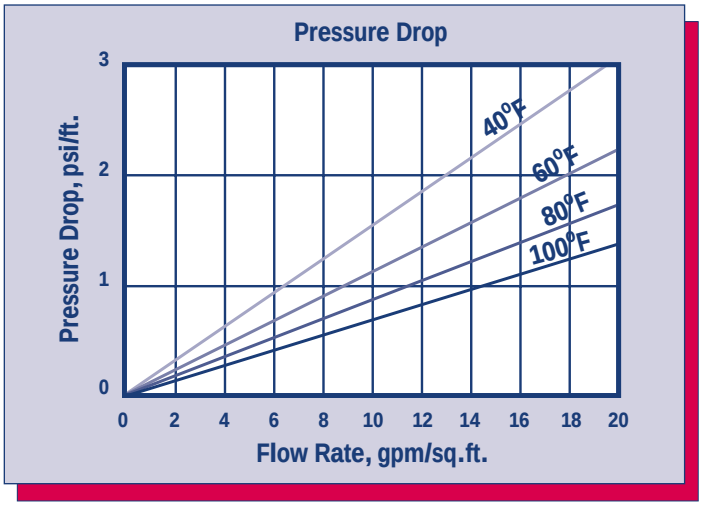
ResinTech SBG1 is a high capacity, shock resistant, gelular, Type 1, strongly basic anion exchange resin supplied in the chloride or hydroxide form as moist, tough, uniform, spherical beads. *ResinTech SBG1* is intended for use in all types of deionization systems and chemical processing applications. It is similar to *ResinTech SBG1P* but has a higher volumetric capacity and exhibits lower TOC leach rates. This makes it the better performer in single use applications such as in cartridge deionization and when high levels of regeneration are used such as in polishing mixed beds. On the other hand, *ResinTech SBG1P* is more resistant to organic fouling and gives higher operating capacities at low regeneration levels such as those used in make up demineralizers.

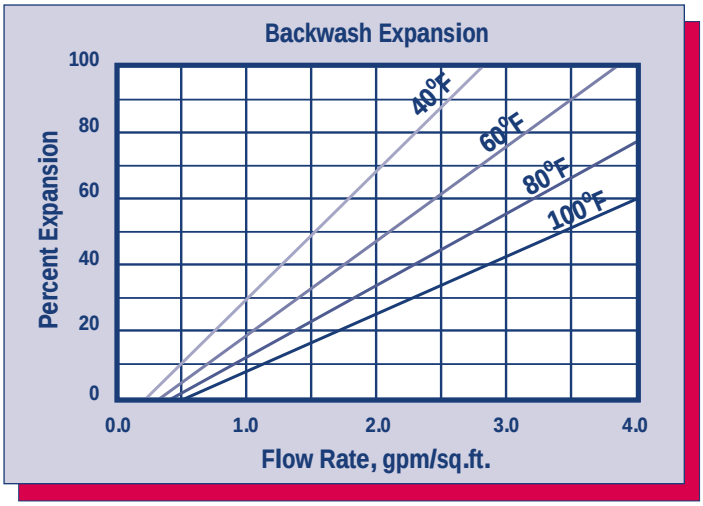
FEATURES & BENEFITS

- **COMPLIES WITH FDA REGULATIONS FOR POTABLE WATER APPLICATIONS.**
  Conforms to paragraph 21CFR173.125 of the Food Additives Regulations of the F.D.A.*
- **HIGH TOTAL CAPACITY**
  Provides longer run lengths in single use applications or where high levels of regeneration are used such as in mixed bed polishers, cartridge demineralizers.
- **UNIFORM PARTICLE SIZE**
  16 to plus 50 mesh range; gives a LOWER PRESSURE DROP while maintaining SUPERIOR KINETICS.
- **SUPERIOR PHYSICAL STABILITY**
- **LOWER TOC LEACH RATE**
  Makes it ideal for polishing mixed beds in wafer washing and other high purity water polishing applications.

*For potable water applications, the resin must be properly pre-treated, usually by multiple exhaustion and regeneration cycles, to ensure compliance with extractable levels.

HYDRAULIC PROPERTIES





PRESSURE DROP

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

BACKWASH

After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of *ResinTech SBG1* in the sodium form.

RESINTECH® SBG1

PHYSICAL PROPERTIES

Polymer Structure	Styrene Crosslinked with DVB
Functional Group	R-N-$(CH_3)_3^+Cl^-$
Ionic Form, as shipped	Chloride or Hydroxide
Physical Form	Tough, Spherical Beads
Screen Size Distribution	16 to 50
+16 mesh (U.S. Std)	< 5 percent
-50 mesh (U.S. Std)	< 1 percent
pH Range	0 to14
Sphericity	> 93 percent
Uniformity Coefficient	Approx. 1.6
Water Retention	
Chloride Form	43 to 50 percent
Hydroxide Form	Approx. 53 to 60 percent
Solubility	Insoluble
Approximate Shipping Weight	
Cl Form	44 lbs/cu.ft.
OH Form	41 lbs/cu.ft.
Swelling Cl- to OH-	18 to 25 percent
Total Capacity	
Cl Form	1.45 meq/ml min
OH Form	1.15 meq/ml min

SUGGESTED OPERATING CONDITIONS

Maximum Continuous Temperature	
Hydroxide Form	140°F
alt Form	170°F
Minimum Bed Depth	24 inches
Backwash Rate	50 to 75 percent Bed Expansion
Regenerant Concentration*	2 to 6 percent
Regenerant Flow Rate	0.25 to 1.0 gpm/cu.ft.
Regenerant Contact Time	At least 40 Minutes
Regenerant Level	4 to 10 pounds/cu.ft.
Displacement Rinse Rate	Same as Regenerant Flow Rate
Displacement Rinse Volume	10 to 15 gals/cu.ft.
Fast Rinse Rate	Same as Service Flow Rate
Fast Rinse Volume	35 to 60 gals/cu.ft.
Service Flow Rates	
Polishing Mixed Beds	3 to 15 gpm/cu.ft.
Non-Polishing Apps.	2 to 4 gpm/cu.ft.

OPERATING CAPACITY

The operating capacity of *RESINTECH SBG1* for a variety of acids at various regeneration levels when treating an influent with a concentration 500 ppm, expressed as $CaCO_3$ is shown in the following table:

Pounds NaOH/ft³	Capacity Kilograms per cubic foot			
	HCl	H_2SO_4	H_2SiO_3	H_2CO_3
4	11.3	14.0	14.7	18.6
6	12.8	16.3	17.3	19.8
8	14.3	13.3	19.5	21.6
10	15.5	20.0	22.2	22.2

APPLICATIONS

DEMINERALIZATION – *RESINTECH SBG1* is highly recommended for use in mixed bed demineralizers, wherever complete ion removal; superior physical and osmotic stability and low TOC leachables are required such as in wafer fabrication and other ultrapure applications.

RESINTECH SBG1 has high total capacity and low swelling on regeneration and provides maximum operating capacity in cartridge deionization applications. It is ideal for single use applications such as precious metal recovery, radwaste disposal and purification of toxic waste streams.

Highly crosslinked Type 1, styrenic anion exchangers have greater thermal and oxidation resistance than other types of strong base resins. They can be operated and regenerated at higher temperatures. The combination of lower porosity, high total capacity and Type 1 functionality make *RESINTECH SBG1* the resin of choice when water temperatures exceed 85°F and where the combination of carbon dioxide, borate and silica exceed 40% of the total anions.

RESINTECH SBG1P and *RESINTECH SBG1* are quite similar; the difference between them is the degree of porosity. *RESINTECH SBG1P* has greater porosity that gives it faster kinetics, and greater ability to reversibly sorb slow moving ions such as Naturally occurring Organic Matter (NOM). At lower regeneration levels and where chlorides make up a substantial portion of the anion load, or where the removal and elution of naturally occurring organics is of concern *RESINTECH SBG1P*, SBACR or SBG2 should be considered. At the higher regeneration levels used in mixed bed polishers *RESINTECH SBG1* provides higher capacity, and the lowest possible TOC leach rates.

***CAUTION:DO NOT MIX ION EXCHANGE RESIN WITH STRONG OXIDIZING AGENTS.** Nitric acid and other strong oxidizing agents can cause explosive reactions when mixed with organic materials,such as ion exchange resins.

Material Safety Data Sheets (MSDS) are available for all ResinTech Inc.products.To obtain a copy,contact your local ResinTech sales representative or our corporate headquarters. They contain important health and safety information.That information may be needed to protect your employees and customers from any known health and safety hazards associated with our products.We recommend that you secure and study the pertinent MSDS for our products and any other products being used These suggestions and data are based on information we believe to be reliable.They are offered in good faith.However we do not make any guarantee or warranty. We caution against using these products in an unsafe manner or in violation of any patents;further we assume no liability for the consequences of any such actions.

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

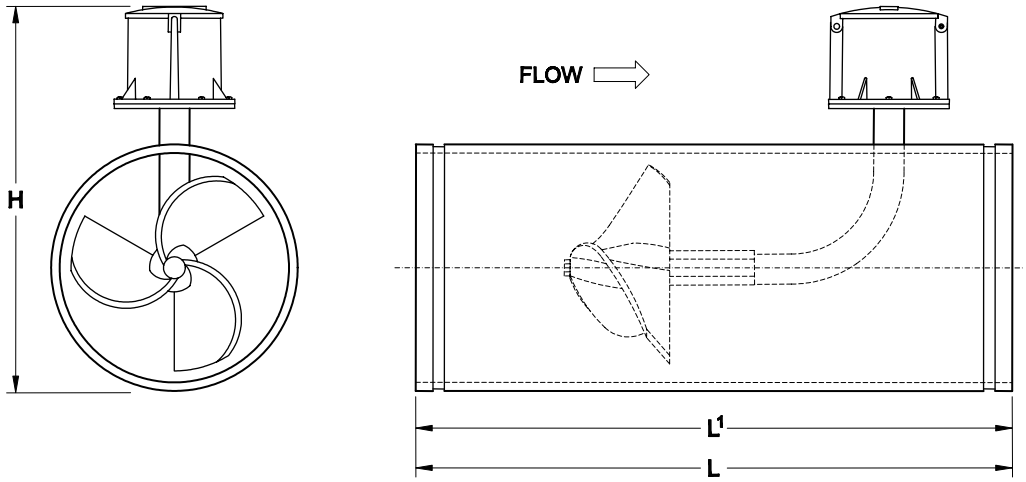
MATERIALS

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.

Safety Data Sheets
(SDS)

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

SAFETY DATA SHEET

Revision Date: 11/11

1.1 IDENTIFICATION OF PRODUCT.

Designation: - Activated carbon

1.2 COMPANY.

Lockwood Remediation Technologies, LLC
89 Crawford Street
Leominster, MA 01453

Phone: 774-450-7177
Fax: 888-835-0617

2 HAZARDOUS AND OTHER INGREDIENTS.

Exposure limits may vary. It is recommended that information about locally applicable exposure limits be obtained.

%w/w	Compound	CAS No	MAK mg/m^3 (Germany)	TLV mg/m^3 (ACGIH)	PEL mg/m^3 (OSHA)
100	Bituminous Carbon	7440-44-0	T Dust	T dust	15 mg/m3

3 PHYSICAL DATA.

State:	Solid
Appearance:	Black granule, extradite, or powder
pH:	Not applicable
Boiling point or range:	Sublimes
Melting point or range:	3550 C (6422 F)
Vapor pressure:	1 @3586 C (6487 F)
Vapor density:	0.4
Density relative to water:	1.5 – 1.8 Specific gravity
Solubility in water:	Insoluble in water
Partition coefficient: (n-octanol/water):	
Other data:	odorless

4 FIRE AND EXPLOSION HAZARD DATA.

Fire, explosion and reactivity hazards:	Flammable.
Flammability and flammability limits:	Flammable.
Autoflammability:	Not applicable.
Explosive properties:	Non explosive.
Oxidizing properties:	Non oxidizing.

Fire fighting measures:
As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Explosion:
Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Minimum explosible concentration 0.140 g/l.

Fire Extinguishing Media:
Water or water spray.

Unusual Fire and Explosion Hazards:
Contact with strong oxidize such as ozone, liquid oxygen, chlorine, permanganate, etc., may result in fire.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

5 STABILITY AND REACTIVITY DATA.

The product is stable under normal handling and storage conditions.

Conditions to avoid:	Incompatibilities.
Materials to avoid:	Liquid air and oxidizing materials. Strong oxidizers such as ozone, liquid oxygen, chlorine, permanganate, etc
Hazardous decomposition products:	Involvement in a fire causes formation of carbon dioxide and carbon monoxide.

Emergency Overview

WARNING! FLAMMABLE SOLID. ACTIVATED CARBON AFFECTS THE RESPIRATORY AND CARDIOVASCULAR SYSTEMS.

CAUTION!!! Wet activated carbon removes oxygen from air causing a severe hazard to workers inside carbon vessels and enclosed or confined spaces. Before entering such an area, sampling and work procedures for low oxygen levels should be taken to ensure ample oxygen availability, observing all local, state, and federal regulations.

J.T. Baker SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight
Flammability Rating: 3 - Severe (Flammable)
Reactivity Rating: 1 - Slight
Contact Rating: 1 - Slight
Lab Protective Equip: GOGGLES; LAB COAT; CLASS B EXTINGUISHER
Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation:
May cause mild irritation to the respiratory tract. The acute inhalation LC50 (Rat) is >64.4 mg/l (nominal concentration) for activated carbon.

Ingestion:
No adverse effects expected. May cause mild irritation to the gastrointestinal tract. The acute oral LD50 (Rat) is >10g/kg.

Skin Contact:
Not expected to be a health hazard from skin exposure. May cause mild irritation and redness. The primary skin irritation index (Rabbit) is 0.

Eye Contact:
No adverse effects expected. May cause mild irritation, possible reddening.

Chronic Exposure:
Prolonged inhalation of excessive dust may produce pulmonary disorders. The effects of long-term, low-level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the avoidance of all effects from repetitive acute exposures.

Aggravation of Pre-existing Conditions:
No information found.

6. First Aid Measures

Inhalation:
Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:
Give several glasses of water to drink to dilute. If large amounts were swallowed, seek medical attention.

Skin Contact:
Not expected to require first aid measures. Wash exposed area with soap and water. Seek medical attention if irritation develops.

Eye Contact:
Wash thoroughly with running water for at least 15 minutes. Seek medical attention if irritation develops.

7. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container. Warning! Spent product may have absorbed hazardous materials.

8. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

CAUTION!! Wet activated carbon removes oxygen from air causing a severe hazard to workers inside carbon vessels and enclosed or confined spaces. Before entering such an area, sampling and work procedures for low oxygen levels should be taken to ensure ample oxygen availability, observing all local, state, and federal or national regulations.

9. Exposure Controls/Personal Protection

Exposure Guidelines:
OSHA PEL*:
5mg/M3 (Respirable)
ACGIH TLV*:
10 mg/M3 (Total)
*PELs and TLVs are 8-hour TWAs unless otherwise noted.

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):
For conditions of use where exposure to the dust or mist is apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear protective gloves and clean body-covering clothing.

Eye Protection:
Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

10. Toxicological Information

Investigated as a reproductive effector.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Activated Carbon (7440-44-0)	No	No	None

11. Ecological Information

Environmental Fate:
No information found.

Environmental Toxicity:
No information found.

12. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

13. Transport Information

Proper Shipping Name:
NOT REGULATED
Hazard Class:
N/A
Identification Number:
N/A
Packing Group:
N/A
This product has been tested according to the United Nations *Transport of Dangerous Goods* test protocol for spontaneously combustible materials. It has been specifically determined that this product does not meet the definition of a self heating substance or any hazard class, and therefore is not a hazardous material and not regulated.

14. Regulatory Information

SARA TITLE III:
N/A
TSCA:
The ingredients of this product are on the TSCA Inventory List.
OSHA:
Nonhazardous according to definitions of health hazard and physical hazard provided in the Hazard Communication Standard (29 CFR 1910.1200)
CANADA

WHMIS CLASSIFICATION:
Not Classified
DSL#:
6798
EEC
Council Directives relating to the classification, packaging, and labeling of dangerous substances and preparations.
Risk (R) and Safety (S) phrases:
May be irritating to eyes (R36).

15. Other Information

NFPA Ratings: Health: 0 **Flammability:** 1 **Reactivity:** 0

Label Hazard Warning:
WARNING! FLAMMABLE SOLID. ACTIVATED CARBON AFFECTS THE RESPIRATORY AND CARDIOVASCULAR SYSTEMS.

Label Precautions:
Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Label First Aid:
If inhaled, remove to fresh air. Get medical attention for any breathing difficulty.

Safety Data Sheet

Product Names: SBG1, SBG1-HP, SBG1-UPS, SBG1-C, SBG1-F, SBMP1, SBMP1-UPS, GP-SBA, SBG1P, SBG1P-UPS

(Type I Strong Base Anion Exchange Resin Chloride Form)

Effective date 31 March 2015

Section 1: Identification

1a	Product Names	ResinTech SBG1, SBG1-HP, SBG1-UPS, SBG1-C, SBG1-F, SBMP1, SBMP1-UPS, GP-SBA, SBG1P, SBG1P-UPS
1b	Common Name	Type I Strong base anion resin in the chloride form.
1c	Intended use	All general purpose anion exchanges for general use including salt form and demineralization.
1d	Manufacturer Address	ResinTech, Inc. 160 Cooper Road, West Berlin, NJ 08091 USA
	Phone Email	856-768-9600 ixresin@resintech.com

Section 2: Hazard Identification

2a Hazard classification — Not hazardous or dangerous

Product Hazard Rating	Scale
Health = 0	0 = Negligible
Fire = 1	1 = Slight
Reactivity = 0	2 = Moderate
Special – N/A	3 = High
	4 = Extreme

2b Product description — White, yellow, or orange colored solid beads approximately 0.6 mm diameter with little or no odor.

2c Precautions for use — Safety glasses and gloves recommended. Slipping hazard if spilled.

2c Potential health effects — Will cause eye irritation. Will cause skin skin irritation. Ingestion is not likely to pose a health risk.

2d Environmental effects — This product may alter the pH of any water that contacts it.

Section 2A: Hazard classification UN OSHA globally harmonized system

WARNING

(contains ion exchange resin)

H320: Causes eye irritation

Precautionary Statements

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

P333+313: If skin irritation or a rash occurs: Get medical advice/attention.

P337+313: If eye irritation persists get medical advice/attention.

P403+233: Store in a well-ventilated place. Keep container tightly closed.

P411: Store at temperatures not exceeding 50 °C/ 122 °F.

Please refer to the safety data sheet for additional information regarding this product

ResinTech, Inc.
160 Cooper Road
West Berlin, NJ 08091-9234
856 768-9600
lxresin@resintech.com

Section 3: Composition/ Information on Ingredients

3a	Chemical name	Trimethylamine functionalized chloromethylated copolymer of polystyrene in the chloride form.
3b	Ingredients Trimethylamine functionalized Chloromethlyated copolymer of Styrene and divinylbenzene in the Chloride form	CAS# 60177-39-1 (35 - 65%)
	Water	CAS# 7732-18-5 (35 – 65%)

Section 4: First Aid Measures

4a	Inhalation	No adverse effects expected- normal use of product does not produce odors or vapors.
4b	Skin	Wash with soap and water- seek medical attention if a rash develops.
4c	Eye contact	Wash immediately with water-seek attention if discomfort continues.
4d	Ingestion	No adverse effects expected for small amounts, larger amounts can cause stomach irritation. Seek medical attention if discomfort occurs.

Section 5: Fire Fighting Measures

5a	Flammability	NFPA Fire rating = 1
5b	Extinguishing media	Water, CO2, foam, dry powder.
5c	Fire fighting Procedures	Follow general fire fighting procedures indicated in the work place. Seek medical attention if discomfort continues.
5d	Protective Equipment	MSHA/NIOSH approved self-contained breathing gear, full protective clothing.
5e	Combustion Products	Carbon oxides and other toxic gasses and vapors.
5f	Unusual Hazards	Product is not combustible until moisture is removed. Resin begins to burn at approximately 230º C. Auto ignition can occur above 500º C.

Section 6: Accidental Release Measures

6a	Personal Precautions	Keep people away, spilled resin can be a slipping hazard, wear gloves and safety glasses to minimize skin or eye contact.
6b	Incompatible Chemicals	Strong oxidants can create risk of combustion products similar to burning, exposure to strong bases can cause a rapid temperature increase.
6c	Environmental Precautions	Keep out of public sewers and waterways.
6d	Containment Materials	Use plastic or paper containers, unlined metal containers not recommended.
6e	Methods of Clean-up	Sweep up material and transfer to containers.

Section 7: Handling and Storage

7a	Handling	Avoid prolonged skin contact. Keep resin moist and avoid allowing resin to completely dry.
7b	Storage	Store in a cool dry place (0º to 45º C) in the original shipping container. This product is thermally sensitive and will have reduced shelf life if subjected to extended periods of time at temperatures exceeding 50º C. Although freezing does not usually damage ion exchange resins, avoid repeated freeze thaw cycles.
7c	TSCA considerations	Ion exchange resins should be listed on the TSCA Inventory in compliance with State and Federal Regulations.

Section 8: Exposure Controls/Personal Protection

8a	OSHA exposure limits	None noted.
8b	Engineering Controls	Provide adequate ventilation.
8c	Personal Protection Measures	
	Eye Protection	Safety glasses or goggles.
	Respiratory Protection	Not required for normal use.
	Protective Gloves	Not required for limited exposure but recommended for extended contact.

Section 9: Physical and Chemical Properties

Appearance	Amber, yellow, or red beads approx. 0.6 mm diameter.
Flammability or explosive limits	Flammable above 500º C
Odor	Little or no odor
Physical State	Solid
Vapor pressure	Not available
Odor threshold	Not available
Vapor density	Not available
pH	Near neutral (6 to 8 typical)
Relative density	Approx 710 grams/Liter
Melting point/freezing point	Does not melt, freezes at approx. 0 C
Solubility	Insoluble in water and most solvents
Boiling point	Does not boil
Flash point	Approx 500º C
Evaporation rate	Does not evaporate
Partition Coefficient (n-octonol/water)	Not applicable
Auto-ignition temperature	Approx 500º C
Decomposition temperature	Above 230º C
Viscosity	Not applicable

Section 10: Stability and Reactivity

10a Stability	Stable under normal conditions.
10b Conditions to Avoid	Heat, exposure to strong oxidants.
10c Hazardous by-products	Trimethylamine, charred polystyrene, aromatic acids and hydrocarbons, organic amines, nitrogen oxides, carbon oxides, chlorinated hydrocarbons.
10d Incompatible materials	Strong oxidizing agents, e.g. nitric acid (such as HNO_3)
10e Hazardous Polymerization	Does not occur

Section 11: Toxicological Information

11a Likely Routes of Exposure	Oral, skin or eye contact.
11b Effects of exposure	
Delayed	None known.
Immediate (acute)	None known.
Chronic	None known.
11c Toxicity Measures	
Skin Adsorption	Unlikely, some transfer of acidity is possible.
Ingestion	Oral toxicity believed to be low but no LD50 has been established.
Inhalation	Unknown, vapors are very unlikely due to physical properties (insoluble solid).
11d Toxicity Symptoms	
Skin Adsorption	Mild Rash.
Ingestion	Indigestion or general malaise.
Inhalation	Unknown.
11e Carcinogenicity	None known

Section 12: Ecological information

12a Eco toxicity	Not acutely harmful to plant or animal life.
12b Mobility	Insoluble, acidity or causticity may escape if wet.
12c Biodegradability	Not biodegradable.
12d Bioaccumulation	Insignificant.
12e Other adverse effects	Not Harmful to the environment.

Section 13: Disposal Considerations

13a General considerations	Material is non-hazardous. However, unused material can cause a pH change when wetted.
13b Disposal Containers	Most plastic and paper containers are suitable. Avoid use of unlined metal containers.
13c Disposal methods	No specific method necessary.
13d Sewage Disposal	Not recommended.

13e	Precautions for incineration	May release trimethylamine and toxic vapors when burned.
13f	Precautions for landfills	Resins used to remove hazardous materials may then become hazardous mixtures

Section 14: Transportation Information

14a	Transportation Class	Not classified as a dangerous good for transport by land, sea, or air.
14b	TDG	Not regulated.
14c	IATA	Not regulated.
14d	DOT (49 CFR 172.101)	Not Regulated.

Section 15: Regulatory Information

15a	CERCLA	Not regulated
15b	SARA Title III	Not regulated
15c	Clean Air act	Not regulated
15d	Clean Water Act	Not regulated
15e	TSCA	Not regulated
15f	Canadian Regulations	
	WHMIS	Not a controlled product
	TDG	Not regulated
15g	Mexican Regulations	Not Dangerous

Section 16: Other Information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features. Regulatory requirements are subject to change and may differ from one location to another. It is the buyer's responsibility to ensure that their activities comply with federal, state, and local laws.

16a Date of Revision 31 March 2015

Safety Data Sheet

Product Names: CGS, CGS-BL, CG8, CG8-BL, CG8-C, CG8-F, CG8-UPS, CG8-HP, CG8-NS, CG10, CG10-BL, CG10-UPS, CG10-HP, SACMP, SACMP-UPS

(Cation Exchange Resin in the Sodium Form)

Effective date 31 March 2015

Section 1: Identification

1a	Product Names	ResinTech CGS, CGS-BL, CG8, CG8-BL, CG8-C, CG8-F, CG8-UPS, CG8-HP, CG8-NS, CG10, CG10-BL, CG10-UPS, CG10-HP, SACMP, SACMP-UPS
1b	Common Name	Cation exchange resin in the sodium form.
1c	Intended use	All general purpose cation exchange for general use including water softening and demineralization.
1d	Manufacturer Address	ResinTech, Inc. 160 Cooper Road, West Berlin, NJ 08091 USA
	Phone Email	856-768-9600 ixresin@resintech.com

Section 2: Hazard Identification

2a	OSHA Hazard classification	Not hazardous or dangerous

Product Hazard Rating	Scale
Health = 0	0 = Negligible
Fire = 1	1 = Slight
Reactivity = 0	2 = Moderate
Special – N/A	3 = High
	4 = Extreme

2b	Product description	Amber, tan or black colored solid beads with little or no odor.
2c	Precautions for use	Safety glasses and gloves recommended. Slipping hazard if spilled.
2c	Potential health effects	Will cause eye irritation. Ingestion is not likely to pose a health risk.
2d	Environmental effects	Little or none.

Section 2A: Hazard classification UN OSHA globally harmonized system

Warning (contains ion exchange resin)

H320: Causes eye irritation (Category 2B)

Precautionary Statements

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

P333+313: If skin irritation or a rash occurs: Get medical advice/attention.

P337+313: If eye irritation persists get medical advice/attention.

P403+233: Store in a well-ventilated place. Keep container tightly closed.

P411: Store at temperatures not exceeding 50 °C/ 122 °F.

Please refer to the safety data sheet for additional information regarding this product

ResinTech, Inc.
160 Cooper Road
West Berlin, NJ 08091-9234
856 768-9600
Ixresin@resintech.com

Section 3: Composition/ Information on Ingredients

3a	Chemical name	Polystyrene sulfonate in the sodium form
3b	Ingredients Polystyrene sulfonate in the sodium form	CAS# 69011-22-9 (40 - 60%)
	Water	CAS# 7732-18-5 (40 – 60%)

Section 4: First Aid Measures

4a	Inhalation	No adverse effects expected- normal use of product does not produce odors or vapors.
4b	Skin	Wash with soap and water- seek medical attention if a rash develops.
4c	Eye contact	Wash immediately with water-seek attention if discomfort continues.
4d	Ingestion	No adverse effects expected for small amounts, larger amounts can cause stomach irritation. Seek medical attention if discomfort occurs.

Section 5: Fire Fighting Measures

5a	Flammability	NFPA Fire rating = 1
5b	Extinguishing media	Water, CO2, foam, dry powder
5c	Fire fighting Procedures	Follow general fire fighting procedures indicated in the work place.
5d	Protective Equipment	MSHA/NIOSH approved self-contained breathing gear, full protective clothing.
5e	Combustion Products	Carbon oxides and other toxic gasses and vapors.
5f	Unusual Hazards	Product is not combustible until moisture is removed. Resin begins to burn at approximately 230º C. Auto ignition can occur above 500º C.

Section 6: Accidental Release Measures

6a	Personal Precautions	Keep people away, spilled resin can be a slipping hazard, wear gloves and safety glasses to minimize skin or eye contact.
6b	Incompatible Chemicals	Strong oxidants can create risk of combustion products similar to burning.
6c	Environmental Precautions	Keep out of public sewers and waterways.
6d	Containment Materials	Use plastic, paper, or metal containers.
6e	Methods of Clean-up	Sweep up material and transfer to containers.

Section 7: Handling and Storage

7a	Handling	Avoid prolonged skin contact. Avoid contact with salts or with salty water to prevent premature exhaustion of the resin. Keep resin moist and avoid allowing resin to completely dry.
7b	Storage	Store in a cool dry place (0º to 45º C) in the original shipping container. This product is thermally sensitive and will have reduced shelf life if subjected to extended periods of time at temperatures exceeding 50º C. Although freezing does not usually damage ion exchange resins, avoid repeated freeze thaw cycles.
7c	TSCA considerations	Ion exchange resins should be listed on the TSCA Inventory in compliance with State and Federal Regulations.

Section 8: Exposure Controls/Personal Protection

8a	OSHA exposure limits	None noted.
8b	Engineering Controls	Provide adequate ventilation.
8c	Personal Protection Measures	
	Eye Protection	Safety glasses or goggles.
	Respiratory Protection	Not required for normal use.
	Protective Gloves	Recommended for extended contact.

Section 9: Physical and Chemical Properties

Appearance	Amber, tan, or black beads.
Flammability or explosive limits	Flammable above 500º C
Odor	None
Physical State	Solid
Vapor pressure	Not available
Odor threshold	Not available
Vapor density	Not available
pH	Near neutral (6 to 8 typical)
Relative density	Approx 800 grams/Liter
Melting point/freezing point	Does not melt, freezes at approx. 0 C
Solubility	Insoluble in water and most solvents
Boiling point	Does not boil
Flash point	Approx 500º C
Evaporation rate	Does not evaporate
Partition Coefficient (n-octonol/water)	Not applicable
Auto-ignition temperature	Approx 500º C
Decomposition temperature	Above 230º C
Viscosity	Not applicable

Section 10: Stability and Reactivity

10a Stability	Stable under normal conditions.
10b Conditions to Avoid	Heat, exposure to strong oxidants.
10c Hazardous by-products	Organic sulfonates, charred polystyrene, aromatic acids and hydrocarbons, organic amines, nitrogen oxides, carbon oxides, chlorinated hydrocarbons.
10d Incompatible materials	Strong oxidizing agents (such as HNO_3)
10e Hazardous Polymerization	Does not occur

Section 11: Toxicological Information

11a	Likely Routes of Exposure	Oral, skin or eye contact.
11b	Effects of exposure	
	Delayed	None known.
	Immediate (acute)	None known.
	Chronic	None known.
11c	Toxicity Measures	
	Skin Adsorption	Unlikely.
	Ingestion	Oral toxicity believed to be low but no LD50 has been established.
	Inhalation	Unknown, vapors are very unlikely due to physical properties (insoluble solid).
11d	Toxicity Symptoms	
	Skin Adsorption	Mild rash.
	Ingestion	Indigestion or general malaise.
	Inhalation	Unknown.
11e	Carcinogenicity	None known

Section 12: Ecological information

12a	Eco toxicity	Not harmful to plant or animal life.
12b	Mobility	Insoluble.
12c	Biodegradability	Not biodegradable.
12d	Bioaccumulation	Insignificant.
12e	Other adverse effects	Not Harmful to the environment.

Section 13: Disposal Considerations

13a General considerations	Material is non-hazardous.
13b Disposal Containers	Most plastic and paper containers are suitable.
13c Disposal methods	No specific method necessary
13d Sewage Disposal	Not recommended
13e Precautions for incineration	May release toxic vapors when burned
13f Precautions for landfills	Resins used to remove hazardous materials may then become hazardous mixtures.

Section 14: Transportation Information

14a Transportation Class	Not classified as a dangerous good for transport by land, sea, or air.
14b TDG	Not regulated.
14c IATA	Not regulated.
14d DOT (49 CFR 172.101)	Not Regulated.

Section 15: Regulatory Information

15a CERCLA	Not regulated
15b SARA Title III	Not regulated
15c Clean Air act	Not regulated
15d Clean Water Act	Not regulated
15e TSCA	Not regulated
15f Canadian Regulations	
WHMIS	Not a controlled product
TDG	Not regulated
15g Mexican Regulations	Not Dangerous

Section 16: Other Information

The information provided in this safety data sheet is presented in good faith and believed to be accurate as of the effective data shown above. However, no warranty or guarantee of accuracy, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another. It is the buyer's responsibility to ensure that their activities comply with federal, state, and local laws.

16a Date of Revision 31 March 2015

Sulfuric Acid, 70-100%

Safety Data Sheet

According to U.S. Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations and according to Canada's Hazardous Products Regulation, February 11, 2015.

Revision Date: 05/07/2018 Date of Issue: 05/31/2016 Version: 4.0

SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Mixture

Product Name: Sulfuric Acid, 70-100%

Formula: H_2-O_4-S

Intended Use of the Product

Use Of The Substance/Mixture: Industrial use.

Name, Address, and Telephone of the Responsible Party

Manufacturer

CHEMTRADE LOGISTICS INC.
155 Gordon Baker Road
Suite 300
Toronto, Ontario M2H 3N5
For SDS Info: (416) 496-5856
www.chemtradelogistics.com

Emergency Telephone Number

Emergency Number : Canada: CANUTEC +1-613-996-6666 / US: CHEMTREC +1-800-424-9300
INTERNATIONAL: +1-703-741-5970
Chemtrade Emergency Contact: (866) 416-4404
For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

GHS Classification

Met. Corr. 1	H290
Skin Corr. 1A	H314
Eye Dam. 1	H318
Carc. 1A	H350
Aquatic Acute 3	H402

Full text of hazard classes and H-statements : see section 16

Label Elements

GHS Labeling

Hazard Pictograms :


GHS05


GHS08

Signal Word : Danger

Hazard Statements : H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
H350 - May cause cancer (Inhalation).
H402 - Harmful to aquatic life.

Precautionary Statements : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P234 - Keep only in original container.
P260 - Do not breathe vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
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.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P310 - Immediately call a POISON CENTER or doctor.
P321 - Specific treatment (see section 4 on this SDS).
P363 - Wash contaminated clothing before reuse.
P390 - Absorb spillage to prevent material damage.
P405 - Store locked up.
P406 - Store in corrosive resistant container with a resistant inner liner.
P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

Unknown acute toxicity

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product Identifier	%*	GHS Ingredient Classification
Sulfuric acid**	(CAS-No.) 7664-93-9	70 - 100	Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318 Carc. 1A, H350 Aquatic Acute 3, H402
Water	(CAS-No.) 7732-18-5	0.1 - 30	Not classified

Full text of H-phrases: see section 16

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

**Strong inorganic acid aerosols/mists containing this substance are carcinogenic to humans via inhalation. Under normal conditions of use this route of exposure is not expected.

SECTION 4: FIRST AID MEASURES

Description of First-aid Measures

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

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Immediately flush skin with plenty of water for at least 30 minutes. Get immediate medical advice/attention. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

Most Important Symptoms and Effects Both Acute and Delayed

General: Corrosive to eyes, respiratory system and skin. May cause cancer.

Inhalation: May be corrosive to the respiratory tract.

Skin Contact: Causes severe irritation which will progress to chemical burns.

Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: Strong inorganic acid mists containing sulfuric acid are carcinogenic to humans. Prolonged inhalation of fumes or mists may cause erosion of the teeth.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Foam, carbon dioxide, dry chemical.

Unsuitable Extinguishing Media: Do not use water. Do not get water inside containers. Do not apply water stream directly at source of leak.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: May be corrosive to metals. Contact with metals may evolve flammable hydrogen gas. May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction. This product may act as an oxidizer.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

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

Hazardous Combustion Products: Toxic fumes are released.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe vapor, mist or spray. Do not handle until all safety precautions have been read and understood.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb spillage to prevent material damage. Cautiously neutralize spilled liquid. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle empty containers with care because they may still present a hazard. Do not get in eyes, on skin, or on clothing. Do not breathe vapors, mist, spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Additional Hazards When Processed: May be corrosive to metals. May release corrosive vapors. NEVER pour water into this substance; when dissolving or diluting always add it slowly to the water.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from extremely high or low temperatures and incompatible materials. Store in original container or corrosive resistant and/or lined container.

Incompatible Materials: Combustible materials. Reducing agents. Strong oxidizers. Strong bases. Metals. Water.

Specific End Use(s)

Industrial use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Sulfuric acid (7664-93-9)		
Mexico	OEL TWA (mg/m³)	1 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m³ (thoracic particulate matter)
USA ACGIH	ACGIH chemical category	Suspected Human Carcinogen contained in strong inorganic acid mists
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	1 mg/m³
USA IDLH	US IDLH (mg/m³)	15 mg/m³
Alberta	OEL STEL (mg/m³)	3 mg/m³
Alberta	OEL TWA (mg/m³)	1 mg/m³
British Columbia	OEL TWA (mg/m³)	0.2 mg/m³ (Thoracic, contained in strong inorganic acid mists)
Manitoba	OEL TWA (mg/m³)	0.2 mg/m³ (thoracic particulate matter)
New Brunswick	OEL STEL (mg/m³)	3 mg/m³
New Brunswick	OEL TWA (mg/m³)	1 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.2 mg/m³ (thoracic particulate matter)
Nova Scotia	OEL TWA (mg/m³)	0.2 mg/m³ (thoracic particulate matter)
Nunavut	OEL STEL (mg/m³)	0.6 mg/m³ (thoracic fraction)
Nunavut	OEL TWA (mg/m³)	0.2 mg/m³ (thoracic fraction)
Northwest Territories	OEL STEL (mg/m³)	0.6 mg/m³ (thoracic fraction, strong acid mists only)
Northwest Territories	OEL TWA (mg/m³)	0.2 mg/m³ (thoracic fraction, strong acid mists only)
Ontario	OEL TWA (mg/m³)	0.2 mg/m³ (thoracic)
Prince Edward Island	OEL TWA (mg/m³)	0.2 mg/m³ (thoracic particulate matter)
Québec	VECD (mg/m³)	3 mg/m³
Québec	VEMP (mg/m³)	1 mg/m³
Saskatchewan	OEL STEL (mg/m³)	0.6 mg/m³ (thoracic fraction)
Saskatchewan	OEL TWA (mg/m³)	0.2 mg/m³ (thoracic fraction)
Yukon	OEL STEL (mg/m³)	1 mg/m³
Yukon	OEL TWA (mg/m³)	1 mg/m³

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles. Face shield. Insufficient ventilation: wear respiratory protection.

Materials for Protective Clothing: Acid-resistant clothing.

Hand Protection: Wear protective gloves.

Eye Protection: Chemical safety goggles and face shield.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	:	Liquid
Appearance	:	Clear, Colorless to Amber, Oily
Odor	:	Pungent
Odor Threshold	:	Not available
pH	:	0.3
Evaporation Rate	:	Not available
Melting Point	:	10.56 °C (51.01 °F)
Freezing Point	:	Not available
Boiling Point	:	290 °C (554 °F)
Flash Point	:	Not applicable
Auto-ignition Temperature	:	Not applicable
Decomposition Temperature	:	Not available
Flammability (solid, gas)	:	Not applicable
Lower Flammable Limit	:	Not applicable
Upper Flammable Limit	:	Not applicable
Vapor Pressure	:	0.00027 - 0.16 kPa at 25 °C (77 °F)
Relative Vapor Density at 20°C	:	3.4 (air = 1)
Relative Density	:	Not available
Specific Gravity	:	1.84 g/l
Solubility	:	Water: Miscible
Partition Coefficient: N-Octanol/Water	:	Not available
Viscosity	:	Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity: May be corrosive to metals. Contact with metals may evolve flammable hydrogen gas. May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction. This product may act as an oxidizer.

Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Extremely high or low temperatures and incompatible materials.

Incompatible Materials: Combustible materials. Reducing agents. Strong bases. Strong oxidizers. Metals. Water.

Hazardous Decomposition Products: Thermal decomposition generates: Corrosive vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity (Oral): Not classified

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

pH: 0.3

Eye Damage/Irritation: Causes serious eye damage.

pH: 0.3

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: May cause cancer (Inhalation).

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Effects After Inhalation: May be corrosive to the respiratory tract.

Symptoms/Effects After Skin Contact: Causes severe irritation which will progress to chemical burns.

Symptoms/Effects After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Effects After Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: Strong inorganic acid mists containing sulfuric acid are carcinogenic to humans. Prolonged inhalation of fumes or mists may cause erosion of the teeth.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Water (7732-18-5)	
LD50 Oral Rat	> 90000 mg/kg

Sulfuric acid (7664-93-9)	
LD50 Oral Rat	2140 mg/kg
LC50 Inhalation Rat	510 mg/m³ (Exposure time: 2 h)

Sulfuric acid (7664-93-9)	
IARC Group	1
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Strong inorganic acid mists containing sulfuric acid	
National Toxicology Program (NTP) Status	Known Human Carcinogens.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecology - General: Harmful to aquatic life.

Sulfuric acid (7664-93-9)	
LC50 Fish 1	500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
LC50 Fish 2	42 mg/l (Exposure time: 96 h - Species: Gambusia affinis [static])

Persistence and Degradability

Sulfuric Acid, 70-100%	
Persistence and Degradability	Not established.

Bioaccumulative Potential

Sulfuric Acid, 70-100%	
Bioaccumulative Potential	Not established.

Sulfuric acid (7664-93-9)	
BCF Fish 1	(no bioaccumulation)

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

TRANSPORTATION CLASSIFICATION	DOT	TDG	IMDG	IATA
Identification Number	UN1830	UN1830	UN1830	UN1830
Proper Shipping Name	SULFURIC ACID	SULFURIC ACID	SULPHURIC ACID	SULPHURIC ACID
Transport Hazard Class(es)	8	8	8	8
				
Packing Group	II	II	II	II
Environmental Hazards	**Marine Pollutant :** No	**Marine Pollutant** : No	**Marine Pollutant** : No	**Marine Pollutant**: N/A
Emergency Response	**ERG Number :** 137	**ERAP Index:** 3 000	**EMS:** F-A, S-B	**ERG code (IATA):** 8L
Additional Information	Not applicable	Not applicable	Not applicable	Not applicable

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Chemical Name (CAS No.)	CERCLA RQ	EPCRA 304 RQ	SARA 302 TPQ	SARA 313
Sulfuric acid (7664-93-9)	1000 lb	1000 lb	1000 lb	Yes

SARA 311/312

Sulfuric Acid, 70-100%
Immediate (acute) health hazard. Delayed (chronic) health hazard. Reactive hazard

US TSCA Flags Not present

US State Regulations

California Proposition 65

Chemical Name (CAS No.)	Carcinogenicity	Developmental Toxicity	Female Reproductive Toxicity	Male Reproductive Toxicity
Sulfuric acid (7664-93-9)	Yes	No	No	No
Strong inorganic acid mists containing sulfuric acid	Yes	No	No	No

State Right-To-Know Lists

Sulfuric acid (7664-93-9)
U.S. - Massachusetts - Right To Know List - Yes U.S. - New Jersey - Right to Know Hazardous Substance List - Yes U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List - Yes U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances - No U.S. - Pennsylvania - RTK (Right to Know) List - Yes

Canadian Regulations

Sulfuric acid (7664-93-9)
Listed on the Canadian DSL (Domestic Substances List) Not listed on the Canadian NDSL (Non-Domestic Substances List)

International Inventories/Lists

Chemical Name (CAS No.)	Australia AICS	Turkey CICR	Korea ECL	EU EINECS	EU ELINCS	EU SVHC	EU NLP	Mexico INSQ
Sulfuric acid (7664-93-9)	Yes	No	Yes	Yes	No	No	No	No

Chemical Name (CAS No.)	China IECSC	Japan ENCS	Japan ISHL	Japan PDSCL	Japan PRTR	Philippines PICCS	New Zealand NZIOC	US TSCA
Sulfuric acid (7664-93-9)	Yes	Yes	No	Yes	No	Yes	Yes	Yes

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 05/07/2018

Revision Summary

Section	Change	Date Changed
16	Data modified	05/07/2018

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR).

GHS Full Text Phrases:

Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Met. Corr. 1	Corrosive to metals Category 1
Skin Corr. 1A	Skin corrosion/irritation Category 1A
H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H350	May cause cancer
H402	Harmful to aquatic life

NFPA 704

NFPA Health Hazard : 3
NFPA Fire Hazard : 0
NFPA Reactivity Hazard : 2
NFPA Specific Hazards : W

HMIS Rating

Health : 3
Flammability : 0
Physical : 2
PPE See Section 8

Abbreviations and Acronyms

AICS – Australian Inventory of Chemical Substances
ACGIH – American Conference of Governmental Industrial Hygienists
AIHA – American Industrial Hygiene Association
ATE - Acute Toxicity Estimate
BCF - Bioconcentration factor
BEI - Biological Exposure Indices (BEI)
CAS No. - Chemical Abstracts Service number
CERCLA RQ - Comprehensive Environmental Response, Compensation, and Liability Act - Reportable Quantity
CICR - Turkish Inventory and Control of Chemicals
DOT – 49 CFR – US Department of Transportation – Code of Federal Regulations Title 49 – Transportation.
EC50 - Median effective concentration
ECL - Korea Existing Chemicals List
EINECS - European Inventory of Existing Commercial Chemical Substances
ELINCS - European List of Notified Chemical Substances
EmS - IMDG Emergency Schedule Fire & Spillage
ENCS - Japanese Existing and New Chemical Substances Inventory
LC50 - Median Lethal Concentration
LD50 - Median Lethal Dose
LOAEL - Lowest Observed Adverse Effect Level
LOEC - Lowest-observed-effect Concentration
Log Pow - Octanol/water Partition Coefficient
NFPA 704 – National Fire Protection Association - Standard System for the Identification of the Hazards of Materials for Emergency Response
NIOSH - National Institute for Occupational Safety and Health
NLP - Europe No Longer Polymers List
NOAEL - No-Observed Adverse Effect Level
NOEC - No-Observed Effect Concentration
NZIOC - New Zealand Inventory of Chemicals
OEL - Occupational Exposure Limits
OSHA – Occupational Safety and Health Administration
PEL - Permissible Exposure Limits
PICCS - Philippine Inventory of Chemicals and Chemical Substances
PDSCL - Japan Poisonous and Deleterious Substances Control Law
PPE – Personal Protective Equipment

EPA – Environmental Protection Agency
EPCRA 304 RQ – EPCRA 304 Extremely Hazardous Substance Emergency Planning and Community Right-to-Know-Act – Reportable Quantity
ERAP Index – Emergency Response Assistance Plan Quantity Limit
ErC50 - EC50 in Terms of Reduction Growth Rate
ERG code (IATA) - Emergency Response Drill Code as found in the International Civil Aviation Organization (ICAO)
ERG No. - Emergency Response Guide Number
HCCL - Hazard Communication Carcinogen List
HMIS – Hazardous Materials Information System
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association – Dangerous Goods Regulations
IDLH - Immediately Dangerous to Life or Health
IECSC - Inventory of Existing Chemical Substances Produced or Imported in China
IMDG - International Maritime Dangerous Goods Code
INSQ - Mexican National Inventory of Chemical Substances
ISHL - Japan Industrial Safety and Health Law
PRTR - Japan Pollutant Release and Transfer Register
REL - Recommended Exposure Limit
SADT - Self Accelerating Decomposition Temperature
SARA - Superfund Amendments and Reauthorization Act
SARA 302 - Section 302, 40 CFR Part 355
SARA 311/312 - Sections 311 and 312, 40 CFR Part 370 Hazard Categories
SARA 313 - Section 313, 40 CFR Part 372
SRCL - Specifically Regulated Carcinogen List
STEL - Short Term Exposure Limit
SVHC – European Candidate List of Substance of Very High Concern
TDG – Transport Canada Transport of Dangerous Goods Regulations
TLM - Median Tolerance Limit
TLV - Threshold Limit Value
TPQ - Threshold Planning Quantity
TSCA – United StatesToxic Substances Control Act
TWA - Time Weighted Average
WEEL - Workplace Environmental Exposure Levels

Handle product with due care and avoid unnecessary contact. This information is supplied under U.S. OSHA'S "Right to Know" (29 CFR 1910.1200) and Canada's WHMIS regulations. Although certain hazards are described herein, we cannot guarantee these are the only hazards that exist. The information contained herein is based on data available to us and is believed to be true and accurate but it is not offered as a product specification. No warranty, expressed or implied, regarding the accuracy of this data, the hazards connected with the use of the product, or the results to be obtained from the use thereof, is made and Chemtrade and its affiliates assume no responsibility. Chemtrade is a member of the CIAC (Chemistry Industry Association of Canada) and adheres to the codes and principles of Responsible Care™.

Responsible Care® Our commitment to sustainability. Gestion responsable™ Notre engagement envers le développement durable.

Chemtrade NA GHS SDS 2015

ATTACHMENT E:

DILUTION FACTOR CORRESPONDENCE AND APPROVAL

From: Ruan, Xiaodan (DEP)
To: Jacob Golden
Cc: Ben Sivonen; Vakalopoulos, Catherine (DEP)
Subject: RE: NPDES Discharge
Date: Wednesday, December 23, 2020 3:14:02 PM

Hi Jacob,

I can confirm that the 7Q10 of 29.7 cfs (=19.2 MGD) for the Charles River at the outfall is correct. However, the dilution factor should be (0.144MGD + 19.2 MGD)/0.144MGD = **212.8**, for the proposed discharge for the below project at the One Congress Government Center Garage development site.

Here is water quality information in assisting you in filling out the NOI:

> Waterbody and ID: Charles River (MA72-38) within Charles River Watershed
> Classification: B
> Outstanding Resource Water?: no
> State's most recent Integrated List is located
> here: https://www.epa.gov/sites/production/files/2020-01/documents/2016-ma-303d-list-report.pdf,
> search for "MA72-38" to see the causes of impairments.
> TMDLs: There are two TMDLs (pathogens and nutrients) for this segment

Also, if this is not a *current* MCP site, then in addition to submitting the NOI to EPA, you need to apply with MassDEP and submit a $500 fee (unless fee exempt, e.g., municipality) using the ePLACE. The instructions are located on this page: https://www.mass.gov/how-to/wm-15-npdes-general-permit-notice-of-intent. Technical assistant information is available on the front page of the ePLACE application webpage.

Please let me know if you have any questions.

Sincerely,
Xiaodan

Xiaodan Ruan
Environmental Engineer
Massachusetts Department of Environmental Protection
One Winter Street, Boston, MA 02108
(617) 654-6517
xiaodan.ruan@mass.gov

From: Vakalopoulos, Catherine (DEP) <catherine.vakalopoulos@mass.gov>
Sent: Tuesday, December 22, 2020 1:41 PM
To: Ruan, Xiaodan (DEP) <xiaodan.ruan@mass.gov>

Cc: Ben Sivonen <bsivonen@vertexeng.com>; Jacob Golden <jgolden@vertexeng.com>
Subject: FW: NPDES Discharge

Thanks for offering to look at this later Xiaodan.

From: Jacob Golden <jgolden@vertexeng.com>
Date: Friday, December 18, 2020 at 9:19 AM
To: "Vakalopoulos, Catherine (DEP)" <catherine.vakalopoulos@mass.gov>
Cc: Ben Sivonen <bsivonen@vertexeng.com>
Subject: NPDES Discharge

Hello Cathy,
I am assisting Benjamin Sivonen (copied) in preparing a RGP application for a portion of the One Congress Government Center Garage development site located in Boston MA. We recently completed a StreamStats report, and calculated a 7Q10 of 29.7 cf/s. The proposed design flow for our dewatering system is 100 gpm. Based on this, we have calculated a dilution factor of 207.25. Our calculations are as follows: (0.144MGD + 29.7)/0.144 = 207.25.
Could you please confirm for us if this calculated dilution factor can be referenced in the RGP NOI that we are preparing. Attached is a copy of the StreamStats report for reference.
Please let us know if there are any questions on this.
Thank you,
Jake Golden

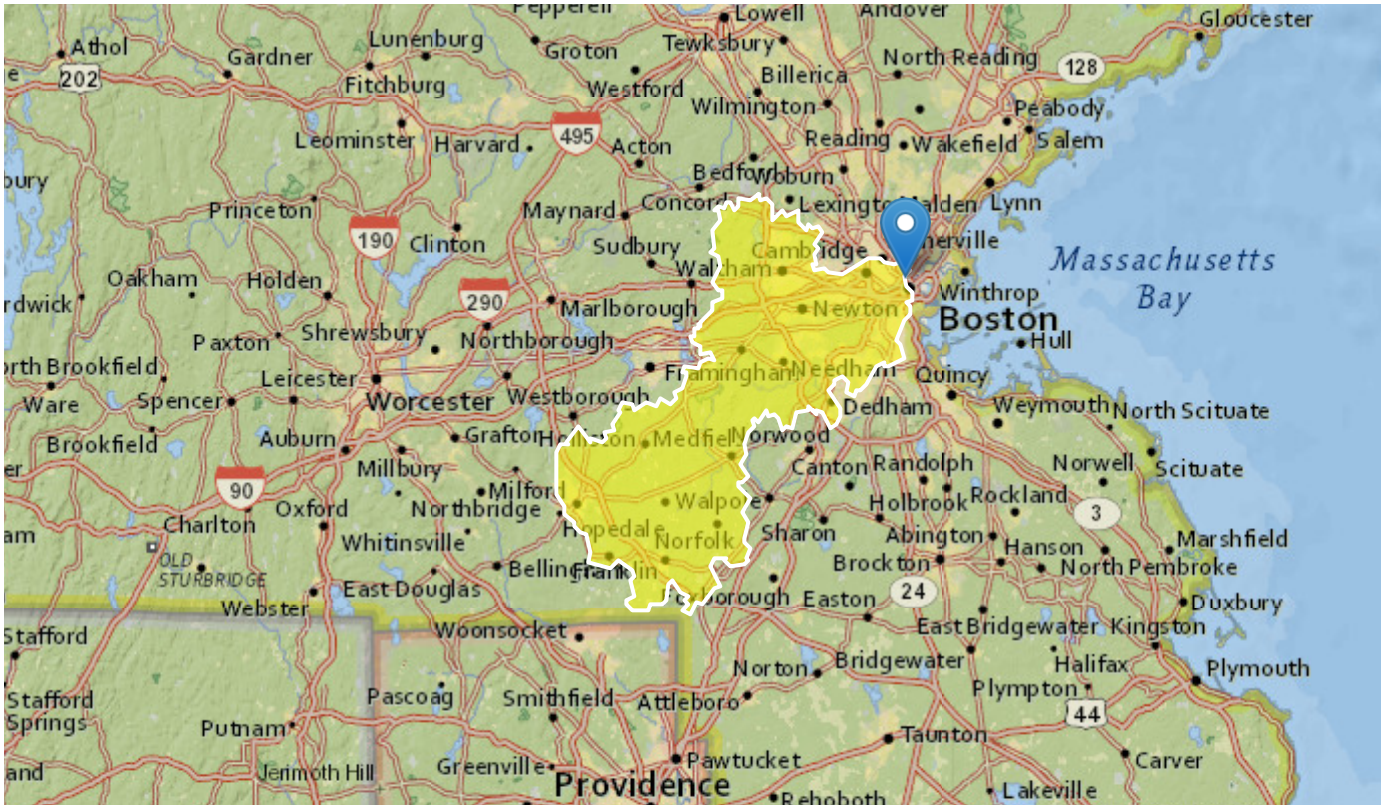
Jake Golden
STAFF SCIENTIST

O: **781.952.6089** | C: **781.985.7703** | **VERTEXENG.COM**

THE VERTEX COMPANIES, INC.
400 LIBBEY PARKWAY
WEYMOUTH, MA 02189

StreamStats Report

Region ID: MA
Workspace ID: MA20201218133417635000
Clicked Point (Latitude, Longitude): 42.36847, -71.06747
Time: 2020-12-18 08:34:34 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	313	square miles
ELEV	Mean Basin Elevation	189	feet
LC06STOR	Percentage of water bodies and wetlands determined from the NLCD 2006	12.2	percent
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.315	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.25	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

Peak-Flow Statistics Parameters[Peak Statewide 2016 5156]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	313	square miles	0.16	512
ELEV	Mean Basin Elevation	189	feet	80.6	1948
LC06STOR	Percent Storage from NLCD2006	12.2	percent	0	32.3

Peak-Flow Statistics Flow Report[Peak Statewide 2016 5156]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	PIu	SEp
2 Year Peak Flood	3350	ft^3/s	1710	6560	42.3
5 Year Peak Flood	5230	ft^3/s	2630	10400	43.4
10 Year Peak Flood	6640	ft^3/s	3270	13500	44.7
25 Year Peak Flood	8640	ft^3/s	4110	18200	47.1
50 Year Peak Flood	10300	ft^3/s	4750	22300	49.4
100 Year Peak Flood	11900	ft^3/s	5320	26600	51.8
200 Year Peak Flood	13800	ft^3/s	5990	31800	54.1
500 Year Peak Flood	16300	ft^3/s	6750	39300	57.6

Peak-Flow Statistics Citations

Zarriello, P.J.,2017, Magnitude of flood flows at selected annual exceedance probabilities for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2016–5156, 99 p. (https://dx.doi.org/10.3133/sir20165156)

Low-Flow Statistics Parameters[Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	313	square miles	1.61	149

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLDEM250	Mean Basin Slope from 250K DEM	2.315	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.25	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

Low-Flow Statistics Disclaimers[Statewide Low Flow WRIR00 4135]

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

Low-Flow Statistics Flow Report[Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
7 Day 2 Year Low Flow	58.3	ft^3/s
7 Day 10 Year Low Flow	29.7	ft^3/s

Low-Flow Statistics Citations

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

Application Version: 4.4.0

ATTACHMENT F:

BWSC DEWATERING PERMIT FORM

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

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: Bulfinch Unit A Owner, LLC Address: One Congress Street, 1st Floor

Phone Number: (617) 593-8697 Fax number: _____

Contact person name: David Ambrose Title: Vice President, Construction

Cell number: _____ Email address: dambrose@hyminvestments.com

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

Owner's Information (if different from above):

Owner of property being dewatered: _____

Owner's mailing address: _____ Phone number: _____

Location of Discharge & Proposed Treatment System(s):

Street number and name: 50 New Sudbury Street Neighborhood Boston: Government Center

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

Describe Proposed Pre-Treatment System(s): Sedimentation tank and bag filters, other treatment as required

BWSC Outfall No. 049 (See Attached) Receiving Waters Charles River

---

Temporary Discharges (Provide Anticipated Dates of Discharge): From January 2021 To June 2022

☐ Groundwater Remediation	☐ Tank Removal/Installation	☐ Foundation Excavation
☐ Utility/Manhole Pumping	☐ Test Pipe	☐ Trench Excavation
☐ Accumulated Surface Water	☐ Hydrogeologic Testing	☒ Other Demolition of Structural Elements

Permanent Discharges

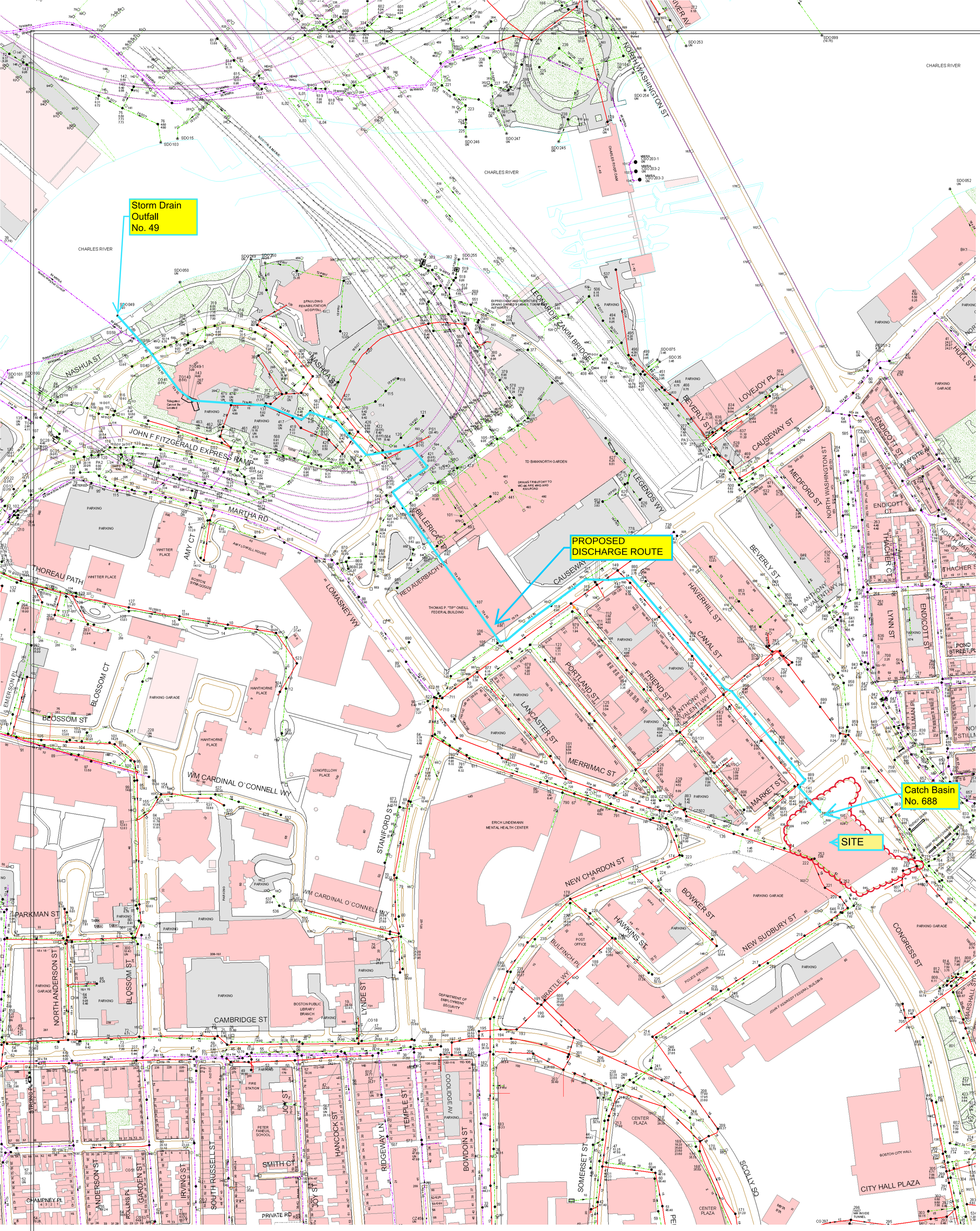
☐ Foundation Drainage	☐ Crawl Space/Footing Drain
☐ Accumulated Surface Water	☐ Non-contact/Uncontaminated Cooling
☐ Non-contact/Uncontaminated Process	☐ Other; _____

---

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: _____



BOSTON WATER AND SEWER

DEWATERING DISCHARGE ROUTE

Bulfinch Crossing
50 New Sudbury Street
Boston, Massachusetts

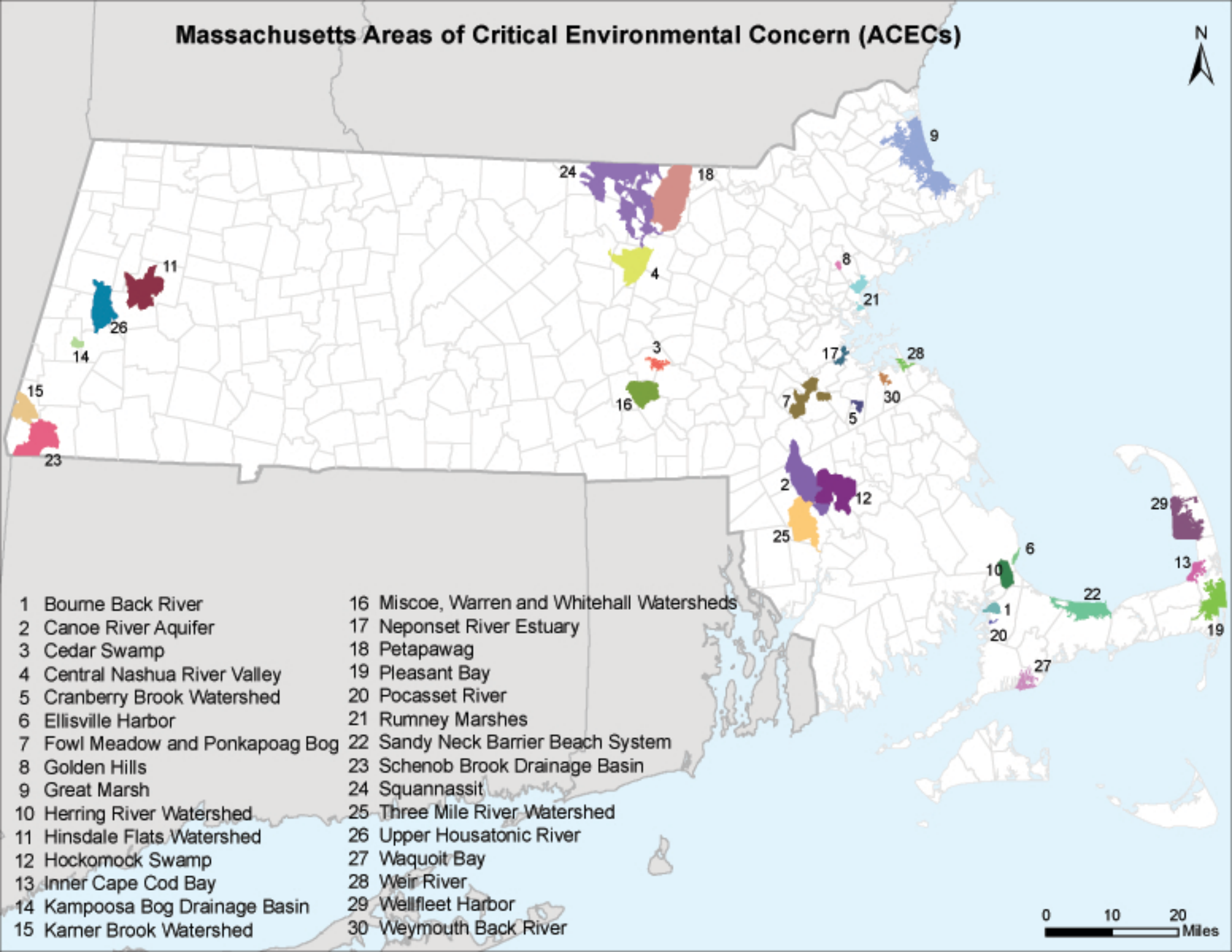
VERTEX

Figure 5

ATTACHMENT G:

AREAS OF CRITICAL ENVIRONMENTAL CONCERN DOCUMENTATION

Massachusetts Areas of Critical Environmental Concern (ACECs)



1 Bourne Back River
2 Canoe River Aquifer
3 Cedar Swamp
4 Central Nashua River Valley
5 Cranberry Brook Watershed
6 Ellisville Harbor
7 Fowl Meadow and Ponkapoag Bog
8 Golden Hills
9 Great Marsh
10 Herring River Watershed
11 Hinsdale Flats Watershed
12 Hockomock Swamp
13 Inner Cape Cod Bay
14 Kampoosa Bog Drainage Basin
15 Karner Brook Watershed
16 Miscoe, Warren and Whitehall Watersheds
17 Neponset River Estuary
18 Petapawag
19 Pleasant Bay
20 Pocasset River
21 Rumney Marshes
22 Sandy Neck Barrier Beach System
23 Schenob Brook Drainage Basin
24 Squannassit
25 Three Mile River Watershed
26 Upper Housatonic River
27 Waquoit Bay
28 Weir River
29 Wellfleet Harbor
30 Weymouth Back River

ATTACHMENT H:

NATIONAL HISTORIC REGISTER OF HISTORIC PLACES AND MASSACHUSETTS HISTORICAL COMMISSION DOCUMENTATION

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Street No: 35; Street Name: New sudbury St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

ATTACHMENT I:

ENDANGERED SPECIES ACT DOCUMENTATION

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: December 17, 2020
Consultation Code: 05E1NE00-2021-SLI-0758
Event Code: 05E1NE00-2021-E-02287
Project Name: Bulfinch Crossing - Enabling

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: 05E1NE00-2021-SLI-0758

Event Code: 05E1NE00-2021-E-02287

Project Name: Bulfinch Crossing - Enabling

Project Type: DEVELOPMENT

Project Description: Select demolition of a building.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.36304289360286N71.05868636240044W

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.

---

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.

ATTACHMENT J:

LABORATORY ANALYTICAL REPORTS

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

September 25, 2017

Jesse Freeman
Vertex Engineering - Weymouth
400 Libbey Parkway
Weymouth, MA 02189

Project Location: One Congress St.
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 17I0704

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

Sincerely,

Meghan E. Kelley
Project Manager

Table of Contents

Table of Contents (continued)

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

Vertex Engineering - Weymouth
400 Libbey Parkway
Weymouth, MA 02189
ATTN: Jesse Freeman

REPORT DATE: 9/25/2017

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 17I0704

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

PROJECT LOCATION: One Congress St.

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Municipal FH	17I0704-01	Water		EPA 200.7	
				EPA 624	
				SM21-22 4500 CL G	
BOS-049	17I0704-02	Surface Water		-	NH NELAC 2539/ MA M-MA014/CT PH-0494 +others
				EPA 1664B	
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 300.0	NY11393/MA-MAI138/MA1110
				EPA 504.1	
				EPA 608	
				EPA 624	
				EPA 625	
				SM19-22 4500 NH3 C	MA M-MA-086/CT PH-0574/NY11148
				SM21-22 2540D	
				SM21-22 3500 Cr B	
				SM21-22 4500 CL G	
				SW-846 8270D	
				SW-846 9014	MA M-MA-086/CT PH-0574/NY11148
				Tri Chrome Calc.	
Trip Blank	17I0704-03	Trip Blank Water		EPA 624	

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.

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

EPA 625

Qualifications:

L-04

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

Analyte & Samples(s) Qualified:

2-Chloronaphthalene
17I0704-02[BOS-049], B186688-BLK1, B186688-BS1, B186688-BSD1

L-07

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

Analyte & Samples(s) Qualified:

Fluorene
B186688-BSD1

Pyrene
B186688-BSD1

V-04

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

Analyte & Samples(s) Qualified:

4,6-Dinitro-2-methylphenol
17I0704-02[BOS-049], B186688-BLK1, B186688-BS1, B186688-BSD1

Benzidine
17I0704-02[BOS-049], B186688-BLK1, B186688-BS1, B186688-BSD1

V-19

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

Analyte & Samples(s) Qualified:

2,4-Dinitrophenol
17I0704-02[BOS-049], B186688-BLK1, B186688-BS1, B186688-BSD1

V-20

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

Analyte & Samples(s) Qualified:

2,4-Dinitrophenol
17I0704-02[BOS-049], B186688-BLK1, B186688-BS1, B186688-BSD1

4,6-Dinitro-2-methylphenol
17I0704-02[BOS-049], B186688-BLK1, B186688-BS1, B186688-BSD1

SM21-22 2540D

Qualifications:

R-04

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

Analyte & Samples(s) Qualified:

Total Suspended Solids
17I0704-02[BOS-049], B186410-DUP2

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.

Lisa A. Worthington
Project Manager

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

Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: Municipal FH Sampled: 9/15/2017 14:50

Sample ID: 17I0704-01

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Methyl tert-Butyl Ether (MTBE)	ND	2.0	0.090	µg/L	1		EPA 624	9/20/17	9/20/17 23:23	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	98.2	70-130		9/20/17 23:23
Toluene-d8	100	70-130		9/20/17 23:23
4-Bromofluorobenzene	95.4	70-130		9/20/17 23:23

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

Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: Municipal FH Sampled: 9/15/2017 14:50

Sample ID: 17I0704-01

Sample Matrix: Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hardness	16			mg/L	1		EPA 200.7	9/21/17	9/22/17 14:12	QNW

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

Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: Municipal FH Sampled: 9/15/2017 14:50

Sample ID: 17I0704-01

Sample Matrix: Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlorine, Residual	2.1	0.10	mg/L	5		SM21-22 4500 CL G	9/15/17	9/15/17 23:15	DJM

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

Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: BOS-049 Sampled: 9/15/2017 11:30

Sample ID: 17I0704-02

Sample Matrix: Surface Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	4.9	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	0.11	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
Benzene	ND	1.0	0.12	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
tert-Butyl Alcohol (TBA)	ND	20	2.2	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
Carbon Tetrachloride	ND	2.0	0.25	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
1,2-Dichlorobenzene	ND	2.0	0.17	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
1,3-Dichlorobenzene	ND	2.0	0.17	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
1,4-Dichlorobenzene	ND	2.0	0.15	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
1,2-Dichloroethane	ND	2.0	0.19	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
cis-1,2-Dichloroethylene	ND	1.0	0.15	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
1,1-Dichloroethane	ND	2.0	0.16	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
1,1-Dichloroethylene	ND	2.0	0.21	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
1,4-Dioxane	ND	50	26	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
Ethylbenzene	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
Methyl tert-Butyl Ether (MTBE)	ND	2.0	0.090	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
Methylene Chloride	ND	5.0	3.2	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
Tetrachloroethylene	ND	2.0	0.27	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
Toluene	ND	1.0	0.17	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
1,1,1-Trichloroethane	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
1,1,2-Trichloroethane	ND	2.0	0.24	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
Trichloroethylene	ND	2.0	0.20	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
Vinyl Chloride	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
m+p Xylene	ND	2.0	0.26	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH
o-Xylene	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 23:50	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	98.6	70-130		9/20/17 23:50
Toluene-d8	100	70-130		9/20/17 23:50
4-Bromofluorobenzene	95.2	70-130		9/20/17 23:50

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

Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: BOS-049 Sampled: 9/15/2017 11:30

Sample ID: 17I0704-02

Sample Matrix: Surface Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzo(a)anthracene	ND	0.050	0.050	µg/L	1		SW-846 8270D	9/20/17	9/22/17 16:05	CJM
Benzo(a)pyrene	ND	0.10	0.10	µg/L	1		SW-846 8270D	9/20/17	9/22/17 16:05	CJM
Benzo(b)fluoranthene	ND	0.050	0.050	µg/L	1		SW-846 8270D	9/20/17	9/22/17 16:05	CJM
Benzo(k)fluoranthene	ND	0.20	0.20	µg/L	1		SW-846 8270D	9/20/17	9/22/17 16:05	CJM
Bis(2-Ethylhexyl)phthalate	0.20	1.0	0.10	µg/L	1	J	SW-846 8270D	9/20/17	9/22/17 16:05	CJM
Chrysene	ND	0.20	0.20	µg/L	1		SW-846 8270D	9/20/17	9/22/17 16:05	CJM
Dibenz(a,h)anthracene	ND	0.20	0.20	µg/L	1		SW-846 8270D	9/20/17	9/22/17 16:05	CJM
Indeno(1,2,3-cd)pyrene	ND	0.20	0.20	µg/L	1		SW-846 8270D	9/20/17	9/22/17 16:05	CJM
Pentachlorophenol	ND	1.0	0.34	µg/L	1		SW-846 8270D	9/20/17	9/22/17 16:05	CJM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	45.2	15-110		9/22/17 16:05
Phenol-d6	29.9	15-110		9/22/17 16:05
Nitrobenzene-d5	75.2	30-130		9/22/17 16:05
2-Fluorobiphenyl	77.8	30-130		9/22/17 16:05
2,4,6-Tribromophenol	70.6	15-110		9/22/17 16:05
p-Terphenyl-d14	74.0	30-130		9/22/17 16:05

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

Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: BOS-049 Sampled: 9/15/2017 11:30

Sample ID: 17I0704-02

Sample Matrix: Surface Water

Semivolatile Organic Compounds by - GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Acenaphthylene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Anthracene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Benzidine	ND	20	µg/L	1	V-04	EPA 625	9/20/17	9/22/17 11:00	BGL
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
4-Bromophenylphenylether	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Butylbenzylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
4-Chloro-3-methylphenol	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Bis(2-chloroethyl)ether	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
2-Chloronaphthalene	ND	10	µg/L	1	L-04	EPA 625	9/20/17	9/22/17 11:00	BGL
2-Chlorophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
4-Chlorophenylphenylether	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Di-n-butylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
1,3-Dichlorobenzene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
1,4-Dichlorobenzene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
1,2-Dichlorobenzene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
3,3-Dichlorobenzidine	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
2,4-Dichlorophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Diethylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
2,4-Dimethylphenol	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Dimethylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
4,6-Dinitro-2-methylphenol	ND	10	µg/L	1	V-04, V-20	EPA 625	9/20/17	9/22/17 11:00	BGL
2,4-Dinitrophenol	ND	10	µg/L	1	V-19, V-20	EPA 625	9/20/17	9/22/17 11:00	BGL
2,4-Dinitrotoluene	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
2,6-Dinitrotoluene	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Di-n-octylphthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Fluoranthene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Fluorene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Hexachlorobenzene	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Hexachlorobutadiene	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Hexachlorocyclopentadiene	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Hexachloroethane	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Isophorone	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Naphthalene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Nitrobenzene	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
2-Nitrophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
4-Nitrophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
N-Nitrosodimethylamine	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
N-Nitrosodiphenylamine	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
N-Nitrosodi-n-propylamine	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
2-Methylnaphthalene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL

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

Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: BOS-049 Sampled: 9/15/2017 11:30

Sample ID: 17I0704-02

Sample Matrix: Surface Water

Semivolatile Organic Compounds by - GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Phenanthrene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
2-Methylphenol	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Phenol	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
3/4-Methylphenol	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
Pyrene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL
2,4,6-Trichlorophenol	ND	10	µg/L	1		EPA 625	9/20/17	9/22/17 11:00	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	44.7	15-110		9/22/17 11:00
Phenol-d6	34.8	15-110		9/22/17 11:00
Nitrobenzene-d5	76.4	30-130		9/22/17 11:00
2-Fluorobiphenyl	71.1	30-130		9/22/17 11:00
2,4,6-Tribromophenol	69.8	15-110		9/22/17 11:00
p-Terphenyl-d14	78.6	30-130		9/22/17 11:00

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Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: BOS-049 Sampled: 9/15/2017 11:30

Sample ID: 17I0704-02

Sample Matrix: Surface Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	0.057	µg/L	1		EPA 608	9/20/17	9/21/17 18:08	KAL
Aroclor-1221 [1]	ND	0.10	0.062	µg/L	1		EPA 608	9/20/17	9/21/17 18:08	KAL
Aroclor-1232 [1]	ND	0.10	0.038	µg/L	1		EPA 608	9/20/17	9/21/17 18:08	KAL
Aroclor-1242 [1]	ND	0.10	0.054	µg/L	1		EPA 608	9/20/17	9/21/17 18:08	KAL
Aroclor-1248 [1]	ND	0.10	0.064	µg/L	1		EPA 608	9/20/17	9/21/17 18:08	KAL
Aroclor-1254 [1]	ND	0.10	0.071	µg/L	1		EPA 608	9/20/17	9/21/17 18:08	KAL
Aroclor-1260 [1]	ND	0.10	0.073	µg/L	1		EPA 608	9/20/17	9/21/17 18:08	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.6	30-150		9/21/17 18:08
Decachlorobiphenyl [2]	95.6	30-150		9/21/17 18:08
Tetrachloro-m-xylene [1]	79.3	30-150		9/21/17 18:08
Tetrachloro-m-xylene [2]	80.4	30-150		9/21/17 18:08

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Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: BOS-049 Sampled: 9/15/2017 11:30

Sample ID: 17I0704-02

Sample Matrix: Surface Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0		µg/L	1		EPA 200.8	9/20/17	9/21/17 6:15	MJH
Arsenic	ND	1.0		µg/L	1		EPA 200.8	9/20/17	9/21/17 6:15	MJH
Cadmium	ND	0.20		µg/L	1		EPA 200.8	9/20/17	9/21/17 6:15	MJH
Chromium	ND	10		µg/L	1		EPA 200.8	9/19/17	9/20/17 9:43	WSD
Chromium, Trivalent	ND	0.010		mg/L	1		Tri Chrome Calc.	9/20/17	9/22/17 0:03	MJH
Copper	6.2	1.0		µg/L	1		EPA 200.8	9/20/17	9/21/17 6:15	MJH
Iron	0.13	0.050		mg/L	1		EPA 200.7	9/20/17	9/21/17 14:32	QNW
Lead	1.5	0.50		µg/L	1		EPA 200.8	9/20/17	9/21/17 6:15	MJH
Mercury	ND	0.00010		mg/L	1		EPA 245.1	9/19/17	9/20/17 9:25	TJK
Nickel	ND	5.0		µg/L	1		EPA 200.8	9/20/17	9/21/17 6:15	MJH
Selenium	2.3	5.0	2.1	µg/L	1	J	EPA 200.8	9/20/17	9/21/17 6:15	MJH
Silver	ND	0.20		µg/L	1		EPA 200.8	9/20/17	9/21/17 6:15	MJH
Zinc	ND	20		µg/L	1		EPA 200.8	9/20/17	9/21/17 6:15	MJH

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Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: BOS-049 Sampled: 9/15/2017 11:30

Sample ID: 17I0704-02

Sample Matrix: Surface Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlorine, Residual	0.028	0.020	mg/L	1		SM21-22 4500 CL G	9/15/17	9/15/17 23:15	DJM
Hexavalent Chromium	ND	0.0040	mg/L	1		SM21-22 3500 Cr B	9/15/17	9/15/17 23:45	DJM
Total Suspended Solids	17	5.0	mg/L	1	R-04	SM21-22 2540D	9/18/17	9/18/17 14:05	LL
Silica Gel Treated HEM (SGT-HEM)	ND	1.6	mg/L	1		EPA 1664B	9/21/17	9/21/17 13:15	LL

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Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: BOS-049 Sampled: 9/15/2017 11:30

Sample ID: 17I0704-02

Sample Matrix: Surface Water

Drinking Water Organics EPA 504.1

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.020	µg/L	1		EPA 504.1	9/21/17	9/21/17 16:34	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,3-Dibromopropane (1)	82.0	70-130		9/21/17 16:34
1,3-Dibromopropane (2)	85.2	70-130		9/21/17 16:34

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Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: BOS-049 Sampled: 9/15/2017 11:30

Sample ID: 17I0704-02

Sample Matrix: Surface Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	0.063	0.075	mg/L	1		SM19-22 4500 NH3 C		9/20/17 0:00	AAL
Cyanide	ND	0.005	mg/L	1		SW-846 9014		9/20/17 0:00	AAL

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Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: BOS-049 Sampled: 9/15/2017 11:30

Sample ID: 17I0704-02

Sample Matrix: Surface Water

Ethanol by 1671A

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ethanol	ND	2000	ug/L	1		1671A		9/21/17 0:00	TAN

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Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: BOS-049 Sampled: 9/15/2017 11:30

Sample ID: 17I0704-02

Sample Matrix: Surface Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	501	20	mg/L	20		EPA 300.0		9/20/17 0:00	EURO

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Project Location: One Congress St. Sample Description: Work Order: 17I0704

Date Received: 9/15/2017

Field Sample #: Trip Blank Sampled: 9/15/2017 00:00

Sample ID: 17I0704-03

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	4.9	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	0.11	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
Benzene	ND	1.0	0.12	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
tert-Butyl Alcohol (TBA)	ND	20	2.2	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
Carbon Tetrachloride	ND	2.0	0.25	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
1,2-Dichlorobenzene	ND	2.0	0.17	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
1,3-Dichlorobenzene	ND	2.0	0.17	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
1,4-Dichlorobenzene	ND	2.0	0.15	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
1,2-Dichloroethane	ND	2.0	0.19	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
cis-1,2-Dichloroethylene	ND	1.0	0.15	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
1,1-Dichloroethane	ND	2.0	0.16	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
1,1-Dichloroethylene	ND	2.0	0.21	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
1,4-Dioxane	ND	50	26	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
Ethylbenzene	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
Methyl tert-Butyl Ether (MTBE)	ND	2.0	0.090	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
Methylene Chloride	ND	5.0	3.2	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
Tetrachloroethylene	ND	2.0	0.27	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
Toluene	ND	1.0	0.17	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
1,1,1-Trichloroethane	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
1,1,2-Trichloroethane	ND	2.0	0.24	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
Trichloroethylene	ND	2.0	0.20	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
Vinyl Chloride	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
m+p Xylene	ND	2.0	0.26	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH
o-Xylene	ND	2.0	0.13	µg/L	1		EPA 624	9/20/17	9/20/17 21:09	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	97.0	70-130		9/20/17 21:09
Toluene-d8	101	70-130		9/20/17 21:09
4-Bromofluorobenzene	94.6	70-130		9/20/17 21:09

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Sample Extraction Data

EPA 1664B

Lab Number [Field ID]	Batch	Initial [mL]	Date
17I0704-02 [BOS-049]	B186770	900	09/21/17

Prep Method: EPA 200.7-EPA 200.7

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0704-02 [BOS-049]	B186704	50.0	50.0	09/20/17

Prep Method: EPA 200.7-EPA 200.7

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0704-01 [Municipal FH]	B186801	50.0	50.0	09/21/17

Prep Method: EPA 200.8-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0704-02 [BOS-049]	B186543	50.0	50.0	09/19/17

Prep Method: EPA 200.8-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0704-02 [BOS-049]	B186706	50.0	50.0	09/20/17

Prep Method: EPA 245.1-EPA 245.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0704-02 [BOS-049]	B186577	6.00	6.00	09/19/17

Prep Method: EPA 504 water-EPA 504.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0704-02 [BOS-049]	B186764	34.9	35.0	09/21/17

Prep Method: SW-846 3510C-EPA 608

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0704-02 [BOS-049]	B186668	1000	5.00	09/20/17

Prep Method: SW-846 5030B-EPA 624

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0704-01 [Municipal FH]	B186621	5	5.00	09/20/17
17I0704-02 [BOS-049]	B186621	5	5.00	09/20/17
17I0704-03 [Trip Blank]	B186621	5	5.00	09/20/17

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

Sample Extraction Data

Prep Method: SW-846 3510C-EPA 625

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0704-02 [BOS-049]	B186688	1000	1.00	09/20/17

SM21-22 2540D

Lab Number [Field ID]	Batch	Initial [mL]	Date
17I0704-02 [BOS-049]	B186410	100	09/18/17

SM21-22 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0704-02 [BOS-049]	B186370	50.0	50.0	09/15/17

SM21-22 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0704-01 [Municipal FH]	B186372	100	100	09/15/17
17I0704-02 [BOS-049]	B186372	100	100	09/15/17

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
17I0704-02 [BOS-049]	B186981	1000	1.00	09/20/17

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

Lab Number [Field ID]	Batch	Initial [mL]	Date
17I0704-02 [BOS-049]	B186740	1.00	09/20/17

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186621 - SW-846 5030B										
Blank (B186621-BLK1)				Prepared & Analyzed: 09/20/17						
Acetone	ND	50	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							
Carbon Tetrachloride	ND	2.0	µg/L							
1,2-Dichlorobenzene	ND	2.0	µg/L							
1,3-Dichlorobenzene	ND	2.0	µg/L							
1,4-Dichlorobenzene	ND	2.0	µg/L							
1,2-Dichloroethane	ND	2.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
1,1-Dichloroethane	ND	2.0	µg/L							
1,1-Dichloroethylene	ND	2.0	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	2.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	2.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
Tetrachloroethylene	ND	2.0	µg/L							
Toluene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	2.0	µg/L							
1,1,2-Trichloroethane	ND	2.0	µg/L							
Trichloroethylene	ND	2.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	2.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	*25.0*		µg/L	25.0		99.8	70-130			
Surrogate: Toluene-d8	*25.2*		µg/L	25.0		101	70-130			
Surrogate: 4-Bromofluorobenzene	*23.6*		µg/L	25.0		94.2	70-130			
LCS (B186621-BS1)				Prepared & Analyzed: 09/20/17						
Acetone	61.8	50	µg/L	100		61.8	60-160			†
tert-Amyl Methyl Ether (TAME)	9.53	0.50	µg/L	10.0		95.3	70-130			
Benzene	11.5	1.0	µg/L	10.0		115	37-151			
tert-Butyl Alcohol (TBA)	68.5	20	µg/L	100		68.5	40-160			†
Carbon Tetrachloride	10.8	2.0	µg/L	10.0		108	70-140			
1,2-Dichlorobenzene	11.6	2.0	µg/L	10.0		116	18-190			
1,3-Dichlorobenzene	11.4	2.0	µg/L	10.0		114	59-156			
1,4-Dichlorobenzene	10.8	2.0	µg/L	10.0		108	18-190			
1,2-Dichloroethane	9.40	2.0	µg/L	10.0		94.0	49-155			
cis-1,2-Dichloroethylene	11.0	1.0	µg/L	10.0		110	70-130			
1,1-Dichloroethane	12.3	2.0	µg/L	10.0		123	59-155			
1,1-Dichloroethylene	7.71	2.0	µg/L	10.0		77.1	20-234			
1,4-Dioxane	99.4	50	µg/L	100		99.4	40-130			†
Ethylbenzene	10.9	2.0	µg/L	10.0		109	37-162			
Methyl tert-Butyl Ether (MTBE)	10.6	2.0	µg/L	10.0		106	70-130			
Methylene Chloride	7.28	5.0	µg/L	10.0		72.8	50-221			
Tetrachloroethylene	10.8	2.0	µg/L	10.0		108	64-148			
Toluene	10.5	1.0	µg/L	10.0		105	47-150			
1,1,1-Trichloroethane	10.9	2.0	µg/L	10.0		109	52-162			
1,1,2-Trichloroethane	10.5	2.0	µg/L	10.0		105	52-150			
Trichloroethylene	10.2	2.0	µg/L	10.0		102	71-157			
Vinyl Chloride	2.97	2.0	µg/L	10.0		29.7	20-251			
m+p Xylene	21.8	2.0	µg/L	20.0		109	70-130			

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186621 - SW-846 5030B										
LCS (B186621-BS1)				Prepared & Analyzed: 09/20/17						
o-Xylene	10.6	2.0	µg/L	10.0		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	*24.6*		µg/L	25.0		98.3	70-130			
Surrogate: Toluene-d8	*24.9*		µg/L	25.0		99.6	70-130			
Surrogate: 4-Bromofluorobenzene	*24.5*		µg/L	25.0		98.0	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186981 - SW-846 3510C										
Blank (B186981-BLK1)				Prepared: 09/20/17 Analyzed: 09/22/17						
Benzo(a)anthracene	ND	0.050	µg/L							
Benzo(a)pyrene	ND	0.10	µg/L							
Benzo(b)fluoranthene	ND	0.050	µg/L							
Benzo(k)fluoranthene	ND	0.20	µg/L							
Bis(2-Ethylhexyl)phthalate	0.13	1.0	µg/L							J
Chrysene	ND	0.20	µg/L							
Dibenz(a,h)anthracene	ND	0.20	µg/L							
Indeno(1,2,3-cd)pyrene	ND	0.20	µg/L							
Pentachlorophenol	ND	1.0	µg/L							
Surrogate: 2-Fluorophenol	*77.6*		µg/L	200		38.8	15-110			
Surrogate: Phenol-d6	*49.0*		µg/L	200		24.5	15-110			
Surrogate: Nitrobenzene-d5	*69.9*		µg/L	100		69.9	30-130			
Surrogate: 2-Fluorobiphenyl	*74.5*		µg/L	100		74.5	30-130			
Surrogate: 2,4,6-Tribromophenol	*130*		µg/L	200		65.2	15-110			
Surrogate: p-Terphenyl-d14	*70.0*		µg/L	100		70.0	30-130			
LCS (B186981-BS1)				Prepared: 09/20/17 Analyzed: 09/22/17						
Benzo(a)anthracene	78.9	1.2	µg/L	100		78.9	40-140			
Benzo(a)pyrene	82.4	2.5	µg/L	100		82.4	40-140			
Benzo(b)fluoranthene	83.2	1.2	µg/L	100		83.2	40-140			
Benzo(k)fluoranthene	80.7	5.0	µg/L	100		80.7	40-140			
Bis(2-Ethylhexyl)phthalate	82.2	25	µg/L	100		82.2	40-140			
Chrysene	78.5	5.0	µg/L	100		78.5	40-140			
Dibenz(a,h)anthracene	74.5	5.0	µg/L	100		74.5	40-140			
Indeno(1,2,3-cd)pyrene	75.2	5.0	µg/L	100		75.2	40-140			
Pentachlorophenol	44.7	25	µg/L	100		44.7	30-130			
Surrogate: 2-Fluorophenol	*93.0*		µg/L	200		46.5	15-110			
Surrogate: Phenol-d6	*59.0*		µg/L	200		29.5	15-110			
Surrogate: Nitrobenzene-d5	*81.3*		µg/L	100		81.3	30-130			
Surrogate: 2-Fluorobiphenyl	*83.4*		µg/L	100		83.4	30-130			
Surrogate: 2,4,6-Tribromophenol	*101*		µg/L	200		50.7	15-110			
Surrogate: p-Terphenyl-d14	*73.6*		µg/L	100		73.6	30-130			
LCS Dup (B186981-BSD1)				Prepared: 09/20/17 Analyzed: 09/22/17						
Benzo(a)anthracene	74.0	1.2	µg/L	100		74.0	40-140	6.44	20	
Benzo(a)pyrene	77.3	2.5	µg/L	100		77.3	40-140	6.39	20	
Benzo(b)fluoranthene	78.4	1.2	µg/L	100		78.4	40-140	5.82	20	
Benzo(k)fluoranthene	75.6	5.0	µg/L	100		75.6	40-140	6.59	20	
Bis(2-Ethylhexyl)phthalate	75.2	25	µg/L	100		75.2	40-140	8.83	20	
Chrysene	73.8	5.0	µg/L	100		73.8	40-140	6.10	20	
Dibenz(a,h)anthracene	69.0	5.0	µg/L	100		69.0	40-140	7.70	20	
Indeno(1,2,3-cd)pyrene	70.6	5.0	µg/L	100		70.6	40-140	6.35	50	‡
Pentachlorophenol	41.7	25	µg/L	100		41.7	30-130	6.95	50	‡
Surrogate: 2-Fluorophenol	*90.4*		µg/L	200		45.2	15-110			
Surrogate: Phenol-d6	*56.4*		µg/L	200		28.2	15-110			
Surrogate: Nitrobenzene-d5	*73.0*		µg/L	100		73.0	30-130			
Surrogate: 2-Fluorobiphenyl	*76.3*		µg/L	100		76.3	30-130			
Surrogate: 2,4,6-Tribromophenol	*102*		µg/L	200		50.9	15-110			
Surrogate: p-Terphenyl-d14	*66.2*		µg/L	100		66.2	30-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

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

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QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B186688 - SW-846 3510C											
Blank (B186688-BLK1)				Prepared: 09/20/17 Analyzed: 09/22/17							
Surrogate: Phenol-d6	*63.2*		µg/L	200		31.6		15-110			
Surrogate: Nitrobenzene-d5	*71.3*		µg/L	100		71.3		30-130			
Surrogate: 2-Fluorobiphenyl	*66.6*		µg/L	100		66.6		30-130			
Surrogate: 2,4,6-Tribromophenol	*132*		µg/L	200		65.9		15-110			
Surrogate: p-Terphenyl-d14	*83.0*		µg/L	100		83.0		30-130			
LCS (B186688-BS1)				Prepared: 09/20/17 Analyzed: 09/22/17							
Acenaphthene	62.4	5.0	µg/L	100		62.4		47-145			
Acenaphthylene	58.9	5.0	µg/L	100		58.9		33-145			
Anthracene	62.1	5.0	µg/L	100		62.1		27-133			
Benzidine	69.8	20	µg/L	100		69.8		40-140			V-04
Benzo(g,h,i)perylene	57.6	5.0	µg/L	100		57.6		1-219			
4-Bromophenylphenylether	64.8	10	µg/L	100		64.8		53-127			
Butylbenzylphthalate	76.6	10	µg/L	100		76.6		1-152			
4-Chloro-3-methylphenol	70.2	10	µg/L	100		70.2		22-147			
Bis(2-chloroethyl)ether	78.7	10	µg/L	100		78.7		12-158			
Bis(2-chloroisopropyl)ether	85.3	10	µg/L	100		85.3		36-166			
2-Chloronaphthalene	57.4	10	µg/L	100		**57.4**	*	60-118			L-04
2-Chlorophenol	69.6	10	µg/L	100		69.6		23-134			
4-Chlorophenylphenylether	63.9	10	µg/L	100		63.9		25-158			
Di-n-butylphthalate	70.6	10	µg/L	100		70.6		1-118			
1,3-Dichlorobenzene	66.3	5.0	µg/L	100		66.3		1-172			
1,4-Dichlorobenzene	67.3	5.0	µg/L	100		67.3		20-124			
1,2-Dichlorobenzene	67.9	5.0	µg/L	100		67.9		32-129			
3,3-Dichlorobenzidine	75.8	10	µg/L	100		75.8		1-262			
2,4-Dichlorophenol	68.6	10	µg/L	100		68.6		39-135			
Diethylphthalate	64.6	10	µg/L	100		64.6		1-114			
2,4-Dimethylphenol	65.4	10	µg/L	100		65.4		32-119			
Dimethylphthalate	65.1	10	µg/L	100		65.1		1-112			
4,6-Dinitro-2-methylphenol	86.3	10	µg/L	100		86.3		1-181			V-04, V-20
2,4-Dinitrophenol	84.8	10	µg/L	100		84.8		1-191			V-19, V-20
2,4-Dinitrotoluene	77.4	10	µg/L	100		77.4		39-139			
2,6-Dinitrotoluene	81.1	10	µg/L	100		81.1		50-158			
Di-n-octylphthalate	81.4	10	µg/L	100		81.4		4-146			
1,2-Diphenylhydrazine (as Azobenzene)	74.6	10	µg/L	100		74.6		40-140			
Bis(2-Ethylhexyl)phthalate	75.1	10	µg/L	100		75.1		8-158			
Fluoranthene	63.9	5.0	µg/L	100		63.9		26-137			
Fluorene	60.5	5.0	µg/L	100		60.5		59-121			
Hexachlorobenzene	63.6	10	µg/L	100		63.6		1-152			
Hexachlorobutadiene	58.7	10	µg/L	100		58.7		24-116			
Hexachlorocyclopentadiene	63.2	10	µg/L	100		63.2		40-140			
Hexachloroethane	69.6	10	µg/L	100		69.6		40-113			
Isophorone	77.5	10	µg/L	100		77.5		21-196			
Naphthalene	61.1	5.0	µg/L	100		61.1		21-133			
Nitrobenzene	71.1	10	µg/L	100		71.1		35-180			
2-Nitrophenol	74.9	10	µg/L	100		74.9		29-182			
4-Nitrophenol	36.6	10	µg/L	100		36.6		1-132			
N-Nitrosodimethylamine	44.4	10	µg/L	100		44.4		40-140			
N-Nitrosodiphenylamine	82.3	10	µg/L	100		82.3		40-140			
N-Nitrosodi-n-propylamine	76.4	10	µg/L	100		76.4		1-230			
2-Methylnaphthalene	65.2	5.0	µg/L	100		65.2		40-140			
Phenanthrene	61.9	5.0	µg/L	100		61.9		54-120			

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QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B186688 - SW-846 3510C											
LCS (B186688-BS1)				Prepared: 09/20/17 Analyzed: 09/22/17							
2-Methylphenol	67.0	10	µg/L	100		67.0		30-130			
Phenol	34.1	10	µg/L	100		34.1		5-112			
3/4-Methylphenol	63.1	10	µg/L	100		63.1		30-130			
Pyrene	64.6	5.0	µg/L	100		64.6		52-115			
1,2,4-Trichlorobenzene	64.2	5.0	µg/L	100		64.2		44-142			
2,4,6-Trichlorophenol	67.6	10	µg/L	100		67.6		37-144			
Surrogate: 2-Fluorophenol	*101*		µg/L	200		50.4		15-110			
Surrogate: Phenol-d6	*71.3*		µg/L	200		35.6		15-110			
Surrogate: Nitrobenzene-d5	*78.3*		µg/L	100		78.3		30-130			
Surrogate: 2-Fluorobiphenyl	*69.2*		µg/L	100		69.2		30-130			
Surrogate: 2,4,6-Tribromophenol	*142*		µg/L	200		70.8		15-110			
Surrogate: p-Terphenyl-d14	*73.9*		µg/L	100		73.9		30-130			
LCS Dup (B186688-BSD1)				Prepared: 09/20/17 Analyzed: 09/22/17							
Acenaphthene	56.3	5.0	µg/L	100		56.3		47-145	10.2		
Acenaphthylene	53.7	5.0	µg/L	100		53.7		33-145	9.32		
Anthracene	55.8	5.0	µg/L	100		55.8		27-133	10.7		
Benzidine	56.0	20	µg/L	100		56.0		40-140	21.9		V-04
Benzo(g,h,i)perylene	51.1	5.0	µg/L	100		51.1		1-219	12.0		
4-Bromophenylphenylether	55.2	10	µg/L	100		55.2		53-127	15.9		
Butylbenzylphthalate	62.5	10	µg/L	100		62.5		1-152	20.2		
4-Chloro-3-methylphenol	61.3	10	µg/L	100		61.3		22-147	13.4		
Bis(2-chloroethyl)ether	64.7	10	µg/L	100		64.7		12-158	19.4		
Bis(2-chloroisopropyl)ether	69.8	10	µg/L	100		69.8		36-166	20.0		
2-Chloronaphthalene	53.0	10	µg/L	100		**53.0**	*	60-118	8.10		L-04
2-Chlorophenol	59.0	10	µg/L	100		59.0		23-134	16.6		
4-Chlorophenylphenylether	56.1	10	µg/L	100		56.1		25-158	12.9		
Di-n-butylphthalate	59.8	10	µg/L	100		59.8		1-118	16.5		
1,3-Dichlorobenzene	56.8	5.0	µg/L	100		56.8		1-172	15.3		
1,4-Dichlorobenzene	56.7	5.0	µg/L	100		56.7		20-124	17.0		
1,2-Dichlorobenzene	57.6	5.0	µg/L	100		57.6		32-129	16.4		
3,3-Dichlorobenzidine	67.9	10	µg/L	100		67.9		1-262	11.0		
2,4-Dichlorophenol	59.2	10	µg/L	100		59.2		39-135	14.7		
Diethylphthalate	56.0	10	µg/L	100		56.0		1-114	14.3		
2,4-Dimethylphenol	57.7	10	µg/L	100		57.7		32-119	12.6		
Dimethylphthalate	58.6	10	µg/L	100		58.6		1-112	10.6		
4,6-Dinitro-2-methylphenol	74.7	10	µg/L	100		74.7		1-181	14.5		V-04, V-20
2,4-Dinitrophenol	81.4	10	µg/L	100		81.4		1-191	4.20		V-19, V-20
2,4-Dinitrotoluene	69.4	10	µg/L	100		69.4		39-139	10.8		
2,6-Dinitrotoluene	72.8	10	µg/L	100		72.8		50-158	10.8		
Di-n-octylphthalate	67.5	10	µg/L	100		67.5		4-146	18.7		
1,2-Diphenylhydrazine (as Azobenzene)	64.8	10	µg/L	100		64.8		40-140	14.2		
Bis(2-Ethylhexyl)phthalate	59.3	10	µg/L	100		59.3		8-158	23.4		
Fluoranthene	60.1	5.0	µg/L	100		60.1		26-137	6.09		
Fluorene	54.9	5.0	µg/L	100		**54.9**	*	59-121	9.60		L-07
Hexachlorobenzene	55.5	10	µg/L	100		55.5		1-152	13.5		
Hexachlorobutadiene	50.3	10	µg/L	100		50.3		24-116	15.5		
Hexachlorocyclopentadiene	53.9	10	µg/L	100		53.9		40-140	15.7		
Hexachloroethane	58.8	10	µg/L	100		58.8		40-113	16.9		
Isophorone	66.8	10	µg/L	100		66.8		21-196	14.8		
Naphthalene	53.7	5.0	µg/L	100		53.7		21-133	12.8		
Nitrobenzene	62.7	10	µg/L	100		62.7		35-180	12.5		

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QUALITY CONTROL

Semivolatile Organic Compounds by - GC/MS - Quality Control

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

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

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

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186543 - EPA 200.8										
Blank (B186543-BLK1)				Prepared: 09/19/17 Analyzed: 09/20/17						
Chromium	ND	10	µg/L							
LCS (B186543-BS1)				Prepared: 09/19/17 Analyzed: 09/20/17						
Chromium	502	100	µg/L	500		100	85-115			
LCS Dup (B186543-BSD1)				Prepared: 09/19/17 Analyzed: 09/20/17						
Chromium	508	100	µg/L	500		102	85-115	1.12	20	
Batch B186577 - EPA 245.1										
Blank (B186577-BLK1)				Prepared: 09/19/17 Analyzed: 09/20/17						
Mercury	ND	0.00010	mg/L							
LCS (B186577-BS1)				Prepared: 09/19/17 Analyzed: 09/20/17						
Mercury	0.00186	0.00010	mg/L	0.00200		92.9	85-115			
LCS Dup (B186577-BSD1)				Prepared: 09/19/17 Analyzed: 09/20/17						
Mercury	0.00190	0.00010	mg/L	0.00200		94.8	85-115	2.03	20	
Batch B186704 - EPA 200.7										
Blank (B186704-BLK1)				Prepared: 09/20/17 Analyzed: 09/21/17						
Iron	ND	0.050	mg/L							
LCS (B186704-BS1)				Prepared: 09/20/17 Analyzed: 09/21/17						
Iron	4.00	0.050	mg/L	4.00		99.9	85-115			
LCS Dup (B186704-BSD1)				Prepared: 09/20/17 Analyzed: 09/21/17						
Iron	4.05	0.050	mg/L	4.00		101	85-115	1.32	20	
Batch B186706 - EPA 200.8										
Blank (B186706-BLK1)				Prepared: 09/20/17 Analyzed: 09/21/17						
Antimony	ND	1.0	µg/L							
Arsenic	ND	1.0	µg/L							
Cadmium	ND	0.20	µg/L							
Copper	ND	1.0	µg/L							
Lead	ND	0.50	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	ND	5.0	µg/L							
Silver	ND	0.20	µg/L							
Zinc	ND	20	µg/L							

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B186706 - EPA 200.8										
LCS (B186706-BS1)				Prepared: 09/20/17 Analyzed: 09/21/17						
Antimony	518	10	µg/L	500		104	85-115			
Arsenic	521	10	µg/L	500		104	85-115			
Cadmium	508	2.0	µg/L	500		102	85-115			
Copper	998	10	µg/L	1000		99.8	85-115			
Lead	517	5.0	µg/L	500		103	85-115			
Nickel	501	50	µg/L	500		100	85-115			
Selenium	519	50	µg/L	500		104	85-115			
Silver	486	2.0	µg/L	500		97.3	85-115			
Zinc	1070	200	µg/L	1000		107	85-115			
LCS Dup (B186706-BSD1)				Prepared: 09/20/17 Analyzed: 09/21/17						
Antimony	533	10	µg/L	500		107	85-115	2.88	20	
Arsenic	543	10	µg/L	500		109	85-115	4.08	20	
Cadmium	524	2.0	µg/L	500		105	85-115	3.03	20	
Copper	1050	10	µg/L	1000		105	85-115	4.73	20	
Lead	537	5.0	µg/L	500		107	85-115	3.90	20	
Nickel	526	50	µg/L	500		105	85-115	4.78	20	
Selenium	544	50	µg/L	500		109	85-115	4.73	20	
Silver	502	2.0	µg/L	500		100	85-115	3.11	20	
Zinc	1110	200	µg/L	1000		111	85-115	3.61	20	

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QUALITY CONTROL

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD		RPD Limit	Notes
Batch B186370 - SM21-22 3500 Cr B											
Blank (B186370-BLK1)				Prepared & Analyzed: 09/15/17							
Hexavalent Chromium	ND	0.0040	mg/L								
LCS (B186370-BS1)				Prepared & Analyzed: 09/15/17							
Hexavalent Chromium	0.098	0.0040	mg/L	0.100		97.8	86.6-115				
LCS Dup (B186370-BSD1)				Prepared & Analyzed: 09/15/17							
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		100	86.6-115	2.47		6.61	
Batch B186372 - SM21-22 4500 CL G											
Blank (B186372-BLK1)				Prepared & Analyzed: 09/15/17							
Chlorine, Residual	ND	0.020	mg/L								
LCS (B186372-BS1)				Prepared & Analyzed: 09/15/17							
Chlorine, Residual	1.4	0.020	mg/L	1.30		109	82.5-130				
LCS Dup (B186372-BSD1)				Prepared & Analyzed: 09/15/17							
Chlorine, Residual	1.4	0.020	mg/L	1.30		108	82.5-130	1.17		6.2	
Batch B186410 - SM21-22 2540D											
Blank (B186410-BLK1)				Prepared & Analyzed: 09/18/17							
Total Suspended Solids	ND	2.5	mg/L								
LCS (B186410-BS1)				Prepared & Analyzed: 09/18/17							
Total Suspended Solids	202	10	mg/L	200		101	66.7-117				
Duplicate (B186410-DUP2)	**Source: 17I0704-02**			Prepared & Analyzed: 09/18/17							
Total Suspended Solids	22	5.0	mg/L		17			**25.6**	*	5	R-04
Batch B186770 - EPA 1664B											
Blank (B186770-BLK1)				Prepared & Analyzed: 09/21/17							
Silica Gel Treated HEM (SGT-HEM)	ND	1.4	mg/L								
LCS (B186770-BS1)				Prepared & Analyzed: 09/21/17							
Silica Gel Treated HEM (SGT-HEM)	8.9		mg/L	10.0		89.0	64-132				
Duplicate (B186770-DUP1)	**Source: 17I0704-02**			Prepared & Analyzed: 09/21/17							
Silica Gel Treated HEM (SGT-HEM)	ND	1.6	mg/L		ND			NC		18	

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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 B186770 - EPA 1664B										
Matrix Spike (B186770-MS1)	**Source: 17I0704-02**			Prepared & Analyzed: 09/21/17						
Silica Gel Treated HEM (SGT-HEM)	87	14	mg/L	100	ND	87.0	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 B186764 - EPA 504 water										
Blank (B186764-BLK1)				Prepared & Analyzed: 09/21/17						
1,2-Dibromoethane (EDB)	ND	0.021	µg/L							
1,2-Dibromoethane (EDB) [2C]	ND	0.021	µg/L							
LCS (B186764-BS1)				Prepared & Analyzed: 09/21/17						
1,2-Dibromoethane (EDB)	0.168	0.021	µg/L	0.180		93.1	70-130			
1,2-Dibromoethane (EDB) [2C]	0.166	0.021	µg/L	0.180		92.0	70-130			
LCS Dup (B186764-BSD1)				Prepared & Analyzed: 09/21/17						
1,2-Dibromoethane (EDB)	0.176	0.021	µg/L	0.183		96.6	70-130	4.89		
1,2-Dibromoethane (EDB) [2C]	0.172	0.021	µg/L	0.183		94.3	70-130	3.73		

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.

J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
R-04	Duplicate relative percent difference (RPD) is a less useful indicator of sample precision for sample results that are <5 times the reporting limit (RL).
V-04	Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria.
V-19	Initial calibration did not meet method specifications. Compound was calibrated using linear regression with correlation coefficient <0.99. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.7 in Water	
Iron	CT,MA,NH,NY,RI,NC,ME,VA
Hardness	CT,MA,NH,NY,RI,VA
EPA 200.8 in Water	
Antimony	CT,MA,NH,NY,RI,NC,ME,VA
Arsenic	CT,MA,NH,NY,RI,NC,ME,VA
Cadmium	CT,MA,NH,NY,RI,NC,ME,VA
Chromium	CT,MA,NH,NY,RI,NC,ME,VA
Copper	CT,MA,NH,NY,RI,NC,ME,VA
Lead	CT,MA,NH,NY,RI,NC,ME,VA
Nickel	CT,MA,NH,NY,RI,NC,ME,VA
Selenium	CT,MA,NH,NY,RI,NC,ME,VA
Silver	CT,MA,NH,NY,RI,NC,ME,VA
Zinc	CT,MA,NH,NY,RI,NC,ME,VA
EPA 245.1 in Water	
Mercury	CT,MA,NH,RI,NY,NC,ME,VA
EPA 300.0 in Water	
Chloride	NC,NY,MA,VA,ME,NH,CT,RI
EPA 608 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
EPA 624 in Water	
Acetone	NH,NY
Benzene	CT,MA,NH,NY,RI,NC,ME,VA
Carbon Tetrachloride	CT,MA,NH,NY,RI,NC,ME,VA
1,2-Dichlorobenzene	CT,MA,NH,NY,RI,NC,ME,VA
1,3-Dichlorobenzene	CT,MA,NH,NY,RI,NC,ME,VA
1,4-Dichlorobenzene	CT,MA,NH,NY,RI,NC,ME,VA
1,2-Dichloroethane	CT,MA,NH,NY,RI,NC,ME,VA
1,1-Dichloroethane	CT,MA,NH,NY,RI,NC,ME,VA
1,1-Dichloroethylene	CT,MA,NH,NY,RI,NC,ME,VA
Ethylbenzene	CT,MA,NH,NY,RI,NC,ME,VA
Methyl tert-Butyl Ether (MTBE)	NH,NY,NC
Methylene Chloride	CT,MA,NH,NY,RI,NC,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 624 in Water	
Naphthalene	NC
Tetrachloroethylene	CT,MA,NH,NY,RI,NC,ME,VA
Toluene	CT,MA,NH,NY,RI,NC,ME,VA
1,2,4-Trichlorobenzene	NC
1,1,1-Trichloroethane	CT,MA,NH,NY,RI,NC,ME,VA
1,1,2-Trichloroethane	CT,MA,NH,NY,RI,NC,ME,VA
Trichloroethylene	CT,MA,NH,NY,RI,NC,ME,VA
Vinyl Chloride	CT,MA,NH,NY,RI,NC,ME,VA
m+p Xylene	CT,MA,NH,NY,RI,NC,VA
o-Xylene	CT,MA,NH,NY,RI,NC,VA
EPA 625 in Water	
Acenaphthene	CT,MA,NH,NY,NC,RI,ME,VA
Acenaphthylene	CT,MA,NH,NY,NC,RI,ME,VA
Anthracene	CT,MA,NH,NY,NC,RI,ME,VA
Benzidine	CT,MA,NH,NY,NC,RI,ME,VA
Benzo(a)anthracene	CT,MA,NH,NY,NC,RI,ME,VA
Benzo(a)pyrene	CT,MA,NH,NY,NC,RI,ME,VA
Benzo(b)fluoranthene	CT,MA,NH,NY,NC,RI,ME,VA
Benzo(g,h,i)perylene	CT,MA,NH,NY,NC,RI,ME,VA
Benzo(k)fluoranthene	CT,MA,NH,NY,NC,RI,ME,VA
4-Bromophenylphenylether	CT,MA,NH,NY,NC,RI,ME,VA
Butylbenzylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
4-Chloro-3-methylphenol	CT,MA,NH,NY,NC,RI,VA
Bis(2-chloroethyl)ether	CT,MA,NH,NY,NC,RI,ME,VA
Bis(2-chloroisopropyl)ether	CT,MA,NH,NY,NC,RI,ME,VA
2-Chloronaphthalene	CT,MA,NH,NY,NC,RI,ME,VA
2-Chlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
4-Chlorophenylphenylether	CT,MA,NH,NY,NC,RI,ME,VA
Chrysene	CT,MA,NH,NY,NC,RI,ME,VA
Dibenz(a,h)anthracene	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-butylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
1,3-Dichlorobenzene	MA,NC
1,4-Dichlorobenzene	MA,NC
1,2-Dichlorobenzene	MA,NC
3,3-Dichlorobenzidine	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
Diethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dimethylphenol	CT,MA,NH,NY,NC,RI,ME,VA
Dimethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
4,6-Dinitro-2-methylphenol	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dinitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dinitrotoluene	CT,MA,NH,NY,NC,RI,ME,VA
2,6-Dinitrotoluene	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-octylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
1,2-Diphenylhydrazine (as Azobenzene)	NC
Bis(2-Ethylhexyl)phthalate	CT,MA,NH,NY,NC,RI,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 625 in Water	
Fluoranthene	CT,MA,NH,NY,NC,RI,ME,VA
Fluorene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorobenzene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorobutadiene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorocyclopentadiene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachloroethane	CT,MA,NH,NY,NC,RI,ME,VA
Indeno(1,2,3-cd)pyrene	CT,MA,NH,NY,NC,RI,ME,VA
Isophorone	CT,MA,NH,NY,NC,RI,ME,VA
Naphthalene	CT,MA,NH,NY,NC,RI,ME,VA
Nitrobenzene	CT,MA,NH,NY,NC,RI,ME,VA
2-Nitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
4-Nitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodimethylamine	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodiphenylamine	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodi-n-propylamine	CT,MA,NH,NY,NC,RI,ME,VA
Pentachlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
2-Methylnaphthalene	NC
Phenanthrene	CT,MA,NH,NY,NC,RI,ME,VA
2-Methylphenol	NY,NC
Phenol	CT,MA,NH,NY,NC,RI,ME,VA
3/4-Methylphenol	NY,NC
Pyrene	CT,MA,NH,NY,NC,RI,ME,VA
1,2,4-Trichlorobenzene	CT,MA,NH,NY,NC,RI,ME,VA
2,4,6-Trichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
2-Fluorophenol	NC
SM19-22 4500 NH3 C in Water	
Ammonia as N	NY,MA,CT,RI,VA,NC,ME
SM21-22 2540D in Water	
Total Suspended Solids	CT,MA,NH,NY,RI,NC,ME,VA
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
SW-846 8270D in Water	
Acenaphthene	CT,NY,NC,ME,NH,VA,NJ
Acenaphthylene	CT,NY,NC,ME,NH,VA,NJ
Anthracene	CT,NY,NC,ME,NH,VA,NJ
Benzidine	CT,NY,NC,ME,NH,VA,NJ
Benzo(a)anthracene	CT,NY,NC,ME,NH,VA,NJ
Benzo(a)pyrene	CT,NY,NC,ME,NH,VA,NJ
Benzo(b)fluoranthene	CT,NY,NC,ME,NH,VA,NJ
Benzo(g,h,i)perylene	CT,NY,NC,ME,NH,VA,NJ
Benzo(k)fluoranthene	CT,NY,NC,ME,NH,VA,NJ
Bis(2-chloroethyl)ether	CT,NY,NC,ME,NH,VA,NJ
Bis(2-chloroisopropyl)ether	CT,NY,NC,ME,NH,VA,NJ

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

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D in Water	
2,4,6-Trichlorophenol	CT,NY,NC,ME,NH,VA,NJ
2-Fluorophenol	NC,VA
Phenol-d6	VA
Nitrobenzene-d5	VA
SW-846 9014 in Water	
Cyanide	NY,CT,NH,NC,ME,VA

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

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

17I0704

con-test ANALYTICAL LABORATORY

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

http://www.contestlabs.com Doc # 381 Rev 1_03242017

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company Name: Vertex
Address: Boston, MA
Phone:
Project Name:
Project Location: One Congress St
Project Number: 27026
Project Manager: Jesse Freeman
Con-Test Quote Name/Number:
Invoice Recipient:
Sampled By: Liz Phelps

Requested Turnaround Time
7-Day ☐ 10-Day ☐
Due Date: 5 Day

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

Data Delivery
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: jfreeman@vertexeng.com
Fax To #:

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	[1] Matrix Code	Conc Code	Hardness	MTBE	TRC	TPH, TSS, TRC,	Chloride, total metals	Hex Chromium	Cyanide, ethanol	Arsenic, EDB, PAHs,	625, 624, PCBs			# of Containers
1	Municipal FH	9/15/17	1450		✓	O		X	X	X									
2	BOS-049	9/15/17	1130		✓	SW					X	X	X	X	X	X			
3	Trip Blank																		

[2] Preservation Code
[3] Container Code

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

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

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

[3] Container Codes:
A = Amber Glass
G = Glass
P = Plastic
ST = Sterile
V = Vial
S = Summa Canister
T = Tedlar Bag
O = Other (please define)

Comments:

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

Relinquished by: (signature)		Date/Time: 9/15/17
Received by: (signature)		Date/Time: 9/15/17 1600
Relinquished by: (signature)		Date/Time: 9/15/17 2030
Received by: (signature)		Date/Time: 9/15/17 2030
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Detection Limit Requirements
MA
CT
Other:

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

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NELAC and AIHA-LAP, LLC Accredited

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

Other
☐ Chromatogram
☐ *AIHA-LAP, LLC*

PCB ONLY
☐ Soxhlet
☐ Non Soxhlet

Table of Contents

39 Spruce St.
East Longmeadow, MA. 01028
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F: 413-525-6405
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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 Vertex

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

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

Were samples within Temperature? 2-6°C T By Gun # 1 Actual Temp - 4.2 By Blank # ____ Actual Temp - ____

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

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

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

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

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

Are Sample labels filled out and legible? T

Are there Lab to Filters? n/a Who was notified? n/a

Are there Rushes? n/a Who was notified? n/a

Are there Short Holds? T Who was notified? David

Is there enough Volume? T

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

Proper Media/Containers Used? T Is splitting samples required? n/a

Were trip blanks received? T On COC? T

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

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.	10	1 Liter Plastic	1	16 oz Amb.	
HCL-	10	500 mL Amb.		500 mL Plastic	2 3	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-	5	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:

ANALYTICAL REPORT

Lab Number:	L2054652
Client:	Vertex Environmental Services, Inc. 100 North Washington St., Suite 302 Boston, MA 02114
ATTN:	Benjamin Sivonen
Phone:	(781) 952-6000
Project Name:	ONE CONGRESS-ENABLING
Project Number:	27026
Report Date:	12/16/20

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2054652-01	ENABLING-SRC	WATER	BOSTON, MA	12/08/20 08:40	12/08/20
L2054652-02	ENABLING-REC	WATER	BOSTON, MA	12/08/20 11:00	12/08/20

Project Name:	ONE CONGRESS-ENABLING	**Lab Number:**	L2054652
Project Number:	27026	**Report Date:**	12/16/20

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	ONE CONGRESS-ENABLING	**Lab Number:**	L2054652
Project Number:	27026	**Report Date:**	12/16/20

Case Narrative (continued)

Report Submission

December 16, 2020: This final report includes the results of all requested analyses.

December 16, 2020: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

The analysis of Ethanol was subcontracted. A copy of the laboratory report is included as an addendum.

Please note: This data is only available in PDF format and is not available on Data Merger.

Total Metals

The WG1445315-3 MS recovery for copper (163%), performed on L2054652-01, does not apply because the sample concentration is greater than four times the spike amount added.

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

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 12/16/20

ORGANICS

VOLATILES

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-01
Client ID: ENABLING-SRC
Sample Location: BOSTON, MA

Date Collected: 12/08/20 08:40
Date Received: 12/08/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 12/09/20 15:53
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	1.0	0.56	1
1,1-Dichloroethane	ND		ug/l	1.5	0.40	1
Carbon tetrachloride	ND		ug/l	1.0	0.24	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.34	1
Tetrachloroethene	ND		ug/l	1.0	0.26	1
1,2-Dichloroethane	ND		ug/l	1.5	0.47	1
1,1,1-Trichloroethane	ND		ug/l	2.0	0.29	1
Benzene	ND		ug/l	1.0	0.38	1
Toluene	ND		ug/l	1.0	0.31	1
Ethylbenzene	ND		ug/l	1.0	0.28	1
Vinyl chloride	ND		ug/l	1.0	0.38	1
1,1-Dichloroethene	ND		ug/l	1.0	0.31	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	0.17	1
Trichloroethene	ND		ug/l	1.0	0.33	1
1,2-Dichlorobenzene	ND		ug/l	5.0	0.28	1
1,3-Dichlorobenzene	ND		ug/l	5.0	0.27	1
1,4-Dichlorobenzene	ND		ug/l	5.0	0.29	1
p/m-Xylene	ND		ug/l	2.0	0.30	1
o-xylene	ND		ug/l	1.0	0.34	1
Xylenes, Total	ND		ug/l	1.0	0.30	1
Acetone	12		ug/l	10	2.4	1
Methyl tert butyl ether	ND		ug/l	10	0.19	1
Tert-Butyl Alcohol	ND		ug/l	100	3.9	1
Tertiary-Amyl Methyl Ether	ND		ug/l	20	0.28	1

Project Name: ONE CONGRESS-ENABLING **Lab Number:** L2054652

Project Number: 27026 **Report Date:** 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-01 Date Collected: 12/08/20 08:40

Client ID: ENABLING-SRC Date Received: 12/08/20

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	96		60-140
Fluorobenzene	75		60-140
4-Bromofluorobenzene	95		60-140

Project Name: ONE CONGRESS-ENABLING
Lab Number: L2054652
Project Number: 27026
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-01
Client ID: ENABLING-SRC
Sample Location: BOSTON, MA

Date Collected: 12/08/20 08:40
Date Received: 12/08/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 12/09/20 15:53
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	50	2.4	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	82		60-140
4-Bromofluorobenzene	104		60-140

Project Name: ONE CONGRESS-ENABLING
Lab Number: L2054652
Project Number: 27026
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-01
Client ID: ENABLING-SRC
Sample Location: BOSTON, MA

Date Collected: 12/08/20 08:40
Date Received: 12/08/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 12/14/20 18:18
Analyst: GT

Extraction Method: EPA 504.1
Extraction Date: 12/14/20 15:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	0.996		ug/l	0.010	0.005	1	A

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-02
Client ID: ENABLING-REC
Sample Location: BOSTON, MA

Date Collected: 12/08/20 11:00
Date Received: 12/08/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 12/09/20 16:30
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	1.0	0.56	1
1,1-Dichloroethane	ND		ug/l	1.5	0.40	1
Carbon tetrachloride	ND		ug/l	1.0	0.24	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.34	1
Tetrachloroethene	ND		ug/l	1.0	0.26	1
1,2-Dichloroethane	ND		ug/l	1.5	0.47	1
1,1,1-Trichloroethane	ND		ug/l	2.0	0.29	1
Benzene	ND		ug/l	1.0	0.38	1
Toluene	ND		ug/l	1.0	0.31	1
Ethylbenzene	ND		ug/l	1.0	0.28	1
Vinyl chloride	ND		ug/l	1.0	0.38	1
1,1-Dichloroethene	ND		ug/l	1.0	0.31	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	0.17	1
Trichloroethene	ND		ug/l	1.0	0.33	1
1,2-Dichlorobenzene	ND		ug/l	5.0	0.28	1
1,3-Dichlorobenzene	ND		ug/l	5.0	0.27	1
1,4-Dichlorobenzene	ND		ug/l	5.0	0.29	1
p/m-Xylene	ND		ug/l	2.0	0.30	1
o-xylene	ND		ug/l	1.0	0.34	1
Xylenes, Total	ND		ug/l	1.0	0.30	1
Acetone	ND		ug/l	10	2.4	1
Methyl tert butyl ether	ND		ug/l	10	0.19	1
Tert-Butyl Alcohol	ND		ug/l	100	3.9	1
Tertiary-Amyl Methyl Ether	ND		ug/l	20	0.28	1

Project Name: ONE CONGRESS-ENABLING **Lab Number:** L2054652

Project Number: 27026 **Report Date:** 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-02 Date Collected: 12/08/20 11:00

Client ID: ENABLING-REC Date Received: 12/08/20

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	97		60-140
Fluorobenzene	76		60-140
4-Bromofluorobenzene	95		60-140

Project Name: ONE CONGRESS-ENABLING
Lab Number: L2054652
Project Number: 27026
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-02
Client ID: ENABLING-REC
Sample Location: BOSTON, MA

Date Collected: 12/08/20 11:00
Date Received: 12/08/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 12/09/20 16:30
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	50	2.4	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	81		60-140
4-Bromofluorobenzene	104		60-140

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-02
Client ID: ENABLING-REC
Sample Location: BOSTON, MA

Date Collected: 12/08/20 11:00
Date Received: 12/08/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 12/14/20 18:23
Analyst: GT

Extraction Method: EPA 504.1
Extraction Date: 12/14/20 15:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	0.028		ug/l	0.010	0.005	1	A

Project Name: ONE CONGRESS-ENABLING **Lab Number:** L2054652

Project Number: 27026 **Report Date:** 12/16/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 12/09/20 14:26
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1443077-10					
Methylene chloride	ND		ug/l	1.0	0.56
1,1-Dichloroethane	ND		ug/l	1.5	0.40
Carbon tetrachloride	ND		ug/l	1.0	0.24
1,1,2-Trichloroethane	ND		ug/l	1.5	0.34
Tetrachloroethene	ND		ug/l	1.0	0.26
1,2-Dichloroethane	ND		ug/l	1.5	0.47
1,1,1-Trichloroethane	ND		ug/l	2.0	0.29
Benzene	ND		ug/l	1.0	0.38
Toluene	ND		ug/l	1.0	0.31
Ethylbenzene	ND		ug/l	1.0	0.28
Vinyl chloride	ND		ug/l	1.0	0.38
1,1-Dichloroethene	ND		ug/l	1.0	0.31
cis-1,2-Dichloroethene	ND		ug/l	1.0	0.17
Trichloroethene	ND		ug/l	1.0	0.33
1,2-Dichlorobenzene	ND		ug/l	5.0	0.28
1,3-Dichlorobenzene	ND		ug/l	5.0	0.27
1,4-Dichlorobenzene	ND		ug/l	5.0	0.29
p/m-Xylene	ND		ug/l	2.0	0.30
o-xylene	ND		ug/l	1.0	0.34
Xylenes, Total	ND		ug/l	1.0	0.30
Acetone	ND		ug/l	10	2.4
Methyl tert butyl ether	ND		ug/l	10	0.19
Tert-Butyl Alcohol	ND		ug/l	100	3.9
Tertiary-Amyl Methyl Ether	ND		ug/l	20	0.28

Project Name: ONE CONGRESS-ENABLING **Lab Number:** L2054652

Project Number: 27026 **Report Date:** 12/16/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 12/09/20 14:26
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1443077-10					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	123		60-140
Fluorobenzene	97		60-140
4-Bromofluorobenzene	92		60-140

Project Name: ONE CONGRESS-ENABLING **Lab Number:** L2054652

Project Number: 27026 **Report Date:** 12/16/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1-SIM
Analytical Date: 12/09/20 14:26
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-02 Batch: WG1443600-4					
1,4-Dioxane	4.2	J	ug/l	50	2.4

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	103		60-140
4-Bromofluorobenzene	111		60-140

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 12/14/20 17:23
Analyst: GT

Extraction Method: EPA 504.1
Extraction Date: 12/14/20 15:05

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01-02 Batch: WG1444849-1						
1,2-Dibromoethane	ND		ug/l	0.010	0.005	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: ONE CONGRESS-ENABLING

Project Number: 27026

Lab Number: L2054652

Report Date: 12/16/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1443077-9								
Methylene chloride	90		-		60-140	-		28
1,1-Dichloroethane	90		-		50-150	-		49
Carbon tetrachloride	80		-		70-130	-		41
1,1,2-Trichloroethane	95		-		70-130	-		45
Tetrachloroethene	105		-		70-130	-		39
1,2-Dichloroethane	80		-		70-130	-		49
1,1,1-Trichloroethane	100		-		70-130	-		36
Benzene	80		-		65-135	-		61
Toluene	100		-		70-130	-		41
Ethylbenzene	95		-		60-140	-		63
Vinyl chloride	90		-		5-195	-		66
1,1-Dichloroethene	80		-		50-150	-		32
cis-1,2-Dichloroethene	95		-		60-140	-		30
Trichloroethene	75		-		65-135	-		48
1,2-Dichlorobenzene	90		-		65-135	-		57
1,3-Dichlorobenzene	85		-		70-130	-		43
1,4-Dichlorobenzene	85		-		65-135	-		57
p/m-Xylene	95		-		60-140	-		30
o-xylene	90		-		60-140	-		30
Acetone	76		-		40-160	-		30
Methyl tert butyl ether	80		-		60-140	-		30
Tert-Butyl Alcohol	74		-		60-140	-		30
Tertiary-Amyl Methyl Ether	60		-		60-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1443077-9								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	97				60-140
Fluorobenzene	81				60-140
4-Bromofluorobenzene	91				60-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG1443600-3								
1,4-Dioxane	76		-		60-140	-		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Fluorobenzene	82				60-140
4-Bromofluorobenzene	111				60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: ONE CONGRESS-ENABLING

Project Number: 27026

Lab Number: L2054652

Report Date: 12/16/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01-02		Batch: WG1444849-2						
1,2-Dibromoethane	84		-		80-120	-			A

Matrix Spike Analysis

Batch Quality Control

Project Name: ONE CONGRESS-ENABLING

Project Number: 27026

Lab Number: L2054652

Report Date: 12/16/20

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*	*Column*
Microextractables by GC - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1444849-3 QC Sample: L2054499-02 Client ID: MS Sample													
1,2-Dibromoethane	ND	0.249	0.190	**76**	Q	-	-		80-120	-		20	A
1,2-Dibromo-3-chloropropane	ND	0.249	0.234	94		-	-		80-120	-		20	A
1,2,3-Trichloropropane	ND	0.249	0.206	83		-	-		80-120	-		20	A

SEMIVOLATILES

Project Name: ONE CONGRESS-ENABLING
Lab Number: L2054652
Project Number: 27026
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-01
Client ID: ENABLING-SRC
Sample Location: BOSTON, MA

Date Collected: 12/08/20 08:40
Date Received: 12/08/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 12/14/20 17:54
Analyst: WR

Extraction Method: EPA 625.1
Extraction Date: 12/14/20 08:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.20	1.70	1
Butyl benzyl phthalate	ND		ug/l	5.00	0.670	1
Di-n-butylphthalate	ND		ug/l	5.00	0.631	1
Di-n-octylphthalate	ND		ug/l	5.00	0.633	1
Diethyl phthalate	ND		ug/l	5.00	0.717	1
Dimethyl phthalate	ND		ug/l	5.00	1.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		42-122
2-Fluorobiphenyl	71		46-121
4-Terphenyl-d14	77		47-138

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-01
Client ID: ENABLING-SRC
Sample Location: BOSTON, MA

Date Collected: 12/08/20 08:40
Date Received: 12/08/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 12/16/20 16:12
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 12/14/20 09:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.100	0.018	1
Fluoranthene	ND		ug/l	0.100	0.020	1
Naphthalene	0.040	J	ug/l	0.100	0.013	1
Benzo(a)anthracene	ND		ug/l	0.100	0.017	1
Benzo(a)pyrene	ND		ug/l	0.100	0.025	1
Benzo(b)fluoranthene	ND		ug/l	0.100	0.026	1
Benzo(k)fluoranthene	ND		ug/l	0.100	0.021	1
Chrysene	ND		ug/l	0.100	0.018	1
Acenaphthylene	ND		ug/l	0.100	0.021	1
Anthracene	ND		ug/l	0.100	0.018	1
Benzo(ghi)perylene	ND		ug/l	0.100	0.041	1
Fluorene	ND		ug/l	0.100	0.018	1
Phenanthrene	0.031	J	ug/l	0.100	0.020	1
Dibenzo(a,h)anthracene	ND		ug/l	0.100	0.040	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.100	0.041	1
Pyrene	ND		ug/l	0.100	0.020	1
Pentachlorophenol	ND		ug/l	1.00	0.034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		25-87
Phenol-d6	27		16-65
Nitrobenzene-d5	64		42-122
2-Fluorobiphenyl	73		46-121
2,4,6-Tribromophenol	**129**	Q	45-128
4-Terphenyl-d14	77		47-138

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-02
Client ID: ENABLING-REC
Sample Location: BOSTON, MA

Date Collected: 12/08/20 11:00
Date Received: 12/08/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 12/14/20 18:17
Analyst: WR

Extraction Method: EPA 625.1
Extraction Date: 12/14/20 08:53

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.20	1.70	1
Butyl benzyl phthalate	ND		ug/l	5.00	0.670	1
Di-n-butylphthalate	ND		ug/l	5.00	0.631	1
Di-n-octylphthalate	ND		ug/l	5.00	0.633	1
Diethyl phthalate	ND		ug/l	5.00	0.717	1
Dimethyl phthalate	ND		ug/l	5.00	1.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		42-122
2-Fluorobiphenyl	83		46-121
4-Terphenyl-d14	81		47-138

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-02
Client ID: ENABLING-REC
Sample Location: BOSTON, MA

Date Collected: 12/08/20 11:00
Date Received: 12/08/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 12/16/20 16:28
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 12/14/20 09:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.100	0.018	1
Fluoranthene	0.050	J	ug/l	0.100	0.020	1
Naphthalene	0.019	J	ug/l	0.100	0.013	1
Benzo(a)anthracene	0.017	J	ug/l	0.100	0.017	1
Benzo(a)pyrene	ND		ug/l	0.100	0.025	1
Benzo(b)fluoranthene	0.028	J	ug/l	0.100	0.026	1
Benzo(k)fluoranthene	ND		ug/l	0.100	0.021	1
Chrysene	0.020	J	ug/l	0.100	0.018	1
Acenaphthylene	ND		ug/l	0.100	0.021	1
Anthracene	ND		ug/l	0.100	0.018	1
Benzo(ghi)perylene	ND		ug/l	0.100	0.041	1
Fluorene	ND		ug/l	0.100	0.018	1
Phenanthrene	ND		ug/l	0.100	0.020	1
Dibenzo(a,h)anthracene	ND		ug/l	0.100	0.040	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.100	0.041	1
Pyrene	0.038	J	ug/l	0.100	0.020	1
Pentachlorophenol	0.130	J	ug/l	1.00	0.034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		25-87
Phenol-d6	30		16-65
Nitrobenzene-d5	78		42-122
2-Fluorobiphenyl	83		46-121
2,4,6-Tribromophenol	**138**	Q	45-128
4-Terphenyl-d14	80		47-138

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1
Analytical Date: 12/14/20 16:45
Analyst: WR

Extraction Method: EPA 625.1
Extraction Date: 12/14/20 08:53

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1444714-1					
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.20	1.70
Butyl benzyl phthalate	ND		ug/l	5.00	0.670
Di-n-butylphthalate	ND		ug/l	5.00	0.631
Di-n-octylphthalate	ND		ug/l	5.00	0.633
Diethyl phthalate	ND		ug/l	5.00	0.717
Dimethyl phthalate	ND		ug/l	5.00	1.40

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	71		42-122
2-Fluorobiphenyl	69		46-121
4-Terphenyl-d14	72		47-138

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1-SIM
Analytical Date: 12/16/20 15:55
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 12/14/20 09:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-02 Batch: WG1444721-1					
Acenaphthene	ND		ug/l	0.100	0.018
Fluoranthene	ND		ug/l	0.100	0.020
Naphthalene	0.031	J	ug/l	0.100	0.013
Benzo(a)anthracene	ND		ug/l	0.100	0.017
Benzo(a)pyrene	ND		ug/l	0.100	0.025
Benzo(b)fluoranthene	ND		ug/l	0.100	0.026
Benzo(k)fluoranthene	ND		ug/l	0.100	0.021
Chrysene	ND		ug/l	0.100	0.018
Acenaphthylene	ND		ug/l	0.100	0.021
Anthracene	ND		ug/l	0.100	0.018
Benzo(ghi)perylene	ND		ug/l	0.100	0.041
Fluorene	ND		ug/l	0.100	0.018
Phenanthrene	ND		ug/l	0.100	0.020
Dibenzo(a,h)anthracene	ND		ug/l	0.100	0.040
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.100	0.041
Pyrene	ND		ug/l	0.100	0.020
Pentachlorophenol	ND		ug/l	1.00	0.034

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		25-87
Phenol-d6	27		16-65
Nitrobenzene-d5	65		42-122
2-Fluorobiphenyl	69		46-121
2,4,6-Tribromophenol	107		45-128
4-Terphenyl-d14	79		47-138

Lab Control Sample Analysis

Batch Quality Control

Project Name: ONE CONGRESS-ENABLING

Project Number: 27026

Lab Number: L2054652

Report Date: 12/16/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1444714-3								
Bis(2-ethylhexyl)phthalate	98		-		29-137	-		82
Butyl benzyl phthalate	89		-		1-140	-		60
Di-n-butylphthalate	89		-		8-120	-		47
Di-n-octylphthalate	96		-		19-132	-		69
Diethyl phthalate	82		-		1-120	-		100
Dimethyl phthalate	84		-		1-120	-		183

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	81				42-122
2-Fluorobiphenyl	76				46-121
4-Terphenyl-d14	75				47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG1444721-2								
Acenaphthene	69		-		60-132	-		30
Fluoranthene	81		-		43-121	-		30
Naphthalene	66		-		36-120	-		30
Benzo(a)anthracene	77		-		42-133	-		30
Benzo(a)pyrene	81		-		32-148	-		30
Benzo(b)fluoranthene	81		-		42-140	-		30
Benzo(k)fluoranthene	80		-		25-146	-		30
Chrysene	76		-		44-140	-		30
Acenaphthylene	75		-		54-126	-		30
Anthracene	73		-		43-120	-		30
Benzo(ghi)perylene	81		-		1-195	-		30
Fluorene	74		-		70-120	-		30
Phenanthrene	70		-		65-120	-		30
Dibenzo(a,h)anthracene	84		-		1-200	-		30
Indeno(1,2,3-cd)pyrene	90		-		1-151	-		30
Pyrene	81		-		70-120	-		30
Pentachlorophenol	72		-		38-152	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG1444721-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	44				25-87
Phenol-d6	32				16-65
Nitrobenzene-d5	70				42-122
2-Fluorobiphenyl	73				46-121
2,4,6-Tribromophenol	123				45-128
4-Terphenyl-d14	78				47-138

PCBS

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-01
Client ID: ENABLING-SRC
Sample Location: BOSTON, MA

Date Collected: 12/08/20 08:40
Date Received: 12/08/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 12/15/20 09:32
Analyst: JM

Extraction Method: EPA 608.3
Extraction Date: 12/14/20 15:24
Cleanup Method: EPA 3665A
Cleanup Date: 12/14/20
Cleanup Method: EPA 3660B
Cleanup Date: 12/14/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	0.016	1	A
Aroclor 1221	ND		ug/l	0.250	0.022	1	A
Aroclor 1232	ND		ug/l	0.250	0.046	1	A
Aroclor 1242	ND		ug/l	0.250	0.036	1	A
Aroclor 1248	ND		ug/l	0.250	0.046	1	A
Aroclor 1254	ND		ug/l	0.250	0.017	1	A
Aroclor 1260	ND		ug/l	0.200	0.034	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		37-123	B
Decachlorobiphenyl	82		38-114	B
2,4,5,6-Tetrachloro-m-xylene	83		37-123	A
Decachlorobiphenyl	75		38-114	A

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-02
Client ID: ENABLING-REC
Sample Location: BOSTON, MA

Date Collected: 12/08/20 11:00
Date Received: 12/08/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 12/15/20 09:39
Analyst: JM

Extraction Method: EPA 608.3
Extraction Date: 12/14/20 15:24
Cleanup Method: EPA 3665A
Cleanup Date: 12/14/20
Cleanup Method: EPA 3660B
Cleanup Date: 12/14/20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	0.016	1	A
Aroclor 1221	ND		ug/l	0.250	0.022	1	A
Aroclor 1232	ND		ug/l	0.250	0.046	1	A
Aroclor 1242	ND		ug/l	0.250	0.036	1	A
Aroclor 1248	ND		ug/l	0.250	0.046	1	A
Aroclor 1254	ND		ug/l	0.250	0.017	1	A
Aroclor 1260	ND		ug/l	0.200	0.034	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66		37-123	B
Decachlorobiphenyl	55		38-114	B
2,4,5,6-Tetrachloro-m-xylene	65		37-123	A
Decachlorobiphenyl	48		38-114	A

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 127,608.3
Analytical Date: 12/14/20 08:49
Analyst: AWS

Extraction Method: EPA 608.3
Extraction Date: 12/13/20 19:43
Cleanup Method: EPA 3665A
Cleanup Date: 12/13/20
Cleanup Method: EPA 3660B
Cleanup Date: 12/14/20

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-02 Batch: WG1444606-1						
Aroclor 1016	ND		ug/l	0.250	0.016	A
Aroclor 1221	ND		ug/l	0.250	0.022	A
Aroclor 1232	ND		ug/l	0.250	0.046	A
Aroclor 1242	ND		ug/l	0.250	0.036	A
Aroclor 1248	ND		ug/l	0.250	0.046	A
Aroclor 1254	ND		ug/l	0.250	0.017	A
Aroclor 1260	ND		ug/l	0.200	0.034	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		37-123	B
Decachlorobiphenyl	84		38-114	B
2,4,5,6-Tetrachloro-m-xylene	85		37-123	A
Decachlorobiphenyl	79		38-114	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: ONE CONGRESS-ENABLING

Project Number: 27026

Lab Number: L2054652

Report Date: 12/16/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG1444606-2									
Aroclor 1016	93		-		50-140	-		36	A
Aroclor 1260	84		-		8-140	-		38	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76				37-123	B
Decachlorobiphenyl	75				38-114	B
2,4,5,6-Tetrachloro-m-xylene	84				37-123	A
Decachlorobiphenyl	74				38-114	A

METALS

Project Name: ONE CONGRESS-ENABLING **Lab Number:** L2054652

Project Number: 27026 **Report Date:** 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-01 Date Collected: 12/08/20 08:40

Client ID: ENABLING-SRC Date Received: 12/08/20

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.00161	J	mg/l	0.00400	0.00042	1	12/16/20 09:02	12/16/20 14:01	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00085	J	mg/l	0.00100	0.00016	1	12/16/20 09:02	12/16/20 14:01	EPA 3005A	3,200.8	AM
Cadmium, Total	0.00006	J	mg/l	0.00020	0.00005	1	12/16/20 09:02	12/16/20 14:01	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	0.00017	1	12/16/20 09:02	12/16/20 14:01	EPA 3005A	3,200.8	AM
Copper, Total	3.039		mg/l	0.00100	0.00038	1	12/16/20 09:02	12/16/20 14:01	EPA 3005A	3,200.8	AM
Iron, Total	0.232		mg/l	0.050	0.009	1	12/16/20 09:02	12/16/20 15:43	EPA 3005A	19,200.7	BV
Lead, Total	0.00219		mg/l	0.00100	0.00034	1	12/16/20 09:02	12/16/20 14:01	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	0.00009	1	12/16/20 11:06	12/16/20 19:03	EPA 245.1	3,245.1	EW
Nickel, Total	0.00434		mg/l	0.00200	0.00055	1	12/16/20 09:02	12/16/20 14:01	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	0.00173	1	12/16/20 09:02	12/16/20 14:01	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	0.00016	1	12/16/20 09:02	12/16/20 14:01	EPA 3005A	3,200.8	AM
Zinc, Total	0.1971		mg/l	0.01000	0.00341	1	12/16/20 09:02	12/16/20 14:01	EPA 3005A	3,200.8	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	0.010	1		12/16/20 14:01	NA	107,-	

Project Name: ONE CONGRESS-ENABLING **Lab Number:** L2054652

Project Number: 27026 **Report Date:** 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-02 Date Collected: 12/08/20 11:00

Client ID: ENABLING-REC Date Received: 12/08/20

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	0.00125	J	mg/l	0.00400	0.00042	1	12/16/20 09:02	12/16/20 14:21	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00064	J	mg/l	0.00100	0.00016	1	12/16/20 09:02	12/16/20 14:21	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	12/16/20 09:02	12/16/20 14:21	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	0.00017	1	12/16/20 09:02	12/16/20 14:21	EPA 3005A	3,200.8	AM
Copper, Total	0.00313		mg/l	0.00100	0.00038	1	12/16/20 09:02	12/16/20 14:21	EPA 3005A	3,200.8	AM
Iron, Total	0.463		mg/l	0.050	0.009	1	12/16/20 09:02	12/16/20 16:06	EPA 3005A	19,200.7	BV
Lead, Total	0.00273		mg/l	0.00100	0.00034	1	12/16/20 09:02	12/16/20 14:21	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	0.00009	1	12/16/20 11:06	12/16/20 19:06	EPA 245.1	3,245.1	EW
Nickel, Total	ND		mg/l	0.00200	0.00055	1	12/16/20 09:02	12/16/20 14:21	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	0.00173	1	12/16/20 09:02	12/16/20 14:21	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	0.00016	1	12/16/20 09:02	12/16/20 14:21	EPA 3005A	3,200.8	AM
Zinc, Total	0.01673		mg/l	0.01000	0.00341	1	12/16/20 09:02	12/16/20 14:21	EPA 3005A	3,200.8	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	0.010	1		12/16/20 14:21	NA	107,-	

Project Name: ONE CONGRESS-ENABLING **Lab Number:** L2054652

Project Number: 27026 **Report Date:** 12/16/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1445313-1										
Iron, Total	ND		mg/l	0.050	0.009	1	12/16/20 09:02	12/16/20 15:39	19,200.7	BV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1445315-1										
Antimony, Total	ND		mg/l	0.00400	0.00042	1	12/16/20 09:02	12/16/20 13:42	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	0.00016	1	12/16/20 09:02	12/16/20 13:42	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	12/16/20 09:02	12/16/20 13:42	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	0.00017	1	12/16/20 09:02	12/16/20 13:42	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	0.00038	1	12/16/20 09:02	12/16/20 13:42	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	0.00034	1	12/16/20 09:02	12/16/20 13:42	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	0.00055	1	12/16/20 09:02	12/16/20 13:42	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	0.00173	1	12/16/20 09:02	12/16/20 13:42	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	0.00016	1	12/16/20 09:02	12/16/20 13:42	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	0.00341	1	12/16/20 09:02	12/16/20 13:42	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1445316-1										
Mercury, Total	ND		mg/l	0.00020	0.00009	1	12/16/20 11:06	12/16/20 17:43	3,245.1	EW

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: ONE CONGRESS-ENABLING

Project Number: 27026

Lab Number: L2054652

Report Date: 12/16/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1445313-2								
Iron, Total	101		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1445315-2								
Antimony, Total	86		-		85-115	-		
Arsenic, Total	105		-		85-115	-		
Cadmium, Total	114		-		85-115	-		
Chromium, Total	97		-		85-115	-		
Copper, Total	105		-		85-115	-		
Lead, Total	105		-		85-115	-		
Nickel, Total	100		-		85-115	-		
Selenium, Total	106		-		85-115	-		
Silver, Total	106		-		85-115	-		
Zinc, Total	108		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1445316-2								
Mercury, Total	104		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1445313-3 QC Sample: L2054652-01 Client ID: ENABLING-SRC												
Iron, Total	0.232	1	1.24	101		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1445313-7 QC Sample: L2054652-02 Client ID: ENABLING-REC												
Iron, Total	0.463	1	1.46	100		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1445315-3 QC Sample: L2054652-01 Client ID: ENABLING-SRC												
Antimony, Total	0.00161J	0.5	0.4921	98		-	-		70-130	-		20
Arsenic, Total	0.00085J	0.12	0.1282	107		-	-		70-130	-		20
Cadmium, Total	0.00006J	0.051	0.05750	113		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.1859	93		-	-		70-130	-		20
Copper, Total	3.039	0.25	3.447	**163**	Q	-	-		70-130	-		20
Lead, Total	0.00219	0.51	0.5454	106		-	-		70-130	-		20
Nickel, Total	0.00434	0.5	0.4898	97		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1289	107		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05606	112		-	-		70-130	-		20
Zinc, Total	0.1971	0.5	0.7342	107		-	-		70-130	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1445315-5 QC Sample: L2054652-02 Client ID: ENABLING-REC									
Antimony, Total	0.00125J	0.5	0.4634	93	-	-	70-130	-	20
Arsenic, Total	0.00064J	0.12	0.1334	111	-	-	70-130	-	20
Cadmium, Total	ND	0.051	0.05945	116	-	-	70-130	-	20
Chromium, Total	ND	0.2	0.1973	99	-	-	70-130	-	20
Copper, Total	0.00313	0.25	0.2710	107	-	-	70-130	-	20
Lead, Total	0.00273	0.51	0.5825	114	-	-	70-130	-	20
Nickel, Total	ND	0.5	0.5146	103	-	-	70-130	-	20
Selenium, Total	ND	0.12	0.1326	110	-	-	70-130	-	20
Silver, Total	ND	0.05	0.05796	116	-	-	70-130	-	20
Zinc, Total	0.01673	0.5	0.5741	111	-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1445316-3 QC Sample: L2054654-01 Client ID: MS Sample									
Mercury, Total	ND	0.005	0.00478	96	-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1445316-5 QC Sample: L2054654-02 Client ID: MS Sample									
Mercury, Total	ND	0.005	0.00479	96	-	-	70-130	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1445313-4 QC Sample: L2054652-01 Client ID: ENABLING-SRC						
Iron, Total	0.232	0.235	mg/l	1		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1445313-8 QC Sample: L2054652-02 Client ID: ENABLING-REC						
Iron, Total	0.463	0.454	mg/l	2		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1445315-4 QC Sample: L2054652-01 Client ID: ENABLING-SRC						
Antimony, Total	0.00161J	0.00395J	mg/l	NC		20
Arsenic, Total	0.00085J	0.00089J	mg/l	NC		20
Cadmium, Total	0.00006J	0.00006J	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	3.039	3.058	mg/l	1		20
Lead, Total	0.00219	0.00221	mg/l	1		20
Nickel, Total	0.00434	0.00441	mg/l	2		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.1971	0.2010	mg/l	2		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1445315-6 QC Sample: L2054652-02 Client ID: ENABLING-REC					
Antimony, Total	0.00125J	0.00295J	mg/l	NC	20
Arsenic, Total	0.00064J	0.00064J	mg/l	NC	20
Cadmium, Total	ND	ND	mg/l	NC	20
Chromium, Total	ND	ND	mg/l	NC	20
Copper, Total	0.00313	0.00293	mg/l	7	20
Lead, Total	0.00273	0.00270	mg/l	1	20
Nickel, Total	ND	ND	mg/l	NC	20
Selenium, Total	ND	ND	mg/l	NC	20
Silver, Total	ND	ND	mg/l	NC	20
Zinc, Total	0.01673	0.01617	mg/l	3	20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1445316-4 QC Sample: L2054654-01 Client ID: DUP Sample					
Mercury, Total	ND	ND	mg/l	NC	20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1445316-6 QC Sample: L2054654-02 Client ID: DUP Sample					
Mercury, Total	ND	ND	mg/l	NC	20

INORGANICS
&
MISCELLANEOUS

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-01
Client ID: ENABLING-SRC
Sample Location: BOSTON, MA
Sample Depth:
Matrix: Water
Date Collected: 12/08/20 08:40
Date Received: 12/08/20
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	60.		mg/l	5.0	NA	1	-	12/11/20 15:15	121,2540D	AC
Cyanide, Total	ND		mg/l	0.005	0.001	1	12/11/20 18:50	12/13/20 16:36	121,4500CN-CE	JO
Chlorine, Total Residual	0.60		mg/l	0.04	0.02	2	-	12/09/20 00:07	121,4500CL-D	AS
pH (H)	8.4		SU	-	NA	1	-	12/08/20 21:04	121,4500H+-B	AS
Nitrogen, Ammonia	0.363		mg/l	0.075	0.024	1	12/14/20 11:00	12/14/20 22:41	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	1.24	1	12/11/20 14:00	12/11/20 15:00	74,1664A	TL
Phenolics, Total	ND		mg/l	0.030	0.016	1	12/14/20 09:04	12/15/20 11:54	4,420.1	KP
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	12/09/20 05:37	12/09/20 05:55	1,7196A	AW
Anions by Ion Chromatography - Westborough Lab										
Chloride	37.9		mg/l	0.500	0.083	1	-	12/13/20 00:06	44,300.0	SH

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026
Lab Number: L2054652
Report Date: 12/16/20

SAMPLE RESULTS

Lab ID: L2054652-02
Client ID: ENABLING-REC
Sample Location: BOSTON, MA
Sample Depth:
Matrix: Water

Date Collected: 12/08/20 11:00
Date Received: 12/08/20
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	9.9		mg/l	5.0	NA	1	-	12/11/20 15:15	121,2540D	AC
Cyanide, Total	0.001	J	mg/l	0.005	0.001	1	12/11/20 18:50	12/13/20 16:37	121,4500CN-CE	JO
Chlorine, Total Residual	ND		mg/l	0.02	0.01	1	-	12/09/20 00:07	121,4500CL-D	AS
pH (H)	7.3		SU	-	NA	1	-	12/08/20 21:04	121,4500H+-B	AS
Nitrogen, Ammonia	0.099		mg/l	0.075	0.024	1	12/14/20 11:00	12/14/20 22:42	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	1.24	1	12/11/20 14:00	12/11/20 15:00	74,1664A	TL
Phenolics, Total	ND		mg/l	0.030	0.016	1	12/14/20 09:04	12/15/20 11:55	4,420.1	KP
Chromium, Hexavalent	0.003	J	mg/l	0.010	0.003	1	12/09/20 05:37	12/09/20 05:55	1,7196A	AW
Anions by Ion Chromatography - Westborough Lab										
Chloride	436.		mg/l	12.5	2.10	25	-	12/13/20 00:17	44,300.0	SH

Project Name: ONE CONGRESS-ENABLING **Lab Number:** L2054652

Project Number: 27026 **Report Date:** 12/16/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1442609-1										
Chlorine, Total Residual	ND		mg/l	0.02	0.01	1	-	12/09/20 00:07	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1442662-1										
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	12/09/20 05:37	12/09/20 05:54	1,7196A	AW
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1443849-1										
TPH, SGT-HEM	ND		mg/l	4.00	1.24	1	12/11/20 14:00	12/11/20 15:00	74,1664A	TL
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1443853-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	12/11/20 15:15	121,2540D	AC
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1444114-1										
Cyanide, Total	ND		mg/l	0.005	0.001	1	12/11/20 18:50	12/13/20 16:20	121,4500CN-CE	JO
Anions by Ion Chromatography - Westborough Lab for sample(s): 01-02 Batch: WG1444450-1										
Chloride	0.134	J	mg/l	0.500	0.083	1	-	12/12/20 15:30	44,300.0	SH
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1444715-1										
Phenolics, Total	ND		mg/l	0.030	0.016	1	12/14/20 09:04	12/15/20 11:50	4,420.1	KP
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1444755-1										
Nitrogen, Ammonia	ND		mg/l	0.075	0.024	1	12/14/20 11:00	12/14/20 22:37	121,4500NH3-BH	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: ONE CONGRESS-ENABLING

Project Number: 27026

Lab Number: L2054652

Report Date: 12/16/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1442563-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1442609-2								
Chlorine, Total Residual	108		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1442662-2								
Chromium, Hexavalent	104		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1443849-2								
TPH	74		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1443853-2								
Solids, Total Suspended	82		-		80-120	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1444114-2								
Cyanide, Total	99		-		90-110	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-02 Batch: WG1444450-2								
Chloride	101		-		90-110	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: ONE CONGRESS-ENABLING

Project Number: 27026

Lab Number: L2054652

Report Date: 12/16/20

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1444715-2					
Phenolics, Total	103	-	70-130	-	
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1444755-2					
Nitrogen, Ammonia	92	-	80-120	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1442609-4 QC Sample: L2054652-02 Client ID: ENABLING-REC												
Chlorine, Total Residual	ND	0.25	0.23	92		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1442662-4 QC Sample: L2054652-02 Client ID: ENABLING-REC												
Chromium, Hexavalent	0.003J	0.1	0.094	94		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1443849-4 QC Sample: L2054654-02 Client ID: MS Sample												
TPH	1.94J	20.4	17.4	86		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1444114-4 QC Sample: L2054654-02 Client ID: MS Sample												
Cyanide, Total	0.004J	0.2	0.215	108		-	-		90-110	-		30
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1444450-3 QC Sample: L2054693-03 Client ID: MS Sample												
Chloride	140.	40	175	**87**	Q	-	-		90-110	-		18
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1444715-4 QC Sample: L2054838-01 Client ID: MS Sample												
Phenolics, Total	ND	0.4	0.36	89		-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1444755-4 QC Sample: L2054627-02 Client ID: MS Sample												
Nitrogen, Ammonia	0.783	4	4.16	84		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1442563-2 QC Sample: L2054518-01 Client ID: DUP Sample						
pH	4.9	4.9	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1442609-3 QC Sample: L2054652-01 Client ID: ENABLING-SRC						
Chlorine, Total Residual	0.60	0.59	mg/l	2		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1442662-3 QC Sample: L2054652-01 Client ID: ENABLING-SRC						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1443849-3 QC Sample: L2054654-01 Client ID: DUP Sample						
TPH	2.50J	ND	mg/l	NC		34
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1443853-3 QC Sample: L2054570-01 Client ID: DUP Sample						
Solids, Total Suspended	70.	68	mg/l	3		29
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1444114-3 QC Sample: L2054654-01 Client ID: DUP Sample						
Cyanide, Total	0.044	0.043	mg/l	2		30
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1444450-4 QC Sample: L2054693-03 Client ID: DUP Sample						
Chloride	140.	142	mg/l	1		18
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1444715-3 QC Sample: L2054838-01 Client ID: DUP Sample						
Phenolics, Total	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1444755-3 QC Sample: L2054627-02 Client ID: DUP Sample						
Nitrogen, Ammonia	0.783	0.782	mg/l	0		20

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2054652-01A	Vial unpreserved	A	NA		4.7	Y	Absent		SUB-ETHANOL(14)
L2054652-01B	Vial unpreserved	A	NA		4.7	Y	Absent		SUB-ETHANOL(14)
L2054652-01C	Vial unpreserved	A	NA		4.7	Y	Absent		SUB-ETHANOL(14)
L2054652-01D	Vial Na2S2O3 preserved	A	NA		4.7	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7),504(14)
L2054652-01E	Vial Na2S2O3 preserved	A	NA		4.7	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7),504(14)
L2054652-01F	Vial Na2S2O3 preserved	A	NA		4.7	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7),504(14)
L2054652-01G	Vial Na2S2O3 preserved	A	NA		4.7	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7),504(14)
L2054652-01H	Vial Na2S2O3 preserved	A	NA		4.7	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7),504(14)
L2054652-01I	Vial Na2S2O3 preserved	A	NA		4.7	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7),504(14)
L2054652-01J	Vial Na2S2O3 preserved	A	NA		4.7	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7),504(14)
L2054652-01K	Vial Na2S2O3 preserved	A	NA		4.7	Y	Absent		624.1-SIM-RGP(7),624.1-RGP(7),504(14)
L2054652-01L	Plastic 250ml NaOH preserved	A	>12	>12	4.7	Y	Absent		TCN-4500(14)
L2054652-01M	Plastic 250ml HNO3 preserved	A	<2	<2	4.7	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),FE-UI(180),CU-2008T(180),SE-2008T(180),AG-2008T(180),HG-U(28),AS-2008T(180),PB-2008T(180),CR-2008T(180),SB-2008T(180)
L2054652-01N	Plastic 500ml H2SO4 preserved	A	<2	<2	4.7	Y	Absent		NH3-4500(28)
L2054652-01O	Plastic 950ml unpreserved	A	7	7	4.7	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1),PH-4500(.01)
L2054652-01P	Plastic 950ml unpreserved	A	7	7	4.7	Y	Absent		TSS-2540(7)
L2054652-01Q	Amber 950ml H2SO4 preserved	A	<2	<2	4.7	Y	Absent		TPHENOL-420(28)
L2054652-01R	Amber 1000ml HCl preserved	A	NA		4.7	Y	Absent		TPH-1664(28)
L2054652-01S	Amber 1000ml HCl preserved	A	NA		4.7	Y	Absent		TPH-1664(28)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2054652-01T	Amber 1000ml Na2S2O3	A	7	7	4.7	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7),PCB-608.3(365)
L2054652-01U	Amber 1000ml Na2S2O3	A	7	7	4.7	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7),PCB-608.3(365)
L2054652-01V	Amber 1000ml Na2S2O3	A	7	7	4.7	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7),PCB-608.3(365)
L2054652-01W	Amber 1000ml Na2S2O3	A	7	7	4.7	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7),PCB-608.3(365)
L2054652-01X	Amber 1000ml Na2S2O3	A	7	7	4.7	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7),PCB-608.3(365)
L2054652-01Y	Amber 1000ml Na2S2O3	A	7	7	4.7	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7),PCB-608.3(365)
L2054652-02A	Vial unpreserved	B	NA		5.0	Y	Absent		SUB-ETHANOL(14)
L2054652-02B	Vial unpreserved	B	NA		5.0	Y	Absent		SUB-ETHANOL(14)
L2054652-02C	Vial unpreserved	B	NA		5.0	Y	Absent		SUB-ETHANOL(14)
L2054652-02D	Vial Na2S2O3 preserved	B	NA		5.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L2054652-02E	Vial Na2S2O3 preserved	B	NA		5.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L2054652-02F	Vial Na2S2O3 preserved	B	NA		5.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L2054652-02G	Vial Na2S2O3 preserved	B	NA		5.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L2054652-02H	Vial Na2S2O3 preserved	B	NA		5.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L2054652-02I	Vial Na2S2O3 preserved	B	NA		5.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L2054652-02J	Vial Na2S2O3 preserved	B	NA		5.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L2054652-02K	Vial Na2S2O3 preserved	B	NA		5.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7),504(14)
L2054652-02L	Plastic 250ml NaOH preserved	B	>12	>12	5.0	Y	Absent		TCN-4500(14)
L2054652-02M	Plastic 250ml HNO3 preserved	B	<2	<2	5.0	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),AS-2008T(180),HG-U(28),AG-2008T(180),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L2054652-02N	Plastic 500ml H2SO4 preserved	B	<2	<2	5.0	Y	Absent		NH3-4500(28)
L2054652-02O	Plastic 950ml unpreserved	B	7	7	5.0	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1),PH-4500(.01)
L2054652-02P	Plastic 950ml unpreserved	B	7	7	5.0	Y	Absent		TSS-2540(7)
L2054652-02Q	Amber 950ml H2SO4 preserved	B	<2	<2	5.0	Y	Absent		TPHENOL-420(28)
L2054652-02R	Amber 1000ml HCl preserved	B	NA		5.0	Y	Absent		TPH-1664(28)

*Values in parentheses indicate holding time in days

Project Name: ONE CONGRESS-ENABLING
Project Number: 27026

Lab Number: L2054652
Report Date: 12/16/20

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2054652-02S	Amber 1000ml HCl preserved	B	NA		5.0	Y	Absent		TPH-1664(28)
L2054652-02T	Amber 1000ml Na2S2O3	B	7	7	5.0	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7),PCB-608.3(365)
L2054652-02U	Amber 1000ml Na2S2O3	B	7	7	5.0	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7),PCB-608.3(365)
L2054652-02V	Amber 1000ml Na2S2O3	B	7	7	5.0	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7),PCB-608.3(365)
L2054652-02W	Amber 1000ml Na2S2O3	B	7	7	5.0	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7),PCB-608.3(365)
L2054652-02X	Amber 1000ml Na2S2O3	B	7	7	5.0	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7),PCB-608.3(365)
L2054652-02Y	Amber 1000ml Na2S2O3	B	7	7	5.0	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7),PCB-608.3(365)

*Values in parentheses indicate holding time in days

Project Name:	ONE CONGRESS-ENABLING	**Lab Number:**	L2054652
Project Number:	27026	**Report Date:**	12/16/20

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ONE CONGRESS-ENABLING	**Lab Number:**	L2054652
Project Number:	27026	**Report Date:**	12/16/20

Footnotes

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

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

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

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

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

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

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

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

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

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

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

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ONE CONGRESS-ENABLING	**Lab Number:**	L2054652
Project Number:	27026	**Report Date:**	12/16/20

Data Qualifiers

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	ONE CONGRESS-ENABLING	**Lab Number:**	L2054652
Project Number:	27026	**Report Date:**	12/16/20

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

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

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

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

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

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

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

107 Alpha Analytical - In-house calculation method.

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

127 Method 608.3: Organochlorine Pesticides and PCBs by GC/HSD, EPA 821-R-16-009, December 2016.

128 Method 624.1: Purgeables by GC/MS, EPA 821-R-16-008, December 2016.

129 Method 625.1: Base/Neutrals and Acids by GC/MS, EPA 821-R-16-007, December 2016.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

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

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

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

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

Date Rec'd in Lab: 12/8/20

ALPHA Job #: L2054652

Project Information

Project Name: One Congress - Enabling

Project Location: Boston MA

Project #: #27026#

Project Manager: B. Sivonen

ALPHA Quote #:

Client Information

Client: The Vertex Companies, Inc.

Address: 100 North Washington St, Ste 302

Boston MA

Phone: 781-974-7595

Fax: 781-335-3543

Email: bsivonen@vertexeng.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☒ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NPDES RGP	RGP

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☒ Yes ☐ No Are MCP Analytical Methods Required?

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

ANALYSIS

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Ammonia, Chloride, TRC, TSS	RGP Metals, cyandie	RGP VOCs, Phenol	Phthalates, Group I & II SVOCs	PCBs, pentachlorophenol, ethanol	MTBE, ter-butyl alcohol, TAME	TPH	pH					Sample Specific Comments	TOTAL # BOTTLES
54652-01	Enabling-SRC	12/8/20	08:40	GW	JG	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐		
-02	Enabling-REC	12/8/20	11:00	GW	JG	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☐	☐		

Container Type	-	-	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	12/8/20 13:30	[signature] AAL	12/8/20 1330
[signature]	12/8/20 1550	[signature]	12/8/20 1550

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

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

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

Tek Lab, Inc.
5445 Horsehoe Lake Road
Collinsville, IL 62234-7425

Alpha Job Number
L2054652

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2054652

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	ENABLING-SRC	12-08-20 08:40	WATER	Ethanol by EPA 1671 Revision A	
	ENABLING-REC	12-08-20 11:00	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
	Celvear	12/9/20		
Form No: AL_subcoc				

Teklab, Inc.
Environmental Laboratory

http://www.teklabinc.com/

December 15, 2020

Melissa Gulli
Alpha Analytical
145 Flanders Road
Westborough, MA 01581
TEL: (603) 319-5010
FAX:

Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: L2054652 **WorkOrder:** 20120656

Dear Melissa Gulli:

TEKLAB, INC received 2 samples on 12/10/2020 10:06:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Report Contents

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20120656
Client Project: L2054652
Report Date: 15-Dec-20

This reporting package includes the following:

Teklab, Inc. Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: Alpha Analytical **Work Order:** 20120656

Client Project: L2054652 **Report Date:** 15-Dec-20

Abbr	Definition
*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
NC	Data is not acceptable for compliance purposes
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Teklab, Inc. Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: Alpha Analytical

Work Order: 20120656

Client Project: L2054652

Report Date: 15-Dec-20

Qualifiers

# -	Unknown hydrocarbon	B -	Analyte detected in associated Method Blank
C -	RL shown is a Client Requested Quantitation Limit	E -	Value above quantitation range
H -	Holding times exceeded	I -	Associated internal standard was outside method criteria
J -	Analyte detected below quantitation limits	M -	Manual Integration used to determine area response
ND -	Not Detected at the Reporting Limit	R -	RPD outside accepted recovery limits
S -	Spike Recovery outside recovery limits	T -	TIC(Tentatively identified compound)
X -	Value exceeds Maximum Contaminant Level		

Teklab, Inc.
Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2054652

Work Order: 20120656
Report Date: 15-Dec-20

Cooler Receipt Temp: 3.0 °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Teklab, Inc. Environmental Laboratory

Accreditations

http://www.teklabinc.com/

Client: Alpha Analytical

Work Order: 20120656

Client Project: L2054652

Report Date: 15-Dec-20

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2021	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2021	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2021	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2021	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2021	Collinsville
Arkansas	ADEQ	88-0966		3/14/2021	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2021	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20120656
Client Project: L2054652
Report Date: 15-Dec-20
Lab ID: 20120656-001
Client Sample ID: ENABLING-SRC
Matrix: AQUEOUS
Collection Date: 12/08/2020 8:40

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE ORGANICS								
Ethanol	*	20		**ND**	mg/L	1	12/11/2020 11:24	R285140

Teklab, Inc.
Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20120656
Client Project: L2054652
Report Date: 15-Dec-20
Lab ID: 20120656-002
Client Sample ID: ENABLING-REC
Matrix: AQUEOUS
Collection Date: 12/08/2020 11:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE ORGANICS								
Ethanol	*	20		**ND**	mg/L	1	12/11/2020 12:01	R285140

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2054652

Work Order: 20120656
Report Date: 15-Dec-20

EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE ORG

Batch R285140 **SampType:** MBLK Units **mg/L**
SampID: MBLK-121120

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	*	20		**ND**						12/11/202

Batch R285140 **SampType:** LCS Units **mg/L**
SampID: LCS-121120

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	*	20		**250**	250.0	0	100.7	70	132	12/11/202

Batch R285140 **SampType:** MS Units **mg/L**
SampID: 20120656-002AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	*	20		**260**	250.0	0	103.4	70	132	12/11/202

Batch R285140 **SampType:** MSD Units **mg/L** RPD Limit **30**
SampID: 20120656-002AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethanol	*	20		**260**	250.0	0	102.6	258.6	0.82	12/11/202

Teklab, Inc.
Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2054652

Work Order: 20120656
Report Date: 15-Dec-20

Carrier: UPS

Completed by: Amanda R. Ham
On: 10-Dec-20

Received By: AMD

Reviewed by: Elizabeth A. Hurley
On: 10-Dec-20

Pages to follow: Chain of custody 1 Extra pages included 0

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 3.0
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☑	No ☐	No VOA vials ☐
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

20120656

Subcontract Chain of Custody

Tek Lab, Inc.
5445 Horsehoe Lake Road
Collinsville, IL 62234-7425

Alpha Job Number
L2054652

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2054652

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
20120656-001	ENABLING-SRC	12-08-20 08:40	WATER	Ethanol by EPA 1671 Revision A	
002	ENABLING-REC	12-08-20 11:00	WATER	Ethanol by EPA 1671 Revision A	

OH
3.0° ice LXS 12/10/20

Relinquished By:	Date/Time:	Received By:	Date/Time:
Courier	12/9/20	[illegible] UPS	12/10/20 1000

Form No: AL_subcoc