August 13, 2018

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
Attn: Ms. Shelley Puleo

RE: Notice of Intent (NOI)
Temporary Construction Dewatering
Former Garden Garage
35 Lomasney Way
Boston, MA 02114
VERTEX Project No. 48552

Dear Ms. Puleo:

On behalf of our client, Charles River Park "D" Company (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.

Construction dewatering is planned in support of redevelopment of the property located at 35 Lomasney Way in Boston, Massachusetts (the "site"), as shown on the attached United States Geological Survey – Topographic Map – Boston South. Redevelopment activities which will require dewatering include excavation for the construction of a new high-rise residential apartment building with five subgrade parking garage levels, and the installation of subsurface utilities. We anticipate dewatering will be conducted continuously during the excavation activities for proposed redevelopment.

SITE DESCRIPTION

The site, formerly known as the Garden Garage, is located at 35 Lomasney Way in Boston, Massachusetts. According to the City of Boston Assessing Department, the site is a portion of the parcel designated as 1-4 Longfellow Place, identified as Parcel ID #0300470000. The site occupies

approximately 3 acres of the 6.93-acre 1-4 Longfellow Place parcel. The site is improved with a six-story parking garage building (with one partial subgrade level), two tennis courts, two basketball courts, and the former Boston School Annex building. These structures and other on-site features are scheduled for demolition in preparation of redevelopment with a 44-story residential tower building with 5 levels of underground parking.

SITE INVESTIGATION & ANALYTICAL TESTING

Subsurface investigations have been performed at the site by VERTEX and others in support of the planned redevelopment activities. Investigations have included the collection and analysis of soil and groundwater samples to determine disposal and reuse options for excavated material and potential treatment requirements for groundwater generated from construction dewatering operations.

Subsurface investigations performed to date indicate that the site is underlain by a layer of urban fill. The fill has been encountered at varying thicknesses ranging from 0 to 20 feet below surface grade. The fill has been determined to contain varying amounts of construction debris, including brick, coal ash, wood, ash, lead based paint, glass, and concrete. Beneath the fill are layers of native sand and silt followed by glacial till and bedrock.

Analysis of soil samples have identified concentrations of petroleum constituents and metals which exceeded the applicable Massachusetts Contingency Plan (MCP) RCS-1 Reporting Concentrations (RCs). Specifically, the semi-volatile organic compounds (SVOCs) 2-methylnapthalene, acenaphthene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and phenanthrene were detected at concentrations above their applicable RCs. Additionally, total petroleum hydrocarbons (TPH), arsenic, lead, and zinc were also detected at concentrations above their respective RCs. Analysis of the samples of soil did not identify concentrations of poly-chlorinated biphenyls (PCBs), volatile organic compounds (VOCs), pesticides, or herbicides at levels above their respective RCs.

In June 2009, Sanborn Head Associates conducted low-flow groundwater sampling activities at the site to characterize the conditions of groundwater. A total of four samples, SH-4 (W), SH-1 (W), SH-8 (W), and SH-9 (W) were analyzed for the presence of extractable petroleum hydrocarbons (EPH), VOCs, and dissolved Resource Conservation and Recovery Act (RCRA) 8 metals. Concentrations of dissolved arsenic and barium were detected at levels above their laboratory detection limits at concentrations of 5 and 28 micrograms per liter (µg/L) respectively, but at levels below applicable MCP RCGW-2 criteria. No other metals, EPH fractions, or VOCs were detected at levels above their respective laboratory detection limits. A copy of the table summarizing the results of these analyses is provided in Attachment A.

According to the Massachusetts Department of Environmental Protection (MassDEP) Searchable Sites Database, there are no records of a release in connection with the site. Although concentrations of metal and petroleum constituents have been identified in soil above their

respective RCs, the site is exempt from reporting to the MassDEP in accordance with CMR 310: 40.0317 (8) and (9) based upon the presence of historic fill containing lead-based paint and coal ash.

PROPOSED CONTRUCTION AND MANAGEMENT OF DEWATERING EFFLUENT

Excavation will be performed throughout the majority of the site as part of redevelopment. At this time, it is assumed that dewatering of the excavation will be conducted on a continuous basis over the course of approximately 12 months to facilitate the construction of the five-level subgrade parking garage. Continuous dewatering will be required to facilitate construction as well as worker safety.

The site contractor will treat the groundwater prior to discharging the dewatering effluent to the existing storm drain system via catch basins located to the southwest of the site in Thoreau Path, which drains to the Charles River. Refer to the attached Boston Water and Sewer Commission (BWSC) map for the location of the stormwater drain, which eventually discharges to the Charles River via outfall BOS-049. Site work and associated dewatering are anticipated to begin in September 2018 and are estimated to be completed before September 2019.

The site contractor will provide a treatment system as described in the Dewatering Plan included in Attachment B and will operate and maintain dewatering and sedimentation control systems. 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 21,000-gallon sedimentation tank and bag filters. The system will also be equipped with a flow meter and totalizer to monitor the discharge volume. As a contingency, a pH adjustment system a carbon vessel treatment system will be available but will only be implemented if necessary based upon the results of effluent testing prior to initiating discharges.

Once operations begin, a 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.

SUPPORTING DOCUMENTATION & PUBLIC CORRESPONDENCE

A copy of the Notice of Intent (NOI) to conduct construction site dewatering is provided in Attachment C. The NOI indicates that the proposed discharge point (The Charles River) was calculated to have a 7Q10 of 29.2 cubic feet per second (cfs). This was developed using United States Geological Survey (USGS) StreamStats application. Based upon the calculated 7Q10, a dilution factor of 131.82 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 along with the $500 application fee.

Boston Water and Sewer Commission (BWSC) was also notified of the proposed dewatering operations. The Dewatering Permit Application form, included in Attachment D, 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 E, F, and G for supporting correspondence and research documentation which was used to determine the site's status.

CONTACT INFORMATION

Applicant:
Charles River Park "D" Company
Two North Riverside Plaza, Suite 400
Chicago, Illinois 60606
Attention: Marshall Felix
Tel: 617.648.2162

Representative preparing this application:
The Vertex Companies, Inc.
One Congress Street, 10th Floor
Boston, Massachusetts 02114
Attention: Frank Calandra, PE, LSP
Tel: 617.275.5407

ANALYTICAL TESTING

Analytical testing of water will be performed prior to any discharge operations and to help further design the necessary treatment system to meet required discharge parameters. VERTEX has collected and analyzed representative samples of influent water as well as a sample of the receiving water which are summarized in the attached Table 1 – RGP Analytical Results. The sample of the dewatering influent (referred to as SH-8-RGP Influent) was obtained from a groundwater monitoring well located at the site and the receiving water sample (BOS-049) was obtained directly from the storm water outfall point at the Charles River. The samples were analyzed for the analytes specified in Table 2 – Chemical Specific Effluent Limitations and Monitor-Only Requirements outlined in the final RGP and compared to their applicable Technology Based Effluent Limitations (TBELs) and Water Quality Based Effluent Limitations (WQBELs).

The results of the representative influent and receiving water samples indicate that no exceedances of either the TBEL or WQBEL were identified. Please refer to Attachment H for copies of the laboratory analytical reports.

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 Spill Prevention Control & Counter Measures (SPCC) Plan.

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

Frank Calandra, PE, LSP
Division Manager - Remediation

Attachments:

Figures

Figure 1: United States Geological Survey – Topographic Map – Boston South
Figure 2: Boston Water & Sewer Commission Map

Tables

Table 1: RGP Analytical Results

Appendices

Attachment A: Sanborn Head Associates – Summary of Groundwater Analytical Results
Attachment B: Dewatering Plan
Attachment C: Notice of Intent
Attachment D: BWSC Dewatering Permit Application
Attachment E: Areas of Critical Environmental Concern Documentation
Attachment F: National Register of Historic Places and Massachusetts Historical Commission Documentation
Attachment G: Endangered Species Act Documentation
Attachment H: Laboratory Analytical Reports

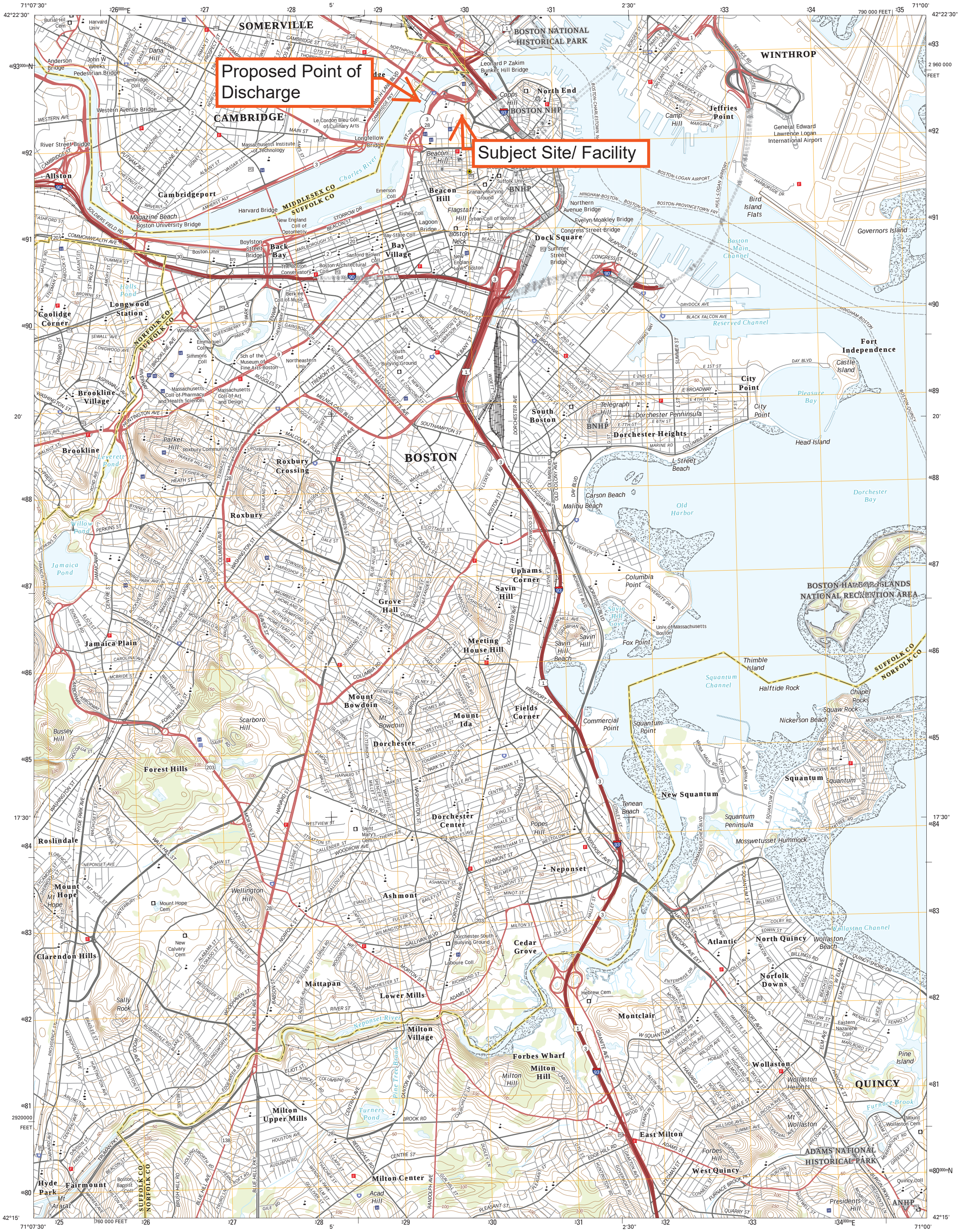
FIGURES

USGS
science for a changing world

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
US Topo

BOSTON SOUTH QUADRANGLE
MASSACHUSETTS
7.5-MINUTE SERIES



Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 19T
10 000-foot ticks: Massachusetts Coordinate System of 1983 (mainland zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery....NAIP, July 2014
Roads....HERE, ©2013 - 2014
Names....GNIS, 2015
Hydrography....National Hydrography Dataset, 2014
Contours....National Elevation Dataset, 2008
Boundaries....Multiple sources; see metadata file 1972 - 2015

UTM GRID AND 2015 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.18

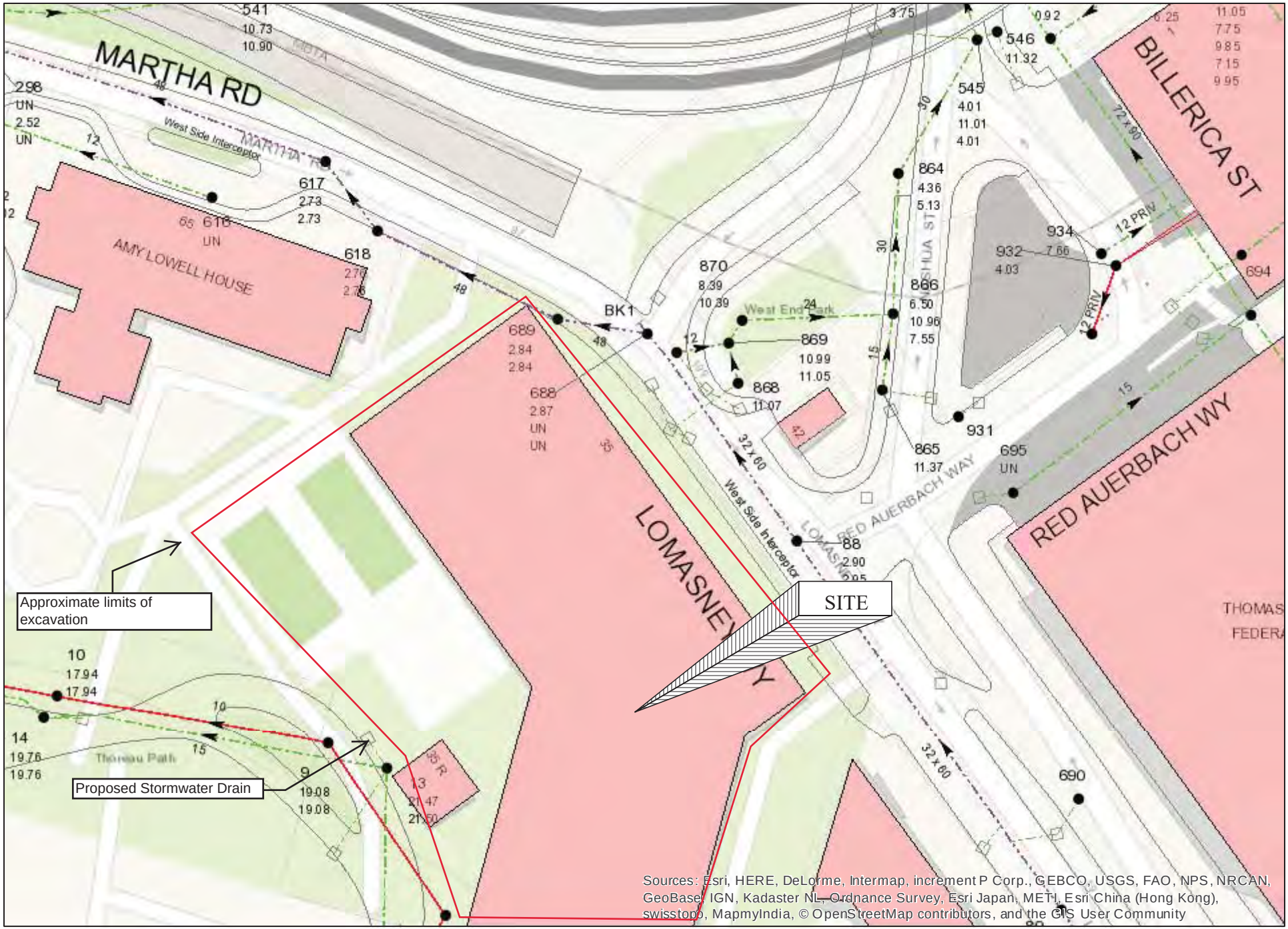
ROAD CLASSIFICATION
Expressway — Local Connector
Secondary Hwy — Local Road
Ramp — 4WD
Interstate Route — US Route — State Route

QUADRANGLE LOCATION

1 Lexington
2 Boston North
3 Lynn
4 Newton
5 Hull
6 Norwood
7 Blue Hills
8 Weymouth

ADJOINING QUADRANGLES

BOSTON SOUTH, MA
2015



BOSTON WATER AND SEWER

N W E S

0 20 40 80 120 160 Feet

35 Lomasney Way Sewer

TABLES

Table 1
RGP Analytical Results
Garden Garage
35 Lomasney Way
Boston, Massachusetts
VERTEX Project No. 48552

LOCATION	CasNum	NPDES Effluent Limitation		Units	SH-8-RGP-Influent	BOS-049
SAMPLING DATE					3/15/2018	9/15/2017
LAB SAMPLE ID		TBEL	WQBEL		18C0623-01	17I0704-02
Alcohol Analysis						
Ethyl Alcohol	64-17-5	Report		mg/l	ND(2)	ND(2)
Anions						
Chloride	16887-00-6	Report		mg/l	176	501
General Chemistry						
Chlorine, Total Residual	NONE	0.2	0.0075	mg/l	ND(0.02)	0.028
Cyanide, Total	57-12-5	178	0.001	mg/l	ND(0.001)	ND(0.005)
Nitrogen, Ammonia	7664-41-7	Report		mg/l	0.063	0.063
pH (H)*	12408-02-5	6.5-8.5		SU	7.4	7.66
Solids, Total Suspended	NONE	30		mg/l	1.5	17
Temperature*	NONE	NC	NC	Celsius	11.7	NA
SGT-HEM	NONE	5		mg/l	ND(1.6)	ND(1.6)
TPH	NONE	5		mg/l	ND(0.2)	NA
Chromium, Hexavalent	18540-29-9	0.323	0.05	mg/l	ND(0.004)	ND(0.004)
Semivolatile Organic Compounds (SVOCs)						
1,2,4-Trichlorobenzene	120-82-1	NC	NC	mg/l	ND(0.005)	ND(0.005)
1,2-Dichlorobenzene	95-50-1	NC	NC	mg/l	ND(0.005)	ND(0.005)
1,3-Dichlorobenzene	541-73-1	NC	NC	mg/l	ND(0.005)	ND(0.005)
1,4-Dichlorobenzene	106-46-7	NC	NC	mg/l	ND(0.005)	ND(0.005)
2,4,6-Trichlorophenol	88-06-2	NC	NC	mg/l	ND(0.01)	ND(0.01)
2,4-Dichlorophenol	120-83-2	NC	NC	mg/l	ND(0.01)	ND(0.01)
2,4-Dimethylphenol	105-67-9	NC	NC	mg/l	ND(0.01)	ND(0.01)
2,4-Dinitrophenol	51-28-5	NC	NC	mg/l	ND(0.01)	ND(0.01)
2,4-Dinitrotoluene	121-14-2	NC	NC	mg/l	ND(0.01)	ND(0.01)
2,6-Dinitrotoluene	606-20-2	NC	NC	mg/l	ND(0.01)	ND(0.01)
2-Chlorophenol	95-57-8	NC	NC	mg/l	ND(0.01)	ND(0.01)
2-Methylphenol	95-48-7	NC	NC	mg/l	ND(0.01)	ND(0.01)
2-Nitrophenol	88-75-5	NC	NC	mg/l	ND(0.01)	ND(0.01)
3,3'-Dichlorobenzidine	91-94-1	NC	NC	mg/l	ND(0.01)	ND(0.01)
3-Methylphenol/4-Methylphenol	108-39-4	NC	NC	mg/l	ND(0.01)	ND(0.01)
4-,6-Dinitro-2-methylphenol	534-52-1	NC	NC	mg/l	ND(0.01)	ND(0.01)
4-Bromophenyl phenyl ether	101-55-3	NC	NC	mg/l	ND(0.01)	ND(0.01)
4-Chloro-3-methylphenol	59-50-7	NC	NC	mg/l	ND(0.01)	ND(0.01)
4-Chlorophenylphenylether	7005-72-3	NC	NC	mg/l	ND(0.01)	ND(0.01)
4-Nitrophenol	100-02-7	NC	NC	mg/l	ND(0.01)	ND(0.01)
Azobenzene	103-33-3	NC	NC	mg/l	ND(0.01)	ND(0.01)
Benzidine	92-87-5	NC	NC	mg/L	ND(0.02)	ND(0.02)
Bis(2-chloroethyl)ether	111-44-4	NC	NC	mg/l	ND(0.01)	ND(0.01)
Bis(2-ethylhexyl)phthalate	117-81-7	0.101	0.0022	mg/l	0.00017	0.0002
Butyl benzyl phthalate	85-68-7	NC	NC	mg/l	ND(0.01)	ND(0.01)
Di-n-butylphthalate	84-74-2	NC	NC	mg/l	ND(0.01)	ND(0.01)
Di-n-octylphthalate	117-84-0	NC	NC	mg/l	ND(0.01)	ND(0.01)
Diethyl phthalate	84-66-2	NC	NC	mg/l	ND(0.01)	ND(0.01)
Dimethyl phthalate	131-11-3	NC	NC	mg/l	ND(0.01)	ND(0.01)
Isophorone	78-59-1	NC	NC	mg/l	ND(0.01)	ND(0.01)
M/P-Cresol	Multiple	NC	NC	mg/l	ND(0.01)	ND(0.01)
N-Nitrosodimethylamine	62-75-9	NC	NC	mg/l	ND(0.01)	ND(0.01)
N-Nitrosodiphenylamine	86-30-6	NC	NC	mg/l	ND(0.01)	ND(0.01)
N-Nitroso-di-n-propylamine	621-64-7	NC	NC	mg/l	ND(0.01)	ND(0.01)
Nitrobenzene	98-95-3	NC	NC	mg/l	ND(0.01)	ND(0.01)
Phenol	108-95-2	1.08	0.3	mg/l	ND(0.01)	ND(0.01)
Total Phthalates	Multiple	0.19	NC	mg/L	0.00017	ND(CS)

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Garden Garage
35 Lomasney Way
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LOCATION	CasNum	NPDES Effluent Limitation		Units	SH-8-RGP-Influent	BOS-049
SAMPLING DATE					3/15/2018	9/15/2017
LAB SAMPLE ID		TBEL	WQBEL		18C0623-01	17I0704-02
SVOCs by SIM						
2-Chloronaphthalene	91-58-7	NC	NC	mg/l	ND(0.01)	ND(0.01)
2-Methylnaphthalene	91-57-6	NC	NC	mg/l	ND(0.001)	ND(0.005)
Acenaphthene	83-32-9	NC	NC	mg/l	ND(0.0003)	ND(0.005)
Acenaphthylene	208-96-8	NC	NC	mg/l	ND(0.0003)	ND(0.005)
Anthracene	120-12-7	NC	NC	mg/l	ND(0.0002)	ND(0.005)
Benzo(a)anthracene	56-55-3	As Total Group I	0.00000038	mg/l	ND(0.00005)	ND(0.00005)
Benzo(a)pyrene	50-32-8	As Total Group I	0.00000038	mg/l	ND(0.0001)	ND(0.0001)
Benzo(b)fluoranthene	205-99-2	As Total Group I	0.00000038	mg/l	ND(0.00005)	ND(0.00005)
Benzo(ghi)perylene	191-24-2	NC	NC	mg/l	ND(0.0005)	ND(0.005)
Benzo(k)fluoranthene	207-08-9	As Total Group I	0.00000038	mg/l	ND(0.0002)	ND(0.0002)
Chrysene	218-01-9	As Total Group I	0.00000038	mg/l	ND(0.0002)	ND(0.0002)
Dibenzo(a,h)anthracene	53-70-3	As Total Group I	0.00000038	mg/l	ND(0.0002)	ND(0.0002)
Fluoranthene	206-44-0	NC	NC	mg/l	ND(0.0005)	ND(0.005)
Fluorene	86-73-7	NC	NC	mg/l	ND(0.001)	ND(0.005)
Hexachlorobenzene	118-74-1	NC	NC	mg/l	ND(0.01)	ND(0.01)
Hexachlorobutadiene	87-68-3	NC	NC	mg/l	ND(0.01)	ND(0.01)
Hexachlorocyclopentadine	77-47-4	NC	NC	mg/l	ND(0.01)	ND(0.01)
Hexachloroethane	67-72-1	NC	NC	mg/l	ND(0.01)	ND(0.01)
Indeno(1,2,3-cd)pyrene	193-39-5	As Total Group I	0.00000038	mg/l	ND(0.0002)	ND(0.0002)
Naphthalene	91-20-3	0.02		mg/l	ND(0.001)	ND(0.005)
Pentachlorophenol	87-86-5	0.001		mg/l	ND(0.001)	ND(0.001)
Phenanthrene	85-01-8	NC	NC	mg/l	ND(0.00005)	ND(0.005)
Pyrene	129-00-0	NC	NC	mg/l	ND(0.001)	ND(0.005)
Total Group I PAHs	Multiple	0.001	As Individual	mg/l	ND(CS)	ND(CS)
Total Group II PAHs	Multiple	0.1		mg/l	ND(CS)	ND(CS)
Total Metals						
Antimony, Total	7440-36-0	0.206	0.64	mg/l	ND(0.001)	ND(0.001)
Arsenic, Total	7440-38-2	0.104	0.036	mg/l	ND(0.001)	ND(0.001)
Cadmium, Total	7440-43-9	0.0102	0.0088	mg/l	ND(0.0002)	ND(0.0002)
Chromium, Total	7440-47-3	0.323	0.074	mg/l	ND(0.01)	ND(0.001)
Copper, Total	7440-50-8	0.242	0.0031	mg/l	0.0022	0.0062
Iron, Total	7439-89-6	5	NC	mg/l	ND(0.05)	0.13
Lead, Total	7439-92-1	0.16	0.0081	mg/l	ND(0.0005)	0.0015
Mercury, Total	7439-97-6	0.000739	0.00094	mg/l	ND(0.0001)	ND(0.0001)
Nickel, Total	7440-02-0	1.45	0.0082	mg/l	ND(0.005)	ND(0.005)
Selenium, Total	7782-49-2	0.2358	0.071	mg/l	0.0061	0.0023
Silver, Total	7440-22-4	0.0351	0.0019	mg/l	ND(0.0002)	ND(0.0002)
Zinc, Total	7440-66-6	0.42	0.081	mg/l	ND(0.02)	ND(0.02)

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LOCATION	CasNum	NPDES Effluent Limitation		Units	SH-8-RGP-Influent	BOS-049
SAMPLING DATE					3/15/2018	9/15/2017
LAB SAMPLE ID		TBEL	WQBEL		18C0623-01	17I0704-02
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	71-55-6	0.2		mg/l	ND(0.002)	ND(0.002)
1,1,2-Trichloroethane	79-00-5	0.005		mg/l	ND(0.002)	ND(0.002)
1,1-Dichloroethane	75-34-3	0.07		mg/l	ND(0.002)	ND(0.002)
1,1-Dichloroethene	75-35-4	0.0032		mg/l	ND(0.002)	ND(0.002)
1,2-Dibromoethane	106-93-4	0.00005		mg/l	ND(0.000019)	ND(0.00002)
1,2-Dichlorobenzene	95-50-1	0.6		mg/l	ND(0.002)	ND(0.002)
1,2-Dichloroethane	107-06-2	0.005		mg/l	ND(0.002)	ND(0.002)
1,3-Dichlorobenzene	541-73-1	0.32		mg/l	ND(0.002)	ND(0.002)
1,4-Dichlorobenzene	106-46-7	0.005		mg/l	ND(0.002)	ND(0.002)
1,4-Dioxane	123-91-1	0.2		mg/l	ND(0.05)	ND(0.05)
Acetone	67-64-1	7.97		mg/l	ND(0.05)	ND(0.05)
Benzene	71-43-2	0.005		mg/l	ND(0.001)	ND(0.001)
Carbon tetrachloride	56-23-5	0.0044	0.0016	mg/l	ND(0.002)	ND(0.002)
Chloroform	67-66-3	NC	NC	mg/l	ND(0.002)	NA
cis-1,2-Dichloroethene	156-59-2	0.07		mg/l	ND(0.001)	ND(0.001)
Ethylbenzene	100-41-4	NC	NC	mg/l	ND(0.002)	ND(0.002)
Methyl tert butyl ether	1634-04-4	0.07	0.02	mg/l	ND(0.002)	ND(0.002)
Methylene chloride	75-09-2	0.0046	NC	mg/l	ND(0.005)	ND(0.005)
Tert-Butyl Alcohol	75-65-0	0.12		mg/l	ND(0.02)	ND(0.02)
Tertiary-Amyl Methyl Ether	994-05-8	0.09		mg/l	ND(0.0005)	ND(0.0005)
Tetrachloroethene	127-18-4	0.005	0.0033	mg/l	0.00028	ND(0.002)
Toluene	108-88-3	NC	NC	mg/l	ND(0.001)	ND(0.001)
Trichloroethene	79-01-6	0.005		mg/l	ND(0.002)	ND(0.002)
Vinyl chloride	75-01-4	0.002		mg/l	ND(0.002)	ND(0.002)
Xylenes, Total	1330-20-7	NC	NC	mg/l	ND(0.002)	ND(0.002)
Total BTEX	Multiple	0.1		mg/l	ND(0.002)	ND(0.002)
Polychlorinated Biphenyls (PCBs)						
Aroclor 1016	12674-11-2	NC	NC	mg/l	ND(0.0001)	ND(0.0001)
Aroclor 1221	11104-28-2	NC	NC	mg/l	ND(0.0001)	ND(0.0001)
Aroclor 1232	11141-16-5	NC	NC	mg/l	ND(0.0001)	ND(0.0001)
Aroclor 1242	53469-21-9	NC	NC	mg/l	ND(0.0001)	ND(0.0001)
Aroclor 1248	12672-29-6	NC	NC	mg/l	ND(0.0001)	ND(0.0001)
Aroclor 1254	11097-69-1	NC	NC	mg/l	ND(0.0001)	ND(0.0001)
Aroclor 1260	11096-82-5	NC	NC	mg/l	ND(0.0001)	ND(0.0001)
Total PCBs	Multiple	0.000000064		mg/l	ND(0.0001)	ND(0.0001)

Notes:
- Units presented in milligrams per liter (mg/l) unless otherwise noted
- National Pollutant Discharge Elimination System (NPDES) Effluent Limitations
- Technology-Based Effluent Limitation (TBEL)
- Water-Quality Based Effluent Limitation (WQBEL)
- SU= Specific Units
- ND = Not Detected (laboratory reporting limits in parentheses)
- NC = No criterion for analyte
- NA = Not Analyzed
- CS = Compound Specific
- Bold and yellow highlighting indicates an exceedance of either the TBEL or WQBEL Standard

* = Parameter was measured in the field

ATTACHMENT A:

SANBORN HEAD ASSOCIATES – SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Table 2
Summary of Groundwater Analytical Data
Garden Garage Project
Boston, MA

Location	Units	MCP Method 1 Groundwater		SH-4 (W)	SH-1 (W)	SH-8 (W)	SH-9 (W)
Sampling Date		**GW-2**	**GW-3**	**6/25/2009**	**6/25/2009**	**6/25/2009**	**6/26/2009**
Extractable Petroleum Hydrocarbons							
C9-C18 Aliphatics	ug/l	5,000	50,000	<103	<104	<104	<102
C19-C36 Aliphatics	ug/l	NS	50,000	<103	<104	<104	<102
C11-C22 Aromatics, Adjusted	ug/l	50,000	5,000	<103	<104	<104	<102
Dissolved Metals							
Arsenic, Dissolved	ug/l	NS	900	5	<5	<5	<5
Barium, Dissolved	ug/l	NS	50,000	28	<10	22	<10
Cadmium, Dissolved	ug/l	NS	4	<4	<4	<4	<4
Chromium, Dissolved	ug/l	NS	300	<10	<10	<10	<10
Lead, Dissolved	ug/l	NS	10	<10	<10	<10	<10
Mercury, Dissolved	ug/l	NS	20	<0.2	<0.2	<0.2	<0.2
Selenium, Dissolved	ug/l	NS	100	<10	<10	<10	<10
Silver, Dissolved	ug/l	NS	7	<7	<7	<7	<7
Volatile Organic Compounds (VOCs)	ug/l	NA	NA	BDL	BDL	BDL	BDL

Notes:
1. Groundwater samples were collected by SHA personnel on the dates indicated.
2. Groundwater samples were submitted to Alpha Analytical Labs of Westborough, MA for analysis.
3. Volatile Organic Compounds (VOCs) were not detected in the samples collected, and the list of analytes is not shown on this table. Please refer to the analytical laboratory report for the complete list of analytes.
4. Concentrations are present in micrograms per liter (ug/l), which is equivalent to parts per billion (ppb).
5. "NS" = indicates a standard does not exist for that analyte
"<" = indicates the analyte was not detected above the shown laboratory reporting limit
"BDL" = indicates that class of analytes were not detected in the analytical samples
"NA" = not applicable

ANALYTICAL REPORT

Lab Number:	L0908631
Client:	Sanborn, Head & Associates, Inc. 1 Technology Park Drive Westford, MA 01886
ATTN:	Kevin Stetson
Project Name:	GARDEN GARAGE
Project Number:	3031.00
Report Date:	08/21/29

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

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

Project Name: GARDEN GARAGE
Project Number: 3031.00

Lab Number: L0908631
Report Date: 08/21/29

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L0908631-01	SH-4 (W)	BOSTON, MA	06/25/09 12:20
L0908631-02	SH-1 (W)	BOSTON, MA	06/25/09 14:10
L0908631-03	SH-8 (W)	BOSTON, MA	06/25/09 15:50
L0908631-04	SH-9 (W)	BOSTON, MA	06/26/09 09:50
L0908631-05	TRIP BLANK	BOSTON, MA	06/25/09 00:00

Project Name:	GARDEN GARAGE	**Lab Number:**	L0908631
Project Number:	3031.00	**Report Date:**	08/21/29

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A, B, C & D is required for "Presumptive Certainty" status		
A	Were all samples received by the laboratory in a condition consistent with those described on their Chain-of-Custody documentation for the data set?	YES
B	Were all QA/QC procedures required for the specified analytical methods(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	YES
C	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	YES
D	VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3?	YES

A response to questions E and F is required for "Presumptive Certainty" status		
E	Were all QC performance standards and recommendations for the specified method(s) achieved?	NO
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name:	GARDEN GARAGE	**Lab Number:**	L0908631
Project Number:	3031.00	**Report Date:**	08/21/29

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. 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.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

MCP Related Narratives

Sample Receipt

L0908631-01 was Field Filtered for EPH.

All samples were Field Filtered for Dissolved Metals.

Volatile Organics

L0908631-01 and -03 were processed against a calibration curve that utilized a quadratic fit for Bromomethane, Trans-1,3-dichloropropene, n-Butylbenzene, and Naphthalene.

Project Name:	GARDEN GARAGE	**Lab Number:**	L0908631
Project Number:	3031.00	**Report Date:**	08/21/29

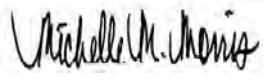
Case Narrative (continued)

L0908631-02 and -04 were processed against a calibration curve that utilized a quadratic fit for Bromomethane, Isopropylbenzene, n-Propylbenzene, sec-Butylbenzene, n-Butylbenzene, and Naphthalene.
In reference to question E:
The WG369380-1/-2 LCS/LCSD recoveries associated with L0908631-01 and -03 were below the acceptance criteria for Acetone (65%/62%) and 4-Methyl-2-pentanone (LCS at 68%); however, they have been identified as "difficult" analytes. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

EPH
In reference to question F:
All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

Metals
In reference to question F:
All samples were analyzed for a subset of MCP elements per the Chain of Custody.

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: 

Title: Technical Director/Representative Date: 08/21/29

ORGANICS

VOLATILES

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID:	L0908631-01	Date Collected:	06/25/09 12:20
Client ID:	SH-4 (W)	Date Received:	06/26/09
Sample Location:	BOSTON, MA	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	60,8260B		
Analytical Date:	07/02/09 12:51		
Analyst:	MM		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
MCP Volatile Organics - Westborough Lab					
Methylene chloride	ND		ug/l	5.0	1
1,1-Dichloroethane	ND		ug/l	0.75	1
Chloroform	ND		ug/l	0.75	1
Carbon tetrachloride	ND		ug/l	0.50	1
1,2-Dichloropropane	ND		ug/l	1.8	1
Dibromochloromethane	ND		ug/l	0.50	1
1,1,2-Trichloroethane	ND		ug/l	0.75	1
Tetrachloroethene	ND		ug/l	0.50	1
Chlorobenzene	ND		ug/l	0.50	1
Trichlorofluoromethane	ND		ug/l	2.5	1
1,2-Dichloroethane	ND		ug/l	0.50	1
1,1,1-Trichloroethane	ND		ug/l	0.50	1
Bromodichloromethane	ND		ug/l	0.50	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	1
1,1-Dichloropropene	ND		ug/l	2.5	1
Bromoform	ND		ug/l	2.0	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	1
Benzene	ND		ug/l	0.50	1
Toluene	ND		ug/l	0.75	1
Ethylbenzene	ND		ug/l	0.50	1
Chloromethane	ND		ug/l	2.5	1
Bromomethane	ND		ug/l	1.0	1
Vinyl chloride	ND		ug/l	1.0	1
Chloroethane	ND		ug/l	1.0	1
1,1-Dichloroethene	ND		ug/l	0.50	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	1
Trichloroethene	ND		ug/l	0.50	1
1,2-Dichlorobenzene	ND		ug/l	2.5	1
1,3-Dichlorobenzene	ND		ug/l	2.5	1

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID: L0908631-01 Date Collected: 06/25/09 12:20

Client ID: SH-4 (W) Date Received: 06/26/09

Sample Location: BOSTON, MA Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
MCP Volatile Organics - Westborough Lab					
1,4-Dichlorobenzene	ND		ug/l	2.5	1
Methyl tert butyl ether	ND		ug/l	1.0	1
p/m-Xylene	ND		ug/l	1.0	1
o-Xylene	ND		ug/l	1.0	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	1
Dibromomethane	ND		ug/l	5.0	1
1,2,3-Trichloropropane	ND		ug/l	5.0	1
Styrene	ND		ug/l	1.0	1
Dichlorodifluoromethane	ND		ug/l	5.0	1
Acetone	ND		ug/l	5.0	1
Carbon disulfide	ND		ug/l	5.0	1
2-Butanone	ND		ug/l	5.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1
2-Hexanone	ND		ug/l	5.0	1
Bromochloromethane	ND		ug/l	2.5	1
Tetrahydrofuran	ND		ug/l	10	1
2,2-Dichloropropane	ND		ug/l	2.5	1
1,2-Dibromoethane	ND		ug/l	2.0	1
1,3-Dichloropropane	ND		ug/l	2.5	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	1
Bromobenzene	ND		ug/l	2.5	1
n-Butylbenzene	ND		ug/l	0.50	1
sec-Butylbenzene	ND		ug/l	0.50	1
tert-Butylbenzene	ND		ug/l	2.5	1
o-Chlorotoluene	ND		ug/l	2.5	1
p-Chlorotoluene	ND		ug/l	2.5	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	1
Hexachlorobutadiene	ND		ug/l	0.60	1
Isopropylbenzene	ND		ug/l	0.50	1
p-Isopropyltoluene	ND		ug/l	0.50	1
Naphthalene	ND		ug/l	2.5	1
n-Propylbenzene	ND		ug/l	0.50	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	1
Ethyl ether	ND		ug/l	2.5	1

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID: L0908631-01 Date Collected: 06/25/09 12:20

Client ID: SH-4 (W) Date Received: 06/26/09

Sample Location: BOSTON, MA Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
MCP Volatile Organics - Westborough Lab					
Isopropyl Ether	ND		ug/l	2.0	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	1
1,4-Dioxane	ND		ug/l	250	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	124		70-130

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID:	L0908631-02	Date Collected:	06/25/09 14:10
Client ID:	SH-1 (W)	Date Received:	06/26/09
Sample Location:	BOSTON, MA	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	60,8260B		
Analytical Date:	07/02/09 13:10		
Analyst:	MM		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
MCP Volatile Organics - Westborough Lab					
Methylene chloride	ND		ug/l	5.0	1
1,1-Dichloroethane	ND		ug/l	0.75	1
Chloroform	ND		ug/l	0.75	1
Carbon tetrachloride	ND		ug/l	0.50	1
1,2-Dichloropropane	ND		ug/l	1.8	1
Dibromochloromethane	ND		ug/l	0.50	1
1,1,2-Trichloroethane	ND		ug/l	0.75	1
Tetrachloroethene	ND		ug/l	0.50	1
Chlorobenzene	ND		ug/l	0.50	1
Trichlorofluoromethane	ND		ug/l	2.5	1
1,2-Dichloroethane	ND		ug/l	0.50	1
1,1,1-Trichloroethane	ND		ug/l	0.50	1
Bromodichloromethane	ND		ug/l	0.50	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	1
1,1-Dichloropropene	ND		ug/l	2.5	1
Bromoform	ND		ug/l	2.0	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	1
Benzene	ND		ug/l	0.50	1
Toluene	ND		ug/l	0.75	1
Ethylbenzene	ND		ug/l	0.50	1
Chloromethane	ND		ug/l	2.5	1
Bromomethane	ND		ug/l	1.0	1
Vinyl chloride	ND		ug/l	1.0	1
Chloroethane	ND		ug/l	1.0	1
1,1-Dichloroethene	ND		ug/l	0.50	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	1
Trichloroethene	ND		ug/l	0.50	1
1,2-Dichlorobenzene	ND		ug/l	2.5	1
1,3-Dichlorobenzene	ND		ug/l	2.5	1

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID: L0908631-02 Date Collected: 06/25/09 14:10

Client ID: SH-1 (W) Date Received: 06/26/09

Sample Location: BOSTON, MA Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
MCP Volatile Organics - Westborough Lab					
1,4-Dichlorobenzene	ND		ug/l	2.5	1
Methyl tert butyl ether	ND		ug/l	1.0	1
p/m-Xylene	ND		ug/l	1.0	1
o-Xylene	ND		ug/l	1.0	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	1
Dibromomethane	ND		ug/l	5.0	1
1,2,3-Trichloropropane	ND		ug/l	5.0	1
Styrene	ND		ug/l	1.0	1
Dichlorodifluoromethane	ND		ug/l	5.0	1
Acetone	ND		ug/l	5.0	1
Carbon disulfide	ND		ug/l	5.0	1
2-Butanone	ND		ug/l	5.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1
2-Hexanone	ND		ug/l	5.0	1
Bromochloromethane	ND		ug/l	2.5	1
Tetrahydrofuran	ND		ug/l	10	1
2,2-Dichloropropane	ND		ug/l	2.5	1
1,2-Dibromoethane	ND		ug/l	2.0	1
1,3-Dichloropropane	ND		ug/l	2.5	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	1
Bromobenzene	ND		ug/l	2.5	1
n-Butylbenzene	ND		ug/l	0.50	1
sec-Butylbenzene	ND		ug/l	0.50	1
tert-Butylbenzene	ND		ug/l	2.5	1
o-Chlorotoluene	ND		ug/l	2.5	1
p-Chlorotoluene	ND		ug/l	2.5	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	1
Hexachlorobutadiene	ND		ug/l	0.60	1
Isopropylbenzene	ND		ug/l	0.50	1
p-Isopropyltoluene	ND		ug/l	0.50	1
Naphthalene	ND		ug/l	2.5	1
n-Propylbenzene	ND		ug/l	0.50	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	1
Ethyl ether	ND		ug/l	2.5	1

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID: L0908631-02 Date Collected: 06/25/09 14:10

Client ID: SH-1 (W) Date Received: 06/26/09

Sample Location: BOSTON, MA Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
MCP Volatile Organics - Westborough Lab					
Isopropyl Ether	ND		ug/l	2.0	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	1
1,4-Dioxane	ND		ug/l	250	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	119		70-130

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID:	L0908631-03	Date Collected:	06/25/09 15:50
Client ID:	SH-8 (W)	Date Received:	06/26/09
Sample Location:	BOSTON, MA	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	60,8260B		
Analytical Date:	07/02/09 13:28		
Analyst:	MM		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
MCP Volatile Organics - Westborough Lab					
Methylene chloride	ND		ug/l	5.0	1
1,1-Dichloroethane	ND		ug/l	0.75	1
Chloroform	ND		ug/l	0.75	1
Carbon tetrachloride	ND		ug/l	0.50	1
1,2-Dichloropropane	ND		ug/l	1.8	1
Dibromochloromethane	ND		ug/l	0.50	1
1,1,2-Trichloroethane	ND		ug/l	0.75	1
Tetrachloroethene	ND		ug/l	0.50	1
Chlorobenzene	ND		ug/l	0.50	1
Trichlorofluoromethane	ND		ug/l	2.5	1
1,2-Dichloroethane	ND		ug/l	0.50	1
1,1,1-Trichloroethane	ND		ug/l	0.50	1
Bromodichloromethane	ND		ug/l	0.50	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	1
1,1-Dichloropropene	ND		ug/l	2.5	1
Bromoform	ND		ug/l	2.0	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	1
Benzene	ND		ug/l	0.50	1
Toluene	ND		ug/l	0.75	1
Ethylbenzene	ND		ug/l	0.50	1
Chloromethane	ND		ug/l	2.5	1
Bromomethane	ND		ug/l	1.0	1
Vinyl chloride	ND		ug/l	1.0	1
Chloroethane	ND		ug/l	1.0	1
1,1-Dichloroethene	ND		ug/l	0.50	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	1
Trichloroethene	ND		ug/l	0.50	1
1,2-Dichlorobenzene	ND		ug/l	2.5	1
1,3-Dichlorobenzene	ND		ug/l	2.5	1

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID: L0908631-03 Date Collected: 06/25/09 15:50

Client ID: SH-8 (W) Date Received: 06/26/09

Sample Location: BOSTON, MA Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
MCP Volatile Organics - Westborough Lab					
1,4-Dichlorobenzene	ND		ug/l	2.5	1
Methyl tert butyl ether	ND		ug/l	1.0	1
p/m-Xylene	ND		ug/l	1.0	1
o-Xylene	ND		ug/l	1.0	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	1
Dibromomethane	ND		ug/l	5.0	1
1,2,3-Trichloropropane	ND		ug/l	5.0	1
Styrene	ND		ug/l	1.0	1
Dichlorodifluoromethane	ND		ug/l	5.0	1
Acetone	ND		ug/l	5.0	1
Carbon disulfide	ND		ug/l	5.0	1
2-Butanone	ND		ug/l	5.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1
2-Hexanone	ND		ug/l	5.0	1
Bromochloromethane	ND		ug/l	2.5	1
Tetrahydrofuran	ND		ug/l	10	1
2,2-Dichloropropane	ND		ug/l	2.5	1
1,2-Dibromoethane	ND		ug/l	2.0	1
1,3-Dichloropropane	ND		ug/l	2.5	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	1
Bromobenzene	ND		ug/l	2.5	1
n-Butylbenzene	ND		ug/l	0.50	1
sec-Butylbenzene	ND		ug/l	0.50	1
tert-Butylbenzene	ND		ug/l	2.5	1
o-Chlorotoluene	ND		ug/l	2.5	1
p-Chlorotoluene	ND		ug/l	2.5	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	1
Hexachlorobutadiene	ND		ug/l	0.60	1
Isopropylbenzene	ND		ug/l	0.50	1
p-Isopropyltoluene	ND		ug/l	0.50	1
Naphthalene	ND		ug/l	2.5	1
n-Propylbenzene	ND		ug/l	0.50	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	1
Ethyl ether	ND		ug/l	2.5	1

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID: L0908631-03 Date Collected: 06/25/09 15:50

Client ID: SH-8 (W) Date Received: 06/26/09

Sample Location: BOSTON, MA Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
MCP Volatile Organics - Westborough Lab					
Isopropyl Ether	ND		ug/l	2.0	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	1
1,4-Dioxane	ND		ug/l	250	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	118		70-130

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID:	L0908631-04	Date Collected:	06/26/09 09:50
Client ID:	SH-9 (W)	Date Received:	06/26/09
Sample Location:	BOSTON, MA	Field Prep:	See Narrative
Matrix:	Water		
Analytical Method:	60,8260B		
Analytical Date:	07/02/09 13:47		
Analyst:	MM		

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
MCP Volatile Organics - Westborough Lab					
Methylene chloride	ND		ug/l	5.0	1
1,1-Dichloroethane	ND		ug/l	0.75	1
Chloroform	ND		ug/l	0.75	1
Carbon tetrachloride	ND		ug/l	0.50	1
1,2-Dichloropropane	ND		ug/l	1.8	1
Dibromochloromethane	ND		ug/l	0.50	1
1,1,2-Trichloroethane	ND		ug/l	0.75	1
Tetrachloroethene	ND		ug/l	0.50	1
Chlorobenzene	ND		ug/l	0.50	1
Trichlorofluoromethane	ND		ug/l	2.5	1
1,2-Dichloroethane	ND		ug/l	0.50	1
1,1,1-Trichloroethane	ND		ug/l	0.50	1
Bromodichloromethane	ND		ug/l	0.50	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	1
1,1-Dichloropropene	ND		ug/l	2.5	1
Bromoform	ND		ug/l	2.0	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	1
Benzene	ND		ug/l	0.50	1
Toluene	ND		ug/l	0.75	1
Ethylbenzene	ND		ug/l	0.50	1
Chloromethane	ND		ug/l	2.5	1
Bromomethane	ND		ug/l	1.0	1
Vinyl chloride	ND		ug/l	1.0	1
Chloroethane	ND		ug/l	1.0	1
1,1-Dichloroethene	ND		ug/l	0.50	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	1
Trichloroethene	ND		ug/l	0.50	1
1,2-Dichlorobenzene	ND		ug/l	2.5	1
1,3-Dichlorobenzene	ND		ug/l	2.5	1

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID: L0908631-04 Date Collected: 06/26/09 09:50

Client ID: SH-9 (W) Date Received: 06/26/09

Sample Location: BOSTON, MA Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
MCP Volatile Organics - Westborough Lab					
1,4-Dichlorobenzene	ND		ug/l	2.5	1
Methyl tert butyl ether	ND		ug/l	1.0	1
p/m-Xylene	ND		ug/l	1.0	1
o-Xylene	ND		ug/l	1.0	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	1
Dibromomethane	ND		ug/l	5.0	1
1,2,3-Trichloropropane	ND		ug/l	5.0	1
Styrene	ND		ug/l	1.0	1
Dichlorodifluoromethane	ND		ug/l	5.0	1
Acetone	ND		ug/l	5.0	1
Carbon disulfide	ND		ug/l	5.0	1
2-Butanone	ND		ug/l	5.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1
2-Hexanone	ND		ug/l	5.0	1
Bromochloromethane	ND		ug/l	2.5	1
Tetrahydrofuran	ND		ug/l	10	1
2,2-Dichloropropane	ND		ug/l	2.5	1
1,2-Dibromoethane	ND		ug/l	2.0	1
1,3-Dichloropropane	ND		ug/l	2.5	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	1
Bromobenzene	ND		ug/l	2.5	1
n-Butylbenzene	ND		ug/l	0.50	1
sec-Butylbenzene	ND		ug/l	0.50	1
tert-Butylbenzene	ND		ug/l	2.5	1
o-Chlorotoluene	ND		ug/l	2.5	1
p-Chlorotoluene	ND		ug/l	2.5	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	1
Hexachlorobutadiene	ND		ug/l	0.60	1
Isopropylbenzene	ND		ug/l	0.50	1
p-Isopropyltoluene	ND		ug/l	0.50	1
Naphthalene	ND		ug/l	2.5	1
n-Propylbenzene	ND		ug/l	0.50	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	1
Ethyl ether	ND		ug/l	2.5	1

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID: L0908631-04 Date Collected: 06/26/09 09:50

Client ID: SH-9 (W) Date Received: 06/26/09

Sample Location: BOSTON, MA Field Prep: See Narrative

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
MCP Volatile Organics - Westborough Lab					
Isopropyl Ether	ND		ug/l	2.0	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	1
1,4-Dioxane	ND		ug/l	250	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	124		70-130

Project Name: GARDEN GARAGE
Project Number: 3031.00
Lab Number: L0908631
Report Date: 08/21/29

Method Blank Analysis
Batch Quality Control

Analytical Method: 60,8260B
Analytical Date: 07/02/09 09:03
Analyst: MM

Parameter	Result	Qualifier	Units	RDL
MCP Volatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG369380-3				
Methylene chloride	ND		ug/l	5.0
1,1-Dichloroethane	ND		ug/l	0.75
Chloroform	ND		ug/l	0.75
Carbon tetrachloride	ND		ug/l	0.50
1,2-Dichloropropane	ND		ug/l	1.8
Dibromochloromethane	ND		ug/l	0.50
1,1,2-Trichloroethane	ND		ug/l	0.75
Tetrachloroethene	ND		ug/l	0.50
Chlorobenzene	ND		ug/l	0.50
Trichlorofluoromethane	ND		ug/l	2.5
1,2-Dichloroethane	ND		ug/l	0.50
1,1,1-Trichloroethane	ND		ug/l	0.50
Bromodichloromethane	ND		ug/l	0.50
trans-1,3-Dichloropropene	ND		ug/l	0.50
cis-1,3-Dichloropropene	ND		ug/l	0.50
1,1-Dichloropropene	ND		ug/l	2.5
Bromoform	ND		ug/l	2.0
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50
Benzene	ND		ug/l	0.50
Toluene	ND		ug/l	0.75
Ethylbenzene	ND		ug/l	0.50
Chloromethane	ND		ug/l	2.5
Bromomethane	ND		ug/l	1.0
Vinyl chloride	ND		ug/l	1.0
Chloroethane	ND		ug/l	1.0
1,1-Dichloroethene	ND		ug/l	0.50
trans-1,2-Dichloroethene	ND		ug/l	0.75
Trichloroethene	ND		ug/l	0.50
1,2-Dichlorobenzene	ND		ug/l	2.5
1,3-Dichlorobenzene	ND		ug/l	2.5
1,4-Dichlorobenzene	ND		ug/l	2.5

Project Name: GARDEN GARAGE
Project Number: 3031.00
Lab Number: L0908631
Report Date: 08/21/29

Method Blank Analysis
Batch Quality Control

Analytical Method: 60,8260B
Analytical Date: 07/02/09 09:03
Analyst: MM

Parameter	Result	Qualifier	Units	RDL
MCP Volatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG369380-3				
Methyl tert butyl ether	ND		ug/l	1.0
p/m-Xylene	ND		ug/l	1.0
o-Xylene	ND		ug/l	1.0
cis-1,2-Dichloroethene	ND		ug/l	0.50
Dibromomethane	ND		ug/l	5.0
1,2,3-Trichloropropane	ND		ug/l	5.0
Styrene	ND		ug/l	1.0
Dichlorodifluoromethane	ND		ug/l	5.0
Acetone	ND		ug/l	5.0
Carbon disulfide	ND		ug/l	5.0
2-Butanone	ND		ug/l	5.0
4-Methyl-2-pentanone	ND		ug/l	5.0
2-Hexanone	ND		ug/l	5.0
Bromochloromethane	ND		ug/l	2.5
Tetrahydrofuran	ND		ug/l	10
2,2-Dichloropropane	ND		ug/l	2.5
1,2-Dibromoethane	ND		ug/l	2.0
1,3-Dichloropropane	ND		ug/l	2.5
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50
Bromobenzene	ND		ug/l	2.5
n-Butylbenzene	ND		ug/l	0.50
sec-Butylbenzene	ND		ug/l	0.50
tert-Butylbenzene	ND		ug/l	2.5
o-Chlorotoluene	ND		ug/l	2.5
p-Chlorotoluene	ND		ug/l	2.5
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5
Hexachlorobutadiene	ND		ug/l	0.60
Isopropylbenzene	ND		ug/l	0.50
p-Isopropyltoluene	ND		ug/l	0.50
Naphthalene	ND		ug/l	2.5
n-Propylbenzene	ND		ug/l	0.50

Project Name: GARDEN GARAGE
Project Number: 3031.00
Lab Number: L0908631
Report Date: 08/21/29

Method Blank Analysis
Batch Quality Control

Analytical Method: 60,8260B
Analytical Date: 07/02/09 09:03
Analyst: MM

Parameter	Result	Qualifier	Units	RDL
MCP Volatile Organics - Westborough Lab for sample(s): 01,03 Batch: WG369380-3				
1,2,3-Trichlorobenzene	ND		ug/l	2.5
1,2,4-Trichlorobenzene	ND		ug/l	2.5
1,3,5-Trimethylbenzene	ND		ug/l	2.5
1,2,4-Trimethylbenzene	ND		ug/l	2.5
Ethyl ether	ND		ug/l	2.5
Isopropyl Ether	ND		ug/l	2.0
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0
1,4-Dioxane	ND		ug/l	250
Tentatively Identified Compounds				
No Tentatively Identified Compounds	ND		ug/l	

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	112		70-130

Project Name: GARDEN GARAGE
Project Number: 3031.00
Lab Number: L0908631
Report Date: 08/21/29

Method Blank Analysis
Batch Quality Control

Analytical Method: 60,8260B
Analytical Date: 07/02/09 09:22
Analyst: MM

Parameter	Result	Qualifier	Units	RDL
MCP Volatile Organics - Westborough Lab for sample(s): 02,04 Batch: WG369383-3				
Methylene chloride	ND		ug/l	5.0
1,1-Dichloroethane	ND		ug/l	0.75
Chloroform	ND		ug/l	0.75
Carbon tetrachloride	ND		ug/l	0.50
1,2-Dichloropropane	ND		ug/l	1.8
Dibromochloromethane	ND		ug/l	0.50
1,1,2-Trichloroethane	ND		ug/l	0.75
Tetrachloroethene	ND		ug/l	0.50
Chlorobenzene	ND		ug/l	0.50
Trichlorofluoromethane	ND		ug/l	2.5
1,2-Dichloroethane	ND		ug/l	0.50
1,1,1-Trichloroethane	ND		ug/l	0.50
Bromodichloromethane	ND		ug/l	0.50
trans-1,3-Dichloropropene	ND		ug/l	0.50
cis-1,3-Dichloropropene	ND		ug/l	0.50
1,1-Dichloropropene	ND		ug/l	2.5
Bromoform	ND		ug/l	2.0
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50
Benzene	ND		ug/l	0.50
Toluene	ND		ug/l	0.75
Ethylbenzene	ND		ug/l	0.50
Chloromethane	ND		ug/l	2.5
Bromomethane	ND		ug/l	1.0
Vinyl chloride	ND		ug/l	1.0
Chloroethane	ND		ug/l	1.0
1,1-Dichloroethene	ND		ug/l	0.50
trans-1,2-Dichloroethene	ND		ug/l	0.75
Trichloroethene	ND		ug/l	0.50
1,2-Dichlorobenzene	ND		ug/l	2.5
1,3-Dichlorobenzene	ND		ug/l	2.5
1,4-Dichlorobenzene	ND		ug/l	2.5

Project Name: GARDEN GARAGE
Project Number: 3031.00
Lab Number: L0908631
Report Date: 08/21/29

Method Blank Analysis
Batch Quality Control

Analytical Method: 60,8260B
Analytical Date: 07/02/09 09:22
Analyst: MM

Parameter	Result	Qualifier	Units	RDL
MCP Volatile Organics - Westborough Lab for sample(s): 02,04 Batch: WG369383-3				
Methyl tert butyl ether	ND		ug/l	1.0
p/m-Xylene	ND		ug/l	1.0
o-Xylene	ND		ug/l	1.0
cis-1,2-Dichloroethene	ND		ug/l	0.50
Dibromomethane	ND		ug/l	5.0
1,2,3-Trichloropropane	ND		ug/l	5.0
Styrene	ND		ug/l	1.0
Dichlorodifluoromethane	ND		ug/l	5.0
Acetone	ND		ug/l	5.0
Carbon disulfide	ND		ug/l	5.0
2-Butanone	ND		ug/l	5.0
4-Methyl-2-pentanone	ND		ug/l	5.0
2-Hexanone	ND		ug/l	5.0
Bromochloromethane	ND		ug/l	2.5
Tetrahydrofuran	ND		ug/l	10
2,2-Dichloropropane	ND		ug/l	2.5
1,2-Dibromoethane	ND		ug/l	2.0
1,3-Dichloropropane	ND		ug/l	2.5
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50
Bromobenzene	ND		ug/l	2.5
n-Butylbenzene	ND		ug/l	0.50
sec-Butylbenzene	ND		ug/l	0.50
tert-Butylbenzene	ND		ug/l	2.5
o-Chlorotoluene	ND		ug/l	2.5
p-Chlorotoluene	ND		ug/l	2.5
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5
Hexachlorobutadiene	ND		ug/l	0.60
Isopropylbenzene	ND		ug/l	0.50
p-Isopropyltoluene	ND		ug/l	0.50
Naphthalene	ND		ug/l	2.5
n-Propylbenzene	ND		ug/l	0.50

Project Name: GARDEN GARAGE
Project Number: 3031.00
Lab Number: L0908631
Report Date: 08/21/29

Method Blank Analysis
Batch Quality Control

Analytical Method: 60,8260B
Analytical Date: 07/02/09 09:22
Analyst: MM

Parameter	Result	Qualifier	Units	RDL
MCP Volatile Organics - Westborough Lab for sample(s): 02,04 Batch: WG369383-3				
1,2,3-Trichlorobenzene	ND		ug/l	2.5
1,2,4-Trichlorobenzene	ND		ug/l	2.5
1,3,5-Trimethylbenzene	ND		ug/l	2.5
1,2,4-Trimethylbenzene	ND		ug/l	2.5
Ethyl ether	ND		ug/l	2.5
Isopropyl Ether	ND		ug/l	2.0
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0
1,4-Dioxane	ND		ug/l	250

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	113		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: GARDEN GARAGE

Project Number: 3031.00

Lab Number: L0908631

Report Date: 08/21/29

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG369380-1 WG369380-2					
Methylene chloride	100	115	70-130	14	25
1,1-Dichloroethane	86	101	70-130	16	25
Chloroform	89	95	70-130	7	25
Carbon tetrachloride	91	82	70-130	10	25
1,2-Dichloropropane	86	92	70-130	7	25
Dibromochloromethane	92	87	70-130	6	25
1,1,2-Trichloroethane	88	86	70-130	2	25
Tetrachloroethene	99	101	70-130	2	25
Chlorobenzene	96	99	70-130	3	25
Trichlorofluoromethane	104	118	70-130	13	25
1,2-Dichloroethane	89	91	70-130	2	25
1,1,1-Trichloroethane	88	94	70-130	7	25
Bromodichloromethane	89	95	70-130	7	25
trans-1,3-Dichloropropene	91	85	70-130	7	25
cis-1,3-Dichloropropene	79	84	70-130	6	25
1,1-Dichloropropene	87	88	70-130	1	25
Bromoform	86	87	70-130	1	50
1,1,2,2-Tetrachloroethane	92	92	70-130	0	25
Benzene	90	95	70-130	5	25
Toluene	97	98	70-130	1	25
Ethylbenzene	95	102	70-130	7	25

Lab Control Sample Analysis

Batch Quality Control

Project Name: GARDEN GARAGE

Project Number: 3031.00

Lab Number: L0908631

Report Date: 08/21/29

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG369380-1 WG369380-2					
Chloromethane	80	93	70-130	15	50
Bromomethane	77	99	70-130	25	50
Vinyl chloride	92	104	70-130	12	25
Chloroethane	86	105	70-130	20	25
1,1-Dichloroethene	93	98	70-130	5	25
trans-1,2-Dichloroethene	89	95	70-130	7	25
Trichloroethene	85	89	70-130	5	25
1,2-Dichlorobenzene	92	95	70-130	3	25
1,3-Dichlorobenzene	100	98	70-130	2	25
1,4-Dichlorobenzene	93	96	70-130	3	25
Methyl tert butyl ether	78	86	70-130	10	25
p/m-Xylene	101	104	70-130	3	25
o-Xylene	96	106	70-130	10	25
cis-1,2-Dichloroethene	90	100	70-130	11	25
Dibromomethane	89	94	70-130	5	25
1,2,3-Trichloropropane	92	96	70-130	4	25
Styrene	93	100	70-130	7	25
Dichlorodifluoromethane	74	83	70-130	11	50
Acetone	**65**	**62**	70-130	5	50
Carbon disulfide	92	109	70-130	17	50
2-Butanone	78	85	70-130	9	50

Lab Control Sample Analysis

Batch Quality Control

Project Name: GARDEN GARAGE

Project Number: 3031.00

Lab Number: L0908631

Report Date: 08/21/29

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG369380-1 WG369380-2					
4-Methyl-2-pentanone	**68**	84	70-130	21	50
2-Hexanone	71	80	70-130	12	50
Bromochloromethane	91	103	70-130	12	25
Tetrahydrofuran	87	104	70-130	18	25
2,2-Dichloropropane	89	100	70-130	12	50
1,2-Dibromoethane	92	89	70-130	3	25
1,3-Dichloropropane	89	87	70-130	2	25
1,1,1,2-Tetrachloroethane	96	94	70-130	2	25
Bromobenzene	90	95	70-130	5	25
n-Butylbenzene	94	90	70-130	4	25
sec-Butylbenzene	98	94	70-130	4	25
tert-Butylbenzene	93	91	70-130	2	25
o-Chlorotoluene	90	93	70-130	3	25
p-Chlorotoluene	94	97	70-130	3	25
1,2-Dibromo-3-chloropropane	82	88	70-130	7	50
Hexachlorobutadiene	91	94	70-130	3	25
Isopropylbenzene	97	97	70-130	0	25
p-Isopropyltoluene	98	97	70-130	1	25
Naphthalene	76	72	70-130	5	25
n-Propylbenzene	93	97	70-130	4	25
1,2,3-Trichlorobenzene	89	91	70-130	2	25

Lab Control Sample Analysis

Batch Quality Control

Project Name: GARDEN GARAGE

Project Number: 3031.00

Lab Number: L0908631

Report Date: 08/21/29

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01,03 Batch: WG369380-1 WG369380-2					
1,2,4-Trichlorobenzene	83	82	70-130	1	25
1,3,5-Trimethylbenzene	96	96	70-130	0	25
1,2,4-Trimethylbenzene	95	93	70-130	2	25
Ethyl ether	90	97	70-130	7	25
Isopropyl Ether	77	84	70-130	9	25
Ethyl-Tert-Butyl-Ether	83	89	70-130	7	25
Tertiary-Amyl Methyl Ether	75	86	70-130	14	25
1,4-Dioxane	82	112	70-130	31	50

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		95		70-130
Toluene-d8	102		99		70-130
4-Bromofluorobenzene	89		93		70-130
Dibromofluoromethane	98		102		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: GARDEN GARAGE

Project Number: 3031.00

Lab Number: L0908631

Report Date: 08/21/29

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02,04 Batch: WG369383-1 WG369383-2					
Methylene chloride	106	106	70-130	0	25
1,1-Dichloroethane	96	96	70-130	0	25
Chloroform	97	96	70-130	1	25
Carbon tetrachloride	86	94	70-130	9	25
1,2-Dichloropropane	89	91	70-130	2	25
Dibromochloromethane	93	89	70-130	4	25
1,1,2-Trichloroethane	89	90	70-130	1	25
Tetrachloroethene	101	98	70-130	3	25
Chlorobenzene	99	96	70-130	3	25
Trichlorofluoromethane	115	116	70-130	1	25
1,2-Dichloroethane	91	92	70-130	1	25
1,1,1-Trichloroethane	92	93	70-130	1	25
Bromodichloromethane	96	96	70-130	0	25
trans-1,3-Dichloropropene	88	87	70-130	1	25
cis-1,3-Dichloropropene	83	80	70-130	4	25
1,1-Dichloropropene	90	89	70-130	1	25
Bromoform	89	95	70-130	7	50
1,1,2,2-Tetrachloroethane	91	95	70-130	4	25
Benzene	91	92	70-130	1	25
Toluene	102	98	70-130	4	25
Ethylbenzene	98	96	70-130	2	25

Lab Control Sample Analysis

Batch Quality Control

Project Name: GARDEN GARAGE

Project Number: 3031.00

Lab Number: L0908631

Report Date: 08/21/29

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02,04 Batch: WG369383-1 WG369383-2					
Chloromethane	86	84	70-130	2	50
Bromomethane	74	82	70-130	10	50
Vinyl chloride	99	98	70-130	1	25
Chloroethane	91	91	70-130	0	25
1,1-Dichloroethene	99	103	70-130	4	25
trans-1,2-Dichloroethene	96	94	70-130	2	25
Trichloroethene	88	88	70-130	0	25
1,2-Dichlorobenzene	91	98	70-130	7	25
1,3-Dichlorobenzene	96	96	70-130	0	25
1,4-Dichlorobenzene	96	101	70-130	5	25
Methyl tert butyl ether	94	98	70-130	4	25
p/m-Xylene	102	102	70-130	0	25
o-Xylene	105	103	70-130	2	25
cis-1,2-Dichloroethene	104	98	70-130	6	25
Dibromomethane	86	92	70-130	7	25
1,2,3-Trichloropropane	92	99	70-130	7	25
Styrene	100	101	70-130	1	25
Dichlorodifluoromethane	79	77	70-130	3	50
Acetone	77	79	70-130	3	50
Carbon disulfide	103	99	70-130	4	50
2-Butanone	84	86	70-130	2	50

Lab Control Sample Analysis

Batch Quality Control

Project Name: GARDEN GARAGE

Project Number: 3031.00

Lab Number: L0908631

Report Date: 08/21/29

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02,04 Batch: WG369383-1 WG369383-2					
4-Methyl-2-pentanone	75	70	70-130	7	50
2-Hexanone	73	73	70-130	0	50
Bromochloromethane	107	102	70-130	5	25
Tetrahydrofuran	101	110	70-130	9	25
2,2-Dichloropropane	98	96	70-130	2	50
1,2-Dibromoethane	92	90	70-130	2	25
1,3-Dichloropropane	92	91	70-130	1	25
1,1,1,2-Tetrachloroethane	95	94	70-130	1	25
Bromobenzene	94	97	70-130	3	25
n-Butylbenzene	96	97	70-130	1	25
sec-Butylbenzene	96	100	70-130	4	25
tert-Butylbenzene	91	96	70-130	5	25
o-Chlorotoluene	92	95	70-130	3	25
p-Chlorotoluene	98	98	70-130	0	25
1,2-Dibromo-3-chloropropane	82	97	70-130	17	50
Hexachlorobutadiene	100	106	70-130	6	25
Isopropylbenzene	94	96	70-130	2	25
p-Isopropyltoluene	97	102	70-130	5	25
Naphthalene	77	85	70-130	10	25
n-Propylbenzene	95	100	70-130	5	25
1,2,3-Trichlorobenzene	94	100	70-130	6	25

Lab Control Sample Analysis

Batch Quality Control

Project Name: GARDEN GARAGE

Project Number: 3031.00

Lab Number: L0908631

Report Date: 08/21/29

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02,04 Batch: WG369383-1 WG369383-2					
1,2,4-Trichlorobenzene	86	90	70-130	5	25
1,3,5-Trimethylbenzene	92	96	70-130	4	25
1,2,4-Trimethylbenzene	90	93	70-130	3	25
Ethyl ether	110	110	70-130	0	25
Isopropyl Ether	88	88	70-130	0	25
Ethyl-Tert-Butyl-Ether	94	93	70-130	1	25
Tertiary-Amyl Methyl Ether	88	84	70-130	5	25
1,4-Dioxane	88	100	70-130	13	50

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		100		70-130
Toluene-d8	103		103		70-130
4-Bromofluorobenzene	94		101		70-130
Dibromofluoromethane	102		101		70-130

PETROLEUM HYDROCARBONS

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID:	L0908631-01	Date Collected:	06/25/09 12:20
Client ID:	SH-4 (W)	Date Received:	06/26/09
Sample Location:	BOSTON, MA	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	61,EPH-04-1	Extraction Date:	06/29/09 20:05
Analytical Date:	07/02/09 15:44	Cleanup Method1:	EPH-04-1
Analyst:	MF	Cleanup Date1:	07/01/09

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab					
C9-C18 Aliphatics	ND		ug/l	103	1
C19-C36 Aliphatics	ND		ug/l	103	1
C11-C22 Aromatics, Unadjusted	ND		ug/l	103	1
C11-C22 Aromatics, Adjusted	ND		ug/l	103	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	53		40-140
o-Terphenyl	60		40-140
2-Fluorobiphenyl	79		40-140
2-Bromonaphthalene	82		40-140

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID:	L0908631-02	Date Collected:	06/25/09 14:10
Client ID:	SH-1 (W)	Date Received:	06/26/09
Sample Location:	BOSTON, MA	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	61,EPH-04-1	Extraction Date:	06/29/09 20:05
Analytical Date:	07/02/09 13:38	Cleanup Method1:	EPH-04-1
Analyst:	MF	Cleanup Date1:	07/01/09

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab					
C9-C18 Aliphatics	ND		ug/l	104	1
C19-C36 Aliphatics	ND		ug/l	104	1
C11-C22 Aromatics, Unadjusted	ND		ug/l	104	1
C11-C22 Aromatics, Adjusted	ND		ug/l	104	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	44		40-140
o-Terphenyl	67		40-140
2-Fluorobiphenyl	86		40-140
2-Bromonaphthalene	89		40-140

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID:	L0908631-03	Date Collected:	06/25/09 15:50
Client ID:	SH-8 (W)	Date Received:	06/26/09
Sample Location:	BOSTON, MA	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	61,EPH-04-1	Extraction Date:	06/29/09 20:05
Analytical Date:	07/02/09 14:16	Cleanup Method1:	EPH-04-1
Analyst:	MF	Cleanup Date1:	07/01/09

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab					
C9-C18 Aliphatics	ND		ug/l	104	1
C19-C36 Aliphatics	ND		ug/l	104	1
C11-C22 Aromatics, Unadjusted	ND		ug/l	104	1
C11-C22 Aromatics, Adjusted	ND		ug/l	104	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	50		40-140
o-Terphenyl	64		40-140
2-Fluorobiphenyl	78		40-140
2-Bromonaphthalene	84		40-140

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID:	L0908631-04	Date Collected:	06/26/09 09:50
Client ID:	SH-9 (W)	Date Received:	06/26/09
Sample Location:	BOSTON, MA	Field Prep:	See Narrative
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	61,EPH-04-1	Extraction Date:	06/29/09 20:11
Analytical Date:	07/02/09 14:54	Cleanup Method1:	EPH-04-1
Analyst:	MF	Cleanup Date1:	07/01/09

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab					
C9-C18 Aliphatics	ND		ug/l	102	1
C19-C36 Aliphatics	ND		ug/l	102	1
C11-C22 Aromatics, Unadjusted	ND		ug/l	102	1
C11-C22 Aromatics, Adjusted	ND		ug/l	102	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	55		40-140
o-Terphenyl	55		40-140
2-Fluorobiphenyl	66		40-140
2-Bromonaphthalene	74		40-140

Project Name: GARDEN GARAGE
Project Number: 3031.00

Lab Number: L0908631
Report Date: 08/21/29

Method Blank Analysis
Batch Quality Control

Analytical Method: 61,EPH-04-1
Analytical Date: 07/02/09 10:47
Analyst: MF

Extraction Method: EPA 3510C
Extraction Date: 06/29/09 20:05
Cleanup Method1: EPH-04-1
Cleanup Date1: 07/01/09

Parameter	Result	Qualifier	Units	RDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-04 Batch: WG368882-1				
C9-C18 Aliphatics	ND		ug/l	100
C19-C36 Aliphatics	ND		ug/l	100
C11-C22 Aromatics, Unadjusted	ND		ug/l	100
C11-C22 Aromatics, Adjusted	ND		ug/l	100

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	49		40-140
o-Terphenyl	64		40-140
2-Fluorobiphenyl	83		40-140
2-Bromonaphthalene	85		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: GARDEN GARAGE

Project Number: 3031.00

Lab Number: L0908631

Report Date: 08/21/29

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-04 Batch: WG368882-2 WG368882-3					
C9-C18 Aliphatics	45	52	40-140	14	25
C19-C36 Aliphatics	52	60	40-140	14	25
C11-C22 Aromatics	77	68	40-140	12	25
Naphthalene	62	62	40-140	0	25
2-Methylnaphthalene	64	66	40-140	3	25
Acenaphthylene	62	62	40-140	0	25
Acenaphthene	63	64	40-140	2	25
Fluorene	67	64	40-140	5	25
Phenanthrene	78	75	40-140	4	25
Anthracene	74	71	40-140	4	25
Fluoranthene	78	72	40-140	8	25
Pyrene	78	74	40-140	5	25
Benzo(a)anthracene	75	67	40-140	11	25
Chrysene	77	68	40-140	12	25
Benzo(b)fluoranthene	76	66	40-140	14	25
Benzo(k)fluoranthene	78	67	40-140	15	25
Benzo(a)pyrene	72	61	40-140	17	25
Indeno(1,2,3-cd)Pyrene	76	65	40-140	16	25
Dibenzo(a,h)anthracene	74	63	40-140	16	25
Benzo(ghi)perylene	75	64	40-140	16	25
Nonane (C9)	38	43	30-140	12	25

Lab Control Sample Analysis

Batch Quality Control

Project Name: GARDEN GARAGE

Project Number: 3031.00

Lab Number: L0908631

Report Date: 08/21/29

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-04 Batch: WG368882-2 WG368882-3					
Decane (C10)	44	50	40-140	13	25
Dodecane (C12)	47	54	40-140	14	25
Tetradecane (C14)	47	54	40-140	14	25
Hexadecane (C16)	48	56	40-140	15	25
Octadecane (C18)	49	59	40-140	19	25
Nonadecane (C19)	51	61	40-140	18	25
Eicosane (C20)	52	62	40-140	18	25
Docosane (C22)	55	64	40-140	15	25
Tetracosane (C24)	57	65	40-140	13	25
Hexacosane (C26)	58	65	40-140	11	25
Octacosane (C28)	58	64	40-140	10	25
Triacontane (C30)	61	66	40-140	8	25
Hexatriacontane (C36)	64	68	40-140	6	25

Surrogate	LCS %Recovery	Qualifier	LCSD %Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	46		54		40-140
o-Terphenyl	76		69		40-140
2-Fluorobiphenyl	73		81		40-140
2-Bromonaphthalene	76		84		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

Fractionation Check Standard
Quality Control

Fractionation check standard for 200818205

Parameter	% Recovery	QC Criteria
C9-C18 Aliphatics	77	40-140
C19-C36 Aliphatics	76	40-140
C11-C22 Aromatics	86	40-140
Naphthalene	82	40-140
2-Methylnaphthalene	78	40-140
Acenaphthylene	76	40-140
Acenaphthene	80	40-140
Fluorene	79	40-140
Phenanthrene	78	40-140
Anthracene	82	40-140
Fluoranthene	84	40-140
Pyrene	84	40-140
Benzo(a)anthracene	82	40-140
Chrysene	88	40-140
Benzo(b)fluoranthene	81	40-140
Benzo(k)fluoranthene	97	40-140
Benzo(a)pyrene	78	40-140
Indeno(1,2,3-cd)Pyrene	76	40-140
Dibenzo(a,h)anthracene	83	40-140
Benzo(g,h,i)perylene	82	40-140
Nonane	72	30-140
Decane	77	40-140
Dodecane	80	40-140
Tetradecane	76	40-140
Hexadecane	78	40-140
Octadecane	76	40-140
Nonadecane	75	40-140
Eicosane	77	40-140
Docosane	79	40-140
Tetracosane	83	40-140
Hexacosane	78	40-140
Octacosane	77	40-140
Triacontane	76	40-140
Hexatriacontane	75	40-140
% Naphthalene Breakthrough	0	0-5
% 2-Methylnaphthalene Breakthrough	0	0-5

Project Name: GARDEN GARAGE
Project Number: 3031.00
Lab Number: L0908631
Report Date: 08/21/29

Fractionation Check Standard
Quality Control

Fractionation check standard for 200818205

Surrogate	% Recovery	QC Criteria
Chloro-Octadecane	66	40-140
o-Terphenyl	83	40-140
2-Fluorobiphenyl	75	40-140
2-Bromonaphthalene	76	40-140

METALS

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID: L0908631-01 Date Collected: 06/25/09 12:20

Client ID: SH-4 (W) Date Received: 06/26/09

Sample Location: BOSTON, MA Field Prep: See Narrative

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab										
Arsenic, Dissolved	0.005		mg/l	0.005	1	06/30/09 12:15	07/01/09 14:36	EPA 3005A	60,6010B	AI
Barium, Dissolved	0.028		mg/l	0.010	1	06/30/09 12:15	07/01/09 14:36	EPA 3005A	60,6010B	AI
Cadmium, Dissolved	ND		mg/l	0.004	1	06/30/09 12:15	07/01/09 14:36	EPA 3005A	60,6010B	AI
Chromium, Dissolved	ND		mg/l	0.01	1	06/30/09 12:15	07/01/09 14:36	EPA 3005A	60,6010B	AI
Lead, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 14:36	EPA 3005A	60,6010B	AI
Mercury, Dissolved	ND		mg/l	0.0002	1	06/29/09 17:25	06/30/09 12:19	EPA 7470A	64,7470A	EZ
Selenium, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 14:36	EPA 3005A	60,6010B	AI
Silver, Dissolved	ND		mg/l	0.007	1	06/30/09 12:15	07/01/09 14:36	EPA 3005A	60,6010B	AI

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID: L0908631-02 Date Collected: 06/25/09 14:10

Client ID: SH-1 (W) Date Received: 06/26/09

Sample Location: BOSTON, MA Field Prep: See Narrative

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab										
Arsenic, Dissolved	ND		mg/l	0.005	1	06/30/09 12:15	07/01/09 14:39	EPA 3005A	60,6010B	AI
Barium, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 14:39	EPA 3005A	60,6010B	AI
Cadmium, Dissolved	ND		mg/l	0.004	1	06/30/09 12:15	07/01/09 14:39	EPA 3005A	60,6010B	AI
Chromium, Dissolved	ND		mg/l	0.01	1	06/30/09 12:15	07/01/09 14:39	EPA 3005A	60,6010B	AI
Lead, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 14:39	EPA 3005A	60,6010B	AI
Mercury, Dissolved	ND		mg/l	0.0002	1	06/29/09 17:25	06/30/09 12:20	EPA 7470A	64,7470A	EZ
Selenium, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 14:39	EPA 3005A	60,6010B	AI
Silver, Dissolved	ND		mg/l	0.007	1	06/30/09 12:15	07/01/09 14:39	EPA 3005A	60,6010B	AI

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID: L0908631-03 Date Collected: 06/25/09 15:50

Client ID: SH-8 (W) Date Received: 06/26/09

Sample Location: BOSTON, MA Field Prep: See Narrative

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab										
Arsenic, Dissolved	ND		mg/l	0.005	1	06/30/09 12:15	07/01/09 14:42	EPA 3005A	60,6010B	AI
Barium, Dissolved	0.022		mg/l	0.010	1	06/30/09 12:15	07/01/09 14:42	EPA 3005A	60,6010B	AI
Cadmium, Dissolved	ND		mg/l	0.004	1	06/30/09 12:15	07/01/09 14:42	EPA 3005A	60,6010B	AI
Chromium, Dissolved	ND		mg/l	0.01	1	06/30/09 12:15	07/01/09 14:42	EPA 3005A	60,6010B	AI
Lead, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 14:42	EPA 3005A	60,6010B	AI
Mercury, Dissolved	ND		mg/l	0.0002	1	06/29/09 17:25	06/30/09 12:22	EPA 7470A	64,7470A	EZ
Selenium, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 14:42	EPA 3005A	60,6010B	AI
Silver, Dissolved	ND		mg/l	0.007	1	06/30/09 12:15	07/01/09 14:42	EPA 3005A	60,6010B	AI

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

SAMPLE RESULTS

Lab ID: L0908631-04 Date Collected: 06/26/09 09:50

Client ID: SH-9 (W) Date Received: 06/26/09

Sample Location: BOSTON, MA Field Prep: See Narrative

Matrix: Water

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab										
Arsenic, Dissolved	ND		mg/l	0.005	1	06/30/09 12:15	07/01/09 14:45	EPA 3005A	60,6010B	AI
Barium, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 14:45	EPA 3005A	60,6010B	AI
Cadmium, Dissolved	ND		mg/l	0.004	1	06/30/09 12:15	07/01/09 14:45	EPA 3005A	60,6010B	AI
Chromium, Dissolved	ND		mg/l	0.01	1	06/30/09 12:15	07/01/09 14:45	EPA 3005A	60,6010B	AI
Lead, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 14:45	EPA 3005A	60,6010B	AI
Mercury, Dissolved	ND		mg/l	0.0002	1	06/29/09 17:25	06/30/09 12:24	EPA 7470A	64,7470A	EZ
Selenium, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 14:45	EPA 3005A	60,6010B	AI
Silver, Dissolved	ND		mg/l	0.007	1	06/30/09 12:15	07/01/09 14:45	EPA 3005A	60,6010B	AI

Project Name: GARDEN GARAGE **Lab Number:** L0908631

Project Number: 3031.00 **Report Date:** 08/21/29

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 01-04 Batch: WG368864-1									
Mercury, Dissolved	ND		mg/l	0.0002	1	06/29/09 17:25	06/30/09 12:08	64,7470A	EZ

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 01-04 Batch: WG369005-1									
Arsenic, Dissolved	ND		mg/l	0.005	1	06/30/09 12:15	07/01/09 12:33	60,6010B	AI
Barium, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 12:33	60,6010B	AI
Cadmium, Dissolved	ND		mg/l	0.004	1	06/30/09 12:15	07/01/09 12:33	60,6010B	AI
Chromium, Dissolved	ND		mg/l	0.01	1	06/30/09 12:15	07/01/09 12:33	60,6010B	AI
Lead, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 12:33	60,6010B	AI
Selenium, Dissolved	ND		mg/l	0.010	1	06/30/09 12:15	07/01/09 12:33	60,6010B	AI
Silver, Dissolved	ND		mg/l	0.007	1	06/30/09 12:15	07/01/09 12:33	60,6010B	AI

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: GARDEN GARAGE

Project Number: 3031.00

Lab Number: L0908631

Report Date: 08/21/29

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
MCP Dissolved Metals - Westborough Lab Associated sample(s): 01-04 Batch: WG368864-2 WG368864-3					
Mercury, Dissolved	105	109	80-120	4	20
MCP Dissolved Metals - Westborough Lab Associated sample(s): 01-04 Batch: WG369005-2 WG369005-3					
Arsenic, Dissolved	111	108	80-120	3	20
Barium, Dissolved	100	98	80-120	2	20
Cadmium, Dissolved	105	102	80-120	3	20
Chromium, Dissolved	90	90	80-120	0	20
Lead, Dissolved	101	99	80-120	2	20
Selenium, Dissolved	109	105	80-120	4	20
Silver, Dissolved	98	96	80-120	2	20

Project Name: GARDEN GARAGE
Project Number: 3031.00

Lab Number: L0908631
Report Date: 08/21/29

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis
L0908631-01A	Vial HCl preserved	A	N/A	2.3 c	Y	Absent	MCP-8260-04(14)
L0908631-01B	Vial HCl preserved	A	N/A	2.3 c	Y	Absent	MCP-8260-04(14)
L0908631-01C	Plastic 500ml HNO3 preserved	A	<2	2.3 c	Y	Absent	MCP-AG-6010S(180),MCP-BA-6010S(180),MCP-SE-6010S(180),MCP-CD-6010S(180),MCP-7470S(28),MCP-CR-6010S(180),MCP-PB-6010S(180),MCP-AS-6010S(180)
L0908631-01D	Amber 1000ml HCl preserved	A	<2	2.3 c	Y	Absent	EPH-04(14)
L0908631-01E	Amber 1000ml HCl preserved	A	<2	2.3 c	Y	Absent	EPH-04(14)
L0908631-02A	Vial HCl preserved	A	N/A	2.3 c	Y	Absent	MCP-8260-04(14)
L0908631-02B	Vial HCl preserved	A	N/A	2.3 c	Y	Absent	MCP-8260-04(14)
L0908631-02C	Plastic 500ml HNO3 preserved	A	<2	2.3 c	Y	Absent	MCP-AG-6010S(180),MCP-BA-6010S(180),MCP-SE-6010S(180),MCP-CD-6010S(180),MCP-7470S(28),MCP-CR-6010S(180),MCP-PB-6010S(180),MCP-AS-6010S(180)
L0908631-02D	Amber 1000ml HCl preserved	A	<2	2.3 c	Y	Absent	EPH-04(14)
L0908631-02E	Amber 1000ml HCl preserved	A	<2	2.3 c	Y	Absent	EPH-04(14)
L0908631-03A	Vial HCl preserved	A	N/A	2.3 c	Y	Absent	MCP-8260-04(14)
L0908631-03B	Vial HCl preserved	A	N/A	2.3 c	Y	Absent	MCP-8260-04(14)
L0908631-03C	Plastic 500ml HNO3 preserved	A	<2	2.3 c	Y	Absent	MCP-AG-6010S(180),MCP-BA-6010S(180),MCP-SE-6010S(180),MCP-CD-6010S(180),MCP-7470S(28),MCP-CR-6010S(180),MCP-PB-6010S(180),MCP-AS-6010S(180)
L0908631-03D	Amber 1000ml HCl preserved	A	<2	2.3 c	Y	Absent	EPH-04(14)
L0908631-03E	Amber 1000ml HCl preserved	A	<2	2.3 c	Y	Absent	EPH-04(14)
L0908631-04A	Vial HCl preserved	A	N/A	2.3 c	Y	Absent	MCP-8260-04(14)
L0908631-04B	Vial HCl preserved	A	N/A	2.3 c	Y	Absent	MCP-8260-04(14)
L0908631-04C	Plastic 500ml HNO3 preserved	A	<2	2.3 c	Y	Absent	MCP-AG-6010S(180),MCP-BA-6010S(180),MCP-SE-6010S(180),MCP-CD-6010S(180),MCP-7470S(28),MCP-CR-6010S(180),MCP-PB-6010S(180),MCP-AS-6010S(180)
L0908631-04D	Amber 1000ml HCl preserved	A	<2	2.3 c	Y	Absent	EPH-04(14)
L0908631-04E	Amber 1000ml HCl preserved	A	<2	2.3 c	Y	Absent	EPH-04(14)
L0908631-05A	Vial HCl preserved	A	N/A	2.3 c	Y	Absent	HOLD(14)

*Hold days indicated by values in parentheses

Project Name: GARDEN GARAGE
Project Number: 3031.00

Lab Number: L0908631
Report Date: 08/21/29

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis

*Hold days indicated by values in parentheses

Project Name:	GARDEN GARAGE	**Lab Number:**	L0908631
Project Number:	3031.00	**Report Date:**	08/21/29

GLOSSARY

Acronyms

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.
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.
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.
ND	· Not detected at the reported detection limit for the sample.
NI	· Not Ignitable.
RDL	· Reported Detection Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RDL 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.

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.

Data Qualifiers

*****	- The batch duplicate RPD exceeds the acceptance criteria. This flag is not applicable when the sample concentrations are less than 5x the RDL. (Metals only.)
A	- Spectra identified as "Aldol Condensation Product".
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.
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.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
N	- The matrix spike recovery exceeds the acceptance criteria. This flag is not applicable when the sample concentration is greater than 4x the spike added. (Metals only.)
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
J	- Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

Project Name:	GARDEN GARAGE	**Lab Number:**	L0908631
Project Number:	3031.00	**Report Date:**	08/21/29

REFERENCES

60 Quality Assurance and Quality Control Requirements and Performance Standards for SW-846 Methods. MADEP BWSC. WSC-CAM-IIA (Revision 4), WSC-CAM-V C (Revision 2), WSC-CAM-IIIA (Revision 5). May 2004.

61 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH). Massachusetts Department of Environmental Protection, DEA/ORS/BWSC. May 2004, Revision 1.1.

64 Quality Assurance and Quality Control Requirements and Performance Standards for SW-846 Methods. MADEP BWSC. WSC-CAM-IIA (Revision 4), WSC-CAM-V C (Revision 2), WSC-CAM-IIIA (Revision 5). August 2004.

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 Woods Hole Labs 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 Woods Hole Labs.

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.

Certificate/Approval Program Summary

Last revised June 24, 2009 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. ***NELAP Accredited Solid Waste/Soil.***

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Haloacetic Acids, Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB).)
Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Calcium Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)
Solid Waste/Soil (Inorganic Parameters: Lead in Paint, pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), Reactivity. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3.3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.
Drinking Water (Inorganic Parameters: SM9215B, 9221E, 9222B, 9222D, 9223B, EPA 150.1, 180.1, 300.0, 353.2, SM2130B, 2320B, 4500Cl-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B,4500NO3-F, EPA 200.7, EPA 200.8, 245.1. Organic Parameters: 504.1, 524.2, SM 6251B.)
Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, Lachat 10-107-06-1-B, SM2320B, 2340B, 2510B, 2540C, 2540D, 426C, 4500Cl-D, 4500Cl-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B.5, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water
Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl)
(EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Nitrite-N, Fluoride, Sulfate)
353.2 for: Nitrate-N, Nitrite-N; SM4500NO3-F, 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, 2320B, SM2540C, EPA 150.1, SM4500H-B.
Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics)
(504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), SM6251B, 314.0.

Non-Potable Water
Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn)
(EPA 200.7 for: Al,Sb,As,Be,Cd,Cr,Co,Cu,Fe,Pb,Mn,Mo,Ni,Se,Ag,Sr,Tl,Ti,V,Zn,Ca,Mg,Na,K)
245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2540B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Nitrate-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-B,C-Titr, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CN-CE, 2540D, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1
Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics)
(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCB-Water)
600/4-81-045-PCB-Oil

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.
Drinking Water
Microbiology Parameters: SM9215B; MF-SM9222B; ENZ. SUB. SM9223; EC-SM9221E; MF-SM9222D; ENZ. SUB. SM9223;

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM6215B, 9222B, 9223B Colilert, EPA 200.7, 200.8, 245.2, 110.2, 120.1, 150.1, 300.0, 325.2, 314.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 331.0. Organic Parameters: 504.1, 524.2, SM6251B.)
Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 150.1, 300.0, 305.1, 310.1, 325.2, 340.2, 350.1, 350.2, 351.1, 353.2, 354.1, 365.2, 375.4, 376.2, 405.1, 415.1, 420.1, 425.1, 1664A, SW-846 9010, 9030, 9040B, EPA 160.1, 160.2, 160.3, SM426C, SM2310B, 2540B, 2540D, 4500H+B, 4500NH3-H, 4500NH3-E, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 2320B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-117-07-1-B, LACHAT 10-107-06-1-B, LACHAT 10-107-04-1-C, LACHAT 10-107-04-1-J, LACHAT 10-117-07-1-A, SM4500CL-E, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3005A, 3015A, 3510C, 5030B, 8021B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A.)
Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 7.3.3.2, 7.3.4.2, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040, 9045C, 9050C, 1311, 3005A, 3050B, 3051A. Organic Parameters: SW-846 3540C, 3545, 3580A, 5030B, 5035, 8021B, 8260B, 8270C, 8330, 8151A, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 2540C, 2320B, 314.0, 331.0, 110.2, SM2120B, 2510B, 5310C, EPA 150.1, SM4500H-B, EPA 200.8, 245.2. Organic Parameters: 504.1, SM6251B, 524.2.)
Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.1, SM5220D, 4500Cl-D, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, SM9221CE, 9222D, 9221B, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.2/.1, SM5210B, SW-846 3015, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 3510C, EPA 608, 624, 625, SW-846 5030B, 8021B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7.)
Solid & Chemical Materials (Inorganic Parameters: SW-846 9040B, 3005A, 6010B, 7196A, 5030B, 9010B, 9030B, 1030, 1311, 3050B, 3051, 7471A, 9014, 9012A, 9045C, 9050A, 9065. Organic Parameters: SW-846 8021B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 1311, 1312, 3540C, 3545, 3550B, 3580A, 5035L, 5035H, NJ OQA-QAM-025 Rev.7.)

New York Department of Health Certificate/Lab ID: 11148. ***NELAP Accredited.***
Drinking Water (Inorganic Parameters: SM9223B, 9222B, 8215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 314.0, 331.0, SM2320B, EPA 300.0, 325.2, 110.2, SM2120B, 4500CN-E, 4500F-C, EPA 150.1, SM4500H-B, 4500NO3-F, 2540C, EPA 120.1, SM 2510B. Organic Parameters: EPA 524.2, 504.1, SM6251B.)
Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, EPA 405.1, SM5210B, EPA 410.4, SM5220D, EPA 305.1, SM2310B-4a, EPA 310.1, SM2320B, EPA 200.7, 300.0, 325.2, LACHAT 10-117-07-1A or B, SM4500Cl-E, EPA 340.2, SM4500F-C, EPA 375.4, SM15 426C, EPA 350.1, 350.2, LACHAT 10-107-06-1-B, SM4500NH3-H, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-041-C, SM4500-NO30F, EPA 354.1, SM4500-NO2-B, EPA 365.2, SM4500P-E, EPA 160.3, EPA 160.1, SM2540C, EPA 160.2, SM2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, S\M3500Cr-D, EPA 245.1, 245.2, 7470A, 110.2, SM2120B, 335.2, LACHAT 10-204-00-1-A, EPA 150.1, 9040B, SM4500-HB, EPA 1664A, EPA 415.1, SM5310C, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, EPA 376.2, SM4500S-D, EPA 425.1, SM5540C, EPA 3005A, 3015. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, 8021B, EPA 3510C, 5030B, 9010B, 9030B.)
Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, 1010, 1030, SW-846 Ch 7 Sec 7.3, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 3005A, 3050B, 3051, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8081A, 8151A, 8330, 8082, 8021B, 3540C, 3545, 3580, 5030B, 5035.)
Analytical Services Protocol: CLP Volatile Organics, CLP Inorganics, CLP PCB/Pesticides.

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. ***NELAP Accredited.***
Non-Potable Water (Organic Parameters: EPA 3510C, 625, 608, 8081A, 8082, 8151A, 8270C, 8330)
Solid & Hazardous Waste (Inorganic Parameters: EPA 1010, 1030, 1311, 3050B, 3051, 6010B, EPA 7.3.3.2, EPA 7.3.4.2, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065. Organic Parameters: 3540C, 3545, 3580A, 5035, 8021B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. ***NELAP Accredited via NY-DOH.***
Refer to MA-DEP Certificate for Potable and Non-Potable Water.
Refer to NY-DOH Certificate for Potable and Non-Potable Water.

Utah Department of Health Certificate/Lab ID: AAMA. ***NELAP Accredited.***
Non-Potable Water (Inorganic Parameters: Chloride EPA 300.0)

CHAIN OF CUSTODY

PAGE _____ OF _____

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 6/26/09

ALPHA Job #: L0708631

Client Information

Client: Sanborn, Head & Assoc.
Address: 1 Tech. Park Dr. Westford MA 01886
Phone: (978) 392-0900
Fax: (978) 392-0987
Email: Kstetson@sanbornhead.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Garden Garage
Project Location: Boston, MA
Project #: 3031.00
Project Manager: Kevin Stetson
ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: 7/6 Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program: MA MCP
Criteria: RC-1, RC-2

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO-

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: VOC (8260B)	EPH	Dissolved RCRA8 metals	Sample Specific Comments	TOTAL # BOTTLES
8631-1	SH-4 (W)	6/25/09	1220	GW	ADC	X	X	X	filtered EPH & metals	5
2	SH-1 (W)	6/25/09	1410	GW	ADC	X	X	X	filtered metals	5
3	SH-8 (W)	6/25/09	1550	GW	ADC	X	X	X	filtered metals	5
4	SH-9 (W)	6/26/09	9:50	GW	ADC	X	X	X	filtered metals	5
5	TRIP BLANK					X			HOLD	

SAMPLE HANDLING

Filtration
☑ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type	A	A	P
Preservative	B	B	C

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

FORM NO: 01-01 (rev. 14-OCT-07)

Relinquished By:	Date/Time	Received By:	Date/Time
	6/26/09 16		6/26/9 16
	6/26 1700		6/26 1700

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 Terms and Conditions. See reverse side.

0706091209

SHA

IMPROVING EARTH

ATTACHMENT B:

DEWATERING PLAN

Dewatering Plan

Installation Procedure:

1. Offload dewatering tank to appropriate location.
2. Install 6" PVC connection to discharge location.
3. Install (3)-SAE-TC testing ports and flow meter online of the discharge pipe.
4. Connect pump to dewatering tank with a flexible hose and place in area of excavation. The pump will be placed within a perforated PVC pipe section surrounded by 1-1/2"" stone in order to minimize silt.

*Note: Dewatering system components will be located after coordination with Superintendent

O & M Relative to Excavation Sequence, Foundation Construction, and Backfilling:

1. Planned discharge into City of Boston System will not commence without seven (7) days advance notice to the Engineer. The Engineer must approve prior to any discharge commencing.
2. Dewater such that the water level is maintained a minimum of 2 ft below the excavation and backfill subgrade.
3. The subgrade is to remain stable at all times during the excavation and dewatering.
4. The pump, perforated PVC section, and stone will be maintained below the lowest point of excavation and highest point of backfill at all times.
5. When decommissioning sump pits, a new sump pit in a more desirable location will be prepared prior to removing the pump from the sump pit being abandoned. This will assure continuous dewatering is maintained. Upon abandoning the undesirable sump pit, all the 1.5" stone, filter fabric, PVC, and any other debris in the area will be removed leaving only subgrade material. The pit will be backfilled so that there are no unnecessary pits in the subgrade.
6. Backup equipment-Additional pumps, PVC pipe, flowmeters, and testing ports will be available as needed.
7. The dewatering system will be continuously operational as necessary to keep the work area in the dry. This includes the Cold Water Recordall Turbo 450 Meter continuously recording flow rate and volume.
8. Silt treatment will be performed using appropriate bag filters, should the sedimentation tank not remove the required total suspended solids
9. A Daily Flow Log will be kept by the operator and submitted to the Engineer on a weekly basis (See appendix).
10. A Sedimentation Basin Log will be kept by the operator and submitted to the Engineer on a weekly basis. (See appendix)

Schedule for Cleaning Sedimentation Tank:

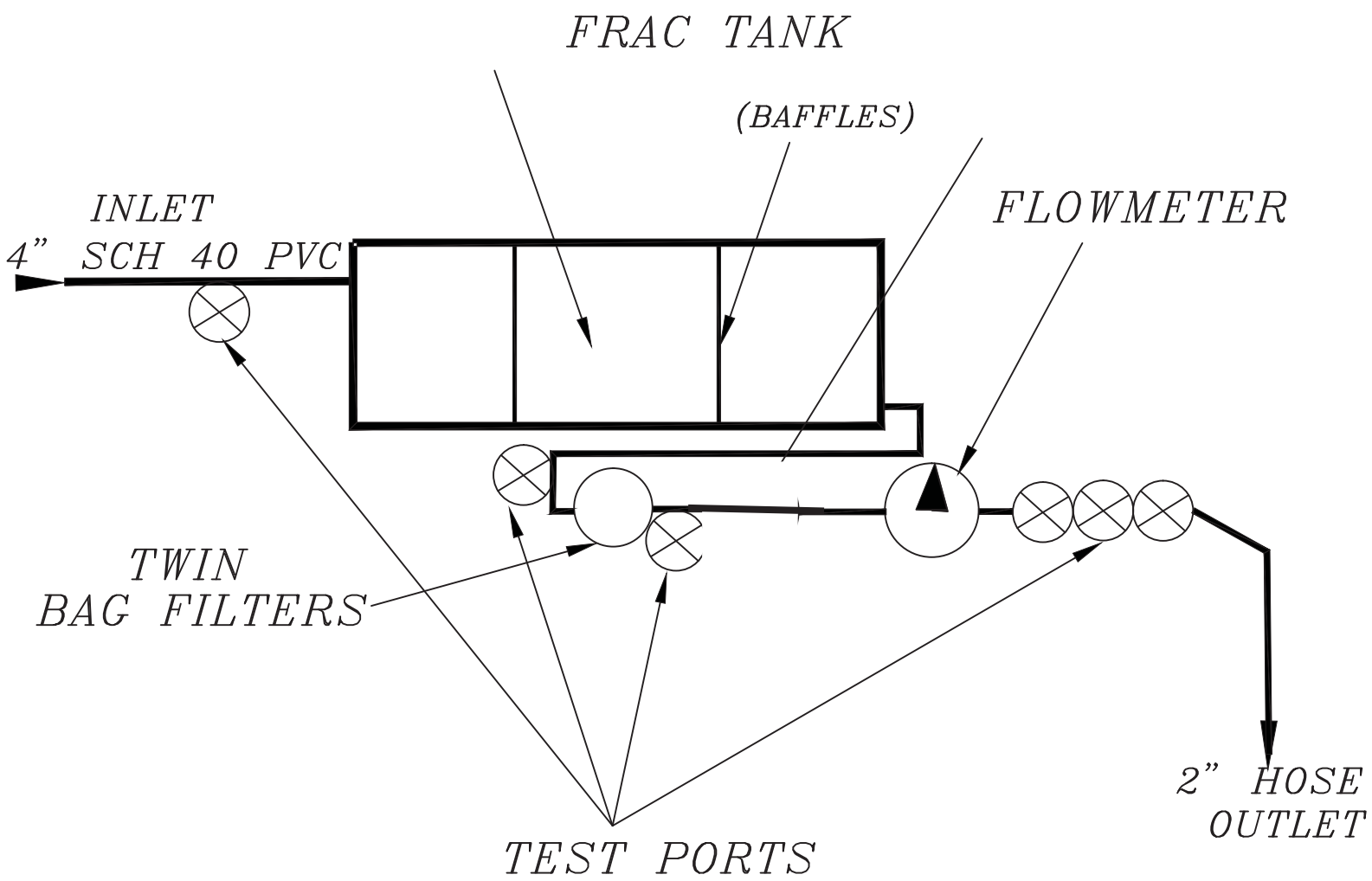
1. When sediment has reached a depth of 1' within the tank, the tank is to be drained and the sediment is removed using a Vac truck. Sediment to be disposed at a legal disposal facility.

2. Bag filters will be cleaned regularly to assure proper silt filtering. Additional bag filters will be onsite so that the filtering stays continuous while other filters are being cleaned.
   Bag filters will be of polypropylene felt material with a thermally welded bag.
   The housings will be Stainless Steel, ASME Code.
   (316 SS Construction, BUNA-N O-ring, RF 150lb ANSI flanged connections)

This routine maintenance of changing bag filters and cleaning the sedimentation tank will assure that suspended solids in the dewatering effluent will be minimized.

General Conformance

- All dewatering shall be conducted in accordance with the MWRA and/or NPDES permit, depending on local authority
- Advance Notice shall be provided as required by the specifications prior to commencing discharge of effluent to the city system.



CONSTRUCTION NOTES

1. ADDITIONAL SUMP LOCATIONS OR TRENCHES LEADING TO THE SUMP PITS MAY BE REQUIRED TO ADEQUATELY DEWATER THE TRENCH

Plan Title:

DEWATERING SYSTEM SCHEMATIC

Project Title:

Revisions:

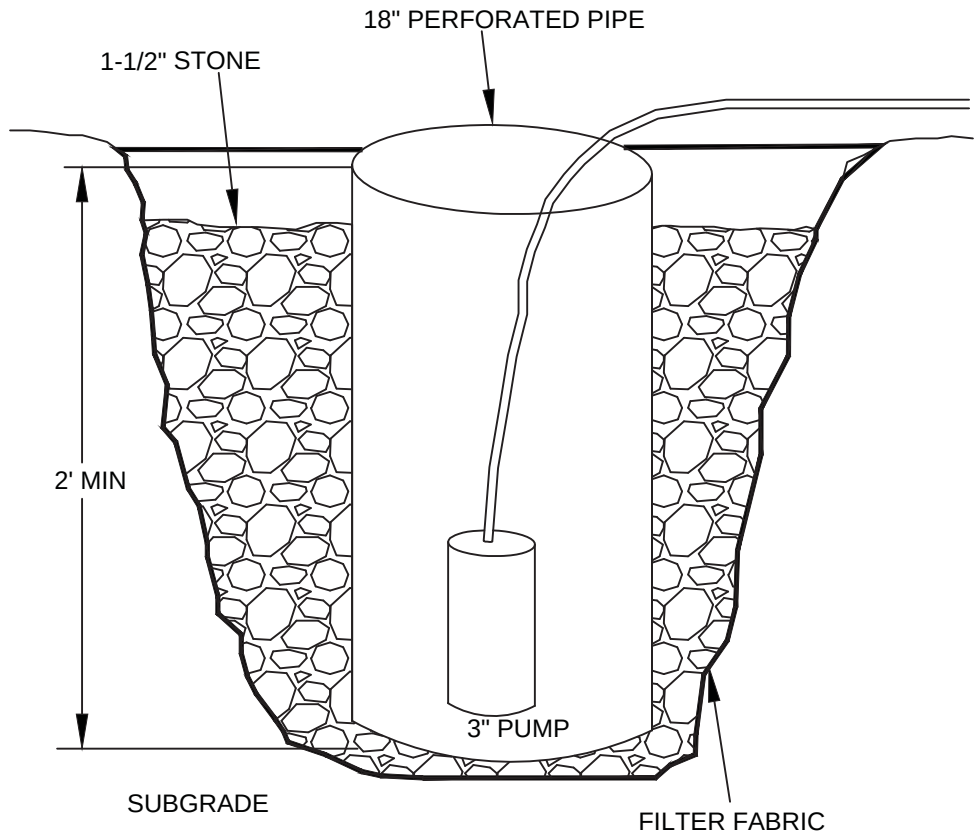
Prepared For:

J. Derenzo Company
338 Howard Street
Brockton, Massachusetts 02302
Ph. (508) 427 6441 Fax. (508) 427 6488

3.7.14	Drawing No.
Project Mgr.: P.B.	
Superintendent: J.F.	
Survey:	1 OF 1
Drawn: R.L.	
Job No.:	
Last Rev.:	

CONSTRUCTION NOTES

1. ADDITIONAL SUMP LOCATIONS OR TRENCHES LEADING TO THE SUMP PITS MAY BE REQUIRED TO ADEQUATELY DEWATER THE TRENCH



(3" PUMP/SUMP DETAIL)

Plan Title:

DEWATERING SYSTEM DETAIL

Project Title:

Revisions:

Prepared For:

J. Derenzo Company
338 Howard Street
Brockton, Massachusetts 02302
Ph. (508) 427 6441 Fax. (508) 427 6488

3.7.14	Drawing No.
Project Mgr.: P.B.	
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CONSTRUCTION NOTES

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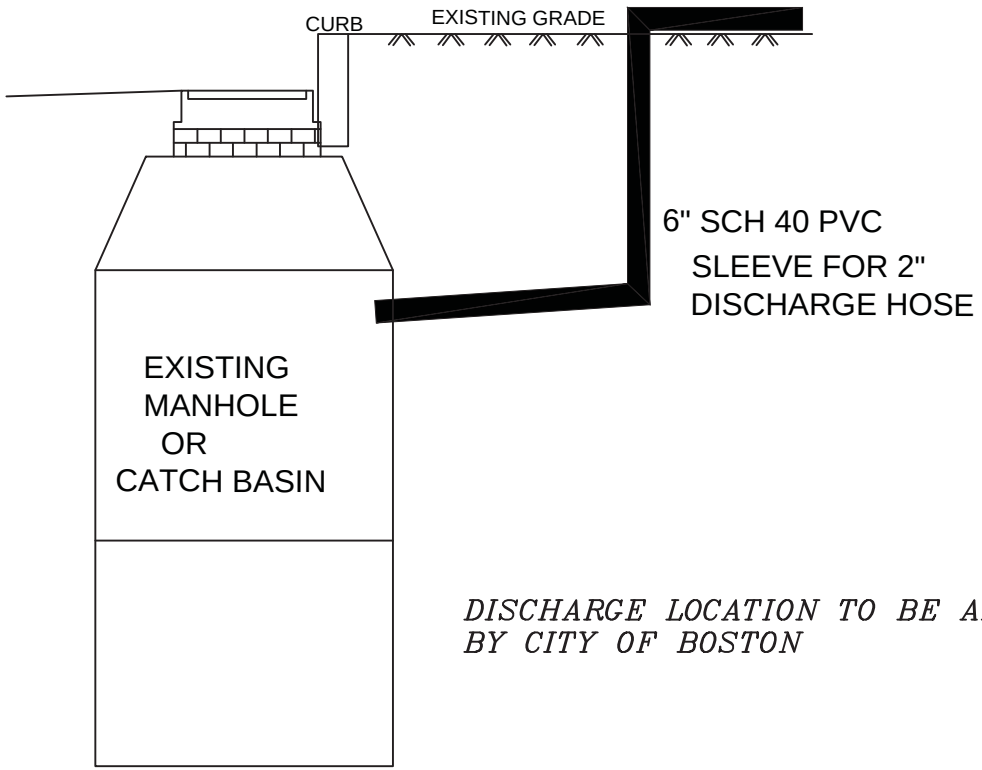


DISCHARGE LOCATION TO BE APPROVED BY CITY OF BOSTON

DISCHARGE POINT TIE-IN DETAIL

Plan Title:

DEWATERING SYSTEM DETAIL

Project Title:

Revisions:

Prepared For:

J. Derenzo Company
338 Howard Street
Brockton, Massachusetts 02302
Ph. (508) 427 6441 Fax. (508) 427 6488

3.7.14	Drawing No.
Project Mgr.: P.B.	
Superintendent: J.F.	
Survey:	1 OF 1
Drawn: R.L.	
Job No.:	
Last Rev.:	

TENCATE Mirafi®

Mirafi® 140N

Mirafi® 140N is a needlepunched nonwoven geotextile composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position. Mirafi® 140N is inert to biological degradation and resists naturally encountered chemicals, alkalis, and acids. Mirafi® 140N meets Aashto M288-06 Class 3 for elongation > 50%.

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Grab Tensile Strength	ASTM D4632	lbs (N)	120 (534)	120 (534)
Grab Tensile Elongation	ASTM D4632	%	50	50
Trapezoid Tear Strength	ASTM D4533	lbs (N)	50 (223)	50 (223)
CBR Puncture Strength	ASTM D6241	lbs (N)	310 (1380)	
Apparent Opening Size (AOS)[1]	ASTM D4751	U.S. Sieve (mm)	70 (0.212)	
Permittivity	ASTM D4491	sec^{-1}	1.7	
Flow Rate	ASTM D4491	$gal/min/ft^2$ ($l/min/m^2$)	135 (5500)	
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	70	

[1] ASTM D4751: AOS is a Maximum Opening Diameter Value

Physical Properties	Unit	Typical Value	
Roll Dimensions (width x length)	ft (m)	12.5 x 360 (3.8 x 110)	15 x 360 (4.5 x 110)
Roll Area	yd^2 (m^2)	500 (418)	600 (502)
Estimated Roll Weight	lb (kg)	133 (60)	160 (72)

Disclaimer: TenCate assumes no liability for the accuracy or completeness of this information or for the ultimate use by the purchaser. TenCate disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.

Made in USA

TENCATE™ materials that make a difference

FGS000385
ETQR54

21,000-Gallon Frac Tank

Mobile Storage Tank

A Large-Scale Fluid Storage Solution

FEATURES

- SAFETY ✓ OSHA-compliant fixed-front non-slip stairway, platform, and railing
- SAFETY ✓ Rodless interiors for safe and easy cleaning
- SAFETY ✓ Side-stairway style for increased safety during inspection and top operations (typically available)
- SAFETY ✓ V-shaped bottom for complete drain and enhanced safety during cleaning
- Smooth interior walls for easy cleaning
- Epoxy-lined for wide chemical resistance
- 2–3 24" manways provide easy access
- 2-4" butterfly valve drains in recessed sumps for complete drain
- Vapor-tight
- Pressure relief valve
- Multiple fill options

USAGES

- On-site storage of fluids
- Controlling fugitive emissions

Why E-Tank?

CERTIFIED CLEAN ON-SITE FLUID STORAGE

Why Certified Clean? Prior to delivery, each of our tanks is cleaned and tested to assure that levels of any substances previously stored in the tanks are below defined limits. E-Tank's limits are based on nationally recognized environmental and health standards. This practice minimizes the possibility of cross-contamination from other industrial and environmental worksites. One occurrence of cross-contamination at a worksite can be very costly not only in terms of money and time, but also reputation. E-Tank is the only company in the industry that offers rental tanks that are truly "Certified Clean".

Learn more about our certified clean process at **www.etank.net**.

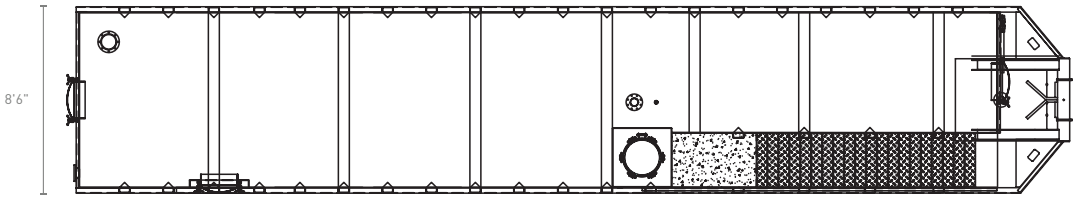
Specifications

Dimensions	45 ft. (13.72 m) long x 8 ft. 6 in. (2.59 m) wide x 11ft. (3.35 m) high, including towing assembly
Weight	28,000 lb. (12700.59 kg)
Capacity	21,000 gal. (79493.65 l) (nominal)
Valves	Two 4 in. (10.16 cm) butterfly valve drains with NPT threads, one at each end in recessed sumps One 4 in. (10.16 cm) valve mid-way on tank front
Manways	Two to three 21–25 in. (53.34– 63.50 cm) manways, typically at front, side and rear All manways equipped with butterfly-style nuts
Inspection Hatch	One 21 in. (53.34 cm) top inspection hatch with safety bars
Fill/Overflow Line	Top 3 in. (7.62 cm) feed line with cap and NPT threads
Vent	4 in. (10.16 cm) vent/hatch equipped with pressure relief valve 4 or 16 oz. (113.40 g or 453.59 g) psi for pressure, 0.4 oz. (11.34 g) psi for vacuum
Other Connections	Additional 4 in. (10.16 cm) and 2 in. (5.08 cm) NPT connections with caps

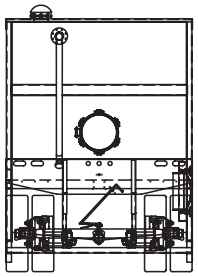
Specifications are approximate and may vary. Ask your sales representative for specific dimensions for the unit we supply to you.

Options & Accessories

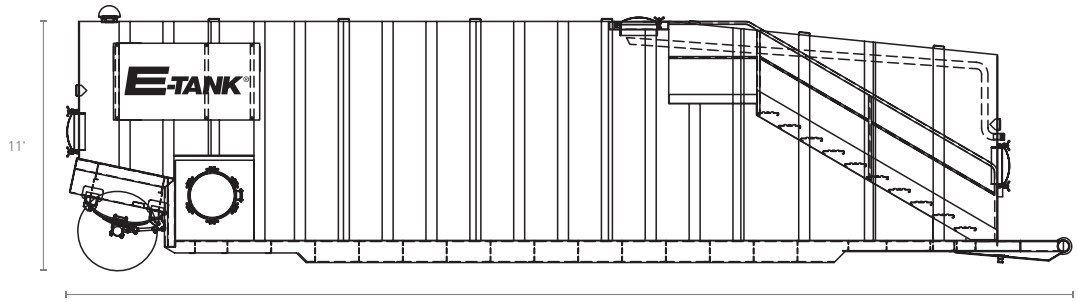
- Secondary Containment Berm
- Steam Coils
- Epoxy or Non-Coated Interiors
- Camlock Fittings
- Vapor-Tight
- Suction and Discharge Hoses
- Level Gauges



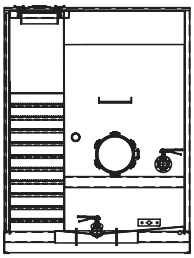
Top View



Rear View



Passenger Side

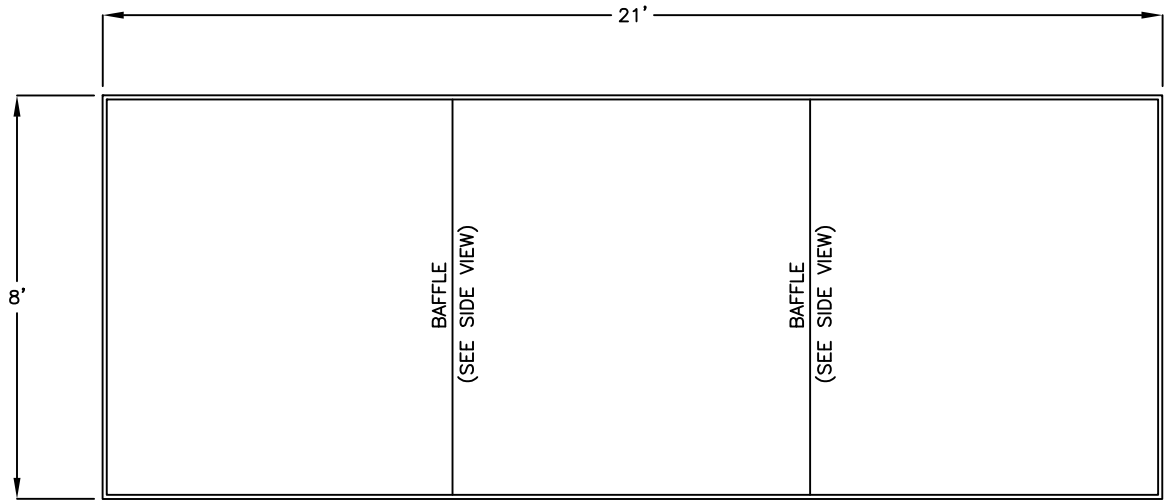


Front View

EQUIP YOUR TANK WITH STEAM COILS

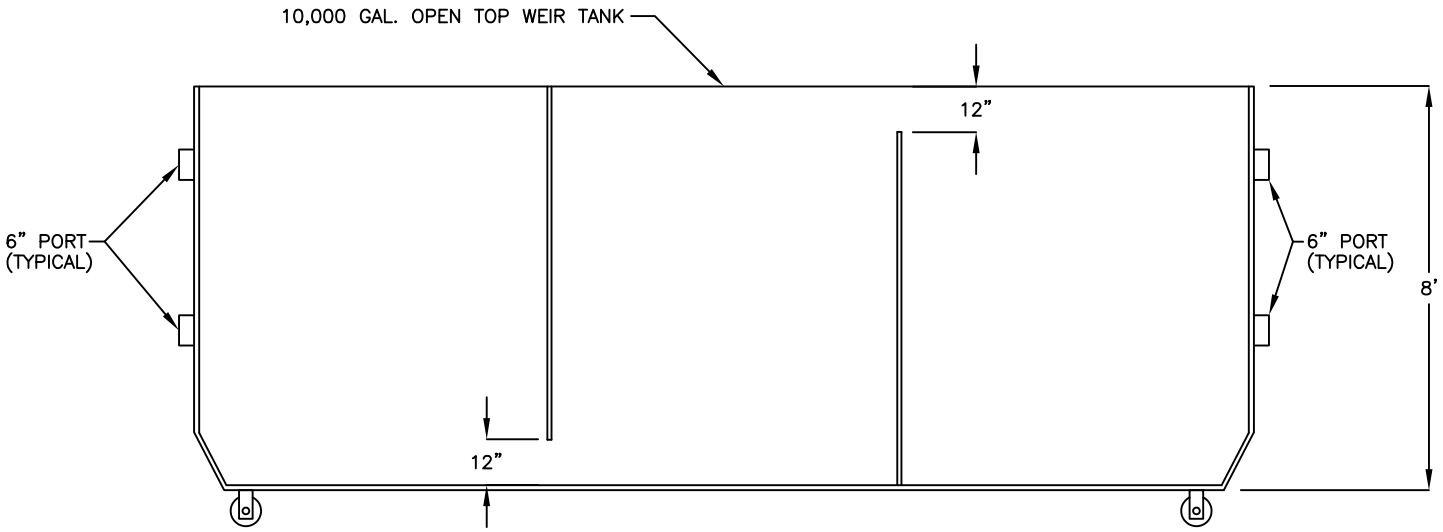
21,000-gallon tanks equipped with steam coils are available. Ask your sales representative for more information.

Toll Free: 888-70E-TANK (888-703-8265)
www.etank.net | info@etank.net



TOP VIEW

NOT TO SCALE



SIDE VIEW

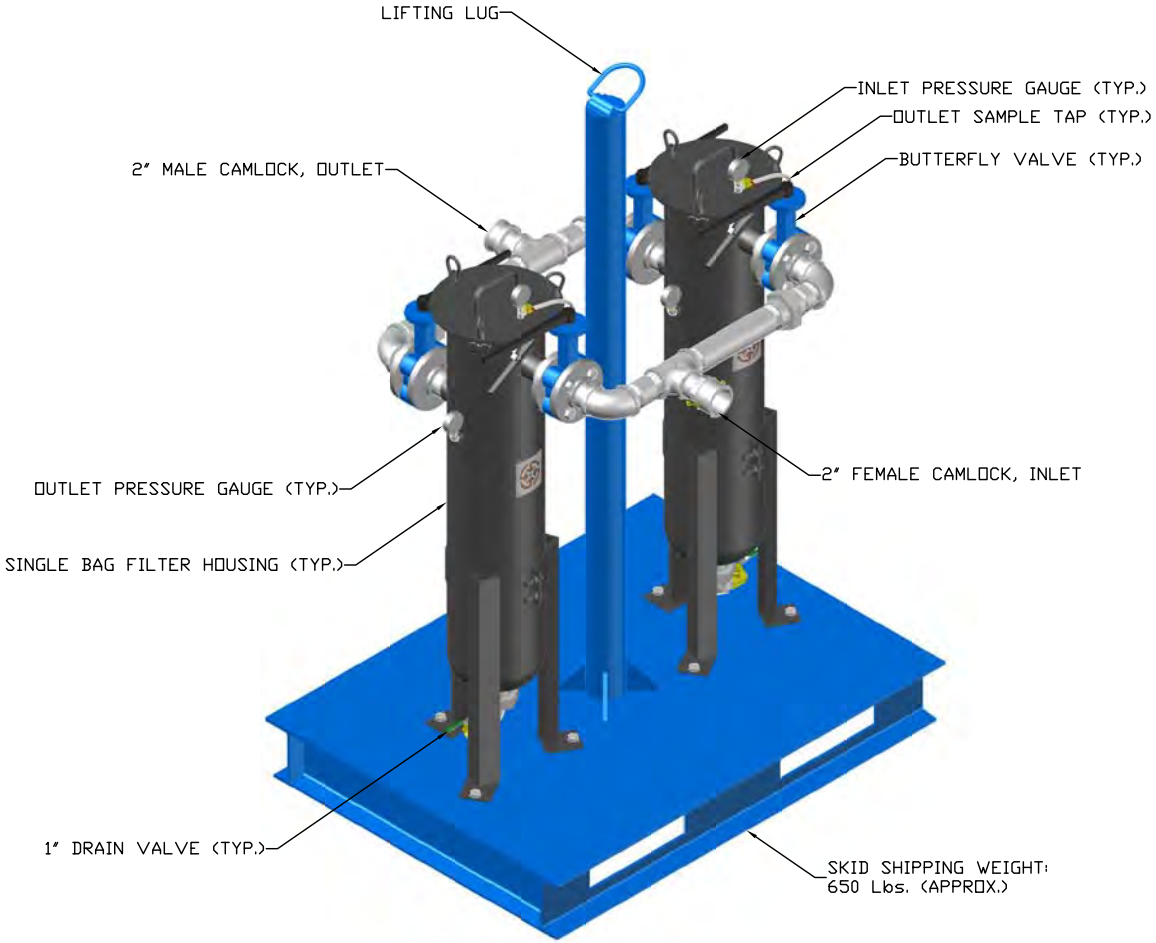
NOT TO SCALE

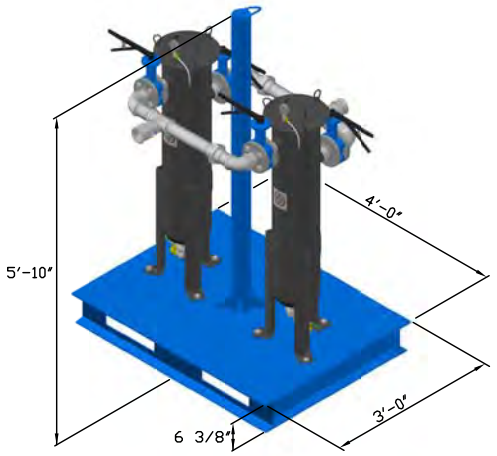
LOCKWOOD REMEDIATION TECHNOLOGIES LLC
127 HARTWELL STREET, SUITE 3
WEST BOYLSTON, MA 01583
TEL.: 774.450.7177 FAX: 888.835.0617
www.lrt-llc.net

OPEN TOP
10,000 GALLON WEIR TANK

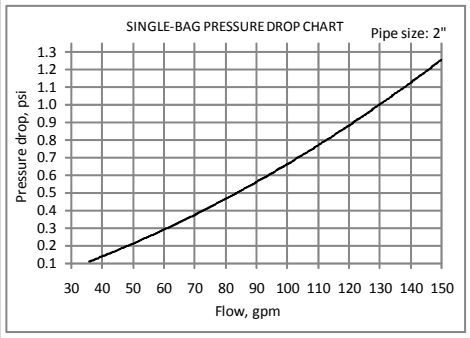
SCALE: NOT TO SCALE		DR. BY: K. HAZEL
DATE: 6/20/11	APP. BY: PL	JOB NO.:
CLIENT:		FIGURE 1
SITE:		

T:\Cad Files\Rentals - STANDARD DRAWINGS\EQUIPMENT SPECIFICATION\BAG FILTERS\ST-0002-SPC Rev-C Duplex Single Bag Filter Skid.dwg





NOTE: THIS DRAWING DEPICTS A "TYPICAL" SKID.
ACTUAL DETAILS AND DIMENSIONS MAY VARY.

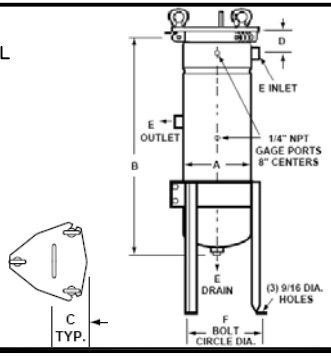


SINGLE BAG FILTER SPECIFICATIONS

- CONSTRUCTION:	CARBON STEEL
- HOUSING STYLE:	STANDARD
- NUMBER OF BASKETS:	1
- STRAINING FILTERING AREA:	26.4 SQR. FT.
- INLET/OUTLET SIZE:	2"
- DRAIN SIZE (1x):	2"
- NOMINAL FLOW RATE:	100 GPM
- STANDARD PRESSURE:	125 PSI
- WEIGHT (PER DRY UNIT):	70 Lbs.

BASIC DIMENSIONS

MODEL NUMBER & A: 8 (8.6")
LEG BOLT CIRCLE F: ø12.0"
B: 35.9" C: 6.0"
D: 3.5" E: 2.0"



NO.	REVISIONS	DATE
C	ADDED SKID WEIGHT	02/18/09

DUPLEX SINGLE BAG FILTER SKID STANDARD EQUIPMENT SPECIFICATION

SCALE: NTS	APPROVED BY: JB	DRAWN BY: AAV	
DATE: 02/18/09			

GROUND/WATER TREATMENT & TECHNOLOGY
P.O. BOX 1174
DENVILLE, NJ 07834

DWG SIZE: A	SHEET: 1 OF 1	DRAWING NUMBER: ST-0002-SPC	C

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

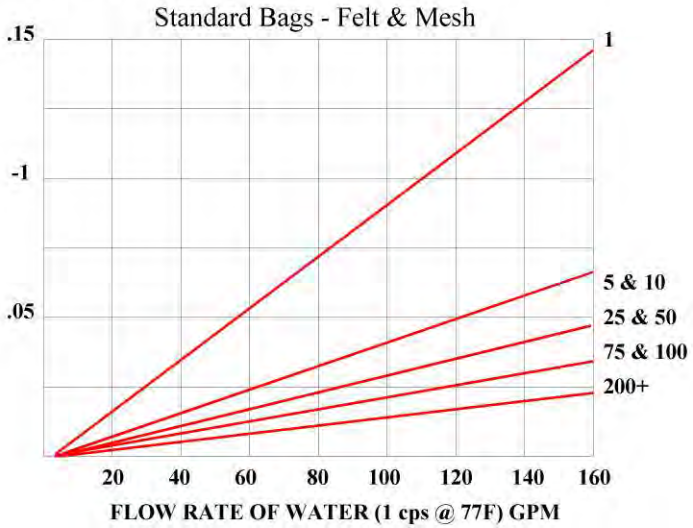
Optional Filter Media

Felt: Nomex, Polyester, Polypropylene

Monofilament: Nylon, Polyester, Polypropylene

Multifilament: Nylon, Polyester

Polypropylene: Oil Removal



Garden Garage, Boston MA

NPDES PERMIT NUMBER:

Dewatering

*Submit to Engineer Weekly

Daily Flow Log

Date	Discharge Volume (Gallons/Day)	Initialed

Garden Garage, Boston MA

NPDES PERMIT NUMBER:

Dewatering *Submit to Engineer Weekly

Sedimentation Basin Log

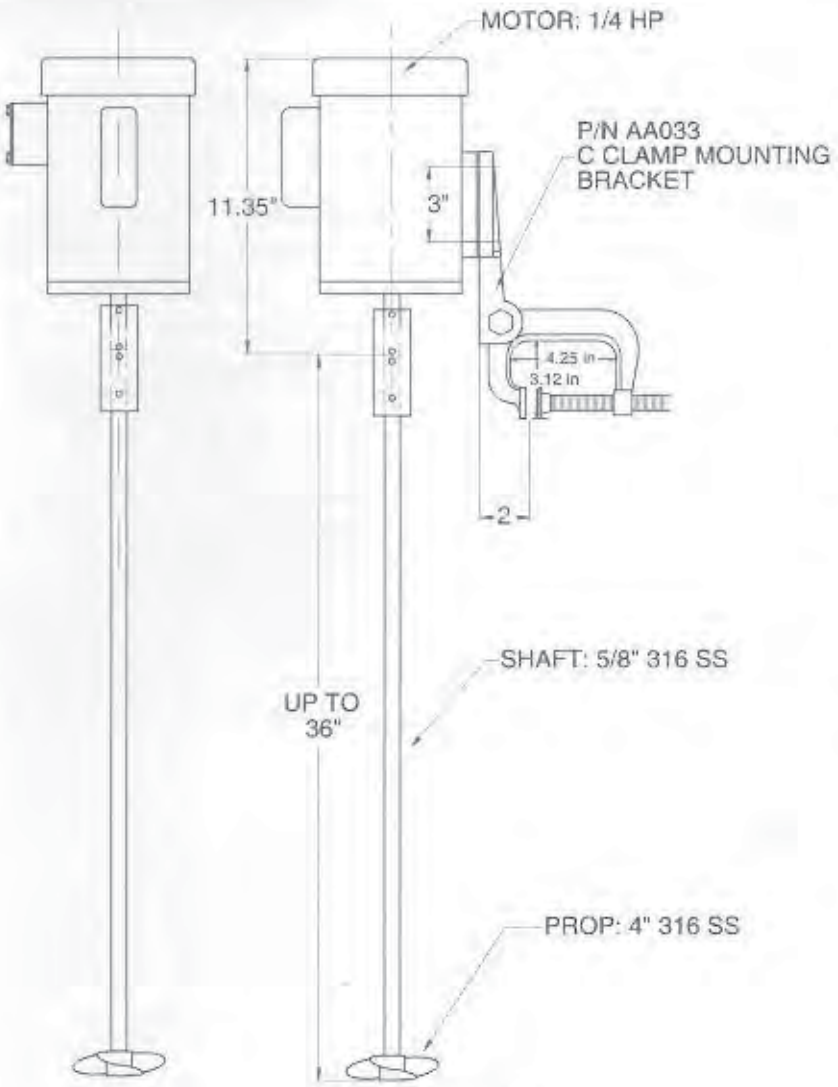
Date	Sediment Depth (in.)	Tank Location	Tank Cleaned?	Initialed

CONTINGENCY

pH System Components

MADDEN

MIXER MODEL NO. AA102A



AA102A

SPECIFICATIONS

- Speed: 1,725 rpm
- Propeller: (1 or 2) 4" diameter, 3 blade marine type, material: 316 stainless steel
- Shaft: 5/8" 316 stainless steel, up to 36" long
- Motor: 1/4 HP, 1,725 rpm, 1/60/115-230, capacitor start, or 3/60/230-460, TEFC
- Mounting: rigid mounting to fixed mixer mounting bracket, or portable mounting with mixer motor mounted to C clamp mounting bracket no. AA033.

PULSAFEEDER®
An IDEX Water & Wastewater Business

pulsafeeder.com

The Pulsatron Series E Plus offers manual control over stroke length and stroke rate as standard with the option to choose between 4-20mA and external pace inputs for automatic control.

Twenty distinct models are available, having pressure capabilities to 300 PSIG (21 BAR) @ 3 GPD (0.5 lph), and flow capacities to 600 GPD (94.6 lph) @ 30 PSIG (2 BAR), with a turndown ratio of 100:1. Metering performance is reproducible to within ± 2% of maximum capacity.
Please refer to the reverse side for Series E PLUS specifications.

Features

- Automatic Control, available with 4-20mADC direct or external pacing, with stop function.
- Manual Control by on-line adjustable stroke rate and stroke length.
- Auto-Off-Manual switch.
- Highly Reliable timing circuit.
- Circuit Protection against voltage and current upsets.
- Panel Mounted Fuse.
- Solenoid Protection by thermal overload with auto-reset.
- Water Resistant, for outdoor and indoor applications.
- Indicator Lights, panel mounted.
- Guided Ball Check Valve Systems, to reduce back flow and enhance outstanding priming characteristics.
- Safe & Easy Priming with durable leak-free bleed valve assembly (standard).

Controls

Manual Stroke Rate
- Turn-Down Ratio 10:1

Manual Stroke Length
- Turn-Down Ratio 10:1

4-20mADC Direct or External Pacing with Stop
- Automatic Control

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)

PULSAtron® Series E Plus Electronic Metering Pumps

PULSAtron® Series E Plus

Specifications and Model Selection

MODEL		LPK2	LPB2	LPA2	LPD3	LPB3	LPA3	LPK3	LPF4	LPD4	LPB4	LPH4	LPG4	LPE4	LPK5	LPH5	LPH6	LPK7	LPH7	LPJ7	LPH8
Capacity	GPH	0.13	0.21	0.25	0.5	0.50	0.50	0.60	0.85	0.90	1.00	1.70	1.75	1.85	2.50	3.15	5.00	8.00	10.00	10.00	25.00
nominal	GPD	3	5	6	12	12	12	14	20	22	24	41	42	44	60	76	120	192	240	240	600
(max.)	LPH	0.5	0.8	0.9	1.9	1.9	1.9	2.3	3.2	3.4	3.8	6.4	6.6	7	9.5	11.9	18.9	30.3	37.9	37.9	94.6
Pressure	PSIG	300	250	150	250	150	100	100	250	150	100	250	150	100	150	150	100	50	35	80	30
(max.)	BAR	21	17	10	17	10	7	7	17	10	7	17	10	7	10	10	7	3.3	2.4	5.5	2
Connections	Tubing	1/4" ID X 3/8" OD 3/8" ID X 1/2" OD													3/8" ID X 1/2" OD 1/2" ID X 3/4" OD (LPH8 ONLY)						
	Piping	1/4" FNPT													1/4" FNPT 1/2" FNPT						

Engineering Data

Pump Head Materials Available:	GFPPL
	PVC
	PVDF
	316 SS
Diaphragm:	PTFE-faced CSPE-backed
Check Valves Materials Available:	
Seats/O-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:	+/- 2% at maximum capacity
Viscosity Max CPS :	

For viscosity up to 3000 CPS, select connection size 3, 4, B or C with 316SS ball material. Flow rate will determine connection/ball size. Greater than 3000 CPS require spring loaded ball checks. See Selection Guide for proper connection.

Stroke Frequency Max SPM:	125
Stroke Frequency Turn-Down Ratio:	10:1
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:	1.0 Amps
@ 230 VAC; Amps:	0.5 Amps
Peak Input Power:	300 Watts
Average Input Power @ Max SPM:	130 Watts

Custom Engineered Designs – Pre-Engineered Systems

Pre-Engineered Systems

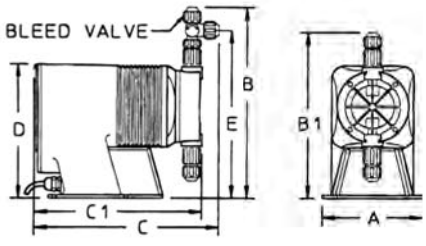
Pulsafeeder's Pre-Engineered Systems are designed to provide complete chemical feed solutions for all electronic metering applications. From stand alone simplex pH control applications to full-featured, redundant sodium hypochlorite disinfection metering, these rugged fabricated assemblies offer turn-key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

Dimensions

Series E Plus Dimensions (inches)

Model No.	A	B	B1	C	C1	D	E	Shpg Wt	Model No.	A	B	B1	C	C1	D	E	Shpg Wt
LPA2	5.4	10.3	-	10.8	-	7.5	8.9	13	LPH4	6.2	10.9	-	11.2	-	8.2	9.5	21
LPA3	5.4	10.6	-	10.7	-	7.5	9.2	13	LPH5	6.2	11.3	-	11.2	-	8.2	9.9	21
LPB2	5.4	10.3	-	10.8	-	7.5	8.9	13	LPH6	6.2	11.3	-	11.9	-	8.2	9.9	21
LPB3	5.4	10.6	-	10.7	-	7.5	9.2	13	LPH7	6.1	11.7	-	11.9	-	8.2	10.3	21
LPB4	5.4	10.6	-	10.7	-	7.5	9.2	13	LPH8*	6.1	-	10.9	-	11.3	8.2	-	26
LPD3	5.4	10.6	-	11.2	-	7.5	9.2	15	LPK2	5.4	10.3	-	10.8	-	7.5	8.9	13
LPD4	5.4	10.6	-	11.2	-	7.5	9.2	15	LPK3	5.4	10.6	-	10.7	-	7.5	9.2	13
LPE4	5.4	10.6	-	11.2	-	7.5	9.2	15	LPK5	5.4	10.9	-	11.7	-	7.5	9.5	18
LPF4	5.4	10.6	-	11.7	-	7.5	9.2	18	LPK7	6.1	11.7	-	11.2	-	8.2	10.3	21
LPG4	5.4	10.6	-	11.7	-	7.5	9.2	18	LPJ7	6.1	10	-	10.7	-	-	-	21

NOTE: Inches X 2.54 = cm /* the LPH8 is designed without a bleed valve available



+GF+® Signet pH/ORP Controllers

Versatile mounting options allow you to customize the installation for particular applications

NEW

- Large, scratch-resistant, self-healing display

+GF+ Signet controllers are designed for broad application and ease of setup and operation. Multiple mounting options allow for installation best suited to your particular application. Intuitive software and four-button keypad arrangement make it easy to access important information such as measurement values, calibration data, relay setup menus, and more.

Optional universal mounting kit allows for mounting of field-mount units on pipes, tanks, and walls. RC filter kit prevents premature wearing of the relay outputs by providing protection from electrical noise. Order separately below.

Required *System Components*

1. Controller
2. Preamplifier
3. Electrode

Field-mount controller 56560-20

Panel-mount controller 56560-30

Specifications

ISO9001:2000 CERTIFIED SUPPLIER · c UL us · CE · IP65 Meter only · 2 year warranty Meter only

Model		+GF+ Signet 8750-1	+GF+ Signet 8750-2	+GF+ Signet 8750-3
Range	pH	0.00 to 14.00	0.00 to 14.00	0.00 to 14.00
	mV	–1000 to 2000 mV	–1000 to 2000 mV	–1000 to 2000 mV
	Temperature	–13 to 248°F (–25 to 120°C)	–13 to 248°F (–25 to 120°C)	–13 to 248°F (–25 to 120°C)
Resolution	pH	0.01	0.01	0.01
	mV	1 mV	1 mV	1 mV
	Temperature	0.1°C (0.1°F)	0.1°C (0.1°F)	0.1°C (0.1°F)
Accuracy	pH	±0.03	±0.03	±0.03
	mV	±2 mV	±2 mV	±2 mV
	Temperature	±0.5°C (±1°F)	±0.5°C (±1°F)	±0.5°C (±1°F)
Temperature compensation		Automatic, 3 kΩ Balco	Automatic, 3 kΩ Balco	Automatic, 3 kΩ Balco
Control type		On/off (limit) or proportional	On/off (limit) or proportional	On/off (limit) or proportional
Number of set points		Two (low, high)	Two (low, high)	Two (low, high)
Output	Relay	—	Two SPDT relays, 5 A at 30 VDC or 250 VAC resistive load maximum	—
	Current	One 4 to 20 mA, isolated, fully adjustable and reversible	One 4 to 20 mA, isolated, fully adjustable and reversible	Two 4 to 20 mA, isolated, fully adjustable and reversible
	Open collector	One open-collector, optically isolated, 50 mA max	—	Two open-collector, optically isolated, 50 mA max
Dead band		User adjustable	User adjustable	User adjustable
Housing		NEMA 4X (IP65) front panel	NEMA 4X (IP65) front panel	NEMA 4X (IP65) front panel
Display		2 x 16 alphanumeric LCD	2 x 16 alphanumeric LCD	2 x 16 alphanumeric LCD
Dimensions (W x H x D)		Field-mount: 3 13/16" x 3 13/16" x 4 3/16" (96 x 96 x 106 mm) Panel-mount: 3 13/16" x 3 13/16" x 3 13/16" (96 x 96 x 97 mm)		
Power		12 to 24 VDC	12 to 24 VDC	12 to 24 VDC

1 Controllers

Catalog number	Model	Mounting style	Price
S-56560-18 **S-56560-28**	+GF+ Signet 8750-1 +GF+ Signet 8750-1P	Field mount Panel mount, ¼ DIN	
S-56560-20 **S-56560-30**	+GF+ Signet 8750-2 +GF+ Signet 8750-2P	Field mount Panel mount, ¼ DIN	
S-56560-22 **S-56560-32**	+GF+ Signet 8750-3 +GF+ Signet 8750-3P	Field mount Panel mount, ¼ DIN	

S-05631-50 Universal mounting kit for field-mount units .....

S-19007-52 RC filter kit for relay use. Pack of 2 .....

S-17106-20 NIST-traceable calibration .....

2 Preamplifiers

Preamplifiers protect the relatively weak output signal of the pH or ORP electrode from electrical interferences common in industrial environments and are required for initial system installation. Unique DryLoc® connectors allow you to quickly form robust assemblies for submersible and in-line applications.

Catalog number	Thread size	Price
S-56560-03 **S-56560-04**	¾" NPT(M) ISO 7-1 R¾"	

DryLoc® pH and ORP electrodes

3 Electrodes

Feature-packed pH and ORP electrodes feature unique DryLoc connectors which offer resistance to intrusion from dirt and moisture. Extended reference path length extends electrode life over traditional combination electrodes. Electrode bodies are Ryton® PPS for added chemical resistance and feature a ¾" NPT(M) or ISO 7-1 R¾" threads for in-line installation. Flat-surface electrodes minimize abrasion and breakage problems by allowing sediment to sweep past the measurement surface. Bulb-style electrodes feature quick response and are well-suited to general-purpose applications. HF-resistant electrodes resist hydrofluoric acid in concentration less than 2%. LC-bulb electrodes are designed for ultrapure, low-conductivity water applications. All have a 3 kΩ Balco ATC element and measure 0 to 14 pH.

Catalog number	Type	Thread size	Price
S-56561-02 **S-56561-03**	pH, flat surface	¾" NPT(M) ISO 7-1 R¾"	
S-56561-10 **S-56561-11**	pH, bulb style	¾" NPT(M) ISO 7-1 R¾"	
S-56561-06 **S-56561-07**	pH, HF-resistant bulb	¾" NPT(M) ISO 7-1 R¾"	
S-56561-14 **S-56561-15**	pH, LC bulb	¾" NPT(M) ISO 7-1 R¾"	
S-56561-16 **S-56561-17**	ORP, flat surface	¾" NPT(M) ISO 7-1 R¾"	

NorFalco Inc.
NorFalco Sales Inc.

Material Safety Data Sheet

77% - 100% SULFURIC ACID

SECTION 1. PRODUCT IDENTIFICATION

Trade Name	**77 % - 100 % Sulfuric Acid**
Product Code	None
Manufacturers/Distributors	NorFalco Inc., 6000 Lombardo Center, The Genesis Blg, suite 650 Seven Hills, OH 44131 NorFalco Sales Inc., 6755 Mississauga Road, Suite 304, Mississauga, Ontario L5N 7Y2
Information Contact	André Auger, Administration Assistant
Product Information	1-905-542-6901 (Mississauga)
Phone Number (Transportation Emergency)	Canada 1-877-ERP-ACID (377-2243)
Phone Number (Transportation Emergency)	U.S.A. 1-800-424-9300 CHEMTREC
Phone Number (Medical Emergency)	**1-418-656-8090**
Phone Number (Emergency)	**CANUTEC 1-613-996-6666**
Synonyms	Dihydrogen Sulfate ; Oil of Vitriol ; Vitriol Brown Oil ; Sulphuric Acid. Acide sulfurique (French)
Name / Chemical Formula	Sulfuric Acid / H_2SO_4
Chemical Family	Acid
Utilization	Chemical industries ; Water treatment ; Fertilizer ; Pulp and Paper.
Manufacturers	CEZinc on behalf of Noranda Income Limited Partnership, Salaberry-de-Valleyfield (Quebec) Canada J6T 6L4 Xstrata Copper, Horne Smelter, Rouyn-Noranda (Quebec) J9X 5B6 Xstrata Zinc, Brunswick Smelting, Belledune, New Brunswick E0B 1G0 Xstrata Copper, Kidd Metallurgical Division, Timmins, Ontario P4N 7K1 Xstrata Nickel, Sudbury Operations, Falconbridge, Ontario P0M 1S0

SECTION 2. HAZARDS IDENTIFICATION

WHMIS (Canada) CLASS D-1A : Very toxic material causing immediate and serious effects
CLASS E : Corrosive material

Labeling (EEC) C Corrosive

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS #	Percentage (%)	# CE	R Phrases[1]
Sulfuric (Acid)	7664-93-9	77 % to 100 %	231-639-5	R35
60 Deg Technical		77.7		
66 Deg Technical		93.2		
1.835 Electrolyte		93.2		
98 % Technical		98		
99 % Technical		99		
100 % Technical		100		
Water	7732-18-5	0-22		

Note 1 : See section 15 for the complete wording of risk phrases.

SECTION 4. FIRST-AID MEASURES

Eye Contact Remove contact lenses if present. Immediately flush eyes with plenty of water, holding eyelids open for at least 15 minutes. Consult a physician. Possibility of conjonctivitis, severe irritation, severe burns, permanent eye damage.

Skin Contact Remove contaminated clothing and shoes as quickly as possible protecting your hands and body. Place under a deluge shower for 15 minutes. Flush exposed skin gently and thoroughly with running water (Pay particular attention to : Folds, crevices, creases, groin). Call a physician if irritation persists. May irritate skin, cause burns (Highly corrosive) and possibility of some scarring.

Wash contaminated clothing before reusing. While the patient is being transported to a medical facility, continue the application of cold, wet compresses. If medical treatment must be delayed, repeat the flushing with cold water or soak the affected area with cold water to help remove the last traces of sulfuric acid. *Creams or ointments* ***SHOULD NOT*** *be applied before or during the washing phase of treatment.*

Inhalation Take precautions to avoid secondary contamination by residual acids. Remove the person to fresh air. If not breathing, give artificial respiration. Difficult breathing : Give oxygen. Get immediate medical attention. Possibility of damage to the upper respiratory tract and lung tissues. Maintain observation of the patient for delayed onset of pulmonary oedema. May cause irritation to the upper respiratory tract : Coughing, sore throat, shortness of breath.

Ingestion **DO NOT** INDUCE VOMITING. Conscious and alert person : Rinse mouth with water and give ½ to 1 cup of water or milk to dilute material. **Spontaneous vomiting** : Keep head below hips to prevent aspiration ; Rinse mouth and give ½ to 1 cup of water or milk. **UNCONSCIOUS** person : **DO NOT** induce vomiting or give any liquid. **Immediately** obtain medical attention.

Notes to Physicians
Continued washing of the affected area with cold or iced water will be helpful in removing the last traces of sulfuric acid. Creams or ointments should not be applied before or during the washing phase of the treatment.

SECTION 5. FIRE-FIGHTING MEASURES

Flash Point	Not available
Flammable Limits	Not available
Auto-Ignition Temperature	Not available
Products of Combustion	Releases of sulfur dioxide at extremely high temperatures.
Fire Hazard	Not flammable
Explosion Hazard	Reacts with most metals, especially when dilute ; Hydrogen gas release (**Extremely** flammable, explosive). Risk of explosion if acid combined with water, organic materials or base solutions in enclosed spaces (Vaccum trucks, tanks). Mixing acids of different strengths/concentrations can also pose an explosive risk in an enclosed space/container.
Extinguishing media	ERG (Emergency Response Guidebook) : Guide 137 When material is not involved in fire, do not use water on material itself. **Small fire :** Dry chemical or CO_2. Move containers from fire area if you can do it without risk. **Large fire:** Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. **Fire involving Tanks or Car/Trailer Loads :** Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire.
Protective equipment	Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Generates heat upon addition of water, with possibility of spattering. Wear full protective clothing. Runoff from fire control may cause pollution. Neutralize run-off with lime, soda ash, etc., to prevent corrosion of metals and formation of hydrogen gas. Wear self-contained breathing apparatus if fumes or mists are present.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Spill	Review **Fire and Explosion Hazards** and **Safety Precautions** before proceeding with clean up. Stop flow if possible. Soak up small spills with dry sand, clay or diatomaceous earth.
Methods	Dike large spills, and cautiously dilute and neutralize with lime or soda ash, and transfer to waste water treatment system. Prevent liquid from entering sewers, waterways, or low areas. If this product is spilled and not recovered, or is recovered as a waste for treatment or disposal, the Reportable Quantity (U.S. DOT) is 1 000 lbs (Based on the sulfuric acid content of the solution spilled). Comply with Federal, State, and local regulations on reporting releases.
Protective equipment	Review Fire Fighting Measures and Handling (Personnel Protection) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

SECTION 7. HANDLING AND STORAGE

Handling	Do not get in eyes, on skin, or on clothing. Avoid breathing vapours or mist. Wear approved respirators if adequate ventilation cannot be provided. Wash thoroughly after handling. Ingestion or inhalation : Seek medical advice **immediately** and provide medical personnel with a copy of this MSDS.
Conditions for storage	Sulfuric acid must be stored in containers or tanks that have been specially designed for use with sulfuric acid. **DO NOT** add water or other products to contents in containers as violent reactions will result with resulting high heat, pressure and/or generation of hazardous acid mists. Keep containers away from heat, sparks, and flame. All closed containers must be safely vented before each opening. For more information on sulfuric acid tanks, truck tanks and tank cars including safe unloading information go to www.norfalco.com.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

		Control parameters	
		ACGIH (U.S.A.) 2008	OSHA (U.S.A.)
Name	**# CAS**	**TLV-TWA (mg/m³)**	**PEL - TWA (mg/m³)**
Sulfuric (Acid)	7664-93-9	0.2 (thoracic fr.)	1
60 Deg Technical	7664-93-9	0.2 (thoracic fr.)	1
66 Deg Technical	7664-93-9	0.2 (thoracic fr.)	1
1.835 Electrolyte	7664-93-9	0.2 (thoracic fr.)	1
98 % Technical	7664-93-9	0.2 (thoracic fr.)	1
99 % Technical	7664-93-9	0.2 (thoracic fr.)	1
100 % Technical	7664-93-9	0.2 (thoracic fr.)	1
Water	7732-18-5	Not established	Not established

ACGIH : American Conference of Governmental Industrial Hygienists. OSHA : Occupational Safety and Health Administration.

Note : **Sulfuric (Acid) :** Exposure limits may be different in other jurisdictions. NIOSH REL-TWA (≤10 hours) : 1 mg/m³ ; IDLH : 15 mg/m³. *Consult local authorities for acceptable exposure limits.*

Engineering Controls Good general ventilation should be provided to keep vapour and mist concentrations below the exposure limits.

Individual protection Chemical splash goggles ; Full-length face shield/chemical splash goggles combination ; Acid-proof gauntlet gloves, apron, and boots ; Long sleeve wool, acrylic, or polyester clothing ; Acid proof suit and hood ; Appropriate NIOSH respiratory protection.

In case of emergency or where there is a strong possibility of considerable exposure, wear a complete acid suit with hood, boots, and gloves. If acid vapour or mist are present and exposure limits may be exceeded, wear appropriate NIOSH respiratory protection.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance	Liquid (Oily ; Clear to turbid)	**Odour**	Odourless
Molecular Weight	98.08	**Colour**	Colourless to light grey
pH (1% soln/water)	< 1	**Volatility**	< 1 (Butyl Acetate = 1.0)
Boiling Point	193°C to 327 °C (379°F to 621°F) @ 760 mm Hg	**Vapour Density**	3.4
Melting Point	-35°C to 11°C (-31°F to 52°F)	**Dispersion**	Yes (Water)
Vapour Pressure	< 0.3 mm Hg @ 25°C (77 °F) < 0.6 mm Hg @ 38°C (100 °F)	**Solubility**	Yes (Water)

GRADE	Boiling Point		Freezing Point		Specific Gravity
	DEG °C	DEG °F	DEG °C	DEG °F	
60 DEG TECHNICAL	193	380	- 12	10	1.706
66 DEG TECHNICAL	279	535	- 35	- 31	1.835
1.835 ELECTROLYTE	279	535	- 35	- 31	1.835
98 % TECHNICAL	327	621	- 2	29	1.844
99 % TECHNICAL	310	590	4	40	1.842
100 % TECHNICAL	274	526	11	51	1.839

SECTION 10. STABILITY AND REACTIVITY

Stability Yes (Under normal conditions of ambiant temperature)

Reactivity Reacts violently with water, organic substances and base solutions with evolution of heat and hazardous mists.

Conditions to avoid Heat : Possibility of decomposition. Release of dangerous gases (Sulfur oxides SO_2, SO_3)

Polymerization Polymerization will not occur.

Incompatibilities Vigorous reactions with : Water; alkaline solutions ; Metals, metal powder ; Carbides ; Chlorates ; Fulminates ; nitrates ; Picrates ; Strong oxidizing, reducing, or combustible organic materials. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, and carbides.

Corrosivity Yes

SECTION 11. TOXICOLOGICAL INFORMATION

Routes of Entry Ingestion. Inhalation. Skin and eye contacts.

Carcinogenicity **Strong inorganic acid mists containing sulfuric acid (Occupational exposures) :** PROVEN (Human, Group 1, IARC) ; SUSPECTED (Human, Group A2, ACGIH) ; Group X (NTP) ; Classification not applicable to sulfuric acid and sulfuric acid solutions.

Mutagenicity Not applicable.

Teratogenicity Not applicable.

Acute toxicity ORAL (LD50) : 2 140 mg/kg (Rat) ; INHALATION (LC50, 2 hours) : 510 mg/m³ (Rat) ; 320 mg/m³ (Mouse). (RTECS).

Acute Effects May be **fatal** if inhaled or ingested in large quantity. Liquids or acid mists : May produce tissue damage : Mucous membranes (Eyes, mouth, respiratory tract). **Extremely** dangerous by eyes and skin contact **(Corrosive)**. Severe irritant for eyes : Inflammation (Redness, watering, itching). Very dangerous in case of inhalation (Mists) at high concentrations : May produce severe irritation of respiratory tract (Coughing, shortness of breath, choking).

Chronic Effects Target organs for acute and chronic overexposure (NIOSH 90-117) : Respiratory system, eyes, skin, teeth.

Acid mists : Overexposure to strong inorganic mists containing sulfuric acid : Possibility of laryngeal cancer (HSBD, IARC). Possibility of irritation of the nose and throat with sneezing, sore throat or runny nose. Headache, nausea and weakness. Gross overexposure : Possibility of irritation of nose, throat, and lungs with cough, difficulty breathing or shortness of breath. Pulmonary edema with cough, wheezing, abnormal lung sounds, possibly progressing to severe shortness of breath and bluish discoloration of the skin. Symptoms may be delayed. Repeated or prolonged exposure to mists may cause : Corrosion of teeth.

Contact (Skin) : Possibility of corrosion, burns or ulcers. Contact with a 1 % solution : Possibility of slight irritation with itching, redness or swelling. Repeated or prolonged exposure (Mist) : Possibility of irritation with itching, burning, redness, swelling or rash.

Contact (Eye) : Possibility of corrosion or ulceration (Blindness may result). Repeated or prolonged exposure (Mist) : Possibility of eye irritation with tearing, pain or blurred vision.

Ingestion : Immediate effects of overexposure : Burns of the mouth, throat, esophagus and stomach, with severe pain, bleeding, vomiting, diarrhea and collapse of blood pressure. Damage may appear days after exposure.

Toxicity

Persons with the following pre-existing conditions warrant particular attention :
Sulfuric (Acid) : Laryngeal irritation.

Eating, drinking and smoking must be prohibited in areas where this material is handled and processed. Wash hands and face before eating, drinking and smoking.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic toxicity : Slightly to moderately toxic.
Bluegill Sunfish (LC50 ; 48 hours) : 49 mg/l (Tap water, 20 °C, conditions of bioessay not specified). (HSBD).
Flounder (LC50 ; 48 hours) : 100-330 mg/l (Aerated water, conditions of bioessay not specified). (HSBD).

Toxicity to Animals

EYE : Concentrated compound is corrosive. 10 % solution : Moderate eye irritant.
SKIN : Concentrated compound is corrosive. 10 % solution : Slight skin irritant.
Single and repeated exposure : Irritation of the respiratory tract ; Corrosion of the respiratory tract ; Lung damage ; Labored breathing ; Altered respiratory rate ; Pulmonary oedema. Repeated exposure : Altered red blood cell count.

Mobility (Soil)

Easy soil seeping under rain action

Persistence and degradability

Sulfate ion : Ubiquitous in the environment. Metabolized by micro-organisms and plants.

Bioaccumulation

Sulfate ion : Ubiquitous in the environment. Metabolized by micro-organisms and plants whitout bioaccumulation.

Biodegradation Products

Not available

Biodegradation Products (Toxicity)

Not applicable

Remarks on Environment

Due to the product's composition, particular attention must be taken for transportation and storage. Protect from rain because the run-off water will become acidic and may be harmful to flora and fauna.

BOD5 and COD

Not available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Cleaned-up material may be an hazardous waste on *Resource Conservation and Recovery Act* (RCRA) on disposal due to the corrosivity characteristic. **DO NOT** flush to surface water or sanitary sewer system. Comply with Federal, State, and local regulations. If approved, neutralize and transfer to waste treatment system.

SECTION 14. TRANSPORT INFORMATION

TDG (Canada)

CLASS 8 Corrosives

PIN

UN1830 SULFURIC ACID PG II

Special Provisions (Transport)

None

DOT (U.S.A.)/IMO (Maritime)

Proper Shipping Name	SULFURIC ACID
Hazard Class	8
UN N°	1830
DOT/IMO Label	CORROSIVE
Packing Group	II
Reportable Quantity	1000 lbs (454 kg)
Shipping Containers	Tank Cars, Tank Trucks, Vessel

ERG

Guide 137

SECTION 15 REGULATORY INFORMATION

Labeling (EEC)

EU (Directive 67/548/EEC) :
Sulfuric (Acid) : C Corrosive (Pictogram)
Annex I Index number : 016-020-00-8 ; EU Consolidated Inventories : EC Number 231-639-5
C ≥ 15 % C ; R35 ; S2, 26, 30, 45.

Risk Phrases (EEC)

R35- Causes severe burns

Safety Phrases (EEC)

S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S30- Nerver add water to this product
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

CEPA DSL (CANADA)	CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) : On the Domestic Substances List (DSL) ; Acceptable for use under the provisions of CEPA. Sulfuric Acid is a Class B Drug Precursor under *Health Canada's Controlled Drugs and Substances Act* and *Precursor Control Regulations*.
Regulations (U.S.A.)	CERCLA Section 103 Hazardous substances (40 CFR 302.4) ; SARA Section 302 Extremely Hazardous Substances (40 CFR 355) : Yes ; SARA Section 313, Toxic Chemicals (40 CFR 372.65) ; US: TSCA Inventory : Listed : **Sulfuric (Acid)** (Final RQ) : 1 000 pounds (454 kg) Sulfuric Acid is subject to reporting requirements of Section 313, *Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)*, 40 CFR Part 372. Certain companies must report emissions of Sulfuric Acid as required under *The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)*, 40 CFR Part 302 For more information call the *SARA Hotline* 800-424-9346. Strong Inorganic Acid Mists Containing Sulfuric Acid : Chemical listed effective March 14, 2003 to the *State of California, Proposal 65.* *U.S. FDA Food Bioterrorism Regulations* : These regulations apply to Sulfuric Acid when being distributed, stored or used for Food or Food Processing.
Classifications HCS (U.S.A.)	Corrosive liquid

NFPA (National Fire Protection Association) (U.S.A.)

Fire Hazard	**0**	**Reactivity**	**2**	**Health**	**3**	**Special Hazard**	**ACID**

NPCA- HMIS Rating

Fire Hazard	**0**	**Reactivity**	**2**	**Health**	**3**

SECTION 16. OTHER INFORMATION

References

- TLVs and BEIs (2008). Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices. ACGIH, Cincinnati, OH – http://www.acgih.org
- CCOHS (2008) - Canadian Centre for Occupational Health and Safety - http://www.ccohs.ca/
- CSST (2008) - Commission de la Santé et de la Sécurité du Travail (Québec). Service du répertoire toxicologique - http://www.reptox.csst.qc.ca/
- ERG (2008). Emergency Response Guidebook, Developed by the U.S. Department of Transportation, Transport Canada, and the Secretariat of Communications and Transportation of Mexico
- HSDB (2008) - Hazardous Substances Data Bank. TOXNET® Network of databases on toxicology, hazardous chemicals, and environmental health. NLM Databases & Electronic Resources, U.S. National Library of Medicine, NHI, 8600 Rockville Pike, Bethesda, MD 20894 - http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB
- IARC - Monographs on the Evaluation of Carcinogenic Risks to Humans (collection) - http://www-cie.iarc.fr/
- Merck Index (1999). Merck & CO., Inc, 12th edition
- NIOSH U.S. (2008) - Pocket Guide to Chemical Hazards - http://www.cdc.gov/niosh/npg/
- Patty's Industrial Hygiene and Toxicology, 3rd Revised Edition
- Règlement sur les produits contrôlés (Canada)
- RTECS (2008). Registry of Toxic Effects of Chemical Substances, NIOSH, CDC
- Toxicologie industrielle & intoxication professionnelle, 3e édition, Lauwerys

Glossary

CSST	: Commission de la Santé et de la Sécurité du Travail (Québec).
HSDB	: Hazardous Substances Data Bank.
IARC	: International Agency for Research on Cancer.
NIOSH	: National Institute of Occupational Safety and Health.
NTP	: U.S. National Toxicology Program.
RTECS	: Registry of Toxic Effects of Chemical Substances

Note

For further information, see NorFalco Inc. Sulfuric Acid « Storage and Handling Bulletin ».

Because of its corrosive characteristics and inherent hazards, Sulfuric Acid should not be used in sewer or drain cleaners or any similar application; regardless of whether they are formulated for residential, commercial or industrial use. NorFalco will not knowingly sell sulfuric acid to individuals or companies who repackage the product for sale as sewer or drain cleaners, or any other similar use.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

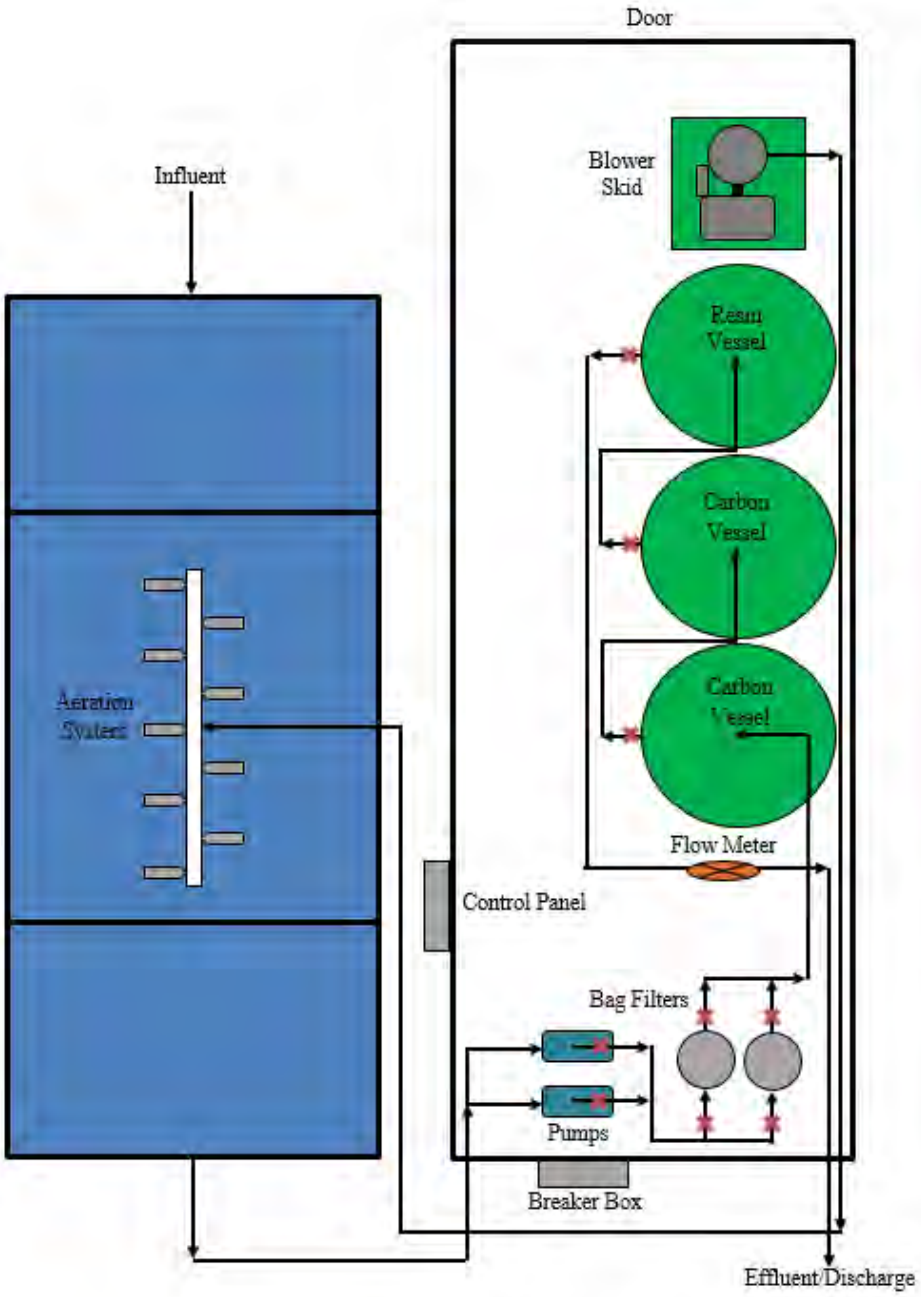
For additional information, please visited our website : www.norfalco.com

Written by : Groupe STEM Consultants / NorFalco Sales Inc.
Complete revision : 2009-01-24 **Partial review :** None **Previous complete revision :** 2008-01-24

Verified by : Guy Desgagnés and Eric Kuraitis, Technical Representative - Sulfuric Acid
Request to : André Auger, Administration Assistant Tel. : (905) 542-6901 extension 0 Fax : (905) 542-6914 / 6924
NorFalco Sales Inc., 6755 Mississauga Road, Suite 304, Mississauga, Ontario L5N 7Y2

Notice to Reader

CONTINGENCY CARBON VESSEL TREATMENT SYSTEM



LRT
Lockwood Remediation Technologies LLC

127 Hartwell Street, Suite 3
West Boylston, Massachusetts 01583
Tel: 774.450.7177
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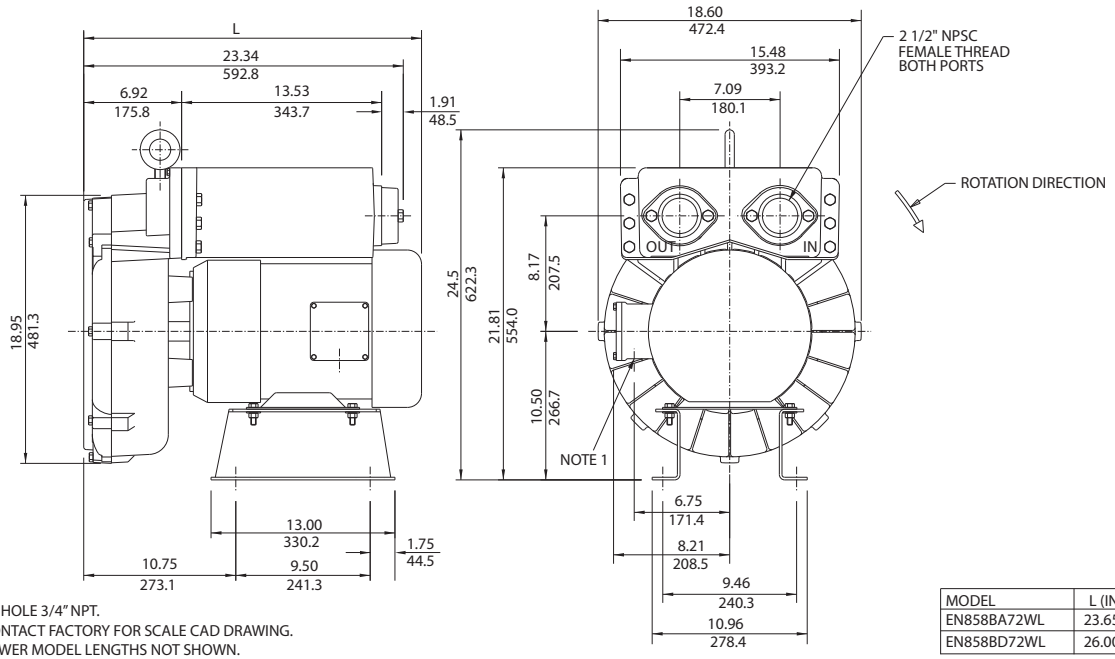
www.lrt-llc.net

EN 858 & CP 858

ROTRON®

7.5 / 10.0 HP Sealed Regenerative w/Explosion-Proof Motor



IN
MM

NOTES
1 TERMINAL BOX CONNECTOR HOLE 3/4" NPT.
2 DRAWING NOT TO SCALE, CONTACT FACTORY FOR SCALE CAD DRAWING.
3 CONTACT FACTORY FOR BLOWER MODEL LENGTHS NOT SHOWN.

MODEL	L (IN/MM)
EN858BA72WL	23.65/600.7
EN858BD72WL	26.00/660.4

		Part/ Model Number			
		EN858BD72WL	EN858BD86WL	EN858BA72WL	CP858FZ72WLR
Specification	Units	038744	038745	080070	038980
Motor Enclosure - Shaft Mtl.	-	Explosion-proof-CS	Explosion-proof-CS	Explosion-proof-CS	Chem XP-SS
Horsepower	-	10.0	10.0	7.5	10.0
Phase - Frequency	-	Three-60 hz	Three-60 hz	Three-60 hz	Three-60 hz
Voltage	AC	230/460	575	230/460	230/460
Motor Nameplate Amps	Amps (A)	24/12	9.6	18.6/9.3	24/12
Max. Blower Amps	Amps (A)	30/15	11.6	26/13	30/15
Inrush Amps	Amps (A)	234/117	93	126/63	234/117
Service Factor	-	1.0	1.0	1.0	1.0
Starter Size	-	2/1	1	1/1	2/1
Thermal Protection	-	Class B - Pilot Duty	Class B - Pilot Duty	Class B - Pilot Duty	Class B - Pilot Duty
XP Motor Class - Group	-	I-D, II-F&G	I-D, II-F&G	I-D, II-F&G	I-D, II-F&G
Shipping Weight	Lbs	338	338	326	338
	Kg	153.3	153.3	147.9	153.3

Voltage - ROTRON motors are designed to handle a broad range of world voltages and power supply variations. Our dual voltage 3 phase motors are factory tested and certified to operate on both: **208-230/415-460 VAC-3 ph-60 Hz** and **190-208/380-415 VAC-3 ph-50 Hz**. Our dual voltage 1 phase motors are factory tested and certified to operate on both: **104-115/208-230 VAC-1 ph-60 Hz** and **100-110/200-220 VAC-1 ph-50 Hz**. All voltages above can handle a ±10% voltage fluctuation. Special wound motors can be ordered for voltages outside our certified range.

Operating Temperatures - Maximum operating temperature: Motor winding temperature (winding rise plus ambient) should not exceed 140°C for Class F rated motors or 120°C for Class B rated motors. Blower outlet air temperature should not exceed 140°C (air temperature rise plus inlet temperature). Performance curve maximum pressure and suction points are based on a 40°C inlet and ambient temperature. Consult factory for inlet or ambient temperatures above 40°C.

Maximum Blower Amps - Corresponds to the performance point at which the motor or blower temperature rise with a 40°C inlet and/or ambient temperature reaches the maximum operating temperature.

XP Motor Class - Group - See Explosive Atmosphere Classification Chart in Section I

AMETEK TECHNICAL & INDUSTRIAL PRODUCTS
75 North Street, Saugerties, NY 12477
USA: +1 215-256-6601 - Europe: +44 (0) 845 366 9664 - Asia: +86 21 5763 1258
Customer Service Fax: +1 215.256.1338
www.ametektip.com

AMETEK®
TECHNICAL & INDUSTRIAL PRODUCTS

Environmental / Chemical Processing Blowers

EN 858 & CP 858

ROTRON®

7.5 / 10.0 HP Sealed Regenerative w/Explosion-Proof Motor

FEATURES

- Manufactured in the USA - ISO 9001 and NAFTA compliant
- Maximum flow: 380 SCFM
- Maximum pressure: 120 IWG
- Maximum vacuum: 95 IWG
- Standard motor: 10 HP, explosion-proof
- Cast aluminum blower housing, impeller , cover & manifold; cast iron flanges (threaded); teflon® lip seal
- UL & CSA approved motor with permanently sealed ball bearings for explosive gas atmospheres Class I Group D minimum
- Sealed blower assembly
- Quiet operation within OSHA standards

MOTOR OPTIONS

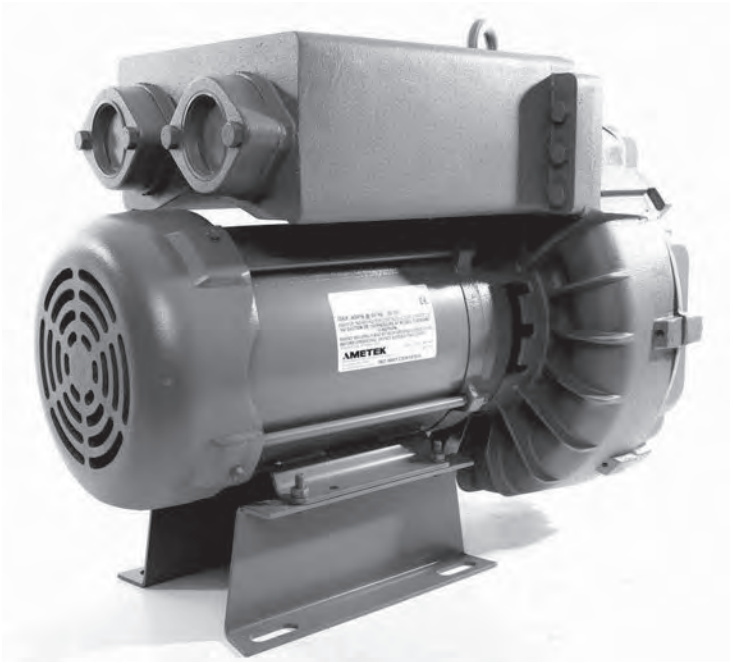
- International voltage & frequency (Hz)
- Chemical duty, high efficiency, inverter duty or industry-specific designs
- Various horsepowers for application-specific needs

BLOWER OPTIONS

- Corrosion resistant surface treatments & sealing options
- Remote drive (motorless) models
- Slip-on or face flanges for application-specific needs

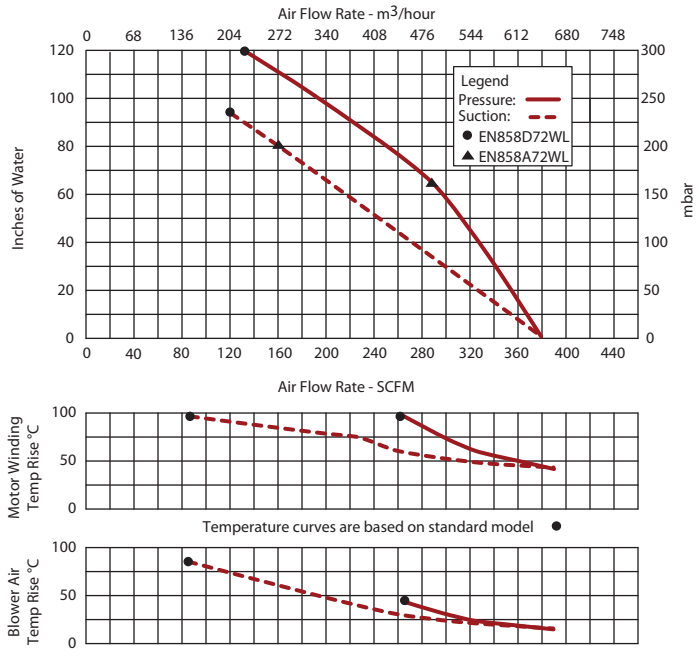
ACCESSORIES

- Flowmeters reading in SCFM
- Filters & moisture separators
- Pressure gauges, vacuum gauges, & relief valves
- Switches - air flow, pressure, vacuum, or temperature
- External mufflers for additional silencing
- Air knives (used on blow-off applications)
- Variable frequency drive package

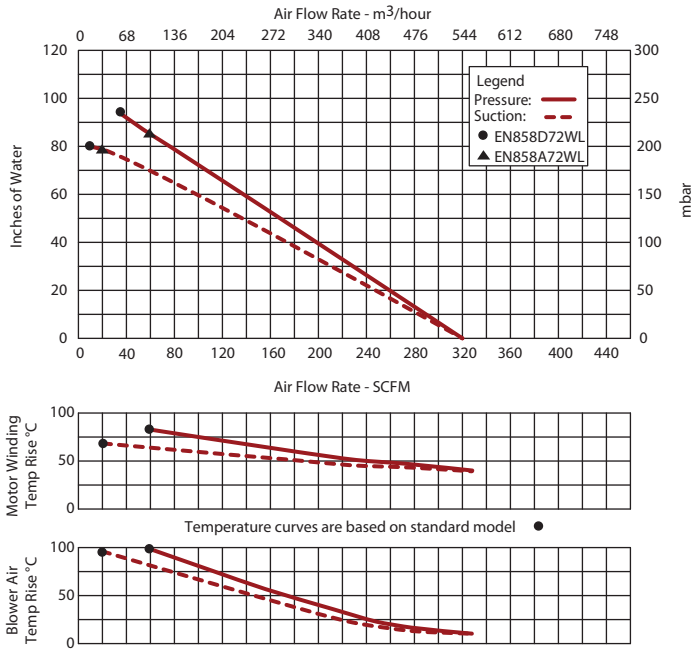


Blower Performance at Standard Conditions

60 Hz



50 Hz



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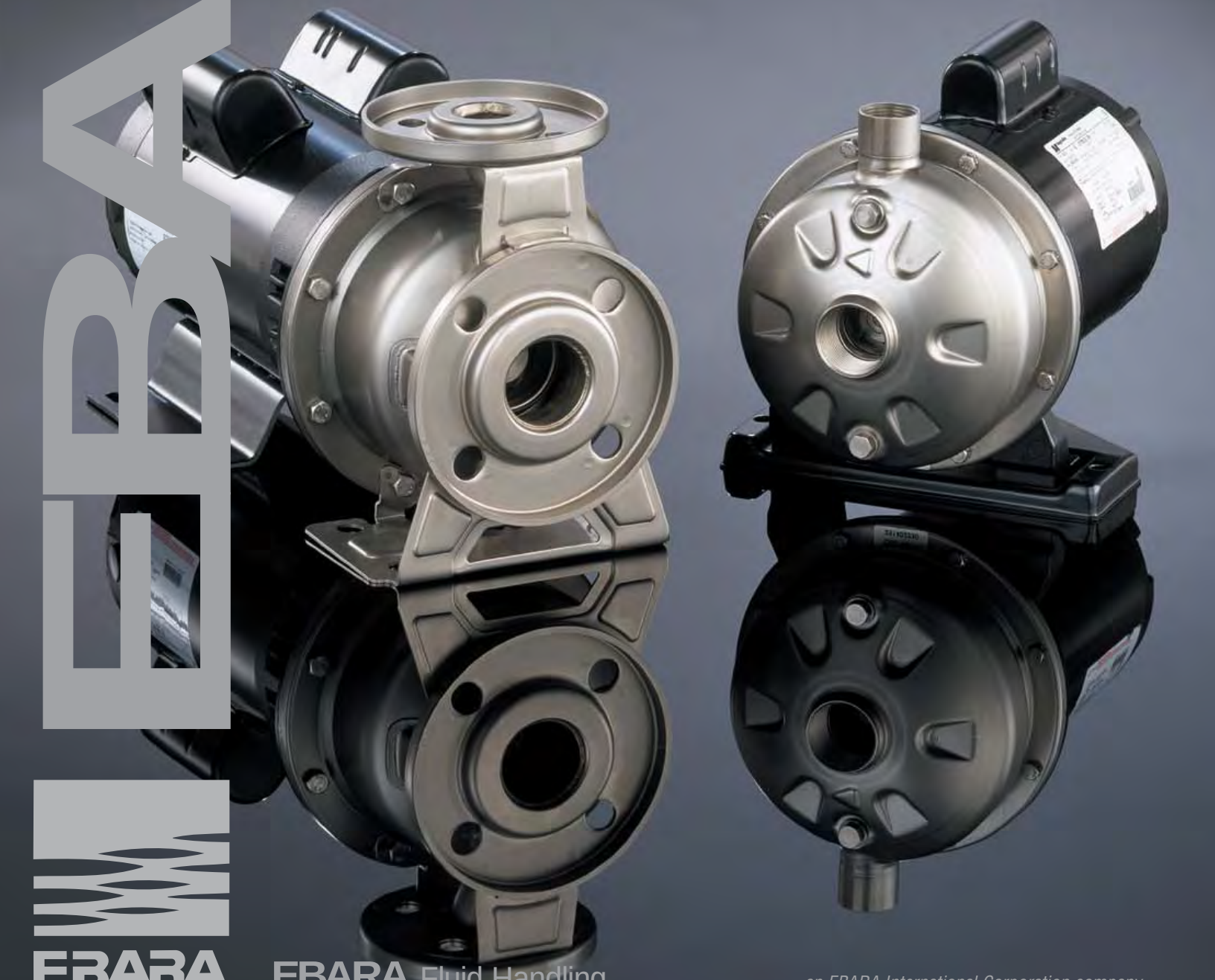
Customer Service Fax: +1 215.256.1338
www.ametektip.com

AMETEK® TECHNICAL & INDUSTRIAL PRODUCTS

EBARA

Model 3U /CDU

end suction centrifugal



EBARA Fluid Handling

an EBARA International Corporation company

Model 3U / CDU

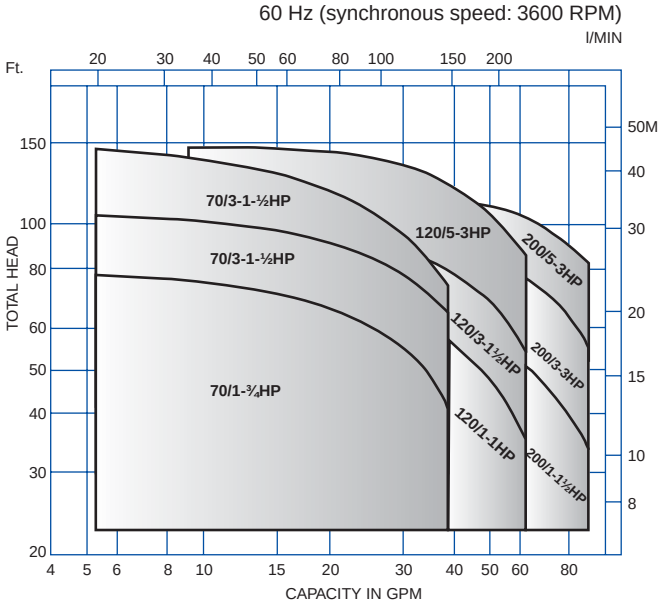
Features

- **Close coupled design**
  - saves space; simplifies maintenance and installation
- **Stainless steel liquid end components**
  - high quality; corrosion resistance
- **Versatile mounting**
  - can be installed horizontally or vertically
- **Back pullout construction**
  - assembly and overhaul of the impeller and seal without disturbing suction and discharge connections
- **Top centerline discharge and foot support under casing**
  - ensures self-venting and reduces misalignment from pipe loads
- **High operating efficiency**
  - lowers operating costs
- **High quality mechanical shaft seals and o-rings**
  - available for standard pumping requirements or optional high temperature and chemical duty operation

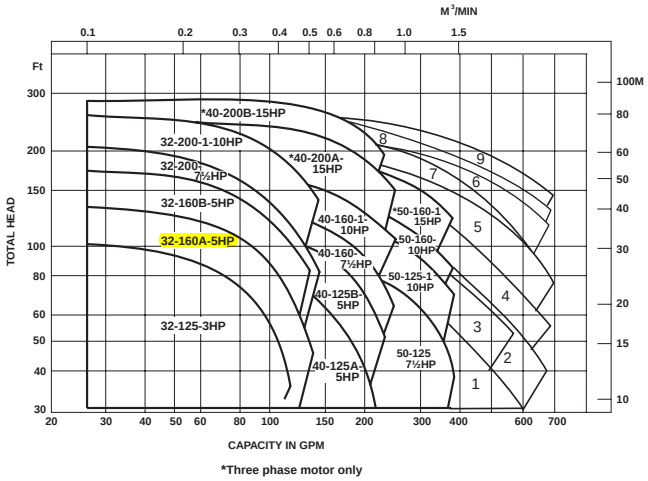
Applications

- Plant services
- Water supply systems
- Washing plants
- Cooling water
- Car wash
- Scrubbers
- Ultrapure water systems
- Jockey pump services
- Air conditioning
- Sprinkler/flow irrigation
- OEM equipment application
- Pressure boosting
- Liquid transfer
- Heat exchanger
- Spray systems
- Heating
- Beverage processing
- Pharmaceutical services
- Water reclamation and treatment
- General pump applications

CDU selection chart



3U selection chart

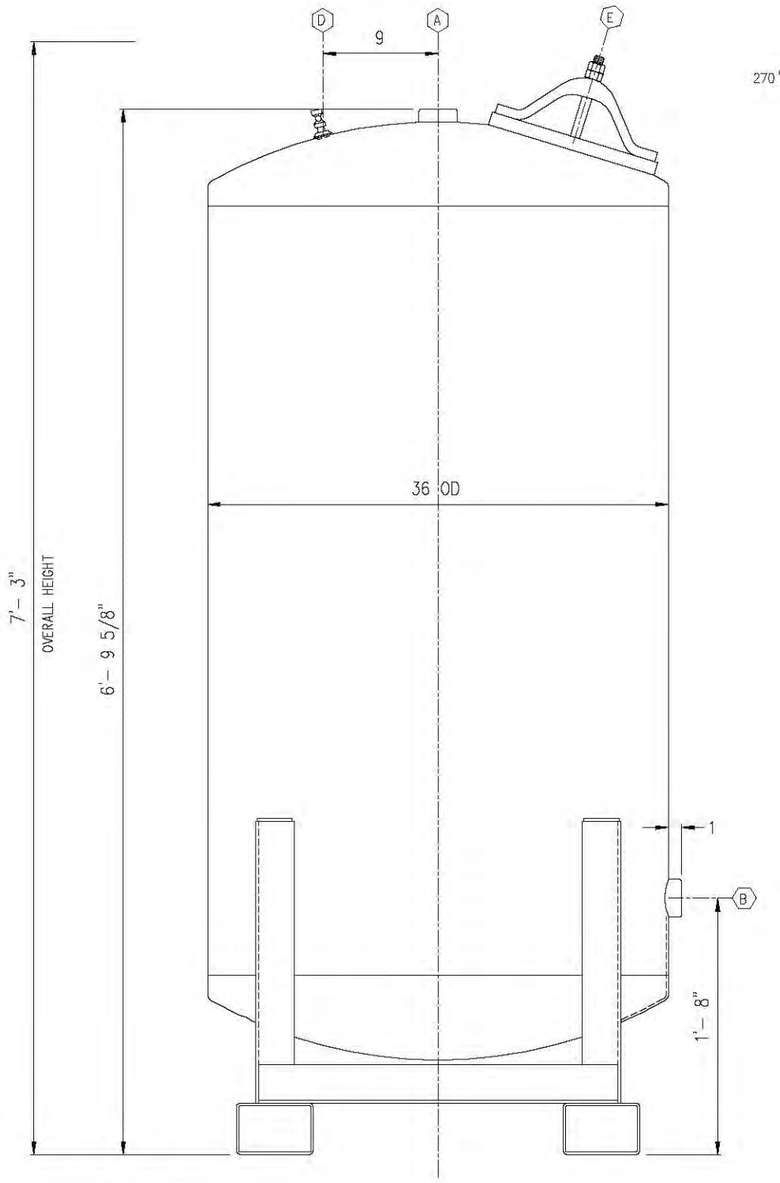


*Three phase motor only

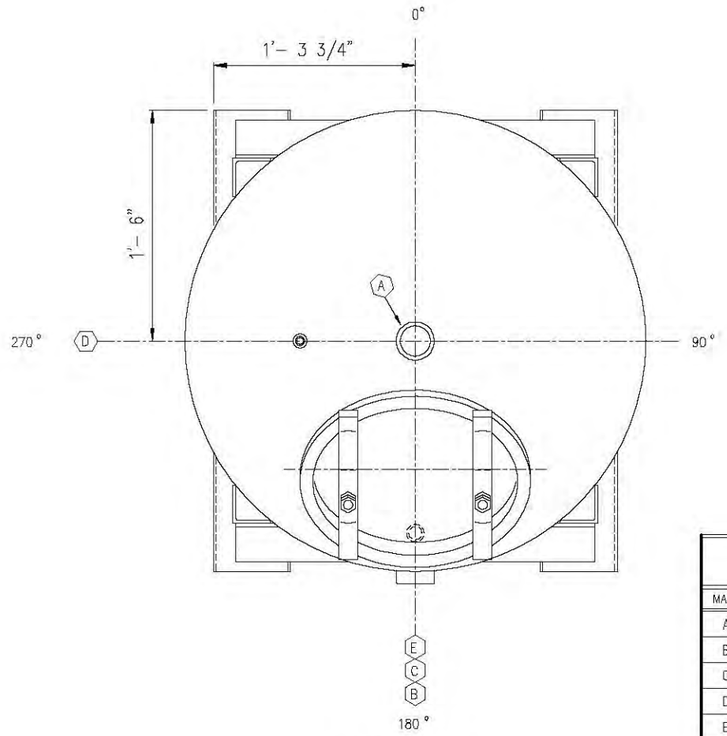
1. 3U65-125-7.5HP
2. 3U65-125-10HP
3. 3U65-160-10HP
4. 3U65-160-15HP*
5. 3U65-160-20HP*
6. 3U65-160-25HP*
7. 3U65-200-20HP*
8. 3U65-200-25HP*
9. 3U65-200-30HP*

Note: *Model 3U-65 – standard bronze impeller; optional SS impellers available*

EBARA Fluid Handling
1651 Cedar Line Drive • Rock Hill, SC 29730 • (t) 803 327-5005 • (f) 803 327-5097
www.pumpsebara.com



ELEVATION VIEW
NOT TRUE ORIENTATION



PLAN VIEW
TRUE ORIENTATION

SCHEDULE OF OPENINGS

MARK	SIZE	QTY	RATING	TYPE	DESCRIPTION
A	2"	1	3000#	CPLG	INLET
B	2"	1	3000#	CPLG	OUTLET
C	1/2"	1	3000#	CPLG	LIQUID DRAIN
D	1/4"	1	FNPT	WLD FLG	VENT
E	12x16	1	N/A	ELLIP	MANWAY
F					
G					
H					

DESIGN DATA

Registration	NOT APPLICABLE	Year Built	2000
Construction	NOT APPLICABLE	Serial No.	00–____
Design Pressure	75 PSIG	Capacity (Vol.)	40.4 cu. ft.
Design Temperature	140 Deg F (LIMITED BY INTERNALS)	Shipping Wt. (Empty)	730 POUNDS
External Pressure	NOT APPLICABLE	Wt. full of water	_____ POUNDS
Min. Des. Metal Temp	–20 Deg F AT 75 PSIG	Gaskets	TREATED FIBER
MAWP (New & Cold)	75 PSIG (LIMITED BY HEAD)	Studs & Nuts	MILD STEEL (ZINC PLATED)
MAWP (Hot & Corr'd)	75 PSIG (LIMITED BY HEAD)	Internal Surface Prep	SANDBLAST TO SSPC–SP6
Hydro Test Pressure	5 PSIG SOAP TEST /Medium: AIR	External Surface Prep	EXTERNAL POWER CLEAN
Corrosion Allowance	NONE	Internal Coating	SERIES 120 POTAPOX PLUS 10–16 mils DFT
Radiography	NONE	External Coating	MAB PLYMASTIC (Lt GRAY) 5–7 mils DFT

REV	DESCRIPTION OF REVISIONS	BY	DATE

REV	DRAWING ISSUE RECORD	BY	DATE

Lockwood Remediation Technologies LLC

127 Hartwell Street, Suite 3
West Boylston,
Massachusetts 01583
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

CUSTOMER: UNKNOWN

PROJECT: UNKNOWN

GENERAL ASSEMBLY LAYOUT – ELEVATION AND ORIENTATION
FOR
MODEL HPAF–1000 FILTER 36" OD

DWN BY	CHK'D BY	APP'D BY	DATE	SCALE	JOB No.	DRAWING No.	REV
DB (TF)	TB (TF)	EP (TF)	MAR 23/00	1 1/2" = 1'–0"	UNKNOWN	HPAF1000–CD	0

127 Hartwell Street, Suite 3
West Boylston, Massachusetts 01583
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

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

GENERAL DESCRIPTION

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

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

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

SIR-300

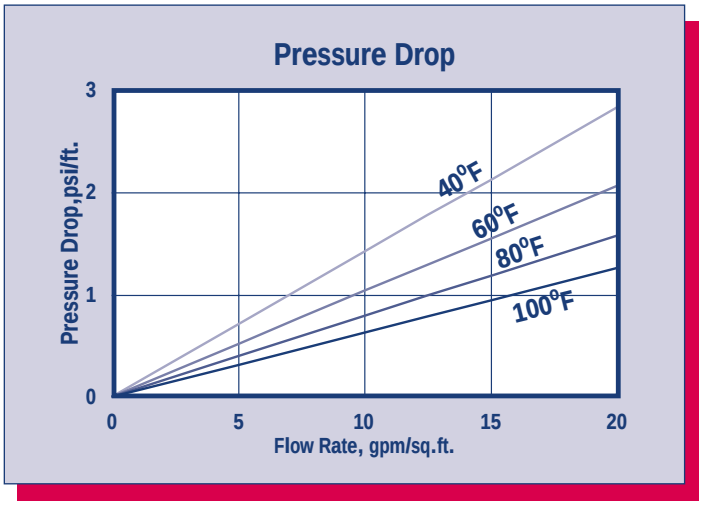
CATION EXCHANGE RESIN
IMINODIACETATE
Na FORM

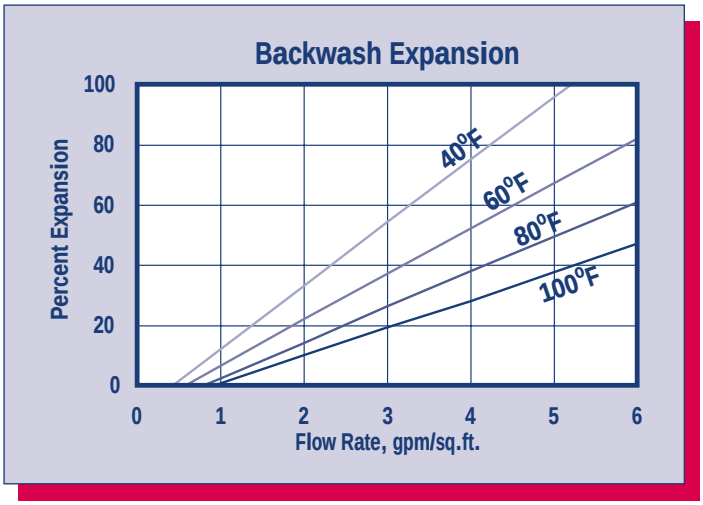
RESINTECH SIR-300 is a macroporous weak acid cation exchange resin based on the iminodiacetate acid functional group, which has chelating properties for heavy metal ions even against high concentrations of calcium. It is intended for use in polishing heavy metal ions from near neutral industrial wastes and process streams, and recovery of precious metals. *RESINTECH SIR-300* is supplied in the sodium form as moist, tough, uniform spherical beads.

FEATURES & BENEFITS

- **ABLE TO CHELATE HEAVY METALS IN METAL FINISHING RINSES**
  Extremely high selectivity for metals in slightly acid waters makes resin ideal for treatment prior to discharge, or in front of other resins used in recycle, recovery loops.
- **ABLE TO CHELATE HEAVY METAL IONS IN HIGH CALCIUM CONCENTRATIONS**
  High capacity for removing traces of heavy metals from wastewaters that have been treated by conventional hydroxide precipitation.
- **HIGHLY UNIFORM PARTICLE SIZE**
  16 to 50 mesh range; giving a LOW PRESSURE DROP while maintaining EXCELLENT KINETICS.
- **SUPERIOR PHYSICAL STABILITY**
  95% sphericity combined with a macroporous polymer structure, high crush strength and uniform particle size distribution gives greater resistance to bead breakage and osmotic shock.

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 water 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.

1 Resintech Plaza • 160 Cooper Road • West Berlin,NJ 08091 • Phone:(856)768-9600 • Fax:(856)768-9601 • E-mail:ixresin@resintech.com • Web Site:www.resintech.com

RESINTECH® SIR-300

TYPICAL PROPERTIES

Polymer Structure	Macroporous Styrene with DVB
Functional Group	R-CH_2-N$(COOH)_2$
Ionic Form, as shipped	Sodium
Physical Form	Spherical Beads
Screen Size Distribution	16 to 50
+16 mesh (U.S. Std)	< 5 percent
- 50 mesh " "	< 1 percent
pH Range	1.5 to 14
Water Retention	
Sodium Form	55 to 60 percent
Solubility	Insoluble
Approximate Shipping Weight	
Sodium Form	43 lbs./cu. ft.
Swelling H- to Na- Form	20 percent
Total Capacity	> 1.1 meq/mL Na form
Sphericity	> 95 percent

SUGGESTED OPERATING CONDITIONS

Maximum Temperature	
Salt form	170^{O}F
Hydrogen form	140^{O}F
Maximum Free Chlorine	NONE
Minimum Bed Depth	36 inches
Backwash Rate	50 to 75 % Bed Expansion
Acid Regenerant Conc.	4 to 10%
Regenerant Flow Rate	0.25 to .5 gpm/cu. ft.
Regenerant Contact Time	At least 30 Minutes
Regenerant Level	8.7 (HCl) or 12.5 (H_2SO_4) lbs/cu. ft.
Displacement Rinse Rate	Same as Regenerant Flow Rate
Displacement Rinse Volume	10 to 20 gallons/cu. ft.
Fast Rinse Rate	Same as Service Flow Rate
Fast Rinse Volume	35 to 60 gals./cu. ft.
Caustic Neutralization Conc.	4 to 10%
Caustic Solution Flow Rate	0.25 to .5 gpm/cu. ft.
Caustic Contact Time	At least 30 Minutes
Caustic Dose Level	2.5 to 6.0 pounds/cu. ft.
Displacement Rinse Rate	Same as Regenerant Flow Rate
Displacement Rinse Volume	10 to 20 gallons/cu. ft.
Fast Rinse Rate	Same as Service Flow Rate
Fast Rinse Volume	35 to 60 gals./cu. ft.
Service Flow Rate	1 to 2 gpm/cu. ft.

OPERATING CAPACITY

The relative affinity of ResinTech SIR-300 for heavy metals in near neutral solutions is in accordance with the following sequence.

H^{+1}>>Cu^{+2}>V^{+2}>>$(UO2)^{+2}$>Pb^{+2}>Ni^{+2}>Zn^{+2}>Co^{+2}>
Cd^{+2}>Fe^{+2}>Be^{+2}>Mn^{+2}>Mg+2Ca^{+2}>Sr^{+2}>Ba^{+2}>>Na^{+1}

High concentrations of chlorides or sulfates, or the presence of cheating or complexing agents can alter this sequence and likewise will affect the operating capacity.

HIGH CHLORIDE SOLUTIONS

Cu^{+2}>Ni^{+2}>Co^{+2}>Zn^{+2}>Cd^{+2}>Fe^{+2}

HIGH SULFATE SOLUTIONS

Cu^{+2}>Ni^{+2}>Cd^{+2}>Zn^{+2}>Co^{+2}>Fe^{+2}

RESINTECH SIR-300 has similar chelating characteristics to EDTA and NTA. Therefore it is less effective when these agents are present.

For each particular metal cation there is a critical pH at which ResinTech SIR-300 has optimum selectivity. For most metals this pH is approximately 4.0. As the pH decreases, so does the selectivity. At a pH of approximately 1.5 *RESINTECH SIR-300* loses its ability to remove most metals. The minimum pH values for removal of some common metal ions are as follows:

Manganese	4.0
Iron	3.0
Zinc, Cobalt	2.7
Nickel	2.5
Copper	1.5

As the pH increases, selectivity also decreases. At a pH of 9.0 selectivity for most metals is about 10% of the selectivity at optimum pH. Above a pH of 9.0 many metals form anionic complexes and are no longer present in a form that can be removed by *RESINTECH SIR-300*.

RESINTECH SIR-300, like other chelating resins, has very slow kinetics. Optimum capacity is obtained when the service flow rate is limited to 0.5 to 1.0 gpm/cu. ft.. Where extremely low leakage of metals is required, two columns of *RESINTECH SIR-300* should be operated in series . The primary column can be fully exhausted, allowing the polishing column to protect against leakage. After regeneration, the order of the columns is reversed with the freshly regenerated column used as the polisher.

RESINTECH SIR-300 is useful in numerous applications including Waste Treatment, Chemical Processing and Resource Recovery.

RESINTECH SIR-300 can be used to selectively remove heavy metal multivalent ions from a variety of industrial effluents such as oil refineries, plating shops, mine drainage, battery manufacturing, and cooling towers. Consult your ResinTech technical representative for specific applications.

Badger Meter

Recordall® Cold Water Top Load Bronze Disc Meter
Size 2" (DN 50mm)
NSF/ANSI Standard 61 Certified, Annex G

DESCRIPTION

Badger Meter offers the Recordall Disc meter in Cast Bronze and a Lead-Free Alloy. The Lead-Free Alloy (Trade designation: M170-LL) version has been certified to comply with NSF/ANSI Standard 61, Annex G and carries the NSF-61 Mark on the housing. All components of the Lead-Free Alloy meter, i.e., disc, chamber, housing, seals, etc. comprise the certified system.

APPLICATIONS: For use in measurement of potable cold water in residential, commercial and industrial services where flow is in one direction only.

OPERATION: Water flows through the meter's strainer and into the measuring chamber where it causes the disc to nutate. The disc, which moves freely, nutates on its own ball, guided by a thrust roller. A drive magnet transmits the motion of the disc to a follower magnet located within the permanently-sealed register. The follower magnet is connected to the register gear train. The gear train reduces the disc nutations into volume totalization units displayed on the register dial face.

OPERATING PERFORMANCE: The Badger Meter Recordall Disc meters meet or exceed registration accuracy for the low flow rates (95%), normal operating flow rates (100 ± 1.5%), and maximum continuous operation flow rates as specifically stated by AWWA Standard C700.

CONSTRUCTION: Badger Meter Recordall Disc meter construction, which complies with ANSI/AWWA standard C700, consists of three basic components: bronze meter housing, measuring chamber, and permanently, sealed register. A corrosion-resistant engineered polymer material is used for the measuring chamber.

To simplify maintenance, the register, measuring chamber, and strainer can be replaced without removing the meter housing from the installation. No change gears are required for accuracy calibration. Interchangeability of parts among like-sized meters also minimizes spare parts inventory investment. The built-in strainer has an effective straining area of twice the inlet size.

MAGNETIC DRIVE: Direct magnetic drive, through the use of high-strength magnets, provides positive, reliable and dependable register coupling for straight-reading, remote or automatic meter reading options.

SEALED REGISTER: The standard register consists of a straight-reading, odometer-type totalization display, 360° test circle with center sweep hand and flow finder to detect leaks. Register gearing consists of self-lubricating engineered polymer gears to minimize friction and provides long life. Permanently sealed; dirt, moisture, tampering and lens fogging problems are eliminated. Multi-position register simplifies meter installation and reading. Automatic meter reading systems are available for all Recordall Disc meters. All reading options are removable from the meter without disrupting water service.

TAMPER-PROOF FEATURES: Customer removal of the register to obtain free water can be prevented when the optional tamper detection seal wire screw/or Torx® tamper seal resistant screw is added to the meter. Both can be installed at the meter site or at the factory.

MAINTENANCE: Badger Meter Recordall Disc meters are designed and manufactured to provide long-term service with minimal maintenance. When maintenance is required, it can be performed easily either at the meter installation or at any other convenient location. As an alternative to repair by the utility, Badger Meter offers various maintenance and meter component exchange programs to fit the needs of the utility.

CONNECTIONS: Tailpieces/Flanges for installations of meters on various pipe types and sizes, including misaligned pipes, are available as an option.

Model 170 shown with optional 1" Test Plug

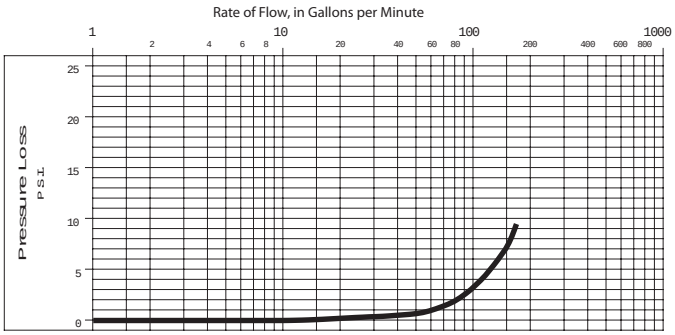
SPECIFICATIONS

Typical Operating Range (100% ± 1.5%)	2 1/2 -170 GPM (.57 to 39 m^3/hr)
Low Flow (Min. 95%)	1 1/2 GPM (.34 m^3/hr)
Maximum Continuous Operation	100 GPM (23 m^3/hr)
Pressure Loss at Maximum Continuous Operation	3.3 PSI at 100 GPM (.23 bar at 23 m^3/hr)
Maximum Operating Temperature	80°F (26°C)
Maximum Operating Pressure	150 PSI (10 bar)
Measuring Element	Nutating disc, positive displacement
Register Type	Straight reading, permanently sealed magnetic drive standard. Remote reading or Automatic Meter Reading units optional.
Registration	100 Gallons, 10 Cubic Feet, 1 m^3
Register Capacity	100,000,000 Gallons, 10,000,000 Cubic Feet, 1,000,000 m^3. 6 odometer wheels.
Meter Connections	2" AWWA two bolt elliptical flange, drilled, or 2" - 11 1/2 NPT internal pipe threads.
Optional Test Plug	1" NPT test plug (TP) available on elliptical long and short versions.

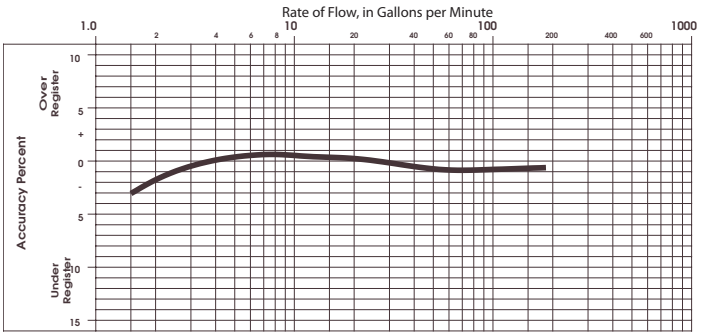
MATERIALS

Meter Housing	Cast Bronze, Lead-Free Alloy
Housing Top Plates	Bronze, Lead-Free Alloy
Measuring Chamber	Engineered Polymer
Disc	Engineered Polymer
Trim	Stainless Steel/Bronze
Strainer	Engineered Polymer
Disc Spindle	Stainless Steel
Magnet	Ceramic
Magnet Spindle	Stainless Steel
Register Lid and Box	Engineered Polymer or Bronze
Generator Housing	Engineered Polymer

PRESSURE LOSS CHART



ACCURACY CHART

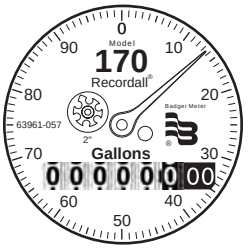


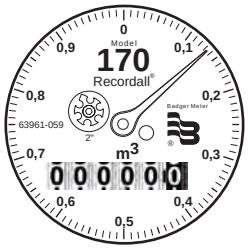
METER SIZE	METER MODEL	A LAYING LENGTH	B HEIGHT REG./RTR	C HEIGHT GEN.	D CENTERLINE BASE	WIDTH	APPROX. SHIPPING WEIGHT
2" (50mm)	170 EL, Hex. 170 EL, TP	15 1/4" (387mm)	8" (203mm)	9 3/8" (238mm)	2 7/8" (73mm)	9 1/2" (241mm)	30 lb. (13.6kg)
2" (50mm)	170 ELL, 170 ELL, TP	17" (432mm)	8" (203mm)	9 3/8" (238mm)	2 7/8" (73mm)	9 1/2" (241mm)	30 lb. (13.6kg)

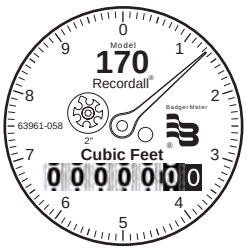
EL = Elliptical ELL = Elliptical Long Hex = Hexagon, 2" - 11 1/2 NPT Thread TP=Test Plug 1"

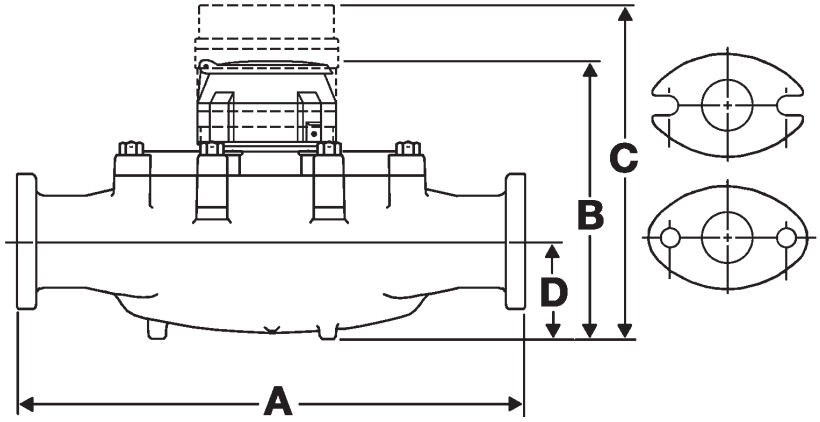
Sweep Hand Registration

MODEL	GALLON	CU.FT.	CU. METER
M170	100	10	1









Material Safety Data Sheets

127 Hartwell Street, Suite 3
West Boylston, Massachusetts 01583
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

MATERIAL SAFETY DATA SHEET

Revision Date: 11/11

1.1 IDENTIFICATION OF PRODUCT.

Designation: - Activated carbon

1.2 COMPANY.

Lockwood Remediation Technologies, LLC
127 Hartwell Street – Suite 3
West Boylston, MA 01583

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	TLV mg/m^3	PEL mg/m^3
			(Germany)	(ACGIH)	(OSHA)
100	Bituminous Carbon	7440-44-0		2 mg/m3	15 mg/m3
			T Dust	T dust	

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.

RESINTECH INC.
INNOVATIONS IN ION EXCHANGE

MATERIAL SAFETY DATA SHEET

ION EXCHANGE RESINS

Product Name: SIR-300, SIR-300 pH Adjusted

Chelating Ion Exchange Resin

Effective Date: 01/01/12

1. Company Information:

Company Address:

RESINTECH, Inc.
1 ResinTech Plaza
160 Cooper Road
West Berlin, NJ 08091 USA

Information Numbers:

Phone Number: **856-768-9600**
Fax Number: **856-768-9601**
Email: **ixresin@resintech.com**
Website: **www.resintech.com**

2. Ingredients:

Styrene and divinylbenzene copolymer
with iminodiacetic functional groups in the sodium form. CAS# 135620-93-8 (35 – 60%)

Water CAS# 7732-18-5 (40 – 65%)

This document is prepared pursuant to the OSHA Hazard Communication Standard (29CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

3. Physical/Chemical Data:

Boiling Point:	Not Applicable
Vapor Pressure (MM HG):	Not Applicable
Evaporation Rate (water = 1):	1
Appearance & Odor:	light cream to dark cream may have amine odor.
Specific Gravity:	1.2 (water = 1)
Melting Point (deg. F)	Not applicable
Solubility in Water:	Insoluble
Thermal:	May yield oxides of carbon and nitrogen
Vapor Density:	Not Applicable

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

4. Fire & Explosion Hazard Data

Flammable Limits: 800 ° Deg. F

Unusual Fire & Explosion Hazards: Product is not combustible until moisture is removed, then resin starts to burn in flame at 230 C. Autoignition occurs above 500C. Possible fire.

Extinguishing Media: Water, CO_2, Talc, Dry Chemical

Special Fire Fighting Procedures:	MSHA/NIOSH approved self-contained breathing gear.

5. Reactivity Data

Stability:	Stable
Conditions to Avoid:	Temperatures above 400° F
Hazardous by Products:	CO, CO_2, NH_3, amines, styrene, divinylbenzene.
Materials to avoid contact with:	Strong oxidizing agents (i.e. nitric acid)
Hazardous Polymerization:	Material does not polymerize
Storage:	Store in a cool dry place

6. Health Hazards & Sara (Right to Know)

Emergency First Aid Procedures:	Contact with eyes can and skins can cause irritation.
Skin Absorption:	Skin absorption is unlikely due to physical properties.
Ingestion:	Single dose oral LD50 has not been determined. Single does oral toxicity is believed to be low. No hazards anticipated from ingestion incidental to industrial exposure.
Inhalation:	Vapors are unlikely due to physical properties.
Systemic & Other Effects:	No specific data available, however, repeated exposures are not anticipated to cause any significant adverse effects.
Carcinogenicity:	Not Applicable
Sara – title 3, sections 311 & 312:	All ingredients are non-hazardous

7. First Aid

Eyes:	Irrigate immediately with water for at least 5 minutes. Mechanical irritation only.
Skin:	No adverse effects anticipated by this route of exposure.
Ingestion:	No adverse effects anticipated by this route of exposure incidental to proper industrial handling.
Inhalation:	No adverse effects anticipated by this route of exposure.

8. Control Measures

Respiratory protection:	Not required for normal uses if irritation occurs from breathing-get fresh air!
Eye protection:	Splash goggles
Ventilation:	Normal
Protective Gloves:	Not required.

9. Safe handling procedures

In Case of Spills:	Sweep up material and transfer to containers. Use caution – the floor will be slippery!
Disposal Method:	Bury resin in licensed landfill or burn in approved incinerator according to local, state, and federal regulations. For resin contaminated with hazardous material, dispose of mixture as hazardous material according to local, state and federal regulations.

10. Additional Information:

Special precautions to be taken in handling and storage:	Practice reasonable care and caution. Metal equipment should be compatible with feed, regenerant, resin form, and effluent of that process.
TSCA Considerations:	Every different salt or ionic form of an ion-exchange resin is a separate chemical. If you use an ion-exchange resin for ion-exchange purposes and then remove the by-product resin from its vessel or container prior to recovery of the original or another form of the resin or of another chemical, the by-product resin must be listed on the TSCA Inventory (unless an exemption is applicable). It is the responsibility of the customer to ensure that such isolated, recycled by-product resins are in compliance with TSCA. Failure to comply could result in substantial civil or criminal penalties being assessed by the Environmental Protection Agency.
MSDS Status:	Canadian regulatory information added.

11. Regulatory Information: (Not meant to be all-inclusive—selected regulations represented.)

Notice:	The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, 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 its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.
Canadian Regulations:	
WHMIS Information:	The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is: This product is not a "Controlled Product" under WHMIS.
Canadian TDG Information:	For guidance, the Transportation of Dangerous Good Classification for this product is: Not regulated

ATTACHMENT C:

NOTICE OF INTENT

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:
Garden Garage - Former</td><td colspan="3">Site address:
Street: 35 Lomasney Way</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02114</td></tr>
<tr><td rowspan="4">2. Site owner
Charles River Park "D" Company

Owner is (check one): ☐ Federal ☐ State/Tribal ☐ Private ☐ Other; if so, specify:</td><td colspan="3">Contact Person: Marshall Felix</td></tr>
<tr><td colspan="2">Telephone: 617-648-2162</td><td>Email: mfelix@eqr.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: Two North Riverside Plaza, Suite 400</td></tr>
<tr><td>City: Chicago</td><td>State: IL</td><td>Zip: 60606</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
J Derenzo Company</td><td colspan="3">Contact Person: Peter Burch</td></tr>
<tr><td colspan="2">Telephone: 508-897-8039</td><td>Email: pburch@JDerenzo.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 338 Howard Street</td></tr>
<tr><td>City: Brockton</td><td>State: MA</td><td>Zip: 02302</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.

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.	29.2 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.	131.82

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

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

C. Source water information:

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

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

2. Source water contaminants: Soil containing SVOCs, petroleum, arsenic, lead, and zinc	
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. 49	Outfall location(s): (Latitude, Longitude) 42 22' 02.79" N 71 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): September 2018 to September 2019 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	4500	75	63	63	Report mg/L	---
Chloride		✔	1	300	7000	176000	176000	Report µg/l	---
Total Residual Chlorine		✔	1	4500	20	0	0	0.2 mg/L	1200
Total Suspended Solids		✔	1	2540D	500	1500	1500	30 mg/L	---
Antimony			1	200.8	1	0	0	206 µg/L	69822
Arsenic		✔	1	200.8	1	0	0	104 µg/L	1091
Cadmium	✔		1	200.8	0.2	0	0	10.2 µg/L	9.1117
Chromium III	✔		1	Calc	NA	0	0	323 µg/L	2563.4
Chromium VI	✔		1	3500	4	0	0	323 µg/L	1247.5
Copper		✔	1	200.8	1	2.2	2.2	242 µg/L	2.4
Iron	✔		1	200.7	50	0	0	5,000 µg/L	94915
Lead		✔	1	200.8	0.5	0	0	160 µg/L	0.42
Mercury	✔		1	245.1	0.1	0	0	0.739 µg/L	98.83
Nickel	✔		1	200.8	5	0	0	1,450 µg/L	1486.5
Selenium		✔	1	200.8	5	6.1	6.1	235.8 µg/L	294.6
Silver	✔		1	200.8	0.2	0	0	35.1 µg/L	26.9
Zinc		✔	1	200.8	20	0	0	420 µg/L	3407.5
Cyanide	✔		1	4500	1	0	0	178 mg/L	567.3
B. Non-Halogenated VOCs									
Total BTEX	✔		1	624.1	Multiple	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	50	0	0	7.97 mg/L	---
Phenol	✔		1	625.1	10	0	0	1,080 µg/L	32729

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	2	0	0	4.4 µg/L	174.6
1,2 Dichlorobenzene	✔		1	624.1	2	0	0	600 µg/L	---
1,3 Dichlorobenzene	✔		1	624.1	2	0	0	320 µg/L	---
1,4 Dichlorobenzene	✔		1	624.1	2	0	0	5.0 µg/L	---
Total dichlorobenzene	✔		1	624.1	2	0	0	763 µg/L in NH	---
1,1 Dichloroethane	✔		1	624.1	2	0	0	70 µg/L	---
1,2 Dichloroethane	✔		1	624.1	2	0	0	5.0 µg/L	---
1,1 Dichloroethylene	✔		1	624.1	2	0	0	3.2 µg/L	---
Ethylene Dibromide	✔		1	504.1	0.019	0	0	0.05 µg/L	---
Methylene Chloride	✔		1	624.1	5	0	0	4.6 µg/L	---
1,1,1 Trichloroethane	✔		1	624.1	2	0	0	200 µg/L	---
1,1,2 Trichloroethane	✔		1	624.1	2	0	0	5.0 µg/L	---
Trichloroethylene	✔		1	624.1	2	0	0	5.0 µg/L	---
Tetrachloroethylene	✔		1	624.1	2	0.28	0.28	5.0 µg/L	360
cis-1,2 Dichloroethylene	✔		1	624.1	1	0	0	70 µg/L	---
Vinyl Chloride	✔		1	624.1	2	0	0	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		1	8270D	Multiple	0.17	0.17	190 µg/L	---
Diethylhexyl phthalate	✔		1	8270D	1	0.17	0.17	101 µg/L	240
Total Group I PAHs	✔		1	8270D	Multiple	0	0	1.0 µg/L	---
Benzo(a)anthracene	✔		1	8270D	0.05	0	0	As Total PAHs	0.4146
Benzo(a)pyrene	✔		1	8270D	0.1	0	0		0.4146
Benzo(b)fluoranthene	✔		1	8270D	0.05	0	0		0.4146
Benzo(k)fluoranthene	✔		1	8270D	0.2	0	0		0.4146
Chrysene	✔		1	8270D	0.2	0	0		0.4146
Dibenzo(a,h)anthracene	✔		1	8270D	0.2	0	0		0.4146
Indeno(1,2,3-cd)pyrene	✔		1	8270D	0.2	0	0		0.4146

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	8270D	Multiple	0	0	100 µg/L	---
Naphthalene	✔		1	8270D	1	0	0	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		1	608.3	0.1	0	0	0.000064 µg/L	---
Pentachlorophenol	✔		1	8270D	1	0	0	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		1	8100	200	0	0	5.0 mg/L	---
Ethanol	✔		1	8015C	2000	0	0	Report mg/L	---
Methyl-tert-Butyl Ether	✔		1	624.1	2	0	0	70 µg/L	2182
tert-Butyl Alcohol	✔		1	624.1	20	0	0	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		1	624.1	0.5	0	0	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
Temperature	✔		1	Field	NA	11.7	11.7		
pH	✔		1	Field	NA	7.4	7.4		

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:
To be implemented as necessary, dependent on final treatment system design.

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

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: Bag filters Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	200 gpm
Provide the proposed maximum effluent flow in gpm.	200 gpm
Provide the average effluent flow in gpm.	100 gpm
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	N/A

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

F. Chemical and additive information

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

☐ Algaecides/biocides ☐ Antifoams ☐ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ☐ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ■ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ☐ Other; if so, specify:
To be implemented as necessary, dependent on final treatment system design.

2. Provide the following information for each chemical/additive, using attachments, if necessary:
Chemical/Additive information will be provided as necessary depending on treatment system design
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: Pete Burch	Date: 8-7-18
Print Name and Title: Peter Burch, Project Executive	

ATTACHMENT D:

BWSC DEWATERING PERMIT APPLICATION

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

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: Charles River Park "D" Company Address: Two N. Riverside Plaza, Suite 400

Phone Number: (312) 928-8471 Fax number: _____

Contact person name: Marshall Felix Title: Vice President, Construction Management

Cell number: _____ Email address: mfelix@eqr.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: 35 R Lomasney Way (Garden Garage) (Thoreau Path) Neighborhood Boston - West End

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. See attached Receiving Waters Charles River

Temporary Discharges (Provide Anticipated Dates of Discharge): From August 2018 To November 2021

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

Permanent Discharges

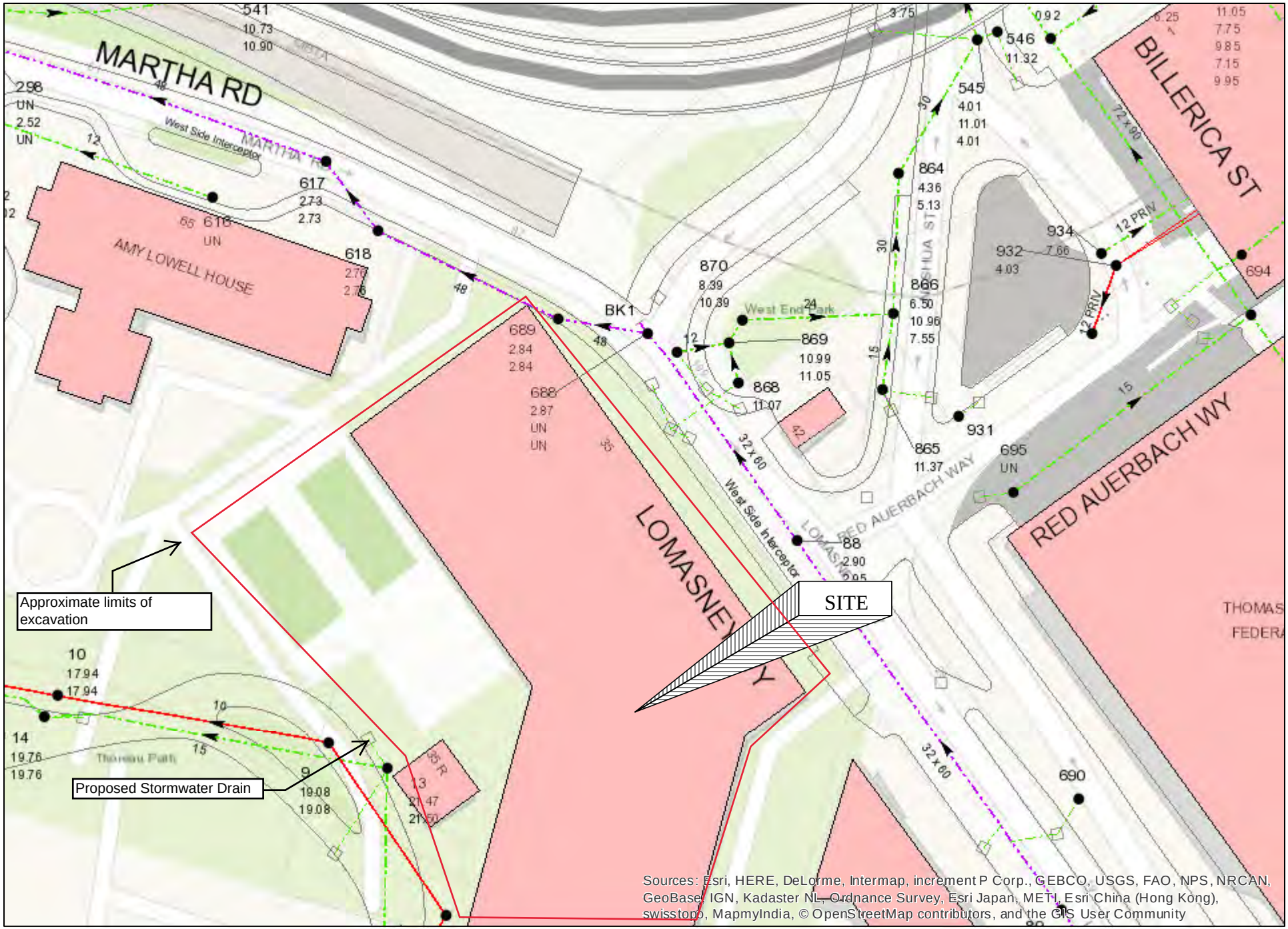
☐ Foundation Drainage	☐ Crawl Space/Footing Drain
☐ Accumulated Surface Water	☐ Non-contact/Uncontaminated Cooling
☐ Non-contact/Uncontaminated Process	☐ Other; _____

---

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

N W E S

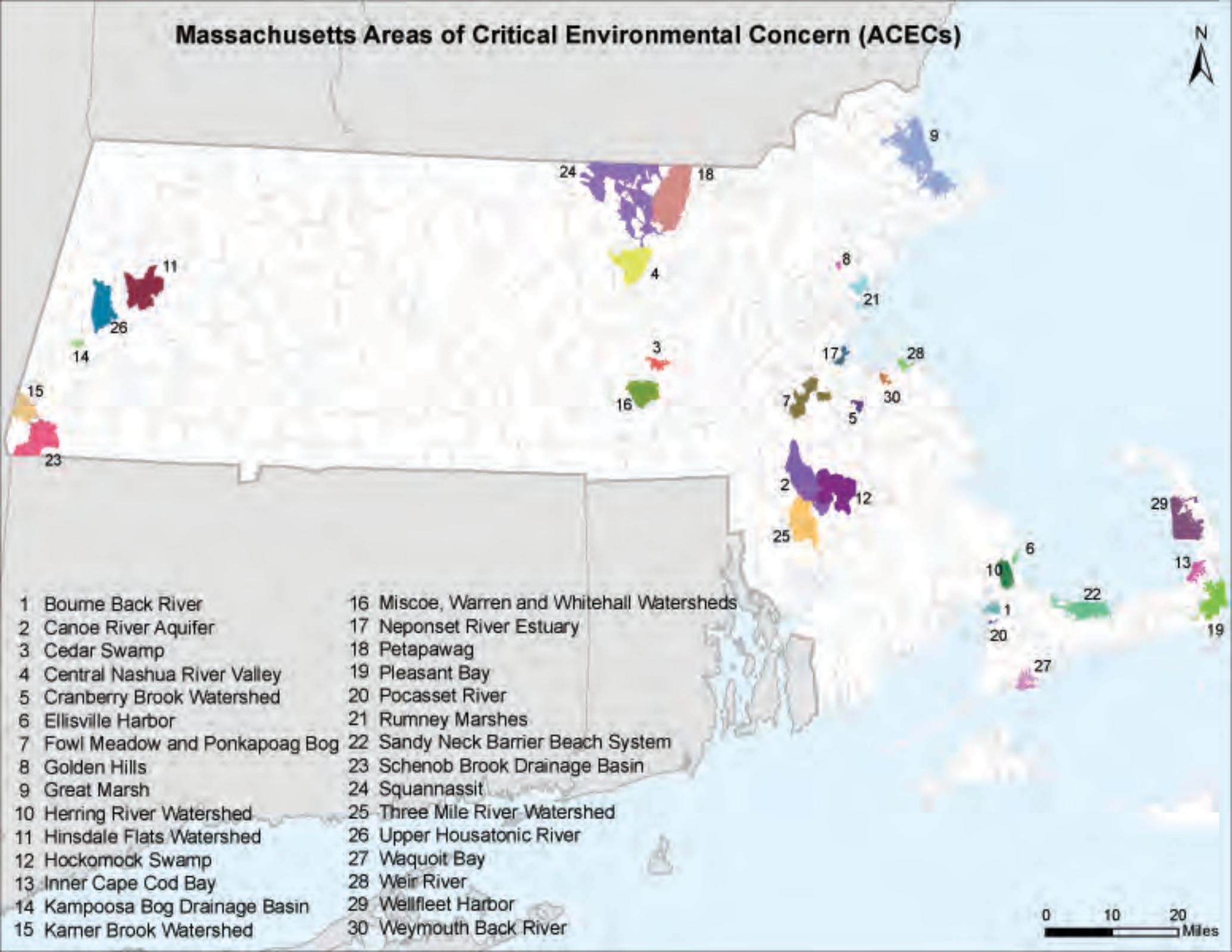
0 20 40 80 120 160 Feet

35 Lomasney Way Sewer

ATTACHMENT E:

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

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN
November 2010

Total Approximate Acreage: 268,000 acres
Approximate acreage and designation date follow ACEC names below.

Bourne Back River
(1,850 acres, 1989) Bourne

Canoe River Aquifer and Associated Areas (17,200 acres, 1991) Easton, Foxborough, Mansfield, Norton, Sharon, and Taunton

Cedar Swamp
(1,650 acres, 1975) Hopkinton and Westborough

Central Nashua River Valley
(12,900 acres, 1996) Bolton, Harvard, Lancaster, and Leominster

Cranberry Brook Watershed
(1,050 acres, 1983) Braintree and Holbrook

Ellisville Harbor
(600 acres, 1980) Plymouth

Fowl Meadow and Ponkapoag Bog
(8,350 acres, 1992) Boston, Canton, Dedham, Milton, Norwood, Randolph, Sharon, and Westwood

Golden Hills
(500 acres, 1987) Melrose, Saugus, and Wakefield

Great Marsh (originally designated as Parker River/Essex Bay)
(25,500 acres, 1979) Essex, Gloucester, Ipswich, Newbury, and Rowley

Herring River Watershed
(4,450 acres, 1991) Bourne and Plymouth

Hinsdale Flats Watershed
(14,500 acres, 1992) Dalton, Hinsdale, Peru, and Washington

Hockomock Swamp
(16,950 acres, 1990) Bridgewater, Easton, Norton, Raynham, Taunton, and West Bridgewater

Inner Cape Cod Bay
(2,600 acres, 1985) Brewster, Eastham, and Orleans

Kampoosa Bog Drainage Basin
(1,350 acres, 1995) Lee and Stockbridge

Karner Brook Watershed
(7,000 acres, 1992) Egremont and Mount Washington

Miscoe, Warren, and Whitehall Watersheds
(8,700 acres, 2000) Grafton, Hopkinton, and Upton

Neponset River Estuary
(1,300 acres, 1995) Boston, Milton, and Quincy

Petapawag
(25,680 acres, 2002) Ayer, Dunstable, Groton, Pepperell, and Tyngsborough

Pleasant Bay
(9,240 acres, 1987) Brewster, Chatham, Harwich, and Orleans

Pocasset River
(160 acres, 1980) Bourne

Rumney Marshes
(2,800 acres, 1988) Boston, Lynn, Revere, Saugus, and Winthrop

Sandy Neck Barrier Beach System
(9,130 acres, 1978) Barnstable and Sandwich

Schenob Brook Drainage Basin
(13,750 acres, 1990) Mount Washington and Sheffield

Squannassit
(37,420 acres, 2002) Ashby, Ayer, Groton, Harvard, Lancaster, Lunenburg, Pepperell, Shirley, and Townsend

Three Mile River Watershed
(14,280 acres, 2008) Dighton, Norton, Taunton

Upper Housatonic River
(12,280 acres, 2009) Lee, Lenox, Pittsfield, Washington

Waquoit Bay
(2,580 acres, 1979) Falmouth and Mashpee

Weir River
(950 acres, 1986) Cohasset, Hingham, and Hull

Wellfleet Harbor
(12,480 acres, 1989) Eastham, Truro, and Wellfleet

Weymouth Back River
(800 acres, 1982) Hingham and Weymouth

ACEC acreages above are based on MassGIS calculations and may differ from numbers originally presented in designation documents and other ACEC publications due to improvements in accuracy of GIS data and boundary clarifications. Listed acreages have been rounded to the nearest 50 or 10 depending on whether boundary clarification has occurred. For more information please see, http://www.mass.gov/dcr/stewardship/acec/aboutMaps.htm.

Towns with ACECs within their Boundaries — November 2010

TOWN	ACEC
Ashby	Squannassit
Ayer	Petapawag
	Squannassit
Barnstable	Sandy Neck Barrier Beach System
Bolton	Central Nashua River Valley
Boston	Rumney Marshes
	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary
Bourne	Pocasset River
	Bourne Back River
	Herring River Watershed
Braintree	Cranberry Brook Watershed
Brewster	Pleasant Bay
	Inner Cape Cod Bay
Bridgewater	Hockomock Swamp
Canton	Fowl Meadow and Ponkapoag Bog
Chatham	Pleasant Bay
Cohasset	Weir River
Dalton	Hinsdale Flats Watershed
Dedham	Fowl Meadow and Ponkapoag Bog
Dighton	Three Mile River Watershed
Dunstable	Petapawag
Eastham	Inner Cape Cod Bay
	Wellfleet Harbor
Easton	Canoe River Aquifer
	Hockomock Swamp
Egremont	Karner Brook Watershed
Essex	Great Marsh
Falmouth	Waquoit Bay
Foxborough	Canoe River Aquifer
Gloucester	Great Marsh
Grafton	Miscoe-Warren-Whitehall Watersheds
Groton	Petapawag
	Squannassit
Harvard	Central Nashua River Valley
	Squannassit
Harwich	Pleasant Bay
Hingham	Weir River
	Weymouth Back River
Hinsdale	Hinsdale Flats Watershed
Holbrook	Cranberry Brook Watershed
Hopkinton	Miscoe-Warren-Whitehall Watersheds
	Cedar Swamp
Hull	Weir River
Ipswich	Great Marsh
Lancaster	Central Nashua River Valley
	Squannassit
Lee	Kampoosa Bog Drainage Basin
	Upper Housatonic River
Lenox	Upper Housatonic River
Leominster	Central Nashua River Valley
Lunenburg	Squannassit
Lynn	Rumney Marshes
Mansfield	Canoe River Aquifer
Mashpee	Waquoit Bay
Melrose	Golden Hills
Milton	Fowl Meadow and Ponkapoag Bog
	Neponset River Estuary
Mt. Washington	Karner Brook Watershed
	Schenob Brook
Newbury	Great Marsh
Norton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Norwood	Fowl Meadow and Ponkapoag Bog
Orleans	Inner Cape Cod Bay
	Pleasant Bay
Pepperell	Petapawag
	Squannassit
Peru	Hinsdale Flats Watershed
Pittsfield	Upper Housatonic River
Plymouth	Herring River Watershed
	Ellisville Harbor
Quincy	Neponset River Estuary
Randolph	Fowl Meadow and Ponkapoag Bog
Raynham	Hockomock Swamp
Revere	Rumney Marshes
Rowley	Great Marsh
Sandwich	Sandy Neck Barrier Beach System
Saugus	Rumney Marshes
	Golden Hills
Sharon	Canoe River Aquifer
	Fowl Meadow and Ponkapoag Bog
Sheffield	Schenob Brook
Shirley	Squannassit
Stockbridge	Kampoosa Bog Drainage Basin
Taunton	Hockomock Swamp
	Canoe River Aquifer
	Three Mile River Watershed
Truro	Wellfleet Harbor
Townsend	Squannassit
Tyngsborough	Petapawag
Upton	Miscoe-Warren-Whitehall Watersheds
Wakefield	Golden Hills
Washington	Hinsdale Flats Watershed
	Upper Housatonic River
Wellfleet	Wellfleet Harbor
W Bridgewater	Hockomock Swamp
Westborough	Cedar Swamp
Westwood	Fowl Meadow and Ponkapoag Bog
Weymouth	Weymouth Back River
Winthrop	Rumney Marshes

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ATTACHMENT F:

NATIONAL REGISTER OF HISTORIC PLACES AND MASSACHUSETTS HISTORICAL COMMISSION DOCUMENTATION

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Place: West End; Street No: 35; Street Name: Lomasney; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Place: West End; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
BOS.CA	Charles River Basin Historic District		Boston	
BOS.4156		23-25 Anderson St	Boston	1910
BOS.4186	Holiday Inn	5 Blossom St	Boston	1967
BOS.4158	West End House	16-18 Blossom St	Boston	1929
BOS.4159	Winchell Elementary School	24 Blossom St	Boston	1884
BOS.4190	Pratt, Dr. John W. House	Cambridge St	Boston	1892
BOS.9034	Longfellow Bridge - West Boston Bridge	Cambridge St	Boston	c 1900
BOS.4160		106 Cambridge St	Boston	1925
BOS.4161		116-120 Cambridge St	Boston	1928
BOS.4162		122-128 Cambridge St	Boston	1925
BOS.4182	Old West Church	131 Cambridge St	Boston	1806
BOS.4163		138 Cambridge St	Boston	1901
BOS.4183	Otis, First Harrison Gray House	141 Cambridge St	Boston	1796
BOS.4164		148 Cambridge St	Boston	c 1850
BOS.4184	Boston Public Library - West End Branch	155 Cambridge St	Boston	1968
BOS.4165		156-172 Cambridge St	Boston	1926
BOS.4185	Charles River Plaza	161-209 Cambridge St	Boston	1965
BOS.4166	McGauley Building	180 Cambridge St	Boston	1910
BOS.4167	Boston Ladder Company #24 Fire House	200 Cambridge St	Boston	1964
BOS.4168		204 Cambridge St	Boston	c 1928
BOS.4169		210 Cambridge St	Boston	c 1860
BOS.4170	Puffer, Alvin D. Commercial Building	214-218 Cambridge St	Boston	1896
BOS.4171		222-224 Cambridge St	Boston	r 1865
BOS.4172		226-234 Cambridge St	Boston	r 1865
BOS.4173		236-240 Cambridge St	Boston	r 1865
BOS.4187	Exxon Gas Station	239 Cambridge St	Boston	1937
BOS.4174		242 Cambridge St	Boston	1890

Inv. No.	Property Name	Street	Town	Year
BOS.9428		245 Cambridge St	Boston	c 1980
BOS.4175		248-270 Cambridge St	Boston	1925
BOS.4189	Mobil Gas Station	261 Cambridge St	Boston	c 1930
BOS.4176		272-274 Cambridge St	Boston	c 1910
BOS.4177		276-280 Cambridge St	Boston	c 1910
BOS.4178		282-284 Cambridge St	Boston	c 1910
BOS.4179		286-288 Cambridge St	Boston	c 1910
BOS.4191		295-299 Cambridge St	Boston	1912
BOS.4180	Sunoco Gas Station	296 Cambridge St	Boston	1941
BOS.4192		301-303 Cambridge St	Boston	c 1925
BOS.4193		305-307 Cambridge St	Boston	c 1895
BOS.4194		309-311 Cambridge St	Boston	c 1940
BOS.4181	Harvard Gardens Restaurant	310-316 Cambridge St	Boston	c 1925
BOS.4195		313 Cambridge St	Boston	1896
BOS.4196	Boston Edison Electric Company Substation	317-325 Cambridge St	Boston	1924
BOS.4197	Colonial Beacon Oil Company Lubritorium	327 Cambridge St	Boston	1937
BOS.4198	Charles Street Subway Station	Charles Circ	Boston	1932
BOS.927	Charles River Railroad Bridge at North Station	Charles River	Boston	1931
BOS.4200	Suffolk County Jail	215 Charles St	Boston	1851
BOS.9036	East Boston Tunnel Extension	East Boston Tunnel	Boston	1916
BOS.9041	Embankment Road	Embankment Rd	Boston	c 1949
BOS.4201	Massachusetts General Hospital - Bulfinch Building	Fruit St	Boston	c 1823
BOS.9037	Massachusetts General Hospital - Ether Dome	Fruit St	Boston	c 1823
BOS.9033	Beacon Hill Subway Tunnel	Lindall Pl	Boston	1909
BOS.4157		31 N Anderson St	Boston	c 1910
BOS.4202	Registry of Motor Vehicles Building	100 Nashua St	Boston	1932
BOS.9032	East Cambridge Viaduct - Lechmere Viaduct	O'Brien Hwy	Boston	1910
BOS.9039	Charles River Dam Bridge	O'Brien Hwy	Boston	1961
BOS.4203	State Service Center	25 Staniford St	Boston	1970
BOS.4204	Eye Research Institute	99 West Cedar St	Boston	1957
BOS.4205	Twelfth Congregational Church	68 Wm. C. O'Connell Way	Boston	1823
BOS.15230	Saint Joseph's Roman Catholic Church Rectory	70 Wm. C. O'Connell Way	Boston	c 1902

ATTACHMENT G:

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: February 06, 2018
Consultation Code: 05E1NE00-2018-SLI-0895
Event Code: 05E1NE00-2018-E-02061
Project Name: Garden Garage

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2018-SLI-0895

Event Code: 05E1NE00-2018-E-02061

Project Name: Garden Garage

Project Type: DEVELOPMENT

Project Description: 35 Lomasney Way, Boston MA. Project will include demolition and redevelopment of the the site for proposed commercial/residential use. Construction activities will be limited to the boundaries of the site.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.36502670072094N71.06484612251049W

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. 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.

Critical habitats

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

ATTACHMENT H:

LABORATORY ANALYTICAL REPORTS

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

April 13, 2018

Jesse Freeman
Vertex Engineering - Boston
One Congress Street, 10th Floor
Boston, MA 02114

Project Location: Boston, MA
Client Job Number:
Project Number: 48552
Laboratory Work Order Number: 18C0623

Enclosed are results of analyses for samples received by the laboratory on March 15, 2018. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jessica L. Hoffman
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 - Boston
One Congress Street, 10th Floor
Boston, MA 02114
ATTN: Jesse Freeman

REPORT DATE: 4/13/2018

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 48552

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 18C0623

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

PROJECT LOCATION: Boston, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SH-8-RGP-Influent	18C0623-01	Ground Water		EPA 1664B	
				EPA 200.7	
				EPA 200.8	
				EPA 245.1	
				EPA 300.0	NY11393/MA-MAI138/MA1110
				EPA 504.1	
				EPA 608.3	
				EPA 624.1	
				EPA 625.1	
				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	
				SM21-22 4500 CN E	MA M-MA-086/CT PH-0574/NY11148
				SW-846 8015C	NH NELAC 2539/ MA M-MA014/CT PH-0494 +others
				SW-846 8100 Modified	
				SW-846 8270D	
				Tri Chrome Calc.	

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

CASE NARRATIVE SUMMARY

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

REVISED REPORT 04-02-18: Sample 18C0623-01 was rerun for method 8270 in order to achieve the RGP limit of 1.0 ppb for PCP. That result has been reported.

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

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

EPA 624.1

Qualifications:

Ja

Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

Analyte & Samples(s) Qualified:

Tetrachloroethylene
18C0623-01[SH-8-RGP-Influent]

EPA 625.1

Qualifications:

L-07

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

Analyte & Samples(s) Qualified:

N-Nitrosodimethylamine
B198916-BSD1

V-04

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

Analyte & Samples(s) Qualified:

Benzidine
18C0623-01[SH-8-RGP-Influent], B198916-BLK1, B198916-BS1, B198916-BSD1

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

Benzidine
18C0623-01[SH-8-RGP-Influent], B198916-BLK1, B198916-BS1, B198916-BSD1

Hexachlorocyclopentadiene
18C0623-01[SH-8-RGP-Influent], B198916-BLK1, B198916-BS1, B198916-BSD1

SW-846 8270D

Qualifications:

B

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

Analyte & Samples(s) Qualified:

Bis(2-ethylhexyl)phthalate (SIM)
18C0623-01[SH-8-RGP-Influent], B199712-BLK1, B199712-BS1, B199712-BSD1

Ja

Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).

Analyte & Samples(s) Qualified:

Bis(2-ethylhexyl)phthalate (SIM)
18C0623-01[SH-8-RGP-Influent], B199712-BLK1

S-07

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

Analyte & Samples(s) Qualified:

2,4,6-Tribromophenol
18C0623-01[SH-8-RGP-Influent], B199712-BLK1, B199712-BSD1

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

SW-846 8100 Modified

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

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: Boston, MA | Sample Description: | Work Order: 18C0623

Date Received: 3/15/2018

Field Sample #: SH-8-RGP-Influent | Sampled: 3/15/2018 09:30

Sample ID: 18C0623-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	9.7	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	0.11	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
Benzene	ND	1.0	0.12	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
tert-Butyl Alcohol (TBA)	ND	20	2.2	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
Carbon Tetrachloride	ND	2.0	0.25	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
Chloroform	ND	2.0	0.22	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
1,2-Dichlorobenzene	ND	2.0	0.17	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
1,3-Dichlorobenzene	ND	2.0	0.17	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
1,4-Dichlorobenzene	ND	2.0	0.15	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
1,2-Dichloroethane	ND	2.0	0.19	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
cis-1,2-Dichloroethylene	ND	1.0	0.15	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
1,1-Dichloroethane	ND	2.0	0.16	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
1,1-Dichloroethylene	ND	2.0	0.21	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
1,4-Dioxane	ND	50	26	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
Ethylbenzene	ND	2.0	0.13	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
Methyl tert-Butyl Ether (MTBE)	ND	2.0	0.090	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
Methylene Chloride	ND	5.0	3.2	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
Tetrachloroethylene	0.28	2.0	0.27	µg/L	1	Ja	EPA 624.1	3/16/18	3/17/18 4:44	EEH
Toluene	ND	1.0	0.17	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
1,1,1-Trichloroethane	ND	2.0	0.13	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
1,1,2-Trichloroethane	ND	2.0	0.24	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
Trichloroethylene	ND	2.0	0.20	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
Vinyl Chloride	ND	2.0	0.13	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
m+p Xylene	ND	2.0	0.26	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH
o-Xylene	ND	2.0	0.13	µg/L	1		EPA 624.1	3/16/18	3/17/18 4:44	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	93.6	70-130		3/17/18 4:44
Toluene-d8	99.2	70-130		3/17/18 4:44
4-Bromofluorobenzene	92.2	70-130		3/17/18 4:44

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

Project Location: Boston, MA | Sample Description: | Work Order: 18C0623

Date Received: 3/15/2018

Field Sample #: SH-8-RGP-Influent | Sampled: 3/15/2018 09:30

Sample ID: 18C0623-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene (SIM)	ND	0.30	0.30	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Acenaphthylene (SIM)	ND	0.30	0.30	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Anthracene (SIM)	ND	0.20	0.20	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Benzo(a)anthracene (SIM)	ND	0.050	0.050	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Benzo(a)pyrene (SIM)	ND	0.10	0.10	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Benzo(b)fluoranthene (SIM)	ND	0.050	0.050	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Benzo(g,h,i)perylene (SIM)	ND	0.50	0.50	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Benzo(k)fluoranthene (SIM)	ND	0.20	0.20	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Bis(2-ethylhexyl)phthalate (SIM)	0.17	1.0	0.10	µg/L	1	B, Ja	SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Chrysene (SIM)	ND	0.20	0.20	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Dibenz(a,h)anthracene (SIM)	ND	0.20	0.20	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Fluoranthene (SIM)	ND	0.50	0.50	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Fluorene (SIM)	ND	1.0	1.0	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.20	0.20	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
2-Methylnaphthalene (SIM)	ND	1.0	0.080	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Naphthalene (SIM)	ND	1.0	1.0	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Pentachlorophenol (SIM)	ND	1.0	0.34	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Phenanthrene (SIM)	ND	0.050	0.050	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM
Pyrene (SIM)	ND	1.0	1.0	µg/L	1		SW-846 8270D	3/16/18	3/27/18 20:23	CJM

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
2-Fluorophenol	56.1		15-110		3/27/18 20:23
Phenol-d6	38.7		15-110		3/27/18 20:23
Nitrobenzene-d5	90.3		30-130		3/27/18 20:23
2-Fluorobiphenyl	84.7		30-130		3/27/18 20:23
2,4,6-Tribromophenol	**117**	*	15-110	S-07	3/27/18 20:23
p-Terphenyl-d14	80.5		30-130		3/27/18 20:23

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

Project Location: Boston, MA | Sample Description: | Work Order: 18C0623

Date Received: 3/15/2018

Field Sample #: SH-8-RGP-Influent | Sampled: 3/15/2018 09:30

Sample ID: 18C0623-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzidine	ND	20	µg/L	1	V-04, V-05	EPA 625.1	3/16/18	3/19/18 20:00	BGL
4-Bromophenylphenylether	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Butylbenzylphthalate	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
4-Chloro-3-methylphenol	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Bis(2-chloroethyl)ether	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
2-Chloronaphthalene	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
2-Chlorophenol	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
4-Chlorophenylphenylether	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Di-n-butylphthalate	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
1,3-Dichlorobenzene	ND	5.0	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
1,4-Dichlorobenzene	ND	5.0	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
1,2-Dichlorobenzene	ND	5.0	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
3,3-Dichlorobenzidine	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
2,4-Dichlorophenol	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Diethylphthalate	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
2,4-Dimethylphenol	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Dimethylphthalate	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
4,6-Dinitro-2-methylphenol	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
2,4-Dinitrophenol	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
2,4-Dinitrotoluene	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
2,6-Dinitrotoluene	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Di-n-octylphthalate	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Hexachlorobenzene	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Hexachlorobutadiene	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Hexachlorocyclopentadiene	ND	10	µg/L	1	V-05	EPA 625.1	3/16/18	3/19/18 20:00	BGL
Hexachloroethane	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Isophorone	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Nitrobenzene	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
2-Nitrophenol	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
4-Nitrophenol	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
N-Nitrosodimethylamine	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
N-Nitrosodiphenylamine	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
N-Nitrosodi-n-propylamine	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
2-Methylphenol	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
Phenol	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
3/4-Methylphenol	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL
2,4,6-Trichlorophenol	ND	10	µg/L	1		EPA 625.1	3/16/18	3/19/18 20:00	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	48.2	15-110		3/19/18 20:00
Phenol-d6	36.0	15-110		3/19/18 20:00
Nitrobenzene-d5	71.0	30-130		3/19/18 20:00

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

Project Location: Boston, MA | Sample Description: | Work Order: 18C0623

Date Received: 3/15/2018

Field Sample #: SH-8-RGP-Influent | Sampled: 3/15/2018 09:30

Sample ID: 18C0623-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**	**Recovery Limits**		**Flag/Qual**				
2-Fluorobiphenyl		73.3	30-130					3/19/18 20:00	
2,4,6-Tribromophenol		73.6	15-110					3/19/18 20:00	
p-Terphenyl-d14		80.0	30-130					3/19/18 20:00	

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Field Sample #: SH-8-RGP-Influent | Sampled: 3/15/2018 09:30

Sample ID: 18C0623-01

Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	0.057	µg/L	1		EPA 608.3	3/19/18	3/20/18 20:17	KAL
Aroclor-1221 [2]	ND	0.10	0.062	µg/L	1		EPA 608.3	3/19/18	3/20/18 20:17	KAL
Aroclor-1232 [1]	ND	0.10	0.038	µg/L	1		EPA 608.3	3/19/18	3/20/18 20:17	KAL
Aroclor-1242 [1]	ND	0.10	0.054	µg/L	1		EPA 608.3	3/19/18	3/20/18 20:17	KAL
Aroclor-1248 [1]	ND	0.10	0.064	µg/L	1		EPA 608.3	3/19/18	3/20/18 20:17	KAL
Aroclor-1254 [1]	ND	0.10	0.071	µg/L	1		EPA 608.3	3/19/18	3/20/18 20:17	KAL
Aroclor-1260 [1]	ND	0.10	0.073	µg/L	1		EPA 608.3	3/19/18	3/20/18 20:17	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	74.9	30-150		3/20/18 20:17
Decachlorobiphenyl [2]	76.7	30-150		3/20/18 20:17
Tetrachloro-m-xylene [1]	89.2	30-150		3/20/18 20:17
Tetrachloro-m-xylene [2]	72.5	30-150		3/20/18 20:17

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

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Field Sample #: SH-8-RGP-Influent | Sampled: 3/15/2018 09:30

Sample ID: 18C0623-01

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	ND	0.20	mg/L	1		SW-846 8100 Modified	3/15/18	3/16/18 16:14	RMW

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorobiphenyl	97.6	40-140		3/16/18 16:14

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

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Field Sample #: SH-8-RGP-Influent | Sampled: 3/15/2018 09:30

Sample ID: 18C0623-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0		µg/L	1		EPA 200.8	3/16/18	3/19/18 15:37	MJH
Arsenic	ND	1.0		µg/L	1		EPA 200.8	3/16/18	3/19/18 15:37	MJH
Cadmium	ND	0.20		µg/L	1		EPA 200.8	3/16/18	3/19/18 15:37	MJH
Chromium	ND	10		µg/L	1		EPA 200.8	3/16/18	3/19/18 15:37	MJH
Chromium, Trivalent	0.0			mg/L	1		Tri Chrome Calc.	3/16/18	3/20/18 7:06	MJH
Copper	2.2	1.0		µg/L	1		EPA 200.8	3/16/18	3/19/18 15:37	MJH
Iron	ND	0.050		mg/L	1		EPA 200.7	3/16/18	3/19/18 15:58	QNW
Lead	ND	0.50		µg/L	1		EPA 200.8	3/16/18	3/19/18 15:37	MJH
Mercury	ND	0.00010		mg/L	1		EPA 245.1	3/19/18	3/20/18 13:20	EJB
Nickel	ND	5.0		µg/L	1		EPA 200.8	3/16/18	3/19/18 15:37	MJH
Selenium	6.1	5.0	2.1	µg/L	1		EPA 200.8	3/16/18	3/19/18 15:37	MJH
Silver	ND	0.20		µg/L	1		EPA 200.8	3/16/18	3/19/18 15:37	MJH
Zinc	ND	20		µg/L	1		EPA 200.8	3/16/18	3/19/18 15:37	MJH

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Project Location: Boston, MA | Sample Description: | Work Order: 18C0623

Date Received: 3/15/2018

Field Sample #: SH-8-RGP-Influent | Sampled: 3/15/2018 09:30

Sample ID: 18C0623-01

Sample Matrix: Ground Water

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

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlorine, Residual	ND	0.020		mg/L	1		SM21-22 4500 CL G	3/15/18	3/15/18 20:48	LED
Hexavalent Chromium	ND	0.0040		mg/L	1		SM21-22 3500 Cr B	3/15/18	3/15/18 21:26	LED/LL
Total Suspended Solids	1.5	0.50		mg/L	1		SM21-22 2540D	3/20/18	3/20/18 13:45	LL
Silica Gel Treated HEM (SGT-HEM)	ND	1.6		mg/L	1		EPA 1664B	3/26/18	3/26/18 10:00	LL

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Project Location: Boston, MA | Sample Description: | Work Order: 18C0623

Date Received: 3/15/2018

Field Sample #: SH-8-RGP-Influent | Sampled: 3/15/2018 09:30

Sample ID: 18C0623-01

Sample Matrix: Ground Water

Drinking Water Organics EPA 504.1

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.019	µg/L	1		EPA 504.1	3/19/18	3/20/18 1:09	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual				
1,3-Dibromopropane (1)	77.8	70-130					3/20/18 1:09

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

Project Location: Boston, MA | Sample Description: | Work Order: 18C0623

Date Received: 3/15/2018

Field Sample #: SH-8-RGP-Influent | Sampled: 3/15/2018 09:30

Sample ID: 18C0623-01

Sample Matrix: Ground Water

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

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	176	7	0.696	mg/L	7		EPA 300.0		3/21/18 0:00	EUROF

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Project Location: Boston, MA | Sample Description: | Work Order: 18C0623

Date Received: 3/15/2018

Field Sample #: SH-8-RGP-Influent | Sampled: 3/15/2018 09:30

Sample ID: 18C0623-01

Sample Matrix: Ground Water

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

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ammonia as N	0.063	0.075	0.024	mg/L	1	J	SM19-22 4500 NH3 C		3/19/18 0:00	PHOEN
Cyanide	ND	0.001	0.005	mg/L	1		SM21-22 4500 CN E		3/19/18 0:00	PHOEN

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

Project Location: Boston, MA | Sample Description: | Work Order: 18C0623

Date Received: 3/15/2018

Field Sample #: SH-8-RGP-Influent | Sampled: 3/15/2018 09:30

Sample ID: 18C0623-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ethanol	ND	2000	ug/L	1		SW-846 8015C		3/19/18 0:00	TA NA

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

Sample Extraction Data

EPA 1664B

Lab Number [Field ID]	Batch	Initial [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B199491	900	03/26/18

Prep Method: EPA 200.7-EPA 200.7

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B198924	50.0	50.0	03/16/18

Prep Method: EPA 200.8-EPA 200.8

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B198925	50.0	50.0	03/16/18

Prep Method: EPA 245.1-EPA 245.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B199089	6.00	6.00	03/19/18

Prep Method: EPA 504 water-EPA 504.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B199036	37.1	35.0	03/19/18

Prep Method: SW-846 3510C-EPA 608.3

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B199069	1000	5.00	03/19/18

Prep Method: SW-846 5030B-EPA 624.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B198975	5	5.00	03/16/18

Prep Method: SW-846 3510C-EPA 625.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B198916	1000	1.00	03/16/18

SM21-22 2540D

Lab Number [Field ID]	Batch	Initial [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B199119	1000	03/20/18

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Sample Extraction Data

SM21-22 3500 Cr B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B198910	50.0	50.0	03/15/18

SM21-22 4500 CL G

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B198911	100	100	03/15/18

Prep Method: SW-846 3510C-SW-846 8100 Modified

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B198900	1000	1.00	03/15/18

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B199712	1000	1.00	03/16/18

Prep Method: EPA 200.8-Tri Chrome Calc.

Lab Number [Field ID]	Batch	Initial [mL]	Date
18C0623-01 [SH-8-RGP-Influent]	B198926	1.00	03/16/18

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

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 B198975 - SW-846 5030B										
Blank (B198975-BLK1)				Prepared: 03/16/18 Analyzed: 03/17/18						
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							
Chloroform	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	*23.6*		µg/L	25.0		94.6	70-130			
Surrogate: Toluene-d8	*24.6*		µg/L	25.0		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	*23.3*		µg/L	25.0		93.2	70-130			
LCS (B198975-BS1)				Prepared: 03/16/18 Analyzed: 03/17/18						
Acetone	146	50	µg/L	200		72.8	70-160			†
tert-Amyl Methyl Ether (TAME)	19.0	0.50	µg/L	20.0		94.8	70-130			
Benzene	19.6	1.0	µg/L	20.0		98.2	37-151			
tert-Butyl Alcohol (TBA)	154	20	µg/L	200		76.9	40-160			†
Carbon Tetrachloride	19.3	2.0	µg/L	20.0		96.3	70-140			
Chloroform	19.0	2.0	µg/L	20.0		94.8	51-138			
1,2-Dichlorobenzene	19.8	2.0	µg/L	20.0		99.2	18-190			
1,3-Dichlorobenzene	20.9	2.0	µg/L	20.0		105	59-156			
1,4-Dichlorobenzene	19.9	2.0	µg/L	20.0		99.3	18-190			
1,2-Dichloroethane	16.9	2.0	µg/L	20.0		84.3	49-155			
cis-1,2-Dichloroethylene	19.5	1.0	µg/L	20.0		97.7	70-130			
1,1-Dichloroethane	18.5	2.0	µg/L	20.0		92.4	59-155			
1,1-Dichloroethylene	17.7	2.0	µg/L	20.0		88.4	20-234			
1,4-Dioxane	182	50	µg/L	200		90.8	40-130			†
Ethylbenzene	20.5	2.0	µg/L	20.0		102	37-162			
Methyl tert-Butyl Ether (MTBE)	19.2	2.0	µg/L	20.0		96.0	70-130			
Methylene Chloride	18.2	5.0	µg/L	20.0		91.1	50-221			
Tetrachloroethylene	19.9	2.0	µg/L	20.0		99.6	64-148			
Toluene	19.3	1.0	µg/L	20.0		96.4	47-150			
1,1,1-Trichloroethane	19.3	2.0	µg/L	20.0		96.3	52-162			
1,1,2-Trichloroethane	19.8	2.0	µg/L	20.0		99.2	52-150			
Trichloroethylene	19.9	2.0	µg/L	20.0		99.4	71-157			

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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 B198975 - SW-846 5030B										
LCS (B198975-BS1)				Prepared: 03/16/18 Analyzed: 03/17/18						
Vinyl Chloride	7.75	2.0	µg/L	20.0		38.8	20-251			
m+p Xylene	40.7	2.0	µg/L	40.0		102	70-130			
o-Xylene	20.1	2.0	µg/L	20.0		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	*24.0*		µg/L	25.0		96.0	70-130			
Surrogate: Toluene-d8	*24.5*		µg/L	25.0		97.9	70-130			
Surrogate: 4-Bromofluorobenzene	*23.6*		µg/L	25.0		94.4	70-130			
Matrix Spike (B198975-MS1)	**Source: 18C0623-01**			Prepared: 03/16/18 Analyzed: 03/17/18						
Acetone	142	50	µg/L	200	ND	70.9	70-130			
tert-Amyl Methyl Ether (TAME)	19.8	0.50	µg/L	20.0	ND	99.0	70-130			
Benzene	21.4	1.0	µg/L	20.0	ND	107	37-151			
tert-Butyl Alcohol (TBA)	142	20	µg/L	200	ND	70.8	70-130			
Carbon Tetrachloride	21.0	2.0	µg/L	20.0	ND	105	70-140			
Chloroform	20.4	2.0	µg/L	20.0	ND	102	51-138			
1,2-Dichlorobenzene	19.5	2.0	µg/L	20.0	ND	97.4	18-190			
1,3-Dichlorobenzene	20.7	2.0	µg/L	20.0	ND	103	59-156			
1,4-Dichlorobenzene	19.8	2.0	µg/L	20.0	ND	99.2	18-190			
1,2-Dichloroethane	17.4	2.0	µg/L	20.0	ND	86.8	49-155			
cis-1,2-Dichloroethylene	20.9	1.0	µg/L	20.0	ND	105	70-130			
1,1-Dichloroethane	20.3	2.0	µg/L	20.0	ND	101	59-155			
1,1-Dichloroethylene	19.4	2.0	µg/L	20.0	ND	96.8	20-234			
1,4-Dioxane	181	50	µg/L	200	ND	90.5	70-130			
Ethylbenzene	22.2	2.0	µg/L	20.0	ND	111	37-162			
Methyl tert-Butyl Ether (MTBE)	19.7	2.0	µg/L	20.0	ND	98.6	70-130			
Methylene Chloride	19.3	5.0	µg/L	20.0	ND	96.6	50-221			
Tetrachloroethylene	22.1	2.0	µg/L	20.0	0.280	109	64-148			
Toluene	20.7	1.0	µg/L	20.0	ND	103	47-150			
1,1,1-Trichloroethane	21.2	2.0	µg/L	20.0	ND	106	52-162			
1,1,2-Trichloroethane	20.0	2.0	µg/L	20.0	ND	100	52-150			
Trichloroethylene	21.6	2.0	µg/L	20.0	ND	108	71-157			
Vinyl Chloride	9.64	2.0	µg/L	20.0	ND	48.2	20-251			
m+p Xylene	43.8	2.0	µg/L	40.0	ND	110	70-130			
o-Xylene	21.3	2.0	µg/L	20.0	ND	107	70-130			
Surrogate: 1,2-Dichloroethane-d4	*24.3*		µg/L	25.0		97.2	70-130			
Surrogate: Toluene-d8	*24.4*		µg/L	25.0		97.4	70-130			
Surrogate: 4-Bromofluorobenzene	*23.7*		µg/L	25.0		94.8	70-130			

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

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 B199712 - SW-846 3510C											
Blank (B199712-BLK1)				Prepared: 03/16/18 Analyzed: 03/27/18							
Acenaphthene (SIM)	ND	0.30	µg/L								
Acenaphthylene (SIM)	ND	0.30	µg/L								
Anthracene (SIM)	ND	0.20	µg/L								
Benzo(a)anthracene (SIM)	ND	0.050	µg/L								
Benzo(a)pyrene (SIM)	ND	0.10	µg/L								
Benzo(b)fluoranthene (SIM)	ND	0.050	µg/L								
Benzo(g,h,i)perylene (SIM)	ND	0.50	µg/L								
Benzo(k)fluoranthene (SIM)	ND	0.20	µg/L								
Bis(2-ethylhexyl)phthalate (SIM)	0.25	1.0	µg/L								Ja, B
Chrysene (SIM)	ND	0.20	µg/L								
Dibenz(a,h)anthracene (SIM)	ND	0.20	µg/L								
Fluoranthene (SIM)	ND	0.50	µg/L								
Fluorene (SIM)	ND	1.0	µg/L								
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.20	µg/L								
2-Methylnaphthalene (SIM)	ND	1.0	µg/L								
Naphthalene (SIM)	ND	1.0	µg/L								
Pentachlorophenol (SIM)	ND	1.0	µg/L								
Phenanthrene (SIM)	ND	0.050	µg/L								
Pyrene (SIM)	ND	1.0	µg/L								
Surrogate: 2-Fluorophenol	*127*		µg/L	200		63.5		15-110			
Surrogate: Phenol-d6	*92.1*		µg/L	200		46.1		15-110			
Surrogate: Nitrobenzene-d5	*106*		µg/L	100		106		30-130			
Surrogate: 2-Fluorobiphenyl	*95.6*		µg/L	100		95.6		30-130			
Surrogate: 2,4,6-Tribromophenol	*270*		µg/L	200		**135**	*	15-110			S-07
Surrogate: p-Terphenyl-d14	*94.5*		µg/L	100		94.5		30-130			
LCS (B199712-BS1)				Prepared: 03/16/18 Analyzed: 03/27/18							
Acenaphthene (SIM)	103	7.5	µg/L	100		103		40-140			
Acenaphthylene (SIM)	101	7.5	µg/L	100		101		40-140			
Anthracene (SIM)	107	5.0	µg/L	100		107		40-140			
Benzo(a)anthracene (SIM)	108	1.2	µg/L	100		108		40-140			
Benzo(a)pyrene (SIM)	112	2.5	µg/L	100		112		40-140			
Benzo(b)fluoranthene (SIM)	113	1.2	µg/L	100		113		40-140			
Benzo(g,h,i)perylene (SIM)	110	12	µg/L	100		110		40-140			
Benzo(k)fluoranthene (SIM)	110	5.0	µg/L	100		110		40-140			
Bis(2-ethylhexyl)phthalate (SIM)	101	25	µg/L	100		101		40-140			B
Chrysene (SIM)	105	5.0	µg/L	100		105		40-140			
Dibenz(a,h)anthracene (SIM)	116	5.0	µg/L	100		116		40-140			
Fluoranthene (SIM)	108	12	µg/L	100		108		40-140			
Fluorene (SIM)	107	25	µg/L	100		107		40-140			
Indeno(1,2,3-cd)pyrene (SIM)	115	5.0	µg/L	100		115		40-140			
2-Methylnaphthalene (SIM)	95.0	25	µg/L	100		95.0		40-140			
Naphthalene (SIM)	92.9	25	µg/L	100		92.9		40-140			
Pentachlorophenol (SIM)	101	25	µg/L	100		101		40-140			
Phenanthrene (SIM)	102	1.2	µg/L	100		102		40-140			
Pyrene (SIM)	101	25	µg/L	100		101		40-140			
Surrogate: 2-Fluorophenol	*113*		µg/L	200		56.7		15-110			
Surrogate: Phenol-d6	*80.8*		µg/L	200		40.4		15-110			
Surrogate: Nitrobenzene-d5	*105*		µg/L	100		105		30-130			
Surrogate: 2-Fluorobiphenyl	*105*		µg/L	100		105		30-130			
Surrogate: 2,4,6-Tribromophenol	*208*		µg/L	200		104		15-110			
Surrogate: p-Terphenyl-d14	*81.0*		µg/L	100		81.0		30-130			

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

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 B199712 - SW-846 3510C												
LCS Dup (B199712-BSD1)				Prepared: 03/16/18 Analyzed: 03/27/18								
Acenaphthene (SIM)	108	7.5	µg/L	100		108		40-140	4.46	20		
Acenaphthylene (SIM)	105	7.5	µg/L	100		105		40-140	4.57	20		
Anthracene (SIM)	113	5.0	µg/L	100		113		40-140	5.53	20		
Benzo(a)anthracene (SIM)	114	1.2	µg/L	100		114		40-140	4.61	20		
Benzo(a)pyrene (SIM)	117	2.5	µg/L	100		117		40-140	4.55	20		
Benzo(b)fluoranthene (SIM)	119	1.2	µg/L	100		119		40-140	5.33	20		
Benzo(g,h,i)perylene (SIM)	115	12	µg/L	100		115		40-140	4.79	20		
Benzo(k)fluoranthene (SIM)	115	5.0	µg/L	100		115		40-140	4.88	20		
Bis(2-ethylhexyl)phthalate (SIM)	106	25	µg/L	100		106		40-140	4.61	20	B	
Chrysene (SIM)	110	5.0	µg/L	100		110		40-140	4.85	20		
Dibenz(a,h)anthracene (SIM)	121	5.0	µg/L	100		121		40-140	4.56	20		
Fluoranthene (SIM)	114	12	µg/L	100		114		40-140	5.75	20		
Fluorene (SIM)	112	25	µg/L	100		112		40-140	4.60	20		
Indeno(1,2,3-cd)pyrene (SIM)	121	5.0	µg/L	100		121		40-140	4.90	20		‡
2-Methylnaphthalene (SIM)	100	25	µg/L	100		100		40-140	5.13	20		
Naphthalene (SIM)	97.2	25	µg/L	100		97.2		40-140	4.58	20		
Pentachlorophenol (SIM)	104	25	µg/L	100		104		40-140	2.78	20		
Phenanthrene (SIM)	108	1.2	µg/L	100		108		40-140	5.28	20		
Pyrene (SIM)	105	25	µg/L	100		105		40-140	4.14	20		
Surrogate: 2-Fluorophenol	*120*		µg/L	200		60.2		15-110				
Surrogate: Phenol-d6	*86.6*		µg/L	200		43.3		15-110				
Surrogate: Nitrobenzene-d5	*111*		µg/L	100		111		30-130				
Surrogate: 2-Fluorobiphenyl	*110*		µg/L	100		110		30-130				
Surrogate: 2,4,6-Tribromophenol	*222*		µg/L	200		**111**	*	15-110			S-07	
Surrogate: p-Terphenyl-d14	*86.9*		µg/L	100		86.9		30-130				

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

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 B198916 - SW-846 3510C										
Blank (B198916-BLK1)				Prepared: 03/16/18 Analyzed: 03/19/18						
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, V-05
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							
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							
2,4-Dinitrophenol	ND	10	µg/L							
2,4-Dinitrotoluene	ND	10	µg/L							
2,6-Dinitrotoluene	ND	10	µg/L							
Di-n-octylphthalate	ND	10	µg/L							
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L							
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							V-05
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	*92.0*		µg/L	200		46.0	15-110			

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

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 B198916 - SW-846 3510C										
Blank (B198916-BLK1)				Prepared: 03/16/18 Analyzed: 03/19/18						
Surrogate: Phenol-d6	*67.6*		µg/L	200		33.8	15-110			
Surrogate: Nitrobenzene-d5	*70.8*		µg/L	100		70.8	30-130			
Surrogate: 2-Fluorobiphenyl	*71.8*		µg/L	100		71.8	30-130			
Surrogate: 2,4,6-Tribromophenol	*149*		µg/L	200		74.6	15-110			
Surrogate: p-Terphenyl-d14	*84.4*		µg/L	100		84.4	30-130			
LCS (B198916-BS1)				Prepared: 03/16/18 Analyzed: 03/19/18						
Acenaphthene	69.9	5.0	µg/L	100		69.9	47-145			
Acenaphthylene	67.4	5.0	µg/L	100		67.4	33-145			
Anthracene	71.3	5.0	µg/L	100		71.3	27-133			
Benzidine	60.1	20	µg/L	100		60.1	40-140			V-04, V-05
Benzo(g,h,i)perylene	72.0	5.0	µg/L	100		72.0	1-219			
4-Bromophenylphenylether	74.3	10	µg/L	100		74.3	53-127			
Butylbenzylphthalate	76.7	10	µg/L	100		76.7	1-152			
4-Chloro-3-methylphenol	74.2	10	µg/L	100		74.2	22-147			
Bis(2-chloroethyl)ether	72.5	10	µg/L	100		72.5	12-158			
Bis(2-chloroisopropyl)ether	78.2	10	µg/L	100		78.2	36-166			
2-Chloronaphthalene	60.9	10	µg/L	100		60.9	60-118			
2-Chlorophenol	65.7	10	µg/L	100		65.7	23-134			
4-Chlorophenylphenylether	74.7	10	µg/L	100		74.7	25-158			
Di-n-butylphthalate	73.0	10	µg/L	100		73.0	1-118			
1,3-Dichlorobenzene	60.0	5.0	µg/L	100		60.0	1-172			
1,4-Dichlorobenzene	60.0	5.0	µg/L	100		60.0	20-124			
1,2-Dichlorobenzene	62.0	5.0	µg/L	100		62.0	32-129			
3,3-Dichlorobenzidine	69.2	10	µg/L	100		69.2	1-262			
2,4-Dichlorophenol	71.6	10	µg/L	100		71.6	39-135			
Diethylphthalate	74.7	10	µg/L	100		74.7	1-114			
2,4-Dimethylphenol	71.6	10	µg/L	100		71.6	32-119			
Dimethylphthalate	73.1	10	µg/L	100		73.1	1-112			
4,6-Dinitro-2-methylphenol	66.7	10	µg/L	100		66.7	1-181			
2,4-Dinitrophenol	74.2	10	µg/L	100		74.2	1-191			
2,4-Dinitrotoluene	74.7	10	µg/L	100		74.7	39-139			
2,6-Dinitrotoluene	76.9	10	µg/L	100		76.9	50-158			
Di-n-octylphthalate	73.8	10	µg/L	100		73.8	4-146			
1,2-Diphenylhydrazine (as Azobenzene)	69.8	10	µg/L	100		69.8	40-140			
Bis(2-Ethylhexyl)phthalate	74.7	10	µg/L	100		74.7	8-158			
Fluoranthene	72.8	5.0	µg/L	100		72.8	26-137			
Fluorene	69.7	5.0	µg/L	100		69.7	59-121			
Hexachlorobenzene	73.5	10	µg/L	100		73.5	1-152			
Hexachlorobutadiene	65.5	10	µg/L	100		65.5	24-116			
Hexachlorocyclopentadiene	66.2	10	µg/L	100		66.2	40-140			V-05
Hexachloroethane	62.1	10	µg/L	100		62.1	40-113			
Isophorone	75.4	10	µg/L	100		75.4	21-196			
Naphthalene	64.6	5.0	µg/L	100		64.6	21-133			
Nitrobenzene	66.3	10	µg/L	100		66.3	35-180			
2-Nitrophenol	70.0	10	µg/L	100		70.0	29-182			
4-Nitrophenol	36.9	10	µg/L	100		36.9	1-132			
N-Nitrosodimethylamine	40.6	10	µg/L	100		40.6	40-140			
N-Nitrosodiphenylamine	86.4	10	µg/L	100		86.4	40-140			
N-Nitrosodi-n-propylamine	75.2	10	µg/L	100		75.2	1-230			
2-Methylnaphthalene	72.1	5.0	µg/L	100		72.1	40-140			
Phenanthrene	71.1	5.0	µg/L	100		71.1	54-120			

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

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 B198916 - SW-846 3510C										
LCS (B198916-BS1)				Prepared: 03/16/18 Analyzed: 03/19/18						
2-Methylphenol	55.7	10	µg/L	100		55.7	30-130			
Phenol	31.7	10	µg/L	100		31.7	5-112			
3/4-Methylphenol	63.3	10	µg/L	100		63.3	30-130			
Pyrene	71.3	5.0	µg/L	100		71.3	52-115			
1,2,4-Trichlorobenzene	65.4	5.0	µg/L	100		65.4	44-142			
2,4,6-Trichlorophenol	73.4	10	µg/L	100		73.4	37-144			
Surrogate: 2-Fluorophenol	*92.7*		µg/L	200		46.3	15-110			
Surrogate: Phenol-d6	*66.4*		µg/L	200		33.2	15-110			
Surrogate: Nitrobenzene-d5	*77.1*		µg/L	100		77.1	30-130			
Surrogate: 2-Fluorobiphenyl	*74.7*		µg/L	100		74.7	30-130			
Surrogate: 2,4,6-Tribromophenol	*169*		µg/L	200		84.6	15-110			
Surrogate: p-Terphenyl-d14	*80.2*		µg/L	100		80.2	30-130			
LCS Dup (B198916-BSD1)				Prepared: 03/16/18 Analyzed: 03/19/18						
Acenaphthene	69.7	5.0	µg/L	100		69.7	47-145	0.215		
Acenaphthylene	68.0	5.0	µg/L	100		68.0	33-145	0.916		
Anthracene	73.3	5.0	µg/L	100		73.3	27-133	2.72		
Benzidine	61.6	20	µg/L	100		61.6	40-140	2.55		V-04, V-05
Benzo(g,h,i)perylene	73.2	5.0	µg/L	100		73.2	1-219	1.61		
4-Bromophenylphenylether	76.0	10	µg/L	100		76.0	53-127	2.30		
Butylbenzylphthalate	79.3	10	µg/L	100		79.3	1-152	3.39		
4-Chloro-3-methylphenol	74.5	10	µg/L	100		74.5	22-147	0.350		
Bis(2-chloroethyl)ether	71.9	10	µg/L	100		71.9	12-158	0.803		
Bis(2-chloroisopropyl)ether	77.8	10	µg/L	100		77.8	36-166	0.500		
2-Chloronaphthalene	67.4	10	µg/L	100		67.4	60-118	10.1		
2-Chlorophenol	66.0	10	µg/L	100		66.0	23-134	0.501		
4-Chlorophenylphenylether	74.5	10	µg/L	100		74.5	25-158	0.241		
Di-n-butylphthalate	75.6	10	µg/L	100		75.6	1-118	3.47		
1,3-Dichlorobenzene	59.4	5.0	µg/L	100		59.4	1-172	1.17		
1,4-Dichlorobenzene	59.6	5.0	µg/L	100		59.6	20-124	0.635		
1,2-Dichlorobenzene	62.3	5.0	µg/L	100		62.3	32-129	0.547		
3,3-Dichlorobenzidine	69.9	10	µg/L	100		69.9	1-262	1.11		
2,4-Dichlorophenol	72.7	10	µg/L	100		72.7	39-135	1.58		
Diethylphthalate	75.6	10	µg/L	100		75.6	1-114	1.29		
2,4-Dimethylphenol	68.5	10	µg/L	100		68.5	32-119	4.38		
Dimethylphthalate	74.0	10	µg/L	100		74.0	1-112	1.22		
4,6-Dinitro-2-methylphenol	70.0	10	µg/L	100		70.0	1-181	4.94		
2,4-Dinitrophenol	76.8	10	µg/L	100		76.8	1-191	3.48		
2,4-Dinitrotoluene	77.5	10	µg/L	100		77.5	39-139	3.78		
2,6-Dinitrotoluene	78.4	10	µg/L	100		78.4	50-158	1.88		
Di-n-octylphthalate	76.9	10	µg/L	100		76.9	4-146	4.07		
1,2-Diphenylhydrazine (as Azobenzene)	71.6	10	µg/L	100		71.6	40-140	2.47		
Bis(2-Ethylhexyl)phthalate	77.6	10	µg/L	100		77.6	8-158	3.70		
Fluoranthene	74.8	5.0	µg/L	100		74.8	26-137	2.82		
Fluorene	69.8	5.0	µg/L	100		69.8	59-121	0.158		
Hexachlorobenzene	75.7	10	µg/L	100		75.7	1-152	2.99		
Hexachlorobutadiene	66.9	10	µg/L	100		66.9	24-116	2.22		
Hexachlorocyclopentadiene	67.9	10	µg/L	100		67.9	40-140	2.54		V-05
Hexachloroethane	61.5	10	µg/L	100		61.5	40-113	1.02		
Isophorone	75.0	10	µg/L	100		75.0	21-196	0.612		
Naphthalene	64.5	5.0	µg/L	100		64.5	21-133	0.0465		
Nitrobenzene	66.6	10	µg/L	100		66.6	35-180	0.437		

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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 B198916 - SW-846 3510C											
LCS Dup (B198916-BSD1)				Prepared: 03/16/18 Analyzed: 03/19/18							
2-Nitrophenol	71.4	10	µg/L	100		71.4		29-182	1.99		
4-Nitrophenol	37.4	10	µg/L	100		37.4		1-132	1.27		
N-Nitrosodimethylamine	39.5	10	µg/L	100		**39.5**	*	40-140	2.55		L-07
N-Nitrosodiphenylamine	88.0	10	µg/L	100		88.0		40-140	1.90		
N-Nitrosodi-n-propylamine	74.2	10	µg/L	100		74.2		1-230	1.33		
2-Methylnaphthalene	71.9	5.0	µg/L	100		71.9		40-140	0.264	20	
Phenanthrene	73.8	5.0	µg/L	100		73.8		54-120	3.70		
2-Methylphenol	52.4	10	µg/L	100		52.4		30-130	6.23	20	
Phenol	31.0	10	µg/L	100		31.0		5-112	2.23		
3/4-Methylphenol	63.8	10	µg/L	100		63.8		30-130	0.787	20	
Pyrene	73.5	5.0	µg/L	100		73.5		52-115	3.04		
1,2,4-Trichlorobenzene	66.0	5.0	µg/L	100		66.0		44-142	0.913		
2,4,6-Trichlorophenol	73.5	10	µg/L	100		73.5		37-144	0.0953		
Surrogate: 2-Fluorophenol	*92.0*		µg/L	200		46.0		15-110			
Surrogate: Phenol-d6	*65.6*		µg/L	200		32.8		15-110			
Surrogate: Nitrobenzene-d5	*76.3*		µg/L	100		76.3		30-130			
Surrogate: 2-Fluorobiphenyl	*75.5*		µg/L	100		75.5		30-130			
Surrogate: 2,4,6-Tribromophenol	*167*		µg/L	200		83.6		15-110			
Surrogate: p-Terphenyl-d14	*83.2*		µg/L	100		83.2		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 B199069 - SW-846 3510C										
Blank (B199069-BLK1)				Prepared: 03/19/18 Analyzed: 03/20/18						
Aroclor-1016	ND	0.040	µg/L							
Aroclor-1016 [2C]	ND	0.040	µg/L							
Aroclor-1221	ND	0.040	µg/L							
Aroclor-1221 [2C]	ND	0.040	µg/L							
Aroclor-1232	ND	0.040	µg/L							
Aroclor-1232 [2C]	ND	0.040	µg/L							
Aroclor-1242	ND	0.040	µg/L							
Aroclor-1242 [2C]	ND	0.040	µg/L							
Aroclor-1248	ND	0.040	µg/L							
Aroclor-1248 [2C]	ND	0.040	µg/L							
Aroclor-1254	ND	0.040	µg/L							
Aroclor-1254 [2C]	ND	0.040	µg/L							
Aroclor-1260	ND	0.040	µg/L							
Aroclor-1260 [2C]	ND	0.040	µg/L							
Surrogate: Decachlorobiphenyl	*1.30*		µg/L	2.00		65.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.34*		µg/L	2.00		67.2	30-150			
Surrogate: Tetrachloro-m-xylene	*1.43*		µg/L	2.00		71.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.09*		µg/L	2.00		54.7	30-150			
LCS (B199069-BS1)				Prepared: 03/19/18 Analyzed: 03/20/18						
Aroclor-1016	0.50	0.20	µg/L	0.500		99.5	50-114			
Aroclor-1016 [2C]	0.51	0.20	µg/L	0.500		101	50-114			
Aroclor-1260	0.41	0.20	µg/L	0.500		82.4	8-127			
Aroclor-1260 [2C]	0.43	0.20	µg/L	0.500		85.0	8-127			
Surrogate: Decachlorobiphenyl	*1.76*		µg/L	2.00		87.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.79*		µg/L	2.00		89.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.93*		µg/L	2.00		96.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.62*		µg/L	2.00		80.8	30-150			
LCS Dup (B199069-BSD1)				Prepared: 03/19/18 Analyzed: 03/20/18						
Aroclor-1016	0.53	0.20	µg/L	0.500		107	50-114	7.09		
Aroclor-1016 [2C]	0.54	0.20	µg/L	0.500		107	50-114	6.10		
Aroclor-1260	0.41	0.20	µg/L	0.500		82.2	8-127	0.170		
Aroclor-1260 [2C]	0.46	0.20	µg/L	0.500		91.9	8-127	7.82		
Surrogate: Decachlorobiphenyl	*1.78*		µg/L	2.00		89.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.83*		µg/L	2.00		91.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.91*		µg/L	2.00		95.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.60*		µg/L	2.00		80.1	30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B198900 - SW-846 3510C										
Blank (B198900-BLK1)				Prepared: 03/15/18 Analyzed: 03/16/18						
TPH (C9-C36)	ND	0.20	mg/L							
Surrogate: 2-Fluorobiphenyl	*0.105*		mg/L	0.100		105	40-140			
LCS (B198900-BS1)				Prepared: 03/15/18 Analyzed: 03/16/18						
TPH (C9-C36)	0.879	0.20	mg/L	1.00		87.9	40-140			
Surrogate: 2-Fluorobiphenyl	*0.102*		mg/L	0.100		102	40-140			
LCS Dup (B198900-BSD1)				Prepared: 03/15/18 Analyzed: 03/16/18						
TPH (C9-C36)	0.760	0.20	mg/L	1.00		76.0	40-140	14.5	30	
Surrogate: 2-Fluorobiphenyl	*0.0926*		mg/L	0.100		92.6	40-140			

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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 B198924 - EPA 200.7										
Blank (B198924-BLK1)				Prepared: 03/16/18 Analyzed: 03/19/18						
Iron	ND	0.050	mg/L							
LCS (B198924-BS1)				Prepared: 03/16/18 Analyzed: 03/19/18						
Iron	4.23	0.050	mg/L	4.00		106	85-115			
LCS Dup (B198924-BSD1)				Prepared: 03/16/18 Analyzed: 03/19/18						
Iron	4.22	0.050	mg/L	4.00		105	85-115	0.451	20	
Duplicate (B198924-DUP1)		**Source: 18C0623-01**		Prepared: 03/16/18 Analyzed: 03/19/18						
Iron	ND	0.050	mg/L		ND			NC	20	
Matrix Spike (B198924-MS1)		**Source: 18C0623-01**		Prepared: 03/16/18 Analyzed: 03/19/18						
Iron	4.20	0.050	mg/L	4.00	ND	105	70-130			
Matrix Spike Dup (B198924-MSD1)		**Source: 18C0623-01**		Prepared: 03/16/18 Analyzed: 03/19/18						
Iron	4.22	0.050	mg/L	4.00	ND	106	70-130	0.687	20	
Batch B198925 - EPA 200.8										
Blank (B198925-BLK1)				Prepared: 03/16/18 Analyzed: 03/19/18						
Antimony	ND	1.0	µg/L							
Arsenic	ND	1.0	µg/L							
Cadmium	ND	0.20	µg/L							
Chromium	ND	10	µg/L							
Copper	ND	1.0	µg/L							
Lead	ND	0.50	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	ND	5.0	µg/L							
Silver	ND	0.20	µg/L							
Zinc	ND	20	µg/L							
LCS (B198925-BS1)				Prepared: 03/16/18 Analyzed: 03/19/18						
Antimony	508	10	µg/L	500		102	85-115			
Arsenic	519	10	µg/L	500		104	85-115			
Cadmium	521	2.0	µg/L	500		104	85-115			
Chromium	519	100	µg/L	500		104	85-115			
Copper	996	10	µg/L	1000		99.6	85-115			
Lead	510	5.0	µg/L	500		102	85-115			
Nickel	503	50	µg/L	500		101	85-115			
Selenium	534	50	µg/L	500		107	85-115			
Silver	470	2.0	µg/L	500		94.0	85-115			
Zinc	1100	200	µg/L	1000		110	85-115			

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

QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B198925 - EPA 200.8										
LCS Dup (B198925-BSD1)				Prepared: 03/16/18 Analyzed: 03/19/18						
Antimony	503	10	µg/L	500		101	85-115	1.02	20	
Arsenic	516	10	µg/L	500		103	85-115	0.567	20	
Cadmium	519	2.0	µg/L	500		104	85-115	0.289	20	
Chromium	514	100	µg/L	500		103	85-115	1.05	20	
Copper	1000	10	µg/L	1000		100	85-115	0.541	20	
Lead	511	5.0	µg/L	500		102	85-115	0.0497	20	
Nickel	502	50	µg/L	500		100	85-115	0.225	20	
Selenium	537	50	µg/L	500		107	85-115	0.599	20	
Silver	468	2.0	µg/L	500		93.7	85-115	0.329	20	
Zinc	1100	200	µg/L	1000		110	85-115	0.129	20	
Duplicate (B198925-DUP1)		**Source: 18C0623-01**		Prepared: 03/16/18 Analyzed: 03/19/18						
Antimony	ND	1.0	µg/L		ND			NC	20	
Arsenic	ND	1.0	µg/L		ND			NC	20	
Cadmium	ND	0.20	µg/L		ND			NC	20	
Chromium	ND	10	µg/L		ND			NC	20	
Copper	2.24	1.0	µg/L		2.22			0.899	20	
Lead	ND	0.50	µg/L		ND			NC	20	
Nickel	ND	5.0	µg/L		ND			NC	20	
Selenium	5.87	5.0	µg/L		6.09			3.63	20	
Silver	ND	0.20	µg/L		ND			NC	20	
Zinc	ND	20	µg/L		ND			NC	20	
Matrix Spike (B198925-MS1)		**Source: 18C0623-01**		Prepared: 03/16/18 Analyzed: 03/19/18						
Antimony	510	10	µg/L	500	ND	102	70-130			
Arsenic	523	10	µg/L	500	ND	105	70-130			
Cadmium	511	2.0	µg/L	500	ND	102	70-130			
Chromium	511	100	µg/L	500	ND	102	70-130			
Copper	985	10	µg/L	1000	ND	98.5	70-130			
Lead	519	5.0	µg/L	500	ND	104	70-130			
Nickel	492	50	µg/L	500	ND	98.3	70-130			
Selenium	534	50	µg/L	500	ND	107	70-130			
Silver	459	2.0	µg/L	500	ND	91.8	70-130			
Zinc	1060	200	µg/L	1000	ND	106	70-130			
Matrix Spike Dup (B198925-MSD1)		**Source: 18C0623-01**		Prepared: 03/16/18 Analyzed: 03/19/18						
Antimony	513	10	µg/L	500	ND	103	70-130	0.513	20	
Arsenic	528	10	µg/L	500	ND	106	70-130	0.883	20	
Cadmium	510	2.0	µg/L	500	ND	102	70-130	0.275	20	
Chromium	525	100	µg/L	500	ND	105	70-130	2.78	20	
Copper	1010	10	µg/L	1000	ND	101	70-130	2.13	20	
Lead	517	5.0	µg/L	500	ND	103	70-130	0.422	20	
Nickel	506	50	µg/L	500	ND	101	70-130	2.80	20	
Selenium	535	50	µg/L	500	ND	107	70-130	0.0551	20	
Silver	454	2.0	µg/L	500	ND	90.8	70-130	1.12	20	
Zinc	1080	200	µg/L	1000	ND	108	70-130	2.04	20	

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

QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B199089 - EPA 245.1										
Blank (B199089-BLK1)				Prepared: 03/19/18 Analyzed: 03/20/18						
Mercury	ND	0.00010	mg/L							
LCS (B199089-BS1)				Prepared: 03/19/18 Analyzed: 03/20/18						
Mercury	0.00184	0.00010	mg/L	0.00200		92.1	85-115			
LCS Dup (B199089-BSD1)				Prepared: 03/19/18 Analyzed: 03/20/18						
Mercury	0.00202	0.00010	mg/L	0.00200		101	85-115	9.08	20	
Duplicate (B199089-DUP1)		**Source: 18C0623-01**		Prepared: 03/19/18 Analyzed: 03/20/18						
Mercury	ND	0.00010	mg/L		ND			NC	30	
Matrix Spike (B199089-MS1)		**Source: 18C0623-01**		Prepared: 03/19/18 Analyzed: 03/20/18						
Mercury	0.00200	0.00010	mg/L	0.00200	ND	100	75-125			
Matrix Spike Dup (B199089-MSD1)		**Source: 18C0623-01**		Prepared: 03/19/18 Analyzed: 03/20/18						
Mercury	0.00204	0.00010	mg/L	0.00200	ND	102	75-125	1.88	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 B198910 - SM21-22 3500 Cr B										
Blank (B198910-BLK1)				Prepared & Analyzed: 03/15/18						
Hexavalent Chromium	ND	0.0040	mg/L							
LCS (B198910-BS1)				Prepared & Analyzed: 03/15/18						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100		104	86.6-115			
LCS Dup (B198910-BSD1)				Prepared & Analyzed: 03/15/18						
Hexavalent Chromium	0.11	0.0040	mg/L	0.100		106	86.6-115	2.38	6.61	
Duplicate (B198910-DUP1)	**Source: 18C0623-01**			Prepared & Analyzed: 03/15/18						
Hexavalent Chromium	ND	0.0040	mg/L		ND			NC	20	
Matrix Spike (B198910-MS1)	**Source: 18C0623-01**			Prepared & Analyzed: 03/15/18						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100	0.0014	102	23.5-142			
Matrix Spike Dup (B198910-MSD1)	**Source: 18C0623-01**			Prepared & Analyzed: 03/15/18						
Hexavalent Chromium	0.10	0.0040	mg/L	0.100	0.0014	104	23.5-142	1.20	7.59	
Batch B198911 - SM21-22 4500 CL G										
Blank (B198911-BLK1)				Prepared & Analyzed: 03/15/18						
Chlorine, Residual	ND	0.020	mg/L							
LCS (B198911-BS1)				Prepared & Analyzed: 03/15/18						
Chlorine, Residual	1.4	0.020	mg/L	1.34		102	82.5-130			
LCS Dup (B198911-BSD1)				Prepared & Analyzed: 03/15/18						
Chlorine, Residual	1.4	0.020	mg/L	1.34		103	82.5-130	0.861	6.2	
Duplicate (B198911-DUP1)	**Source: 18C0623-01**			Prepared & Analyzed: 03/15/18						
Chlorine, Residual	ND	0.020	mg/L		ND			NC	44.8	
Matrix Spike (B198911-MS1)	**Source: 18C0623-01**			Prepared & Analyzed: 03/15/18						
Chlorine, Residual	0.92	0.020	mg/L	5.00	ND	18.5	10-182			
Matrix Spike Dup (B198911-MSD1)	**Source: 18C0623-01**			Prepared & Analyzed: 03/15/18						
Chlorine, Residual	0.91	0.020	mg/L	5.00	ND	18.2	10-182	1.29	20	
Batch B199119 - SM21-22 2540D										
Blank (B199119-BLK1)				Prepared & Analyzed: 03/20/18						
Total Suspended Solids	ND	2.5	mg/L							

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QUALITY CONTROL

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B199119 - SM21-22 2540D										
LCS (B199119-BS1)				Prepared & Analyzed: 03/20/18						
Total Suspended Solids	200	20	mg/L	200		100	66.7-117			
Batch B199491 - EPA 1664B										
Blank (B199491-BLK1)				Prepared & Analyzed: 03/26/18						
Silica Gel Treated HEM (SGT-HEM)	ND	1.4	mg/L							
LCS (B199491-BS1)				Prepared & Analyzed: 03/26/18						
Silica Gel Treated HEM (SGT-HEM)	9.8		mg/L	10.0		98.0	64-132			
Duplicate (B199491-DUP1)	**Source: 18C0623-01**			Prepared & Analyzed: 03/26/18						
Silica Gel Treated HEM (SGT-HEM)	ND	1.6	mg/L		ND			NC	18	
Matrix Spike (B199491-MS1)	**Source: 18C0623-01**			Prepared & Analyzed: 03/26/18						
Silica Gel Treated HEM (SGT-HEM)	90	14	mg/L	100	ND	90.0	64-132			

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

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 B199036 - EPA 504 water										
Blank (B199036-BLK1)				Prepared: 03/19/18 Analyzed: 03/20/18						
1,2-Dibromoethane (EDB)	ND	0.021	µg/L							
1,2-Dibromoethane (EDB) [2C]	ND	0.021	µg/L							
LCS (B199036-BS1)				Prepared: 03/19/18 Analyzed: 03/20/18						
1,2-Dibromoethane (EDB)	0.165	0.021	µg/L	0.180		91.4	70-130			
1,2-Dibromoethane (EDB) [2C]	0.165	0.021	µg/L	0.180		91.4	70-130			
LCS Dup (B199036-BSD1)				Prepared: 03/19/18 Analyzed: 03/20/18						
1,2-Dibromoethane (EDB)	0.172	0.021	µg/L	0.184		93.7	70-130	4.52		
1,2-Dibromoethane (EDB) [2C]	0.173	0.021	µg/L	0.184		94.3	70-130	5.13		

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

EPA 504.1

LCS

Lab Sample ID: B199036-BS1 Date(s) Analyzed: 03/20/2018 03/20/2018

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

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

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
1,2-Dibromoethane (EDB)	1	3.011	0.000	0.000	0.165	
	2	2.997	0.000	0.000	0.165	3.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

EPA 504.1

LCS Dup

Lab Sample ID: B199036-BSD1 Date(s) Analyzed: 03/20/2018 03/20/2018

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

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

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
1,2-Dibromoethane (EDB)	1	3.013	0.000	0.000	0.172	
	2	2.999	0.000	0.000	0.173	1.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

EPA 608.3

LCS

Lab Sample ID: B199069-BS1 Date(s) Analyzed: 03/20/2018 03/20/2018

Instrument ID (1): ECD10 Instrument ID (2): ECD10

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

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.50	
	2	0.000	0.000	0.000	0.51	2.0
Aroclor-1260	1	0.000	0.000	0.000	0.41	
	2	0.000	0.000	0.000	0.43	4.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

EPA 608.3

LCS Dup

Lab Sample ID: B199069-BSD1 Date(s) Analyzed: 03/20/2018 03/20/2018

Instrument ID (1): ECD10 Instrument ID (2): ECD10

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

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.53	
	2	0.000	0.000	0.000	0.54	1.9
Aroclor-1260	1	0.000	0.000	0.000	0.41	
	2	0.000	0.000	0.000	0.46	11.5

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
B	Analyte is found in the associated laboratory blank as well as in the sample.
J	[Undefined]
Ja	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
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.
S-07	One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.
V-04	Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria. Reported result is estimated.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.7 in Water	
Iron	CT,MA,NH,NY,RI,NC,ME,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 608.3 in Water	
Aroclor-1016	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1016 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1221	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1221 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1232	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1232 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1242	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1242 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1248	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1248 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1254	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1254 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1260	CT,MA,NH,NY,RI,NC,ME,VA
Aroclor-1260 [2C]	CT,MA,NH,NY,RI,NC,ME,VA
EPA 624.1 in Water	
Acetone	NH,NY
Benzene	CT,MA,NH,NY,RI,NC,ME,VA
Carbon Tetrachloride	CT,MA,NH,NY,RI,NC,ME,VA
Chloroform	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 624.1 in Water	
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 625.1 in Water	
Benzidine	CT,MA,NH,NY,NC,RI,ME,VA
4-Bromophenylphenylether	CT,MA,NH,NY,NC,RI,ME,VA
Butylbenzylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
4-Chloro-3-methylphenol	CT,MA,NH,NY,NC,RI,VA
Bis(2-chloroethyl)ether	CT,MA,NH,NY,NC,RI,ME,VA
Bis(2-chloroisopropyl)ether	CT,MA,NH,NY,NC,RI,ME,VA
2-Chloronaphthalene	CT,MA,NH,NY,NC,RI,ME,VA
2-Chlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
4-Chlorophenylphenylether	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-butylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
1,3-Dichlorobenzene	MA,NC
1,4-Dichlorobenzene	MA,NC
1,2-Dichlorobenzene	MA,NC
3,3-Dichlorobenzidine	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
Diethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dimethylphenol	CT,MA,NH,NY,NC,RI,ME,VA
Dimethylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
4,6-Dinitro-2-methylphenol	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dinitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
2,4-Dinitrotoluene	CT,MA,NH,NY,NC,RI,ME,VA
2,6-Dinitrotoluene	CT,MA,NH,NY,NC,RI,ME,VA
Di-n-octylphthalate	CT,MA,NH,NY,NC,RI,ME,VA
1,2-Diphenylhydrazine (as Azobenzene)	NC
Hexachlorobenzene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorobutadiene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachlorocyclopentadiene	CT,MA,NH,NY,NC,RI,ME,VA
Hexachloroethane	CT,MA,NH,NY,NC,RI,ME,VA
Isophorone	CT,MA,NH,NY,NC,RI,ME,VA
Nitrobenzene	CT,MA,NH,NY,NC,RI,ME,VA
2-Nitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
4-Nitrophenol	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodimethylamine	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodiphenylamine	CT,MA,NH,NY,NC,RI,ME,VA
N-Nitrosodi-n-propylamine	CT,MA,NH,NY,NC,RI,ME,VA
2-Methylphenol	NY,NC

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 625.1 in Water	
Phenol	CT,MA,NH,NY,NC,RI,ME,VA
3/4-Methylphenol	NY,NC
1,2,4-Trichlorobenzene	CT,MA,NH,NY,NC,RI,ME,VA
2,4,6-Trichlorophenol	CT,MA,NH,NY,NC,RI,ME,VA
2-Fluorophenol	NC
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
SM21-22 4500 CN E in Water	
Cyanide	CT,MA,NH,NY,RI,NC,ME,VA
SW-846 8015C in Water	
Ethanol	NY
SW-846 8270D in Water	
2-Fluorophenol	NC,VA
Phenol-d6	VA
Nitrobenzene-d5	VA

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2018
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2019
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2019
RI	Rhode Island Department of Health	LAO00112	12/30/2018
NC	North Carolina Div. of Water Quality	652	12/31/2018
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	12/14/2018
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2018
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2018
NC-DW	North Carolina Department of Health	25703	07/31/2018

con-test ANALYTICAL LABORATORY

18C0623

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

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 1_03242017

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company Name:	VERTEX
Address:	1 Congress St, Boston MA
Phone:	339-216-7175
Project Name:	Garden Garage
Project Location:	Boston
Project Number:	48552
Project Manager:	F. Calandra, B. Sivonen
Con-Test Quote Name/Number:	
Invoice Recipient:	Ben Sivonen
Sampled By:	Brendan Hayward (BH)

Requested Turnaround Time
7-Day [X] 10-Day [ ]
Due Date:

Rush Approval Required
1-Day [ ] 3-Day [ ]
2-Day [ ] 4-Day [ ]

Data Delivery
Format: PDF [✓] EXCEL [✓]
Other: EQUIS
CLP Like Data Pkg Required: [ ]
Email To: BSivonen@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	VOCs, total phenol	SVOCs, PCBs	Sb, As, Cd, Cr	Cu, Fe, Pb, Mg	Ni, Se, Ag, Zn	Chloride, TKN	Ethyl Alcohol	Cyanide, Chlorine	Ammonia nitrogen, TSS	Salinity, TDH	Hexachrom.
1	SH-8-RGP-Influent	9:30	3/15/18		✓	GW	U	X	X	X	X	X	X	X	X	X	X	X

# of Containers	3 3 2 1 1 1 1 2 1 1 1 1
[2] Preservation Code	H H I N N N I H X I I I
[3] Container Code	V V A P P P P V P P P P

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)

[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:

Client confirmed they did not need salinity. Run 504 and Tri Cr. JLH 3/16

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:	Brendan Hayward 3/15/18	Date/Time:
Received by: (signature)	3/15/18	Date/Time: 15:00
Relinquished by: (signature)	3/15/18	Date/Time: 19:00
Received by: (signature)	2.8/5.8 3-15-18	Date/Time: 19:00
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Detection Limit Requirements
MA: RGP
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
[X] Government [ ] Municipality [ ] MWRA [ ] WRTA
[ ] Federal [ ] 21 J [ ] School
[ ] City [ ] Brownfield [ ] MBTA

Other
[ ] Chromatogram
[ ] AIHA-LAP, LLC

PCB ONLY
[X] Soxhlet
[ ] Non Soxhlet

Table of Contents

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client Vertex

Received By ESD Date 3-15-18 Time 19:00

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 # 537 Actual Temp - 2.8/5.8

By Blank # _____ Actual Temp - _____

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

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

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

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

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

Are Sample labels filled out and legible? T

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

Are there Rushes? F Who was notified? _____

Are there Short Holds? T Who was notified? Luke

Is there enough Volume? T

Is there Headspace where applicable? F MS/MSD? (EPT)

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

Were trip blanks received? T On COC? F

Do all samples have the proper pH? T Acid pH<2 Base pH>12

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.	10	1 Liter Plastic	2	16 oz Amb.	
HCL-	18 *	500 mL Amb.		500 mL Plastic	2	8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic	2	4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

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

Comments:

* 10 HCL .0.1 mL HCL

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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	

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CASE NARRATIVE SUMMARY

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

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

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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

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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

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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

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

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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

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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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

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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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

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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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

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

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

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

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

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

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

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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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

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

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

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

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

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

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

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	

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

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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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
Fax: 413-525-6405
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	Hexavalent Chromium	Cyanide, ethanol	Arsenic, EDB, PAHs,	625, 624, PCBs	# of Containers	[2] Preservation Code	[3] Container Code
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																		

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
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client 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: