HALEY & ALDRICH, INC.
465 Medford Street, Suite 2200
Boston, MA 02129
(617) 886.7400

17 October 2019
File No. 134090-003

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

Attention: Ms. Shelley Puleo

Subject: NPDES RGP NOI Application
Temporary Construction Dewatering
105 West First Street Development
South Boston, Massachusetts

Dear Ms. Puleo:

On behalf of the project owner, Tishman Speyer Worldwide, LLC, c/o Tishman Speyer, and in accordance with the 2017 National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) in Massachusetts, MAG910000, Haley & Aldrich, Inc. (Haley & Aldrich) submits this Notice of Intent (NOI) and the applicable documentation as required by the U.S. Environmental Protection Agency (EPA) for temporary construction site dewatering under the NPDES RGP. As defined in Table 1 of the NPDES RGP, the Activity Category is III.G (Contaminated Site Dewatering, Sites with Known Contamination).

Haley & Aldrich has prepared this submission to facilitate off-site discharge of temporary construction dewatering planned in support of the proposed 105 West First Street development located in South Boston, Massachusetts. Refer to Figure 1 – Project Locus. We anticipate temporary construction dewatering will be conducted, as necessary, during below-grade construction. A copy of the completed NOI form is enclosed as Appendix A.

EXISTING SITE CONDITIONS

The project site consists of a commercial property located on two contiguous parcels of land. The larger parcel is approximately 36,500 square feet (sf) and is currently occupied by a two-story (with one below-grade basement) brick and concrete building (formerly used by RCN), an asphalt paved parking lot to the rear, and a grass slope separating the parking lot from West Second Street. The smaller parcel is approximately 5,600 sf and is undeveloped with mostly gravel and bituminous surface treatment with a grass slope abutting the South Boston Bypass Road to the east. Abutting the west property line is the

Artists for Humanity building. Current site grades generally range from about El. 15 to El. 16[1] along West First Street, sloping down to approximately El. 6 to El. 10 at the rear parking lot, and sloping up to approximately El. 27 to El. 28 along West Second Street. Refer to Figure 2 – Subsurface Exploration and Discharge Location Plan.

PROPOSED CONSTRUCTION

The proposed development includes demolition of the existing site building and construction of a new 140-ft tall (8-story plus penthouse level) laboratory building with a footprint of about 40,000 sf. The ground floor slab is planned to be finished at about El. 20.3. The new building will have one below-grade level beneath much of the building footprint, which will be utilized for vehicular parking, storage, mechanical, and tenant amenity space. The below-grade level will occupy an approximately 26,000 sf footprint with the floor slab finished at about El. 8.7.

Excavation to construct the proposed building's foundations (anticipated to consist of reinforced concrete spread footings) and below-grade space is anticipated to range from approximately 5 to 25 ft below existing site grades and several feet below site groundwater levels, anticipated to be encountered at about El. 4 to El. 6. As a result, dewatering will be necessary to control groundwater, seepage, precipitation, surface water runoff and construction-generated water to enable below-grade construction activities in-the-dry.

Temporary construction dewatering is anticipated to start in January 2020 and continue for an estimated nine (9) months or through approximately October 2020.

SITE HISTORY

The subject site was originally part of tidal flats in Boston Harbor, known as the South Boston Flats, which were filled in the mid- to late-1800s. From the late 1880s to the 1920s, Downer Kerosene Oil Company occupied the subject site and surrounding properties. In the early 1920s, the majority of the Downer Kerosene Oil Company building was taken down and the subject site was used as a parking lot and a warehouse building until the 1960s. The subject site was then used as a truck terminal, warehouse, and a bricklayers' trade school until 1989 when the current site building was constructed. The site was occupied and used by RCN from 1989 through 2018.

ENVIRONMENTAL CONDITIONS AND REGULATORY BACKGROUND

The site is a Disposal Site under the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000. Reportable concentrations of lead, total petroleum hydrocarbons (TPH), and polycyclic aromatic hydrocarbons (PAHs), including benzo(a)pyrene and phenanthrene, were identified in urban fill soil during the soil precharacterization sampling and testing programs conducted by Haley & Aldrich in March 2017 and August 2019. Accordingly, on 29 June 2018, a BWSC103 Release Notification Form (RNF) was submitted to the Massachusetts Department of Environmental Protection (MassDEP).

[1] Elevations reported herein are in feet and reference the Boston City Base (BCB) Datum which is 5.65 ft below the National Geodetic Vertical Datum of 1929 (NGVD 29).

MassDEP subsequently assigned Release Tracking Number (RTN) 3-35055 to the release. An MCP Phase I Initial Site Investigation, Tier II Classification and Conceptual Phase II Scope of Work was submitted to MassDEP on 24 June 2019. A Revised RNF and Release Abatement Measure (RAM) Plan is being submitted concurrently with this NOI.

TEMPORARY CONSTRUCTION DEWATERING NOTICE OF INTENT (NOI)

Five (5) groundwater samples were obtained from observation well HA17-2(OW) on 3 and 4 April 2017 and 13, 17 and 20 September 2019. The location of the observation well is shown on Figure 2. The samples were submitted to Alpha Analytical (Alpha) of Westborough, Massachusetts for analysis of one or more of the following NPDES RGP permit parameters: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total and dissolved metals (including antimony, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver and zinc), hexavalent and trivalent chromium, TPH, ethanol, polychlorinated biphenyls (PCBs), total suspended solids (TSS), total chloride, total cyanide, total phenols, total residual chlorine (TRC), ammonia and hardness. Measurements of pH and temperature were obtained in the field on 13 September 2019.

Refer to Table I for a summary of the groundwater analytical data. The results did not indicate any concentrations of constituents above applicable MCP RCGW-2 reportable concentrations. However, total copper, total iron, total nickel and TSS were detected at concentrations above the applicable NPDES RGP Effluent Limitations. Additionally, pH was measured below the acceptable range indicated by the NPDES RGP. As such, construction dewatering effluent that will be discharged off-site will need to be managed under the NPDES RGP. Alternatively, and when feasible, the project may use on-site recharge to manage dewatering effluent.

When excavation to construct proposed foundations and other site improvements extend beneath site groundwater levels, dewatering will be necessary to control groundwater, seepage, precipitation, surface water runoff and construction-generated water to enable below-grade construction activities in-the-dry. We estimate effluent discharge rates of a maximum of 50 gallons per minute (gpm).

Temporary construction dewatering will be conducted from sumps located in excavations. Prior to discharge, collected water will be routed through a baffled sedimentation tank and bag filters with pH control, at a minimum, to remove suspended solids and undissolved chemical constituents and adjust the pH to within the limits established by the permit. Total flow will be measured with a flow meter/totalizer. If necessary to meet NPDES RGP Effluent Limitations, supplemental pretreatment may include oil/water separators and/or other components as required; refer to Figure 3 – Proposed Treatment System Schematic.

Discharge of dewatering effluent will be to the local storm drain operated by the Boston Water and Sewer Commission (BWSC) beneath West First Street after which the effluent will flow beneath A Street, the Gillette World Shaving Headquarters building, Gillette Park and Dorchester Avenue before discharging at outfall CSO 072 to the Fort Point Channel, which ultimately reaches Boston Inner Harbor. The proposed discharge route is shown on Figure 2 and Figures 4A through 4D – Proposed Discharge Route. Appendix B includes a copy of the BWSC Dewatering Discharge Permit Application.

RECEIVING WATER QUALITY INFORMATION AND DILUTION FACTOR

On 13 September 2019, Haley & Aldrich collected a receiving water sample from the Fort Point Channel at discharge location CSO 072 shown on Figure 4D using a disposable polyethylene bailer. The surface water sample was collected and submitted to Alpha for chemical analysis of pH, ammonia and salinity. The temperature of the Fort Point Channel was obtained from water temperature measured at the National Oceanic and Atmospheric Administration (NOAA) station 8443970 located on the Seaport Boulevard bridge over the Fort Point Channel. The temperature was taken as the average temperature measured from 26 September to 8 October 2019. The results of the receiving water quality data are included in Table I.

Measurements of pH and temperature were used to calculate the site Water Quality Based Effluent Limitations (WQBELs). It is our understanding that since the receiving water is a saltwater body, hardness does not need to be analyzed on either the effluent water or receiving water. Additionally, it is our understanding (based on confirmation from MassDEP) that the dilution factor for a saltwater receiving water is 1.

EFFLUENT CRITERIA DETERMINATION

The EPA-suggested WQBEL Calculation spreadsheet was used to calculate the effluent criteria for the site. Groundwater and receiving water data were input, and the resulting criteria were tabulated in the attached Table I. As requested by EPA, the Microsoft Excel spreadsheet for the WQBEL calculation will be submitted to the EPA via email, for their review upon submission of this NOI. Copies of the "EnterData" and "SaltwaterResults" tabs from the Microsoft Excel file are included in Appendix C.

DETERMINATION OF ENDANGERED SPECIES ACT ELIGIBILITY

According to the Endangered Species Act (ESA) guidelines outlined in Appendix I of the 2017 NPDES RGP, a preliminary determination for the action area associated with this project was established using the U.S. Fish and Wildlife Service (FWS) Information, Planning, and Conservation (IPaC) online system; a copy of the determination is attached in Appendix D. Based on the results of the determination, the project and action area are considered to meet FWS Criterion A as no listed species or critical habitat have been established to be present within the project action area. Additionally, a MassDEP Phase 1 site Assessment Map is included as Figure 5 which confirms that no critical habitats are present at the subject site.

It is our understanding that listed species under the jurisdiction of the National Marine Fisheries Service (NMFS) are the Atlantic Sturgeon and the Shortnose Sturgeon, as well as two species of whales (North Atlantic Right Whale and Fin Whale) and four species of sea turtles (Loggerhead Sea Turtle, Kemp's Ridley Sea Turtle, Leatherback Sea Turtle and Green Sea Turtle) in the marine environment. Based upon our review of NOAA Protected Resources Section 7 Program Species Information and Maps, accessed by Haley & Aldrich on 8 October 2019, no listed species under the jurisdiction of NMFS have been established to be present within the project action area. Tables providing the regions and nearshore areas of importance for each of the NMFS listed species are provided in Appendix D.

DOCUMENTATION OF NATIONAL HISTORIC PRESERVATION ACT ELIGIBILITY REQUIREMENTS

Based on a review of the resources provided by the U.S. National Register of Historic Places and a review of the Massachusetts Cultural Resource Information System (MACRIS), no historic properties have been established to be present at the project site, and discharges and discharge-related activities are not considered to have the potential to affect historic properties. The discharge is considered to meet Criterion A. Documentation is included in Appendix E.

OWNER AND OPERATOR INFORMATION

Owner:
Tishman Speyer Worldwide, LLC
c/o Tishman Speyer
1875 Eye Street, NW Suite 1200
Washington, DC 20006
Attn: Rustom Cowasjee
Title: Managing Director

Operator:
TBD

The Owner (Tishman Speyer Worldwide, LLC, c/o Tishman Speyer) will select a General Contractor, and an earthwork subcontractor (Site Contractor) will be hired by the General Contractor to conduct the site work, including dewatering activities. The General Contractor will be listed as the operator of the dewatering system. A signed copy of the completed NOI form will be provided when a General Contractor has been selected; an unsigned copy is provided in Appendix A.

Haley & Aldrich will be on-site to monitor the Contractors' site and foundation work on behalf of the Owner and will conduct sampling and testing of the dewatering system influent and effluent in accordance with the NPDES RGP compliance requirements.

APPENDICES

The completed "Suggested Format for the Remediation General Permit Notice of Intent (NOI)" form as provided in the NPDES RGP is enclosed in Appendix A. Appendix B provides a copy of the BWSC Dewatering Discharge Permit Application to be submitted separately to the BWSC. Appendix C includes tabs from the WQBEL calculation spreadsheet for reference. Appendices D and E include the Endangered Species Act Documentation and National Register of Historic Places and Massachusetts Historical Commission Documentation, respectively. The groundwater and receiving water laboratory data reports are provided in Appendix F.

The Site Contractor has not yet submitted their construction dewatering submittal, which will include details of the proposed dewatering system along with Safety Data Sheets (SDSs) and fact sheets for possible chemical additives (if needed to adjust pH or reduce suspended sediments). A Best Management Practices Plan (BMPP), which outlines the proposed discharge operations covered under the RGP, will be available at the site.

CLOSING

Thank you for considering this NPDES RGP NOI. Please feel free to contact the undersigned should you require additional information or have questions.

Sincerely yours,
HALEY & ALDRICH, INC.

Jonathan M. Thibault
Technical Specialist

Cole E. Worthy III, LSP
Senior Associate

Attachments:

- Table I – Summary of Water Quality Data
- Figure 1 – Project Locus
- Figure 2 – Subsurface Exploration and Discharge Location Plan
- Figure 3 – Proposed Treatment System Schematic
- Figure 4A – Proposed Discharge Route (Figure 1 of 4)
- Figure 4B – Proposed Discharge Route (Figure 2 of 4)
- Figure 4C – Proposed Discharge Route (Figure 3 of 4)
- Figure 4D – Proposed Discharge Route (Figure 4 of 4)
- Figure 5 – MassDEP Phase 1 Site Assessment Map
- Appendix A – Remediation General Permit Notice of Intent (NOI)
- Appendix B – Boston Water and Sewer Commission (BWSC) Dewatering Discharge Permit Application
- Appendix C – Effluent Limit Calculations
- Appendix D – Endangered Species Act Documentation
- Appendix E – National Register of Historic Places and Massachusetts Historical Commission Documentation
- Appendix F – Laboratory Data Reports

c: Tishman Speyer Worldwide, LLC, c/o Tishman Speyer, Attn: Rustom Cowasjee
Boston Water and Sewer Commission; Attn: Matthew Tuttle

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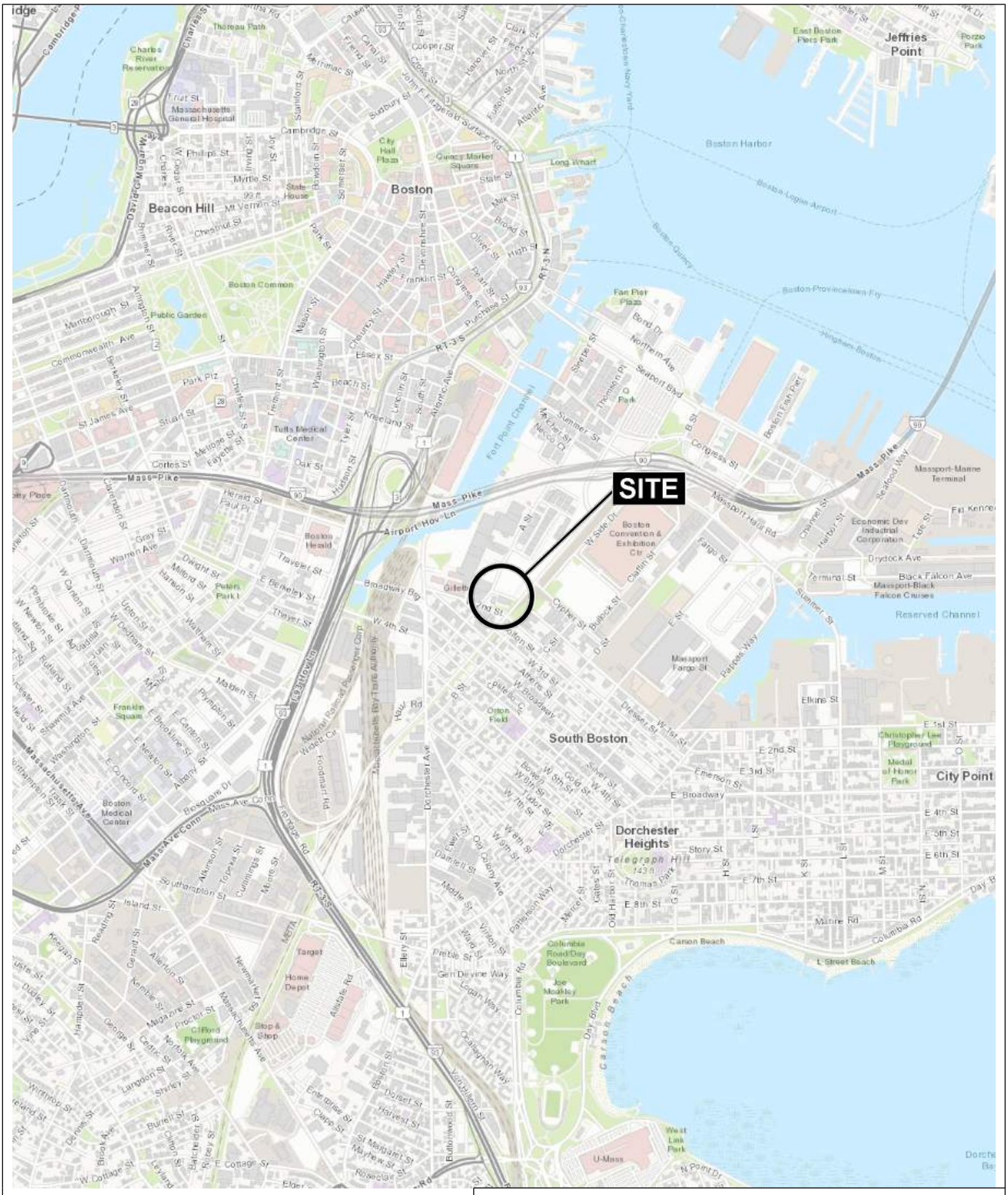
TABLE I
SUMMARY OF WATER QUALITY DATA
105 WEST FIRST STREET
SOUTH BOSTON, MASSACHUSETTS
FILE NO. 134090-003

Location Name	2014	2017	**FORT POINT CHANNEL**	**HA17-2**	**HA17-2**	**HA17-2**	**HA17-2**	**HA17-2**
Sample Name	MassDEP MCP	NPDES RGP	**CSO-072-20190913**	**HA17-2(OW)-20170403**	**HA17-2(OW)-20170404**	**HA17-2(OW)-20190913**	**HA17-2(OW)-20190917**	**HA17-2(OW)-20190920**
Sample Date	RCGW-2	Project-Specific	**09/13/2019**	**04/03/2017**	**04/04/2017**	**09/13/2019**	**09/17/2019**	**09/20/2019**
Lab Sample ID	Reportable	Effluent	**L1942242-01**	**L1710109-01**	**L1710335-01**	**L1942242-02**	**L1942713-01**	**L1943662-01**
Well Screen Interval (ft, BCB)	Concentrations	Limitations	**NA**	**9.5 to -0.5**	**9.5 to -0.5**	**9.5 to -0.5**	**9.5 to -0.5**	**9.5 to -0.5**
Groundwater Elevation (ft, BCB) (Note 4)			**NA**	**-**	**-**	**4.1**	**-**	**-**
Sample Type			**Receiving Water**	**Groundwater**	**Groundwater**	**Groundwater**	**Groundwater**	**Groundwater**
Volatile Organic Compounds (ug/L)								
1,1,1-Trichloroethane	4000	200	-	ND (0.5)	-	ND (2)	-	-
1,1,2-Trichloroethane	900	5	-	ND (0.75)	-	ND (1.5)	-	-
1,1-Dichloroethane	2000	70	-	ND (0.75)	-	ND (1.5)	-	-
1,1-Dichloroethene	80	3.2	-	ND (0.5)	-	ND (1)	-	-
1,2-Dibromoethane (Ethylene Dibromide)	2	0.05	-	ND (0.01)	-	ND (0.01)	-	-
1,2-Dichlorobenzene	2000	600	-	ND (2.5)	-	ND (5)	-	-
1,2-Dichloroethane	5	5	-	ND (0.5)	-	ND (1.5)	-	-
1,3-Dichlorobenzene	6000	320	-	ND (2.5)	-	ND (5)	-	-
1,4-Dichlorobenzene	60	5	-	ND (2.5)	-	**ND (5)**	-	-
Acetone	50000	7970	-	ND (5)	-	ND (10)	-	-
Benzene	1000	5	-	ND (0.5)	-	ND (1)	-	-
Carbon tetrachloride	2	4.4	-	ND (0.5)	-	ND (1)	-	-
cis-1,2-Dichloroethene	20	70	-	ND (0.5)	-	ND (1)	-	-
Ethylbenzene	5000	NA	-	ND (0.5)	-	ND (1)	-	-
m,p-Xylenes	3000	NA	-	-	-	ND (2)	-	-
Methyl Tert Butyl Ether	5000	70	-	ND (1)	-	-	-	-
Methylene chloride	2000	4.6	-	ND (3)	-	ND (1)	-	-
Naphthalene	700	20	-	2.8	-	-	-	-
o-Xylene	3000	NA	-	-	-	ND (1)	-	-
Tert-Amyl Methyl Ether (TAME)	NA	90	-	ND (2)	-	-	-	-
Tert-Butyl Alcohol (tert-Butanol)	NA	120	-	ND (10)	-	-	-	-
Tetrachloroethene	50	5	-	ND (0.5)	-	ND (1)	-	-
Toluene	40000	NA	-	0.98	-	ND (1)	-	-
Trichloroethene	5	5	-	ND (0.5)	-	ND (1)	-	-
Vinyl chloride	2	2	-	ND (1)	-	ND (1)	-	-
Xylene (total)	3000	NA	-	1	-	ND (1)	-	-
Total BTEX	NA	100	-	1.98	-	ND	-	-
SUM of Volatile Organic Compounds	NA	NA	-	4.78	-	ND	-	-
Volatile Organic Compounds (SIM) (ug/L)								
1,4-Dioxane	6000	200	-	ND (3)	-	ND (50)	-	-
Semivolatile Organic Compounds (ug/L)								
bis(2-Ethylhexyl)phthalate	50000	101	-	ND (3)	-	-	-	ND (2.2)
Butyl benzylphthalate	10000	NA	-	ND (5)	-	-	-	ND (5)
Diethyl phthalate	9000	NA	-	ND (5)	-	-	-	ND (5)
Dimethyl phthalate	50000	NA	-	ND (5)	-	-	-	ND (5)
Di-n-butylphthalate	5000	NA	-	ND (5)	-	-	-	ND (5)
Di-n-octyl phthalate	100000	NA	-	ND (5)	-	-	-	ND (5)
Total Phthalates	NA	190	-	ND	-	-	-	ND
SUM of Semivolatile Organic Compounds	NA	NA	-	ND	-	-	-	ND
Semivolatile Organic Compounds (SIM) (ug/L)								
1-Methylnaphthalene	NA	NA	-	0.54	-	-	-	-
Acenaphthene	6000	NA	-	0.71	-	-	-	ND (0.1)
Acenaphthylene	40	NA	-	ND (0.2)	-	-	-	ND (0.1)
Anthracene	30	NA	-	ND (0.2)	-	-	-	ND (0.1)
Benzo(a)anthracene	1000	1	-	ND (0.2)	-	-	-	ND (0.1)
Benzo(a)pyrene	500	1	-	ND (0.2)	-	-	-	ND (0.1)
Benzo(b)fluoranthene	400	1	-	ND (0.2)	-	-	-	ND (0.1)
Benzo(g,h,i)perylene	20	NA	-	ND (0.2)	-	-	-	ND (0.1)
Benzo(k)fluoranthene	100	1	-	ND (0.2)	-	-	-	ND (0.1)
Chrysene	70	1	-	ND (0.2)	-	-	-	ND (0.1)
Dibenz(a,h)anthracene	40	1	-	ND (0.2)	-	-	-	ND (0.1)
Fluoranthene	200	NA	-	0.21	-	-	-	ND (0.1)
Fluorene	40	NA	-	0.56	-	-	-	ND (0.1)
Indeno(1,2,3-cd)pyrene	100	1	-	ND (0.2)	-	-	-	ND (0.1)
Naphthalene	700	20	-	ND (0.2)	-	-	-	0.17
Pentachlorophenol	200	1	-	ND (0.8)	-	-	-	**ND (1)**
Phenanthrene	10000	NA	-	0.64	-	-	-	ND (0.1)
Pyrene	20	NA	-	ND (0.2)	-	-	-	ND (0.1)
Total Group I Polycyclic Aromatic Hydrocarbons	NA	1	-	ND	-	-	-	ND
Total Group II Polycyclic Aromatic Hydrocarbons	NA	100	-	2.12	-	-	-	0.17
SUM of Semivolatile Organic Compounds (SIM)	NA	NA	-	2.66	-	-	-	0.17
Ethanol (mg/L)	NA	Report	-	-	-	ND (2)	-	-
Total Petroleum Hydrocarbons (mg/L)	5	5	-	-	ND (4.4)	-	ND (4)	-
Dissolved Metals (mg/L)								
Antimony, Dissolved	8	NA	-	-	-	-	ND (0.004)	-
Arsenic, Dissolved	0.9	NA	-	-	-	-	ND (0.001)	-
Cadmium, Dissolved	0.004	NA	-	-	-	-	0.0002	-
Chromium, Dissolved	0.3	NA	-	-	-	-	ND (0.001)	-
Copper, Dissolved	100	NA	-	-	-	-	0.0028	-
Iron, Dissolved	NA	NA	-	-	-	-	ND (0.05)	-
Lead, Dissolved	0.01	NA	-	-	-	-	ND (0.001)	-
Mercury, Dissolved	0.02	NA	-	-	-	-	ND (0.0002)	-
Nickel, Dissolved	0.2	NA	-	-	-	-	ND (0.002)	-
Selenium, Dissolved	0.1	NA	-	-	-	-	ND (0.005)	-
Silver, Dissolved	0.007	NA	-	-	-	-	ND (0.0004)	-
Zinc, Dissolved	0.9	NA	-	-	-	-	0.0519	-
Total Metals (mg/L)								
Antimony, Total	8	0.206	-	ND (0.004)	-	-	ND (0.004)	-
Arsenic, Total	0.9	0.104	-	0.00401	-	-	ND (0.001)	-
Cadmium, Total	0.004	0.0102	-	ND (0.0002)	-	-	0.00021	-
Chromium, Total	0.3	0.323	-	0.00692	-	-	0.00143	-
Chromium III (Trivalent), Total	0.6	0.323	-	ND (0.01)	-	-	ND (0.01)	-
Chromium VI (Hexavalent), Total	0.3	0.323	-	ND (0.01)	-	-	ND (0.01)	-
Copper, Total	100	0.0037	-	**0.0105**	-	-	**0.00626**	-
Iron, Total	NA	5	-	**5.3**	-	-	1.53	-
Lead, Total	0.01	0.16	-	0.00712	-	-	0.00482	-
Mercury, Total	0.02	0.000739	-	ND (0.0002)	-	-	ND (0.0002)	-
Nickel, Total	0.2	0.0083	-	**0.00906**	-	-	0.00355	-
Selenium, Total	0.1	0.2358	-	ND (0.005)	-	-	ND (0.005)	-
Silver, Total	0.007	0.0351	-	ND (0.0004)	-	-	ND (0.0004)	-
Zinc, Total	0.9	0.42	-	0.06434	-	-	0.07279	-
Polychlorinated Biphenyls (ug/L)								
Aroclor-1016 (PCB-1016)	5	NA	-	-	-	-	ND (0.25)	-
Aroclor-1221 (PCB-1221)	5	NA	-	-	-	-	ND (0.25)	-
Aroclor-1232 (PCB-1232)	5	NA	-	-	-	-	ND (0.25)	-
Aroclor-1242 (PCB-1242)	5	NA	-	-	-	-	ND (0.25)	-
Aroclor-1248 (PCB-1248)	5	NA	-	-	-	-	ND (0.25)	-
Aroclor-1254 (PCB-1254)	5	NA	-	-	-	-	ND (0.25)	-
Aroclor-1260 (PCB-1260)	5	NA	-	-	-	-	ND (0.2)	-
SUM of Polychlorinated Biphenyls	NA	0.000064	-	-	-	-	ND	-
Other								
Ammonia, Total (mg/L)	NA	Report	ND (0.075)	1.02	-	-	0.12	-
Chloride, Total (mg/L)	NA	Report	-	368	-	-	952	-
Chlorine, Total Residual (mg/L)	NA	0.0075	-	**ND (0.02)**	-	-	**ND (0.02)**	-
Total Phenols (mg/L)	NA	1.08	-	-	-	-	-	ND (0.03)
Total Suspended Solids (TSS) (mg/L)	NA	30	-	29	-	-	**56**	-
Cyanide, Total (mg/L)	0.03	178	-	ND (0.005)	-	ND (0.005)	-	-
Hardness, Total (mg/L)	NA	NA	-	247	-	-	-	-
pH (pH units) (Note 5)	NA	6.5 to 8.5	7.8	-	-	**6.3**	-	-
Temperature (°C) (Note 6)	NA	29.5	16.2	-	-	17.9	-	-
Salinity, Total (SU)	NA	NA	28	-	-	-	-	-

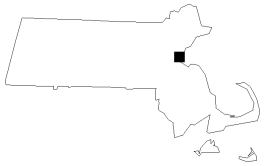
ABBREVIATIONS:
-: Not Analyzed
mg/L: milligrams per liter
NA: Not Applicable
ND (2.5): Not detected; number in parenthesis is the laboratory reporting limit.
SU: Standard Units
ug/L: micrograms per liter

NOTES:
1. This table includes only those Volatile and Semivolatile Organic Compounds detected on the dates indicated and/or listed in Table 2 of the NPDES RGP. For a complete list of analytes, refer to the laboratory data reports.
2. **BOLD** values indicate an exceedance of the applicable NPDES RGP Effluent Limitation.
3. **BOLD ND** values indicate the laboratory reporting limit exceeds the applicable NPDES RGP Effluent Limitation.
4. Groundwater elevation measured in the field on the sampling date indicated.
5. Groundwater pH measured in the field on the sampling date indicated. Receiving water pH measured in the laboratory.
6. Groundwater temperature measured in the field on the sampling date indicated. Receiving water temperature obtained from NOAA station 8443970 located on Seaport Boulevard bridge over Fort Point Channel; taken as average temperature measured from 09/26/2019 to 10/08/2019.



MAP SOURCE: ESRI

SITE COORDINATES: 42°20'36"N, 71°3'11"W



HALEY ALDRICH

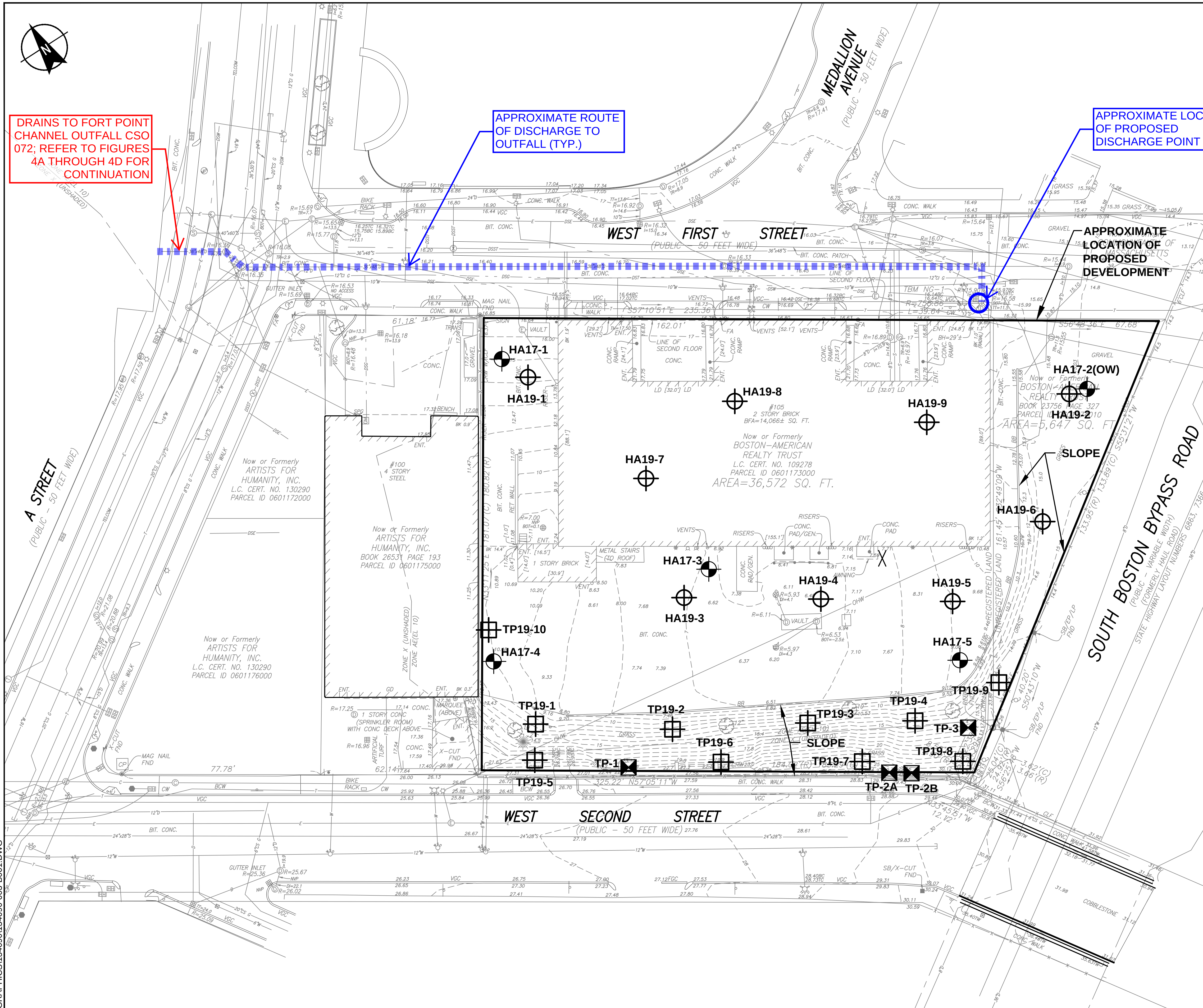
105 WEST FIRST STREET
SOUTH BOSTON, MASSACHUSETTS

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
OCTOBER 2019

FIGURE 1

128794-005_1_LOCUS.PDF



LEGEND

TP19-1	DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT EXPLORATION CONDUCTED BY BOND BROTHERS AND OBSERVED BY HALEY & ALDRICH, INC. ON 15 AND 16 AUGUST 2019.
HA19-1	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING CONDUCTED BY GEOLOGIC EARTH EXPLORATION, INC. AND OBSERVED BY HALEY & ALDRICH, INC. ON 9 AND 12 AUGUST 2019.
TP-1	DESIGNATION AND APPROXIMATE LOCATION OF TEST PIT CONDUCTED J. W. FLETT COMPANY INC. AND OBSERVED BY HALEY & ALDRICH STAFF ON 3 TO 4 APRIL 2017.
HA17-1	DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING CONDUCTED BY NORTHERN DRILL SERVICE AND OBSERVED BY HALEY & ALDRICH INC. ON 13 TO 17 MARCH 2017
(OW)	INDICATES OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE

NOTES

1. BASE PLAN TAKEN FROM AN ELECTRONIC FILE TITLED "15336-EX-DRAFT-10-20-16.dwg", PROVIDED BY STANTEC ARCHITECTURE ON 23 MARCH 2017
2. PROPOSED DEVELOPMENT TAKEN FROM AN ELECTRONIC DRAWING TITLED "A-101.dwg", PROVIDED BY STANTEC ARCHITECTURE ON 26 APRIL 2017.

0 40 80
SCALE IN FEET

HALEY ALDRICH

105 WEST FIRST STREET
SOUTH BOSTON, MASSACHUSETTS

SUBSURFACE EXPLORATION AND DISCHARGE LOCATION PLAN

SCALE: AS SHOWN
OCTOBER 2019

FIGURE 2

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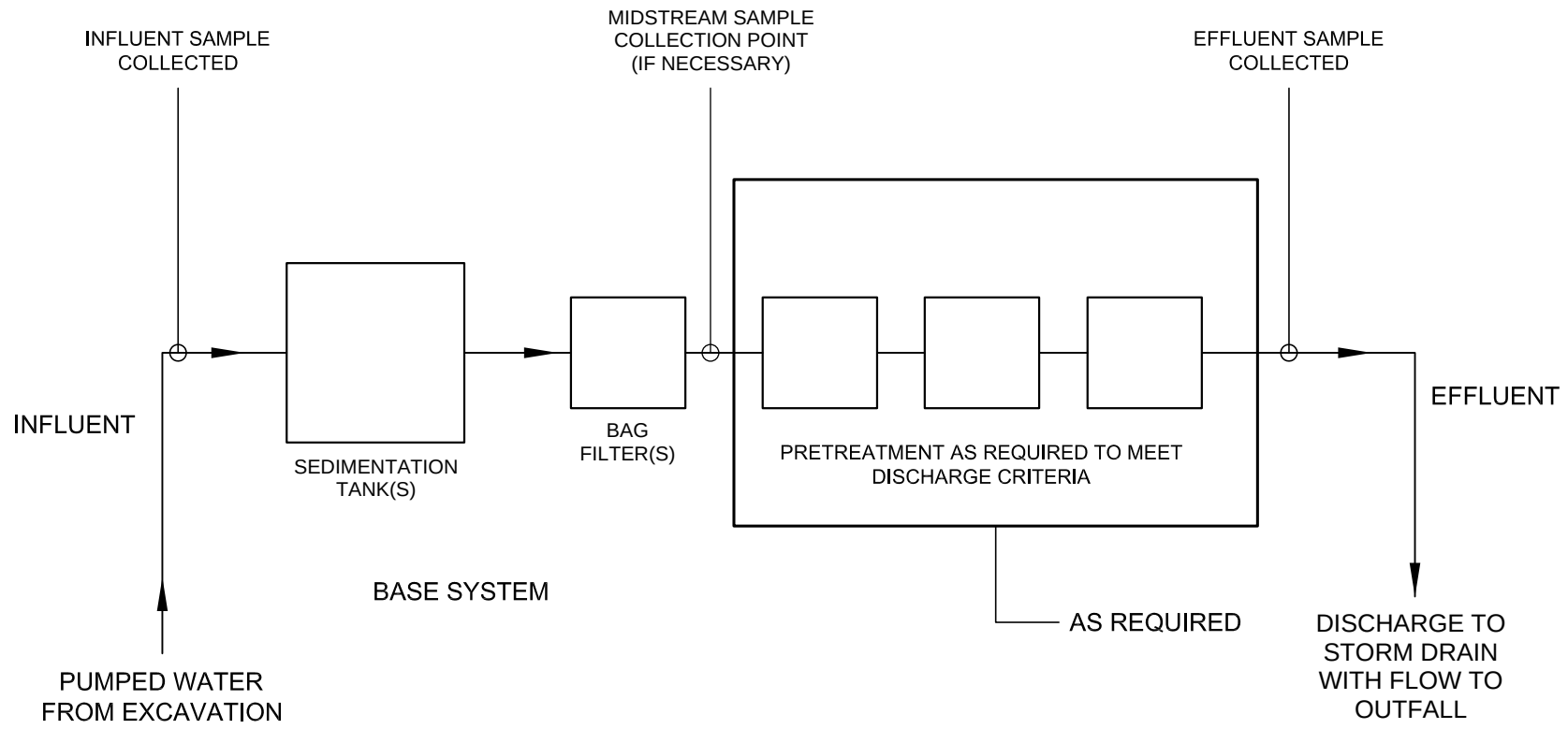
\\haleyaldrich.com\share\CF\Projects\134090\003 - Design Phase Services\SID6 - Permitting Support\NPDES RGP\NOI Application\Figures



LEGEND:

DIRECTION OF FLOW

NOTE:

1. DETAILS OF TREATMENT SYSTEM MAY VARY FROM SYSTEM INDICATED ABOVE. SPECIFIC MEANS AND METHODS OF TREATMENT TO BE SELECTED BY CONTRACTOR. WATER WILL BE TREATED TO MEET REQUIRED EFFLUENT STANDARDS.

HALEY ALDRICH

105 WEST FIRST STREET
SOUTH BOSTON, MASSACHUSETTS

PROPOSED TREATMENT SYSTEM SCHEMATIC

SCALE: NONE
OCTOBER 2019

FIGURE 3

REFER TO FIGURE 4B FOR CONTINUATION

APPROXIMATE ROUTE OF DISCHARGE TO OUTFALL (TYP.)

APPROXIMATE LOCATION OF PROPOSED DISCHARGE POINT

APPROXIMATE LIMITS OF 105 WEST FIRST STREET

SOUTH BOSTON BYPASS RD

MEDALLION AV

A ST

B ST

BOLTON ST

WEST FIRST ST

WEST TH

SOUTH DOCK

CONRAIL

PARKING

SC 100

BOSTON WATER AND SEWER

N
W E
S

0 30 60 120 180 240 Feet

HALEY ALDRICH

105 WEST FIRST STREET
SOUTH BOSTON, MASSACHUSETTS

PROPOSED DISCHARGE ROUTE (FIGURE 1 OF 4)

SCALE: AS SHOWN
OCTOBER 2019

FIGURE 4A

REFER TO FIGURE 4C FOR CONTINUATION

APPROXIMATE ROUTE OF DISCHARGE TO OUTFALL (TYP.)

REFER TO FIGURE 4A FOR CONTINUATION

WEST SECOND ST

ATHENS ST

PARKING

POWER HOUSE

GILLETTE HEADQUARTER

SOUTH DOCK

TANK

SH 8 DICL 2015

SH 12 DICL 2014

SH 12 DICL 2006

SL 16 DICL 2014

SL 16 DICL 1984

SL 10 DICL 1964

SL 8 DICL 1993

PRIV SH 8 DICL 2010

12 PRIV

40 x 60 (2014)

36 x 48 (2014)

24 x 28 (2014)

BOSTON WATER AND SEWER

N W E S

0 30 60 120 180 240 Feet

HALEY ALDRICH

105 WEST FIRST STREET
SOUTH BOSTON, MASSACHUSETTS

PROPOSED DISCHARGE ROUTE (FIGURE 2 OF 4)

SCALE: AS SHOWN
OCTOBER 2019

FIGURE 4B

REFER TO FIGURE 4D FOR CONTINUATION

GILLETTE PARK

FOUNDRY ST

WEST SEC

PARKING

POWER HOUSE

GILLETTE HEADQUARTERS

TANK

APPROXIMATE ROUTE OF DISCHARGE TO OUTFALL (TYP.)

REFER TO FIGURE 4B FOR CONTINUATION

BOSTON WATER AND SEWER

N W E S

0 30 60 120 180 240 Feet

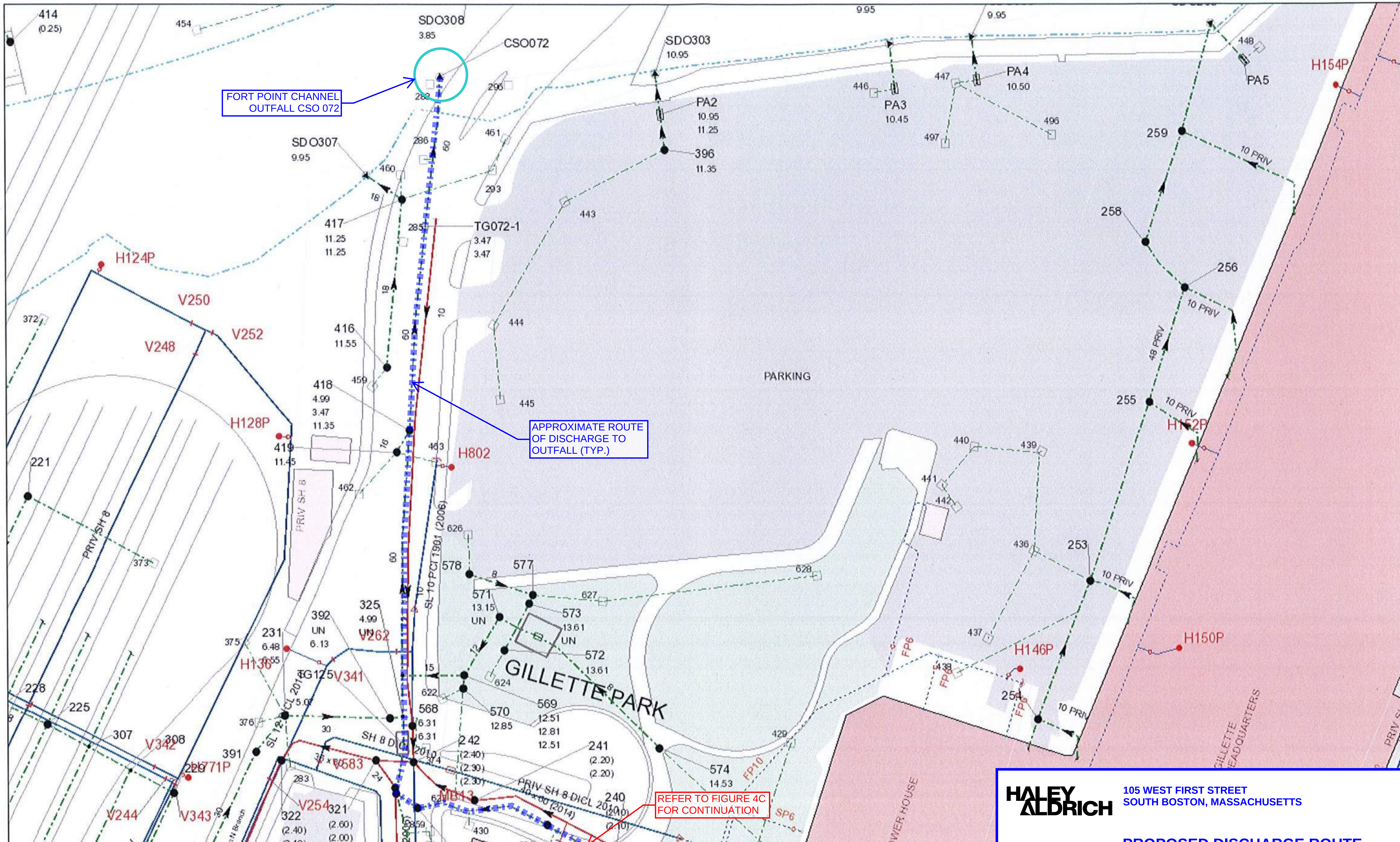
HALEY ALDRICH

105 WEST FIRST STREET
SOUTH BOSTON, MASSACHUSETTS

PROPOSED DISCHARGE ROUTE (FIGURE 3 OF 4)

SCALE: AS SHOWN
OCTOBER 2019

FIGURE 4C



HALEY ALDRICH

105 WEST FIRST STREET
SOUTH BOSTON, MASSACHUSETTS

PROPOSED DISCHARGE ROUTE (FIGURE 4 OF 4)

SCALE: AS SHOWN
OCTOBER 2019

FIGURE 4D

BOSTON WATER AND SEWER

MassDEP - Bureau of Waste Site Cleanup

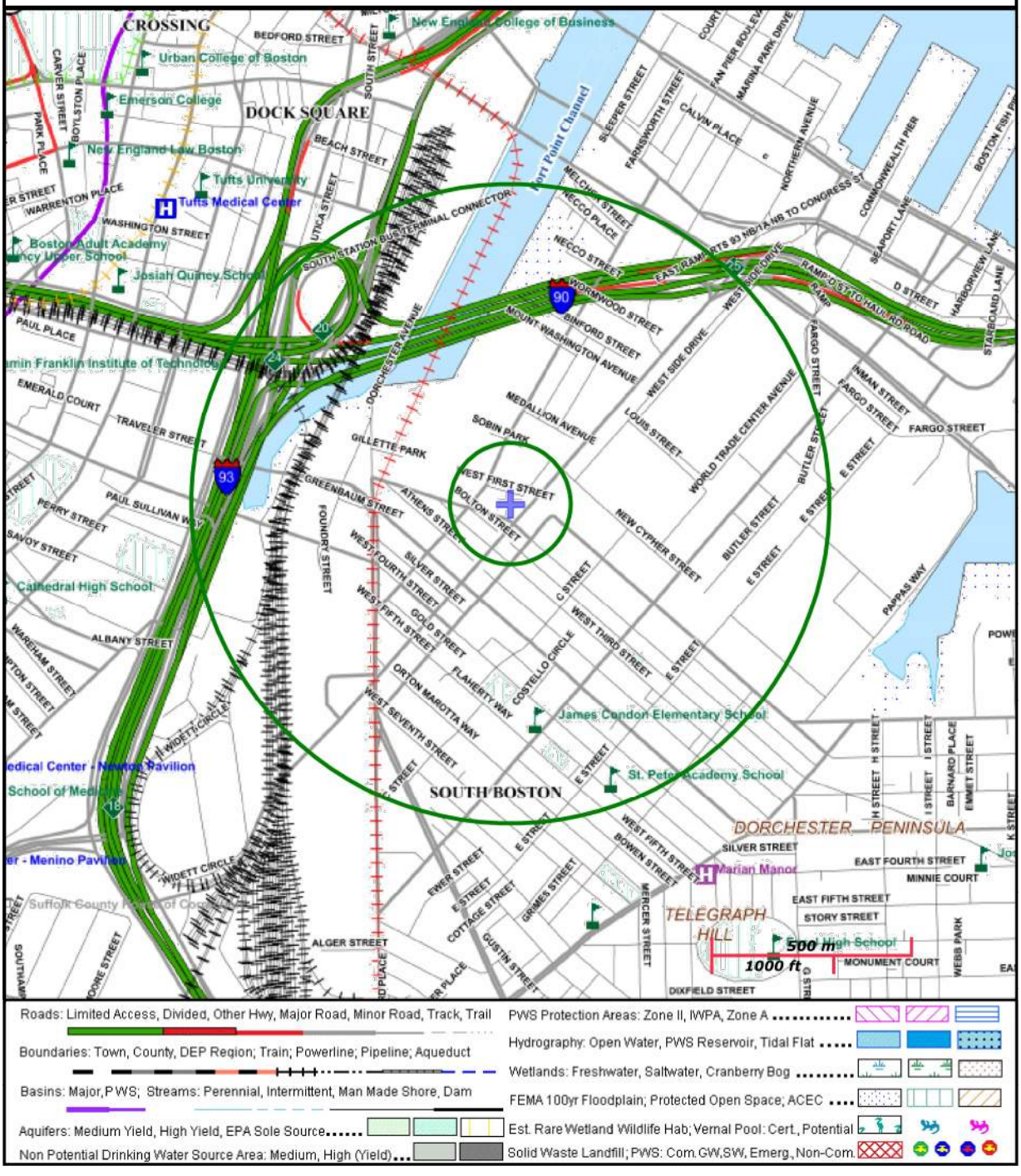
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
105 WEST FIRST STREET
105 WEST FIRST STREET BOSTON, MA

NAD83 UTM Meters:
4689893mN , 330889mE (Zone: 19)
June 11, 2019

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major,PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

HALEY ALDRICH

105 WEST FIRST STREET
SOUTH BOSTON, MASSACHUSETTS

MassDEP PHASE 1
SITE ASSESSMENT MAP

SCALE: AS SHOWN
OCTOBER 2019

FIGURE 5

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APPENDIX A

Remediation General Permit
Notice of Intent (NOI)

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:
105 WEST FIRST STREET</td><td colspan="3">Site address:
Street: 105 WEST FIRST STREET</td></tr>
<tr><td>City: SOUTH BOSTON</td><td>State: MA</td><td>Zip: 02127</td></tr>
<tr><td rowspan="4">2. Site owner
TISHMAN SPEYER WORLDWIDE, LLC
C/O TISHMAN SPEYER

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: RUSTOM COWASJEE</td></tr>
<tr><td colspan="2">Telephone: (202) 420-2123</td><td>Email: RCOWASJEE@TISHMANSPEYE</td></tr>
<tr><td colspan="3">Mailing address:
Street: 1875 EYE STREET, NW SUITE 1200</td></tr>
<tr><td>City: WASHINGTON</td><td>State: DC</td><td>Zip: 20006</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
TBD</td><td colspan="3">Contact Person: TBD</td></tr>
<tr><td colspan="2">Telephone:</td><td>Email:</td></tr>
<tr><td colspan="3">Mailing address:
Street:</td></tr>
<tr><td>City:</td><td>State:</td><td>Zip:</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:
NA

NPDES permit is (check all that apply: ■ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s):
3-35055
☐ 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):
FORT POINT CHANNEL (BOSTON INNER HARBOR)	MA70-02	SB

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. CATEGORY 5 - WATERS REQUIRING A TMDL PER MASSACHUSETTS YEAR 2014 INTEGRATED LIST OF WATERS, IMPAIRMENT

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.	NA (SALTWATER RECEIVING WATER)
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	1 (SALTWATER)

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	☐ Contaminated surface water	☐ The receiving water	☐ Potable water; if so, indicate municipality or origin:
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	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	☐ A surface water other than the receiving water; if so, indicate waterbody:	■ Other; if so, specify: SEEPAGE, PRECIPITATION, SURFACE WATER RUNOFF

2. Source water contaminants: TOTAL COPPER, TOTAL IRON, TOTAL NICKEL AND TSS ABOVE AND pH BELOW EFFLUENT LIMITATIONS	
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): OUTFALL CSO 072 TO THE FORT POINT CHANNEL (BOSTON INNER HARBOR)	Outfall location(s): (Latitude, Longitude) (42° 20' 44" N, 71° 3' 26" W)
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: ☐ A private storm sewer system ■ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ☐ Yes ■ No, if so, explain, with an estimated timeframe for obtaining permission: BWSC DEWATERING DISCHARGE PERMIT APPLICATION BEING SUBMITTED CONCURRENTLY WITH THIS NOI Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ■ Yes ☐ No	
Provide the expected start and end dates of discharge(s) (month/year): JANUARY 2020 TO OCTOBER 2020 Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

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

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✓	2	SM 4500	75	1020	-	Report mg/L	---
Chloride		✓	2	300.0	12500	952000	-	Report µg/l	---
Total Residual Chlorine	✓		2	SM 4500	20	ND	-	0.2 mg/L	7.5 ug/L
Total Suspended Solids		✓	2	2540D	5000	56000	-	30 mg/L	---
Antimony	✓		2	200	4	ND	-	206 µg/L	640 ug/L
Arsenic		✓	2	200	0.5	4.01	-	104 µg/L	36 ug/L
Cadmium		✓	2	200	0.2	0.21	-	10.2 µg/L	8.9 ug/L
Chromium III	✓		2	107	1	ND	-	323 µg/L	100 ug/L
Chromium VI	✓		2	7196A	10	ND	-	323 µg/L	50 ug/L
Copper		✓	2	200	1	10.5	-	242 µg/L	3.7 ug/L
Iron		✓	2	200	50	5300	-	5,000 µg/L	---
Lead		✓	2	200	0.5	7.12	-	160 µg/L	8.5 ug/L
Mercury	✓		2	245	0.2	ND	-	0.739 µg/L	1.11 ug/L
Nickel		✓	2	200	2	9.06	-	1,450 µg/L	8.3 ug/L
Selenium	✓		2	200	5	ND	-	235.8 µg/L	71 ug/L
Silver	✓		2	200	0.4	ND	-	35.1 µg/L	2.2 ug/L
Zinc		✓	2	200	10	72.79	-	420 µg/L	86 ug/L
Cyanide	✓		2	4500 CN	5	ND	-	178 mg/L	1 ug/L
B. Non-Halogenated VOCs									
Total BTEX		✓	2	624	0.5	1.98	-	100 µg/L	---
Benzene	✓		2	624	0.5	ND	-	5.0 µg/L	---
1,4 Dioxane	✓		2	624 SIM	3	ND	-	200 µg/L	---
Acetone	✓		2	624	5	ND	-	7.97 mg/L	---
Phenol	✓		1	420	30	ND	-	1,080 µg/L	300 ug/L

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✓		2	624	0.5	ND	-	4.4 µg/L	1.6 µg/L
1,2 Dichlorobenzene	✓		2	624	2.5	ND	-	600 µg/L	---
1,3 Dichlorobenzene	✓		2	624	2.5	ND	-	320 µg/L	---
1,4 Dichlorobenzene	✓		2	624	2.5	ND	-	5.0 µg/L	---
Total dichlorobenzene	✓		2	624	2.5	ND	-	763 µg/L in NH	---
1,1 Dichloroethane	✓		2	624	0.75	ND	-	70 µg/L	---
1,2 Dichloroethane	✓		2	624	0.5	ND	-	5.0 µg/L	---
1,1 Dichloroethylene	✓		2	624	0.5	ND	-	3.2 µg/L	---
Ethylene Dibromide	✓		2	504.1	0.01	ND	-	0.05 µg/L	---
Methylene Chloride	✓		2	624	1	ND	-	4.6 µg/L	---
1,1,1 Trichloroethane	✓		2	624	0.5	ND	-	200 µg/L	---
1,1,2 Trichloroethane	✓		2	624	0.75	ND	-	5.0 µg/L	---
Trichloroethylene	✓		2	624	0.5	ND	-	5.0 µg/L	---
Tetrachloroethylene	✓		2	624	0.5	ND	-	5.0 µg/L	3.3 µg/L
cis-1,2 Dichloroethylene	✓		2	624	0.5	ND	-	70 µg/L	---
Vinyl Chloride	✓		2	624	1	ND	-	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✓		2	625	5	ND	-	190 µg/L	---
Diethylhexyl phthalate	✓		2	625	5	ND	-	101 µg/L	2.2 µg/L
Total Group I PAHs	✓		2	625 SIM	0.1	ND	-	1.0 µg/L	---
Benzo(a)anthracene	✓		2	625 SIM	0.1	ND	-	As Total PAHs	0.0038 µg/L
Benzo(a)pyrene	✓		2	625 SIM	0.1	ND	-		0.0038 µg/L
Benzo(b)fluoranthene	✓		2	625 SIM	0.1	ND	-		0.0038 µg/L
Benzo(k)fluoranthene	✓		2	625 SIM	0.1	ND	-		0.0038 µg/L
Chrysene	✓		2	625 SIM	0.1	ND	-		0.0038 µg/L
Dibenzo(a,h)anthracene	✓		2	625 SIM	0.1	ND	-		0.0038 µg/L
Indeno(1,2,3-cd)pyrene	✓		2	625 SIM	0.1	ND	-		0.0038 µg/L

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs		✔	2	625 SIM	0.1	2.12	-	100 µg/L	---
Naphthalene		✔	2	625 SIM	0.1	0.17	-	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		2	608	0.25	ND	-	0.000064 µg/L	---
Pentachlorophenol	✔		2	625 SIM	0.8	ND	-	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		2	1664A	4000	ND	-	5.0 mg/L	---
Ethanol	✔		1	1671	2000	ND		Report mg/L	---
Methyl-tert-Butyl Ether	✔		1	624	1	ND	-	70 µg/L	20 µg/L
tert-Butyl Alcohol	✔		1	624	10	ND	-	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		1	624	2	ND	-	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:									
pH (SU)		✔	1	FIELD	-	6.3	-		
Temperature (°C)		✔	1	FIELD	-	17.9	-		
Hardness		✔	1	200	660	247000	-		
1-Methylnaphthalene		✔	2	625 SIM	0.1	0.54	-		
Acenaphthene (Group II PAH)		✔	2	625 SIM	0.1	0.71	-		
Fluoranthene (Group II PAH)		✔	2	625 SIM	0.1	0.21	-		
Fluorene (Group II PAH)		✔	2	625 SIM	0.1	0.56	-		
Phenanthrene (Group II PAH)		✔	2	625 SIM	0.1	0.64	-		

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:
TREATMENT AS REQUIRED TO MEET EFFLUENT LIMITATIONS

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.
PRIOR TO DISCHARGE, COLLECTED WATER WILL BE ROUTED THROUGH SEDIMENTATION TANK AND BAG FILTERS WITH pH CONTROL, AT A MINIMUM, TO REMOVE SUSPENDED SOLIDS AND UNDISSOLVED CHEMICAL CONSTITUENTS AND ADJUST pH TO WITHIN LIMITS ESTABLISHED BY PERMIT. TOTAL FLOW WILL BE MEASURED WITH FLOW METER/ TOTALIZER. SUPPLEMENTAL PRETREATMENT MAY BE REQUIRED TO MEET NPDES RGP EFFLUENT LIMITATIONS AND MAY INCLUDE OIL/WATER SEPARATORS AND/OR OTHER COMPONENTS AS REQUIRED; REFER TO FIGURE 3 OF THE NPDES RGP NOI APPLICATION.

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:	50 GPM
Provide the proposed maximum effluent flow in gpm.	50 GPM
Provide the average effluent flow in gpm.	25 GPM
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	NA

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

F. Chemical and additive information

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

☐ Algaecides/biocides ☐ Antifoams ☐ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ☐ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ■ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ■ Other; if so, specify:
THE SITE CONTRACTOR HAS NOT YET SUBMITTED THEIR CONSTRUCTION DEWATERING SUBMITTAL WHICH WILL INCLUDE DETAILS OF THE PROPOSED

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

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

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

G. Endangered Species Act eligibility determination

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

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

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

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

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

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

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

H. National Historic Preservation Act eligibility determination

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

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

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

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

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

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

I. Supplemental information

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

Refer to attached Haley & Aldrich, Inc. letter

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

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

J. Certification requirement

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

BMPP certification statement:	A BMPP MEETING THE REQUIREMENTS OF THIS GENERAL PERMIT WILL BE DEVELOPED AND IMPLEMENTED UPON INITIATION OF DISCHARGE.
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ☐ No ■
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ☐
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ☐ No ■ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☐ No ☐ NA ■
Signature:	Date:
Print Name and Title:	

APPENDIX B

Boston Water and Sewer Commission (BWSC)
Dewatering Discharge Permit Application

Haley & Aldrich, Inc.
465 Medford St.
Suite 2200
Boston, MA 02129
617.886.7400

17 October 2019
File No. 134090-003

Boston Water and Sewer Commission
Engineering Customer Services
980 Harrison Avenue
Boston, Massachusetts 02119

Attention: Matthew Tuttle

Subject: Request for Approval of Temporary Construction Dewatering
105 West First Street Development
South Boston, Massachusetts

Dear Mr. Tuttle:

On behalf of our client, Tishman Speyer Worldwide, LLC, c/o Tishman Speyer, this letter submits the Boston Water and Sewer Commission (BWSC) Dewatering Discharge Permit Application in support of the proposed 105 West First Street development in South Boston, Massachusetts.

Dewatering is necessary to enable construction in-the-dry and is anticipated to begin in January 2020 and continue for approximately nine (9) months. Prior to discharge, collected water will be routed through at minimum a sedimentation tank and bag filters with pH control to remove suspended solids and undissolved chemical constituents and adjust the pH to within the limits established by the permit. Other pretreatment may be conducted as necessary to comply with National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) effluent limitations. The proposed dewatering discharge route and BWSC outfall location are shown on Figures 4A through 4D of the submitted NPDES RGP Notice of Intent (NOI), attached for reference and currently under review by the U.S. Environmental Protection Agency (EPA) under the NPDES RGP.

If you have any questions, please feel free to contact the undersigned at 617-886-7400.

Sincerely yours,
HALEY & ALDRICH, INC.

Jonathan M. Thibault
Technical Specialist

Cole E. Worthy III, LSP
Senior Associate

Attachments:
BWSC Dewatering Discharge Permit Application
Copy of NPDES RGP NOI 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: TISHMAN SPEYER WORLDWIDE, LLC C/O TISHMAN SPEYER Address: 1875 EYE STREET, NW SUITE 1200, WASHINGTON, DC 20006

Phone Number: (202) 420-2123 Fax number: _____

Contact person name: RUSTOM COWASJEE Title: MANAGING DIRECTOR

Cell number: (540) 222-3027 Email address: RCOWASJEE@TISHMANSPEYER.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: 105 WEST FIRST STREET Neighborhood SOUTH BOSTON

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

Describe Proposed Pre-Treatment System(s): SEDIMENTATION TANK, BAG FILTERS, pH CONTROL AND OTHER COMPONENTS AS NECESSARY (REFER TO ATTACHED NPDES RGP NOI APPLICATION)

BWSC Outfall No. CSO 072 Receiving Waters FORT POINT CHANNEL (BOSTON INNER HARBOR)

Temporary Discharges (Provide Anticipated Dates of Discharge): From JANUARY 2020 To OCTOBER 2020

☐ 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: 10/15/19

APPENDIX C

Effluent Limit Calculations

Enter number values in green boxes below

Enter values in the units specified

↓

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

Enter a dilution factor, if other than zero

↓

0

Enter values in the units specified

↓

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

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

↓

7.8	pH in **Standard Units**
16.2	Temperature in **°C**
0	Ammonia in **mg/L**
0	Hardness in **mg/L** $CaCO_3$
28	Salinity in **ppt**
0	Antimony in **µg/L**
0	Arsenic in **µg/L**
0	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
0	Copper in **µg/L**
0	Iron in **µg/L**
0	Lead in **µg/L**
0	Mercury in **µg/L**
0	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
0	Zinc in **µg/L**

Enter **influent** concentrations in the units specified

↓

0	TRC in **µg/L**
1.02	Ammonia in **mg/L**
0	Antimony in **µg/L**
4.01	Arsenic in **µg/L**
0.21	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
10.5	Copper in **µg/L**
5300	Iron in **µg/L**
7.12	Lead in **µg/L**
0	Mercury in **µg/L**
9.06	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
72.79	Zinc in **µg/L**
0	Cyanide in **µg/L**
0	Phenol in **µg/L**
0	Carbon Tetrachloride in **µg/L**
0	Tetrachloroethylene in **µg/L**
0	Total Phthalates in **µg/L**
0	Diethylhexylphthalate in **µg/L**
0	Benzo(a)anthracene in **µg/L**
0	Benzo(a)pyrene in **µg/L**
0	Benzo(b)fluoranthene in **µg/L**
0	Benzo(k)fluoranthene in **µg/L**
0	Chrysene in **µg/L**
0	Dibenzo(a,h)anthracene in **µg/L**
0	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

Notes:

Freshwater: Q_R equal to the 7Q10; enter alternate Q_R if approved by the State; enter 0 if no dilution factor approved

Saltwater (estuarine and marine): enter Q_R if approved by the State; enter 0 if no entry

Discharge flow is equal to the design flow or 1 MGD, whichever is less

Only if approved by State as the entry for Q_R; leave 0 if no entry

Saltwater (estuarine and marine): only if approved by the State

Leave 0 if no entry

Freshwater only

pH, temperature, and ammonia required for all discharges

Hardness required for freshwater

Salinity required for saltwater (estuarine and marine)

Metals required for all discharges if present and if dilution factor is > 1

Enter 0 if non-detect or testing not required

if >1 sample, enter maximum

if >10 samples, may enter 95th percentile

Enter 0 if non-detect or testing not required

Dilution Factor	0.0					
A. Inorganics	TBEL applies if bolded		WQBEL applies if bolded		Compliance Level applies if shown	
Ammonia	**Report**	mg/L	---			
Chloride	**Report**	µg/L	---			
Total Residual Chlorine	0.2	mg/L	**7.5**	µg/L	50	µg/L
Total Suspended Solids	**30**	mg/L	---			
Antimony	**206**	µg/L	640	µg/L		
Arsenic	**104**	µg/L	36	µg/L		
Cadmium	**10.2**	µg/L	8.9	µg/L		
Chromium III	**323**	µg/L	100.0	µg/L		
Chromium VI	**323**	µg/L	50	µg/L		
Copper	242	µg/L	**3.7**	µg/L		
Iron	**5000**	µg/L	---	µg/L		
Lead	**160**	µg/L	8.5	µg/L		
Mercury	**0.739**	µg/L	1.11	µg/L		
Nickel	1450	µg/L	**8.3**	µg/L		
Selenium	**235.8**	µg/L	71	µg/L		
Silver	**35.1**	µg/L	2.2	µg/L		
Zinc	**420**	µg/L	86	µg/L		
Cyanide	**178**	mg/L	1.0	µg/L	---	µg/L
B. Non-Halogenated VOCs						
Total BTEX	**100**	µg/L	---			
Benzene	**5.0**	µg/L	---			
1,4 Dioxane	**200**	µg/L	---			
Acetone	**7.97**	mg/L	---			
Phenol	**1,080**	µg/L	300	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	**4.4**		1.6	µg/L		
1,2 Dichlorobenzene	**600**	µg/L	---			
1,3 Dichlorobenzene	**320**	µg/L	---			
1,4 Dichlorobenzene	**5.0**	µg/L	---			
Total dichlorobenzene	**---**	µg/L	---			
1,1 Dichloroethane	**70**	µg/L	---			
1,2 Dichloroethane	**5.0**	µg/L	---			
1,1 Dichloroethylene	**3.2**	µg/L	---			
Ethylene Dibromide	**0.05**	µg/L	---			
Methylene Chloride	**4.6**	µg/L	---			
1,1,1 Trichloroethane	**200**	µg/L	---			
1,1,2 Trichloroethane	**5.0**	µg/L	---			
Trichloroethylene	**5.0**	µg/L	---			
Tetrachloroethylene	**5.0**	µg/L	3.3	µg/L		
cis-1,2 Dichloroethylene	**70**	µg/L	---			
Vinyl Chloride	**2.0**	µg/L	---			
D. Non-Halogenated SVOCs						
Total Phthalates	**190**	µg/L	---	µg/L		
Diethylhexyl phthalate	**101**	µg/L	2.2	µg/L		
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---			
Benzo(a)anthracene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(a)pyrene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Chrysene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---			
Naphthalene	**20**	µg/L	---			
E. Halogenated SVOCs						
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---		0.5	µg/L
Pentachlorophenol	**1.0**	µg/L	---			
F. Fuels Parameters						
Total Petroleum Hydrocarbons	**5.0**	mg/L	---			
Ethanol	**Report**	mg/L	---			
Methyl-tert-Butyl Ether	**70**	µg/L	20	µg/L		
tert-Butyl Alcohol	**120**	µg/L	---			
tert-Amyl Methyl Ether	**90**	µg/L	---			

APPENDIX D

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: October 08, 2019
Consultation Code: 05E1NE00-2020-SLI-0058
Event Code: 05E1NE00-2020-E-00181
Project Name: 105 West First Street Project Site

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2020-SLI-0058

Event Code: 05E1NE00-2020-E-00181

Project Name: 105 West First Street Project Site

Project Type: DEVELOPMENT

Project Description: The project site is located at 105 West First Street in South Boston, Massachusetts. The site consists of two parcels of land, totaling approximately 42,100 sf, and is currently occupied by a two-story building that will be demolished prior to construction of a new 8-story building with one level of below-grade space. Construction is anticipated to take place in 2020. Temporary construction dewatering will be necessary to complete below-grade construction activities in-the-dry.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.342911923470666N71.0530390302385W

Counties: Suffolk, MA

Endangered Species Act Species

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

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

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

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

---

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

Critical habitats

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

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

105 West First Street Project Site

LOCATION

Suffolk County, Massachusetts

DESCRIPTION

The project site is located at 105 West First Street in South Boston, Massachusetts. The site consists of two parcels of land, totaling approximately 42,100 sf, and is currently occupied by a two-story building that will be demolished prior to construction of a new 8-story building with one level of below-grade space. Construction is anticipated to take place in 2020. Temporary construction dewatering will be necessary to complete below-grade construction activities in-the-dry.

Local office

New England Ecological Services Field Office

(603) 223-2541
(603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

http://www.fws.gov/newengland

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

THERE ARE NO ENDANGERED SPECIES EXPECTED TO OCCUR AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
American Oystercatcher *Haematopus palliatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Dunlin *Calidris alpina arcticola* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere

Hudsonian Godwit Limosa haemastica — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Least Tern Sterna antillarum — Breeds Apr 20 to Sep 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Nelson's Sparrow Ammodramus nelsoni — Breeds May 15 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler Dendroica discolor — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Purple Sandpiper Calidris maritima — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-throated Loon Gavia stellata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Ruddy Turnstone Arenaria interpres morinella — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Rusty Blackbird Euphagus carolinus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Semipalmated Sandpiper Calidris pusilla — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Snowy Owl Bubo scandiacus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Whimbrel Numenius phaeopus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9483

Willet Tringa semipalmata — Breeds Apr 20 to Aug 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

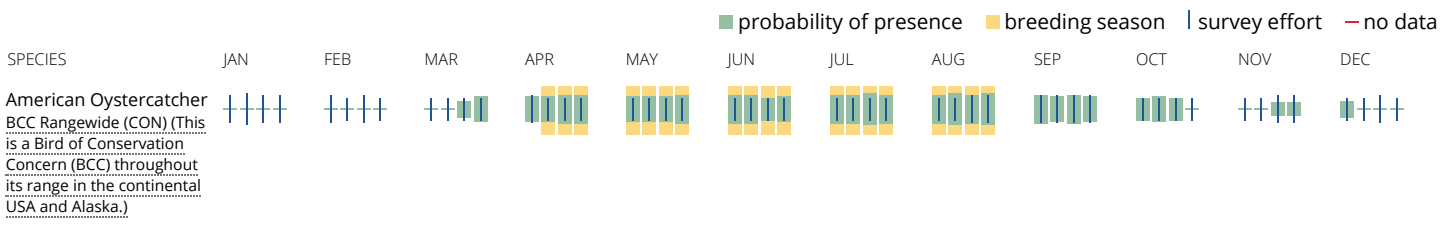
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

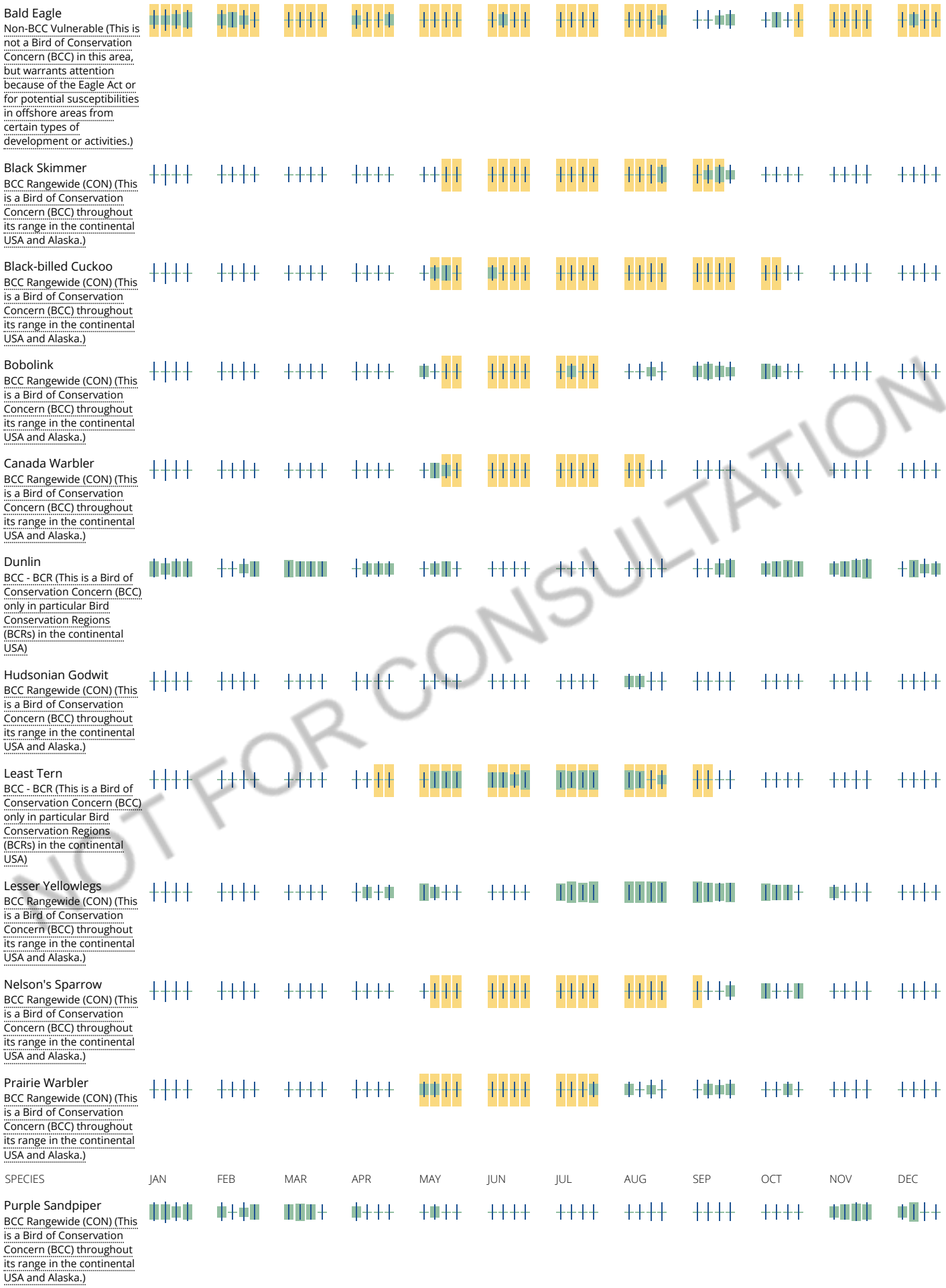
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

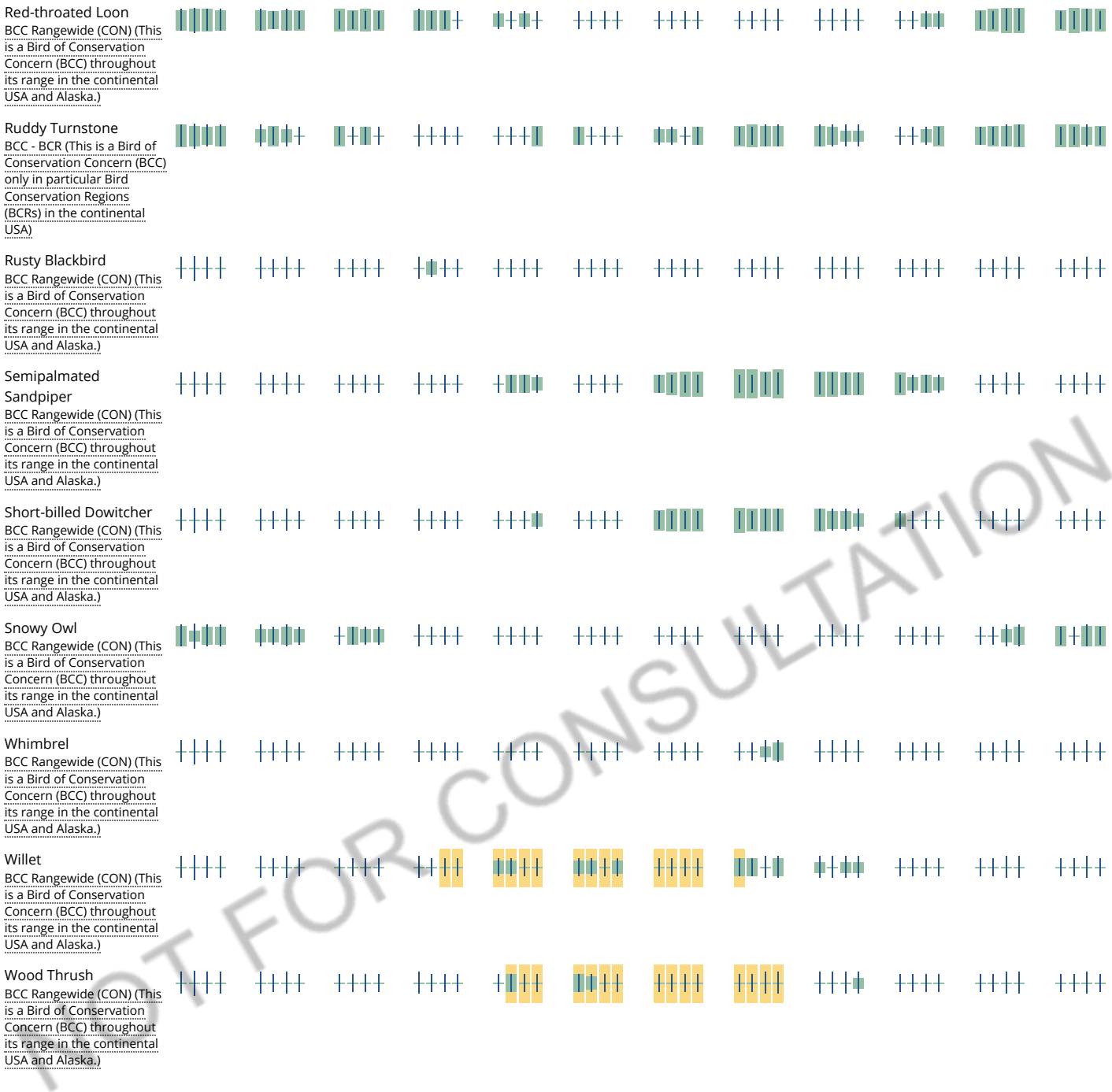
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.







Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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: October 08, 2019
Consultation Code: 05E1NE00-2020-SLI-0059
Event Code: 05E1NE00-2020-E-00183
Project Name: 105 West First Street Discharge Location

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2020-SLI-0059

Event Code: 05E1NE00-2020-E-00183

Project Name: 105 West First Street Discharge Location

Project Type: DEVELOPMENT

Project Description: Discharge location of temporary construction dewatering activities associated with 105 West First Street project.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.345593188297734N71.05724453806823W

Counties: Suffolk, MA

Endangered Species Act Species

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

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

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

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

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

Critical habitats

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

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

105 West First Street Discharge Location

LOCATION

Suffolk County, Massachusetts

DESCRIPTION

Discharge location of temporary construction dewatering activities associated with 105 West First Street project.

Local office

New England Ecological Services Field Office

(603) 223-2541
(603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

http://www.fws.gov/newengland

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

THERE ARE NO ENDANGERED SPECIES EXPECTED TO OCCUR AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
American Oystercatcher *Haematopus palliatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Buff-breasted Sandpiper *Calidris subruficollis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9488	Breeds elsewhere
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Dunlin *Calidris alpina arcticola* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere

King Rail Rallus elegans — Breeds May 1 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8936

Least Tern Sterna antillarum — Breeds Apr 20 to Sep 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Long-eared Owl asio otus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3631

Nelson's Sparrow Ammodramus nelsoni — Breeds May 15 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler Dendroica discolor — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Purple Sandpiper Calidris maritima — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-throated Loon Gavia stellata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Ruddy Turnstone Arenaria interpres morinella — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Rusty Blackbird Euphagus carolinus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Seaside Sparrow Ammodramus maritimus — Breeds May 10 to Aug 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Semipalmated Sandpiper Calidris pusilla — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Snowy Owl Bubo scandiacus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

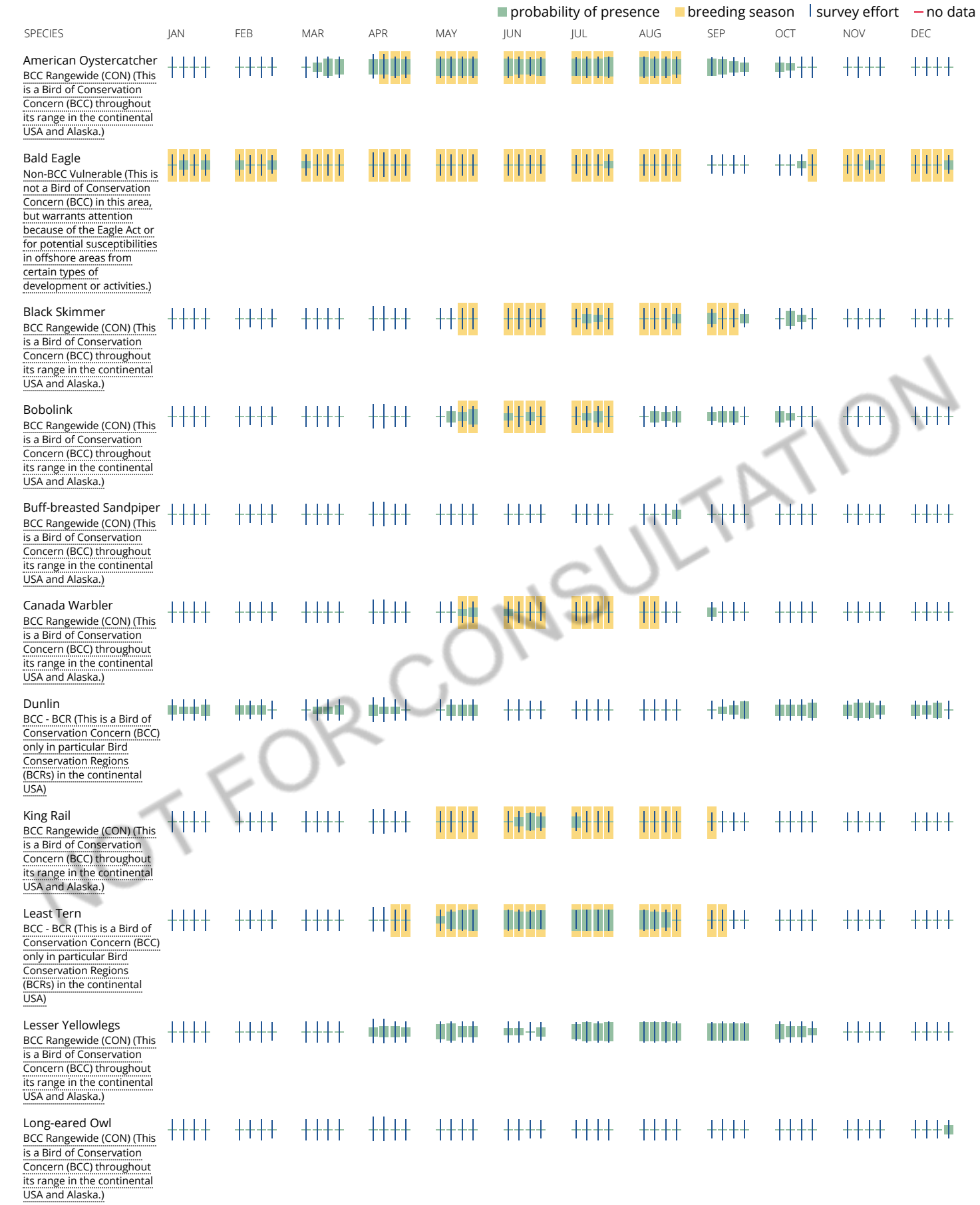
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

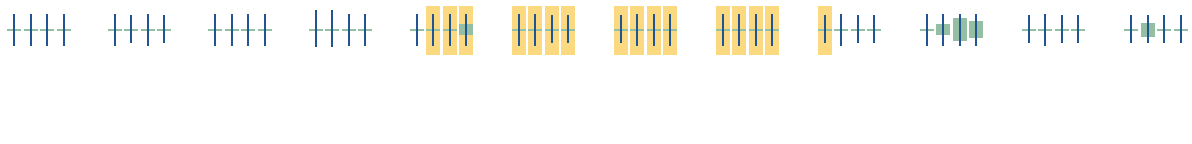
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

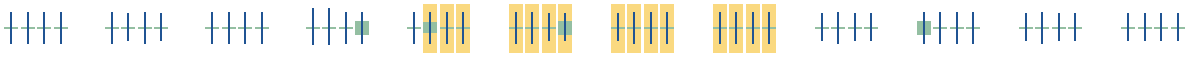
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Nelson's Sparrow BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Prairie Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Purple Sandpiper BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Red-throated Loon BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Ruddy Turnstone BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)												
Rusty Blackbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Seaside Sparrow BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Semipalmated Sandpiper BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Short-billed Dowitcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Snowy Owl BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Whimbrel BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Willet BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												

Wood Thrush
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

ESTUARINE AND MARINE DEEPWATER

E1UBLx

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

GARFO Master ESA Species Table - Marine Mammals

Species	Region	Offshore distribution	Nearshore areas of importance	Likely Presence	Life Stages Present	Behaviors Anticipated to Occur
North Atlantic right whale	Northeast (ME to Cape Cod, MA)	throughout continental shelf and slope waters	Cape Cod Bay, Massachusetts Bay, Great South Channel, western Gulf of Maine, Georges Bank, Jordan Basin, Wilkinson Basin, Jeffreys Ledge, Cashes Ledge	Year round	Adults and juveniles	**Foraging -** Cape Cod Bay (January-April), Massachusetts Bay (January-April), Great South Channel (April-June), the western Gulf of Maine (April-May and July-October), the northern edge of Georges Bank (May-July), Jordan Basin (August-October), and Wilkinson Basin (April-July) **Wintering -** Increasing evidence of wintering areas (approximately November-January) in Cape Cod Bay, Jeffreys and Cashes Ledge, Jordan Basin, and Massachusetts Bay (e.g., Stellwagen Bank)
	Mid-Atlantic (Cape Cod, MA to VA)	throughout continental shelf and slope waters	possibly waters off New Jersey and Virginia	Year round	Adults and juveniles	**Migration** - Migratory pathway to/from northern (high latitude) foraging and southern calving grounds (primarily November-April)
Fin whale	Northeast (ME to Cape Cod, MA)	throughout continental shelf and slope waters	Massachusetts Bay, Stellwagen Bank, Great South Channel, east of Cape Cod, western Gulf of Maine, eastern perimeter of Georges Bank	Year round	Adults and juveniles	**Foraging** - Greatest densities from March-August; lower densities from September-November; important foraging grounds include Massachusetts Bay (especially Stellwagen Bank), Great South Channel, waters off Cape Cod (~40-50 meter contour), the western Gulf of Maine (especially Jeffreys Ledge), and the eastern perimenter of Georges Bank **Wintering** - Evidence of wintering areas in Stellwagen Bank and eastern perimeter of Georges Bank
	Mid-Atlantic (Cape Cod, MA to VA)	throughout continental shelf and slope waters	east end of Long Island, mid-shelf east of New Jersey	Year round	Adults and juveniles	**Foraging** - Year round in the mid-shelf area off the east end of Long Island **Migration** - Migratory pathway to/from northern (high latitude) foraging and southern (low latitude) calving grounds **Wintering** - Evidence of wintering areas in mid-shelf areas east of New Jersey **Calving** - Possible offshore calving area (October-January)

Sei whale	Northeast (ME to Cape Cod, MA)	continental shelf edge/slope waters with depths greater than 200 meters	none	Year round	Adults and juveniles	**Foraging** - Spring through summer, found in greatest densities in offshore waters of the Gulf of Maine and Georges Bank (eastern margin into the Northeast Channel area; along the southwestern edge in the area of Hydrographer Canyon); prefer continental shelf edge/slope waters (i.e., >200 meters), although incursions into continental shelf waters do occur seasonally or sporadically during periods of high prey abundance; generally feed on copepods and can often be found in areas where right whales are also found foraging, typically a bit further offshore than Cape Cod Bay **Migration** - The population is believed to migrate from south of Cape Cod and along the coast of eastern Canada in June-July, and return on a southward migration again in September-October
Sperm whale	Northeast and Mid-Atlantic (ME to VA)	areas with depths greater than 600 meters, and are relatively uncommon in waters less than 300 meters deep	none	Year round	Adults and juveniles	**Foraging** - In winter, concentrated east and northeast of Cape Hatteras; in spring, the center of distribution shifts northward to east of Delaware and Virginia, and is widespread throughout the central portion of the Mid-Atlantic Bight and the southern portion of Georges Bank; in summer, the distribution is similar but also includes the area east and north of Georges Bank and into the Northeast Channel region, as well as the continental shelf (inshore of the 100 meter isobath) south of New England; in fall, occurrence south of New England on the continental shelf is at its highest level, and there remains a continental shelf edge occurrence in the Mid-Atlantic Bight **Migration** - In some mid-latitudes, there seems to be a general trend to migrate north and south depending on the seasons (they move poleward in the summer); in temperate areas, there appears to be no obvious seasonal migration

Blue whale	Northeast and Mid-Atlantic (ME to VA)	continental shelf edge/slope waters with depths greater than 200 meters	none	Year round	Adults and juveniles	**Foraging** - Off the U.S. Northeast and Mid-Atlantic coasts, they are most common during the summer and fall feeding seasons and typically leave by early winter; although they are rare in continental shelf waters, blue whales are occasionally seen off Cape Cod; best considered an occasional visitor in U.S. Atlantic waters, which may represent the southern limit of its feeding range **Migration** - Migrate seasonally between summer and winter, but some evidence suggests that individuals remain in certain areas year round; information about movements varies with location, and migratory routes are not well known

Species	Listing Rule	Recovery Plan
North Atlantic right whale	73 FR 12024; March 6, 2008	NMFS 2005
Fin whale	35 FR 18319; December 2, 1970	NMFS 2010a
Sei whale	35 FR 18319; December 2, 1970	NMFS 2011
Sperm whale	35 FR 18319; December 2, 1970	NMFS 2010b
Blue whale	35 FR 18319; December 2, 1970	NMFS 1998

References: CETAP 1982; Watkins and Schevill 1982; Payne 1984; Kenney et al. 1986, 1995; Schevill et al. 1986; Winn et al. 1986; Wenzel et al. 1988; Hamilton and Mayo 1990; Payne et al.1990; Hain et al. 1992; Brown et al. 2002; McClellan et al. 2004; Good 2008; NOAA 2008; Baumgartner et al. 2011; Cole et al. 2013; Khan et al. 2013, 2014, 2016; Waring et al. 2016; 81 FR 4837, January 27, 2016; 50 CFR 224.105.

GARFO Master ESA Species Table - Sea Turtles

General distribution: Four species (loggerhead, green, Kemp's ridley, and leatherback) found throughout continental shelf and slope waters of the Northwest Atlantic Ocean; tropical to boreal waters, preferred temperatures greater than 10°C; northward and inshore movement into waters of the Greater Atlantic Region begins in the spring, with turtles arriving into Mid-Atlantic waters in mid-April/May and into Gulf of Maine waters in June; in the fall, this trend is reversed with most turtles leaving the region's waters by the end of November; outside of these times, sea turtle presence in the region's waters is considered unlikely aside from cold-stunned individuals that fail to migrate south (see below); a fifth species (hawksbill) is considered extremely rare in the region based on only a few documented occurrences and its affinity for tropical waters and coral reef type habitats

Disclaimer: the best available information on the presence of sea turtles in the Greater Atlantic Region is presented below; coastal/inshore areas of regular occurrence highlighted below are ones where we have information specific to sea turtle use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on turtles; however, they may occur in other coastal/inshore areas within this region for which we do not currently have specific information; for nesting individuals, the U.S. Fish and Wildlife Service has jurisdiction over sea turtles when they are on land

State	Coastal / Inshore Areas of Regular Occurrence	Likely Presence	Life Stages Present	Behaviors Anticipated to Occur
ME/NH and MA (north of Cape Cod)	Cape Cod Bay	June to October/November (note: cold stunning of hard-shelled sea turtles occurs annually from October to January)	Loggerhead (Northwest Atlantic DPS) - Pelagic and benthic juveniles, subadults, and adults Green (North Atlantic DPS) - Juveniles and adults Kemp's ridley - Juveniles only Leatherback - Juveniles and adults	**Foraging** Loggerhead (Northwest Atlantic DPS) - Pelagic and benthic juveniles - omnivorous on bottom and surface - Sub-adults and adults - benthic invertebrates along the coast Green (North Atlantic DPS) - Juveniles - Omnivorous along coasts and in protected bays and lagoons - Adults - Herbivorous in nearshore areas Kemp's ridley - Juveniles - Benthic invertebrates in protected coastal areas Leatherback - Juveniles and adults - Primarily prey on jellyfish in offshore oceanic or coastal neritic areas **Nesting** North of North Carolina, sea turtle nesting is rare (there is occasional loggerhead nesting in Virginia, but no established nesting beaches further north)
MA (south of Cape Cod)	Buzzards Bay, Nantucket and Vineyard Sounds	May to November (note: cold stunning of hard-shelled sea turtles occurs annually from October to January)		
RI	Narragansett Bay and Block Island Sound			
CT/NY	Long Island Sound and associated bays/estuaries (e.g., Peconic Bay)			
NY/NJ	Coastal waters off the New York Harbor Complex (e.g., Raritan and Sandy Hook Bays)			
NJ/DE	Delaware Bay and other back bays (e.g., Barnegat Bay)			
DE/MD/VA	Coastal waters off Virginia Beach, coastal waters and back bays of the DelMarVa Peninsula, Chesapeake Bay, Tangier Sound, and lower portions of southern Chesapeake Bay tributaries (e.g., James, York, Rappahannock, and Potomac Rivers)			

GARFO Master ESA Species Table - Sea Turtles

Loggerhead (Northwest Atlantic DPS)	**Listing rule**: 76 FR 58868, September 22, 2011;**Recovery plan**: NMFS and USFWS 2008; **Additional references**: Shoop and Kenney 1992; Epperly et al. 1995a, 1995b, 1995c; Braun-McNeill and Epperly 2004; Morreale and Standora 2005; Braun-McNeill et al. 2008; Conant et al. 2009; Mansfield et al. 2009; NMFS NEFSC 2011; Griffin et al. 2013
Green (North Atlantic DPS)	**Listing rule**: 81 FR 20057, April 6, 2016;**Recovery plan**: NMFS and USFWS 1991; **Additional references**: Lahanas et al. 1994; Wynne and Schwartz 1999; Ruiz-Urquiola et al. 2010; Seminoff et al. 2015
Kemp's ridley	**Listing rule**: 35 FR 18319, December 2, 1970;**Recovery plan**: NMFS et al. 2011; **Additional references**: TEWG 2000; Morreale et al. 2007; NMFS and USFWS 2015
Leatherback	**Listing rule**: 35 FR 8491, June 2, 1970;**Recovery plan**: NMFS and USFWS 1992; **Additional references**: Bjorndal 1997; TEWG 2007; Fossette et al. 2008; Dodge et al. 2011; NMFS and USFWS 2013
Hawksbill	**Listing rule**: 35 FR 18319, December 2, 1970;**Recovery plan**: NMFS and USFWS 1992; **Additional references**: NMFS and USFWS 2013

General distribution: Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Hamilton Inlet, Labrador, Canada, to Cape Canaveral, Florida; only subadult and adult lifestages occur in marine waters, where they are typically found in waters 5-50 meters in depth (Stein et al. 2004; ASMFC TC 2007); subadults and adults may travel long distances in marine waters, aggregate in both ocean and estuarine areas at certain times of the year, and exhibit seasonal coastal movements in the spring and fall; distribution in rivers and inshore bays typically occurs from the estuary or river mouth generally up to the first impassible barrier (e.g., a dam or falls); Atlantic sturgeon generally use the deepest habitats available to them in rivers, but they have also been collected over shallow (2.5 meters), tidally influenced flats and substrates ranging from mud to sand and mixed rubble and cobble (Savoy and Pacileo 2003)

Disclaimer: the best available information on Atlantic sturgeon presence within coastal rivers, estuaries, and bays of the Greater Atlantic Region is presented below; waterbodies highlighted below are ones where we have information specific to Atlantic sturgeon use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on Atlantic sturgeon; however, they may occur in other watersheds within this range for which we do not currently have specific information; note: individuals from any of the five listed DPSs (Gulf of Maine, New York Bight, Chesapeake Bay, Carolina, and South Atlantic) may occur in any of the areas identified throughout the species' range; a description of Atlantic sturgeon life history stages are included at the end of the table below

Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Cobscook Bay/St. Croix River (ME)	Up to the Milltown Dam at Calais, ME (RKM 16)	subadults and adults	**Foraging** - assumed to occur wherever suitable forage is present[1]	[1] Zydlewski (UMaine) pers. comm., September 21, 2015
Penobscot River (ME)	Up to the Milford Dam (RKM 62)	subadults and adults (potentially eggs, larvae, YOY, and juveniles)	**Spawning** - undocumented, but 12 km of suitable spawning habitat is accessible[2] **Foraging -** wherever suitable forage is present, documented in the lower river (RKM 21-24.5)[1]	[1] Fernandes et al. 2010; [2] Wippelhauser et al. 2017
Damariscotta River (ME)	Up to Damariscotta Lake Dam (RKM 30.3)	subadults and adults	**Foraging** - assumed to occur wherever suitable forage is present; tag detections indicate that usage of the river is for short periods during coastal migrations[1]	[1] Picard and Zydlewski 2014
Sheepscot River (ME)	Up to the head-of-tide dam (RKM 35)	subadults and adults	**Foraging** - assumed to occur wherever suitable forage is present; may occur in Montsweag Bay as shortnose sturgeon foraging has been documented there[1]; subadults have been captured in the river[2]	[1] Fried and McCleave 1973; [2] ASSRT 2007
Kennebec River (ME)	Up to the Lockwood Dam (RKM 102), also includes the entirety of the Back and Sasanoa Rivers	eggs, larvae, YOY, juveniles, subadults, and adults	**Spawning** - May-August[4]; documented via captures of spawning condition adults and larvae (RKM 52.8-76)[1][4]; potentially occurs as far upstream as the Lockwood Dam in the restored spawning habitat (RKM 87-102)[4] **Rearing -** ELS have been documented near the spawning grounds[4]; juveniles have also been documented in the river[3] **Foraging** - assumed to occur wherever suitable forage is present (documented from RKM 0-42)[4]; also documented in the Sasanoa and Back Rivers[2][3]	[1] Wippelhauser 2011; [2] Wippelhauser 2012; [3] Wippelhauser and Squiers 2015; [4] Wippelhauser et al. 2017

Androscoggin River (ME)	Up to the Brunswick Dam (RKM 8.4)	eggs, larvae, YOY, juveniles, subadults, and adults	**Spawning** - May-August[2]; capture of a ripe male[2] in the summer below the Brunswick Dam (RKM 7.7-8.4)[1] indicates that spawning is likely occurring **Rearing** - Juveniles likely present throughout the river year-round **Foraging** - assumed to occur wherever suitable forage is present	[1] Wippelhauser and Squiers 2015; [2] Wippelhauser et al. 2017
Presumpscot River (ME)	Up to Presumpscot Falls (RKM 3)	subadults and adults	**Foraging** - assumed to occur wherever suitable forage is present; an Atlantic sturgeon was caught below Presumpscot Falls[1]	[1] Yoder et al. 2009
Scarborough River (ME)	Throughout the entire river	subadults and adults	**Foraging** - assumed to occur wherever suitable forage is present[1]	[1] Wippelhauser et al. 2017
Saco River (ME)	Up to Cataract Dam (RKM 10)	juveniles, subadults, and adults	**Foraging** - assumed to occur wherever suitable forage is present[1]	[1] Novak et al. 2017
Piscataqua River Watershed including Salmon Falls and Cocheco tributaries (NH)	Up to the confluence with the Salmon Falls and Cocheco Rivers (RKM 15) and including Great Bay; Salmon Falls River – up to the Route 4/South Berswick Dam (RKM 7); Cocheco River – up to the Cocheco Falls Dam (RKM 6)	subadults and adults (eggs, larvae, YOY, and juveniles possible)	**Spawning** - potentially occurs in the Salmon Falls and Cocheco rivers based on the presence of features necessary to support reproduction and recruitment as well as the capture of an adult female Atlantic sturgeon in spawning condition in 1990[1][3] **Rearing** - Juveniles potentially present throughout the river year-round **Foraging** - used seasonally for foraging and resting during spring and fall migrations; tagging data indicates that use by individual sturgeon is limited to days or weeks[2]	[1] ASSRT 2007; [2] Kieffer and Trefry 2017 pers. comm.; [3] NMFS 2017
Merrimack River (MA)	Up to the Essex Dam (RKM 46); often found around the lower islands reach (RKM 3-12) and the mouth of the river	subadults and adults (potentially eggs, larvae, YOY, and juveniles)	**Spawning** - potentially occurs due to the presence of features necessary to support reproduction and recruitment[4] **Rearing** - data suggests it is used as a nursery area for juveniles[3] **Foraging** - mouth of the river and the lower islands area (RKM 0-12); subadults use RKM 7-12[1][2]	[1] Kieffer and Kynard 1993; [2] Kynard et al. 2000; [3] ASSRT 2007; [4] NMFS 2017
Charles River (MA)	Up to Charles River Locks (RKM 5.5)	subadults and adults	**Foraging** - assumed to occur wherever suitable forage is present[1]	[1] Boston.com February 20, 2012 (http://archive.boston.com/news/science/articles/2012/02/20/from_depths_of_the_charles_an_ancient_species/)
North River (MA)	Up to Dam #1 on the Indian Head Reservoir at Luddam's Ford (RKM 21)	subadults and adults	**Foraging** - assumed to occur wherever suitable forage is present; an adult was found in the North River, 4 miles from the mouth in 2012[1]	[1] The Patriot Ledger June 1, 2012 (http://www.patriotledger.com/article/20120601/NEWS/306019786)
Taunton River (MA)	Up to the convergence of the Town River and Matfield River	subadults and adults	**Foraging** - assumed to occur wherever suitable forage is present[1][2]	[1] Buerkett and Kynard 1993; [2] ASSRT 2007

Narragansett Bay (RI)	Throughout the bay	subadults and adults	**Foraging** - assumed to occur wherever suitable forage is present[1]	[1] ASSRT 2007
Thames River (CT)	Up to the Yantic Dam in the Yantic River and up to the Greenville Dam in the Shetucket River	subadults and adults	**Foraging** - assumed to occur wherever suitable forage is present[1][2][3]	[1] Whitworth 1996; [2] ASSRT 2007; [3] The Day June 17, 2016 (http://www.theday.com/article/20160617/NWS01/160619212)
Connecticut River (CT/MA)	Up to the Holyoke Dam (RKM 140); mainly stay in the summer range of the salt wedge (RKM 0-26)	eggs, larvae, YOY, juveniles, subadults, and adults	**Spawning/Rearing** - captures of pre-migratory juvenile sturgeon in the river strongly suggests that spawning is occurring in this river[3] **Foraging** - assumed to occur wherever suitable forage is present[1][2]	[1] Savoy and Shake 1993; [2] Savoy and Pacileo 2003; [3] Savoy et al. 2017
Quinnipiac River (CT)	Up to bridge at Quinnipiac Street and River Road in Wallingford (RKM 27)	subadults and adults	**Foraging** - assumed to occur wherever suitable forage is present[1]	[1] Hartford Courant September 30, 1994 (http://articles.courant.com/1994-09-30/news/9409300111_1_sturgeon-fish-story-giant-fish)
Housatonic River (CT)	Up to the Derby Dam (RKM 23.5)	subadults and adults (potentially eggs, larvae, YOY, and juveniles)	**Spawning** - not documented; potentially occurs due to the presence of features necessary to support reproduction and recruitment[3] **Foraging** - assumed to occur wherever suitable forage is present[1][2]	[1] Whitworth 1996; [2] ASSRT 2007; [3] NMFS 2017
Long Island Sound (NY/CT)	All of Long Island Sound	subadults and adults	**Foraging** - where suitable forage is present; 85% of Atlantic sturgeon caught in Long Island Sound are over mud/transitional bottoms of 27-37 meters deep in the central basin[1]	[1] Savoy and Pacileo 2003
East River (NY)	full length of the East River	subadults and adults	**Migration** - subadults and adults have been documented using this waterbody to move between the Hudson River and western Long Island Sound[1][2] **Foraging** - assumed to occur wherever suitable forage is present, but forage is limited[1][2]	[1] Savoy and Pacileo 2003; [2] Tomichek et al. 2014

Hudson River (NY/NJ)	up to the Troy Dam (approximately RKM 246)	eggs, larvae, YOY, juveniles, subadults, and adults	**Spawning** - late April through August[1][6], notably around Hyde Park (RKM 129-135) [4] and Catskill (RKM 182)[2], as well as throughout RKM 113-184[4]; evidence strongly suggests that there is also spawning further upstream of RKM 193[6] **Rearing** - larvae and YOY - RKM 60-148[1] [3]; remain upstream of the salt wedge[2]; juveniles - RKM 63-140[1][3]; utilize the estuary up through Kingston (RKM 148)[1]; Newburgh and Haverstraw Bays (RKM 55-61) are areas of known juvenile concentrations[5] **Foraging** - assumed to occur wherever suitable forage is present **Overwintering** - juveniles - RKM 19-74 from fall through winter[1]; some juveniles were recorded in Esopus Meadows (RKM 134)[3]	[1] Dovel and Berggren 1983; [2] Van Eenennaam et al. 1996; [3] Bain 1997; [4] Bain et al. 1998; [5] Sweka et al. 2006; [6] Dewayne Fox, DSU, and Kathy Hattala, NYDEC, personal communication April 2014
Delaware River (NJ/DE/PA)	Up to the fall line near Trenton, NJ (RKM 211)	eggs, larvae, YOY, juveniles, subadults, and adults	**Spawning** - documented and/or potential spawning habitat in April through July from the Marcus Hook Bar to the fall line at Trenton, NJ (RKM 125-211)[2][3][5] **Rearing** - YOY/juveniles - Deepwater to Roebling, NJ (RKM 105-199)[4] with most of the detections in the Marcus Hook Area (RKM 127-129)[7] **Foraging** - where suitable forage and appropriate habitat conditions are present **Overwintering** - juveniles - move between lower (RKM 100-150) and upper (RKM 185-199) tidal areas[6]; may overwinter in tidal fresh water[1]	[1] Lazzari et al. 1986; [2] Simpson and Fox 2006; [3] Simpson 2008; [4] Calvo et al. 2010; [5] Breece et al. 2013; [6] Stetzar et al. 2015; [7] Hale et al. 2016
C&D Canal (DE/MD)	Used at least occasionally to move from Chesapeake Bay to the Delaware River	juveniles, subadults, and adults	**Foraging** - Assumed to occur in areas with suitable forage [1][2]	[1] Simpson 2008; [2] Brundage and O'Herron 2009
Chesapeake Bay (MD/VA)	Throughout the bay typically in spring through fall	juveniles, subadults, and adults	**Migration** - April-November for adults[5] and subadults[1]; year round for juveniles[2] [3]; these lifestages wander among coastal and estuarine habitats[5] **Foraging** - typically in areas where suitable forage and appropriate habitat conditions are present; typically tidally influenced flats and mud, sand and mixed cobble substrates[4]	[1] Dovel and Berggren 1983; [2] Secor et al. 2000; [3] Welsh et al. 2002; [4] Stein et al. 2004; [5] Horne and Stence 2016
Susquehanna River (MD)	Up to the Conowingo Dam (RKM 16)	subadults and adults (potentially eggs, larvae, YOY, and juveniles)	**Foraging** - where suitable forage and appropriate habitat conditions are present [1]	[1] ASSRT 2007

Choptank River (MD)	Range not confirmed, but they have been documented in this river (likely up to the dam at RKM 102)	subadults and adults (potentially eggs, larvae, YOY, and juveniles)	**Foraging -** where suitable forage and appropriate habitat conditions are present [2] **Spawning** - not documented, but a gravid female was caught at the mouth of the river near Tilghman Island[1]	[1] The Baltimore Sun June 13, 2007 (http://articles.baltimoresun.com/2007-06-13/news/0706130110_1_sturgeon-chesapeake-bay-university-of-maryland); [2] ASSRT 2007
Nanticoke River, including Marshyhope Creek and Broad Creek tributaries (MD)	Range not confirmed, but they have been documented in the Nanticoke River up to the mouth of Broad Creek; they have also been found up to Federalsburg, MD in Marshyhope Creek and up to Laurel, DE in Broad Creek[2]	subadults and adults (potentially eggs, larvae, YOY, and juveniles)	**Spawning -** potential for spawning due to the presence of features necessary to support reproduction and recruitment in one of its tributaries (in Marshyhope Creek, spawn ready adults have been captured)[2] **Rearing** - may be used as a nursery for juveniles[1] **Foraging** - assumed to occur wherever suitable forage is present[1]	[1] ASSRT 2007; [2] Horne and Stence 2016
Pocomoke River (MD)	To the limit of tidal influence where Whiton Crossing Road crosses the river	subadults and adults	**Foraging** - assumed to occur wherever suitable forage is present[1]	[1] Horne and Stence 2016
Potomac River (MD/VA)	Up to Little Falls Dam (RKM 189)	juveniles, subadults, and adults (potentially eggs, larvae, and YOY)	**Spawning** - potentially occurs as three small juveniles[3] and a large mature female[2] have been captured and due to the presence of features necessary to support reproduction and recruitment[1][2] **Rearing** - three juveniles have been captured[3] **Foraging** - where suitable forage and appropriate habitat conditions are present [2]	[1] Niklitschek and Secor 2005; [2] ASSRT 2007; [3] Kynard et al. 2007
Rappahannock River (VA)	Range not confirmed, but they have been documented in this river (likely throughout the entire river)	subadults and adults (potentially eggs, larvae, YOY, and juveniles)	**Spawning** - potentially occurs due to the capture of a male sturgeon in spawning condition in September 2015 and the presence of features necessary to support reproduction and recruitment[1][3] **Rearing** - may be used as a nursery for juveniles[2] **Foraging** - where suitable forage and appropriate habitat conditions are present [2]	[1] Bushnoe et al. 2005; [2] ASSRT 2007; [3] NMFS 2016

York River, including Mattaponi and Pamunkey River tributaries (VA)	York River - up to confluence with the Mattaponi and Pamunkey Rivers (RKM 55); Pamunkey River - up to RKM 150; Mattaponi River - up to RKM 120	eggs, larvae, YOY, juveniles, subadults, and adults	**Spawning** - potential for fall spawning due to the presence of features necessary to support reproduction in its tributaries (Mattaponi and Pamunkey Rivers) and recruitment in both the York River and its tributaries[1]; documented in the Pamunkey River through the capture of an adult female sturgeon in post-spawning condition in the fall and the presence of features necessary to support reproduction and recruitment[3]; may occur in the Pamunkey River as far upstream as RKM 150[4] **Rearing** - in freshwater reaches downstream of spawning sites; four age-0 Atlantic sturgeon were captured in the York River[2]; Juveniles likely present throughout the river year-round **Foraging** - where suitable forage and appropriate habitat conditions are present [1]	[1] Bushnoe et al. 2005; [2] Balazik et al. 2012; [3] Hager et al. 2014; [4] Kahn et al. 2014
James River (VA)	Up to Boshers Dam (RKM 182.3)	eggs, larvae, YOY, juveniles, subadults, and adults	**Staging** - likely done by fall spawners, during summer and fall in brackish water before and after the fall spawn (RKM 22-107)[4] **Spawning** - both a spring (likely at RKM 90-95)[4] and fall spawning event (likely between RKM 105 and the fall line near Richmond, VA at RKM 155)[3] **Rearing** - freshwater reaches downstream of spawning locations[1][2]; Juveniles likely present throughout the river year-round **Foraging** - where suitable forage and appropriate habitat conditions are present [2]	[1] Florida Museum of Natural History 2004; [2] ASSRT 2007; [3] Balazik et al. 2012; [4] Balazik and Musick 2015
Appomattox River (VA), tributary of the James River	Range not confirmed, but they have been documented in this river (likely up to Battersea Dam, RKM 21)	subadults and adults	**Foraging** - where suitable forage and appropriate habitat conditions are present [1]	[1] The Hopewell News 2013

Listing rules: 77 FR 5880 and 77 FR 5914, February 6, 2012; **Recovery plan**: none published

General distribution: Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Asessment (SSSRT 2010; available at: http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf)

Disclaimer: the best available information on shortnose sturgeon presence within the Greater Atlantic Region is presented below; waterbodies included are ones where we have information specific to shortnose sturgeon use of the area that would be helpful for action agencies reviewing proposed actions and their potential effects on shortnose sturgeon; for waterbodies not listed below, we have no data on usage by shortnose sturgeon; however, we expect the species may be present in other coastal waters in the Gulf of Maine and along the U.S. Atlantic coast between the Merrimack and Hudson Rivers; bracketed footnotes are provided in the table to match up "Use of the Watershed" information to the specific reference(s) from which it came; a description of shortnose sturgeon life history stages are included at the end of the table below

Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Narraguagus River (ME)	Up to Cherryfield Dam (RKM 10.6)	adults	**Foraging** - May be used for foraging; tag detections indicate that usage of the river is for short periods during coastal migrations[1]	[1] Dionne et al. 2013
Penobscot River (ME)	Up to Milford Dam (RKM 62)	adults documented; other life stages assumed but unknown	**Spawning** - Not documented to date; suitable spawning habitat is accessible[3] **Foraging** - Foraging concentrations from RKM 10-24.5 during the summer months as well as throughout the lower and middle estuary; RKM 21-45 by mid-July and August[1] **Overwintering** - Aggregations located from RKM 36.5-42 from mid-August to mid-April[2]	[1] Fernandes et al. 2010; [2] Lachapelle 2013; [3] Johnston 2016
St. George River (ME)	Up to RKM 39 in lower estuary	adults	**Foraging** - May be used for foraging; tag detections indicate that usage of the river is for short periods during coastal migrations[1][2]	[1] Zydlewski et al. 2011; [2] Dionne et al. 2013
Medomak River (ME)	Up to RKM 17.5	adults	**Foraging** - May be used for foraging; tag detections indicate that usage of the river is for short periods during coastal migrations[1][2][3]	[1] Zydlewski et al. 2011; [2] Dionne et al. 2013; [3] Johnston 2016
Damariscotta River (ME)	Up to Damariscotta Lake Dam (RKM 30.3)	adults	**Foraging** - May be used for foraging; tag detections indicate that usage of the river is for short periods during coastal migrations[1][2]	[1] Zydlewski et al. 2011; [2] Dionne et al. 2013
Sheepscot River (ME)	Up to Head Tide Dam (RKM 35)	adults	**Foraging** - Montsweag Bay during the summer [1] **Overwintering** - Suspected to occur in the estuary[2]	[1] Fried and McCleave 1973; [2] SSSRT 2010

General distribution: Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Asessment (SSSRT 2010; available at: http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf)

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Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Kennebec River (ME)	Up to Lockwood Dam (RKM 103), also includes Merrymeeting Bay, Sagadahoc Bay, and the entirety of the Back, Sasanoa, Eastern, and Cathance Rivers	eggs, larvae, YOY, juveniles, and adults	**Spawning** - Occurs at two sites: below the former Edwards Dam[7] (RKM 58-74) and downstream of the Lockwood Dam[8] (RKM 87-103) **Rearing** - Eggs and larvae occur in freshwater reaches below the spawning sites[8] **Foraging** - Throughout the lower estuary to the mouth of the river[4][5][8] (below RKM 70) with concentration areas near Bath[3][5][8] (RKM 16-29) including Sagadahoc Bay[6] and the Back and Sasanoa Rivers[1][5][8] **Overwintering** - Majority in Merrymeeting Bay [5][7] (RKM 37-40 and 40-42), also Bluff Head [2][5] (RKM 15), and in the lower portions of the Eastern and Cathance Rivers (tributaries to Merrymeeting Bay)[2]	[1] McCleave et al. 1977; [2] Squiers and Robillard 1997; [3] Squiers 2003; [4] Fernandes et al. 2010; [5] SSSRT 2010; [6] Fire et al. 2012; [7] Wippelhauser and Squiers 2015; [8] Wippelhauser et al. 2015
Androscoggin River (ME)	Up to Brunswick Dam (RKM 8.4)	eggs, larvae, YOY, juveniles, and adults	**Spawning** - Below Brunswick Dam to the Rt. 201 Bridge(RKM 7.7-8.4)[2] **Rearing** - Eggs and larvae occur in freshwater reaches below the spawning sites[3] **Foraging** - Montsweag Bay during the summer [1]	[1] McCleave et al. 1977; [2] Wippelhauser and Squiers 2015; [3] Wippelhauser et al. 2015
Presumpscot River (ME)	Up to Presumpscot Falls (RKM 4)	adults	**Foraging** - May be used for foraging[1]	[1] Yoder et al. 2009
Saco River (ME)	Up to Cataract Dam (RKM 10)	adults	**Foraging** - Used seasonally May-November[1]	[1] Little et al. 2013; [2] Hodgdon et al. 2018
Piscataqua River (NH)	Entirety of Piscataqua River including Cocheco River from its confluence with Piscataqua River upstream to Cocheco Falls Dam and waters of Salmon Falls River from its confluence with Piscataqua River upstream to the Route 4 Dam	adults	**Foraging** - Used seasonally for foraging and resting during spring and fall migrations; tracking data indicates that use by individual sturgeon is limited to days or weeks[1]	[1] Kieffer and Trefry, pers. comm., April 18, 2017

General distribution: Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Asessment (SSSRT 2010; available at: http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf)

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Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Merrimack River (MA)	Up to Essex Dam (RKM 46)	eggs, larvae, YOY, juveniles, and adults	**Spawning** - Near Haverhill[2] (RKM 30-32) **Rearing** - Eggs and larvae present in spawning grounds four weeks after spawning occurs, following which they would begin to move downstream continuing their development in the freshwater reach of the river[1] (RKM 16-32) **Foraging** - Lower river with concentrations near Amesbury and the lower islands[1][3] (RKM 6-24) **Overwintering** - Late fall to early spring[1]; multiple overwintering sites from RKM 15-29 in freshwater reaches beyond the maximum salt penetration[4]	[1] Kieffer and Kynard 1993; [2] Kieffer and Kynard 1996; [3] Kynard et al. 2000; [4] Wippelhauser et al. 2015
Narragansett Bay (RI)	Throughout the bay	adults	**Foraging** - Potentially occurs where suitable forage is present[1]	[1] NMFS 1998
Thames River (CT)	Up to the Greenville Dam (RKM 28)	adults undocumented, but assumed based on documented occurrences of Atlantic sturgeon in the river	**Foraging** - Assumed to occur where suitable forage is present[1]	[1] The Day June 17, 2016 (http://www.theday.com/article/20160617/NWS01/160619212)

General distribution: Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Asessment (SSSRT 2010; available at: http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf)

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Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Connecticut River (CT/MA)	Up to Turners Falls Dam, MA (RKM 198)	eggs, larvae, YOY, juveniles, and adults	**Spawning** - Below Turners Falls Dam/Cabot Station at two locations depending on river conditions[3] (RKM 193-194); limited spawning may occasionally occur below Holyoke Dam[3] (RKM 139-140) **Rearing** - Eggs and larvae spawned upstream documented up to 20 km downstream of the spawning site[3]; if spawning is successful downstream of Holyoke, early life stages would be present in downstream freshwater reaches [1][3] (RKM 13-194) **Foraging** - Concentrations above the Holyoke Dam in the Deerfield Concentration Area[3] (RKM 144-192), Agawam Concentration Area [1] (RKM 114-119), and the lower Connecticut Concentration Area[3] (RKM 0-110) **Overwintering** - Concentrations above the Holyoke Dam in the Deerfield Concentration Area[3] (RKM 144-192); below the Holyoke Dam concentrations near Holyoke[2] (RKM 137-140), Agawam[3] (RKM 114-119), Hartford [2] (RKM 82-86), Portland, CT[3] (RKM 46), and the lower river[2] (RKM 0-25)	[1] Buckley and Kynard 1983; [2] Buckley and Kynard 1985; [3] Kynard et al. 2012
Deerfield River (MA), tributary of the Connecticut River	Up to Deerfield No. 2 at Shelburne Falls (RKM 22.5)	adults documented in lower 3 km; larvae spawned in Connecticut River may be present during certain flow conditions	**Rearing** - Water flow could potentially draw migrating larvae into unfavorable habitat in the Deerfield River[1]; potential refuge area during high flows[2] **Foraging** - Spring through fall in lower river[2] (RKM 0-3.5) **Overwintering** - May be used as an overwintering area potential pre-spawning staging area for adults[1]	[1] Kieffer and Kynard 1992; [2] Kynard et al. 2012

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Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Westfield River (MA), tributary of the Connecticut River	Up to DSI Dam (RKM 9.5)	adults	**Foraging** - Assumed to occur where suitable forage is present[1]	[1] USFWS 2007 in SSSRT 2010
Quinnipiac River (CT)	Up to Wallace Dam (RKM 27)	adults undocumented, but assumed based on documented occurrences of Atlantic sturgeon in the river	**Foraging** - Assumed to occur where suitable forage is present[1]	[1] Hartford Courant September 30, 1994 (http://articles.courant.com/1994-09-30/news/9409300111_1_sturgeon-fish-story-giant-fish)
Housatonic River (CT)	Up to Derby Dam (RKM 23.5)	adults	**Spawning** - Historical spawning occurred above the Derby Dam, none known to occur currently[1] **Foraging** - Potentially occurs where suitable forage is present[1]	[1] Savoy and Benway 2006 in SSSRT 2010
Long Island Sound (CT/NY)	Full length of Long Island Sound in nearshore coastal waters	adults	**Foraging** - Potentially occurs where suitable forage is present[1]	[1] Savoy 2004 in SSSRT 2010
East River (NY)	Full length of the East River	transient adults undocumented, but assumed based on detections of Atlantic sturgeon and occasional movements of shortnose sturgeon from Hudson River to Connecticut River	**Foraging** - Potentially occurs where suitable forage is present[1]	[1] Savoy 2004 in SSSRT 2010

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Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Hudson River (NY/NJ)	Up to Troy Dam, NY (approximately RKM 246)	eggs, larvae, YOY, juveniles, and adults	**Spawning** - Documented from late March to early May when water temperatures reach 10°-18°C[1] from Coxsackie to below the Federal Dam at Troy[1][3] (RKM 190-246) **Rearing** - Eggs on the spawning grounds; larvae downstream to at least RKM 104; YOY downstream to at least RKM 64[1] **Foraging** - Throughout the Hudson River (RKM 38-175) [3][4] with concentrations in Haverstraw Bay[1] (RKM 56-64) **Overwintering** - Late fall to early spring[3]; largest area (mainly spawning adults) near Kingston[2] (RKM 137-149); smaller overwintering areas are located from Saugerties to Hyde Park[2] (RKM 123-170) and in the Croton-Haverstraw Bay area[2] (RKM 54-61); many juveniles overwinter in the lower river[1] (RKM 0-64)	[1] Dovel et al. 1992; [2] Geoghegan et al. 1992; [3] Bain 1997; [4] Pendleton et al. 2018

General distribution: Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Minas Basin, Nova Scotia, Canada, to the St. Johns River, Florida; only adults occur in marine waters, with some adults making coastal migrations between river systems (e.g., Penobscot River to Merrimack River via the Gulf of Maine; Merrimack River to Connecticut River via the Gulf of Maine and Long Island Sound; Connecticut River to Hudson River via Long Island Sound and the East River); typically, distribution in rivers and inshore bays occurs from the estuary or river mouth up to the first impassible barrier (e.g., a dam or falls); comprehensive information on species biology and distribution is available in the Shortnose Sturgeon Status Review Team's Biological Asessment (SSSRT 2010; available at: http://www.nmfs.noaa.gov/pr/pdfs/species/shortnosesturgeon_biological_assessment2010.pdf)

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Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Delaware River and Bay (NJ/DE/PA)	Up to Lambertville, PA (RKM 240)	eggs, larvae, YOY, juveniles, and adults	**Spawning** - Documented from late March through late May; water temperatures 6-18°C; between Trenton and Lambertville[6] (RKM 214-238) **Rearing** - Eggs and larvae between Trenton and Lambertville[6] (RKM 214-238); juveniles located upstream of the salt wedge from Wilmington to Philadelphia[3] (RKM 114-148) **Foraging** - Throughout the river, between the vicinity of Trenton south to Artificial Island[7] (RKM 79) **Overwintering** - November to March[1]; overwinter when waters reach 10°C (typically mid-November)[2]; many adults concentrate from RKM 190-212[1][4], but occur downstream below Wilmington[4] (RKM 116); juveniles overwinter from Philadelphia to below Artificial Island[5] (RKM 70-154); variety of behaviors from sedentary to active[6]	[1] O'Herron et al. 1993; [2] USGS gauge at Philadelphia (01467200) during the 2003-2008 time period; [3] Burton et al. 2005; [4] ERC 2006; [5] Brundage and O'Herron 2009; [6] ERC 2009; [7] SSSRT 2010
Schuylkill River (PA), tributary of the Delaware River	Up to Fairmount Dam (RKM 13.6)	juveniles and adults	**Foraging** - Potentially occurs where suitable forage is present[1]	[1] Philadelphia Water Department November 7, 2014 (http://www.phillywatersheds.org/endangered-shortnose-sturgeon-returns-schuylkill)
C&D Canal (DE/MD)	Used at least occasionally to move from Chesapeake Bay to the Delaware River	adults	**Foraging** - Assumed to occur in areas with suitable forage[1]	[1] Welsh et al. 2002
Chesapeake Bay (MD/VA)	Maryland and Virigina waters of mainstem bay and tidal tributaries including those specifically listed below.	adults documented; other life stage presence unknown	**Foraging, Resting, and Overwintering** - Assumed to occur in areas with suitable forage [1][2]	[1] SSSRT 2010; [2] Balazik 2017

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Body of Water (State)	Distribution/Range in Watershed	Life Stages Present	Use of the Watershed	References
Susquehanna River (MD)	Up to Conowingo Dam (RKM 16)	adults documented; other life stages assumed but unknown	**Spawning** - Historically occurred; currently unknown as suitability of habitat is likely impacted by dam operations[1] **Foraging** - Assumed to occur in areas with suitable forage[2] **Overwintering** - Not documented but assumed based on anecdotal reports of aggregations of sturgeon in deep holes near Lapidum and Perrysville[2]	[1] Litwiler 2001; [2] SSSRT 2010
Potomac River (MD/VA)	Up to Little Falls Dam (RKM 189)	adults documented; other life stages assumed but unknown	**Spawning** - Historically occurred; current spawning not documented but assumed based on presence of pre-spawning females and suitable habitat at RKM 185-187[1] **Rearing** - Eggs expected at RKM 185-187, larvae would be present downstream in freshwater[1] **Foraging** - Mainly in the deepwater channel from RKM 63-141[1][2] **Overwintering** - Near Mattawoman Creek; saltwater/freshwater reach near Craney Island [1][2] (RKM 63-141)	[1] Kynard et al. 2007; [2] Kynard et al. 2009
Rappahannock River (VA)	Range not confirmed, but they have been documented in this river (likely throughout the entire river)	adults	**Foraging** - Potentially occurs where suitable forage is present; one was captured in May 1998[1]	[1] Spells 1998
York River (VA)	Range unknown (potentially throughout the river and tributaries)	adults	**Foraging** - Potentially occurs where suitable forage is present [1]	[1] Balazik, pers. comm., June 7, 2018

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James River (VA)	Range not confirmed, but likely up to Boshers Dam (RKM 182.3)	adults	**Foraging/Spawning** - Foraging potentially occurs where suitable forage is present; a sturgeon, possibly from the Potomac or Delaware River, was captured on March 13, 2016, at RKM 48[1]; on February 2018, a second sturgeon (a confirmed gravid female) was captured near RKM 48[2] (genetics results not yet available); spawning area unknown; the salinity at RKM 48 is usually low (brackish).	[1] Balazik 2017; [2] Balazik, pers. comm., February 10, 2018

Listing rule: 32 FR 4001, March 11, 1967; **Recovery plan**: NMFS 1998. Available online: http://www.nmfs.noaa.gov/pr/pdfs/recovery/sturgeon_shortnose.pdf

June 7, 2019

GARFO Species List

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Whales:

North Atlantic right whale (*Eubalaena glacialis*)(73 FR 12024; Recovery plan: NMFS 2005)
Fin whale (*Balaenoptera physalus*)(35 FR 18319; Recovery plan: NMFS 2010a)
Sei whale (*Balaenoptera borealis*)(35 FR 18319; Recovery plan: NMFS 2011)
Sperm whale (*Physeter macrocephalus*)(35 FR 18319; Recovery plan: NMFS 2010b)
Blue whale (*Balaenoptera musculus*)(35 FR 18319; Recovery plan: NMFS 1998b)

Sea Turtles:

Loggerhead turtle (*Caretta caretta*)(76 FR 58868; Recovery plan: NMFS & USFWS 2008) [1]
Leatherback turtle (*Dermochelys coriacea*)(35 FR 8491; Recovery plan: NMFS & USFWS 1992a)
Green turtle (*Chelonia mydas*)(81 FR 20057; Recovery plan: NMFS & USFWS 1991) [2]
Kemp's ridley turtle (*Lepidochelys kempii*)(35 FR 18319; Recovery plan: NMFS *et al.* 2011)
Hawksbill turtle (*Eretmochelys imbricata*)(35 FR 8491; Recovery plan: NMFS & USFWS 1992b)

Fish:

Shortnose sturgeon (*Acipenser brevirostrum*)(32 FR 4001; Recovery plan: NMFS 1998a)
Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*)(77 FR 5880 and 77 FR 5914)[3]
Atlantic salmon (*Salmo salar*)(74 FR 29344; Recovery plan: NMFS & USFWS 2019)[4]

Critical Habitat:

North Atlantic right whale (81 FR 4837)
Loggerhead turtle (79 FR 4837)
Atlantic sturgeon (82 FR 39160)
Atlantic salmon (74 FR 29300)

[1] For loggerhead turtles, only the Northwest Atlantic Distinct Population Segment (DPS) occurs in the Greater Atlantic Region
[2] For green turtles, only the North Atlantic DPS occurs in the Greater Atlantic Region
[3] For Atlantic sturgeon, there are five listed DPSs that may occur in the Greater Atlantic Region: (1) Gulf of Maine, (2) New York Bight, (3) Chesapeake Bay, (4) Carolina, and (5) South Atlantic
[4] For Atlantic salmon, there is one listed DPS: the Gulf of Maine DPS

ESA Listing Rules:

North Atlantic right whale:
(73 FR 12024; March 6, 2008)

Fin, Sei, Sperm, and Blue whales:
(35 FR 18319; December 2, 1970)

Loggerhead turtle:
(76 FR 58868; September 20, 2011)

Leatherback turtle:
(35 FR 8491; June 2, 1970)

Green turtle:
(81 FR 20057; April 6, 2016)

Kemp's ridley and Hawksbill turtles:
(35 FR 18319; December 2, 1970)

Shortnose sturgeon:
(32 FR 4001; March 8, 1967)

Atlantic sturgeon:
(77 FR 5880; February 6, 2012)
(77 FR 5914; February 6, 2012)

Atlantic salmon:
(74 FR 29344; June 19, 2009)

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APPENDIX E

National Register of Historic Places and
Massachusetts Historical Commission Documentation

Massachusetts Historical Commission

William Francis Galvin, Secretary of the Commonwealth

Massachusetts Cultural Resource Information System

MACRIS

Scanned forms and photos now available for selected towns!

The Massachusetts Cultural Resource Information System (MACRIS) allows you to search the Massachusetts Historical Commission database for information on historic properties and areas in the Commonwealth.

Users of the database should keep in mind that it does not include information on all historic properties and areas in Massachusetts, nor does it reflect all the information on file on historic properties and areas at the Massachusetts Historical Commission.

Click here to begin your search of the MACRIS database.




Massachusetts Cultural Resource Information System
MACRIS

Results

Get Results in Report Format
(•) PDF ( ) Spreadsheet

Below are the results of your search, using the following search criteria:
Town(s): Boston
Place: South Boston
Street No: 105
Street Name: West First St

For more information about this page and how to use it, click here

No Results Found.

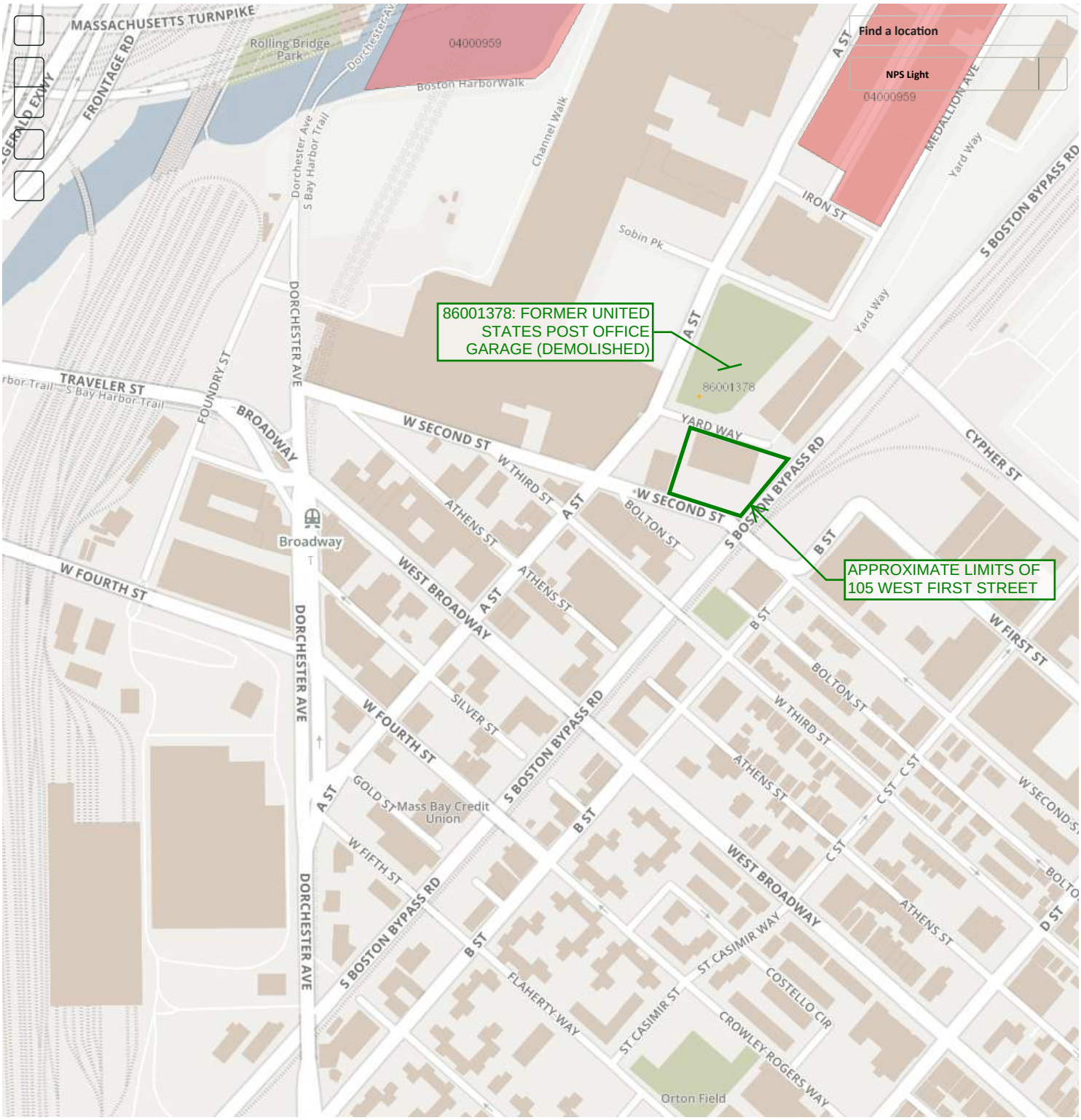
New Search | New Search – Same Town(s) | Previous

MHC Home | MACRIS Home

National Register of Historic Places

National Park Service
U.S. Department of the Interior

Public, non-restricted data depicting National Register spatial data processed by the Cultural Resources GIS facility. D...



Contact Us (https://www.nps.gov/contacts.htm)

APPENDIX F

Laboratory Data Reports

ANALYTICAL REPORT

Lab Number:	L1710109
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Jesse Siegel
Phone:	(617) 886-7400
Project Name:	105 WEST FIRST STREET
Project Number:	128794-003
Report Date:	04/07/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710109
Report Date: 04/07/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1710109-01	HA17-02(OW)	WATER	105 WEST FIRST STREET	04/03/17 11:00	04/03/17

Project Name:	105 WEST FIRST STREET	**Lab Number:**	L1710109
Project Number:	128794-003	**Report Date:**	04/07/17

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

HOLD POLICY

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

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	105 WEST FIRST STREET	**Lab Number:**	L1710109
Project Number:	128794-003	**Report Date:**	04/07/17

Case Narrative (continued)

Semivolatile Organics

The WG990729-2/-3 LCS/LCSD recoveries, associated with L1710109-01, are below the acceptance criteria for benzidine (3%/7%) and pyridine (LCS at 6%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported.

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: Cristin Walker

Title: Technical Director/Representative Date: 04/07/17

ORGANICS

VOLATILES

Project Name: 105 WEST FIRST STREET
Lab Number: L1710109
Project Number: 128794-003
Report Date: 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01
Client ID: HA17-02(OW)
Sample Location: 105 WEST FIRST STREET
Matrix: Water
Analytical Method: 1,8015D
Analytical Date: 04/04/17 20:51
Analyst: DP

Date Collected: 04/03/17 11:00
Date Received: 04/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alcohol Analysis by GC/FID - Mansfield Lab						
Ethyl Alcohol	ND		mg/l	2.00	--	1

Project Name: 105 WEST FIRST STREET **Lab Number:** L1710109

Project Number: 128794-003 **Report Date:** 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01
Client ID: HA17-02(OW)
Sample Location: 105 WEST FIRST STREET
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/06/17 10:19
Analyst: MM

Date Collected: 04/03/17 11:00
Date Received: 04/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	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
1,3-Dichloropropene, Total	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	0.98		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
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1

Project Name: 105 WEST FIRST STREET **Lab Number:** L1710109

Project Number: 128794-003 **Report Date:** 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01 Date Collected: 04/03/17 11:00

Client ID: HA17-02(OW) Date Received: 04/03/17

Sample Location: 105 WEST FIRST STREET Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
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	1.0		ug/l	1.0	--	1
Xylenes, Total	1.0		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	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
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	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	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	2.8		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: 105 WEST FIRST STREET **Lab Number:** L1710109

Project Number: 128794-003 **Report Date:** 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01 Date Collected: 04/03/17 11:00

Client ID: HA17-02(OW) Date Received: 04/03/17

Sample Location: 105 WEST FIRST STREET Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
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
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	103		70-130

Project Name: 105 WEST FIRST STREET
Lab Number: L1710109
Project Number: 128794-003
Report Date: 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01
Client ID: HA17-02(OW)
Sample Location: 105 WEST FIRST STREET
Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 04/06/17 10:19
Analyst: MM

Date Collected: 04/03/17 11:00
Date Received: 04/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	3.0	--	1

Project Name: 105 WEST FIRST STREET
Lab Number: L1710109
Project Number: 128794-003
Report Date: 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01
Client ID: HA17-02(OW)
Sample Location: 105 WEST FIRST STREET
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 04/06/17 14:07
Analyst: NS

Date Collected: 04/03/17 11:00
Date Received: 04/03/17
Field Prep: Not Specified
Extraction Method: EPA 504.1
Extraction Date: 04/06/17 11:06

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

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D
Analytical Date: 04/04/17 15:31
Analyst: DP

Parameter	Result	Qualifier	Units	RL	MDL
Alcohol Analysis by GC/FID - Mansfield Lab for sample(s): 01 Batch: WG990927-1					
Ethyl Alcohol	ND		mg/l	2.00	--

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 04/06/17 13:05
Analyst: NS

Extraction Method: EPA 504.1
Extraction Date: 04/06/17 11:06

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG991670-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/06/17 09:03
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG991898-5					
Methylene chloride	ND		ug/l	3.0	--
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	--
1,3-Dichloropropene, Total	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	--
1,2-Dichloroethene, Total	ND		ug/l	0.50	--
Trichloroethene	ND		ug/l	0.50	--

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/06/17 09:03
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG991898-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	5.0	--
1,4-Dichlorobutane	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	--
Vinyl acetate	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Ethyl methacrylate	ND		ug/l	5.0	--
Acrylonitrile	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.5	--
Tetrahydrofuran	ND		ug/l	5.0	--
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	--

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/06/17 09:03
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG991898-5					
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	0.50	--
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	--
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	--
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--
Ethyl ether	ND		ug/l	2.5	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	107		70-130

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C-SIM(M)
Analytical Date: 04/06/17 09:03
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG991909-5					
1,4-Dioxane	ND		ug/l	3.0	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Alcohol Analysis by GC/FID - Mansfield Lab	Associated sample(s): 01		Batch: WG990927-2		WG990927-3			
Ethyl Alcohol	86		90		70-130	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01		Batch: WG991670-2						
1,2-Dibromoethane	108		-		70-130	-			A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG991898-3 WG991898-4								
Methylene chloride	98		100		70-130	2		20
1,1-Dichloroethane	96		98		70-130	2		20
Chloroform	96		99		70-130	3		20
Carbon tetrachloride	95		96		63-132	1		20
1,2-Dichloropropane	94		96		70-130	2		20
Dibromochloromethane	110		110		63-130	0		20
1,1,2-Trichloroethane	110		110		70-130	0		20
Tetrachloroethene	110		110		70-130	0		20
Chlorobenzene	110		110		75-130	0		25
Trichlorofluoromethane	95		99		62-150	4		20
1,2-Dichloroethane	96		98		70-130	2		20
1,1,1-Trichloroethane	95		96		67-130	1		20
Bromodichloromethane	92		92		67-130	0		20
trans-1,3-Dichloropropene	100		110		70-130	10		20
cis-1,3-Dichloropropene	89		92		70-130	3		20
1,1-Dichloropropene	95		97		70-130	2		20
Bromoform	100		110		54-136	10		20
1,1,2,2-Tetrachloroethane	110		110		67-130	0		20
Benzene	96		97		70-130	1		25
Toluene	110		110		70-130	0		25
Ethylbenzene	110		110		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG991898-3 WG991898-4								
Chloromethane	100		100		64-130	0		20
Bromomethane	90		95		39-139	5		20
Vinyl chloride	95		99		55-140	4		20
Chloroethane	98		95		55-138	3		20
1,1-Dichloroethene	94		95		61-145	1		25
Trichloroethene	95		96		70-130	1		25
1,2-Dichlorobenzene	110		110		70-130	0		20
1,3-Dichlorobenzene	110		110		70-130	0		20
1,4-Dichlorobenzene	110		110		70-130	0		20
Methyl tert butyl ether	94		99		63-130	5		20
p/m-Xylene	115		115		70-130	0		20
o-Xylene	100		100		70-130	0		20
cis-1,2-Dichloroethene	96		99		70-130	3		20
Dibromomethane	97		100		70-130	3		20
1,4-Dichlorobutane	110		110		70-130	0		20
1,2,3-Trichloropropane	110		110		64-130	0		20
Styrene	115		115		70-130	0		20
Dichlorodifluoromethane	98		100		36-147	2		20
Acetone	85		88		58-148	3		20
Carbon disulfide	96		93		51-130	3		20
2-Butanone	98		120		63-138	20		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG991898-3 WG991898-4								
Vinyl acetate	91		97		70-130	6		20
4-Methyl-2-pentanone	93		98		59-130	5		20
2-Hexanone	89		97		57-130	9		20
Ethyl methacrylate	91		97		70-130	6		20
Acrylonitrile	97		100		70-130	3		20
Bromochloromethane	98		100		70-130	2		20
Tetrahydrofuran	96		98		58-130	2		20
2,2-Dichloropropane	93		95		63-133	2		20
1,2-Dibromoethane	110		110		70-130	0		20
1,3-Dichloropropane	110		110		70-130	0		20
1,1,1,2-Tetrachloroethane	110		110		64-130	0		20
Bromobenzene	110		110		70-130	0		20
n-Butylbenzene	110		110		53-136	0		20
sec-Butylbenzene	120		130		70-130	8		20
tert-Butylbenzene	110		110		70-130	0		20
o-Chlorotoluene	110		110		70-130	0		20
p-Chlorotoluene	110		110		70-130	0		20
1,2-Dibromo-3-chloropropane	99		100		41-144	1		20
Hexachlorobutadiene	100		110		63-130	10		20
Isopropylbenzene	110		110		70-130	0		20
p-Isopropyltoluene	97		99		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG991898-3 WG991898-4								
Naphthalene	85		91		70-130	7		20
n-Propylbenzene	110		110		69-130	0		20
1,2,3-Trichlorobenzene	100		110		70-130	10		20
1,2,4-Trichlorobenzene	100		110		70-130	10		20
1,3,5-Trimethylbenzene	110		110		64-130	0		20
1,2,4-Trimethylbenzene	110		110		70-130	0		20
trans-1,4-Dichloro-2-butene	100		110		70-130	10		20
Ethyl ether	90		94		59-134	4		20
Tert-Butyl Alcohol	84		92		70-130	9		20
Tertiary-Amyl Methyl Ether	92		98		66-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		101		70-130
Toluene-d8	109		110		70-130
4-Bromofluorobenzene	101		99		70-130
Dibromofluoromethane	95		98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG991909-3 WG991909-4								
1,4-Dioxane	98		110		70-130	12		25

Matrix Spike Analysis
Batch Quality Control

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710109
Report Date: 04/07/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG991670-3 QC Sample: L1709923-03 Client ID: MS Sample													
1,2-Dibromoethane	ND	0.258	0.295	114		-	-		65-135	-		20	A
1,2-Dibromo-3-chloropropane	ND	0.258	0.275	107		-	-		65-135	-		20	A

SEMIVOLATILES

Project Name: 105 WEST FIRST STREET **Lab Number:** L1710109

Project Number: 128794-003 **Report Date:** 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01
Client ID: HA17-02(OW)
Sample Location: 105 WEST FIRST STREET
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 04/05/17 16:12
Analyst: KV

Date Collected: 04/03/17 11:00
Date Received: 04/03/17
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 04/04/17 06:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/l	2.0	--	1
Benzidine	ND		ug/l	20	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Hexachlorobenzene	ND		ug/l	2.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
2-Chloronaphthalene	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
Fluoranthene	ND		ug/l	2.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorobutadiene	ND		ug/l	2.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	20	--	1
Hexachloroethane	ND		ug/l	2.0	--	1
Isophorone	ND		ug/l	5.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
NDPA/DPA	ND		ug/l	2.0	--	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1

Project Name: 105 WEST FIRST STREET **Lab Number:** L1710109

Project Number: 128794-003 **Report Date:** 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01 Date Collected: 04/03/17 11:00

Client ID: HA17-02(OW) Date Received: 04/03/17

Sample Location: 105 WEST FIRST STREET Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Benzo(a)anthracene	ND		ug/l	2.0	--	1
Benzo(a)pyrene	ND		ug/l	2.0	--	1
Benzo(b)fluoranthene	ND		ug/l	2.0	--	1
Benzo(k)fluoranthene	ND		ug/l	2.0	--	1
Chrysene	ND		ug/l	2.0	--	1
Acenaphthylene	ND		ug/l	2.0	--	1
Anthracene	ND		ug/l	2.0	--	1
Benzo(ghi)perylene	ND		ug/l	2.0	--	1
Fluorene	ND		ug/l	2.0	--	1
Phenanthrene	ND		ug/l	2.0	--	1
Dibenzo(a,h)anthracene	ND		ug/l	2.0	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	--	1
Pyrene	ND		ug/l	2.0	--	1
Biphenyl	ND		ug/l	2.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
1-Methylnaphthalene	ND		ug/l	2.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1
3-Nitroaniline	ND		ug/l	5.0	--	1
4-Nitroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
2-Methylnaphthalene	ND		ug/l	2.0	--	1
n-Nitrosodimethylamine	ND		ug/l	2.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
p-Chloro-m-cresol	ND		ug/l	2.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
4,6-Dinitro-o-cresol	ND		ug/l	10	--	1
Pentachlorophenol	ND		ug/l	10	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1

Project Name: 105 WEST FIRST STREET **Lab Number:** L1710109

Project Number: 128794-003 **Report Date:** 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01 Date Collected: 04/03/17 11:00

Client ID: HA17-02(OW) Date Received: 04/03/17

Sample Location: 105 WEST FIRST STREET Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	2.0	--	1
Carbazole	ND		ug/l	2.0	--	1
Pyridine	ND		ug/l	3.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	76		10-120
4-Terphenyl-d14	63		41-149

Project Name: 105 WEST FIRST STREET **Lab Number:** L1710109

Project Number: 128794-003 **Report Date:** 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01
Client ID: HA17-02(OW)
Sample Location: 105 WEST FIRST STREET
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 04/05/17 12:48
Analyst: DV

Date Collected: 04/03/17 11:00
Date Received: 04/03/17
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 04/04/17 06:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.71		ug/l	0.10	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	0.21		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	0.56		ug/l	0.20	--	1
Phenanthrene	0.64		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
1-Methylnaphthalene	0.54		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

Project Name: 105 WEST FIRST STREET **Lab Number:** L1710109

Project Number: 128794-003 **Report Date:** 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01 Date Collected: 04/03/17 11:00

Client ID: HA17-02(OW) Date Received: 04/03/17

Sample Location: 105 WEST FIRST STREET Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		21-120
Phenol-d6	35		10-120
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	74		15-120
2,4,6-Tribromophenol	94		10-120
4-Terphenyl-d14	66		41-149

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/05/17 14:56
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 04/04/17 06:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG990729-1					
Acenaphthene	ND		ug/l	2.0	--
Benzidine	ND		ug/l	20	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Hexachlorobenzene	ND		ug/l	2.0	--
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--
2-Chloronaphthalene	ND		ug/l	2.0	--
1,2-Dichlorobenzene	ND		ug/l	2.0	--
1,3-Dichlorobenzene	ND		ug/l	2.0	--
1,4-Dichlorobenzene	ND		ug/l	2.0	--
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--
2,4-Dinitrotoluene	ND		ug/l	5.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	2.0	--
Fluoranthene	ND		ug/l	2.0	--
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Hexachlorobutadiene	ND		ug/l	2.0	--
Hexachlorocyclopentadiene	ND		ug/l	20	--
Hexachloroethane	ND		ug/l	2.0	--
Isophorone	ND		ug/l	5.0	--
Naphthalene	ND		ug/l	2.0	--
Nitrobenzene	ND		ug/l	2.0	--
NDPA/DPA	ND		ug/l	2.0	--
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	--
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/05/17 14:56
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 04/04/17 06:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG990729-1					
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--
Benzo(a)anthracene	ND		ug/l	2.0	--
Benzo(a)pyrene	ND		ug/l	2.0	--
Benzo(b)fluoranthene	ND		ug/l	2.0	--
Benzo(k)fluoranthene	ND		ug/l	2.0	--
Chrysene	ND		ug/l	2.0	--
Acenaphthylene	ND		ug/l	2.0	--
Anthracene	ND		ug/l	2.0	--
Benzo(ghi)perylene	ND		ug/l	2.0	--
Fluorene	ND		ug/l	2.0	--
Phenanthrene	ND		ug/l	2.0	--
Dibenzo(a,h)anthracene	ND		ug/l	2.0	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	--
Pyrene	ND		ug/l	2.0	--
Biphenyl	ND		ug/l	2.0	--
Aniline	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
1-Methylnaphthalene	ND		ug/l	2.0	--
2-Nitroaniline	ND		ug/l	5.0	--
3-Nitroaniline	ND		ug/l	5.0	--
4-Nitroaniline	ND		ug/l	5.0	--
Dibenzofuran	ND		ug/l	2.0	--
2-Methylnaphthalene	ND		ug/l	2.0	--
n-Nitrosodimethylamine	ND		ug/l	2.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
p-Chloro-m-cresol	ND		ug/l	2.0	--
2-Chlorophenol	ND		ug/l	2.0	--

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/05/17 14:56
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 04/04/17 06:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG990729-1					
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	10	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--
4,6-Dinitro-o-cresol	ND		ug/l	10	--
Pentachlorophenol	ND		ug/l	10	--
Phenol	ND		ug/l	5.0	--
2-Methylphenol	ND		ug/l	5.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--
Benzoic Acid	ND		ug/l	50	--
Benzyl Alcohol	ND		ug/l	2.0	--
Carbazole	ND		ug/l	2.0	--
Pyridine	ND		ug/l	3.5	--
Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/l		

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/05/17 14:56
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 04/04/17 06:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG990729-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	25		21-120
Phenol-d6	17		10-120
Nitrobenzene-d5	58		23-120
2-Fluorobiphenyl	55		15-120
2,4,6-Tribromophenol	51		10-120
4-Terphenyl-d14	56		41-149

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 04/05/17 09:58
Analyst: KL

Extraction Method: EPA 3510C
Extraction Date: 04/04/17 06:30

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG990730-1					
Acenaphthene	ND		ug/l	0.10	--
2-Chloronaphthalene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.20	--
Benzo(a)anthracene	ND		ug/l	0.20	--
Benzo(a)pyrene	ND		ug/l	0.20	--
Benzo(b)fluoranthene	ND		ug/l	0.20	--
Benzo(k)fluoranthene	ND		ug/l	0.20	--
Chrysene	ND		ug/l	0.20	--
Acenaphthylene	ND		ug/l	0.20	--
Anthracene	ND		ug/l	0.20	--
Benzo(ghi)perylene	ND		ug/l	0.20	--
Fluorene	ND		ug/l	0.20	--
Phenanthrene	ND		ug/l	0.20	--
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	--
Pyrene	ND		ug/l	0.20	--
1-Methylnaphthalene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--
Pentachlorophenol	ND		ug/l	0.80	--
Hexachlorobenzene	ND		ug/l	0.80	--
Hexachloroethane	ND		ug/l	0.80	--

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 04/05/17 09:58
Analyst: KL

Extraction Method: EPA 3510C
Extraction Date: 04/04/17 06:30

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG990730-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	32		21-120
Phenol-d6	23		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	67		15-120
2,4,6-Tribromophenol	63		10-120
4-Terphenyl-d14	67		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG990729-2 WG990729-3								
Acenaphthene	58		58		37-111	0		30
Benzidine	**3**	Q	**7**	Q	10-75	**72**	Q	30
1,2,4-Trichlorobenzene	63		58		39-98	8		30
Hexachlorobenzene	67		66		40-140	2		30
Bis(2-chloroethyl)ether	61		57		40-140	7		30
2-Chloronaphthalene	63		63		40-140	0		30
1,2-Dichlorobenzene	58		54		40-140	7		30
1,3-Dichlorobenzene	56		54		40-140	4		30
1,4-Dichlorobenzene	57		53		36-97	7		30
3,3'-Dichlorobenzidine	**36**	Q	**36**	Q	40-140	0		30
2,4-Dinitrotoluene	68		68		48-143	0		30
2,6-Dinitrotoluene	70		70		40-140	0		30
Azobenzene	61		60		40-140	2		30
Fluoranthene	63		62		40-140	2		30
4-Chlorophenyl phenyl ether	61		61		40-140	0		30
4-Bromophenyl phenyl ether	66		67		40-140	2		30
Bis(2-chloroisopropyl)ether	57		54		40-140	5		30
Bis(2-chloroethoxy)methane	66		65		40-140	2		30
Hexachlorobutadiene	58		56		40-140	4		30
Hexachlorocyclopentadiene	64		60		40-140	6		30
Hexachloroethane	58		55		40-140	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG990729-2 WG990729-3								
Isophorone	66		64		40-140	3		30
Naphthalene	58		56		40-140	4		30
Nitrobenzene	67		63		40-140	6		30
NDPA/DPA	62		62		40-140	0		30
n-Nitrosodi-n-propylamine	64		63		29-132	2		30
Bis(2-ethylhexyl)phthalate	62		62		40-140	0		30
Butyl benzyl phthalate	66		66		40-140	0		30
Di-n-butylphthalate	64		64		40-140	0		30
Di-n-octylphthalate	63		62		40-140	2		30
Diethyl phthalate	63		63		40-140	0		30
Dimethyl phthalate	70		69		40-140	1		30
Benzo(a)anthracene	57		57		40-140	0		30
Benzo(a)pyrene	59		59		40-140	0		30
Benzo(b)fluoranthene	59		58		40-140	2		30
Benzo(k)fluoranthene	58		58		40-140	0		30
Chrysene	56		57		40-140	2		30
Acenaphthylene	66		65		45-123	2		30
Anthracene	59		60		40-140	2		30
Benzo(ghi)perylene	60		61		40-140	2		30
Fluorene	61		60		40-140	2		30
Phenanthrene	60		60		40-140	0		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710109
Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG990729-2 WG990729-3								
Dibenzo(a,h)anthracene	60		61		40-140	2		30
Indeno(1,2,3-cd)pyrene	60		62		40-140	3		30
Pyrene	61		62		26-127	2		30
Biphenyl	67		66		40-140	2		30
Aniline	**19**	Q	**23**	Q	40-140	19		30
4-Chloroaniline	**39**	Q	41		40-140	5		30
1-Methylnaphthalene	63		62		41-103	2		30
2-Nitroaniline	76		78		52-143	3		30
3-Nitroaniline	58		60		25-145	3		30
4-Nitroaniline	69		72		51-143	4		30
Dibenzofuran	60		59		40-140	2		30
2-Methylnaphthalene	61		60		40-140	2		30
n-Nitrosodimethylamine	34		35		22-74	3		30
2,4,6-Trichlorophenol	73		70		30-130	4		30
p-Chloro-m-cresol	67		68		23-97	1		30
2-Chlorophenol	62		59		27-123	5		30
2,4-Dichlorophenol	72		69		30-130	4		30
2,4-Dimethylphenol	72		70		30-130	3		30
2-Nitrophenol	73		72		30-130	1		30
4-Nitrophenol	46		48		10-80	4		30
2,4-Dinitrophenol	77		78		20-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG990729-2 WG990729-3								
4,6-Dinitro-o-cresol	80		81		20-164	1		30
Pentachlorophenol	71		71		9-103	0		30
Phenol	31		30		12-110	3		30
2-Methylphenol	59		58		30-130	2		30
3-Methylphenol/4-Methylphenol	58		57		30-130	2		30
2,4,5-Trichlorophenol	72		70		30-130	3		30
Benzoic Acid	40		38		10-164	5		30
Benzyl Alcohol	55		54		26-116	2		30
Carbazole	60		61		55-144	2		30
Pyridine	**6**	Q	11		10-66	**57**	Q	30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	35		34		21-120
Phenol-d6	26		25		10-120
Nitrobenzene-d5	57		55		23-120
2-Fluorobiphenyl	52		50		15-120
2,4,6-Tribromophenol	58		57		10-120
4-Terphenyl-d14	49		49		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG990730-2 WG990730-3								
Acenaphthene	76		72		37-111	5		40
2-Chloronaphthalene	80		76		40-140	5		40
Fluoranthene	83		69		40-140	18		40
Hexachlorobutadiene	74		73		40-140	1		40
Naphthalene	73		72		40-140	1		40
Benzo(a)anthracene	92		77		40-140	18		40
Benzo(a)pyrene	92		77		40-140	18		40
Benzo(b)fluoranthene	93		78		40-140	18		40
Benzo(k)fluoranthene	84		70		40-140	18		40
Chrysene	90		78		40-140	14		40
Acenaphthylene	82		77		40-140	6		40
Anthracene	86		74		40-140	15		40
Benzo(ghi)perylene	90		76		40-140	17		40
Fluorene	64		58		40-140	10		40
Phenanthrene	84		74		40-140	13		40
Dibenzo(a,h)anthracene	96		81		40-140	17		40
Indeno(1,2,3-cd)pyrene	98		82		40-140	18		40
Pyrene	83		68		26-127	20		40
1-Methylnaphthalene	74		70		40-140	6		40
2-Methylnaphthalene	80		75		40-140	6		40
Pentachlorophenol	78		67		9-103	15		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG990730-2 WG990730-3								
Hexachlorobenzene	93		79		40-140	16		40
Hexachloroethane	66		67		40-140	2		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	48		49		21-120
Phenol-d6	36		36		10-120
Nitrobenzene-d5	76		75		23-120
2-Fluorobiphenyl	81		76		15-120
2,4,6-Tribromophenol	102		91		10-120
4-Terphenyl-d14	98		73		41-149

METALS

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01
Client ID: HA17-02(OW)
Sample Location: 105 WEST FIRST STREET
Matrix: Water
Date Collected: 04/03/17 11:00
Date Received: 04/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	04/05/17 06:05	04/07/17 11:15	EPA 3005A	1,6020A	AM
Arsenic, Total	0.00401		mg/l	0.00050	--	1	04/05/17 06:05	04/07/17 11:15	EPA 3005A	1,6020A	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	04/05/17 06:05	04/07/17 11:15	EPA 3005A	1,6020A	AM
Chromium, Total	0.00692		mg/l	0.00100	--	1	04/05/17 06:05	04/07/17 11:15	EPA 3005A	1,6020A	AM
Copper, Total	0.01050		mg/l	0.00100	--	1	04/05/17 06:05	04/07/17 11:15	EPA 3005A	1,6020A	AM
Iron, Total	5.30		mg/l	0.050	--	1	04/05/17 06:05	04/05/17 17:09	EPA 3005A	19,200.7	AB
Lead, Total	0.00712		mg/l	0.00050	--	1	04/05/17 06:05	04/07/17 11:15	EPA 3005A	1,6020A	AM
Mercury, Total	ND		mg/l	0.00020	--	1	04/06/17 11:03	04/06/17 18:18	EPA 245.1	3,245.1	EA
Nickel, Total	0.00906		mg/l	0.00200	--	1	04/05/17 06:05	04/07/17 11:15	EPA 3005A	1,6020A	AM
Selenium, Total	ND		mg/l	0.00500	--	1	04/05/17 06:05	04/07/17 11:15	EPA 3005A	1,6020A	AM
Silver, Total	ND		mg/l	0.00040	--	1	04/05/17 06:05	04/07/17 11:15	EPA 3005A	1,6020A	AM
Zinc, Total	0.06434		mg/l	0.01000	--	1	04/05/17 06:05	04/07/17 11:15	EPA 3005A	1,6020A	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	247		mg/l	0.660	NA	1	04/05/17 06:05	04/05/17 17:09	EPA 3005A	19,200.7	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		04/07/17 11:15	NA	107,-	

Project Name: 105 WEST FIRST STREET **Lab Number:** L1710109

Project Number: 128794-003 **Report Date:** 04/07/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG991143-1										
Iron, Total	ND		mg/l	0.050	--	1	04/05/17 06:05	04/05/17 12:29	19,200.7	PS

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG991664-1										
Antimony, Total	ND		mg/l	0.00400	--	1	04/05/17 06:05	04/07/17 10:59	1,6020A	AM
Arsenic, Total	ND		mg/l	0.00050	--	1	04/05/17 06:05	04/07/17 10:59	1,6020A	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	04/05/17 06:05	04/07/17 10:59	1,6020A	AM
Chromium, Total	ND		mg/l	0.00100	--	1	04/05/17 06:05	04/07/17 10:59	1,6020A	AM
Copper, Total	ND		mg/l	0.00100	--	1	04/05/17 06:05	04/07/17 10:59	1,6020A	AM
Lead, Total	ND		mg/l	0.00050	--	1	04/05/17 06:05	04/07/17 10:59	1,6020A	AM
Nickel, Total	ND		mg/l	0.00200	--	1	04/05/17 06:05	04/07/17 10:59	1,6020A	AM
Selenium, Total	ND		mg/l	0.00500	--	1	04/05/17 06:05	04/07/17 10:59	1,6020A	AM
Silver, Total	ND		mg/l	0.00040	--	1	04/05/17 06:05	04/07/17 10:59	1,6020A	AM
Zinc, Total	ND		mg/l	0.01000	--	1	04/05/17 06:05	04/07/17 10:59	1,6020A	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG991678-1										
Mercury, Total	ND		mg/l	0.00020	--	1	04/06/17 11:03	04/06/17 18:14	3,245.1	EA

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG991143-2								
Iron, Total	93		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG991664-2								
Antimony, Total	102		-		80-120	-		
Arsenic, Total	106		-		80-120	-		
Cadmium, Total	114		-		80-120	-		
Chromium, Total	106		-		80-120	-		
Copper, Total	107		-		80-120	-		
Lead, Total	101		-		80-120	-		
Nickel, Total	104		-		80-120	-		
Selenium, Total	110		-		80-120	-		
Silver, Total	104		-		80-120	-		
Zinc, Total	106		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG991678-2								
Mercury, Total	102		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710109
Report Date: 04/07/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG991143-3 QC Sample: L1710246-01 Client ID: MS Sample												
Iron, Total	ND	1	0.995	100		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG991143-3 QC Sample: L1710246-01 Client ID: MS Sample												
Hardness	20.8	66.2	114	**141**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG991664-3 QC Sample: L1700004-20 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.6524	**130**	Q	-	-		75-125	-		20
Arsenic, Total	0.00637	0.12	0.1495	119		-	-		75-125	-		20
Cadmium, Total	ND	0.051	0.05640	110		-	-		75-125	-		20
Chromium, Total	0.00357	0.2	0.2186	108		-	-		75-125	-		20
Copper, Total	0.00199	0.25	0.2714	108		-	-		75-125	-		20
Lead, Total	ND	0.51	0.5464	107		-	-		75-125	-		20
Nickel, Total	0.00661	0.5	0.5430	107		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.118	98		-	-		75-125	-		20
Silver, Total	ND	0.05	0.05244	105		-	-		75-125	-		20
Zinc, Total	ND	0.5	0.5427	108		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG991678-3 QC Sample: L1710109-01 Client ID: HA17-02(OW)												
Mercury, Total	ND	0.005	0.00483	97		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG991678-5 QC Sample: L1710536-01 Client ID: MS Sample												
Mercury, Total	0.00051	0.005	0.00544	99		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710109
Report Date: 04/07/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG991664-4 QC Sample: L1700004-20 Client ID: DUP Sample						
Antimony, Total	ND	0.00648	mg/l	NC		20
Arsenic, Total	0.00637	0.00574	mg/l	10		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.00357	0.00330	mg/l	8		20
Copper, Total	0.00199	0.00124	mg/l	**47**	Q	20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.00661	0.00594	mg/l	11		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG991678-4 QC Sample: L1710109-01 Client ID: HA17-02(OW)						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG991678-6 QC Sample: L1710536-01 Client ID: DUP Sample						
Mercury, Total	0.00051	0.00049	mg/l	4		20

INORGANICS
&
MISCELLANEOUS

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710109
Report Date: 04/07/17

SAMPLE RESULTS

Lab ID: L1710109-01
Client ID: HA17-02(OW)
Sample Location: 105 WEST FIRST STREET
Matrix: Water

Date Collected: 04/03/17 11:00
Date Received: 04/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	29.		mg/l	5.0	NA	1	-	04/06/17 13:30	121,2540D	DW
Cyanide, Total	ND		mg/l	0.005	--	1	04/04/17 20:04	04/05/17 13:54	121,4500CN-CE	JO
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/03/17 23:32	121,4500CL-D	AS
Nitrogen, Ammonia	1.02		mg/l	0.075	--	1	04/04/17 16:07	04/04/17 21:38	121,4500NH3-BH	AT
Chromium, Hexavalent	ND		mg/l	0.010	--	1	04/04/17 01:50	04/04/17 02:01	121,3500CR-B	VB
Anions by Ion Chromatography - Westborough Lab										
Chloride	368.		mg/l	12.5	--	25	-	04/05/17 02:59	44,300.0	AU

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710109
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG990655-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/03/17 23:32	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG990690-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	04/04/17 01:50	04/04/17 01:59	121,3500CR-B	VB
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG990969-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	04/04/17 16:07	04/04/17 21:29	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG991022-1										
Cyanide, Total	ND		mg/l	0.005	--	1	04/04/17 20:04	04/05/17 13:42	121,4500CN-CE	JO
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG991464-1										
Chloride	ND		mg/l	0.500	--	1	-	04/04/17 21:59	44,300.0	AU
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG991625-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	04/06/17 13:30	121,2540D	DW

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710109

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG990655-2								
Chlorine, Total Residual	109		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG990690-2								
Chromium, Hexavalent	98		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG990969-2								
Nitrogen, Ammonia	93		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG991022-2								
Cyanide, Total	94		-		90-110	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG991464-2								
Chloride	104		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710109
Report Date: 04/07/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG990655-3 QC Sample: L1710090-01 Client ID: MS Sample												
Chlorine, Total Residual	2.5	1.24	3.3	**61**	Q	-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG990690-3 QC Sample: L1710109-01 Client ID: HA17-02(OW)												
Chromium, Hexavalent	ND	0.1	0.108	108		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG990969-4 QC Sample: L1710039-01 Client ID: MS Sample												
Nitrogen, Ammonia	0.095	4	3.75	91		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG991022-4 QC Sample: L1710109-01 Client ID: HA17-02(OW)												
Cyanide, Total	ND	0.2	0.195	98		-	-		90-110	-		30
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG991464-3 QC Sample: L1709432-01 Client ID: MS Sample												
Chloride	252	100	351	98		-	-		90-110	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710109
Report Date: 04/07/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG990655-4 QC Sample: L1710109-01 Client ID: HA17-02(OW)						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG990690-4 QC Sample: L1710109-01 Client ID: HA17-02(OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG990969-3 QC Sample: L1710039-01 Client ID: DUP Sample						
Nitrogen, Ammonia	0.095	0.127	mg/l	**28**	Q	20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG991022-3 QC Sample: L1709736-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG991464-4 QC Sample: L1709432-01 Client ID: DUP Sample						
Chloride	252	252	mg/l	0		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG991625-2 QC Sample: L1709976-02 Client ID: DUP Sample						
Solids, Total Suspended	220	220	mg/l	0		29

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710109
Report Date: 04/07/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710109-01A	Vial HCl preserved	A	N/A	5.7	Y	Absent	8260-SIM(14),8260(14)
L1710109-01B	Vial HCl preserved	A	N/A	5.7	Y	Absent	8260-SIM(14),8260(14)
L1710109-01C	Vial HCl preserved	A	N/A	5.7	Y	Absent	8260-SIM(14),8260(14)
L1710109-01D	Vial Na2S2O3 preserved	A	N/A	5.7	Y	Absent	504(14)
L1710109-01E	Vial Na2S2O3 preserved	A	N/A	5.7	Y	Absent	504(14)
L1710109-01F	Vial unpreserved	A	N/A	5.7	Y	Absent	A2-ALCOHOL(14)
L1710109-01G	Plastic 250ml HNO3 preserved	A	<2	5.7	Y	Absent	SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),HARDU(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180)
L1710109-01H	Plastic 120ml HNO3 preserved	A	<2	5.7	Y	Absent	HOLD-METAL-DISSOLVED(180)
L1710109-01I	Plastic 250ml NaOH preserved	A	>12	5.7	Y	Absent	TCN-4500(14)
L1710109-01J	Plastic 250ml NaOH preserved	A	>12	5.7	Y	Absent	TCN-4500(14)
L1710109-01K	Plastic 500ml H2SO4 preserved	A	<2	5.7	Y	Absent	NH3-4500(28)
L1710109-01L	Plastic 500ml unpreserved	A	7	5.7	Y	Absent	CL-300(28),HEXCR-3500(1),TRC-4500(1)
L1710109-01M	Plastic 950ml unpreserved	A	7	5.7	Y	Absent	TSS-2540(7)
L1710109-01N	Amber 1000ml unpreserved	A	7	5.7	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1710109-01O	Amber 1000ml unpreserved	A	7	5.7	Y	Absent	8270TCL(7),8270TCL-SIM(7)

*Values in parentheses indicate holding time in days

Project Name:	105 WEST FIRST STREET	**Lab Number:**	L1710109
Project Number:	128794-003	**Report Date:**	04/07/17

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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

Terms

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

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

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

Report Format: Data Usability Report

Project Name:	105 WEST FIRST STREET	**Lab Number:**	L1710109
Project Number:	128794-003	**Report Date:**	04/07/17

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	105 WEST FIRST STREET	**Lab Number:**	L1710109
Project Number:	128794-003	**Report Date:**	04/07/17

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581 — 8 Walkup Dr. — TEL: 508-898-9220 — FAX: 508-898-9193
Mansfield, MA 02048 — 320 Forbes Blvd — TEL: 508-822-9300 — FAX: 508-822-3288

Service Centers: Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205 Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 4/3/17

ALPHA Job #: L1710109

Project Information
- Project Name: 105 West First Street
- Project Location: 105 West First Street
- Project #: 128794-003
- Project Manager: Jesse Siegal
- ALPHAQuote #:

Turn-Around Time
- Standard ☑ Due Date:
- (only if pre approved) ☐ # of Days:

H&A Information
- H&A Client: 105 West First Street Owner, LLC
- H&A Address: 465 Medford St, Boston, MA 0212-1400
- H&A Phone: 617-886-7400
- H&A Fax: lhoward@haleyaldrich.com
- H&A Email: spotana@haleyaldrich.com

Deliverables
- ☑ Email ☐ Fax
- ☑ EQuIS (1 File) ☐ EQuIS (4 File)
- ☐ Other:

Billing Information
- ☑ Same as Client Info
- PO #

Regulatory Requirements (Program/Criteria)
Note: Select State from menu & identify criteria.

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY ☐ Other:

These samples have been previously analyzed by Alpha

Other project specific requirements/comments:
14. Total Ag, As, Cd, Cr, Cu, Ni, Pb, Sb, Se, Zn, Hg, Fe
16. **Field Filtered — SEE ATTACHED NPDES PERMIT INFO FOR FULL LIST OF ANALYTES
Please sample per EPA Approved 2017 RGP Permit methods

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done ☐ Lab to do
Preservation ☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	1. TSS - 160.2	2. Total Residual Chlorine (TRC) -330.1	3. Total Cyanide	4. Physiologically Available Cyanide (HOLD)	5. Amenable Cyanide (HOLD)	6. VOCs - Halogenated & Non-Halogenated	7. SVOCs - Halogenated & Non-Halogenated	8. Fuel Parameters	9. Ammonia	10. Total PCBs	11. TPH	12. Hex Cr - SM 3500	13.Hardness	14. See Note	15. Chloride 300	16. Dissolved Metals** (HOLD)	Sample Specific Comments
01	HA17-02(ow)	4/3/17	1102	AQ	DM	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

15/20

COC edits by Gina Hall AAL 4/5/17 - analyze for
TSS-2540 / TRC-4500 / TCN-4500
504 / A2-ALCOHOL / 8260 and 8260-SIM for Dioxane
HEXCR-3500 / CL300 / NH3 / Total Hardness
8270TCL (also including Diethylhexylphthalate) and 8270SIM
Total RGP Metals Ag.As.Cd.Cr.Cu.Ni.Pb.Sb.Se.Zn.Fe.Hg

4 Unable to collect all Samples today - will went day Will Submit Missing Samples 4/4/17

Container Type
Preservative

Preservative Code: A = None; B = HCl; C = HNO_3; D = H_2SO_4; E = NaOH; F = MeOH; G = $NaHSO_4$; H = $Na_2S_2O_3$; K/E = Zn Ac/NaOH; O = Other

Container Code: P = Plastic; A = Amber Glass; V = Vial; G = Glass; B = Bacteria Cup; C = Cube; O = Other; E = Encore; D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
DM	4/3/17	Mcatlin	4/3/17 1104
Mcatlin	4/3/17 1630		4/3/17 1640
	4/3/17 1808		4/4/17 1020

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 1 (10/28/2016)

4 - Missing 2x 1l Amber PCB 608
2x 1l Amber TPH - 1664
1x 1l Amber T PHENOL

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581 — 8 Walkup Dr. — TEL: 508-898-9220 — FAX: 508-898-9193

Mansfield, MA 02048 — 320 Forbes Blvd — TEL: 508-822-9300 — FAX: 508-822-3288

Service Centers: Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205 Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 4/3/17

ALPHA Job #: L1710109

H&A Information

H&A Client: 105 West First Street Owner, LLC

H&A Address: 465 Medford St, Boston, MA 0212-1400

H&A Phone: 617-886-7400

H&A Fax: lhoward@haleyaldrich.com

H&A Email: spotana@haleyaldrich.com

Project Information

Project Name: 105 West First Street

Project Location: 105 West First Street

Project #: 128794-003

(Use Project name as Project #)

Project Manager: Jesse Siegel

ALPHAQuote #:

Turn-Around Time

Standard ☑ Due Date:

(only if pre approved) ☐ # of Days:

Deliverables

☑ Email ☐ Fax

☑ EQuIS (1 File) ☐ EQuIS (4 File)

☐ Other:

Billing Information

☑ Same as Client Info

PO #

Regulatory Requirements (Program/Criteria)

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:

☐ NJ ☐ NY

☐ Other:

These samples have been previously analyzed by Alpha

Other project specific requirements/comments:

14. Total Ag, As, Cd, Cr, Cu, Ni, Pb, Sb, Se, Zn, Hg, Fe

16. **Field Filtered — SEE ATTACHED NPDES PERMIT INFO FOR FULL LIST OF ANALYTES

Please sample per EPA Approved 2017 RGP Permit methods

Please specify Metals or TAL.

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	1. TSS - 160.2	2. Total Residual Chlorine (TRC) -330.1	3. Total Cyanide	4. Physiologically Available Cyanide (HOLD)	5. Amenable Cyanide (HOLD)	6. VOCs - Halogenated & Non-Halogenated	7. SVOCs - Halogenated & Non-Halogenated	8. Fuel Parameters	9. Ammonia	10. Total PCBs	11. TPH	12. Hex Cr - SM 3500	13.Hardness	14. See Note	15. Chloride 300	16. Dissolved Metals** (HOLD)	Sample Specific Comments
01	HA17-02(DW)	4/3/17	1102	AQ	DM	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15/20
																						¥ Unable to collect all Samples today - will went day Will Submit Missing Samples 4/4/17

Sample Filtration

☐ Done ☐ Lab to do

Preservation

☐ Lab to do

(Please Specify below)

Preservative Code: A = None, B = HCl, C = HNO_3, D = H_2SO_4, E = NaOH, F = MeOH, G = $NaHSO_4$, H = $Na_2S_2O_3$, K/E = Zn Ac/NaOH, O = Other

Container Code: P = Plastic, A = Amber Glass, V = Vial, G = Glass, B = Bacteria Cup, C = Cube, O = Other, E = Encore, D = BOD Bottle

Westboro: Certification No: MA935

Mansfield: Certification No: MA015

Container Type

Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	4/3/17		4/3/17 1100
	4/3/17 1630		4/3/17 1640
	4/3/17 1808		4/4/17 1020

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 1 (10/28/2016)

¥- MISSING 2x 1l Amber PCB 608

2x 1l Amber TPH - 1664

1x 1l Amber TPHENOL

1. Chemical-Specific Effluent Limitations in Massachusetts and New Hampshire
During the period beginning on the effective date and lasting through the expiration date, EPA will authorize the discharges under Part 1.1 of this general permit to receiving waters in Massachusetts and New Hampshire. The effective date of authorization for each discharge covered under this general permit is the date indicated in EPA's written authorization to discharge, lasting through the expiration date of this general permit or written termination of coverage, whichever occurs first. Each discharge shall be limited and monitored as specified in Table 2, below. The applicability of effluent limitations for each Activity Category listed in Table 1 is included in footnote 2, below. Additional limitations and monitoring requirements are specified in Parts 2.2 through 2.5 and Part 4, below.

Table 2: Chemical-Specific Effluent Limitations and Monitor-Only Requirements[1]

Parameter[2]	Effluent Limitation[3,4]	
	TBEL[5]	WQBEL[6]
A. Inorganics		
Ammonia[7]	Report mg/L	
Chloride[8]	Report µg/L	
Total Residual Chlorine[9]	0.2 mg/L	FW= 11 µg/L SW= 7.5 µg/L
Total Suspended Solids	30 mg/L	
Antimony[10]	206 µg/L	640 µg/L in MA 4.3 mg/L in NH
Arsenic[10]	104 µg/L	FW= 10 µg/L SW= 36 µg/L
Cadmium[11,12]	10.2 µg/L	FW= 0.25 µg/L SW= 8.8 µg/L in MA SW= 9.3 µg/L in NH
Chromium III[11,12]	323 µg/L	FW= 74 µg/L SW= 100 µg/L
Chromium VI[11,13]	323 µg/L	FW= 11 µg/L SW= 50 µg/L
Copper[11,12]	242 µg/L	FW= 9 µg/L SW= 3.1 µg/L
Iron[10]	5,000 µg/L	FW = 1,000 µg/L
Lead[11,12]	160 µg/L	FW= 2.5 µg/L SW= 8.1 µg/L
Mercury[11]	0.739 µg/L	FW= 0.77 µg/L SW= 0.94 µg/L
Nickel[11,12]	1,450 µg/L	FW= 52 µg/L SW= 8.2 µg/L
Selenium	235.8 µg/L	FW= 5.0 µg/L[10] SW= 71 µg/L[11]
Silver[11,12]	35.1 µg/L	FW= 3.2 µg/L SW= 1.9 µg/L
Zinc[11,12]	420 µg/L	FW= 120 µg/L SW= 81 µg/L

Parameter[2]	Effluent Limitation[3,4]	
	TBEL[5]	WQBEL[6]
Cyanide[14]	178 mg/L	FW = 5.2 µg/L SW = 1.0 µg/L
B. Non-Halogenated Volatile Organic Compounds		
Total BTEX[15]	100 µg/L	
Benzene[15]	5.0 µg/L	
1,4 Dioxane[16]	200 µg/L	
Acetone	7.97 mg/L	
Phenol	1,080 µg/L	300 µg/L
C. Halogenated Volatile Organic Compounds		
Carbon Tetrachloride	4.4 µg/L	1.6 µg/L in MA
1,2 Dichlorobenzene	600 µg/L	
1,3 Dichlorobenzene	320 µg/L	
1,4 Dichlorobenzene	5.0 µg/L	
Total dichlorobenzene	763 µg/L in NH	
1,1 Dichloroethane	70 µg/L	
1,2 Dichloroethane	5.0 µg/L	
1,1 Dichloroethylene	3.2 µg/L	
Ethylene Dibromide[17]	0.05 µg/L	
Methylene Chloride	4.6 µg/L	
1,1,1 Trichloroethane	200 µg/L	
1,1,2 Trichloroethane	5.0 µg/L	
Trichloroethylene	5.0 µg/L	
Tetrachloroethylene	5.0 µg/L	3.3 µg/L in MA
cis-1,2 Dichloroethylene	70 µg/L	
Vinyl Chloride	2.0 µg/L	
D. Non-Halogenated Semi-Volatile Organic Compounds		
Total Phthalates[18]	190 µg/L	FW = 3.0 µg/L in NH SW = 3.4 µg/L in NH
Diethylhexyl phthalate[18]	101 µg/L	2.2 µg/L in MA 5.9 µg/L in NH
Total Group I Polycyclic Aromatic Hydrocarbons[19]	1.0 µg/L	As Individual PAHs
Benzo(a)anthracene[19]	As Total Group I PAHs	0.0038 µg/L
Benzo(a)pyrene[19]		0.0038 µg/L
Benzo(b)fluoranthene[19]		0.0038 µg/L
Benzo(k)fluoranthene[19]		0.0038 µg/L
Chrysene[19]		0.0038 µg/L
Dibenzo(a,h)anthracene[19]		0.0038 µg/L
Indeno(1,2,3-cd)pyrene[19]		0.0038 µg/L
Total Group II Polycyclic Aromatic Hydrocarbons[20]	100 µg/L	
Naphthalene[20]	20 µg/L	
E. Halogenated Semi-Volatile Organic Compounds		
Total Polychlorinated Biphenyls[21]	0.000064 µg/L	
Pentachlorophenol	1.0 µg/L	

Parameter[2]	Effluent Limitation[3,4]	
	TBEL[5]	WQBEL[6]
F. Fuels Parameters		
Total Petroleum Hydrocarbons[22]	5.0 mg/L	
Ethanol[23]	Report mg/L	
Methyl-tert-Butyl Ether[24]	70 µg/L	20 µg/L in MA
tert-Butyl Alcohol	120 µg/L in MA 40 µg/L in NH	
tert-Amyl Methyl Ether[24]	90 µg/L in MA 140 µg/L in NH	

Table 2 Footnotes:

[1] The following abbreviations are used in Table 2, above:
- [a] TBEL = technology-based effluent limitation
- [b] WQBEL = water quality-based effluent limitation
- [c] mg/L = milligrams per liter
- [d] avg = average
- [e] µg/L = micrograms per liter
- [f] FW = freshwater
- [g] SW = saltwater

[2] The sample type required for all parameters is grab. Grab samples must be analyzed individually and cannot be composited. See Appendix IX for additional definitions.

[3] The effluent limitation and/or monitor-only requirement for any parameter listed applies to any site if the given parameter is present at that site. The effluent limitations and monitor-only requirements also apply to Activity Categories as follows:

[a] Activity Category I:
all parameters in contamination type A. Inorganics;
any present in contamination type B. non-halogenated VOCs;
if present in contamination type C. halogenated VOCs;
any present in contamination type D. non-halogenated SVOCs;
if present in contamination type E. halogenated SVOCs; and
any present in contamination type F. fuels parameters.

[b] Activity Category II:
all parameters in contamination type A. Inorganics;
any present in contamination type B. non-halogenated VOCs;
any present in contamination type C. halogenated VOCs;
any present in contamination type D. non-halogenated SVOCs;
if present in contamination type E. halogenated SVOCs; and
if present in contamination type F. fuels parameters.

ANALYTICAL REPORT

Lab Number:	L1710335
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Jesse Siegel
Phone:	(617) 886-7400
Project Name:	105 WEST FIRST STREET
Project Number:	128794-003
Report Date:	04/07/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710335
Report Date: 04/07/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1710335-01	HA17-02(OW)	WATER	105 WEST FIRST STREET	04/04/17 06:30	04/04/17

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710335
Report Date: 04/07/17

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

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.

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

Please contact Client Services at 800-624-9220 with any questions.

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: Kelly Stenstrom

Title: Technical Director/Representative Date: 04/07/17

INORGANICS
&
MISCELLANEOUS

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710335
Report Date: 04/07/17

SAMPLE RESULTS

Lab ID: L1710335-01
Client ID: HA17-02(OW)
Sample Location: 105 WEST FIRST STREET
Matrix: Water

Date Collected: 04/04/17 06:30
Date Received: 04/04/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
TPH, SGT-HEM	ND		mg/l	4.40	--	1.1	04/06/17 16:30	04/06/17 22:10	74,1664A	ML

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003
Lab Number: L1710335
Report Date: 04/07/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG991837-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	04/06/17 16:30	04/06/17 22:10	74,1664A	ML

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST STREET

Project Number: 128794-003

Lab Number: L1710335

Report Date: 04/07/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG991837-2								
TPH	85		-		64-132	-		34

Matrix Spike Analysis
Batch Quality Control

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710335
Report Date: 04/07/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG991837-4 QC Sample: L1710452-01 Client ID: MS Sample												
TPH	ND	20.4	17.0	83		-	-		64-132	-		34

Lab Duplicate Analysis
Batch Quality Control

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710335
Report Date: 04/07/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG991837-3 QC Sample: L1710452-02 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34

Project Name: 105 WEST FIRST STREET
Project Number: 128794-003

Lab Number: L1710335
Report Date: 04/07/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information **Custody Seal**

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710335-01A	Amber 1000ml HCl preserved	A	N/A	3.5	Y	Absent	TPH-1664(28)
L1710335-01B	Amber 1000ml HCl preserved	A	N/A	3.5	Y	Absent	TPH-1664(28)

*Values in parentheses indicate holding time in days

Project Name:	105 WEST FIRST STREET	**Lab Number:**	L1710335
Project Number:	128794-003	**Report Date:**	04/07/17

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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

Terms

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

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

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

Report Format: Data Usability Report

Project Name:	105 WEST FIRST STREET	**Lab Number:**	L1710335
Project Number:	128794-003	**Report Date:**	04/07/17

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	105 WEST FIRST STREET	**Lab Number:**	L1710335
Project Number:	128794-003	**Report Date:**	04/07/17

REFERENCES

74 Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

ALPHA ANALYTICAL, INC.

Westborough, MA 01581 — 8 Walkup Dr. — TEL: 508-898-9220 — FAX: 508-898-9193
Mansfield, MA 02048 — 320 Forbes Blvd — TEL: 508-822-9300 — FAX: 508-822-3288

Service Centers: Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205 Tonawanda, NY 14150 Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 4/4/17

ALPHA Job #: L1710335

Project Information
- Project Name: 105 West First Street
- Project Location: 105 West First Street
- Project #: 128794-003
- (Use Project name as Project #)
- Project Manager: Jesse Siegel
- ALPHAQuote #:

Turn-Around Time
- Standard ☑ Due Date:
- (only if pre approved) ☐ # of Days:

H&A Information
- H&A Client: 105 West First Street Owner, LLC
- H&A Address: 465 Medford St, Boston, MA 0212-1400
- H&A Phone: 617-886-7400
- H&A Fax: lhoward@haleyaldrich.com
- H&A Email: spotana@haleyaldrich.com

Deliverables
- ☑ Email ☐ Fax
- ☑ EQuIS (1 File) ☐ EQuIS (4 File)
- ☐ Other:

Regulatory Requirements (Program Criteria)
Note: Select State from menu & identify criteria.

Billing Information
- ☑ Same as Client Info
- PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility: ☐ NJ ☐ NY ☐ Other:

These samples have been previously analyzed by Alpha

Other project specific requirements/comments:
14. Total Ag, As, Cd, Cr, Cu, Ni, Pb, Sb, Se, Zn, Hg, Fe
16. **Field Filtered — SEE ATTACHED NPDES PERMIT INFO FOR FULLL LIST OF ANALYTES
Please sample per EPA Approved 2017 RGP Permit methods

Please specify Metals or TAL.

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	1. TSS - 160.2	2. Total Residual Chlorine (TRC) -330.1	3. Total Cyanide	4. Physiologically Available Cyanide (HOLD)	5. Amenable Cyanide (HOLD)	6. VOCs - Halogenated & Non-Halogenated	7. SVOCs - Halogenated & Non-Halogenated	8. Fuel Parameters	9. Ammonia	10. Total PCBs	11. TPH *	12. Hex Cr - SM 3500	13. Hardness	14. See Note	15. Chloride 300	16. Dissolved Metals** (HOLD)
10335-01	HA17-02(GW)	4/4/17	0630	AQ	BNP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Sample Filtration: ☐ Done ☐ Lab to do (Preservation ☐ Lab to do) (Please Specify below)

Sample Specific Comments: * ADDITIONAL Sample from 4/3/17

Preservative Code: N = None; B = HCl; C = HNO_3; D = H_2SO_4; E = NaOH; F = MeOH; G = NaHSO; H = $Na_2S_2O_3$; KE = Zn Ac/NaOH; O = Other

Container Code: P = Plastic; A = Amber Glass; V = Vial; G = Glass; B = Bacteria Cup; C = Cube; O = Other; E = Encore; D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	4/4/17	NL Cutter	4/4/17 1630
NL Cutter	4/4/17 1630		
AAL	4/4/17 1826		4/4/17 1826

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 1 (1/28/2016)

1. Chemical-Specific Effluent Limitations in Massachusetts and New Hampshire
During the period beginning on the effective date and lasting through the expiration date, EPA will authorize the discharges under Part 1.1 of this general permit to receiving waters in Massachusetts and New Hampshire. The effective date of authorization for each discharge covered under this general permit is the date indicated in EPA's written authorization to discharge, lasting through the expiration date of this general permit or written termination of coverage, whichever occurs first. Each discharge shall be limited and monitored as specified in Table 2, below. The applicability of effluent limitations for each Activity Category listed in Table 1 is included in footnote 2, below. Additional limitations and monitoring requirements are specified in Parts 2.2 through 2.5 and Part 4, below.

Table 2: Chemical-Specific Effluent Limitations and Monitor-Only Requirements[1]

Parameter[2]	Effluent Limitation[3,4]	
	TBEL[5]	WQBEL[6]
A. Inorganics		
Ammonia[7]	Report mg/L	
Chloride[8]	Report µg/L	
Total Residual Chlorine[9]	0.2 mg/L	FW= 11 µg/L SW= 7.5 µg/L
Total Suspended Solids	30 mg/L	
Antimony[10]	206 µg/L	640 µg/L in MA 4.3 mg/L in NH
Arsenic[10]	104 µg/L	FW= 10 µg/L SW= 36 µg/L
Cadmium[11,12]	10.2 µg/L	FW= 0.25 µg/L SW= 8.8 µg/L in MA SW= 9.3 µg/L in NH
Chromium III[11,12]	323 µg/L	FW= 74 µg/L SW= 100 µg/L
Chromium VI[11,13]	323 µg/L	FW= 11 µg/L SW= 50 µg/L
Copper[11,12]	242 µg/L	FW= 9 µg/L SW= 3.1 µg/L
Iron[10]	5,000 µg/L	FW = 1,000 µg/L
Lead[11,12]	160 µg/L	FW= 2.5 µg/L SW= 8.1 µg/L
Mercury[11]	0.739 µg/L	FW= 0.77 µg/L SW= 0.94 µg/L
Nickel[11,12]	1,450 µg/L	FW= 52 µg/L SW= 8.2 µg/L
Selenium	235.8 µg/L	FW= 5.0 µg/L[10] SW= 71 µg/L[11]
Silver[11,12]	35.1 µg/L	FW= 3.2 µg/L SW= 1.9 µg/L
Zinc[11,12]	420 µg/L	FW= 120 µg/L SW= 81 µg/L

Parameter[2]	Effluent Limitation[3,4]	
	TBEL[5]	WQBEL[6]
Cyanide[14]	178 mg/L	FW = 5.2 µg/L SW = 1.0 µg/L
B. Non-Halogenated Volatile Organic Compounds		
Total BTEX[15]	100 µg/L	
Benzene[15]	5.0 µg/L	
1,4 Dioxane[16]	200 µg/L	
Acetone	7.97 mg/L	
Phenol	1,080 µg/L	300 µg/L
C. Halogenated Volatile Organic Compounds		
Carbon Tetrachloride	4.4 µg/L	1.6 µg/L in MA
1,2 Dichlorobenzene	600 µg/L	
1,3 Dichlorobenzene	320 µg/L	
1,4 Dichlorobenzene	5.0 µg/L	
Total dichlorobenzene	763 µg/L in NH	
1,1 Dichloroethane	70 µg/L	
1,2 Dichloroethane	5.0 µg/L	
1,1 Dichloroethylene	3.2 µg/L	
Ethylene Dibromide[17]	0.05 µg/L	
Methylene Chloride	4.6 µg/L	
1,1,1 Trichloroethane	200 µg/L	
1,1,2 Trichloroethane	5.0 µg/L	
Trichloroethylene	5.0 µg/L	
Tetrachloroethylene	5.0 µg/L	3.3 µg/L in MA
cis-1,2 Dichloroethylene	70 µg/L	
Vinyl Chloride	2.0 µg/L	
D. Non-Halogenated Semi-Volatile Organic Compounds		
Total Phthalates[18]	190 µg/L	FW = 3.0 µg/L in NH SW = 3.4 µg/L in NH
Diethylhexyl phthalate[18]	101 µg/L	2.2 µg/L in MA 5.9 µg/L in NH
Total Group I Polycyclic Aromatic Hydrocarbons[19]	1.0 µg/L	As Individual PAHs
Benzo(a)anthracene[19]	As Total Group I PAHs	0.0038 µg/L
Benzo(a)pyrene[19]		0.0038 µg/L
Benzo(b)fluoranthene[19]		0.0038 µg/L
Benzo(k)fluoranthene[19]		0.0038 µg/L
Chrysene[19]		0.0038 µg/L
Dibenzo(a,h)anthracene[19]		0.0038 µg/L
Indeno(1,2,3-cd)pyrene[19]		0.0038 µg/L
Total Group II Polycyclic Aromatic Hydrocarbons[20]	100 µg/L	
Naphthalene[20]	20 µg/L	
E. Halogenated Semi-Volatile Organic Compounds		
Total Polychlorinated Biphenyls[21]	0.000064 µg/L	
Pentachlorophenol	1.0 µg/L	

Parameter[2]	Effluent Limitation[3,4]	
	TBEL[5]	WQBEL[6]
F. Fuels Parameters		
Total Petroleum Hydrocarbons[22]	5.0 mg/L	
Ethanol[23]	Report mg/L	
Methyl-tert-Butyl Ether[24]	70 µg/L	20 µg/L in MA
tert-Butyl Alcohol	120 µg/L in MA 40 µg/L in NH	
tert-Amyl Methyl Ether[24]	90 µg/L in MA 140 µg/L in NH	

Table 2 Footnotes:

[1] The following abbreviations are used in Table 2, above:
[a] TBEL = technology-based effluent limitation
[b] WQBEL = water quality-based effluent limitation
[c] mg/L = milligrams per liter
[d] avg = average
[e] µg/L = micrograms per liter
[f] FW = freshwater
[g] SW = saltwater

[2] The sample type required for all parameters is grab. Grab samples must be analyzed individually and cannot be composited. See Appendix IX for additional definitions.

[3] The effluent limitation and/or monitor-only requirement for any parameter listed applies to any site if the given parameter is present at that site. The effluent limitations and monitor-only requirements also apply to Activity Categories as follows:

[a] Activity Category I:
all parameters in contamination type A. Inorganics;
any present in contamination type B. non-halogenated VOCs;
if present in contamination type C. halogenated VOCs;
any present in contamination type D. non-halogenated SVOCs;
if present in contamination type E. halogenated SVOCs; and
any present in contamination type F. fuels parameters.

[b] Activity Category II:
all parameters in contamination type A. Inorganics;
any present in contamination type B. non-halogenated VOCs;
any present in contamination type C. halogenated VOCs;
any present in contamination type D. non-halogenated SVOCs;
if present in contamination type E. halogenated SVOCs; and
if present in contamination type F. fuels parameters.

ANALYTICAL REPORT

Lab Number:	L1942242
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Lee Vanzler
Phone:	(617) 886-7561
Project Name:	105 WEST FIRST ST
Project Number:	134090-003
Report Date:	09/20/19

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

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

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1942242
Report Date: 09/20/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1942242-01	CSO-072	WATER	BOSTON	09/13/19 12:00	09/13/19
L1942242-02	HA17-2(OW)	WATER	BOSTON	09/13/19 13:30	09/13/19

Project Name:	105 WEST FIRST ST	**Lab Number:**	L1942242
Project Number:	134090-003	**Report Date:**	09/20/19

Case Narrative

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

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

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

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

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

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

Project Name:	105 WEST FIRST ST	**Lab Number:**	L1942242
Project Number:	134090-003	**Report Date:**	09/20/19

Case Narrative (continued)

Report Submission

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

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

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: Amita Naik

Title: Technical Director/Representative Date: 09/20/19

ORGANICS

VOLATILES

Project Name: 105 WEST FIRST ST
Project Number: 134090-003
Lab Number: L1942242
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1942242-02
Client ID: HA17-2(OW)
Sample Location: BOSTON
Date Collected: 09/13/19 13:30
Date Received: 09/13/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 09/19/19 18:04
Analyst: AD/GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethane	ND		ug/l	1.5	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethane	ND		ug/l	1.5	--	1
1,1,1-Trichloroethane	ND		ug/l	2.0	--	1
Benzene	ND		ug/l	1.0	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	5.0	--	1
1,3-Dichlorobenzene	ND		ug/l	5.0	--	1
1,4-Dichlorobenzene	ND		ug/l	5.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
Acetone	ND		ug/l	10	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	122		60-140
Fluorobenzene	103		60-140
4-Bromofluorobenzene	103		60-140

Project Name: 105 WEST FIRST ST
Project Number: 134090-003
Lab Number: L1942242
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1942242-02
Client ID: HA17-2(OW)
Sample Location: BOSTON
Date Collected: 09/13/19 13:30
Date Received: 09/13/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 09/19/19 15:33
Analyst: GT

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	89		60-140
4-Bromofluorobenzene	82		60-140

Project Name: 105 WEST FIRST ST
Project Number: 134090-003
Lab Number: L1942242
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1942242-02
Client ID: HA17-2(OW)
Sample Location: BOSTON

Date Collected: 09/13/19 13:30
Date Received: 09/13/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 09/19/19 22:06
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 09/19/19 15:47

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

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1942242
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 09/19/19 19:38
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 09/19/19 15:47

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 02 Batch: WG1286214-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Project Name: 105 WEST FIRST ST
Project Number: 134090-003
Lab Number: L1942242
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1-SIM
Analytical Date: 09/19/19 14:24
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 02 Batch: WG1286617-4					
1,4-Dioxane	ND		ug/l	50	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	82		60-140
4-Bromofluorobenzene	83		60-140

Project Name: 105 WEST FIRST ST
Project Number: 134090-003
Lab Number: L1942242
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 09/19/19 17:31
Analyst: AD/GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1286651-4					
Methylene chloride	ND		ug/l	1.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
Tetrachloroethene	ND		ug/l	1.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--
1,4-Dichlorobenzene	ND		ug/l	5.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
Acetone	ND		ug/l	10	--
Methyl tert butyl ether	ND		ug/l	10	--
Tert-Butyl Alcohol	ND		ug/l	100	--
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--

Project Name: 105 WEST FIRST ST
Project Number: 134090-003
Lab Number: L1942242
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 09/19/19 17:31
Analyst: AD/GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1286651-4					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	93		60-140
Fluorobenzene	101		60-140
4-Bromofluorobenzene	99		60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST

Project Number: 134090-003

Lab Number: L1942242

Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 02		Batch: WG1286214-2						
1,2-Dibromoethane	99		-		80-120	-			A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST

Project Number: 134090-003

Lab Number: L1942242

Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 02 Batch: WG1286617-3								
1,4-Dioxane	66		-		60-140	-		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Fluorobenzene	83				60-140
4-Bromofluorobenzene	85				60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST

Project Number: 134090-003

Lab Number: L1942242

Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1286651-3								
Methylene chloride	100		-		60-140	-		28
1,1-Dichloroethane	90		-		50-150	-		49
Carbon tetrachloride	120		-		70-130	-		41
1,1,2-Trichloroethane	105		-		70-130	-		45
Tetrachloroethene	110		-		70-130	-		39
1,2-Dichloroethane	130		-		70-130	-		49
1,1,1-Trichloroethane	125		-		70-130	-		36
Benzene	125		-		65-135	-		61
Toluene	110		-		70-130	-		41
Ethylbenzene	110		-		60-140	-		63
Vinyl chloride	85		-		5-195	-		66
1,1-Dichloroethene	105		-		50-150	-		32
cis-1,2-Dichloroethene	105		-		60-140	-		30
Trichloroethene	95		-		65-135	-		48
1,2-Dichlorobenzene	110		-		65-135	-		57
1,3-Dichlorobenzene	105		-		70-130	-		43
1,4-Dichlorobenzene	105		-		65-135	-		57
p/m-Xylene	108		-		60-140	-		30
o-xylene	100		-		60-140	-		30
Acetone	98		-		40-160	-		30
Methyl tert butyl ether	100		-		60-140	-		30
Tert-Butyl Alcohol	120		-		60-140	-		30
Tertiary-Amyl Methyl Ether	110		-		60-140	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1942242
Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1286651-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	93				60-140
Fluorobenzene	113				60-140
4-Bromofluorobenzene	99				60-140

Matrix Spike Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST

Project Number: 134090-003

Lab Number: L1942242

Report Date: 09/20/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 02	QC Batch ID: WG1286214-3	QC Sample: L1942242-02	Client ID: HA17-2(OW)									
1,2-Dibromoethane	ND	0.248	0.271	109		-	-		80-120	-		20	A

INORGANICS
&
MISCELLANEOUS

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1942242
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1942242-01
Client ID: CSO-072
Sample Location: BOSTON

Date Collected: 09/13/19 12:00
Date Received: 09/13/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
SALINITY	28		SU	2.0	--	1	-	09/14/19 03:24	121,2520B	JW
pH (H)	7.8		SU	-	NA	1	-	09/14/19 09:38	121,4500H+-B	JA
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	09/16/19 07:10	09/16/19 21:53	121,4500NH3-BH	ML

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1942242
Report Date: 09/20/19

SAMPLE RESULTS

Lab ID: L1942242-02
Client ID: HA17-2(OW)
Sample Location: BOSTON

Date Collected: 09/13/19 13:30
Date Received: 09/13/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	09/16/19 15:20	09/16/19 18:36	121,4500CN-CE	JO

Project Name: 105 WEST FIRST ST
Project Number: 134090-003
Lab Number: L1942242
Report Date: 09/20/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1284451-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	09/16/19 07:10	09/16/19 21:38	121,4500NH3-BH	ML
General Chemistry - Westborough Lab for sample(s): 02 Batch: WG1284653-1										
Cyanide, Total	ND		mg/l	0.005	--	1	09/16/19 15:20	09/16/19 18:17	121,4500CN-CE	JO

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST

Project Number: 134090-003

Lab Number: L1942242

Report Date: 09/20/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1284129-1								
SALINITY	101		-			-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1284168-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1284451-2								
Nitrogen, Ammonia	100		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1284653-2								
Cyanide, Total	103		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1942242
Report Date: 09/20/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1284451-4 QC Sample: L1942242-01 Client ID: CSO-072												
Nitrogen, Ammonia	ND	4	3.66	92		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1284653-4 QC Sample: L1942313-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.201	100		-	-		90-110	-		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1942242
Report Date: 09/20/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1284129-2 QC Sample: L1942242-01 Client ID: CSO-072						
SALINITY	28	27	SU	4		
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1284168-2 QC Sample: L1941758-01 Client ID: DUP Sample						
pH	7.4	7.3	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1284451-3 QC Sample: L1942242-01 Client ID: CSO-072						
Nitrogen, Ammonia	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1284653-3 QC Sample: L1942313-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1942242
Report Date: 09/20/19

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	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1942242-01A	Plastic 60ml unpreserved	A	7	7	2.4	Y	Absent		PH-4500(.01)
L1942242-01B	Amber 120ml unpreserved	A	7	7	2.4	Y	Absent		SALINITY(28)
L1942242-01C	Plastic 500ml H2SO4 preserved	A	<2	<2	2.4	Y	Absent		NH3-4500(28)
L1942242-02A	Vial HCl preserved	A	NA		2.4	Y	Absent		SUB-ETHANOL(14)
L1942242-02B	Vial HCl preserved	A	NA		2.4	Y	Absent		SUB-ETHANOL(14)
L1942242-02C	Vial HCl preserved	A	NA		2.4	Y	Absent		SUB-ETHANOL(14)
L1942242-02D	Vial Na2S2O3 preserved	A	NA		2.4	Y	Absent		624.1-RGP(7),504(14)
L1942242-02E	Vial Na2S2O3 preserved	A	NA		2.4	Y	Absent		624.1-RGP(7),504(14)
L1942242-02F	Vial Na2S2O3 preserved	A	NA		2.4	Y	Absent		624.1-RGP(7),504(14)
L1942242-02G	Vial Na2S2O3 preserved	A	NA		2.4	Y	Absent		624.1-RGP(7),504(14)
L1942242-02H	Vial Na2S2O3 preserved	A	NA		2.4	Y	Absent		624.1-RGP(7),504(14)
L1942242-02J	Vial Na2S2O3 preserved	A	NA		2.4	Y	Absent		624.1-RGP(7),504(14)
L1942242-02K	Vial Na2S2O3 preserved	A	NA		2.4	Y	Absent		624.1-SIM-RGP(7)
L1942242-02L	Vial Na2S2O3 preserved	A	NA		2.4	Y	Absent		624.1-SIM-RGP(7)
L1942242-02M	Plastic 250ml NaOH preserved	A	>12	>12	2.4	Y	Absent		TCN-4500(14)

*Values in parentheses indicate holding time in days

Project Name:	105 WEST FIRST ST	**Lab Number:**	L1942242
Project Number:	134090-003	**Report Date:**	09/20/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	105 WEST FIRST ST	**Lab Number:**	L1942242
Project Number:	134090-003	**Report Date:**	09/20/19

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

Terms

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

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

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

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

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

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

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

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

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

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

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

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

ND - Not detected at the reporting limit (RL) for the sample.

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	105 WEST FIRST ST	**Lab Number:**	L1942242
Project Number:	134090-003	**Report Date:**	09/20/19

REFERENCES

14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

128 Method 624.1: Purgeables by GC/MS, EPA 821-R-16-008, December 2016.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581 — 8 Walkup Dr. — TEL: 508-898-9220 — FAX: 508-898-9193

Mansfield, MA 02048 — 320 Forbes Blvd — TEL: 508-822-9300 — FAX: 508-822-3288

Service Centers: Brewer, ME 04412 — Portsmouth, NH 03801 Mahwah, NJ 07430 — Albany, NY 12205 — Tonawanda, NY 14150 — Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 9/13/19

ALPHA Job #: L1942242

H&A Information

H&A Client:

H&A Address: 465 Medford Street

Boston, MA 02129

H&A Phone: 617-886-7400

H&A Fax:

H&A Email: LVoegler@haldrich.com

Project Information

Project Name: 105 West Fort St

Project Location: Boston

Project #: 34090-003

(Use Project name as Project #)

Project Manager: L. Voegler

ALPHAQuote #:

Turn-Around Time

Standard ☑ — Due Date:

Rush (only if pre approved) ☐ — # of Days: 5 Day

Deliverables

☑ Email ☐ Fax ☐ EQuIS (1 File) ☐ EQuIS (4 File) ☐ Other:

Billing Information

☑ Same as Client Info

PO #

Regulatory Requirements (Program/Criteria)

MA

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility: ☐ NJ ☐ NY ☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration: ☐ Done ☐ Lab to do

Preservation: ☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Ammonia	Salinity	pH	TCN	Ethanol	SCN, 624 with SIM ROC			Sample Specific Comments	Total # of Bottles
1942242-01	CSO-072	9/13/19	1200	AQ	SRP	X	X	X							3
02	HA17-2(ow)	↓	1330	↓	↓				X	X	X				12

Container Type: P A P P V V

Preservative: O A A E B H

Preservative Code: A = None; B = HCl; C = HNO_3; D = H_2SO_4; E = NaOH; F = MeOH; G = $NaHSO_4$; H = $Na_2S_2O_3$; K/E = Zn Ac/NaOH; O = Other

Container Code: P = Plastic; A = Amber Glass; V = Vial; G = Glass; B = Bacteria Cup; C = Cube; O = Other; E = Encore; D = BOD Bottle

Westboro: Certification No: MA935

Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	9/13/19		9/13/19 1020
	9/13/19 1613		9/13/19 1615
	9/13/19 1910		9/13/19 1910

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2016-18-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 1 (1/28/2016)

ALPHA ANALYTICAL

Subcontract Chain of Custody

Eurofins US
2425 New Holland Pike
Lancaster, PA 17601

Alpha Job Number
L1942242

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 603.319.5010 Email: mgulli@alphalab.com	Project Location: MA Project Manager: Melissa Gulli **Turnaround & Deliverables Information** Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L1942242

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	HA17-2(DW)	09-13-19 13:30	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		9/16/19		
Form No: AL_subcoc				

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-4766 • www.EurofinsUS.com/LancLabsEnv

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Alpha Analytical, Inc.
145 Flanders Road
Westborough MA 01581

Report Date: September 20, 2019 11:41

Project: L1942242

Account #: 09847
Group Number: 2064244
PO Number: L1942242
State of Sample Origin: MA

Electronic Copy To	Alpha Analytical, Inc.	Attn: Sublab Contact
Electronic Copy To	Alpha Analytical, Inc.	Attn: Melissa Gulli

Respectfully Submitted,

Marrissa Williams

Marrissa Williams
Project Manager

(717) 556-7246

To view our laboratory's current scopes of accreditation please go to https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/ . Historical copies may be requested through your project manager.

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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
HA17-2(OW) Water Sample	09/13/2019 13:30	1151544

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

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Analysis Report

Sample Description: **HA17-2(OW) Water Sample**
L1942242

Project Name: **L1942242**

Submittal Date/Time: 09/17/2019 09:05
Collection Date/Time: 09/13/2019 13:30

Alpha Analytical, Inc.
ELLE Sample #: WW 1151544
ELLE Group #: 2064244
Matrix: Wastewater

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC Miscellaneous	**EPA 1671 Rev A**		**ug/l**	**ug/l**	
02366	ethanol[1]	64-17-5	N.D. D2	2,000	1

Sample Comments

[1] = This analyte was not on the laboratory's MA DEP Scope of Accreditation at the time of analysis.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02366	EPA 1671 VOCs	EPA 1671 Rev A	1	192610002A	09/19/2019 04:22	Johanna C Kennedy	1

eurofins | Lancaster Laboratories Environmental

3420 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Analysis Report

Quality Control Summary

Client Name: Alpha Analytical, Inc. Group Number: 2064244
Reported: 09/20/2019 11:41

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ
	ug/l	ug/l
Batch number: 192610002A	Sample number(s): 1151544	
ethanol	N.D.	2,000

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 192610002A	Sample number(s): 1151544								
ethanol	4020	4984.79	4020	5411.42	124	135*	70-132	8	30

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: EPA 1671 VOCs
Batch number: 192610002A

	Amyl Alcohol-D1	Amyl Alcohol-D2
1151544	87	106
Blank	101	111
LCS	94	104
LCSD	102	111
Limits:	52-144	52-144

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

9847 206244 115754

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

Eurofins US
2425 New Holland Pike
Lancaster, PA 17601

Alpha Job Number
L1942242

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L1942242

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	HA17-2(OW)	09-13-19 13:30	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		9/16/19		
Form No: AL_subcoc				9/17/19 0905

eurofins

Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 260299

Group Number(s): 2264244

Client: Alpha Analytical

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Date:	09/17/2019
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	MA		

Serial_No:09201922:10

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Zane Hollinger (10 251) at 09:57 on 09/17/2019

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	192099060	0.0	IR	Wet	Y	Loose	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mL**	milliliter(s)
C	degrees Celsius	**MPN**	Most Probable Number
cfu	colony forming units	**N.D.**	non-detect
CP Units	cobalt-chloroplatinate units	**ng**	nanogram(s)
F	degrees Fahrenheit	**NTU**	nephelometric turbidity units
g	gram(s)	**pg/L**	picogram/liter
IU	International Units	**RL**	Reporting Limit
kg	kilogram(s)	**TNTC**	Too Numerous To Count
L	liter(s)	**µg**	microgram(s)
lb.	pound(s)	**µL**	microliter(s)
m3	cubic meter(s)	**umhos/cm**	micromhos/cm
meq	milliequivalents	**MCL**	Maximum Contamination Limit
mg	milligram(s)		

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ANALYTICAL REPORT

Lab Number:	L1942713
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Lee Vanzler
Phone:	(617) 886-7561
Project Name:	105 WEST FIRST ST.
Project Number:	134090-003
Report Date:	09/23/19

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

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

Project Name: 105 WEST FIRST ST.
Project Number: 134090-003

Lab Number: L1942713
Report Date: 09/23/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1942713-01	HA17-2 (OW)	WATER	BOSTON	09/17/19 14:00	09/17/19

Project Name:	105 WEST FIRST ST.	**Lab Number:**	L1942713
Project Number:	134090-003	**Report Date:**	09/23/19

Case Narrative

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

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

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

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

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

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

Project Name:	105 WEST FIRST ST.	**Lab Number:**	L1942713
Project Number:	134090-003	**Report Date:**	09/23/19

Case Narrative (continued)

Nitrogen, Ammonia

The WG1286496-3 Laboratory Duplicate RPD (24%), performed on L1942713-01 (HA17-2 (OW)), is above the acceptance criteria; however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

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: Kelly Stenstrom

Title: Technical Director/Representative Date: 09/23/19

ORGANICS

PCBS

Project Name: 105 WEST FIRST ST. **Lab Number:** L1942713

Project Number: 134090-003 **Report Date:** 09/23/19

SAMPLE RESULTS

Lab ID: L1942713-01
Client ID: HA17-2 (OW)
Sample Location: BOSTON

Date Collected: 09/17/19 14:00
Date Received: 09/17/19
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 09/21/19 01:14
Analyst: WR

Extraction Method: EPA 608.3
Extraction Date: 09/20/19 10:33
Cleanup Method: EPA 3665A
Cleanup Date: 09/20/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/20/19

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	92		37-123	B
Decachlorobiphenyl	91		38-114	B
2,4,5,6-Tetrachloro-m-xylene	92		37-123	A
Decachlorobiphenyl	92		38-114	A

Project Name: 105 WEST FIRST ST.
Project Number: 134090-003
Lab Number: L1942713
Report Date: 09/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 127,608.3
Analytical Date: 09/20/19 11:58
Analyst: WR

Extraction Method: EPA 608.3
Extraction Date: 09/19/19 12:45
Cleanup Method: EPA 3665A
Cleanup Date: 09/19/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/19/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1286153-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.200	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	90		37-123	B
Decachlorobiphenyl	72		38-114	B
2,4,5,6-Tetrachloro-m-xylene	90		37-123	A
Decachlorobiphenyl	72		38-114	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST.

Project Number: 134090-003

Lab Number: L1942713

Report Date: 09/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG1286153-2									
Aroclor 1016	93		-		50-140	-		36	A
Aroclor 1260	85		-		8-140	-		38	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86				37-123	B
Decachlorobiphenyl	79				38-114	B
2,4,5,6-Tetrachloro-m-xylene	86				37-123	A
Decachlorobiphenyl	81				38-114	A

METALS

Project Name: 105 WEST FIRST ST. **Lab Number:** L1942713

Project Number: 134090-003 **Report Date:** 09/23/19

SAMPLE RESULTS

Lab ID: L1942713-01 Date Collected: 09/17/19 14:00

Client ID: HA17-2 (OW) Date Received: 09/17/19

Sample Location: BOSTON Field Prep: Refer to COC

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	09/20/19 16:55	09/23/19 10:13	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	09/20/19 16:55	09/23/19 10:13	EPA 3005A	3,200.8	AM
Cadmium, Total	0.00021		mg/l	0.00020	--	1	09/20/19 16:55	09/23/19 10:13	EPA 3005A	3,200.8	AM
Chromium, Total	0.00143		mg/l	0.00100	--	1	09/20/19 16:55	09/23/19 10:13	EPA 3005A	3,200.8	AM
Copper, Total	0.00626		mg/l	0.00100	--	1	09/20/19 16:55	09/23/19 10:13	EPA 3005A	3,200.8	AM
Iron, Total	1.53		mg/l	0.050	--	1	09/20/19 16:55	09/23/19 15:34	EPA 3005A	19,200.7	LC
Lead, Total	0.00482		mg/l	0.00100	--	1	09/20/19 16:55	09/23/19 10:13	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	09/19/19 11:41	09/19/19 17:40	EPA 245.1	3,245.1	GD
Nickel, Total	0.00355		mg/l	0.00200	--	1	09/20/19 16:55	09/23/19 10:13	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	09/20/19 16:55	09/23/19 10:13	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	09/20/19 16:55	09/23/19 10:13	EPA 3005A	3,200.8	AM
Zinc, Total	0.07279		mg/l	0.01000	--	1	09/20/19 16:55	09/23/19 10:13	EPA 3005A	3,200.8	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		09/23/19 10:13	NA	107,-	
Dissolved Metals - Mansfield Lab											
Antimony, Dissolved	ND		mg/l	0.0040	--	1	09/20/19 04:04	09/20/19 09:46	EPA 3005A	3,200.8	AM
Arsenic, Dissolved	ND		mg/l	0.0010	--	1	09/20/19 04:04	09/20/19 09:46	EPA 3005A	3,200.8	AM
Cadmium, Dissolved	0.0002		mg/l	0.0002	--	1	09/20/19 04:04	09/20/19 09:46	EPA 3005A	3,200.8	AM
Chromium, Dissolved	ND		mg/l	0.0010	--	1	09/20/19 04:04	09/20/19 09:46	EPA 3005A	3,200.8	AM
Copper, Dissolved	0.0028		mg/l	0.0010	--	1	09/20/19 04:04	09/20/19 09:46	EPA 3005A	3,200.8	AM
Iron, Dissolved	ND		mg/l	0.050	--	1	09/20/19 04:04	09/20/19 10:59	EPA 3005A	19,200.7	LC
Lead, Dissolved	ND		mg/l	0.0010	--	1	09/20/19 04:04	09/20/19 09:46	EPA 3005A	3,200.8	AM
Mercury, Dissolved	ND		mg/l	0.00020	--	1	09/19/19 11:14	09/19/19 17:45	EPA 245.1	3,245.1	GD
Nickel, Dissolved	ND		mg/l	0.0020	--	1	09/20/19 04:04	09/20/19 09:46	EPA 3005A	3,200.8	AM
Selenium, Dissolved	ND		mg/l	0.0050	--	1	09/20/19 04:04	09/20/19 09:46	EPA 3005A	3,200.8	AM
Silver, Dissolved	ND		mg/l	0.0004	--	1	09/20/19 04:04	09/20/19 09:46	EPA 3005A	3,200.8	AM
Zinc, Dissolved	0.0519		mg/l	0.0100	--	1	09/20/19 04:04	09/20/19 09:46	EPA 3005A	3,200.8	AM

Project Name: 105 WEST FIRST ST. **Lab Number:** L1942713

Project Number: 134090-003 **Report Date:** 09/23/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01 Batch: WG1286119-1										
Mercury, Dissolved	ND		mg/l	0.00020	--	1	09/19/19 11:14	09/19/19 17:42	3,245.1	GD

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1286120-1										
Mercury, Total	ND		mg/l	0.00020	--	1	09/19/19 11:41	09/19/19 16:53	3,245.1	GD

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01 Batch: WG1286629-1										
Iron, Dissolved	ND		mg/l	0.050	--	1	09/20/19 04:04	09/20/19 10:51	19,200.7	LC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01 Batch: WG1286630-1										
Antimony, Dissolved	ND		mg/l	0.0040	--	1	09/20/19 04:04	09/20/19 09:14	3,200.8	AM
Arsenic, Dissolved	ND		mg/l	0.0010	--	1	09/20/19 04:04	09/20/19 09:14	3,200.8	AM
Cadmium, Dissolved	ND		mg/l	0.0002	--	1	09/20/19 04:04	09/20/19 09:14	3,200.8	AM
Chromium, Dissolved	ND		mg/l	0.0010	--	1	09/20/19 04:04	09/20/19 09:14	3,200.8	AM
Copper, Dissolved	ND		mg/l	0.0010	--	1	09/20/19 04:04	09/20/19 09:14	3,200.8	AM

Project Name: 105 WEST FIRST ST. **Lab Number:** L1942713

Project Number: 134090-003 **Report Date:** 09/23/19

Method Blank Analysis
Batch Quality Control

Lead, Dissolved	ND	mg/l	0.0010	--	1	09/20/19 04:04	09/20/19 09:14	3,200.8	AM
Nickel, Dissolved	ND	mg/l	0.0020	--	1	09/20/19 04:04	09/20/19 09:14	3,200.8	AM
Selenium, Dissolved	ND	mg/l	0.0050	--	1	09/20/19 04:04	09/20/19 09:14	3,200.8	AM
Silver, Dissolved	ND	mg/l	0.0004	--	1	09/20/19 04:04	09/20/19 09:14	3,200.8	AM
Zinc, Dissolved	ND	mg/l	0.0100	--	1	09/20/19 04:04	09/20/19 09:14	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1286750-1										
Antimony, Total	ND		mg/l	0.00400	--	1	09/20/19 16:55	09/23/19 09:17	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	09/20/19 16:55	09/23/19 09:17	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	09/20/19 16:55	09/23/19 09:17	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	09/20/19 16:55	09/23/19 09:17	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	09/20/19 16:55	09/23/19 09:17	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	09/20/19 16:55	09/23/19 09:17	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	09/20/19 16:55	09/23/19 09:17	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	09/20/19 16:55	09/23/19 09:17	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	09/20/19 16:55	09/23/19 09:17	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	09/20/19 16:55	09/23/19 09:17	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1286752-1										
Iron, Total	ND		mg/l	0.050	--	1	09/20/19 16:55	09/23/19 15:26	19,200.7	LC

Project Name: 105 WEST FIRST ST.
Project Number: 134090-003
Lab Number: L1942713
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Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST.

Project Number: 134090-003

Lab Number: L1942713

Report Date: 09/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1286119-2								
Mercury, Dissolved	89		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1286120-2								
Mercury, Total	88		-		85-115	-		
Dissolved Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1286629-2								
Iron, Dissolved	108		-		85-115	-		
Dissolved Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1286630-2								
Antimony, Dissolved	97		-		85-115	-		
Arsenic, Dissolved	103		-		85-115	-		
Cadmium, Dissolved	107		-		85-115	-		
Chromium, Dissolved	102		-		85-115	-		
Copper, Dissolved	98		-		85-115	-		
Lead, Dissolved	109		-		85-115	-		
Nickel, Dissolved	106		-		85-115	-		
Selenium, Dissolved	103		-		85-115	-		
Silver, Dissolved	103		-		85-115	-		
Zinc, Dissolved	109		-		85-115	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST.

Project Number: 134090-003

Lab Number: L1942713

Report Date: 09/23/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1286750-2					
Antimony, Total	86	-	85-115	-	
Arsenic, Total	104	-	85-115	-	
Cadmium, Total	106	-	85-115	-	
Chromium, Total	101	-	85-115	-	
Copper, Total	96	-	85-115	-	
Lead, Total	108	-	85-115	-	
Nickel, Total	101	-	85-115	-	
Selenium, Total	104	-	85-115	-	
Silver, Total	99	-	85-115	-	
Zinc, Total	103	-	85-115	-	
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1286752-2					
Iron, Total	98	-	85-115	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: 105 WEST FIRST ST.
Project Number: 134090-003

Lab Number: L1942713
Report Date: 09/23/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1286119-3 QC Sample: L1942713-01 Client ID: HA17-2 (OW)												
Mercury, Dissolved	ND	0.005	0.00408	82		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1286120-3 QC Sample: L1941752-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00418	84		-	-		70-130	-		20
Dissolved Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1286629-3 QC Sample: L1942713-01 Client ID: HA17-2 (OW)												
Iron, Dissolved	ND	1	1.05	105		-	-		75-125	-		20
Dissolved Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1286630-3 QC Sample: L1942713-01 Client ID: HA17-2 (OW)												
Antimony, Dissolved	ND	0.5	0.3874	77		-	-		70-130	-		20
Arsenic, Dissolved	ND	0.12	0.1116	93		-	-		70-130	-		20
Cadmium, Dissolved	0.0002	0.051	0.0544	106		-	-		70-130	-		20
Chromium, Dissolved	ND	0.2	0.1998	100		-	-		70-130	-		20
Copper, Dissolved	0.0028	0.25	0.2395	95		-	-		70-130	-		20
Lead, Dissolved	ND	0.51	0.5090	100		-	-		70-130	-		20
Nickel, Dissolved	ND	0.5	0.5083	102		-	-		70-130	-		20
Selenium, Dissolved	ND	0.12	0.1237	103		-	-		70-130	-		20
Silver, Dissolved	ND	0.05	0.0485	97		-	-		70-130	-		20
Zinc, Dissolved	0.0519	0.5	0.5705	104		-	-		70-130	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 105 WEST FIRST ST.
Project Number: 134090-003

Lab Number: L1942713
Report Date: 09/23/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1286750-3 QC Sample: L1942713-01 Client ID: HA17-2 (OW)									
Antimony, Total	ND	0.5	0.4335	87	-	-	70-130	-	20
Arsenic, Total	ND	0.12	0.1192	99	-	-	70-130	-	20
Cadmium, Total	0.00021	0.051	0.05344	104	-	-	70-130	-	20
Chromium, Total	0.00143	0.2	0.1951	97	-	-	70-130	-	20
Copper, Total	0.00626	0.25	0.2415	94	-	-	70-130	-	20
Lead, Total	0.00482	0.51	0.5474	106	-	-	70-130	-	20
Nickel, Total	0.00355	0.5	0.4957	98	-	-	70-130	-	20
Selenium, Total	ND	0.12	0.1047	87	-	-	70-130	-	20
Silver, Total	ND	0.05	0.04757	95	-	-	70-130	-	20
Zinc, Total	0.07279	0.5	0.5789	101	-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1286752-3 QC Sample: L1942713-01 Client ID: HA17-2 (OW)									
Iron, Total	1.53	1	2.43	90	-	-	75-125	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST.

Project Number: 134090-003

Lab Number: L1942713

Report Date: 09/23/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1286119-4 QC Sample: L1942713-01 Client ID: HA17-2 (OW)						
Mercury, Dissolved	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1286120-4 QC Sample: L1941752-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Dissolved Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1286629-4 QC Sample: L1942713-01 Client ID: HA17-2 (OW)						
Iron, Dissolved	ND	ND	mg/l	NC		20
Dissolved Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1286630-4 QC Sample: L1942713-01 Client ID: HA17-2 (OW)						
Antimony, Dissolved	ND	0.0044	mg/l	NC		20
Arsenic, Dissolved	ND	ND	mg/l	NC		20
Cadmium, Dissolved	0.0002	0.0002	mg/l	11		20
Chromium, Dissolved	ND	ND	mg/l	NC		20
Copper, Dissolved	0.0028	0.0027	mg/l	3		20
Lead, Dissolved	ND	ND	mg/l	NC		20
Nickel, Dissolved	ND	ND	mg/l	NC		20
Selenium, Dissolved	ND	ND	mg/l	NC		20
Silver, Dissolved	ND	ND	mg/l	NC		20
Zinc, Dissolved	0.0519	0.0492	mg/l	5		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST.

Project Number: 134090-003

Lab Number: L1942713

Report Date: 09/23/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1286750-4 QC Sample: L1942713-01 Client ID: HA17-2 (OW)					
Antimony, Total	ND	ND	mg/l	NC	20
Arsenic, Total	ND	ND	mg/l	NC	20
Cadmium, Total	0.00021	0.00021	mg/l	1	20
Chromium, Total	0.00143	0.00138	mg/l	4	20
Copper, Total	0.00626	0.00631	mg/l	1	20
Lead, Total	0.00482	0.00487	mg/l	1	20
Nickel, Total	0.00355	0.00325	mg/l	9	20
Selenium, Total	ND	ND	mg/l	NC	20
Silver, Total	ND	ND	mg/l	NC	20
Zinc, Total	0.07279	0.07273	mg/l	0	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1286752-4 QC Sample: L1942713-01 Client ID: HA17-2 (OW)					
Iron, Total	1.53	1.47	mg/l	4	20

INORGANICS
&
MISCELLANEOUS

Project Name: 105 WEST FIRST ST.
Project Number: 134090-003

Lab Number: L1942713
Report Date: 09/23/19

SAMPLE RESULTS

Lab ID: L1942713-01
Client ID: HA17-2 (OW)
Sample Location: BOSTON

Date Collected: 09/17/19 14:00
Date Received: 09/17/19
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	56.		mg/l	6.5	NA	1.3	-	09/19/19 14:40	121,2540D	DR
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	09/17/19 23:44	121,4500CL-D	AS
Nitrogen, Ammonia	0.120		mg/l	0.075	--	1	09/20/19 06:49	09/20/19 21:51	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	09/19/19 17:30	09/19/19 22:14	74,1664A	ML
Chromium, Hexavalent	ND		mg/l	0.010	--	1	09/18/19 00:30	09/18/19 01:42	1,7196A	JW
Anions by Ion Chromatography - Westborough Lab										
Chloride	952.		mg/l	12.5	--	25	-	09/19/19 21:56	44,300.0	AT

Project Name: 105 WEST FIRST ST. **Lab Number:** L1942713

Project Number: 134090-003 **Report Date:** 09/23/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1285299-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	09/17/19 23:44	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1285318-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	09/18/19 00:30	09/18/19 01:26	1,7196A	JW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1286004-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/19/19 14:40	121,2540D	DR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1286259-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	09/19/19 17:30	09/19/19 22:14	74,1664A	ML
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1286443-1										
Chloride	ND		mg/l	0.500	--	1	-	09/19/19 19:34	44,300.0	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1286496-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	09/20/19 06:49	09/20/19 21:48	121,4500NH3-BH	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST.

Project Number: 134090-003

Lab Number: L1942713

Report Date: 09/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1285299-2								
Chlorine, Total Residual	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1285318-2								
Chromium, Hexavalent	100		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1286259-2								
TPH	91		-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1286443-2								
Chloride	102		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1286496-2								
Nitrogen, Ammonia	100		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 105 WEST FIRST ST.
Project Number: 134090-003

Lab Number: L1942713
Report Date: 09/23/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1285299-4 QC Sample: L1942713-01 Client ID: HA17-2 (OW)												
Chlorine, Total Residual	ND	0.25	0.27	108		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1285318-4 QC Sample: L1942713-01 Client ID: HA17-2 (OW)												
Chromium, Hexavalent	ND	0.1	0.102	102		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1286259-4 QC Sample: L1942616-01 Client ID: MS Sample												
TPH	ND	25	19.5	78		-	-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1286443-3 QC Sample: L1942484-02 Client ID: MS Sample												
Chloride	19.4	4	22.3	**73**	Q	-	-		90-110	-		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1286496-4 QC Sample: L1942713-01 Client ID: HA17-2 (OW)												
Nitrogen, Ammonia	0.120	4	3.90	94		-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST.

Project Number: 134090-003

Lab Number: L1942713

Report Date: 09/23/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1285299-3 QC Sample: L1942713-01 Client ID: HA17-2 (OW)						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1285318-3 QC Sample: L1942713-01 Client ID: HA17-2 (OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1286004-2 QC Sample: L1942590-04 Client ID: DUP Sample						
Solids, Total Suspended	4200	4100	mg/l	2		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1286259-3 QC Sample: L1942616-01 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1286443-4 QC Sample: L1942484-02 Client ID: DUP Sample						
Chloride	19.4	19.0	mg/l	2		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1286496-3 QC Sample: L1942713-01 Client ID: HA17-2 (OW)						
Nitrogen, Ammonia	0.120	0.153	mg/l	**24**	Q	20

Project Name: 105 WEST FIRST ST.
Project Number: 134090-003

Lab Number: L1942713
Report Date: 09/23/19

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	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1942713-01A	Plastic 250ml HNO3 preserved	A	<2	<2	3.2	Y	Absent		AG-2008S(180),CR-2008S(180),FE-RI(180),AS-2008S(180),PB-2008S(180),ZN-2008S(180),NI-2008S(180),SE-2008S(180),CD-2008S(180),CU-2008S(180),SB-2008S(180),HG-R(28)
L1942713-01B	Plastic 250ml HNO3 preserved	A	<2	<2	3.2	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1942713-01C	Plastic 500ml H2SO4 preserved	A	<2	<2	3.2	Y	Absent		NH3-4500(28)
L1942713-01D	Plastic 950ml unpreserved	A	7	7	3.2	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1)
L1942713-01E	Plastic 950ml unpreserved	A	7	7	3.2	Y	Absent		TSS-2540(7)
L1942713-01F	Amber 1000ml HCl preserved	A	NA		3.2	Y	Absent		TPH-1664(28)
L1942713-01G	Amber 1000ml Na2S2O3	A	7	7	3.2	Y	Absent		PCB-608.3(7)

*Values in parentheses indicate holding time in days

Project Name:	105 WEST FIRST ST.	**Lab Number:**	L1942713
Project Number:	134090-003	**Report Date:**	09/23/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	105 WEST FIRST ST.	**Lab Number:**	L1942713
Project Number:	134090-003	**Report Date:**	09/23/19

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

Terms

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

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

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

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

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

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

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

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

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

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

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

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

ND - Not detected at the reporting limit (RL) for the sample.

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	105 WEST FIRST ST.	**Lab Number:**	L1942713
Project Number:	134090-003	**Report Date:**	09/23/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

74 Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

127 Method 608.3: Organochlorine Pesticides and PCBs by GC/HSD, EPA 821-R-16-009, December 2016.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581 — 8 Walkup Dr. — TEL: 508-898-9220 — FAX: 508-898-9193

Mansfield, MA 02048 — 320 Forbes Blvd — TEL: 508-822-9300 — FAX: 508-822-3288

Service Centers: Brewer, ME 04412 — Portsmouth, NH 03801 — Mahwah, NJ 07430 — Albany, NY 12205 — Tonawanda, NY 14150 — Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 9/17/19

ALPHA Job #: L1942713

H&A Information

H&A Client:

H&A Address: 465 Medford Street

Boston, MA 02129

H&A Phone: 617-886-7400

H&A Fax:

H&A Email: LWentzler@HaleyAldrich.com

Project Information

Project Name: 105 West East St

Project Location: Boston

Project #: 134090 134090-003

(Use Project name as Project #)

Project Manager: L Wentzler

ALPHAQuote #:

Turn-Around Time

Standard: ✓

Rush (only if pre approved):

Due Date:

# of Days: 5 Day

Deliverables

- ✓ Email
- Fax
- EQuIS (1 File)
- EQuIS (4 File)
- Other:

Billing Information

- ✓ Same as Client Info

PO #

Regulatory Requirements (Program/Criteria)

MA

Note: Select State from menu & identify criteria.

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:

- NJ
- NY
- Other:

These samples have been previously analyzed by Alpha

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total RCP metals	Dissolved RCP metals	NH3	Cl, TKN, TPO4, Cl	TSS	TPH	PCB		
42713-01	HA17-2(ow)	9/17/19	1400	AQ	SRT	X	X	X	X	X	X	X		7

Sample Filtration

- Done
- Lab to do

Preservation

- Lab to do

(Please Specify below)

Sample Specific Comments

Total Bottles

Container Type	P	P	P	P	P	V	A	
Preservative	C	C	D	A	A	C	H	

Preservative Code: A = None; B = HCl; C = HNO_3; D = H_2SO_4; E = NaOH; F = MeOH; G = $NaHSO_4$; H = $Na_2S_2O_3$; K/E = Zn Ac/NaOH; O = Other

Container Code: P = Plastic; A = Amber Glass; V = Vial; G = Glass; B = Bacteria Cup; C = Cube; O = Other; E = Encore; D = BOD Bottle

Westboro: Certification No: MA935

Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	9/17/19 1430		9/17 16:06
	9/17/19 16:06		9/17/19 16:06
	9/17/19 1400		9/17/19 1800

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 1 (1/28/2016)

ANALYTICAL REPORT

Lab Number:	L1943662
Client:	Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400
ATTN:	Lee Vanzler
Phone:	(617) 886-7561
Project Name:	105 WEST FIRST ST
Project Number:	134090-003
Report Date:	09/27/19

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

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

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1943662
Report Date: 09/27/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1943662-01	HA17-2(OW)	WATER	BOSTON	09/20/19 13:00	09/20/19

Project Name:	105 WEST FIRST ST	**Lab Number:**	L1943662
Project Number:	134090-003	**Report Date:**	09/27/19

Case Narrative

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

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

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

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

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

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

Project Name:	105 WEST FIRST ST	**Lab Number:**	L1943662
Project Number:	134090-003	**Report Date:**	09/27/19

Case Narrative (continued)

Semivolatile Organics by Method 625

The surrogate recoveries for the WG1288544-1 Method Blank, associated with L1943662-01 (HA17-2(OW)), are below the acceptance criteria for nitrobenzene-d5 (28%) and 2-fluorobiphenyl (38%). The associated samples are non-detect and have acceptable surrogate recoveries; therefore, no further actions were taken.

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: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 09/27/19

ORGANICS

SEMIVOLATILES

Project Name: 105 WEST FIRST ST
Project Number: 134090-003
Lab Number: L1943662
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1943662-01
Client ID: HA17-2(OW)
Sample Location: BOSTON

Date Collected: 09/20/19 13:00
Date Received: 09/20/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 09/26/19 14:20
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 09/25/19 15:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	59		42-122
2-Fluorobiphenyl	71		46-121
4-Terphenyl-d14	84		47-138

Project Name: 105 WEST FIRST ST
Project Number: 134090-003
Lab Number: L1943662
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1943662-01
Client ID: HA17-2(OW)
Sample Location: BOSTON

Date Collected: 09/20/19 13:00
Date Received: 09/20/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 09/26/19 15:18
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 09/25/19 15:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	0.17		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		25-87
Phenol-d6	32		16-65
Nitrobenzene-d5	72		42-122
2-Fluorobiphenyl	80		46-121
2,4,6-Tribromophenol	100		45-128
4-Terphenyl-d14	72		47-138

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1943662
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1
Analytical Date: 09/26/19 12:33
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 09/25/19 15:54

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1288544-1					
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**28**	Q	42-122
2-Fluorobiphenyl	**38**	Q	46-121
4-Terphenyl-d14	48		47-138

Project Name: 105 WEST FIRST ST
Project Number: 134090-003
Lab Number: L1943662
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1-SIM
Analytical Date: 09/26/19 10:19
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 09/25/19 15:57

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1288548-1					
Acenaphthene	ND		ug/l	0.10	--
Fluoranthene	ND		ug/l	0.10	--
Naphthalene	ND		ug/l	0.10	--
Benzo(a)anthracene	ND		ug/l	0.10	--
Benzo(a)pyrene	ND		ug/l	0.10	--
Benzo(b)fluoranthene	ND		ug/l	0.10	--
Benzo(k)fluoranthene	ND		ug/l	0.10	--
Chrysene	ND		ug/l	0.10	--
Acenaphthylene	ND		ug/l	0.10	--
Anthracene	ND		ug/l	0.10	--
Benzo(ghi)perylene	ND		ug/l	0.10	--
Fluorene	ND		ug/l	0.10	--
Phenanthrene	ND		ug/l	0.10	--
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--
Pyrene	ND		ug/l	0.10	--
Pentachlorophenol	ND		ug/l	1.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		25-87
Phenol-d6	27		16-65
Nitrobenzene-d5	70		42-122
2-Fluorobiphenyl	69		46-121
2,4,6-Tribromophenol	80		45-128
4-Terphenyl-d14	87		47-138

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST

Project Number: 134090-003

Lab Number: L1943662

Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1288544-2								
Bis(2-ethylhexyl)phthalate	104		-		29-137	-		82
Butyl benzyl phthalate	123		-		1-140	-		60
Di-n-butylphthalate	110		-		8-120	-		47
Di-n-octylphthalate	114		-		19-132	-		69
Diethyl phthalate	112		-		1-120	-		100
Dimethyl phthalate	118		-		1-120	-		183

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	77				42-122
2-Fluorobiphenyl	84				46-121
4-Terphenyl-d14	90				47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1943662
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1288548-2								
Acenaphthene	72		-		60-132	-		30
Fluoranthene	82		-		43-121	-		30
Naphthalene	66		-		36-120	-		30
Benzo(a)anthracene	77		-		42-133	-		30
Benzo(a)pyrene	79		-		32-148	-		30
Benzo(b)fluoranthene	82		-		42-140	-		30
Benzo(k)fluoranthene	74		-		25-146	-		30
Chrysene	73		-		44-140	-		30
Acenaphthylene	76		-		54-126	-		30
Anthracene	77		-		43-120	-		30
Benzo(ghi)perylene	81		-		1-195	-		30
Fluorene	77		-		70-120	-		30
Phenanthrene	73		-		65-120	-		30
Dibenzo(a,h)anthracene	84		-		1-200	-		30
Indeno(1,2,3-cd)pyrene	88		-		1-151	-		30
Pyrene	78		-		70-120	-		30
Pentachlorophenol	68		-		38-152	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST

Project Number: 134090-003

Lab Number: L1943662

Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1288548-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	42				25-87
Phenol-d6	31				16-65
Nitrobenzene-d5	70				42-122
2-Fluorobiphenyl	70				46-121
2,4,6-Tribromophenol	102				45-128
4-Terphenyl-d14	81				47-138

INORGANICS
&
MISCELLANEOUS

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1943662
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1943662-01
Client ID: HA17-2(OW)
Sample Location: BOSTON

Date Collected: 09/20/19 13:00
Date Received: 09/20/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Phenolics, Total	ND		mg/l	0.030	--	1	09/23/19 04:50	09/23/19 09:21	4,420.1	MV

Project Name: 105 WEST FIRST ST
Project Number: 134090-003
Lab Number: L1943662
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1287252-1										
Phenolics, Total	ND		mg/l	0.030	--	1	09/23/19 04:50	09/23/19 09:10	4,420.1	MV

Lab Control Sample Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST

Project Number: 134090-003

Lab Number: L1943662

Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1287252-2								
Phenolics, Total	95		-		70-130	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 105 WEST FIRST ST
Project Number: 134090-003

Lab Number: L1943662
Report Date: 09/27/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1287252-4 QC Sample: L1943360-01 Client ID: MS Sample												
Phenolics, Total	ND	0.4	0.36	90		-	-		70-130	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: 105 WEST FIRST ST

Project Number: 134090-003

Lab Number: L1943662

Report Date: 09/27/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1287252-3 QC Sample: L1943360-01 Client ID: DUP Sample						
Phenolics, Total	ND	ND	mg/l	NC		20

Project Name: 105 WEST FIRST ST
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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	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1943662-01A	Amber 950ml H2SO4 preserved	A	<2	<2	4.0	Y	Absent		TPHENOL-420(28)
L1943662-01B	Amber 1000ml Na2S2O3	A	7	7	4.0	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7)
L1943662-01C	Amber 1000ml Na2S2O3	A	7	7	4.0	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7)

*Values in parentheses indicate holding time in days

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GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	105 WEST FIRST ST	**Lab Number:**	L1943662
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1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

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

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

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

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

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

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

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

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

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

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

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

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

ND - Not detected at the reporting limit (RL) for the sample.

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	105 WEST FIRST ST	**Lab Number:**	L1943662
Project Number:	134090-003	**Report Date:**	09/27/19

REFERENCES

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

129 Method 625.1: Base/Neutrals and Acids by GC/MS, EPA 821-R-16-007, December 2016.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581 — 8 Walkup Dr. — TEL: 508-898-9220 — FAX: 508-898-9193

Mansfield, MA 02048 — 320 Forbes Blvd — TEL: 508-822-9300 — FAX: 508-822-3288

Service Centers: Brewer, ME 04412 — Portsmouth, NH 03801 — Mahwah, NJ 07430 — Albany, NY 12205 — Tonawanda, NY 14150 — Holmes, PA 19043

Page 1 of 1

Date Rec'd in Lab: 9/20/19

ALPHA Job #: L1943662

H&A Information

H&A Client:
H&A Address: 465 Medford Street
Boston, MA 02129
H&A Phone: 617-886-7400
H&A Fax:
H&A Email: LVanzler@HALaboratory.com

Project Information

Project Name: 105 West Front St
Project Location: Boston
Project #: B4090-003
(Use Project name as Project #)
Project Manager: L. Vanzler
ALPHAQuote #:

Turn-Around Time

Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days: 5 Day

Deliverables

☑ Email ☐ Fax
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other:

Regulatory Requirements (Program/Criteria)

MA

Note: Select State from menu & identify criteria.

Billing Information

☑ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration

☐ Done
☐ Lab to do

Preservation
☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	625.1 RGP	625.1 SIM	TPhenol					Sample Specific Comments	Total # Bottles
43662-01	HA17-2(0W)	9/20/19	1300	GW	SRP	X	X	X						3

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code:
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A	A	A					
Preservative	N	H	D					

Relinquished By:	Date/Time	Received By:	Date/Time
	9/20/19 1330		9/20/19 1630
	9/20/19 1630		9/20/19 1730
	9/20/19 1900		9/20/19 1900

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical.

Document ID: 20455 Rev 1 (1/28/2016)