NOTICE OF INTENT FOR DISCHARGE PURSUANT TO MASSACHUSETTS REMEDIATION GENERAL PERMIT MAG9100000

671-675 CONCORD AVENUE

CAMBRIDGE, MASSACHUSETTS

FEBRUARY 23, 2018

Prepared For:
United States Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square, Suite 100
Mail Code OEP06-01
Boston, MA 02109-3912

On Behalf Of:

HRI Concord Highlands, LLC & NEI General Contracting

PROJECT NO. 6111

2269 Massachusetts Avenue
Cambridge, MA 02140
www.mcphailgeo.com
(617) 868-1420

February 23, 2018

United States Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square, Suite 100
Mail Code OEP06-01
Boston, MA 02109-3912

Attention: EPA RGP Applications Coordinator

Reference: 671-675 Concord Ave - Cambridge, MA;
Notice of Intent for Temporary Construction Dewatering Discharge;
Massachusetts Remediation General Permit MAG910000

Ladies and Gentlemen:

In accordance with the provisions of the Remediation General Permit (RGP) MAG910000 that has been prepared for the Commonwealth of Massachusetts, the following is a summary of the site and groundwater quality information in support of a Notice of Intent for the temporary discharge of groundwater from the above-referenced property into the Alewife Brook via the City of Cambridge storm drain system. The temporary construction dewatering discharge will occur as part of the proposed redevelopment of the above referenced property. Refer to **Figure 1,** Project Location Plan for the general site locus.

These services were performed and this permit application was prepared in accordance with the verbal authorization of HRI Concord Highlands, LLC. These services are subject to the limitations contained in **Appendix A**.

The required Notice of Intent (NOI) Form contained in the RGP permit as well as a copy of City of Cambridge permit to dewater are included in **Appendix B**. Additional supporting information including a Massachusetts DEP Resource Map, USGS Streamflow Statistics Report, Dilution Factor and WQBEL Calculations, Massachusetts Cultural Resource Information System (MACRIS) Report, and U.S. Fish and Wildlife Information for Planning Consultation (IPaC) Report are contained in **Appendix C**. This project is considered Activity Category I- F as defined in the RGP. Category I- F is defined as Petroleum Related Site Remediation with Fuel Parameters. However, based on historical and current groundwater analysis completed at the site and the constituents of concern (COCs) that were detected, subcategory A (Inorganics), B (Non- Halogenated Volatile Organic Compounds) D (Non-Halogenated Semi Volatile Organic Compounds) and F (Fuel Parameters) apply. Thus, Technology Based Effluent Limitations (TBELs) for Type A, B, D, and F contamination apply. Water Quality Based Effluent Limitations (WQBELs) were calculated in accordance with Appendix V of the RGP for the parameters detected.

GEOTECHNICAL AND GEOENVIRONMENTAL ENGINEERS
2269 Massachusetts Avenue
Cambridge, Massachusetts 02140
(617) 868-1420

Owner/Operator

The Owner for the Notice of Intent-Remediation General Permit is:

HRI Concord Highlands, LLC
280 Franklin Street
Cambridge, MA 02139

Attention: Ms. Jane Carbone

The operator for the Notice of Intent-Remediation General Permit is:

NEI General Contracting
27 Pacella Park Drive
Randolph, MA 02368

Attention: Mr. William Parker

It is noted that the owner and operator are requesting authorization as co-permittees.

Existing Conditions

Fronting onto Concord Avenue to the south, the 671-675 Concord Avenue (subject site) is bounded by commercial
properties to the north, east and west. The subject site is comprised of two (2) contiguous parcels of land. The 671 Concord Avenue portion of the subject site occupies 36,173 square feet of land, and the 675 Concord Avenue portion of the subject site occupies 12,012 square feet of land. Currently, both parcels are undeveloped. The limits of the subject site are shown on the enclosed **Figure 2**, Site and Subsurface Exploration Plan.

Proposed Scope of Site Development

The proposed development will include the construction of a 5 to 6-story multi-unit residential structure with the lowest level slab Elevation +18.5. It is understood that the southern end of the proposed building will be benched into the existing slope. Offices and storage areas are planned to occupy the southern portion of the lowest level of the structure and an open-air surface parking garage is planned to occupy the lowest level on northern portion of the structure.

The grading around the exterior of the building will slope downward from the south to north and will range from Elevation +23.0 to Elevation +18.5.

Site Environmental Setting and Surrounding Historical Places

Based on an on-line edition of the Massachusetts Geographic Information Systems MassDEP MCP Numerical Ranking System Map, the subject site is not located within the boundaries of a Sole Source Aquifer, Potentially Productive Aquifer or within a Zone II, Interim Wellhead Protection Area as defined by the Massachusetts Department of Environmental Protection. Further, there are no public drinking water supply wells and no Areas of Critical Environmental Concern within specified distances of the project site. Additionally, a Protected Open Space exists surrounding the Fresh Pond located approximately 100 feet to the south of the subject site

Furthermore, per documentation provided by the U.S. Fish and Wildlife Information for Planning and Consultation (IPaC), there are no threatened, endangered, or candidate species on the species list that would be affected by the proposed site discharge. The IPaC report also indicated no critical habitats within the subject site and, thus, FWS Criterion A in section G of the RGP applies.

The Resource Map indicates that there are no water bodies or wetland areas at the subject site. No areas designated as solid waste sites (landfills) are noted as being located within 1,000 feet of the site. The closest body of water is the Black Nook located approximately 300 feet to the southwest of the subject site. However, the proposed discharge location and thus the receiving water body is noted as the Alewife Brook which flows north into the Mystic River. A copy of the Massachusetts DEP Phase I Site Assessment Map is included in **Appendix C**.

As further discussed below, treated construction dewatering effluent will be discharged into the City of Cambridge dedicated storm drain system that flows into the Alewife Brook. The dewatering of groundwater at the site will be temporary and intermittent. Groundwater discharged as part of the proposed project will be controlled and monitored. Treatment systems will consist of temporary structures. Therefore, based on the anticipated duration of construction dewatering and the location of its discharge into the Alewife Brook, construction dewatering activities are not anticipated to affect historical properties. Hence, the site meets Permit Eligibility Criterion A in accordance with Appendix III of the RGP.

Site & Release History

In summary, based on a review of available historic documents, the subject site had been occupied by a pond and associated wetlands during the early 1900s. The 671 Concord Avenue portion of the subject site had been occupied by an oil supply company and filling station since at least 1935. The 675 Concord Avenue portion of the subject site had been utilized for commercial purposes since at least 1953.

Records reviewed at the City of Cambridge Inspectional Services Department indicated the historical presence of a petroleum holding area and a filling station at the subject site since the 1930s. Reportedly, registered USTs had been present at the site from at least 1956 until

April 1976. Specifically, MCP reports prepared by others indicate that the Carny-Young Utilities Corporation, the former occupant of the subject site, utilized twelve (12) USTs at the property. Further, MCP reports indicate the Cambridge Fire Department files included records documenting the removal of three (3) USTs during December 1987, and the removal of nine (9) USTs during March 1990.

The subject site address of 671 Concord Avenue is a listed release site under Release Tracking Number (RTN) 3-00269 due to a release of petroleum to soil and groundwater. According to the DEP database, the release site is currently in Phase V Remedy Operation status. Due to a recent change in responsible party, a report entitled "Phase I Initial Site Investigation, Tier II Classification, Eligible Persons Certification and Phase II Conceptual Scope of Work, Former Belmont Oil, 671 Concord Avenue, Cambridge, Massachusetts 02138" dated February 2016 and prepared by CEA was submitted to the DEP on February 26, 2016. A Permanent Solution has not been achieved for this release.

Construction Site Dewatering

As indicated above, it is anticipated that small excavations during site construction associated with installations of utilities and preparation of foundation bearing surfaces will extend below the surface of groundwater. As a result, the dewatering of groundwater within these excavations will be required. Based upon the relatively small area of the excavations, the discharge flow rate will likely range from approximately 5 to 50 gallons per minute (gpm). These estimates do not include surface run-off which will be removed from the excavation during periods of precipitation.

A review of available subgrade sanitary and storm sewer system plans accessed from the Cambridge Department of Power and Water (DPW) GIS database identified the presence of a dedicated storm water drain system located beneath Main Street. The discharge flow, indicated by DPW plans, flows northwest and discharging in outfall D34OF0000 adjacent to the border of Belmont and the City of Cambridge as shown on the enclosed **Figure 3**.

Summary of Groundwater Analysis

In October and November 2017 as well as in February 2018, McPhail Associates, LLC obtained samples of groundwater from monitoring well MA-2 (OW) located at the southeast portion of the subject site. Analytical results of the testing of groundwater samples obtained in 2017 and 2018 are summarized in **Table 1** and the laboratory data are enclosed in **Appendix D**. In addition, a surface water sample was obtained on January 31, 2018 from Blair Pond in Cambridge, MA (42.395144, -71.155904), which is located upstream of the proposed discharge into the Alewife Brook receiving water. The approximate location of sample collection is indicated on the enclosed **Figure 3**, and analytical test results are included in the enclosed **Appendix E**.

The above referenced groundwater samples were submitted to a certified laboratory for analysis for the presence of compounds required under the EPA's RGP, including total suspended solids (TSS), pH, hardness, RGP Inorganic Compounds, volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), extractable petroleum hydrocarbons (EPH), and total petroleum hydrocarbons (TPH). Additionally, the receiving water body was tested for total RGP metals, ammonia, pH, and hardness. The results of the laboratory analysis completed of the sample taken from the receiving water body are summarized in **Table 2** and laboratory data is included in **Appendix D**. The receiving water sample was analyzed for the presence of total recoverable metals, pH, and hardness. Receiving water data and laboratory data are included in **Appendix E**.

In summary, groundwater testing performed at the subject site has detected concentrations of SVOCs, VOCs, EPH, and specific metals present in groundwater at the subject site. Laboratory test results of groundwater collected by McPhail on October 25, 2017 indicates 1,2, dichloroethane at a concentration of 0.016 mg/l, which is above RCGW-2 Reportable Concentrations of 0.005 mg/l. On November 10, 2017, a second sample was collected and retested for MCP Volatile Organic Compounds. The second round of sampling indicated that 1,2, dichloroethane was not detected above the laboratory detection limit of 0.004 mg/l which is below the RCGW-2 limit value of 0.005 mg/l. Therefore, a 120-day release condition does not exist at the subject site at this time for the observed concentrations of 1,2, dichloroethane. It is also noted in both samples of groundwater contained elevated benzene and ethylbenzene levels but below MCP RCGW-2 Risk Standards.

Furthermore, groundwater collected by McPhail in early 2018 indicated total cyanide at a concentration of 248 ug/l. A second groundwater sample was obtained and analyzed for physiologically available cyanide (PAC) to clarify the previously reported elevated level of cyanide. Analytical results indicated PAC at a concentration of 5 ug/l, which is below the RCGW-2 Reportable Concentrations of 30 ug/l.

Water Quality-Based Effluent Limits (WQBELs) were calculated for each of the detected compounds. Per the calculations, Type A and F compounds do exceed the applicable Technology Based Effluent Limits (TBELs) and WQELS were attributed to detectable compounds. Documentation of NOI support calculations is included in **Appendix C**.

Given that the subject site is an MCP site, the proposed dewatering associated with this permit application is considered Activity Category I- F as defined in the RGP. Category I- F is defined as Petroleum Related Site Remediation with Fuel Parameters. However, based on historical and current groundwater analysis completed at the site and the constituents of concern (COCs) that were detected, subcategory A (Inorganics), B (Non- Halogenated Volatile Organic Compounds) D (Non-Halogenated Semi Volatile Organic Compounds) and F (Fuel Parameters) apply. Thus, Technology Based Effluent Limitations (TBELs) for Type A, B, D, and F contamination apply. Water Quality Based Effluent Limitations (WQBELs) were calculated in accordance with Appendix V of the RGP for the parameters detected.

Groundwater Treatment

Based upon the anticipated rates of construction dewatering in conjunction with the results of the above referenced groundwater analyses, it is our opinion that one 10,000-gallon capacity settling tank, bag filters, a granular activated carbon (GAC) filter, and an ion - exchange resin media filter in series will be necessary to settle out and remove particulate matter as well as to remove fuel parameters and metals in effluent to meet the limits established by the US EPA prior to the discharge of the effluent. A schematic of the treatment system is shown on **Figure 4**.

A Best Management Practices Plan (BMPP) has been prepared as **Appendix F** to the RGP and will be posted at the site during the time period that temporary construction dewatering is occurring at the site.

Summary and Conclusions

The purpose of this report is to summarize site environmental conditions and groundwater data to support a Notice of Intent to discharge under the Remediation General Permit, for the off-site discharge of dewatered groundwater which will be encountered during construction at the 671-675 Concord Ave property located in Cambridge, Massachusetts. The groundwater testing results reported in this application have been provided to the site owner.

Based on the results of the above referenced groundwater analyses, treatment of construction dewatering will be necessary to meet the effluent limits established by the US EPA prior to off-site discharge. The proposed construction dewatering effluent treatment system will consist of one 10,000-gallon capacity settling tank, bag filters, ion-exchange resin exchange, and granular activated carbon (GAC) filters in series. However, should the effluent monitoring results identify concentrations of contaminants that are in excess of the limits established by the RGP, additional mitigative measures will be implemented to meet the allowable discharge limits.

We trust that the above satisfies your present requirements. Should you have any questions or comments concerning the above, please do not hesitate to contact us.

Sincerely,

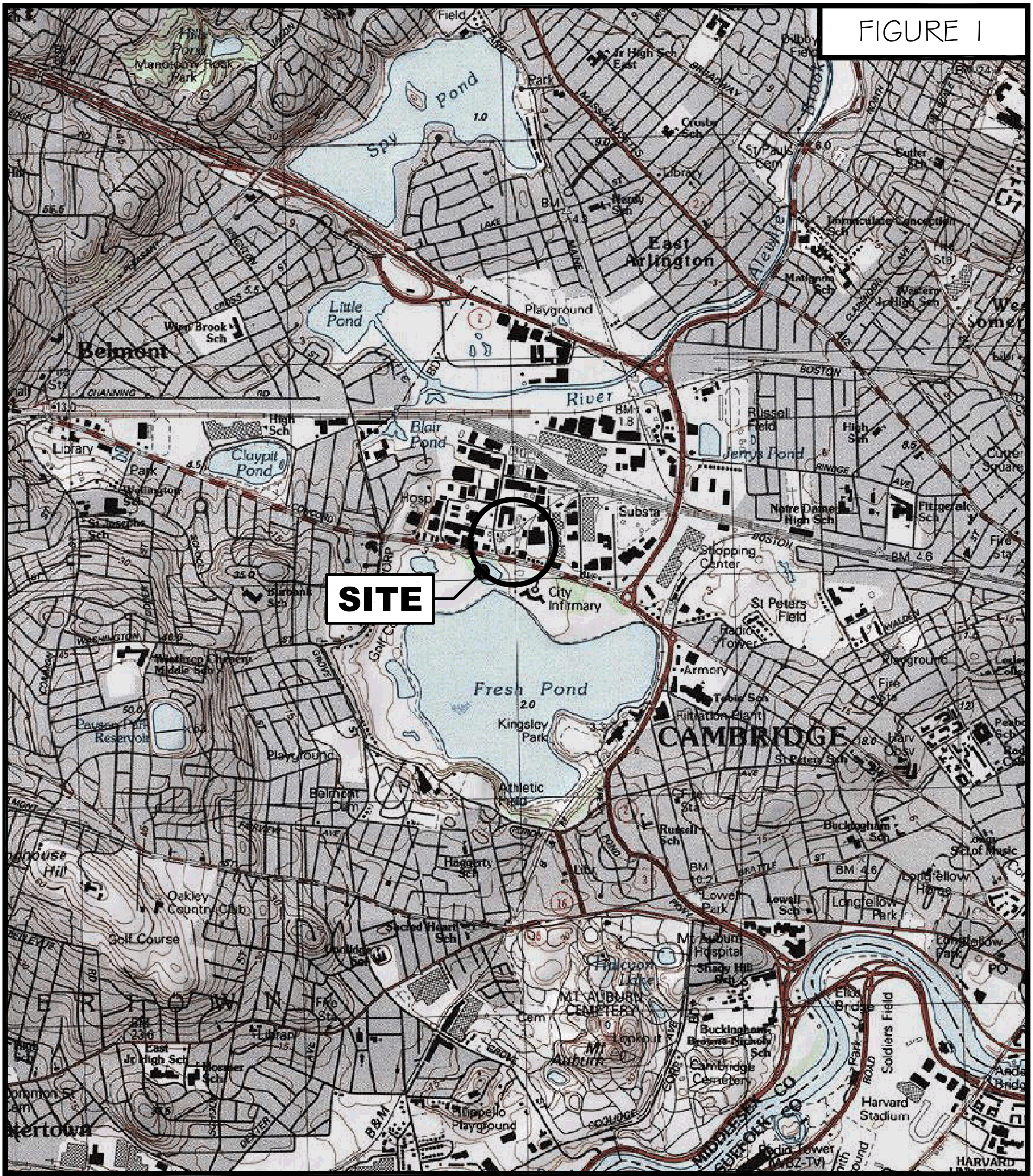
McPHAIL ASSOCIATES, LLC

Kirk W. Seaman

William J, Burns L.S.P.

N:\Working Documents\Reports\6111 RGP 013118 Rev1.docx

FIGURE 1



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617/868–1423 (Fax)
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N

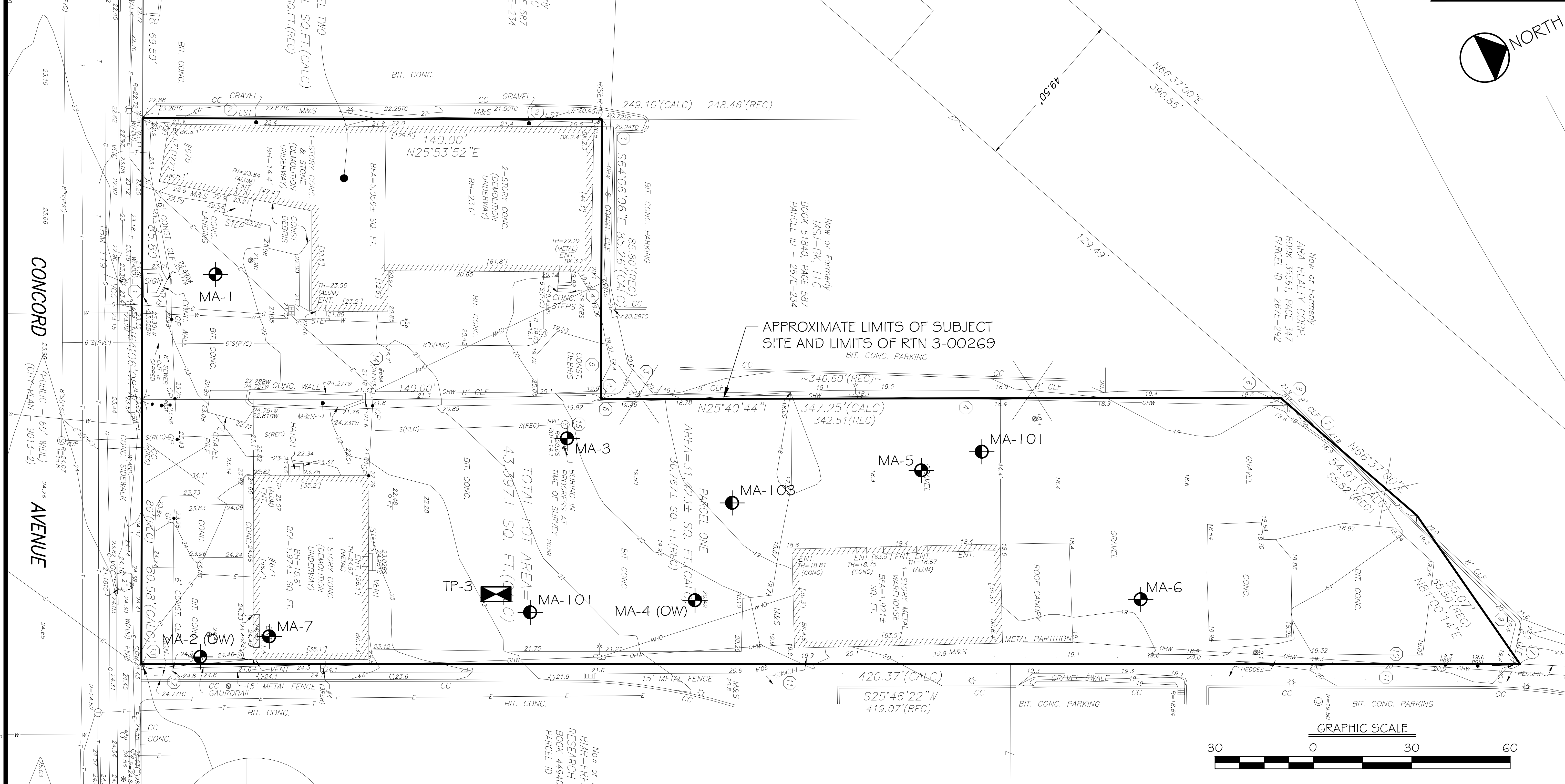
SCALE 1:25,000

PROJECT LOCATION PLAN

671-675 CONCORD AVENUE

CAMBRIDGE MASSACHUSETTS

FIGURE 2



LEGEND

— APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY CARR-DEE CORP. ON MARCH 10, 11, 14 AND 15, 2016 FOR McPHAIL ASSOCIATES, LLC

— APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY GEOLOGIC EARTH EXPLORATION, INC. ON MARCH 24, 25, 28 AND 29 FOR McPHAIL ASSOCIATES, LLC

— APPROXIMATE LOCATION OF TEST PIT PERFORMED BY LEDERMAN ENGINEERING, INC. ON MARCH 25, 2016 FOR McPHAIL ASSOCIATES, LLC

(OW) — INDICATES OBSERVATION WELL INSTALLED WITHIN COMPLETED BOREHOLE.

REFERENCE: THIS PLAN WAS PREPARED FROM A 20-SCALE DRAWING ENTITLED "ALTA/NSPS LAND TITLE SURVEY" DATED MARCH 22, 2016 BY FELDMAN LAND SURVEYORS.

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671-675 CONCORD AVENUE

CAMBRIDGE MASSACHUSETTS

SUBSURFACE EXPLORATION PLAN

FOR

HOMEOWNERS REHAB INC.

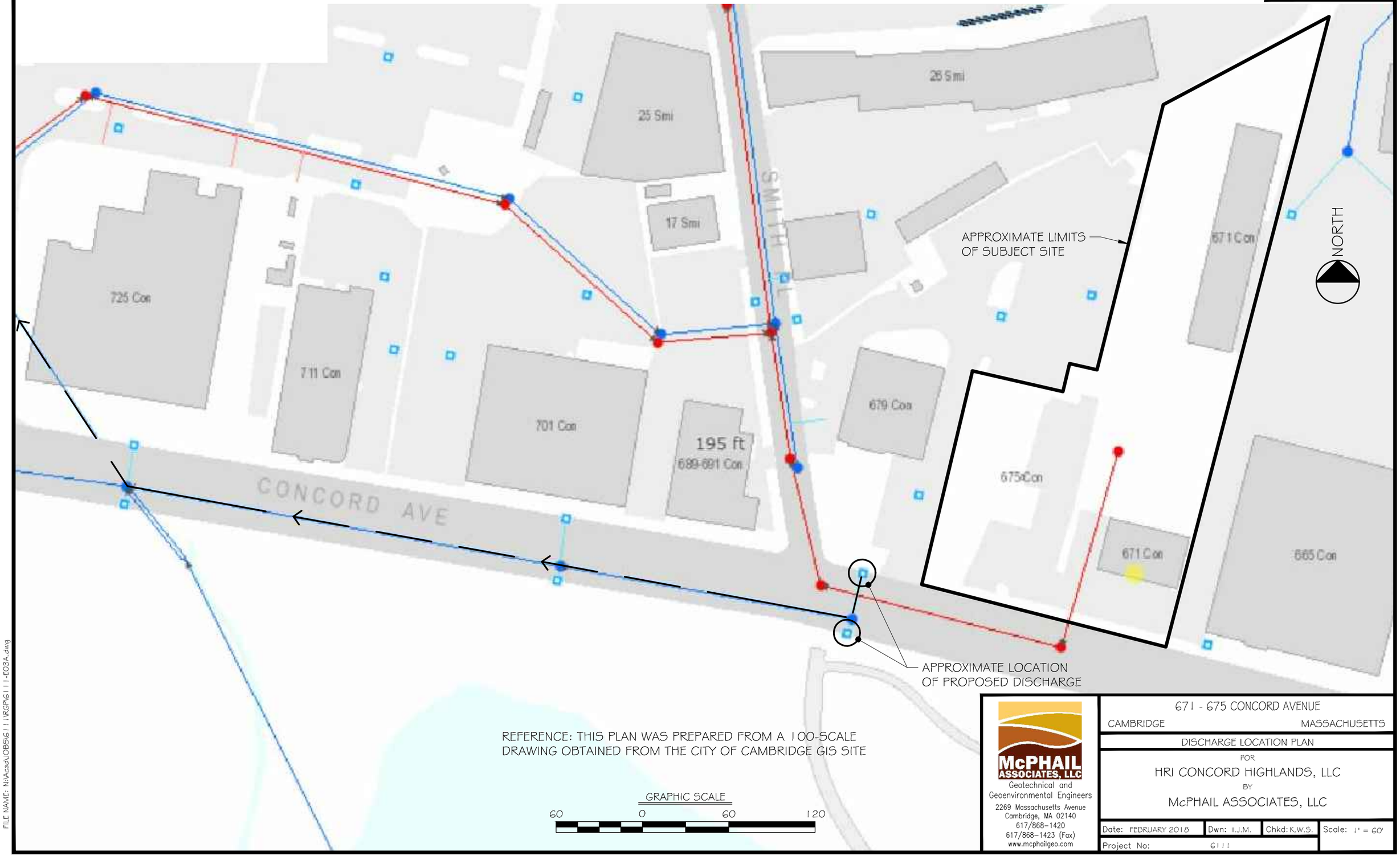
BY

McPHAIL ASSOCIATES, LLC

Date: FEBRUARY 2018	Dwn: K.W.S.	Chkd: A.M.F.	Scale: 1" = 30'
Project No: 6111			

FILE NAME: N:\Acad\JOBS\6111\RGP6111-F02.dwg

FIGURE 3A



REFERENCE: THIS PLAN WAS PREPARED FROM A 100-SCALE DRAWING OBTAINED FROM THE CITY OF CAMBRIDGE GIS SITE

GRAPHIC SCALE

60 0 60 120

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671 - 675 CONCORD AVENUE
CAMBRIDGE MASSACHUSETTS

DISCHARGE LOCATION PLAN

FOR
HRI CONCORD HIGHLANDS, LLC
BY
McPHAIL ASSOCIATES, LLC

Date: FEBRUARY 2018	Dwn: I.J.M.	Chkd: K.W.S.	Scale: 1" = 60'
Project No: 6111			

FILE NAME: N:\Acad\JOBS\6111\RGP\6111-EO3A.dwg

FIGURE 3B

APPROXIMATE LOCATION OF
DISCHARGE INTO ALEWIFE BROOK

NORTH

61 Moo

MOONEY ST

APPROXIMATE LOCATION
OF UPSTREAM RECEIVING
WATER BODY SAMPLE

REFERENCE: THIS PLAN WAS PREPARED FROM A 100-SCALE
DRAWING OBTAINED FROM THE CITY OF CAMBRIDGE GIS SITE

GRAPHIC SCALE

60 0 60 120

FILE NAME: N:\Acad\JOBS\6111\RGPAG111-F03B.dwg

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671 - 675 CONCORD AVENUE
CAMBRIDGE MASSACHUSETTS

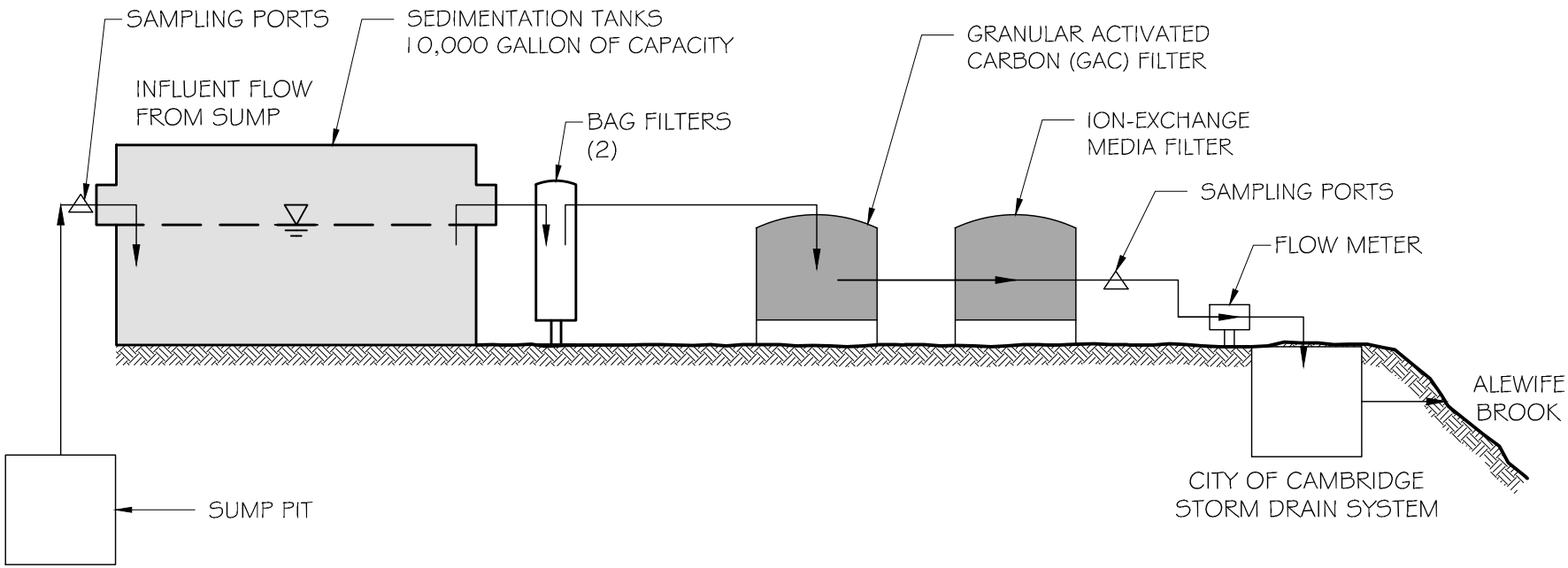
DISCHARGE LOCATION PLAN

FOR
HRI CONCORD HIGHLANDS, LLC
BY
McPHAIL ASSOCIATES, LLC

Date: FEBRUARY 2018	Dwn: I.J.M.	Chkd: K.W.S.	Scale: 1" = 60'
Project No: 6111			

FILE NAME: N:\Acad\JOBS\6111\RGP\6111-E04rev1.dwg

FIGURE 4



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671 - 675 CONCORD AVENUE
CAMBRIDGE MASSACHUSETTS

SCHEMATIC OF TREATMENT SYSTEM

FOR
HRI CONCORD HIGHLANDS, LLC
BY
McPHAIL ASSOCIATES, LLC
CONSULTING GEOTECHNICAL ENGINEERS

Date: FEBRUARY 2018	Dwn: M.B.S.	Chkd: K.W.S.	Scale: N.T.S.
Project No: 6111			

Table 1 - Groundwater Analytical Results

671-675 Concord Ave; Cambridge, MA
McPhail Job No. 6111

LOCATION		MA-2 (OW)	MA-2 (OW)	MA-2 (OW)	MA-2(OW)	MA-2(OW)
SAMPLING DATE		10/25/2017	11/10/2017	11/10/2017	2/2/2018	2/9/2018
LAB SAMPLE ID		L1738863-01/02	L1741508-01	1741508-01 R1	L1803837-01	L1804723-01/R
	EPA-ALFCMC					
General Chemistry (ug/l)						
Solids, Total Suspended		61000	-	-	-	-
pH (SU)		6.8	-	-	6.8	-
Oil & Grease, Hem-Grav		ND(4000)	-	-	-	-
Nitrogen, Ammonia		-	-	-	12700	-
Chromium, Hexavalent	16	-	-	-	ND(10)	-
Chromium, Trivalent	570	-	-	-	ND(10)	-
Cyanide, Total	22	-	-	-	**248**	-
Cyanide, Physiologically Available		-	-	-	-	5
Chloride	860000	-	-	-	343000	-
Chlorine, Total Residual		-	-	-	-	ND(20)
TPH, SGT-HEM		-	-	-	-	ND(4000)
Phenolics, Total		-	-	-	-	ND(30)
Total Hardness (ug/l)						
Hardness		-	-	-	646000	-
Total Metals (ug/l)						
Antimony, Total		ND(50)	-	-	ND(4)	-
Arsenic, Total	340	15	-	-	4.73	-
Cadmium, Total	2	**ND(5)**	-	-	**2.25**	-
Chromium, Total		ND(10)	-	-	1.08	-
Copper, Total		ND(10)	-	-	ND(1)	-
Iron, Total		-	-	-	5050	-
Lead, Total	65	25	-	-	5.44	-
Mercury, Total	1.4	ND(0.2)	-	-	ND(0.2)	-
Nickel, Total	470	ND(25)	-	-	ND(2)	-
Selenium, Total		ND(10)	-	-	9.24	-
Silver, Total	3.2	**ND(7)**	-	-	ND(0.5)	-
Zinc, Total	120	ND(50)	-	-	ND(10)	-
MCP Dissolved Metals (ug/l)						
Lead, Dissolved	65	-	ND(10)	-	-	-

ND-Denotes Not Detected Above Laboratory Detection Limits
Blank-Not Tested
(xx)-Laboratory Method Detection Limits

Table 1 - Groundwater Analytical Results

671-675 Concord Ave; Cambridge, MA
McPhail Job No. 6111

Extractable Petroleum Hydrocarbons (ug/l)						
C9-C18 Aliphatics		174	-	-	-	-
C19-C36 Aliphatics		ND(100)	-	-	-	-
C11-C22 Aromatics		318	-	-	-	-
C11-C22 Aromatics, Adjusted		181	-	-	-	-
Polychlorinated Biphenyls (ug/l)						
ALL		ND	-	-	-	-
Semivolatile Organics (ug/l)						
Naphthalene		63	-	-	-	71
Bis(2-ethylhexyl)phthalate		4.6	-	-	-	-
2-Methylnaphthalene		7.4	-	-	-	-
Acenaphthene		-	-	-	-	0.96
Fluoranthene		-	-	-	-	0.52
Anthracene		-	-	-	-	0.38
Fluorene		-	-	-	-	1.2
Phenanthrene		-	-	-	-	1.3
Pyrene		-	-	-	-	0.54
MCP Volatile Organics (ug/l)						
Benzene		720	630	-	-	530
Toluene		53	56	-	-	120
Ethylbenzene		1500	1800	1900	-	2300
Methyl tert butyl ether			130	-	-	78
p/m-Xylene		120	140	-	-	480
o-Xylene		21	28	-	-	120
Xylene (Total)		140	170	-	-	600
cis-1,2-Dichloroethene		-	ND(5)	-	-	ND(12)
1,2-Dichloroethene (total)		-	ND(5)	-	-	-
1,2-Dichloroethane		16	ND(4)	-	-	-
n-Butylbenzene		-	11	-	-	-
Isopropylbenzene		-	76	-	-	-
Naphthalene		-	230	-	-	-
n-Propylbenzene		-	170	-	-	-
1,3,5-Trimethylbenzene		-	32	-	-	-
1,2,4-Trimethylbenzene		-	12	-	-	-

ND-Denotes Not Detected Above Laboratory Detection Limits
Blank-Not Tested
(xx)-Laboratory Method Detection Limits

Table 2 - Groundwater Analytical Results

671-675 Concord Ave; Cambridge, MA
McPhail Job No. 6111

LOCATION		**RECEIVING WATER BODY**
SAMPLING DATE		**1/31/2018**
LAB SAMPLE ID		**L1803489-01**
	EPA-ALFCMC	
General Chemistry		
pH (SU)		7
Nitrogen, Ammonia (ug/l)		437
Total Hardness (ug/l)		
Hardness		142000
Total Metals (ug/l)		
Antimony, Total		ND(4)
Arsenic, Total	340	ND(1)
Cadmium, Total	2	0.2
Chromium, Total		1.52
Copper, Total		11.8
Iron, Total		741
Lead, Total	65	7.57
Mercury, Total	1.4	ND(0.2)
Nickel, Total	470	7.77
Selenium, Total		ND(5)
Silver, Total	3.2	ND(0.4)
Zinc, Total	120	50.66

APPENDIX A:

LIMITATIONS

LIMITATIONS

The purpose of this report is to present the results of testing of groundwater samples obtained from a monitoring well located at the 671-675 Concord Ave property located in Cambridge, Massachusetts, in support of an application for approval of construction site dewatering discharge into surface waters of the Commonwealth of Massachusetts under EPA's Massachusetts Remediation General Permit MAG910000.

The observations were made under the conditions stated in this report. The conclusions presented above were based on these observations. If variations in the nature and extent of subsurface conditions between the spaced subsurface explorations become evident in the future, it will be necessary to re-evaluate the conclusions presented herein after performing on-site observations and noting the characteristics of any variations.

The conclusions submitted in this report are based in part upon laboratory test data obtained from analysis of groundwater samples, and are contingent upon their validity. The data have been reviewed, and interpretations have been made in the text. It should also be noted that fluctuations in the types and levels of contaminants and variations in their flow paths may occur due to changes in the seasonal water table, past practices used at the site, and other factors.

Laboratory analyses have been performed for specific constituents during this assessment, as described in the text.

This report and application have been prepared on behalf of and for the exclusive use of HRI Concord Highland, LLC and NEI General Contracting. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, other than submission to relevant governmental agencies, nor used in whole or in part by any other party without the prior written consent of McPhail Associates, LLC.

APPENDIX B:

NOTICE OF INTENT TRANSMITTAL FORM
CAMBRIDGE DEWATERING DISCHARGE PERMIT

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:
671-675 Concord Ave</td><td colspan="3">Site address: 671-675 Concord Ave
Street:</td></tr>
<tr><td>City: CAMBRIDGE</td><td>State: MA</td><td>Zip: 02142</td></tr>
<tr><td rowspan="4">2. Site owner
HRI Concord Highlands, LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Jane Carbone</td></tr>
<tr><td colspan="2">Telephone: (617) 868 4858</td><td>Email: jcarbone@homeownersrehab.org</td></tr>
<tr><td colspan="3">Mailing address: 280 Franklin Street
Street:</td></tr>
<tr><td>City: CAMBRIDGE</td><td>State: MA</td><td>Zip: 02139</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
NEI General Contracting</td><td colspan="3">Contact Person: Matthew Smyska</td></tr>
<tr><td colspan="2">Telephone: 781 356 7666</td><td>Email: msmyska@neigc.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 27 Pacella Park Drive</td></tr>
<tr><td>City: Randolph</td><td>State: MA</td><td>Zip: 02368</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:

NPDES permit is (check all that apply: ■ RGP ☐ DGP ■ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s): 3-0269
☐ 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):
Alewife Brook	MA71-04	CLASS B

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

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

Are sensitive receptors present near the site? (check one): ☐ Yes ■ No
If yes, specify:

3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. No TMDL listed.

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.	0.307 CFS
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	3.75

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: February 22, 2018

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

C. Source water information:

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

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

2. Source water contaminants: Inorganics, VOCs, SVOCs, EPH	
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 N/A
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): City of Cambridge - D34OF0000	Outfall location(s): (Latitude, Longitude) Latitude: 42.369311 Longitude: -71.155389
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Cambridge Storm drain system into Alewife Brook ☐ 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: Upon approval of NPDES RGP Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☐ Yes ■ No	
Provide the expected start and end dates of discharge(s) (month/year): 04/2018 - 04/2019 Indicate if the discharge is expected to occur over a duration of: ☐ less than 12 months ■ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

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

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✔	1	121,4500	75	12700	12700	Report mg/L	---
Chloride			1	44,300	12500		176000	Report µg/l	---
Total Residual Chlorine				121,4500	20	<DL	<DL	0.2 mg/L	41
Total Suspended Solids		✔	1	121,2540(	5,000	61000	61000	30 mg/L	
Antimony	✔		2	3200.8	4	<DL	<DL	206 µg/L	
Arsenic		✔	2	3200.8	0.5	15	9.87	104 µg/L	
Cadmium		✔	1	3200.8	0.2	2.25	2.25	10.2 µg/L	2.155
Chromium III	✔		1	3200.8	10	<DL	<DL	323 µg/L	
Chromium VI	✔		1	3200.8	10	<DL	<DL	323 µg/L	
Copper		✔	1	3200.8	1	<DL	<DL	242 µg/L	
Iron		✔	1	19,200.70	50	5050	5050	5,000 µg/L	1712
Lead		✔	1	3200.8	0.5	5.44	5.44	160 µg/L	22.71
Mercury	✔		1	3,245.10	0.2	<DL	<DL	0.739 µg/L	
Nickel	✔		1	3200.8	2	<DL	<DL	1,450 µg/L	
Selenium		✔	1	3200.8	5	9.24	9.24	235.8 µg/L	
Silver	✔		1	3200.8	0.4	<DL	<DL	35.1 µg/L	
Zinc	✔		1	3200.8	10	<DL	<DL	420 µg/L	
Cyanide		✔	1	30,4500C	5	248	248	178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX		✔	1	1,8260C	12.19.12.25	2960	2960	100 µg/L	---
Benzene		✔	3	1,8260C	12	720	675	5.0 µg/L	---
1,4 Dioxane	✔		1	1,8260C-S	75	<DL	<DL	200 µg/L	---
Acetone	✔		1	1,8260C	120	<DL	<DL	7.97 mg/L	---
Phenol	✔		1	8270	5	<DL	<DL	1,080 µg/L	

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✔		1	8260C	12	<DL	<DL	4.4 µg/L	
1,2 Dichlorobenzene	✔		1	8260C	62	<DL	<DL	600 µg/L	---
1,3 Dichlorobenzene	✔		1	8260C	62	<DL	<DL	320 µg/L	---
1,4 Dichlorobenzene	✔		1	8260C	62	<DL	<DL	5.0 µg/L	---
Total dichlorobenzene	✔		1	8260C	62	<DL	<DL	763 µg/L in NH	---
1,1 Dichloroethane	✔		1	8260C	19	<DL	<DL	70 µg/L	---
1,2 Dichloroethane	✔		3	8260C	4/12	16	10.667	5.0 µg/L	---
1,1 Dichloroethylene	✔		1	8260C	12	<DL	<DL	3.2 µg/L	---
Ethylene Dibromide	✔		1	8260C	12	<DL	<DL	0.05 µg/L	---
Methylene Chloride	✔		1	8260C	75	<DL	<DL	4.6 µg/L	---
1,1,1 Trichloroethane	✔		1	8260C	12	<DL	<DL	200 µg/L	---
1,1,2 Trichloroethane	✔		1	8260C	12	<DL	<DL	5.0 µg/L	---
Trichloroethylene	✔		1	8260C	12	<DL	<DL	5.0 µg/L	---
Tetrachloroethylene	✔		1	8260C	12	<DL	<DL	5.0 µg/L	
cis-1,2 Dichloroethylene	✔		2	8260C	5/12	<DL	<DL	70 µg/L	---
Vinyl Chloride	✔		1	8260C	25	<DL	<DL	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		1	8270D-SI	5	<DL	<DL	190 µg/L	
Diethylhexyl phthalate	✔		1	8270D-SI	5	<DL	<DL	101 µg/L	
Total Group I PAHs	✔		1	8270D-SI	0.1	<DL	<DL	1.0 µg/L	---
Benzo(a)anthracene	✔		1	8270D-SI	0.1	<DL	<DL	As Total PAHs	
Benzo(a)pyrene	✔		1	8270D-SI	0.1	<DL	<DL		
Benzo(b)fluoranthene	✔		1	8270D-SI	0.1	<DL	<DL		
Benzo(k)fluoranthene	✔		1	8270D-SI	0.1	<DL	<DL		
Chrysene	✔		1	8270D-SI	0.1	<DL	<DL		
Dibenzo(a,h)anthracene	✔		1	8270D-SI	0.1	<DL	<DL		
Indeno(1,2,3-cd)pyrene	✔		1	8270D-SI	0.1	<DL	<DL		

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs	✔		1	8270D-SI	0.1	3.42	3.42	100 µg/L	---
Naphthalene		✔	3	8270D-SI	1.0	230	121.3	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		1	608	0.258	<DL	<DL	0.000064 µg/L	---
Pentachlorophenol	✔		0					1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		1	74,1664A	400	<DL	<DL	5.0 mg/L	---
Ethanol			0					Report mg/L	---
Methyl-tert-Butyl Ether		✔	2		25	130	104	70 µg/L	
tert-Butyl Alcohol	✔		1		250	<DL	<DL	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		1		50	<DL	<DL	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 - Inffluent		✔	1	121,2540D	-	6.9	6.8		
Hardness - Inffluent		✔	1	19,200.7	660	508000	478000		
pH - Receiving Water		✔	1	121,2540D	-	7.1			
Hardness- Receiving Water		✔	1	19,200.7	660	118000			

E. Treatment system information

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

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

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

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: GAC filter

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: Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	50
Provide the proposed maximum effluent flow in gpm.	50
Provide the average effluent flow in gpm.	5
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	N/A

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

F. Chemical and additive information

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

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

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

Proposed activities have no potential to affect historic properties. The dewatering of groundwater at the site will be temporary and intermittent. Groundwater discharged as part of the proposed project will be controlled and monitored. Treatment system(s) will consist of temporary structures.

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 Report and supporting documentation.

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

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

J. Certification requirement

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

BMPP certification statement: A BMPP meeting the requirements of this general permit will be developed and implemented prior to the initiation of discharge.	
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ☐ No ☐ N/A
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: Jane Carbone	Date: Feb 16,2018
Print Name and Title: Jane Carbone Director of Housing HRI /Concord Highland LLC	

2/16/18

Sr. PM, NEI General Contracting, Inc.

PERMIT TO DEWATER

Location: 671-675 Concord Ave

Owner: HRI Concord Highlands LLC

Contractor: NEI General Contracting

Temporary ☑

Permanent ☐

The property owner, HRI Concord Highlands LLC agrees to hold harmless and indemnify the City of Cambridge for any liability on the part of the City directly or indirectly arising out of the dewatering operation.

The issuance of this permit is based in part in the submission packet of the applicant with documentation as follows:

MWRA Dewatering Application

In addition, the application has been reviewed by the City under third party agreement as documented in the following reports:

n/a

All activities conducted in conjunction with the issuance of this permit must be in accordance with the provisions of the aforementioned reports. Any deviations in conditions must be reported to and approved by the Commissioner of Public Works.

This permit is in addition to any other street permit issued by the Department in connection with any street excavation or obstruction; and all conditions as specified in the Discharge Permit for Dewatering.

For the entire period of time the groundwater is being discharged to a storm drain, the property owner shall provide copies of each Discharge Monitoring Report Form submitted to the EPA, pursuant to the owner's discharge permit.

If in the future the EPA requires the City of Cambridge to bring existing stormwater drainage into compliance with EPA quality standards, as a condition to the continuation of discharge of that stormwater (also including groundwater) into an EPA regulated system into which the HRI Concord Highlands LLC (property owner) drains, the owner will agree to maintain its water discharge with such EPA water quality standards.

The property owner and contractor shall at all times meet the conditions specified in the requisite legal agreement/affidavits.

All groundwater pumped from the work shall be disposed of without damage to pavements, other surfaces or property.

Where material or debris has washed or flowed into or has been placed in existing gutters, drains, pipes or structures, such material or debris shall be entirely removed and satisfactorily disposed of by the

Contractor during the progress of work as directed by the Public Works Department.

Any flooding or damage of property and possessions caused by siltation of existing gutters, pipes or structures shall be the responsibility of the Contractor.

Provisions shall be made to insure that no material, water or solid, will freeze on any pavement or in any location which will cause inconvenience or hazard to the general public.

Upon completion of the work, existing gutters, drains, pipes and structures shall be (bucket) cleaned and material disposed of satisfactorily prior to release by the Public Works Department.

Any permit issued by the City of Cambridge shall be revoked upon transfer of any ownership interest unless and until subsequent owner(s) or parties of interest agree to the foregoing terms.

This permit shall remain in effect for one year and shall be renewable thereafter at the agreement of the parties.

The following special conditions as set forth below are part of the permit.

n/a

	[signature] LLC
City Manager	Property Manager: Corporate Entity Owner President, General Partner or Trustee Trustee with Instrument of Authority
Date	Date
	[signature]
City Solicitor	Contractor Sr. PM, NEI General Contracting, Inc.
	12/14/17
Date	Date
Commissioner of Public	Contractor
Date	Date

CC: Engineering
Supervisor of Sewer Maintenance and Engineering
Superintendent of Streets
Commissioner of Inspectional Services

APPENDIX C:

DEP PRIORITY RESOURCES MAP

USGS STREAMFLOW STATISTICS REPORT

DILUTION FACTOR AND WQBEL CALCULATIONS

ADDITIONAL NOI SUPPORT INFORMATION

MassDEP - Bureau of W aste Site Cleanup

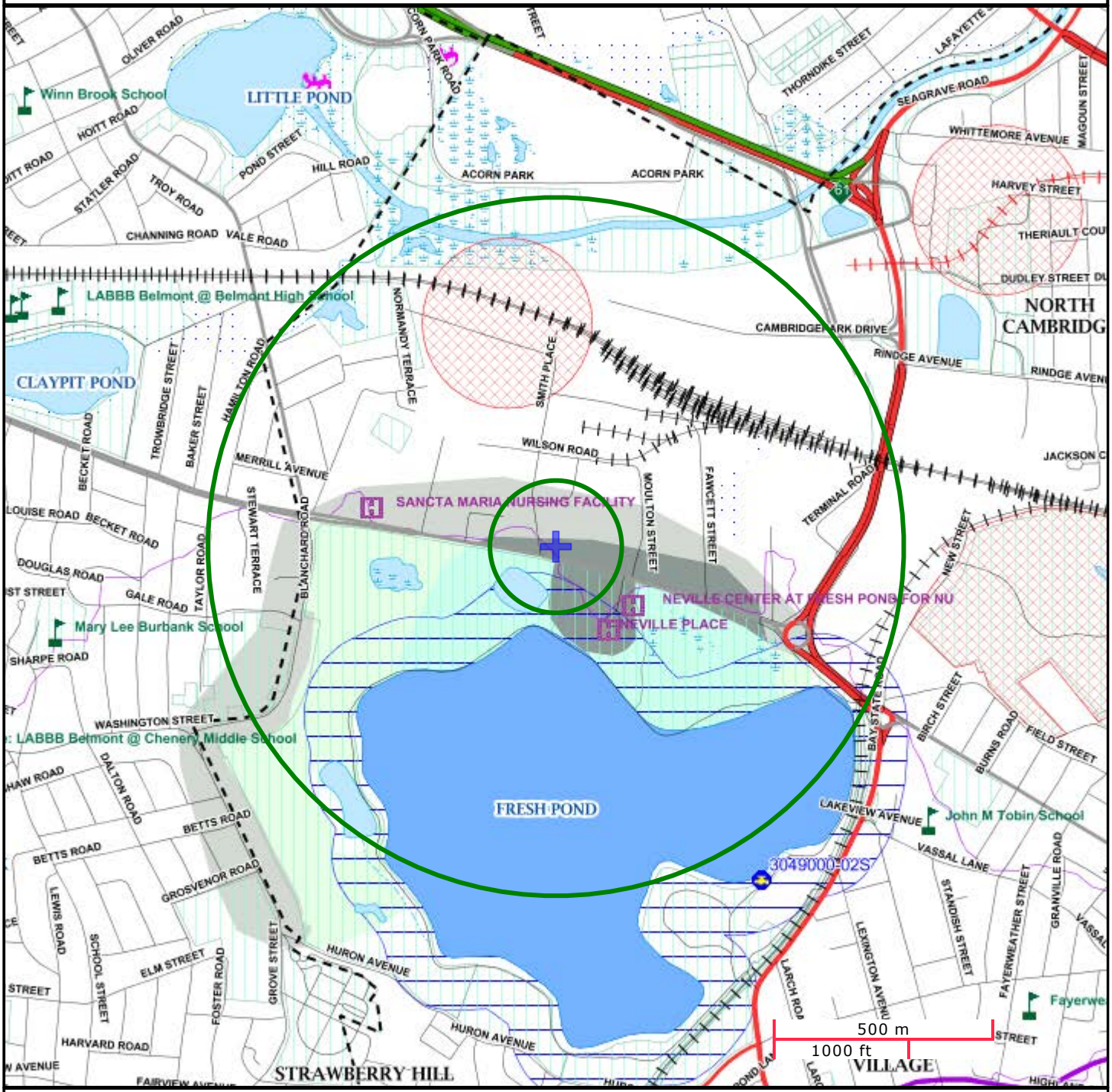
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:

671-675 CONCORD AVE CAMBRIDGE, MA
3-000000269
NAD83 UTM Meters:
4695349mN , 323012mE (Zone: 19)
January 31, 2018

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

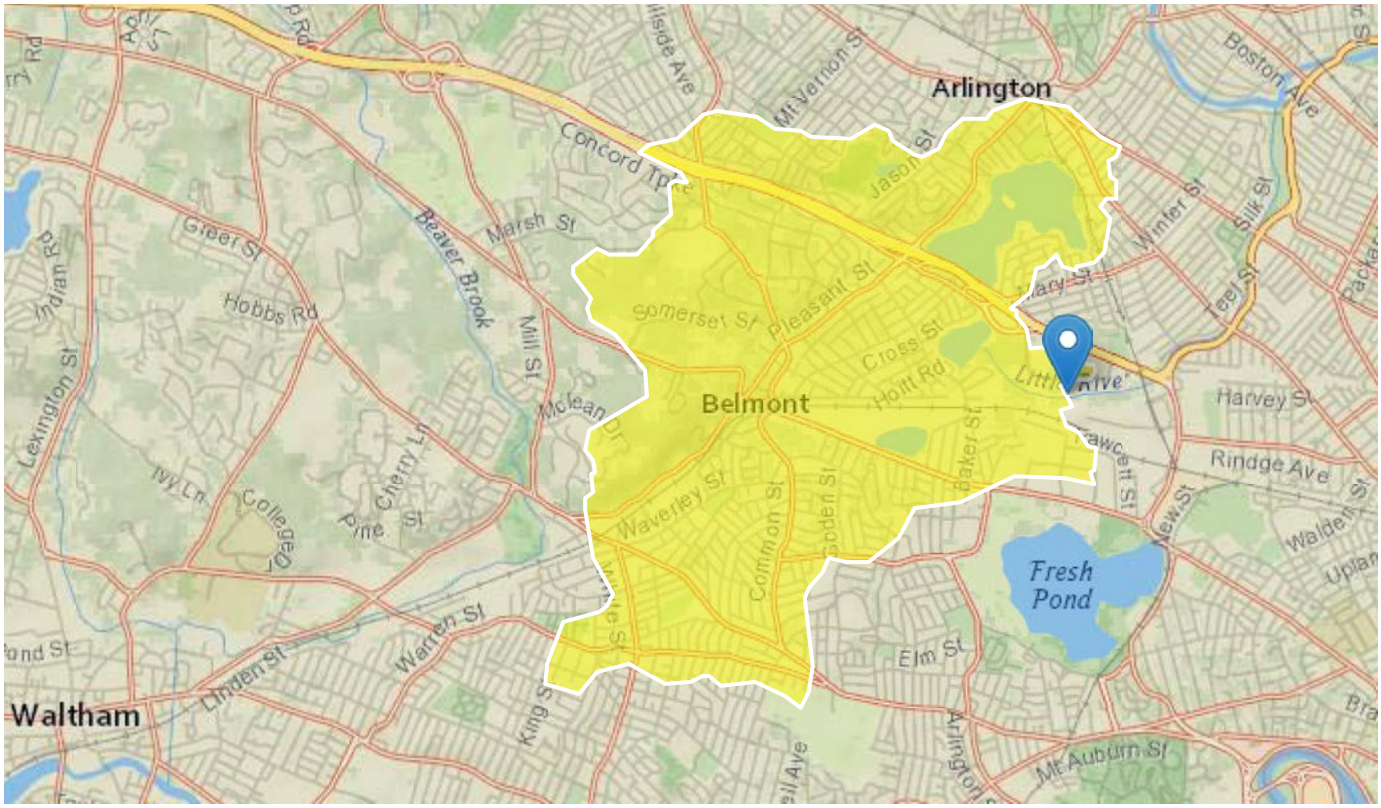
FEMA 100yr Floodplain; Protected Open Space; ACEC

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

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

StreamStats Report

Region ID: MA
Workspace ID: MA20180205182548481000
Clicked Point (Latitude, Longitude): 42.39668, -71.15025
Time: 2018-02-05 13:26:02 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	4.16	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.614	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.4	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	4.16	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	2.614	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.4	square mile per mile	0	1.29

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
MAREGION	Massachusetts Region	0	dimensionless	0	1

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

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

Statistic	Value	Unit	PII	PIu	SE	SEp
7 Day 2 Year Low Flow	0.621	ft^3/s	0.182	2.04	49.5	49.5
7 Day 10 Year Low Flow	0.307	ft^3/s	0.0721	1.22	70.8	70.8

Low-Flow Statistics Citations

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

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 20, 2017
Consultation Code: 05E1NE00-2018-SLI-0193
Event Code: 05E1NE00-2018-E-00477
Project Name: 671-675 Concord Ave

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

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2018-SLI-0193

Event Code: 05E1NE00-2018-E-00477

Project Name: 671-675 Concord Ave

Project Type: DEVELOPMENT

Project Description: <1 acre

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.39060547627081N71.14971901895228W

Counties: Middlesex, MA

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Critical habitats

There are no critical habitats within your project area under this office's jurisdiction.

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Cambridge; Street No: 675; Street Name: Concord Ave; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

APPENDIX D:

LABORATORY ANALYTICAL DATA – GROUNDWATER

ANALYTICAL REPORT

Lab Number:	L1738863
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	671-675 CONCORD AVE.
Project Number:	6111.9.T6
Report Date:	11/02/17

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: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1738863-01	MA-2 (OW)	WATER	CAMBRIDGE, MA	10/25/17 09:00	10/25/17
L1738863-02	MA-2 (OW)	WATER	CAMBRIDGE, MA	10/26/17 12:15	10/26/17

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863
Project Number: 6111.9.T6 **Report Date:** 11/02/17

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:	671-675 CONCORD AVE.	**Lab Number:**	L1738863
Project Number:	6111.9.T6	**Report Date:**	11/02/17

Case Narrative (continued)

Sample Receipt

The list of analyses was provided by the client.

Solids, Total Suspended

WG1056801: A Laboratory Duplicate could not be performed due to insufficient sample volume available for analysis.

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: Kara Soroko

Title: Technical Director/Representative Date: 11/02/17

ORGANICS

VOLATILES

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

SAMPLE RESULTS

Lab ID: L1738863-01 D
Client ID: MA-2 (OW)
Sample Location: CAMBRIDGE, MA

Date Collected: 10/25/17 09:00
Date Received: 10/25/17
Field Prep: Not Specified

Matrix: Water
Analytical Method: 5,624
Analytical Date: 10/26/17 14:23
Analyst: NL

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	50	--	10
1,1-Dichloroethane	ND		ug/l	15	--	10
Chloroform	ND		ug/l	15	--	10
Carbon tetrachloride	ND		ug/l	10	--	10
1,2-Dichloropropane	ND		ug/l	35	--	10
Dibromochloromethane	ND		ug/l	10	--	10
1,1,2-Trichloroethane	ND		ug/l	15	--	10
2-Chloroethylvinyl ether	ND		ug/l	100	--	10
Tetrachloroethene	ND		ug/l	15	--	10
Chlorobenzene	ND		ug/l	35	--	10
Trichlorofluoromethane	ND		ug/l	50	--	10
1,2-Dichloroethane	16		ug/l	15	--	10
1,1,1-Trichloroethane	ND		ug/l	20	--	10
Bromodichloromethane	ND		ug/l	10	--	10
trans-1,3-Dichloropropene	ND		ug/l	15	--	10
cis-1,3-Dichloropropene	ND		ug/l	15	--	10
Bromoform	ND		ug/l	10	--	10
1,1,2,2-Tetrachloroethane	ND		ug/l	10	--	10
Benzene	720		ug/l	10	--	10
Toluene	53		ug/l	10	--	10
Ethylbenzene	1500		ug/l	10	--	10
Chloromethane	ND		ug/l	50	--	10
Bromomethane	ND		ug/l	50	--	10
Vinyl chloride	ND		ug/l	10	--	10
Chloroethane	ND		ug/l	20	--	10
1,1-Dichloroethene	ND		ug/l	10	--	10
trans-1,2-Dichloroethene	ND		ug/l	15	--	10
cis-1,2-Dichloroethene[1]	ND		ug/l	10	--	10
Trichloroethene	ND		ug/l	10	--	10
1,2-Dichlorobenzene	ND		ug/l	50	--	10

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

SAMPLE RESULTS

Lab ID: L1738863-01 D Date Collected: 10/25/17 09:00

Client ID: MA-2 (OW) Date Received: 10/25/17

Sample Location: CAMBRIDGE, MA 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	50	--	10
1,4-Dichlorobenzene	ND		ug/l	50	--	10
p/m-Xylene[1]	120		ug/l	20	--	10
o-xylene[1]	21		ug/l	10	--	10
Xylenes, Total[1]	140		ug/l	10	--	10
Styrene[1]	ND		ug/l	10	--	10
Acetone[1]	ND		ug/l	100	--	10
Carbon disulfide[1]	ND		ug/l	50	--	10
2-Butanone[1]	ND		ug/l	100	--	10
Vinyl acetate[1]	ND		ug/l	100	--	10
4-Methyl-2-pentanone[1]	ND		ug/l	100	--	10
2-Hexanone[1]	ND		ug/l	100	--	10
Acrolein[1]	ND		ug/l	80	--	10
Acrylonitrile[1]	ND		ug/l	100	--	10
Dibromomethane[1]	ND		ug/l	10	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	103		80-120
Fluorobenzene	105		80-120
4-Bromofluorobenzene	98		80-120

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,624
Analytical Date: 10/26/17 11:03
Analyst: NL

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1057062-4					
Methylene chloride	ND		ug/l	5.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Chloroform	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	3.5	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
2-Chloroethylvinyl ether	ND		ug/l	10	--
Tetrachloroethene	ND		ug/l	1.5	--
Chlorobenzene	ND		ug/l	3.5	--
Trichlorofluoromethane	ND		ug/l	5.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	1.5	--
cis-1,3-Dichloropropene	ND		ug/l	1.5	--
Bromoform	ND		ug/l	1.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	5.0	--
Bromomethane	ND		ug/l	5.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.5	--
cis-1,2-Dichloroethene[1]	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,624
Analytical Date: 10/26/17 11:03
Analyst: NL

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1057062-4					
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[1]	ND		ug/l	2.0	--
o-xylene[1]	ND		ug/l	1.0	--
Xylenes, Total[1]	ND		ug/l	1.0	--
Styrene[1]	ND		ug/l	1.0	--
Acetone[1]	ND		ug/l	10	--
Carbon disulfide[1]	ND		ug/l	5.0	--
2-Butanone[1]	ND		ug/l	10	--
Vinyl acetate[1]	ND		ug/l	10	--
4-Methyl-2-pentanone[1]	ND		ug/l	10	--
2-Hexanone[1]	ND		ug/l	10	--
Acrolein[1]	ND		ug/l	8.0	--
Acrylonitrile[1]	ND		ug/l	10	--
Dibromomethane[1]	ND		ug/l	1.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	102		80-120
Fluorobenzene	99		80-120
4-Bromofluorobenzene	97		80-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

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: WG1057062-3								
Methylene chloride	90		-		70-111	-		30
1,1-Dichloroethane	95		-		78-116	-		30
Chloroform	100		-		86-111	-		30
Carbon tetrachloride	75		-		60-112	-		30
1,2-Dichloropropane	90		-		83-113	-		30
Dibromochloromethane	100		-		58-129	-		30
1,1,2-Trichloroethane	105		-		80-118	-		30
2-Chloroethylvinyl ether	90		-		69-124	-		30
Tetrachloroethene	110		-		80-126	-		30
Chlorobenzene	100		-		80-126	-		30
Trichlorofluoromethane	85		-		83-128	-		30
1,2-Dichloroethane	95		-		82-110	-		30
1,1,1-Trichloroethane	95		-		72-109	-		30
Bromodichloromethane	110		-		71-120	-		30
trans-1,3-Dichloropropene	105		-		73-106	-		30
cis-1,3-Dichloropropene	105		-		78-111	-		30
Bromoform	110		-		45-131	-		30
1,1,2,2-Tetrachloroethane	95		-		81-122	-		30
Benzene	95		-		84-116	-		30
Toluene	110		-		83-121	-		30
Ethylbenzene	100		-		84-123	-		30
Chloromethane	90		-		70-144	-		30
Bromomethane	65		-		63-141	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

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: WG1057062-3								
Vinyl chloride	90		-		56-118	-		30
Chloroethane	90		-		74-130	-		30
1,1-Dichloroethene	90		-		77-116	-		30
trans-1,2-Dichloroethene	95		-		81-121	-		30
cis-1,2-Dichloroethene[1]	100		-		85-110	-		30
Trichloroethene	95		-		84-118	-		30
1,2-Dichlorobenzene	95		-		78-128	-		30
1,3-Dichlorobenzene	100		-		77-125	-		30
1,4-Dichlorobenzene	100		-		77-125	-		30
p/m-Xylene[1]	100		-		81-121	-		30
o-xylene[1]	100		-		81-124	-		30
Styrene[1]	105		-		84-133	-		30
Acetone[1]	112		-		40-160	-		30
Carbon disulfide[1]	90		-		54-134	-		30
2-Butanone[1]	96		-		57-116	-		30
Vinyl acetate[1]	110		-		40-160	-		30
4-Methyl-2-pentanone[1]	108		-		79-125	-		30
2-Hexanone[1]	102		-		78-120	-		30
Acrolein[1]	142		-		40-160	-		30
Acrylonitrile[1]	102		-		66-123	-		30
Dibromomethane[1]	95		-		65-126	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

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: WG1057062-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	101				80-120
Fluorobenzene	98				80-120
4-Bromofluorobenzene	98				80-120

Matrix Spike Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1057062-6 QC Sample: L1738828-02 Client ID: MS Sample												
Methylene chloride	ND	200	200	100		-	-		70-111	-		30
1,1-Dichloroethane	ND	200	200	100		-	-		78-116	-		30
Chloroform	ND	200	220	110		-	-		86-111	-		30
Carbon tetrachloride	ND	200	230	**115**	Q	-	-		60-112	-		30
1,2-Dichloropropane	ND	200	190	95		-	-		83-113	-		30
Dibromochloromethane	ND	200	230	115		-	-		58-129	-		30
1,1,2-Trichloroethane	ND	200	230	115		-	-		80-118	-		30
2-Chloroethylvinyl ether	ND	200	180	90		-	-		69-124	-		30
Tetrachloroethene	ND	200	250	125		-	-		80-126	-		30
Chlorobenzene	ND	200	210	105		-	-		80-126	-		30
Trichlorofluoromethane	ND	200	230	115		-	-		83-128	-		30
1,2-Dichloroethane	ND	200	210	105		-	-		82-110	-		30
1,1,1-Trichloroethane	ND	200	230	**115**	Q	-	-		72-109	-		30
Bromodichloromethane	ND	200	240	120		-	-		71-120	-		30
trans-1,3-Dichloropropene	ND	200	200	100		-	-		73-106	-		30
cis-1,3-Dichloropropene	ND	200	180	90		-	-		78-111	-		30
Bromoform	ND	200	220	110		-	-		45-131	-		30
1,1,2,2-Tetrachloroethane	ND	200	190	95		-	-		81-122	-		30
Benzene	ND	200	210	105		-	-		84-116	-		30
Toluene	ND	200	240	120		-	-		83-121	-		30
Ethylbenzene	ND	200	220	110		-	-		84-123	-		30
Chloromethane	ND	200	180	90		-	-		70-144	-		30
Bromomethane	ND	200	91	**46**	Q	-	-		63-141	-		30
Vinyl chloride	ND	200	210	105		-	-		56-118	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1057062-6 QC Sample: L1738828-02 Client ID: MS Sample												
Chloroethane	ND	200	210	105		-	-		74-130	-		30
1,1-Dichloroethene	ND	200	210	105		-	-		77-116	-		30
trans-1,2-Dichloroethene	ND	200	200	100		-	-		81-121	-		30
cis-1,2-Dichloroethene[1]	ND	200	200	100		-	-		85-110	-		30
Trichloroethene	ND	200	210	105		-	-		84-118	-		30
1,2-Dichlorobenzene	ND	200	180	90		-	-		78-128	-		30
1,3-Dichlorobenzene	ND	200	190	95		-	-		77-125	-		30
1,4-Dichlorobenzene	ND	200	190	95		-	-		77-125	-		30
p/m-Xylene[1]	ND	400	430	108		-	-		81-121	-		30
o-Xylene[1]	ND	200	210	105		-	-		81-124	-		30
Styrene[1]	ND	200	220	110		-	-		84-133	-		30
Acetone[1]	3500	500	3900	80		-	-		40-160	-		30
Carbon disulfide[1]	ND	200	210	105		-	-		54-134	-		30
2-Butanone[1]	ND	500	440	88		-	-		57-116	-		30
Vinyl acetate[1]	ND	400	310	78		-	-		40-160	-		30
4-Methyl-2-pentanone[1]	ND	500	540	108		-	-		79-125	-		30
2-Hexanone[1]	ND	500	520	104		-	-		78-120	-		30
Acrolein[1]	ND	400	ND	**0**	Q	-	-		40-160	-		30
Acrylonitrile[1]	ND	400	400	100		-	-		66-123	-		30
Dibromomethane[1]	ND	200	190	95		-	-		65-126	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1057062-6 QC Sample: L1738828-02 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
4-Bromofluorobenzene	99				80-120
Fluorobenzene	99				80-120
Pentafluorobenzene	103				80-120

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1057062-5 QC Sample: L1738828-02 Client ID: DUP Sample						
Methylene chloride	ND	ND	ug/l	NC		30
1,1-Dichloroethane	ND	ND	ug/l	NC		30
Chloroform	ND	ND	ug/l	NC		30
Carbon tetrachloride	ND	ND	ug/l	NC		30
1,2-Dichloropropane	ND	ND	ug/l	NC		30
Dibromochloromethane	ND	ND	ug/l	NC		30
1,1,2-Trichloroethane	ND	ND	ug/l	NC		30
2-Chloroethylvinyl ether	ND	ND	ug/l	NC		30
Tetrachloroethene	ND	ND	ug/l	NC		30
Chlorobenzene	ND	ND	ug/l	NC		30
Trichlorofluoromethane	ND	ND	ug/l	NC		30
1,2-Dichloroethane	ND	ND	ug/l	NC		30
1,1,1-Trichloroethane	ND	ND	ug/l	NC		30
Bromodichloromethane	ND	ND	ug/l	NC		30
trans-1,3-Dichloropropene	ND	ND	ug/l	NC		30
cis-1,3-Dichloropropene	ND	ND	ug/l	NC		30
Bromoform	ND	ND	ug/l	NC		30
1,1,2,2-Tetrachloroethane	ND	ND	ug/l	NC		30
Benzene	ND	ND	ug/l	NC		30
Toluene	ND	ND	ug/l	NC		30
Ethylbenzene	ND	ND	ug/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1057062-5 QC Sample: L1738828-02 Client ID: DUP Sample						
Chloromethane	ND	ND	ug/l	NC		30
Bromomethane	ND	ND	ug/l	NC		30
Vinyl chloride	ND	ND	ug/l	NC		30
Chloroethane	ND	ND	ug/l	NC		30
1,1-Dichloroethene	ND	ND	ug/l	NC		30
trans-1,2-Dichloroethene	ND	ND	ug/l	NC		30
cis-1,2-Dichloroethene[1]	ND	ND	ug/l	NC		30
Trichloroethene	ND	ND	ug/l	NC		30
1,2-Dichlorobenzene	ND	ND	ug/l	NC		30
1,3-Dichlorobenzene	ND	ND	ug/l	NC		30
1,4-Dichlorobenzene	ND	ND	ug/l	NC		30
p/m-Xylene[1]	ND	ND	ug/l	NC		30
o-Xylene[1]	ND	ND	ug/l	NC		30
Xylene (Total)[1]	ND	ND	ug/l	NC		30
Styrene[1]	ND	ND	ug/l	NC		30
Acetone[1]	3500	3400	ug/l	3		30
Carbon disulfide[1]	ND	ND	ug/l	NC		30
2-Butanone[1]	ND	ND	ug/l	NC		30
Vinyl acetate[1]	ND	ND	ug/l	NC		30
4-Methyl-2-pentanone[1]	ND	ND	ug/l	NC		30
2-Hexanone[1]	ND	ND	ug/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1057062-5 QC Sample: L1738828-02 Client ID: DUP Sample						
Acrolein[1]	ND	ND	ug/l	NC		30
Acrylonitrile[1]	ND	ND	ug/l	NC		30
Dibromomethane[1]	ND	ND	ug/l	NC		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	101		100		80-120
Fluorobenzene	98		97		80-120
4-Bromofluorobenzene	97		98		80-120

SEMIVOLATILES

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

SAMPLE RESULTS

Lab ID: L1738863-01
Client ID: MA-2 (OW)
Sample Location: CAMBRIDGE, MA

Matrix: Water
Analytical Method: 5,625
Analytical Date: 10/29/17 20:31
Analyst: RC

Date Collected: 10/25/17 09:00
Date Received: 10/25/17
Field Prep: Not Specified
Extraction Method: EPA 625
Extraction Date: 10/26/17 10:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/l	2.0	--	1
Benzidine[1]	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
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[1]	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[1]	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[1]	ND		ug/l	10	--	1
Hexachloroethane	ND		ug/l	2.0	--	1
Isophorone	ND		ug/l	5.0	--	1
Naphthalene	63		ug/l	2.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
NDPA/DPA[1]	ND		ug/l	2.0	--	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	--	1
Bis(2-ethylhexyl)phthalate	4.6		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
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

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

SAMPLE RESULTS

Lab ID: L1738863-01 Date Collected: 10/25/17 09:00

Client ID: MA-2 (OW) Date Received: 10/25/17

Sample Location: CAMBRIDGE, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
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
4-Chloroaniline[1]	ND		ug/l	5.0	--	1
Dibenzofuran[1]	ND		ug/l	2.0	--	1
2-Methylnaphthalene[1]	7.4		ug/l	2.0	--	1
n-Nitrosodimethylamine[1]	ND		ug/l	2.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
p-Chloro-m-cresol[1]	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	5.0	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
4,6-Dinitro-o-cresol[1]	ND		ug/l	10	--	1
Pentachlorophenol	ND		ug/l	5.0	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol[1]	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol[1]	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol[1]	ND		ug/l	5.0	--	1
Benzoic Acid[1]	ND		ug/l	50	--	1
Benzyl Alcohol[1]	ND		ug/l	2.0	--	1

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

SAMPLE RESULTS

Lab ID: L1738863-01 Date Collected: 10/25/17 09:00

Client ID: MA-2 (OW) Date Received: 10/25/17

Sample Location: CAMBRIDGE, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	24		21-120
Phenol-d6	22		10-120
Nitrobenzene-d5	47		23-120
2-Fluorobiphenyl	44		15-120
2,4,6-Tribromophenol	50		10-120
4-Terphenyl-d14	43		33-120

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,625
Analytical Date: 10/29/17 15:27
Analyst: RC

Extraction Method: EPA 625
Extraction Date: 10/26/17 10:43

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1056553-1					
Acenaphthene	ND		ug/l	2.0	--
Benzidine[1]	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	--
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[1]	ND		ug/l	2.0	--
Fluoranthene	ND		ug/l	2.0	--
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether[1]	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[1]	ND		ug/l	10	--
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[1]	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	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,625
Analytical Date: 10/29/17 15:27
Analyst: RC

Extraction Method: EPA 625
Extraction Date: 10/26/17 10:43

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1056553-1					
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	--
4-Chloroaniline[1]	ND		ug/l	5.0	--
Dibenzofuran[1]	ND		ug/l	2.0	--
2-Methylnaphthalene[1]	ND		ug/l	2.0	--
n-Nitrosodimethylamine[1]	ND		ug/l	2.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
p-Chloro-m-cresol[1]	ND		ug/l	2.0	--
2-Chlorophenol	ND		ug/l	2.0	--
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	5.0	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--
4,6-Dinitro-o-cresol[1]	ND		ug/l	10	--
Pentachlorophenol	ND		ug/l	5.0	--
Phenol	ND		ug/l	5.0	--
2-Methylphenol[1]	ND		ug/l	5.0	--

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,625
Analytical Date: 10/29/17 15:27
Analyst: RC

Extraction Method: EPA 625
Extraction Date: 10/26/17 10:43

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1056553-1					
3-Methylphenol/4-Methylphenol[1]	ND		ug/l	5.0	--
2,4,5-Trichlorophenol[1]	ND		ug/l	5.0	--
Benzoic Acid[1]	ND		ug/l	50	--
Benzyl Alcohol[1]	ND		ug/l	2.0	--
Tentatively Identified Compounds					
Unknown	45.2	J	ug/l		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	35		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	51		23-120
2-Fluorobiphenyl	45		15-120
2,4,6-Tribromophenol	56		10-120
4-Terphenyl-d14	55		33-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

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: WG1056553-2								
Acenaphthene	69		-		47-145	-		30
1,2,4-Trichlorobenzene	67		-		44-142	-		30
Hexachlorobenzene	63		-		1-152	-		30
Bis(2-chloroethyl)ether	73		-		12-158	-		30
2-Chloronaphthalene	71		-		60-118	-		30
3,3'-Dichlorobenzidine	20		-		1-262	-		30
2,4-Dinitrotoluene	78		-		39-139	-		30
2,6-Dinitrotoluene	78		-		50-158	-		30
Fluoranthene	72		-		26-137	-		30
4-Chlorophenyl phenyl ether	66		-		25-158	-		30
4-Bromophenyl phenyl ether[1]	63		-		53-127	-		30
Bis(2-chloroisopropyl)ether	70		-		36-166	-		30
Bis(2-chloroethoxy)methane	77		-		33-184	-		30
Hexachlorobutadiene	60		-		24-116	-		30
Hexachloroethane	68		-		40-113	-		30
Isophorone	77		-		21-196	-		30
Naphthalene	66		-		21-133	-		30
Nitrobenzene	77		-		35-180	-		30
n-Nitrosodi-n-propylamine	78		-		1-230	-		30
Bis(2-Ethylhexyl)phthalate	82		-		8-158	-		30
Butyl benzyl phthalate	78		-		1-152	-		30
Di-n-butylphthalate	77		-		1-118	-		30
Di-n-octylphthalate	82		-		4-146	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

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: WG1056553-2								
Diethyl phthalate	70		-		1-114	-		30
Dimethyl phthalate	74		-		1-112	-		30
Benzo(a)anthracene	72		-		33-143	-		30
Benzo(a)pyrene	70		-		17-163	-		30
Benzo(b)fluoranthene	73		-		24-159	-		30
Benzo(k)fluoranthene	72		-		11-162	-		30
Chrysene	69		-		17-168	-		30
Acenaphthylene	71		-		33-145	-		30
Anthracene	70		-		27-133	-		30
Benzo(ghi)perylene	75		-		1-219	-		30
Fluorene	68		-		59-121	-		30
Phenanthrene	71		-		54-120	-		30
Dibenzo(a,h)anthracene	74		-		1-227	-		30
Indeno(1,2,3-cd)Pyrene	72		-		1-171	-		30
Pyrene	70		-		52-115	-		30
2,4,6-Trichlorophenol	78		-		37-144	-		30
P-Chloro-M-Cresol[1]	76		-		22-147	-		30
2-Chlorophenol	69		-		23-134	-		30
2,4-Dichlorophenol	75		-		39-135	-		30
2,4-Dimethylphenol	34		-		32-119	-		30
2-Nitrophenol	77		-		29-182	-		30
4-Nitrophenol	55		-		1-132	-		30
2,4-Dinitrophenol	81		-		1-191	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

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: WG1056553-2								
4,6-Dinitro-o-cresol[1]	74		-		1-181	-		30
Pentachlorophenol	63		-		14-176	-		30
Phenol	44		-		5-112	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	42				21-120
Phenol-d6	32				10-120
Nitrobenzene-d5	63				23-120
2-Fluorobiphenyl	51				15-120
2,4,6-Tribromophenol	58				10-120
4-Terphenyl-d14	52				33-120

Matrix Spike Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056553-3 QC Sample: L1700010-75 Client ID: MS Sample												
Acenaphthene	ND	40	26	65		-	-		47-145	-		30
Benzidine[1]	ND	40	ND	**0**	Q	-	-		1-70	-		30
1,2,4-Trichlorobenzene	ND	40	23	58		-	-		44-142	-		30
Hexachlorobenzene	ND	40	27	68		-	-		1-152	-		30
Bis(2-chloroethyl)ether	ND	40	23	58		-	-		12-158	-		30
2-Chloronaphthalene	ND	40	25	63		-	-		60-118	-		30
3,3'-Dichlorobenzidine	ND	80	21	26		-	-		1-262	-		30
2,4-Dinitrotoluene	ND	40	33	83		-	-		39-139	-		30
2,6-Dinitrotoluene	ND	40	29	73		-	-		50-158	-		30
Azobenzene[1]	ND	40	31	78		-	-		44-115	-		30
Fluoranthene	ND	40	27	68		-	-		26-137	-		30
4-Chlorophenyl phenyl ether	ND	40	26	65		-	-		25-158	-		30
4-Bromophenyl phenyl ether[1]	ND	40	26	65		-	-		53-127	-		30
Bis(2-chloroisopropyl)ether	ND	40	25	63		-	-		36-166	-		30
Bis(2-chloroethoxy)methane	ND	40	26	65		-	-		33-184	-		30
Hexachlorobutadiene	ND	40	23	58		-	-		24-116	-		30
Hexachlorocyclopentadiene[1]	ND	40	19	48		-	-		7-118	-		30
Hexachloroethane	ND	40	21	53		-	-		40-113	-		30
Isophorone	ND	40	26	65		-	-		21-196	-		30
Naphthalene	ND	40	23	58		-	-		21-133	-		30
Nitrobenzene	ND	40	26	65		-	-		35-180	-		30
NitrosoDiPhenylAmine(NDPA)/DPA[1]	ND	40	28	70		-	-		45-112	-		30
n-Nitrosodi-n-propylamine	ND	40	25	63		-	-		1-230	-		30
Bis(2-Ethylhexyl)phthalate	ND	40	31	78		-	-		8-158	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056553-3 QC Sample: L1700010-75 Client ID: MS Sample												
Butyl benzyl phthalate	ND	40	29	73		-	-		1-152	-		30
Di-n-butylphthalate	ND	40	28	70		-	-		1-118	-		30
Di-n-octylphthalate	ND	40	31	78		-	-		4-146	-		30
Diethyl phthalate	ND	40	28	70		-	-		1-114	-		30
Dimethyl phthalate	ND	40	26	65		-	-		1-112	-		30
Benzo(a)anthracene	ND	40	29	73		-	-		33-143	-		30
Benzo(a)pyrene	ND	40	28	70		-	-		17-163	-		30
Benzo(b)fluoranthene	ND	40	28	70		-	-		24-159	-		30
Benzo(k)fluoranthene	ND	40	28	70		-	-		11-162	-		30
Chrysene	ND	40	28	70		-	-		17-168	-		30
Acenaphthylene	ND	40	26	65		-	-		33-145	-		30
Anthracene	ND	40	26	65		-	-		27-133	-		30
Benzo(ghi)perylene	ND	40	26	65		-	-		1-219	-		30
Fluorene	ND	40	26	65		-	-		59-121	-		30
Phenanthrene	ND	40	25	63		-	-		54-120	-		30
Dibenzo(a,h)anthracene	ND	40	26	65		-	-		1-227	-		30
Indeno(1,2,3-cd)Pyrene	ND	40	25	63		-	-		1-171	-		30
Pyrene	ND	40	26	65		-	-		52-115	-		30
Biphenyl[1]	ND	40	22	55		-	-		43-112	-		30
Aniline[1]	ND	40	12	30		-	-		1-75	-		30
4-Chloroaniline[1]	ND	40	21	53		-	-		10-100	-		30
1-Methylnaphthalene[1]	ND	40	27	68		-	-		41-115	-		30
2-Nitroaniline[1]	ND	40	31	78		-	-		43-131	-		30
3-Nitroaniline[1]	ND	40	24	60		-	-		27-98	-		30

Matrix Spike Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056553-3 QC Sample: L1700010-75 Client ID: MS Sample												
4-Nitroaniline[1]	ND	40	29	73		-	-		41-112	-		30
Dibenzofuran[1]	ND	40	26	65		-	-		23-126	-		30
2-Methylnaphthalene[1]	ND	40	25	63		-	-		40-109	-		30
Acetophenone[1]	ND	40	21	53		-	-		46-113	-		30
n-Nitrosodimethylamine[1]	ND	40	14	35		-	-		15-68	-		30
2,4,6-Trichlorophenol	ND	40	29	73		-	-		37-144	-		30
P-Chloro-M-Cresol[1]	ND	40	28	70		-	-		22-147	-		30
2-Chlorophenol	ND	40	24	60		-	-		23-134	-		30
2,4-Dichlorophenol	ND	40	26	65		-	-		39-135	-		30
2,4-Dimethylphenol	ND	40	31	78		-	-		32-119	-		30
2-Nitrophenol	ND	40	27	68		-	-		29-182	-		30
4-Nitrophenol	ND	40	24	60		-	-		1-132	-		30
2,4-Dinitrophenol	ND	40	30	75		-	-		1-191	-		30
4,6-Dinitro-o-cresol[1]	ND	40	32	80		-	-		1-181	-		30
Pentachlorophenol	ND	40	28	70		-	-		14-176	-		30
Phenol	ND	40	16	40		-	-		5-112	-		30
2-Methylphenol[1]	ND	40	25	63		-	-		38-102	-		30
3-Methylphenol/4-Methylphenol[1]	ND	40	25	63		-	-		35-103	-		30
2,4,5-Trichlorophenol[1]	ND	40	30	75		-	-		47-126	-		30
Benzoic Acid[1]	ND	40	ND	**0**	Q	-	-		2-55	-		30
Benzyl Alcohol[1]	ND	40	23	58		-	-		31-103	-		30
Carbazole[1]	ND	40	26	65		-	-		46-114	-		30
Pyridine[1]	ND	40	ND	**0**	Q	-	-		1-57	-		30
n-Decane[1]	ND	40	ND	**0**	Q	-	-		40-140	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056553-3 QC Sample: L1700010-75 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,4,6-Tribromophenol	65				10-120
2-Fluorobiphenyl	54				15-120
2-Fluorophenol	37				21-120
4-Terphenyl-d14	57				33-120
Nitrobenzene-d5	54				23-120
Phenol-d6	28				10-120

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Acid Extractables by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056553-4 QC Sample: L1700010-75 Client ID: DUP Sample						
Acenaphthene	ND	ND	ug/l	NC		30
Benzidine[1]	ND	ND	ug/l	NC		30
1,2,4-Trichlorobenzene	ND	ND	ug/l	NC		30
Hexachlorobenzene	ND	ND	ug/l	NC		30
Bis(2-chloroethyl)ether	ND	ND	ug/l	NC		30
2-Chloronaphthalene	ND	ND	ug/l	NC		30
3,3'-Dichlorobenzidine	ND	ND	ug/l	NC		30
2,4-Dinitrotoluene	ND	ND	ug/l	NC		30
2,6-Dinitrotoluene	ND	ND	ug/l	NC		30
Azobenzene[1]	ND	ND	ug/l	NC		30
Fluoranthene	ND	ND	ug/l	NC		30
4-Chlorophenyl phenyl ether	ND	ND	ug/l	NC		30
4-Bromophenyl phenyl ether[1]	ND	ND	ug/l	NC		30
Bis(2-chloroisopropyl)ether	ND	ND	ug/l	NC		30
Bis(2-chloroethoxy)methane	ND	ND	ug/l	NC		30
Hexachlorobutadiene	ND	ND	ug/l	NC		30
Hexachlorocyclopentadiene[1]	ND	ND	ug/l	NC		30
Hexachloroethane	ND	ND	ug/l	NC		30
Isophorone	ND	ND	ug/l	NC		30
Naphthalene	ND	ND	ug/l	NC		30
Nitrobenzene	ND	ND	ug/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Acid Extractables by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056553-4 QC Sample: L1700010-75 Client ID: DUP Sample						
NitrosoDiPhenylAmine(NDPA)/DPA[1]	ND	ND	ug/l	NC		30
n-Nitrosodi-n-propylamine	ND	ND	ug/l	NC		30
Bis(2-Ethylhexyl)phthalate	ND	ND	ug/l	NC		30
Butyl benzyl phthalate	ND	ND	ug/l	NC		30
Di-n-butylphthalate	ND	ND	ug/l	NC		30
Di-n-octylphthalate	ND	ND	ug/l	NC		30
Diethyl phthalate	ND	ND	ug/l	NC		30
Dimethyl phthalate	ND	ND	ug/l	NC		30
Benzo(a)anthracene	ND	ND	ug/l	NC		30
Benzo(a)pyrene	ND	ND	ug/l	NC		30
Benzo(b)fluoranthene	ND	ND	ug/l	NC		30
Benzo(k)fluoranthene	ND	ND	ug/l	NC		30
Chrysene	ND	ND	ug/l	NC		30
Acenaphthylene	ND	ND	ug/l	NC		30
Anthracene	ND	ND	ug/l	NC		30
Benzo(ghi)perylene	ND	ND	ug/l	NC		30
Fluorene	ND	ND	ug/l	NC		30
Phenanthrene	ND	ND	ug/l	NC		30
Dibenzo(a,h)anthracene	ND	ND	ug/l	NC		30
Indeno(1,2,3-cd)Pyrene	ND	ND	ug/l	NC		30
Pyrene	ND	ND	ug/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Acid Extractables by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056553-4 QC Sample: L1700010-75 Client ID: DUP Sample						
Biphenyl[1]	ND	ND	ug/l	NC		30
Aniline[1]	ND	ND	ug/l	NC		30
4-Chloroaniline[1]	ND	ND	ug/l	NC		30
1-Methylnaphthalene[1]	ND	ND	ug/l	NC		30
2-Nitroaniline[1]	ND	ND	ug/l	NC		30
3-Nitroaniline[1]	ND	ND	ug/l	NC		30
4-Nitroaniline[1]	ND	ND	ug/l	NC		30
Dibenzofuran[1]	ND	ND	ug/l	NC		30
2-Methylnaphthalene[1]	ND	ND	ug/l	NC		30
Acetophenone[1]	ND	ND	ug/l	NC		30
n-Nitrosodimethylamine[1]	ND	ND	ug/l	NC		30
2,4,6-Trichlorophenol	ND	ND	ug/l	NC		30
P-Chloro-M-Cresol[1]	ND	ND	ug/l	NC		30
2-Chlorophenol	ND	ND	ug/l	NC		30
2,4-Dichlorophenol	ND	ND	ug/l	NC		30
2,4-Dimethylphenol	ND	ND	ug/l	NC		30
2-Nitrophenol	ND	ND	ug/l	NC		30
4-Nitrophenol	ND	ND	ug/l	NC		30
2,4-Dinitrophenol	ND	ND	ug/l	NC		30
4,6-Dinitro-o-cresol[1]	ND	ND	ug/l	NC		30
Pentachlorophenol	ND	ND	ug/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Acid Extractables by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056553-4 QC Sample: L1700010-75 Client ID: DUP Sample						
Phenol	ND	ND	ug/l	NC		30
2-Methylphenol[1]	ND	ND	ug/l	NC		30
3-Methylphenol/4-Methylphenol[1]	ND	ND	ug/l	NC		30
2,4,5-Trichlorophenol[1]	ND	ND	ug/l	NC		30
Benzoic Acid[1]	ND	ND	ug/l	NC		30
Benzyl Alcohol[1]	ND	ND	ug/l	NC		30
Carbazole[1]	ND	ND	ug/l	NC		30
Pyridine[1]	ND	ND	ug/l	NC		30
n-Decane[1]	ND	ND	ug/l	NC		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	24		24		21-120
Phenol-d6	**1**	Q	**3**	Q	10-120
Nitrobenzene-d5	42		47		23-120
2-Fluorobiphenyl	41		44		15-120
2,4,6-Tribromophenol	34		32		10-120
4-Terphenyl-d14	52		52		33-120

PETROLEUM HYDROCARBONS

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

SAMPLE RESULTS

Lab ID:	L1738863-01	Date Collected:	10/25/17 09:00
Client ID:	MA-2 (OW)	Date Received:	10/25/17
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	10/26/17 19:41
Analytical Date:	10/27/17 12:50	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	10/27/17

Quality Control Information

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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	174		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	318		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	181		ug/l	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	40		40-140
o-Terphenyl	77		40-140
2-Fluorobiphenyl	86		40-140
2-Bromonaphthalene	87		40-140

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 10/27/17 10:57
Analyst: SR

Extraction Method: EPA 3510C
Extraction Date: 10/26/17 13:21
Cleanup Method: EPH-04-1
Cleanup Date: 10/26/17

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG1056632-1					
C9-C18 Aliphatics	ND		ug/l	100	--
C19-C36 Aliphatics	ND		ug/l	100	--
C11-C22 Aromatics	ND		ug/l	100	--
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	63		40-140
o-Terphenyl	78		40-140
2-Fluorobiphenyl	77		40-140
2-Bromonaphthalene	77		40-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG1056632-2 WG1056632-3								
C9-C18 Aliphatics	72		66		40-140	9		25
C19-C36 Aliphatics	81		73		40-140	10		25
C11-C22 Aromatics	65		68		40-140	5		25
Naphthalene	53		58		40-140	9		25
2-Methylnaphthalene	54		59		40-140	9		25
Acenaphthylene	58		63		40-140	8		25
Acenaphthene	58		63		40-140	8		25
Fluorene	61		65		40-140	6		25
Phenanthrene	64		68		40-140	6		25
Anthracene	66		70		40-140	6		25
Fluoranthene	67		71		40-140	6		25
Pyrene	68		72		40-140	6		25
Benzo(a)anthracene	68		71		40-140	4		25
Chrysene	69		72		40-140	4		25
Benzo(b)fluoranthene	69		72		40-140	4		25
Benzo(k)fluoranthene	68		71		40-140	4		25
Benzo(a)pyrene	67		69		40-140	3		25
Indeno(1,2,3-cd)Pyrene	68		70		40-140	3		25
Dibenzo(a,h)anthracene	61		60		40-140	2		25
Benzo(ghi)perylene	61		62		40-140	2		25
Nonane (C9)	60		55		30-140	9		25
Decane (C10)	66		61		40-140	8		25
Dodecane (C12)	69		64		40-140	8		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG1056632-2 WG1056632-3								
Tetradecane (C14)	70		64		40-140	9		25
Hexadecane (C16)	74		67		40-140	10		25
Octadecane (C18)	80		72		40-140	11		25
Nonadecane (C19)	79		71		40-140	11		25
Eicosane (C20)	81		72		40-140	12		25
Docosane (C22)	81		74		40-140	9		25
Tetracosane (C24)	82		74		40-140	10		25
Hexacosane (C26)	82		74		40-140	10		25
Octacosane (C28)	82		74		40-140	10		25
Triacontane (C30)	81		73		40-140	10		25
Hexatriacontane (C36)	70		62		40-140	12		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	70		60		40-140
o-Terphenyl	70		73		40-140
2-Fluorobiphenyl	64		68		40-140
2-Bromonaphthalene	64		69		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

PCBS

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

SAMPLE RESULTS

Lab ID: L1738863-01
Client ID: MA-2 (OW)
Sample Location: CAMBRIDGE, MA

Matrix: Water
Analytical Method: 5,608
Analytical Date: 11/02/17 02:16
Analyst: JA

Date Collected: 10/25/17 09:00
Date Received: 10/25/17
Field Prep: Not Specified
Extraction Method: EPA 608
Extraction Date: 10/26/17 17:58
Cleanup Method: EPA 3665A
Cleanup Date: 10/28/17
Cleanup Method: EPA 3660B
Cleanup Date: 10/28/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.258	--	1	A
Aroclor 1221	ND		ug/l	0.258	--	1	A
Aroclor 1232	ND		ug/l	0.258	--	1	A
Aroclor 1242	ND		ug/l	0.258	--	1	A
Aroclor 1248	ND		ug/l	0.258	--	1	A
Aroclor 1254	ND		ug/l	0.258	--	1	A
Aroclor 1260	ND		ug/l	0.206	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	36		30-150	A

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,608
Analytical Date: 11/02/17 03:06
Analyst: JA

Extraction Method: EPA 608
Extraction Date: 10/26/17 17:58
Cleanup Method: EPA 3665A
Cleanup Date: 10/28/17
Cleanup Method: EPA 3660B
Cleanup Date: 10/28/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1056724-1						
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	70		30-150	A
Decachlorobiphenyl	72		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

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: WG1056724-2									
Aroclor 1016	109		-		30-150	-		30	A
Aroclor 1260	110		-		30-150	-		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72				30-150	A
Decachlorobiphenyl	71				30-150	A

Matrix Spike Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056724-3 QC Sample: L1700010-127 Client ID: MS Sample													
Aroclor 1016	ND	3.12	3.10	99		-	-		40-126	-		30	A
Aroclor 1260	ND	3.12	3.40	109		-	-		40-127	-		30	A

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74				30-150	A
Decachlorobiphenyl	71				30-150	A

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits	
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056724-4 QC Sample: L1700010-127 Client ID: DUP Sample							
Aroclor 1016	ND	ND	ug/l	NC		30	A
Aroclor 1221	ND	ND	ug/l	NC		30	A
Aroclor 1232	ND	ND	ug/l	NC		30	A
Aroclor 1242	ND	ND	ug/l	NC		30	A
Aroclor 1248	ND	ND	ug/l	NC		30	A
Aroclor 1254	ND	ND	ug/l	NC		30	A
Aroclor 1260	ND	ND	ug/l	NC		30	A

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		85		30-150	A
Decachlorobiphenyl	75		82		30-150	A

PESTICIDES

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

SAMPLE RESULTS

Lab ID: L1738863-01
Client ID: MA-2 (OW)
Sample Location: CAMBRIDGE, MA

Matrix: Water
Analytical Method: 5,608
Analytical Date: 10/30/17 18:29
Analyst: CD

Date Collected: 10/25/17 09:00
Date Received: 10/25/17
Field Prep: Not Specified
Extraction Method: EPA 608
Extraction Date: 10/26/17 19:51
Cleanup Method: EPA 3620B
Cleanup Date: 10/27/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.021	--	1	A
Lindane	ND		ug/l	0.021	--	1	A
Alpha-BHC	ND		ug/l	0.021	--	1	A
Beta-BHC	ND		ug/l	0.021	--	1	A
Heptachlor	ND		ug/l	0.021	--	1	A
Aldrin	ND		ug/l	0.021	--	1	A
Heptachlor epoxide	ND		ug/l	0.021	--	1	A
Endrin	ND		ug/l	0.042	--	1	A
Endrin aldehyde	ND		ug/l	0.042	--	1	A
Endrin ketone[1]	ND		ug/l	0.042	--	1	A
Dieldrin	ND		ug/l	0.042	--	1	A
4,4'-DDE	ND		ug/l	0.042	--	1	A
4,4'-DDD	ND		ug/l	0.042	--	1	A
4,4'-DDT	ND		ug/l	0.042	--	1	A
Endosulfan I	ND		ug/l	0.021	--	1	A
Endosulfan II	ND		ug/l	0.042	--	1	A
Endosulfan sulfate	ND		ug/l	0.042	--	1	A
Methoxychlor[1]	ND		ug/l	0.105	--	1	A
Toxaphene	ND		ug/l	0.421	--	1	A
Chlordane	ND		ug/l	0.210	--	1	A
cis-Chlordane[1]	ND		ug/l	0.021	--	1	A
trans-Chlordane[1]	ND		ug/l	0.021	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	85		30-150	A

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,608
Analytical Date: 10/29/17 17:43
Analyst: KEG

Extraction Method: EPA 608
Extraction Date: 10/26/17 19:51
Cleanup Method: EPA 3620B
Cleanup Date: 10/27/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01 Batch: WG1056769-1						
Delta-BHC	ND		ug/l	0.020	--	B
Lindane	ND		ug/l	0.020	--	B
Alpha-BHC	ND		ug/l	0.020	--	B
Beta-BHC	ND		ug/l	0.020	--	B
Heptachlor	ND		ug/l	0.020	--	B
Aldrin	ND		ug/l	0.020	--	B
Heptachlor epoxide	ND		ug/l	0.020	--	B
Endrin	ND		ug/l	0.040	--	B
Endrin aldehyde	ND		ug/l	0.040	--	B
Endrin ketone[1]	ND		ug/l	0.040	--	B
Dieldrin	ND		ug/l	0.040	--	B
4,4'-DDE	ND		ug/l	0.040	--	B
4,4'-DDD	ND		ug/l	0.040	--	B
4,4'-DDT	ND		ug/l	0.040	--	B
Endosulfan I	ND		ug/l	0.020	--	B
Endosulfan II	ND		ug/l	0.040	--	B
Endosulfan sulfate	ND		ug/l	0.040	--	B
Methoxychlor[1]	ND		ug/l	0.100	--	B
Toxaphene	ND		ug/l	0.400	--	B
Chlordane	ND		ug/l	0.200	--	B
cis-Chlordane[1]	ND		ug/l	0.020	--	B
trans-Chlordane[1]	ND		ug/l	0.020	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	B
Decachlorobiphenyl	74		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 Batch: WG1056769-2									
Delta-BHC	79		-		30-150	-		30	B
Lindane	75		-		30-150	-		30	B
Alpha-BHC	75		-		30-150	-		30	B
Beta-BHC	78		-		30-150	-		30	B
Heptachlor	68		-		30-150	-		30	B
Aldrin	69		-		30-150	-		30	B
Heptachlor epoxide	72		-		30-150	-		30	B
Endrin	76		-		30-150	-		30	B
Endrin aldehyde	51		-		30-150	-		30	B
Endrin ketone[1]	65		-		30-150	-		30	B
Dieldrin	72		-		30-150	-		30	B
4,4'-DDE	69		-		30-150	-		30	B
4,4'-DDD	69		-		30-150	-		30	B
4,4'-DDT	72		-		30-150	-		30	B
Endosulfan I	68		-		30-150	-		30	B
Endosulfan II	67		-		30-150	-		30	B
Endosulfan sulfate	58		-		30-150	-		30	B
Methoxychlor[1]	66		-		30-150	-		30	B
cis-Chlordane[1]	66		-		30-150	-		30	B
trans-Chlordane[1]	68		-		30-150	-		30	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 Batch: WG1056769-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63				30-150	B
Decachlorobiphenyl	71				30-150	B

Matrix Spike Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056769-3 QC Sample: L1700010-127 Client ID: MS Sample													
Delta-BHC	ND	0.5	0.421	84		-	-		19-140	-		30	B
Lindane	ND	0.5	0.393	79		-	-		56-123	-		30	B
Alpha-BHC	ND	0.5	0.391	78		-	-		37-134	-		30	B
Beta-BHC	ND	0.5	0.401	80		-	-		17-147	-		30	B
Heptachlor	ND	0.5	0.369	74		-	-		40-111	-		30	B
Aldrin	ND	0.5	0.370	74		-	-		40-120	-		30	B
Heptachlor epoxide	ND	0.5	0.381	76		-	-		37-142	-		30	B
Endrin	ND	0.5	0.402	80		-	-		56-121	-		30	B
Endrin aldehyde	ND	0.5	0.269	54		-	-		42-122	-		30	B
Endrin ketone[1]	ND	0.5	0.346	69		-	-		30-150	-		30	B
Dieldrin	ND	0.5	0.380	76		-	-		52-126	-		30	B
4,4'-DDE	ND	0.5	0.366	73		-	-		30-145	-		30	B
4,4'-DDD	ND	0.5	0.366	73		-	-		31-141	-		30	B
4,4'-DDT	ND	0.5	0.376	75		-	-		38-127	-		30	B
Endosulfan I	ND	0.5	0.358	72		-	-		45-153	-		30	B
Endosulfan II	ND	0.5	0.355	71		-	-		.1-202	-		30	B
Endosulfan sulfate	ND	0.5	0.308	62		-	-		26-144	-		30	B
Methoxychlor[1]	ND	0.5	0.342	68		-	-		30-150	-		30	B
cis-Chlordane[1]	ND	0.5	0.348	70		-	-		30-150	-		30	B
trans-Chlordane[1]	ND	0.5	0.359	72		-	-		30-150	-		30	B

Matrix Spike Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056769-3 QC Sample: L1700010-127 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65				30-150	B
Decachlorobiphenyl	74				30-150	B

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits	
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056769-4 QC Sample: L1700010-127 Client ID: DUP Sample							
Delta-BHC	ND	ND	ug/l	NC		30	B
Lindane	ND	ND	ug/l	NC		30	B
Alpha-BHC	ND	ND	ug/l	NC		30	B
Beta-BHC	ND	ND	ug/l	NC		30	B
Heptachlor	ND	ND	ug/l	NC		30	B
Aldrin	ND	ND	ug/l	NC		30	B
Heptachlor epoxide	ND	ND	ug/l	NC		30	B
Endrin	ND	ND	ug/l	NC		30	B
Endrin aldehyde	ND	ND	ug/l	NC		30	B
Endrin ketone[1]	ND	ND	ug/l	NC		30	B
Dieldrin	ND	ND	ug/l	NC		30	B
4,4'-DDE	ND	ND	ug/l	NC		30	B
4,4'-DDD	ND	ND	ug/l	NC		30	B
4,4'-DDT	ND	ND	ug/l	NC		30	B
Endosulfan I	ND	ND	ug/l	NC		30	B
Endosulfan II	ND	ND	ug/l	NC		30	B
Endosulfan sulfate	ND	ND	ug/l	NC		30	B
Methoxychlor[1]	ND	ND	ug/l	NC		30	B
Toxaphene	ND	ND	ug/l	NC		30	B
Chlordane	ND	ND	ug/l	NC		30	B
cis-Chlordane[1]	ND	ND	ug/l	NC		30	B

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits	
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056769-4 QC Sample: L1700010-127 Client ID: DUP Sample							
trans-Chlordane[1]	ND	ND	ug/l	NC		30	B

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	54		64		30-150	B
Decachlorobiphenyl	59		67		30-150	B

METALS

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

SAMPLE RESULTS

Lab ID: L1738863-01 Date Collected: 10/25/17 09:00

Client ID: MA-2 (OW) Date Received: 10/25/17

Sample Location: CAMBRIDGE, MA Field Prep: Not Specified

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	0.050	--	1	10/26/17 10:10	10/31/17 10:01	EPA 3005A	19,200.7	BV
Arsenic, Total	0.015		mg/l	0.005	--	1	10/26/17 10:10	10/31/17 10:01	EPA 3005A	19,200.7	BV
Cadmium, Total	ND		mg/l	0.005	--	1	10/26/17 10:10	10/31/17 10:01	EPA 3005A	19,200.7	BV
Chromium, Total	ND		mg/l	0.010	--	1	10/26/17 10:10	10/31/17 10:01	EPA 3005A	19,200.7	BV
Copper, Total	ND		mg/l	0.0100	--	1	10/26/17 10:10	10/31/17 10:01	EPA 3005A	19,200.7	BV
Lead, Total	0.025		mg/l	0.010	--	1	10/26/17 10:10	10/31/17 10:01	EPA 3005A	19,200.7	BV
Mercury, Total	ND		mg/l	0.00020	--	1	10/26/17 15:49	10/27/17 11:36	EPA 245.1	3,245.1	MG
Nickel, Total	ND		mg/l	0.025	--	1	10/26/17 10:10	10/31/17 10:01	EPA 3005A	19,200.7	BV
Selenium, Total	ND		mg/l	0.010	--	1	10/26/17 10:10	10/31/17 10:01	EPA 3005A	19,200.7	BV
Silver, Total	ND		mg/l	0.007	--	1	10/26/17 10:10	10/31/17 10:01	EPA 3005A	19,200.7	BV
Zinc, Total	ND		mg/l	0.050	--	1	10/26/17 10:10	10/31/17 10:01	EPA 3005A	19,200.7	BV

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

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: WG1056517-1										
Antimony, Total	ND		mg/l	0.050	--	1	10/26/17 10:10	10/31/17 09:51	19,200.7	BV
Arsenic, Total	ND		mg/l	0.005	--	1	10/26/17 10:10	10/31/17 09:51	19,200.7	BV
Cadmium, Total	ND		mg/l	0.005	--	1	10/26/17 10:10	10/31/17 09:51	19,200.7	BV
Chromium, Total	ND		mg/l	0.010	--	1	10/26/17 10:10	10/31/17 09:51	19,200.7	BV
Copper, Total	ND		mg/l	0.010	--	1	10/26/17 10:10	10/31/17 09:51	19,200.7	BV
Lead, Total	ND		mg/l	0.010	--	1	10/26/17 10:10	10/31/17 09:51	19,200.7	BV
Nickel, Total	ND		mg/l	0.025	--	1	10/26/17 10:10	10/31/17 09:51	19,200.7	BV
Selenium, Total	ND		mg/l	0.010	--	1	10/26/17 10:10	10/31/17 09:51	19,200.7	BV
Silver, Total	ND		mg/l	0.007	--	1	10/26/17 10:10	10/31/17 09:51	19,200.7	BV
Zinc, Total	ND		mg/l	0.050	--	1	10/26/17 10:10	10/31/17 09:51	19,200.7	BV

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1056683-1										
Mercury, Total	ND		mg/l	0.00020	--	1	10/26/17 15:49	10/27/17 11:03	3,245.1	MG

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1056517-2								
Antimony, Total	95		-		85-115	-		
Arsenic, Total	106		-		85-115	-		
Cadmium, Total	108		-		85-115	-		
Chromium, Total	97		-		85-115	-		
Copper, Total	96		-		85-115	-		
Lead, Total	101		-		85-115	-		
Nickel, Total	99		-		85-115	-		
Selenium, Total	107		-		85-115	-		
Silver, Total	97		-		85-115	-		
Zinc, Total	101		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1056683-2								
Mercury, Total	103		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

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: WG1056517-3 QC Sample: L1738509-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.535	107		-	-		75-125	-		20
Arsenic, Total	ND	0.12	0.135	112		-	-		75-125	-		20
Cadmium, Total	ND	0.051	0.056	110		-	-		75-125	-		20
Chromium, Total	ND	0.2	0.200	100		-	-		75-125	-		20
Copper, Total	ND	0.25	0.252	101		-	-		75-125	-		20
Lead, Total	ND	0.51	0.524	103		-	-		75-125	-		20
Nickel, Total	ND	0.5	0.500	100		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.117	98		-	-		75-125	-		20
Silver, Total	ND	0.05	0.050	100		-	-		75-125	-		20
Zinc, Total	ND	0.5	0.537	107		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1056517-7 QC Sample: L1738865-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.552	110		-	-		75-125	-		20
Arsenic, Total	0.016	0.12	0.147	109		-	-		75-125	-		20
Cadmium, Total	ND	0.051	0.057	111		-	-		75-125	-		20
Chromium, Total	ND	0.2	0.202	101		-	-		75-125	-		20
Copper, Total	ND	0.25	0.252	101		-	-		75-125	-		20
Lead, Total	ND	0.51	0.514	101		-	-		75-125	-		20
Nickel, Total	ND	0.5	0.497	99		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.130	108		-	-		75-125	-		20
Silver, Total	ND	0.05	0.051	101		-	-		75-125	-		20
Zinc, Total	ND	0.5	0.531	106		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

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: WG1056683-3 QC Sample: L1738823-01 Client ID: MS Sample									
Mercury, Total	ND	0.005	0.00545	109	-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1056683-5 QC Sample: L1738873-01 Client ID: MS Sample									
Mercury, Total	ND	0.005	0.00450	90	-	-	70-130	-	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1056683-4 QC Sample: L1738823-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1056683-6 QC Sample: L1738873-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

SAMPLE RESULTS

Lab ID: L1738863-01
Client ID: MA-2 (OW)
Sample Location: CAMBRIDGE, MA
Matrix: Water

Date Collected: 10/25/17 09:00
Date Received: 10/25/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.8		SU	-	NA	1	-	10/25/17 23:30	121,4500H+-B	AS
Oil & Grease, Hem-Grav	ND		mg/l	4.0	--	1	10/26/17 16:00	10/26/17 18:00	74,1664A	ML

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

SAMPLE RESULTS

Lab ID: L1738863-02
Client ID: MA-2 (OW)
Sample Location: CAMBRIDGE, MA
Matrix: Water

Date Collected: 10/26/17 12:15
Date Received: 10/26/17
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	61.		mg/l	5.0	NA	1	-	10/27/17 03:55	121,2540D	VB

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1738863

Project Number: 6111.9.T6 **Report Date:** 11/02/17

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: WG1056707-1										
Oil & Grease, Hem-Grav	ND		mg/l	4.0	--	1	10/26/17 16:00	10/26/17 18:00	74,1664A	ML
General Chemistry - Westborough Lab for sample(s): 02 Batch: WG1056801-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	10/27/17 03:55	121,2540D	VB

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1738863

Report Date: 11/02/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1056366-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1056707-2								
Oil & Grease, Hem-Grav	94		-		78-114	-		18

Matrix Spike Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

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: WG1056707-4 QC Sample: L1738563-01 Client ID: MS Sample												
Oil & Grease, Hem-Grav	10	40	41	78		-	-		78-114	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056366-2 QC Sample: L1738677-02 Client ID: DUP Sample						
pH	11.5	11.5	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1056707-3 QC Sample: L1738563-01 Client ID: DUP Sample						
Oil & Grease, Hem-Grav	10	8.5	mg/l	16		18

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1738863
Report Date: 11/02/17

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
A1	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1738863-01A	Vial Na2S2O3 preserved	A	NA		4.8	Y	Absent		624(3)
L1738863-01B	Vial Na2S2O3 preserved	A	NA		4.8	Y	Absent		624(3)
L1738863-01C	Vial Na2S2O3 preserved	A	NA		4.8	Y	Absent		624(3)
L1738863-01D	Plastic 60ml unpreserved	A	7	7	4.8	Y	Absent		PH-4500(.01)
L1738863-01E	Plastic 250ml HNO3 preserved	A	<2	<2	4.8	Y	Absent		NI-UI(180),SB-UI(180),AG-UI(180),ZN-UI(180),SE-UI(180),HG-U(28),CD-UI(180),CR-UI(180),AS-UI(180),CU-UI(180),PB-UI(180)
L1738863-01F	Amber 1000ml HCl preserved	A	<2	<2	4.8	Y	Absent		EPH-10(14)
L1738863-01G	Amber 1000ml HCl preserved	A	<2	<2	4.8	Y	Absent		EPH-10(14)
L1738863-01H	Amber 1000ml HCl preserved	A	NA		4.8	Y	Absent		OG-1664(28)
L1738863-01I	Amber 1000ml HCl preserved	A	NA		4.8	Y	Absent		OG-1664(28)
L1738863-01J	Amber 1000ml Na2S2O3	A	7	7	4.8	Y	Absent		PCB-608(7)
L1738863-01K	Amber 1000ml Na2S2O3	A	7	7	4.8	Y	Absent		PCB-608(7)
L1738863-01L	Amber 1000ml Na2S2O3	A	7	7	4.8	Y	Absent		PESTICIDE-608(7)
L1738863-01M	Amber 1000ml Na2S2O3	A	7	7	4.8	Y	Absent		PESTICIDE-608(7)
L1738863-01N	Amber 1000ml Na2S2O3	A	7	7	4.8	Y	Absent		625(7)
L1738863-01O	Amber 1000ml Na2S2O3	A	7	7	4.8	Y	Absent		625(7)
L1738863-02A	Plastic 950ml unpreserved	A	7	7	4.8	Y	Absent		TSS-2540(7)

*Values in parentheses indicate holding time in days

Project Name:	671-675 CONCORD AVE.	**Lab Number:**	L1738863
Project Number:	6111.9.T6	**Report Date:**	11/02/17

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

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.

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.

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 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

Report Format: Data Usability Report

Project Name:	671-675 CONCORD AVE.	**Lab Number:**	L1738863
Project Number:	6111.9.T6	**Report Date:**	11/02/17

Data Qualifiers

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.

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:	671-675 CONCORD AVE.	**Lab Number:**	L1738863
Project Number:	6111.9.T6	**Report Date:**	11/02/17

REFERENCES

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

5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).

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.

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.

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

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.

Serial_No:11021715:59

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 10/25/17

ALPHA Job #: L1738863

Project Information

Project Name: 671-675 Concord Ave.
Project Location: Cambridge MA
Project #: 6111.9.T6
Project Manager: KWS
ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #:

Client Information

Client: McPhail Associates
Address: 2269 Mass Ave Cambridge MA
Phone: 617-868-1420
Email: kspaman@mcphailgeo.com

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☒ No NPDES RGP
☐ Other State /Fed Program ________ Criteria ________

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Additional Project Information:

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15 ☐ PP13; METALS: ☐ RCRA5 ☐ RCRA8; EPH: ☐ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☐ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint; MWRA

SAMPLE INFO: Filtration ☐ Field ☐ Lab to do; Preservation ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	MWRA	Sample Comments	TOTAL # BOTTLES
38863-01	MA-2 (OW)	10/25/17	900	GW	LDP	X		15

	MWRA
Container Type	A/VP
Preservative	A/C/D/H

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

Preservative: A= None, B= HCl, C= HNO_3, D= H_2SO_4, E= NaOH, F= MeOH, G= $NaHSO_4$, H = $Na_2S_2O_3$, I= Ascorbic Acid, J = NH_4Cl, K= Zn Acetate, O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
[signature] AAL	10/25 1810	[signature] AAL	10/25 1635
		[signature]	10/25/17 1820
		Danielle Matt	10/25/17 18:10

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 10/26/17

ALPHA Job #: L1738863

ALPHA
8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Client Information

Client: McPhail Associates
Address: 2269 Mass Ave
Cambridge MA
Phone: 617 868 1420
Email: KSEAMAN@mcphailgeo.com

Additional Project Information:

Project Information

Project Name: 671-675 Concord Ave
Project Location: Cambridge MA
Project #: 6111.9.T6
Project Manager: KWS
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
TSS

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments	TOTAL # BOTTLES
38863-02	MA-2 (OW)	10/26	12:15	GW	DFT	X	1

Container Type	P
Preservative	A

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Karl Seaman	10/26 1:30	AAL	10/26
AAL	10/26 1734		1603 10/26 17 1731

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO. 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L1741508
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	617-675 CONCORD AVE.
Project Number:	6111.9.T6
Report Date:	12/11/17

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: 617-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1741508
Report Date: 12/11/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1741508-01	MA-2 (OW)	WATER	CAMBRIDGE, MA	11/10/17 10:00	11/10/17

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

MADEP MCP Response Action Analytical Report Certification

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

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

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

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

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508
Project Number: 6111.9.T6 **Report Date:** 12/11/17

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:	617-675 CONCORD AVE.	**Lab Number:**	L1741508
Project Number:	6111.9.T6	**Report Date:**	12/11/17

Case Narrative (continued)

Report Revision

December 11, 2017: The reporting limit has been lowered for 1,2-Dichloroethane.

MCP Related Narratives

Volatile Organics

In reference to question G:

L1741508-01: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The initial calibration, associated with L1741508-01, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0012), as well as the average response factor for 1,4-dioxane.

The continuing calibration standard, associated with L1741508-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Dissolved Metals

In reference to question I:

All samples were analyzed for a subset of MCP analytes per the Chain of Custody.

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

Authorized Signature: Melissa Cripps Melissa Cripps

Title: Technical Director/Representative Date: 12/11/17

ORGANICS

VOLATILES

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

SAMPLE RESULTS

Lab ID: L1741508-01 D2 Date Collected: 11/10/17 10:00
Client ID: MA-2 (OW) Date Received: 11/10/17
Sample Location: CAMBRIDGE, MA Field Prep: Not Specified

Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 11/20/17 12:03
Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Ethylbenzene	1900		ug/l	50	--	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	96		70-130

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

SAMPLE RESULTS

Lab ID: L1741508-01 D
Client ID: MA-2 (OW)
Sample Location: CAMBRIDGE, MA

Date Collected: 11/10/17 10:00
Date Received: 11/10/17
Field Prep: Not Specified

Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 11/19/17 17:07
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	10	--	5
1,1-Dichloroethane	ND		ug/l	5.0	--	5
Chloroform	ND		ug/l	5.0	--	5
Carbon tetrachloride	ND		ug/l	5.0	--	5
1,2-Dichloropropane	ND		ug/l	5.0	--	5
Dibromochloromethane	ND		ug/l	5.0	--	5
1,1,2-Trichloroethane	ND		ug/l	5.0	--	5
Tetrachloroethene	ND		ug/l	5.0	--	5
Chlorobenzene	ND		ug/l	5.0	--	5
Trichlorofluoromethane	ND		ug/l	10	--	5
1,2-Dichloroethane	ND		ug/l	4.0	--	5
1,1,1-Trichloroethane	ND		ug/l	5.0	--	5
Bromodichloromethane	ND		ug/l	5.0	--	5
trans-1,3-Dichloropropene	ND		ug/l	2.5	--	5
cis-1,3-Dichloropropene	ND		ug/l	2.5	--	5
1,3-Dichloropropene, Total	ND		ug/l	2.5	--	5
1,1-Dichloropropene	ND		ug/l	10	--	5
Bromoform	ND		ug/l	10	--	5
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	--	5
Benzene	630		ug/l	2.5	--	5
Toluene	56		ug/l	5.0	--	5
Ethylbenzene	1800	E	ug/l	5.0	--	5
Chloromethane	ND		ug/l	10	--	5
Bromomethane	ND		ug/l	10	--	5
Vinyl chloride	ND		ug/l	5.0	--	5
Chloroethane	ND		ug/l	10	--	5
1,1-Dichloroethene	ND		ug/l	5.0	--	5
trans-1,2-Dichloroethene	ND		ug/l	5.0	--	5
Trichloroethene	ND		ug/l	5.0	--	5
1,2-Dichlorobenzene	ND		ug/l	5.0	--	5

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

SAMPLE RESULTS

Lab ID: L1741508-01 D Date Collected: 11/10/17 10:00
Client ID: MA-2 (OW) Date Received: 11/10/17
Sample Location: CAMBRIDGE, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	5.0	--	5
1,4-Dichlorobenzene	ND		ug/l	5.0	--	5
Methyl tert butyl ether	130		ug/l	10	--	5
p/m-Xylene	140		ug/l	10	--	5
o-Xylene	28		ug/l	5.0	--	5
Xylene (Total)	170		ug/l	5.0	--	5
cis-1,2-Dichloroethene	ND		ug/l	5.0	--	5
1,2-Dichloroethene (total)	ND		ug/l	5.0	--	5
Dibromomethane	ND		ug/l	10	--	5
1,2,3-Trichloropropane	ND		ug/l	10	--	5
Styrene	ND		ug/l	5.0	--	5
Dichlorodifluoromethane	ND		ug/l	10	--	5
Acetone	ND		ug/l	25	--	5
Carbon disulfide	ND		ug/l	10	--	5
2-Butanone	ND		ug/l	25	--	5
4-Methyl-2-pentanone	ND		ug/l	25	--	5
2-Hexanone	ND		ug/l	25	--	5
Bromochloromethane	ND		ug/l	10	--	5
Tetrahydrofuran	ND		ug/l	10	--	5
2,2-Dichloropropane	ND		ug/l	10	--	5
1,2-Dibromoethane	ND		ug/l	10	--	5
1,3-Dichloropropane	ND		ug/l	10	--	5
1,1,1,2-Tetrachloroethane	ND		ug/l	5.0	--	5
Bromobenzene	ND		ug/l	10	--	5
n-Butylbenzene	11		ug/l	10	--	5
sec-Butylbenzene	ND		ug/l	10	--	5
tert-Butylbenzene	ND		ug/l	10	--	5
o-Chlorotoluene	ND		ug/l	10	--	5
p-Chlorotoluene	ND		ug/l	10	--	5
1,2-Dibromo-3-chloropropane	ND		ug/l	10	--	5
Hexachlorobutadiene	ND		ug/l	3.0	--	5
Isopropylbenzene	76		ug/l	10	--	5
p-Isopropyltoluene	ND		ug/l	10	--	5
Naphthalene	230		ug/l	10	--	5
n-Propylbenzene	170		ug/l	10	--	5
1,2,3-Trichlorobenzene	ND		ug/l	10	--	5
1,2,4-Trichlorobenzene	ND		ug/l	10	--	5
1,3,5-Trimethylbenzene	32		ug/l	10	--	5
1,2,4-Trimethylbenzene	12		ug/l	10	--	5

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

SAMPLE RESULTS

Lab ID: L1741508-01 D
Client ID: MA-2 (OW)
Sample Location: CAMBRIDGE, MA

Date Collected: 11/10/17 10:00
Date Received: 11/10/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Ethyl ether	ND		ug/l	10	--	5
Isopropyl Ether	ND		ug/l	10	--	5
Ethyl-Tert-Butyl-Ether	ND		ug/l	10	--	5
Tertiary-Amyl Methyl Ether	ND		ug/l	10	--	5
1,4-Dioxane	ND		ug/l	1200	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	82		70-130

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/20/17 06:34
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1064714-15					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
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	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/20/17 06:34
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1064714-15					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylene (Total)	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene (total)	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/20/17 06:34
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1064714-15					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	102		70-130

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/19/17 13:45
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1064714-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	0.80	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
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	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/19/17 13:45
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1064714-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylene (Total)	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene (total)	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/19/17 13:45
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1064714-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--
Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/l		

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/19/17 13:45
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1064714-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 617-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1741508

Report Date: 12/11/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1064714-13 WG1064714-14								
Methylene chloride	94		88		70-130	7		20
1,1-Dichloroethane	92		90		70-130	2		20
Chloroform	90		94		70-130	4		20
Carbon tetrachloride	92		93		70-130	1		20
1,2-Dichloropropane	88		88		70-130	0		20
Dibromochloromethane	83		80		70-130	4		20
1,1,2-Trichloroethane	80		78		70-130	3		20
Tetrachloroethene	92		86		70-130	7		20
Chlorobenzene	88		86		70-130	2		20
Trichlorofluoromethane	90		89		70-130	1		20
1,2-Dichloroethane	90		94		70-130	4		20
1,1,1-Trichloroethane	94		94		70-130	0		20
Bromodichloromethane	85		88		70-130	3		20
trans-1,3-Dichloropropene	82		81		70-130	1		20
cis-1,3-Dichloropropene	83		88		70-130	6		20
1,1-Dichloropropene	97		92		70-130	5		20
Bromoform	80		81		70-130	1		20
1,1,2,2-Tetrachloroethane	74		76		70-130	3		20
Benzene	87		87		70-130	0		20
Toluene	88		85		70-130	3		20
Ethylbenzene	89		90		70-130	1		20
Chloromethane	74		74		70-130	0		20
Bromomethane	110		96		70-130	14		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: 617-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1741508
Report Date: 12/11/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1064714-13 WG1064714-14								
Vinyl chloride	93		89		70-130	4		20
Chloroethane	98		95		70-130	3		20
1,1-Dichloroethene	80		76		70-130	5		20
trans-1,2-Dichloroethene	91		89		70-130	2		20
Trichloroethene	88		85		70-130	3		20
1,2-Dichlorobenzene	82		82		70-130	0		20
1,3-Dichlorobenzene	85		85		70-130	0		20
1,4-Dichlorobenzene	82		79		70-130	4		20
Methyl tert butyl ether	89		88		70-130	1		20
p/m-Xylene	90		90		70-130	0		20
o-Xylene	90		90		70-130	0		20
cis-1,2-Dichloroethene	88		88		70-130	0		20
Dibromomethane	83		83		70-130	0		20
1,2,3-Trichloropropane	79		82		70-130	4		20
Styrene	85		85		70-130	0		20
Dichlorodifluoromethane	91		88		70-130	3		20
Acetone	95		82		70-130	15		20
Carbon disulfide	73		**68**	Q	70-130	7		20
2-Butanone	86		87		70-130	1		20
4-Methyl-2-pentanone	72		**68**	Q	70-130	6		20
2-Hexanone	**67**	Q	**62**	Q	70-130	8		20
Bromochloromethane	91		90		70-130	1		20
Tetrahydrofuran	86		90		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: 617-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1741508
Report Date: 12/11/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1064714-13 WG1064714-14								
2,2-Dichloropropane	99		99		70-130	0		20
1,2-Dibromoethane	83		82		70-130	1		20
1,3-Dichloropropane	83		81		70-130	2		20
1,1,1,2-Tetrachloroethane	88		86		70-130	2		20
Bromobenzene	82		79		70-130	4		20
n-Butylbenzene	91		89		70-130	2		20
sec-Butylbenzene	92		92		70-130	0		20
tert-Butylbenzene	86		84		70-130	2		20
o-Chlorotoluene	88		88		70-130	0		20
p-Chlorotoluene	85		88		70-130	3		20
1,2-Dibromo-3-chloropropane	**67**	Q	71		70-130	6		20
Hexachlorobutadiene	85		86		70-130	1		20
Isopropylbenzene	87		88		70-130	1		20
p-Isopropyltoluene	89		90		70-130	1		20
Naphthalene	76		77		70-130	1		20
n-Propylbenzene	89		87		70-130	2		20
1,2,3-Trichlorobenzene	76		82		70-130	8		20
1,2,4-Trichlorobenzene	82		82		70-130	0		20
1,3,5-Trimethylbenzene	90		89		70-130	1		20
1,2,4-Trimethylbenzene	86		87		70-130	1		20
Ethyl ether	86		80		70-130	7		20
Isopropyl Ether	87		87		70-130	0		20
Ethyl-Tert-Butyl-Ether	88		90		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 617-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1741508

Report Date: 12/11/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1064714-13 WG1064714-14								
Tertiary-Amyl Methyl Ether	93		93		70-130	0		20
1,4-Dioxane	96		90		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		103		70-130
Toluene-d8	100		97		70-130
4-Bromofluorobenzene	104		99		70-130
Dibromofluoromethane	103		100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: 617-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1741508
Report Date: 12/11/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1064714-3 WG1064714-4								
Methylene chloride	93		97		70-130	4		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	99		100		70-130	1		20
Carbon tetrachloride	100		100		70-130	0		20
1,2-Dichloropropane	95		99		70-130	4		20
Dibromochloromethane	90		92		70-130	2		20
1,1,2-Trichloroethane	91		91		70-130	0		20
Tetrachloroethene	99		99		70-130	0		20
Chlorobenzene	94		94		70-130	0		20
Trichlorofluoromethane	99		94		70-130	5		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	100		100		70-130	0		20
Bromodichloromethane	92		97		70-130	5		20
trans-1,3-Dichloropropene	93		92		70-130	1		20
cis-1,3-Dichloropropene	97		96		70-130	1		20
1,1-Dichloropropene	100		100		70-130	0		20
Bromoform	91		89		70-130	2		20
1,1,2,2-Tetrachloroethane	83		90		70-130	8		20
Benzene	95		94		70-130	1		20
Toluene	96		94		70-130	2		20
Ethylbenzene	100		100		70-130	0		20
Chloromethane	82		80		70-130	2		20
Bromomethane	**66**	Q	**68**	Q	70-130	3		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: 617-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1741508
Report Date: 12/11/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1064714-3 WG1064714-4								
Vinyl chloride	96		94		70-130	2		20
Chloroethane	100		100		70-130	0		20
1,1-Dichloroethene	82		82		70-130	0		20
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	99		96		70-130	3		20
1,2-Dichlorobenzene	92		91		70-130	1		20
1,3-Dichlorobenzene	91		95		70-130	4		20
1,4-Dichlorobenzene	91		91		70-130	0		20
Methyl tert butyl ether	98		98		70-130	0		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		100		70-130	0		20
cis-1,2-Dichloroethene	100		97		70-130	3		20
Dibromomethane	91		95		70-130	4		20
1,2,3-Trichloropropane	91		93		70-130	2		20
Styrene	90		90		70-130	0		20
Dichlorodifluoromethane	98		98		70-130	0		20
Acetone	93		120		70-130	**25**	Q	20
Carbon disulfide	78		76		70-130	3		20
2-Butanone	97		98		70-130	1		20
4-Methyl-2-pentanone	84		86		70-130	2		20
2-Hexanone	73		75		70-130	3		20
Bromochloromethane	94		100		70-130	6		20
Tetrahydrofuran	98		96		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: 617-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1741508
Report Date: 12/11/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1064714-3 WG1064714-4								
2,2-Dichloropropane	100		100		70-130	0		20
1,2-Dibromoethane	90		88		70-130	2		20
1,3-Dichloropropane	88		88		70-130	0		20
1,1,1,2-Tetrachloroethane	95		92		70-130	3		20
Bromobenzene	90		94		70-130	4		20
n-Butylbenzene	100		97		70-130	3		20
sec-Butylbenzene	110		110		70-130	0		20
tert-Butylbenzene	96		94		70-130	2		20
o-Chlorotoluene	98		96		70-130	2		20
p-Chlorotoluene	99		96		70-130	3		20
1,2-Dibromo-3-chloropropane	79		75		70-130	5		20
Hexachlorobutadiene	96		92		70-130	4		20
Isopropylbenzene	100		96		70-130	4		20
p-Isopropyltoluene	100		98		70-130	2		20
Naphthalene	92		93		70-130	1		20
n-Propylbenzene	100		98		70-130	2		20
1,2,3-Trichlorobenzene	93		94		70-130	1		20
1,2,4-Trichlorobenzene	95		96		70-130	1		20
1,3,5-Trimethylbenzene	99		97		70-130	2		20
1,2,4-Trimethylbenzene	96		95		70-130	1		20
Ethyl ether	87		88		70-130	1		20
Isopropyl Ether	92		94		70-130	2		20
Ethyl-Tert-Butyl-Ether	97		100		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 617-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1741508

Report Date: 12/11/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1064714-3 WG1064714-4								
Tertiary-Amyl Methyl Ether	99		100		70-130	1		20
1,4-Dioxane	96		110		70-130	14		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	99		95		70-130
4-Bromofluorobenzene	104		103		70-130
Dibromofluoromethane	100		104		70-130

METALS

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

SAMPLE RESULTS

Lab ID: L1741508-01 Date Collected: 11/10/17 10:00

Client ID: MA-2 (OW) Date Received: 11/10/17

Sample Location: CAMBRIDGE, MA Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Dissolved Metals - Mansfield Lab											
Lead, Dissolved	ND		mg/l	0.010	--	1	11/17/17 13:30	11/20/17 20:27	EPA 3005A	97,6010C	AB

Project Name: 617-675 CONCORD AVE. **Lab Number:** L1741508

Project Number: 6111.9.T6 **Report Date:** 12/11/17

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Mansfield Lab for sample(s): 01 Batch: WG1064232-1										
Lead, Dissolved	ND		mg/l	0.010	--	1	11/17/17 13:30	11/20/17 19:35	97,6010C	AB

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 617-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1741508

Report Date: 12/11/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Dissolved Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1064232-2 WG1064232-3								
Lead, Dissolved	107		108		80-120	1		20

Project Name: 617-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1741508
Report Date: 12/11/17

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(*)
L1741508-01A	Vial HCl preserved	A	NA		4.1	Y	Absent		MCP-8260-10(14)
L1741508-01B	Vial HCl preserved	A	NA		4.1	Y	Absent		MCP-8260-10(14)
L1741508-01C	Vial HCl preserved	A	NA		4.1	Y	Absent		MCP-8260-10(14)
L1741508-01D	Plastic 500ml unpreserved	A	7	7	4.1	Y	Absent		-
L1741508-01D1	Plastic 500ml unpreserved	A	7	7	4.1	Y	Absent		-
L1741508-01X	Plastic 120ml HNO3 preserved Filtrates	A	NA		4.1	Y	Absent		MCP-PB-6010S-10(180)

*Values in parentheses indicate holding time in days

Project Name:	617-675 CONCORD AVE.	**Lab Number:**	L1741508
Project Number:	6111.9.T6	**Report Date:**	12/11/17

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

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.

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.

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 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

Report Format: Data Usability Report

Project Name:	617-675 CONCORD AVE.	**Lab Number:**	L1741508
Project Number:	6111.9.T6	**Report Date:**	12/11/17

Data Qualifiers

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.

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:	617-675 CONCORD AVE.	**Lab Number:**	L1741508
Project Number:	6111.9.T6	**Report Date:**	12/11/17

REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

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

PAGE 1 OF 1

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 11/10/17

ALPHA Job #: L1741508

Project Information

Project Name: 617-675 Concord Ave

Project Location: Cambridge, MA

Project #: 6111.9.T6

Project Manager: AMF

ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #:

Client Information

Client: McPhail Associates

Address: 2269 Massachusetts Ave, Cambridge, MA 02140

Phone: 617-868-1420

Email: af@mcphailgeo.com

Additional Project Information:

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☒ No NPDES RGP
☐ Other State /Fed Program ____ Criteria ____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☒ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	Dissolved Lead						Sample Comments	TOTAL # BOTTLES
41508-01	MA-2(OW)	11/10/17	1000	GW	LDP	X								X						3 vials 2 plastic 500mL	5
Container Type						V								P							
Preservative						B								A							

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	11/10/17 1030	[signature] AAL	11/10/17 1605
[signature] AAL	11/10/17 1825	[signature]	11-10-17 1825

FORM NO: 01-01 (rev. 12-Mar-2012)

Method Blank Summary
Form 4

Client	: McPhail Associates	**Lab Number**	: L1741508
Project Name	: 617-675 CONCORD AVE.	**Project Number**	: 6111.9.T6
Lab Sample ID	: WG1064714-5	**Lab File ID**	: V16171119A07
Instrument ID	: VOA116		
Matrix	: WATER	**Analysis Date**	: 11/19/17 13:45

Client Sample No.	Lab Sample ID	Analysis Date
WG1064714-3LCS	WG1064714-3	11/19/17 11:39
WG1064714-4LCSD	WG1064714-4	11/19/17 12:04
MA-2 (OW)	L1741508-01D	11/19/17 17:07

Method Blank Summary
Form 4

Client	: McPhail Associates	**Lab Number**	: L1741508
Project Name	: 617-675 CONCORD AVE.	**Project Number**	: 6111.9.T6
Lab Sample ID	: WG1064714-15	**Lab File ID**	: V16171120A05
Instrument ID	: VOA116		
Matrix	: WATER	**Analysis Date**	: 11/20/17 06:34

Client Sample No.	Lab Sample ID	Analysis Date
WG1064714-13LCS	WG1064714-13	11/20/17 04:49
WG1064714-14LCSD	WG1064714-14	11/20/17 05:18
MA-2 (OW)	L1741508-01D2	11/20/17 12:03

Continuing Calibration
Form 7

Client	: McPhail Associates	**Lab Number**	: L1741508		
Project Name	: 617-675 CONCORD AVE.	**Project Number**	: 6111.9.T6		
Instrument ID	: VOA116	**Calibration Date**	: 11/19/17 11:39		
Lab File ID	: V16171119A02	**Init. Calib. Date(s)**	: 11/13/17	11/13/17	
Sample No	: WG1064714-2	**Init. Calib. Times**	: 12:12	15:09	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	106	0
Dichlorodifluoromethane	0.33	0.324	-	1.8	20	111	0
Chloromethane	0.311	0.257	-	17.4	20	88	0
Vinyl chloride	0.253	0.243	-	4	20	104	0
Bromomethane	0.131	0.087*	-	33.6*	20	74	0
Chloroethane	10	10.215	-	-2.1	20	105	.02
Trichlorofluoromethane	0.446	0.443	-	0.7	20	109	0
Ethyl ether	0.094	0.082	-	12.8	20	98	.01
1,1-Dichloroethene	0.239	0.195	-	18.4	20	87	.01
Carbon disulfide	0.684	0.534	-	21.9*	20	82	0
Methylene chloride	0.275	0.256	-	6.9	20	101	0
Acetone	10	9.298	-	7	20	98	-.01
trans-1,2-Dichloroethene	0.284	0.289	-	-1.8	20	112	0
Methyl tert-butyl ether	0.562	0.552	-	1.8	20	109	0
Diisopropyl ether	0.81	0.747	-	7.8	20	104	0
1,1-Dichloroethane	0.513	0.514	-	-0.2	20	108	0
Ethyl tert-butyl ether	0.675	0.656	-	2.8	20	110	0
cis-1,2-Dichloroethene	0.3	0.301	-	-0.3	20	113	0
2,2-Dichloropropane	0.428	0.445	-	-4	20	116	0
Bromochloromethane	0.135	0.128	-	5.2	20	96	0
Chloroform	0.531	0.525	-	1.1	20	110	0
Carbon tetrachloride	0.469	0.482	-	-2.8	20	124	.01
Tetrahydrofuran	10	9.754	-	2.5	20	108	.01
Dibromofluoromethane	0.288	0.287	-	0.3	20	105	0
1,1,1-Trichloroethane	0.483	0.494	-	-2.3	20	115	0
2-Butanone	10	9.716	-	2.8	20	103	0
1,1-Dichloropropene	0.367	0.388	-	-5.7	20	120	0
Benzene	1.092	1.035	-	5.2	20	103	0
tert-Amyl methyl ether	0.583	0.577	-	1	20	101	0
1,2-Dichloroethane-d4	0.293	0.299	-	-2	20	120	0
1,2-Dichloroethane	0.277	0.289	-	-4.3	20	117	0
Trichloroethene	0.311	0.307	-	1.3	20	115	0
Dibromomethane	0.162	0.147	-	9.3	20	100	0
1,2-Dichloropropane	0.259	0.246	-	5	20	106	0
Bromodichloromethane	0.389	0.358	-	8	20	107	0
1,4-Dioxane	0.00131	0.00126*	-	3.8	20	116	0
cis-1,3-Dichloropropene	0.386	0.376	-	2.6	20	111	0
Chlorobenzene-d5	1	1	-	0	20	108	0
Toluene-d8	1.202	1.189	-	1.1	20	107	0
Toluene	0.843	0.809	-	4	20	108	0
4-Methyl-2-pentanone	10	8.358	-	16.4	20	95	0
Tetrachloroethene	0.394	0.39	-	1	20	112	0
trans-1,3-Dichloropropene	0.469	0.435	-	7.2	20	114	0
1,1,2-Trichloroethane	0.222	0.202	-	9	20	98	0
Chlorodibromomethane	0.356	0.323	-	9.3	20	100	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: McPhail Associates	**Lab Number**	: L1741508		
Project Name	: 617-675 CONCORD AVE.	**Project Number**	: 6111.9.T6		
Instrument ID	: VOA116	**Calibration Date**	: 11/19/17 11:39		
Lab File ID	: V16171119A02	**Init. Calib. Date(s)**	: 11/13/17	11/13/17	
Sample No	: WG1064714-2	**Init. Calib. Times**	: 12:12	15:09	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,3-Dichloropropane	0.441	0.39	-	11.6	20	101	0
1,2-Dibromoethane	0.255	0.229	-	10.2	20	98	0
2-Hexanone	10	7.283	-	27.2*	20	91	0
Chlorobenzene	0.935	0.88	-	5.9	20	103	0
Ethylbenzene	1.746	1.784	-	-2.2	20	112	0
1,1,1,2-Tetrachloroethane	0.421	0.401	-	4.8	20	101	0
p/m Xylene	0.596	0.593	-	0.5	20	105	0
o Xylene	0.553	0.558	-	-0.9	20	110	0
Styrene	20	18.526	-	7.4	20	100	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	109	0
Bromoform	0.389	0.355	-	8.7	20	95	0
Isopropylbenzene	3.019	3.018	-	0	20	112	0
4-Bromofluorobenzene	0.885	0.919	-	-3.8	20	118	-.01
Bromobenzene	0.746	0.671	-	10.1	20	95	0
n-Propylbenzene	3.671	3.654	-	0.5	20	110	0
1,1,2,2-Tetrachloroethane	0.552	0.458	-	17	20	84	-.01
2-Chlorotoluene	2.47	2.425	-	1.8	20	106	-.01
1,3,5-Trimethylbenzene	2.539	2.524	-	0.6	20	108	0
1,2,3-Trichloropropane	10	9.144	-	8.6	20	91	-.01
4-Chlorotoluene	2.206	2.184	-	1	20	107	0
tert-Butylbenzene	10	9.551	-	4.5	20	114	0
1,2,4-Trimethylbenzene	2.503	2.408	-	3.8	20	104	0
sec-Butylbenzene	1.21	1.32	-	-9.1	20	115	0
p-Isopropyltoluene	2.583	2.61	-	-1	20	113	0
1,3-Dichlorobenzene	1.464	1.34	-	8.5	20	97	0
1,4-Dichlorobenzene	1.482	1.346	-	9.2	20	97	0
n-Butylbenzene	2.356	2.393	-	-1.6	20	115	0
1,2-Dichlorobenzene	1.303	1.203	-	7.7	20	98	0
1,2-Dibromo-3-chloropropan	0.086	0.068	-	20.9*	20	84	0
Hexachlorobutadiene	0.338	0.326	-	3.6	20	120	0
1,2,4-Trichlorobenzene	0.731	0.697	-	4.7	20	99	0
Naphthalene	1.492	1.375	-	7.8	20	102	0
1,2,3-Trichlorobenzene	0.623	0.58	-	6.9	20	99	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: McPhail Associates	**Lab Number**	: L1741508		
Project Name	: 617-675 CONCORD AVE.	**Project Number**	: 6111.9.T6		
Instrument ID	: VOA116	**Calibration Date**	: 11/20/17 04:49		
Lab File ID	: V16171120A01	**Init. Calib. Date(s)**	: 11/13/17	11/13/17	
Sample No	: WG1064714-12	**Init. Calib. Times**	: 12:12	15:09	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	108	0
Dichlorodifluoromethane	0.33	0.301	-	8.8	20	106	0
Chloromethane	0.311	0.232	-	25.4*	20	81	0
Vinyl chloride	0.253	0.236	-	6.7	20	102	0
Bromomethane	0.131	0.146	-	-11.5	20	125	0
Chloroethane	10	9.834	-	1.7	20	103	.02
Trichlorofluoromethane	0.446	0.401	-	10.1	20	100	.01
Ethyl ether	0.094	0.081	-	13.8	20	98	.01
1,1-Dichloroethene	0.239	0.192	-	19.7	20	87	.01
Carbon disulfide	0.684	0.5	-	26.9*	20	78	.01
Methylene chloride	0.275	0.259	-	5.8	20	104	0
Acetone	10	9.515	-	4.8	20	102	0
trans-1,2-Dichloroethene	0.284	0.26	-	8.5	20	102	0
Methyl tert-butyl ether	0.562	0.503	-	10.5	20	101	0
Diisopropyl ether	0.81	0.706	-	12.8	20	100	0
1,1-Dichloroethane	0.513	0.475	-	7.4	20	102	0
Ethyl tert-butyl ether	0.675	0.595	-	11.9	20	101	0
cis-1,2-Dichloroethene	0.3	0.265	-	11.7	20	101	0
2,2-Dichloropropane	0.428	0.424	-	0.9	20	112	0
Bromochloromethane	0.135	0.124	-	8.1	20	94	0
Chloroform	0.531	0.478	-	10	20	102	0
Carbon tetrachloride	0.469	0.433	-	7.7	20	114	.01
Tetrahydrofuran	10	8.654	-	13.5	20	98	.01
Dibromofluoromethane	0.288	0.298	-	-3.5	20	111	0
1,1,1-Trichloroethane	0.483	0.453	-	6.2	20	108	0
2-Butanone	10	8.594	-	14.1	20	94	0
1,1-Dichloropropene	0.367	0.355	-	3.3	20	112	.01
Benzene	1.092	0.952	-	12.8	20	96	0
tert-Amyl methyl ether	0.583	0.543	-	6.9	20	97	0
1,2-Dichloroethane-d4	0.293	0.288	-	1.7	20	117	0
1,2-Dichloroethane	0.277	0.249	-	10.1	20	103	0
Trichloroethene	0.311	0.273	-	12.2	20	104	0
Dibromomethane	0.162	0.135	-	16.7	20	93	0
1,2-Dichloropropane	0.259	0.228	-	12	20	100	0
Bromodichloromethane	0.389	0.332	-	14.7	20	101	0
1,4-Dioxane	0.00131	0.00126*	-	3.8	20	117	0
cis-1,3-Dichloropropene	0.386	0.322	-	16.6	20	97	0
Chlorobenzene-d5	1	1	-	0	20	109	0
Toluene-d8	1.202	1.197	-	0.4	20	109	0
Toluene	0.843	0.739	-	12.3	20	100	0
4-Methyl-2-pentanone	10	7.248	-	27.5*	20	83	0
Tetrachloroethene	0.394	0.363	-	7.9	20	105	0
trans-1,3-Dichloropropene	0.469	0.384	-	18.1	20	101	0
1,1,2-Trichloroethane	0.222	0.178	-	19.8	20	87	0
Chlorodibromomethane	0.356	0.295	-	17.1	20	92	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: McPhail Associates	**Lab Number**	: L1741508		
Project Name	: 617-675 CONCORD AVE.	**Project Number**	: 6111.9.T6		
Instrument ID	: VOA116	**Calibration Date**	: 11/20/17 04:49		
Lab File ID	: V16171120A01	**Init. Calib. Date(s)**	: 11/13/17	11/13/17	
Sample No	: WG1064714-12	**Init. Calib. Times**	: 12:12	15:09	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,3-Dichloropropane	0.441	0.365	-	17.2	20	96	0
1,2-Dibromoethane	0.255	0.212	-	16.9	20	91	0
2-Hexanone	10	6.706	-	32.9*	20	84	0
Chlorobenzene	0.935	0.821	-	12.2	20	98	0
Ethylbenzene	1.746	1.562	-	10.5	20	99	0
1,1,1,2-Tetrachloroethane	0.421	0.371	-	11.9	20	95	0
p/m Xylene	0.596	0.546	-	8.4	20	98	0
o Xylene	0.553	0.499	-	9.8	20	99	0
Styrene	20	17.181	-	14.1	20	94	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	114	0
Bromoform	0.389	0.311	-	20.1*	20	88	0
Isopropylbenzene	3.019	2.635	-	12.7	20	103	0
4-Bromofluorobenzene	0.885	0.917	-	-3.6	20	123	0
Bromobenzene	0.746	0.609	-	18.4	20	90	0
n-Propylbenzene	3.671	3.275	-	10.8	20	104	.01
1,1,2,2-Tetrachloroethane	0.552	0.407	-	26.3*	20	78	0
2-Chlorotoluene	2.47	2.177	-	11.9	20	100	0
1,3,5-Trimethylbenzene	2.539	2.282	-	10.1	20	103	0
1,2,3-Trichloropropane	10	7.876	-	21.2*	20	83	0
4-Chlorotoluene	2.206	1.88	-	14.8	20	97	0
tert-Butylbenzene	10	8.632	-	13.7	20	108	0
1,2,4-Trimethylbenzene	2.503	2.165	-	13.5	20	99	0
sec-Butylbenzene	1.21	1.113	-	8	20	102	0
p-Isopropyltoluene	2.583	2.303	-	10.8	20	105	0
1,3-Dichlorobenzene	1.464	1.251	-	14.5	20	95	0
1,4-Dichlorobenzene	1.482	1.213	-	18.2	20	92	0
n-Butylbenzene	2.356	2.15	-	8.7	20	109	0
1,2-Dichlorobenzene	1.303	1.075	-	17.5	20	92	0
1,2-Dibromo-3-chloropropan	0.086	0.057	-	33.7*	20	75	0
Hexachlorobutadiene	0.338	0.289	-	14.5	20	112	0
1,2,4-Trichlorobenzene	0.731	0.603	-	17.5	20	90	0
Naphthalene	1.492	1.14	-	23.6*	20	89	0
1,2,3-Trichlorobenzene	0.623	0.473	-	24.1*	20	85	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L1803837
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	671-675 CONCORD AVE.
Project Number:	6111.9.T
Report Date:	02/06/18

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: 671-675 CONCORD AVE.
Project Number: 6111.9.T

Lab Number: L1803837
Report Date: 02/06/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1803837-01	MA-2(OW)	WATER	671-675 CONCORD AVE.	02/02/18 10:00	02/02/18

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1803837
Project Number: 6111.9.T **Report Date:** 02/06/18

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:	671-675 CONCORD AVE.	**Lab Number:**	L1803837
Project Number:	6111.9.T	**Report Date:**	02/06/18

Case Narrative (continued)

Cyanide, Total

The WG1086254-4 MS recovery (72%), performed on L1803837-01, is outside the acceptance criteria; however, the associated LCS recovery is within criteria. No further action was 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: Kelly Stenstrom

Title: Technical Director/Representative Date: 02/06/18

METALS

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1803837

Project Number: 6111.9.T **Report Date:** 02/06/18

SAMPLE RESULTS

Lab ID: L1803837-01 Date Collected: 02/02/18 10:00

Client ID: MA-2(OW) Date Received: 02/02/18

Sample Location: 671-675 CONCORD AVE. Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	02/03/18 10:50	02/05/18 11:05	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00473		mg/l	0.00100	--	1	02/03/18 10:50	02/05/18 11:05	EPA 3005A	3,200.8	AM
Cadmium, Total	0.00225		mg/l	0.00020	--	1	02/03/18 10:50	02/05/18 11:05	EPA 3005A	3,200.8	AM
Chromium, Total	0.00108		mg/l	0.00100	--	1	02/03/18 10:50	02/05/18 11:05	EPA 3005A	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	02/03/18 10:50	02/05/18 11:05	EPA 3005A	3,200.8	AM
Iron, Total	5.05		mg/l	0.050	--	1	02/03/18 10:50	02/06/18 10:28	EPA 3005A	19,200.7	JH
Lead, Total	0.00544		mg/l	0.00050	--	1	02/03/18 10:50	02/05/18 11:05	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	02/05/18 14:47	02/05/18 17:41	EPA 245.1	3,245.1	EA
Nickel, Total	ND		mg/l	0.00200	--	1	02/03/18 10:50	02/05/18 11:05	EPA 3005A	3,200.8	AM
Selenium, Total	0.00924		mg/l	0.00500	--	1	02/03/18 10:50	02/05/18 11:05	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00050	--	1	02/03/18 10:50	02/05/18 11:05	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	02/03/18 10:50	02/05/18 11:05	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	646		mg/l	0.660	NA	1	02/03/18 10:50	02/06/18 10:28	EPA 3005A	19,200.7	JH
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		02/05/18 11:05	NA	107,-	

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1803837

Project Number: 6111.9.T **Report Date:** 02/06/18

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: WG1086356-1										
Antimony, Total	ND		mg/l	0.00400	--	1	02/03/18 10:50	02/05/18 10:01	3,200.8	AM
Arsenic, Total	ND		mg/l	0.0010	--	1	02/03/18 10:50	02/05/18 10:01	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	02/03/18 10:50	02/05/18 10:01	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	02/03/18 10:50	02/05/18 10:01	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	02/03/18 10:50	02/05/18 10:01	3,200.8	AM
Lead, Total	ND		mg/l	0.00050	--	1	02/03/18 10:50	02/05/18 10:01	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	02/03/18 10:50	02/05/18 10:01	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	02/03/18 10:50	02/05/18 10:01	3,200.8	AM
Silver, Total	ND		mg/l	0.00050	--	1	02/03/18 10:50	02/05/18 10:01	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	02/03/18 10:50	02/05/18 10:01	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: WG1086358-1										
Iron, Total	ND		mg/l	0.050	--	1	02/03/18 10:50	02/06/18 10:00	19,200.7	JH

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1086358-1										
Hardness	ND		mg/l	0.660	NA	1	02/03/18 10:50	02/06/18 10:00	19,200.7	JH

Prep Information

Digestion Method: EPA 3005A

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1803837

Project Number: 6111.9.T **Report Date:** 02/06/18

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: WG1086687-1										
Mercury, Total	ND		mg/l	0.00020	--	1	02/05/18 14:47	02/05/18 17:16	3,245.1	EA

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T

Lab Number: L1803837

Report Date: 02/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1086356-2								
Antimony, Total	104		-		85-115	-		
Arsenic, Total	107		-		85-115	-		
Cadmium, Total	112		-		85-115	-		
Chromium, Total	114		-		85-115	-		
Copper, Total	107		-		85-115	-		
Lead, Total	111		-		85-115	-		
Nickel, Total	112		-		85-115	-		
Selenium, Total	111		-		85-115	-		
Silver, Total	101		-		85-115	-		
Zinc, Total	111		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1086358-2								
Iron, Total	100		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1086358-2								
Hardness	101		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1086687-2								
Mercury, Total	98		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T

Lab Number: L1803837
Report Date: 02/06/18

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: WG1086356-3 QC Sample: L1803795-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.5315	106		-	-		70-130	-		20
Arsenic, Total	ND	0.12	0.1310	109		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05416	106		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.2113	106		-	-		70-130	-		20
Copper, Total	0.1303	0.25	0.3918	105		-	-		70-130	-		20
Lead, Total	0.0034	0.51	0.5445	106		-	-		70-130	-		20
Nickel, Total	ND	0.5	0.5184	104		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1599	**133**	Q	-	-		70-130	-		20
Silver, Total	ND	0.05	0.01548	**31**	Q	-	-		70-130	-		20
Zinc, Total	0.1102	0.5	0.6455	107		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1086358-3 QC Sample: L1803604-01 Client ID: MS Sample												
Iron, Total	9.59	1	10.8	121		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1086358-3 QC Sample: L1803604-01 Client ID: MS Sample												
Hardness	157	66.2	191	**51**	Q	-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1086687-3 QC Sample: L1803149-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00434	87		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T

Lab Number: L1803837
Report Date: 02/06/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1086356-4 QC Sample: L1803795-01 Client ID: DUP Sample						
Arsenic, Total	ND	ND	mg/l	NC		20
Lead, Total	0.0034	0.0034	mg/l	0		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1086687-4 QC Sample: L1803149-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T

Lab Number: L1803837
Report Date: 02/06/18

SAMPLE RESULTS

Lab ID: L1803837-01
Client ID: MA-2(OW)
Sample Location: 671-675 CONCORD AVE.
Sample Depth:
Matrix: Water

Date Collected: 02/02/18 10:00
Date Received: 02/02/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	0.248		mg/l	0.005	--	1	02/02/18 22:00	02/05/18 12:27	121,4500CN-CE	JO
pH (H)	6.8		SU	-	NA	1	-	02/03/18 01:23	121,4500H+-B	UN
Nitrogen, Ammonia	12.7		mg/l	0.075	--	1	02/03/18 15:00	02/05/18 20:37	121,4500NH3-BH	AT
Chromium, Hexavalent	ND		mg/l	0.010	--	1	02/03/18 02:27	02/03/18 03:02	1,7196A	UN

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1803837

Project Number: 6111.9.T **Report Date:** 02/06/18

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: WG1086254-1										
Cyanide, Total	ND		mg/l	0.005	--	1	02/02/18 22:00	02/05/18 11:14	121,4500CN-CE	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1086289-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	02/03/18 02:27	02/03/18 02:59	1,7196A	UN
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1086348-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	02/03/18 15:00	02/05/18 20:21	121,4500NH3-BH	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T

Lab Number: L1803837

Report Date: 02/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1086254-2								
Cyanide, Total	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1086289-2								
Chromium, Hexavalent	92		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1086314-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1086348-2								
Nitrogen, Ammonia	90		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T

Lab Number: L1803837
Report Date: 02/06/18

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: WG1086254-4 QC Sample: L1803837-01 Client ID: MA-2(OW)												
Cyanide, Total	0.248	0.2	0.391	**72**	Q	-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1086289-4 QC Sample: L1803837-01 Client ID: MA-2(OW)												
Chromium, Hexavalent	ND	0.1	0.091	91		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1086348-4 QC Sample: L1803722-01 Client ID: MS Sample												
Nitrogen, Ammonia	0.587	4	4.40	95		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T

Lab Number: L1803837
Report Date: 02/06/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1086254-3 QC Sample: L1803837-01 Client ID: MA-2(OW)						
Cyanide, Total	0.248	0.189	mg/l	27		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1086289-3 QC Sample: L1803837-01 Client ID: MA-2(OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1086314-2 QC Sample: L1803778-01 Client ID: DUP Sample						
pH	7.2	7.2	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1086348-3 QC Sample: L1803722-01 Client ID: DUP Sample						
Nitrogen, Ammonia	0.587	0.568	mg/l	3		20

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T

Lab Number: L1803837
Report Date: 02/06/18

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(*)
L1803837-01A	Plastic 250ml HNO3 preserved	A	<2	<2	4.3	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),HARDU(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1803837-01B	Plastic 500ml unpreserved	A	7	7	4.3	Y	Absent		HEXCR-7196(1),PH-4500(.01)
L1803837-01C	Plastic 250ml H2SO4 preserved	A	<2	<2	4.3	Y	Absent		NH3-4500(28)
L1803837-01D	Plastic 250ml NaOH preserved	A	>12	>12	4.3	Y	Absent		TCN-4500(14)
L1803837-01E	Plastic 950ml unpreserved	A	7	7	4.3	Y	Absent		HEXCR-7196(1),PH-4500(.01)

*Values in parentheses indicate holding time in days

Project Name:	671-675 CONCORD AVE.	**Lab Number:**	L1803837
Project Number:	6111.9.T	**Report Date:**	02/06/18

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

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.

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.

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 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

Report Format: Data Usability Report

Project Name:	671-675 CONCORD AVE.	**Lab Number:**	L1803837
Project Number:	6111.9.T	**Report Date:**	02/06/18

Data Qualifiers

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.

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:	671-675 CONCORD AVE.	**Lab Number:**	L1803837
Project Number:	6111.9.T	**Report Date:**	02/06/18

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.

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: SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; 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, SM4500CI-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: 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**, 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, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, 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, 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

PAGE 1 OF 1

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 02/02/18

ALPHA Job #: L1803837

Project Information

Project Name: 671-675 Concord Ave

Project Location: 671-675 Concord Ave

Project #: 6111.9.T

Project Manager: KWS/AEF

ALPHA Quote #:

Client Information

Client: McPhail Associates, LLC

Address: 2269 Massachusetts Avenue

Cambridge, MA 02140

Phone: (617) 868-1420

Fax:

Email: kseaman@mcphailgeo.com

☐ These samples have been Previously analyzed by Alpha

Report Information Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NPDES RGP	

Turn-Around Time

☐ Standard ☒ Rush (ONLY IF PRE-APPROVED)

Due Date: 2/6 Time: 3:30pm

Other Project Specific Requirements/Comments/Detection Limits:

Circle the following if required:
SALINITY (HARDNESS) (PH)
Sect. A Inorganics: Ammonia, Chloride, TRC,TSS,CrVI,CrIII, Tot-CN, RGP Metals
B- Non-Hal- VOC- 8260, 8260-SIM, Tot. Phenol Sect C- VOC- 8260 & 504
D: 8270/8270-SIM: E- PCB's, PCP(8270/8270-SIM): F-TPH, 8260, Sub-Ethanol

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	RGP Metals (200.8) (A)	TSS- (A)	Ammonia (4500 (A))	TCN (A)	HexCr (7196), TRC, Cl- (A)	8260 (B, C, F)/8260SIM (B)	Tphenol-420 (B)	504-EDB (C)	8270/8270SIM- (D, E)	PCB-608- (E)	TPH-1664-(F)	SUB-ETHANOL (F)	Sample Specific Comments	TOTAL # BOTTLES
03837-01	MA-2(OW)	2/2	10:00	GW	KWS	☒	☐	☒	☒	☒	☐	☐	☐	☐	☐	☐	☐		5
Container Type						P	P	P	P	P	V	A	V	A	A	A	V		
Preservative						C	A	D	E	A	B	D	H	A	H	B	B		

Relinquished By:	Date/Time	Received By:	Date/Time
J. Ericsow John Ericsow	2/2/18 400	[signature] AAL	2/2/18 1610
[signature] AAL	2/2/18 1740	[signature]	2/2/18 17:40

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I)(HJ) (rev. 5-JAN-12)

ANALYTICAL REPORT

Lab Number:	L1804723
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	671-675 CONCORD AVE.
Project Number:	6111.9.T6
Report Date:	02/13/18

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: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1804723
Report Date: 02/13/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1804723-01	MA-2(OW)	WATER	CAMBRIDGE, MA	02/09/18 15:30	02/09/18
L1804723-02	TRIP BLANK	WATER	CAMBRIDGE, MA	02/09/18 00:00	02/09/18

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1804723
Project Number: 6111.9.T6 **Report Date:** 02/13/18

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:	671-675 CONCORD AVE.	**Lab Number:**	L1804723
Project Number:	6111.9.T6	**Report Date:**	02/13/18

Case Narrative (continued)

Sample Receipt

L1804723-02: A sample identified as "TRIP BLANK" was received but not listed on the Chain of Custody and was not analyzed.

Volatile Organics by SIM

L1804723-01: The sample has an elevated detection limit due to the dilution required by the elevated concentrations of non-target compounds in the sample.

Chlorine, Total Residual

The WG1088109-4 MS recovery (0%), performed on L1804723-01, is outside the acceptance criteria; however, the associated LCS recovery is within criteria. No further action was 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: Kelly Stenstrom

Title: Technical Director/Representative Date: 02/13/18

ORGANICS

VOLATILES

Project Name: 671-675 CONCORD AVE.
Lab Number: L1804723
Project Number: 6111.9.T6
Report Date: 02/13/18

SAMPLE RESULTS

Lab ID: L1804723-01
Client ID: MA-2(OW)
Sample Location: CAMBRIDGE, MA
Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 02/12/18 16:41
Analyst: SL

Date Collected: 02/09/18 15:30
Date Received: 02/09/18
Field Prep: Not Specified

Extraction Method: EPA 504.1
Extraction Date: 02/12/18 10:47

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: 671-675 CONCORD AVE. **Lab Number:** L1804723

Project Number: 6111.9.T6 **Report Date:** 02/13/18

SAMPLE RESULTS

Lab ID: L1804723-01 D
Client ID: MA-2(OW)
Sample Location: CAMBRIDGE, MA
Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 02/13/18 13:06
Analyst: AD

Date Collected: 02/09/18 15:30
Date Received: 02/09/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	75	--	25
1,1-Dichloroethane	ND		ug/l	19	--	25
Carbon tetrachloride	ND		ug/l	12	--	25
1,1,2-Trichloroethane	ND		ug/l	19	--	25
Tetrachloroethene	ND		ug/l	12	--	25
1,2-Dichloroethane	ND		ug/l	12	--	25
1,1,1-Trichloroethane	ND		ug/l	12	--	25
Benzene	530		ug/l	12	--	25
Toluene	120		ug/l	19	--	25
Ethylbenzene	2300		ug/l	12	--	25
Vinyl chloride	ND		ug/l	25	--	25
1,1-Dichloroethene	ND		ug/l	12	--	25
Trichloroethene	ND		ug/l	12	--	25
1,2-Dichlorobenzene	ND		ug/l	62	--	25
1,3-Dichlorobenzene	ND		ug/l	62	--	25
1,4-Dichlorobenzene	ND		ug/l	62	--	25
Methyl tert butyl ether	78		ug/l	25	--	25
p/m-Xylene	480		ug/l	25	--	25
o-Xylene	120		ug/l	25	--	25
Xylenes, Total	600		ug/l	25	--	25
cis-1,2-Dichloroethene	ND		ug/l	12	--	25
Acetone	ND		ug/l	120	--	25
Tert-Butyl Alcohol	ND		ug/l	250	--	25
Tertiary-Amyl Methyl Ether	ND		ug/l	50	--	25

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1804723

Project Number: 6111.9.T6 **Report Date:** 02/13/18

SAMPLE RESULTS

Lab ID: L1804723-01 D
Client ID: MA-2(OW)
Sample Location: CAMBRIDGE, MA
Sample Depth:

Date Collected: 02/09/18 15:30
Date Received: 02/09/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Volatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	90		70-130

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1804723

Project Number: 6111.9.T6 **Report Date:** 02/13/18

SAMPLE RESULTS

Lab ID: L1804723-01 D
Client ID: MA-2(OW)
Sample Location: CAMBRIDGE, MA
Sample Depth:
Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 02/13/18 13:06
Analyst: AD

Date Collected: 02/09/18 15:30
Date Received: 02/09/18
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	75	--	25

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1804723
Report Date: 02/13/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 02/12/18 15:51
Analyst: SL

Extraction Method: EPA 504.1
Extraction Date: 02/12/18 10:47

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG1088506-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1804723

Project Number: 6111.9.T6 **Report Date:** 02/13/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C-SIM(M)
Analytical Date: 02/13/18 12:41
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1088929-5					
1,4-Dioxane	ND		ug/l	3.0	--

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1804723

Project Number: 6111.9.T6 **Report Date:** 02/13/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 02/13/18 12:41
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1088937-5					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
Tetrachloroethene	ND		ug/l	0.50	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Vinyl chloride	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
Trichloroethene	ND		ug/l	0.50	--
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--
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	--
Acetone	ND		ug/l	5.0	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1804723

Project Number: 6111.9.T6 **Report Date:** 02/13/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 02/13/18 12:41
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1088937-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1804723

Report Date: 02/13/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01		Batch: WG1088506-2						
1,2-Dibromoethane	113		-		80-120	-			A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1804723

Report Date: 02/13/18

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: WG1088929-3 WG1088929-4								
1,4-Dioxane	92		90		70-130	2		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1804723
Report Date: 02/13/18

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: WG1088937-3 WG1088937-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	100		100		70-130	0		20
Carbon tetrachloride	93		93		63-132	0		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	100		100		70-130	0		20
1,2-Dichloroethane	98		98		70-130	0		20
1,1,1-Trichloroethane	100		100		67-130	0		20
Benzene	100		99		70-130	1		25
Toluene	99		98		70-130	1		25
Ethylbenzene	98		98		70-130	0		20
Vinyl chloride	100		100		55-140	0		20
1,1-Dichloroethene	98		100		61-145	2		25
Trichloroethene	100		100		70-130	0		25
1,2-Dichlorobenzene	98		100		70-130	2		20
1,3-Dichlorobenzene	97		98		70-130	1		20
1,4-Dichlorobenzene	97		98		70-130	1		20
Methyl tert butyl ether	100		100		63-130	0		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		100		70-130	0		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Acetone	92		80		58-148	14		20
Tert-Butyl Alcohol	104		100		70-130	4		20
Tertiary-Amyl Methyl Ether	100		100		66-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1804723

Report Date: 02/13/18

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: WG1088937-3 WG1088937-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		100		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	99		101		70-130
Dibromofluoromethane	98		100		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1804723

Report Date: 02/13/18

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: WG1088506-3		QC Sample: L1804723-01		Client ID: MA-2(OW)							
1,2-Dibromoethane	ND	0.259	0.351	**135**	Q	-	-		80-120	-		20	A

SEMIVOLATILES

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1804723
Report Date: 02/13/18

SAMPLE RESULTS

Lab ID: L1804723-01
Client ID: MA-2(OW)
Sample Location: CAMBRIDGE, MA
Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 02/12/18 01:48
Analyst: PS

Date Collected: 02/09/18 15:30
Date Received: 02/09/18
Field Prep: Not Specified

Extraction Method: EPA 3510C
Extraction Date: 02/09/18 21:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
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
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Phenol	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	46		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	80		15-120
2,4,6-Tribromophenol	108		10-120
4-Terphenyl-d14	80		41-149

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1804723

Project Number: 6111.9.T6 **Report Date:** 02/13/18

SAMPLE RESULTS

Lab ID: L1804723-01
Client ID: MA-2(OW)
Sample Location: CAMBRIDGE, MA
Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 02/10/18 16:16
Analyst: KL

Date Collected: 02/09/18 15:30
Date Received: 02/09/18
Field Prep: Not Specified

Extraction Method: EPA 3510C
Extraction Date: 02/09/18 21:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.96		ug/l	0.10	--	1
Fluoranthene	0.52		ug/l	0.10	--	1
Naphthalene	71	E	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	0.38		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	1.2		ug/l	0.10	--	1
Phenanthrene	1.3		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	0.54		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	34		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	77		15-120
2,4,6-Tribromophenol	75		10-120
4-Terphenyl-d14	90		41-149

Project Name: 671-675 CONCORD AVE.
Lab Number: L1804723
Project Number: 6111.9.T6
Report Date: 02/13/18

SAMPLE RESULTS

Lab ID: L1804723-01 D
Client ID: MA-2(OW)
Sample Location: CAMBRIDGE, MA
Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 02/12/18 14:27
Analyst: KL

Date Collected: 02/09/18 15:30
Date Received: 02/09/18
Field Prep: Not Specified

Extraction Method: EPA 3510C
Extraction Date: 02/09/18 21:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Naphthalene	120		ug/l	1.0	--	10

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1804723

Project Number: 6111.9.T6 **Report Date:** 02/13/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 02/10/18 15:51
Analyst: KL

Extraction Method: EPA 3510C
Extraction Date: 02/09/18 17:06

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1088067-1					
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	0.80	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	68		10-120
4-Terphenyl-d14	87		41-149

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1804723

Project Number: 6111.9.T6 **Report Date:** 02/13/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 02/11/18 20:42
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 02/09/18 17:10

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1088073-1					
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	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--
Phenol	ND		ug/l	5.0	--
Tentatively Identified Compounds					
Total TIC Compounds	4.46	J	ug/l		
Aldol Condensate	4.46	J	ug/l		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	83		15-120
2,4,6-Tribromophenol	98		10-120
4-Terphenyl-d14	98		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1804723

Report Date: 02/13/18

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: WG1088067-2 WG1088067-3								
Acenaphthene	67		63		40-140	6		40
Fluoranthene	82		76		40-140	8		40
Naphthalene	65		61		40-140	6		40
Benzo(a)anthracene	76		71		40-140	7		40
Benzo(a)pyrene	79		74		40-140	7		40
Benzo(b)fluoranthene	79		76		40-140	4		40
Benzo(k)fluoranthene	75		70		40-140	7		40
Chrysene	70		66		40-140	6		40
Acenaphthylene	82		76		40-140	8		40
Anthracene	75		70		40-140	7		40
Benzo(ghi)perylene	42		**38**	Q	40-140	10		40
Fluorene	90		84		40-140	7		40
Phenanthrene	66		62		40-140	6		40
Dibenzo(a,h)anthracene	55		51		40-140	8		40
Indeno(1,2,3-cd)pyrene	52		48		40-140	8		40
Pyrene	81		76		40-140	6		40
Pentachlorophenol	72		66		40-140	9		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1804723

Report Date: 02/13/18

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: WG1088067-2 WG1088067-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	43		40		21-120
Phenol-d6	31		29		10-120
Nitrobenzene-d5	81		74		23-120
2-Fluorobiphenyl	80		74		15-120
2,4,6-Tribromophenol	78		72		10-120
4-Terphenyl-d14	96		88		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1804723

Report Date: 02/13/18

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: WG1088073-2 WG1088073-3								
Bis(2-ethylhexyl)phthalate	89		93		40-140	4		30
Butyl benzyl phthalate	99		106		40-140	7		30
Di-n-butylphthalate	93		96		40-140	3		30
Di-n-octylphthalate	89		94		40-140	5		30
Diethyl phthalate	86		89		40-140	3		30
Dimethyl phthalate	96		101		40-140	5		30
Phenol	33		35		12-110	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	49		50		21-120
Phenol-d6	38		38		10-120
Nitrobenzene-d5	94		99		23-120
2-Fluorobiphenyl	89		94		15-120
2,4,6-Tribromophenol	116		**121**	Q	10-120
4-Terphenyl-d14	101		108		41-149

INORGANICS
&
MISCELLANEOUS

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1804723
Report Date: 02/13/18

SAMPLE RESULTS

Lab ID: L1804723-01
Client ID: MA-2(OW)
Sample Location: CAMBRIDGE, MA
Sample Depth:
Matrix: Water

Date Collected: 02/09/18 15:30
Date Received: 02/09/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Physiologically Available	0.005		mg/l	0.005	--	1	02/12/18 11:35	02/12/18 16:15	64,9014(M)	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	02/09/18 21:09	121,4500CL-D	AS
TPH, SGT-HEM	ND		mg/l	4.00	--	1	02/10/18 08:00	02/10/18 09:30	74,1664A	KZ
Phenolics, Total	ND		mg/l	0.030	--	1	02/12/18 11:45	02/12/18 15:12	4,420.1	BR

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1804723

Project Number: 6111.9.T6 **Report Date:** 02/13/18

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: WG1088109-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	02/09/18 21:09	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1088189-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	02/10/18 08:00	02/10/18 09:30	74,1664A	KZ
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1088468-1										
Phenolics, Total	ND		mg/l	0.030	--	1	02/12/18 11:45	02/12/18 14:58	4,420.1	BR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1088480-1										
Cyanide, Physiologically Available	ND		mg/l	0.005	--	1	02/12/18 11:35	02/12/18 16:11	64,9014(M)	LH

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.

Project Number: 6111.9.T6

Lab Number: L1804723

Report Date: 02/13/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1088109-2								
Chlorine, Total Residual	93		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1088189-2								
TPH	82		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1088468-2								
Phenolics, Total	98		-		70-130	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1088480-2								
Cyanide, Physiologically Available	89		-		80-120	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1088480-3								
Cyanide, Physiologically Available	**0**		-		0-10	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1804723
Report Date: 02/13/18

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: WG1088109-4 QC Sample: L1804723-01 Client ID: MA-2(OW)												
Chlorine, Total Residual	ND	0.248	ND	**0**	Q	-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1088189-4 QC Sample: L1804723-01 Client ID: MA-2(OW)												
TPH	ND	20	16.0	80		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1088468-4 QC Sample: L1804383-02 Client ID: MS Sample												
Phenolics, Total	0.035	0.4	0.45	103		-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1088480-5 QC Sample: L1804723-01 Client ID: MA-2(OW)												
Cyanide, Physiologically Available	0.005	0.2	0.206	100		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1804723
Report Date: 02/13/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1088109-3 QC Sample: L1804723-01 Client ID: MA-2(OW)						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1088189-3 QC Sample: L1804504-01 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1088468-3 QC Sample: L1804383-02 Client ID: DUP Sample						
Phenolics, Total	0.035	0.041	mg/l	16		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1088480-4 QC Sample: L1804723-01 Client ID: MA-2(OW)						
Cyanide, Physiologically Available	0.005	0.005	mg/l	1		20

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1804723
Report Date: 02/13/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1804723-01A	Vial HCl preserved	C	NA		3.2	Y	Absent		8260-SIM(14),8260(14)
L1804723-01B	Vial HCl preserved	C	NA		3.2	Y	Absent		8260-SIM(14),8260(14)
L1804723-01C	Vial HCl preserved	C	NA		3.2	Y	Absent		8260-SIM(14),8260(14)
L1804723-01D	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		504(14)
L1804723-01E	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		504(14)
L1804723-01F	Plastic 250ml NaOH preserved	C	>12	>12	3.2	Y	Absent		PACN(14)
L1804723-01G	Amber 1000ml HCl preserved	C	NA		3.2	Y	Absent		TPH-1664(28)
L1804723-01H	Amber 1000ml HCl preserved	C	NA		3.2	Y	Absent		TPH-1664(28)
L1804723-01J	Amber 950ml H2SO4 preserved	C	<2	<2	3.2	Y	Absent		TPHENOL-420(28)
L1804723-01K	Plastic 950ml unpreserved	C	7	7	3.2	Y	Absent		TRC-4500(1)
L1804723-01K1	Plastic 950ml unpreserved	C	7	7	3.2	Y	Absent		TRC-4500(1)
L1804723-01L	Amber 1000ml unpreserved	C	7	7	3.2	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1804723-01M	Amber 1000ml unpreserved	C	7	7	3.2	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1804723-02A	Vial HCl preserved	C	NA		3.2	Y	Absent		ARCHIVE()
L1804723-02B	Vial HCl preserved	C	NA		3.2	Y	Absent		ARCHIVE()

*Values in parentheses indicate holding time in days

Project Name:	671-675 CONCORD AVE.	**Lab Number:**	L1804723
Project Number:	6111.9.T6	**Report Date:**	02/13/18

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

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.

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.

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 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

Report Format: Data Usability Report

Project Name:	671-675 CONCORD AVE.	**Lab Number:**	L1804723
Project Number:	6111.9.T6	**Report Date:**	02/13/18

Data Qualifiers

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.

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:	671-675 CONCORD AVE.	**Lab Number:**	L1804723
Project Number:	6111.9.T6	**Report Date:**	02/13/18

REFERENCES

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

4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.

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

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

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.

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: SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; 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, SM4500CI-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: 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**, 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, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, 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, 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

PAGE 1 OF 1

ALPHA ANALYTICAL

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 02/09/18

ALPHA Job #: L1804723

Project Information

Project Name: 671-675 Concord Ave

Project Location: Cambridge MA

Project #: ~~611.9.9.T6~~ 6111.9.T6

Project Manager: KWS/AMF

ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ Rush (ONLY IF PRE-APPROVED)

Due Date: 2/13 Time: 3:30pm

Client Information

Client: McPhail Associates, LLC

Address: 2269 Massachusetts Avenue

Cambridge, MA 02140

Phone: (617) 868-1420

Fax:

Email: kseaman@mcphailgeo.com

☐ These samples have been Previously analyzed by Alpha

Report Information Data Deliverables

☐ FAX ☐ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client Info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NPDES RGP	

Other Project Specific Requirements/Comments/Detection Limits:

Circle the following if required;

SALINITY HARDNESS PH

Sect. A inorganics: Ammonia, Chloride, TRC,TSS,CrVI,CrIII, Tot-CN, RGP Metals
B- Non-Hal- VOC- 8260, 8260-SIM, Tot. Phenol Sect C- VOC- 8260 & 504
D: 8270/8270-SIM: E- PCB's, PCP(8270/8270-SIM): F-TPH, 8260, ~~Sub Ethanol~~

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	RGP Metals (200.8) (A)	TSS- (A)	Ammonia (4500 (A))	TCN (A)	TRC, (A)	8260 (B, C, F)/8260SIM (B)	Tphenol-420 (B)	504-EDB (C)	8270/8270SIM- (D)	PCB-608- (E)	TPH-1664-(F)	PCN	Sample Specific Comments	TOTAL # BOTTLES
04723-01	MA-2(OW)	2/9/18	1530	GW	TWC	☐	☐	☐	☐	☒	☒	☒	☒	☒	☐	☒	☒		13
					Container Type	P	P	P	P	P	V	A	V	A	A	A	V		
					Preservative	C	A	D	E	A	B	D	H	A	H	B	B		

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	2/9/18 1600	[signature] AAL	2/9/18 16:15
[signature] AAL 2/9/18	18:05	[signature]	2/9/18 1805

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

APPENDIX E:

LABORATORY ANALYTICAL DATA – SURFACE WATER

ANALYTICAL REPORT

Lab Number:	L1803489
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	671-675 CONCORD AVE.
Project Number:	6111.9.T6
Report Date:	02/02/18

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: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1803489
Report Date: 02/02/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1803489-01	RECEIVING WATER BODY	SURFACE WATER	CAMBRIDGE, MA	01/31/18 14:00	01/31/18

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1803489
Project Number: 6111.9.T6 **Report Date:** 02/02/18

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.

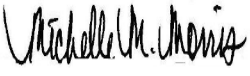
Project Name:	671-675 CONCORD AVE.	**Lab Number:**	L1803489
Project Number:	6111.9.T6	**Report Date:**	02/02/18

Case Narrative (continued)

Total Metals

The WG1085671-3 MS recovery, performed on L1803489-01, is outside the acceptance criteria for iron (134%). A post digestion spike was performed and was within acceptance criteria.

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:  Michelle M. Morris

Title: Technical Director/Representative Date: 02/02/18

METALS

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1803489

Project Number: 6111.9.T6 **Report Date:** 02/02/18

SAMPLE RESULTS

Lab ID: L1803489-01 Date Collected: 01/31/18 14:00

Client ID: RECEIVING WATER BODY Date Received: 01/31/18

Sample Location: CAMBRIDGE, MA Field Prep: Not Specified

Sample Depth: 0

Matrix: Surface 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	02/01/18 05:04	02/01/18 09:41	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	02/01/18 05:04	02/01/18 09:41	EPA 3005A	3,200.8	AM
Cadmium, Total	0.00020		mg/l	0.00020	--	1	02/01/18 05:04	02/01/18 09:41	EPA 3005A	3,200.8	AM
Chromium, Total	0.00152		mg/l	0.00100	--	1	02/01/18 05:04	02/01/18 09:41	EPA 3005A	3,200.8	AM
Copper, Total	0.01180		mg/l	0.00100	--	1	02/01/18 05:04	02/01/18 09:41	EPA 3005A	3,200.8	AM
Iron, Total	0.741		mg/l	0.050	--	1	02/01/18 05:04	02/01/18 12:17	EPA 3005A	19,200.7	LC
Lead, Total	0.00757		mg/l	0.00050	--	1	02/01/18 05:04	02/01/18 09:41	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	02/01/18 10:48	02/01/18 19:42	EPA 245.1	3,245.1	EA
Nickel, Total	0.00777		mg/l	0.00200	--	1	02/01/18 05:04	02/01/18 09:41	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	02/01/18 05:04	02/01/18 09:41	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	02/01/18 05:04	02/01/18 09:41	EPA 3005A	3,200.8	AM
Zinc, Total	0.05066		mg/l	0.01000	--	1	02/01/18 05:04	02/01/18 09:41	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	142		mg/l	0.660	NA	1	02/01/18 05:04	02/01/18 12:17	EPA 3005A	19,200.7	LC

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1803489

Project Number: 6111.9.T6 **Report Date:** 02/02/18

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: WG1085671-1										
Iron, Total	ND		mg/l	0.050	--	1	02/01/18 05:04	02/01/18 12:03	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
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1085671-1										
Hardness	ND		mg/l	0.660	NA	1	02/01/18 05:04	02/01/18 12:03	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
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1085672-1										
Antimony, Total	ND		mg/l	0.00400	--	1	02/01/18 05:04	02/01/18 09:07	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	02/01/18 05:04	02/01/18 09:07	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	02/01/18 05:04	02/01/18 09:07	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	02/01/18 05:04	02/01/18 09:07	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	02/01/18 05:04	02/01/18 09:07	3,200.8	AM
Lead, Total	ND		mg/l	0.00050	--	1	02/01/18 05:04	02/01/18 09:07	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	02/01/18 05:04	02/01/18 09:07	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	02/01/18 05:04	02/01/18 09:07	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	02/01/18 05:04	02/01/18 09:07	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	02/01/18 05:04	02/01/18 09:07	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1803489

Project Number: 6111.9.T6 **Report Date:** 02/02/18

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: WG1085777-1										
Mercury, Total	ND		mg/l	0.00020	--	1	02/01/18 10:48	02/01/18 19:39	3,245.1	EA

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1803489
Report Date: 02/02/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1085671-2								
Iron, Total	94		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1085671-2								
Hardness	98		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1085672-2								
Antimony, Total	107		-		85-115	-		
Arsenic, Total	89		-		85-115	-		
Cadmium, Total	112		-		85-115	-		
Chromium, Total	113		-		85-115	-		
Copper, Total	109		-		85-115	-		
Lead, Total	91		-		85-115	-		
Nickel, Total	108		-		85-115	-		
Selenium, Total	90		-		85-115	-		
Silver, Total	104		-		85-115	-		
Zinc, Total	112		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1085777-2								
Mercury, Total	99		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1803489
Report Date: 02/02/18

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: WG1085671-3 QC Sample: L1803489-01 Client ID: RECEIVING WATER BODY												
Iron, Total	0.741	1	2.08	**134**	Q	-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1085671-3 QC Sample: L1803489-01 Client ID: RECEIVING WATER BODY												
Hardness	142	66.2	209	101		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1085672-3 QC Sample: L1803489-01 Client ID: RECEIVING WATER BODY												
Antimony, Total	ND	0.5	0.5432	109		-	-		70-130	-		20
Arsenic, Total	ND	0.12	0.1137	95		-	-		70-130	-		20
Cadmium, Total	0.00020	0.051	0.05380	105		-	-		70-130	-		20
Chromium, Total	0.00152	0.2	0.2167	108		-	-		70-130	-		20
Copper, Total	0.01180	0.25	0.2676	102		-	-		70-130	-		20
Lead, Total	0.00757	0.51	0.4662	90		-	-		70-130	-		20
Nickel, Total	0.00777	0.5	0.5250	103		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1118	93		-	-		70-130	-		20
Silver, Total	ND	0.05	0.04961	99		-	-		70-130	-		20
Zinc, Total	0.05066	0.5	0.5783	106		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1085777-3 QC Sample: L1803489-01 Client ID: RECEIVING WATER BODY												
Mercury, Total	ND	0.005	0.00460	92		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1803489
Report Date: 02/02/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1085671-4 QC Sample: L1803489-01 Client ID: RECEIVING WATER BODY						
Iron, Total	0.741	0.814	mg/l	9		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1085671-4 QC Sample: L1803489-01 Client ID: RECEIVING WATER BODY						
Hardness	142	147	mg/l	3		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1085672-4 QC Sample: L1803489-01 Client ID: RECEIVING WATER BODY						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	ND	ND	mg/l	NC		20
Cadmium, Total	0.00020	0.00020	mg/l	2		20
Chromium, Total	0.00152	0.00142	mg/l	7		20
Copper, Total	0.01180	0.01201	mg/l	2		20
Lead, Total	0.00757	0.00733	mg/l	3		20
Nickel, Total	0.00777	0.00773	mg/l	1		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.05066	0.04783	mg/l	6		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1085777-4 QC Sample: L1803489-01 Client ID: RECEIVING WATER BODY						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1803489
Report Date: 02/02/18

SAMPLE RESULTS

Lab ID: L1803489-01
Client ID: RECEIVING WATER BODY
Sample Location: CAMBRIDGE, MA
Sample Depth: 0
Matrix: Surface Water

Date Collected: 01/31/18 14:00
Date Received: 01/31/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.0		SU	-	NA	1	-	01/31/18 22:35	121,4500H+-B	AS
Nitrogen, Ammonia	0.437		mg/l	0.075	--	1	02/02/18 03:00	02/02/18 13:57	121,4500NH3-BH	JO

Project Name: 671-675 CONCORD AVE. **Lab Number:** L1803489

Project Number: 6111.9.T6 **Report Date:** 02/02/18

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: WG1085996-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	02/02/18 03:00	02/02/18 13:51	121,4500NH3-BH	JO

Lab Control Sample Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1803489
Report Date: 02/02/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1085615-1								
pH	101		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1085996-2								
Nitrogen, Ammonia	85		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1803489
Report Date: 02/02/18

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: WG1085996-4 QC Sample: L1803576-01 Client ID: MS Sample												
Nitrogen, Ammonia	0.567	4	4.36	95		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1803489
Report Date: 02/02/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1085615-2 QC Sample: L1803489-01 Client ID: RECEIVING WATER BODY						
pH (H)	7.0	7.0	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1085996-3 QC Sample: L1803576-01 Client ID: DUP Sample						
Nitrogen, Ammonia	0.567	0.530	mg/l	7		20

Project Name: 671-675 CONCORD AVE.
Project Number: 6111.9.T6

Lab Number: L1803489
Report Date: 02/02/18

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(*)
L1803489-01A	Plastic 250ml HNO3 preserved	A	<2	<2	4.0	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),HARDU(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1803489-01B	Amber 1000ml H2SO4 preserved	A	<2	<2	4.0	Y	Absent		NH3-4500(28)
L1803489-01C	Plastic 950ml unpreserved	A	7	7	4.0	Y	Absent		PH-4500(.01)

*Values in parentheses indicate holding time in days

Project Name:	671-675 CONCORD AVE.	**Lab Number:**	L1803489
Project Number:	6111.9.T6	**Report Date:**	02/02/18

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

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.

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.

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 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

Report Format: Data Usability Report

Project Name:	671-675 CONCORD AVE.	**Lab Number:**	L1803489
Project Number:	6111.9.T6	**Report Date:**	02/02/18

Data Qualifiers

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.

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:	671-675 CONCORD AVE.	**Lab Number:**	L1803489
Project Number:	6111.9.T6	**Report Date:**	02/02/18

REFERENCES

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.

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: SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; 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, SM4500CI-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: 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**, 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, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, 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, 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

PAGE 1 OF 1

ALPHA ANALYTICAL

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 1/31/18

ALPHA Job #: L1803489

Project Information
Project Name: 671-675 Concord Ave
Project Location: CAMBRIDGE MA
Project #: 6111.9. T6
Project Manager: KWS / AWF
ALPHA Quote #:

Report Information - Data Deliverables
☐ ADEx ☐ EMAIL

Billing Information
☐ Same as Client info PO #:

Client Information
Client: McPhail Associates, LLC
Address: 2269 Massachusetts Avenue
Cambridge, MA 02140
Phone: (617) 868-1420
Email: KSEAMAN @McPhailgeo.com

Regulatory Requirements & Project Information Requirements
☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program ______ Criteria ______

Turn-Around Time
☐ Standard ☐ RUSH *(only confirmed if pre-approved!)*
Date Due:

Additional Project Information:
☐ Run TCLP (if triggered)

Sample "Sample ID" Nomenclature: B-100, S-1

ALPHA Lab ID (Lab Use Only)	Sample ID	Sample Depth	Sample Material	Collection Date	Collection Time	Sampler Initials	Soil Assessment Package IV (less VOC)	VOC: ☐ 8260	Total Solids	SVOC: ☐ PAH	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	TOTAL METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	DISSOLVED METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	METALS: Total Sb,Be,Ni,Tl,V,Zn	☐ PCBs ☐ Pesticides	RGP Section A Inorganics	RGP Metals	Ph/Hardness/Temp	Ammonia	Sample Comments	TOTAL # BOTTLES
03489-01	Recieving Water Body	0	SW	1/31/18	1400	TMC												X	X	X		3
Container Type																		P	P	P		
Preservative																		C	A	D		

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Container Type
A=Amber glass
B=Bacteria cup
C=Cube
D=BOD bottle
E=Encore
G=Glass
O=Other
P=Plastic
V=Vial

Preservative
A=None
B=HCl
C=HNO_3
D=H_2SO_4
E=NaOH
F=MeOH
G=$NaHSO_4$
H=$Na_2S_2O_3$
I=Ascorbic Acid
J=NH_4Cl
K=Zn Acetate
O=Other

Sample Material
F=Fill S=Sand
O=Organics C=Clay
N=Natural T=Till
GM=Glaciomarine
GW=Groundwater
SW = Surface Water

***RGP Section A Inorganics*:** *Ammonia, Chloride, TRC, TSS, CrVI, CrIII, Total Cyanide, Total RGP Metals*

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	1/31/18 1445	McPhail Associates secure sample storage for laboratory pick-up	
McPhail Associates secure sample storage for laboratory pick-up		[signature] AAC	1/31/18 1600
[signature]	1/31/18 1730	[signature]	1/31/18 1736

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

DOC ID: 25168 Rev 0 (11/28/2017)

APPENDIX F:

BEST MANAGEMENT PRACTICE PLAN

A Notice of Intent for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) in anticipation of temporary construction dewatering that will occur during redevelopment of the 671-675 Concord Avenue property located in Cambridge, Massachusetts. This Best Management Practices Plan (BMPP) has been prepared as an Appendix to the RGP application and will be posted at the site during the time period that temporary construction dewatering is occurring at the site.

Water Treatment and Management

During construction of the proposed building foundation, dewatering effluent is anticipated to be pumped from localized sumps and trenches within the excavation directly into a settling tank. The discharge flow, indicated by DPW plans, flows northwest and discharging in outfall D34OF0000 adjacent to the border of Belmont and the City of Cambridge. Dewatering effluent treatment will consist of a settling tank, bag filters to remove suspended soil particulates, ion-exchange media resin filter and granular activated carbon filters prior to off-site discharge.

Discharge Monitoring and Compliance

Regular sampling and testing will be conducted of both the influent to the system and the treated effluent as required by the RGP. During the first week of discharge, the operator must sample the untreated influent and treated effluent two times: one (1) sample of untreated influent and one (1) sample of treated effluent be collected on the first day of discharge, and one (1) sample of untreated influent and one (1) sample of treated effluent must be collected on one additional non-consecutive day within the first week of discharge. Samples must be analyzed in accordance with 40 CFR §136 unless otherwise specified by the RGP, with a maximum 5-day turnaround time and results must be reviewed no more than 48 hours from receipt of the results of each sampling event. After the first week, samples may be analyzed with up to a ten (10)-day turnaround time and results must be reviewed no more than 72 hours from receipt of the results. If the treatment system is operating as designed and achieving the effluent limitations outlined in the RGP, on-going sampling shall be conducted weekly for three (3) additional weeks beginning no earlier than

24 hours following initial sampling, and monthly as described below. Any adjustments/reductions in monitoring frequency must be approved by EPA in writing.

In accordance with Part 4.1 of the RGP, the operator must perform routine monthly monitoring for both influent and effluent beginning no more than 30 days following the completion of the sampling requirements for new discharges or discharges that have been interrupted. The routine monthly monitoring is to be conducted through the end of the scheduled discharge. The routine monthly monitoring must continue for five (5) consecutive months prior to submission of any request for modification of monitoring frequency.

Dewatering activity for the Site is classified as Activity Category I- F as defined in the RGP. Category I- F is defined as Petroleum Related Site Remediation with Fuel Parameters. Monitoring shall include analysis of influent and effluent samples dictated by the EPA.

Monitoring will include checking the condition of the treatment system, assessing the need for treatment system adjustments based on monitoring data, observing and recording daily flow rates and discharge quantities, and verifying the flow path of the discharged effluent.

The total monthly flow will be monitored by checking and documenting the flow through the flow meter to be installed on the system. Flow will be maintained below the "system design flow" by regularly monitoring flow and adjusting the amount of construction dewatering as needed. Monthly monitoring reports will be compiled and maintained at the site. Any exceedances will be documented and conveyed to the EPA within 24 hours of received concentrations.

System Maintenance

A number of methods will be used to minimize the potential for excursions during the term of this permit discharge. Scheduled regular maintenance and periodic cleaning of the treatment system will be conducted to verify proper operation and shall be conducted in accordance with Section 1.11 of the project earthwork specifications. Regular maintenance will include checking the condition of the treatment system equipment such as the settling tanks, bag filters, hoses, pumps, and flow meters. Equipment will be monitored daily for potential issues and unscheduled maintenance requirements.

Employees who have direct or indirect responsibility for ensuring compliance with the RGP will be trained by the Contractor.

Miscellaneous Items

It is anticipated that the erosion control measures and the nature of the site will minimize potential runoff to or from the site. The project specifications also include requirements for erosion control. Site security for the treatment system will be addressed within the overall site security plan.

No adverse effects on designated uses of surrounding surface water bodies is anticipated. The closest body of water is the Black Nook located approximately 300 feet to the southwest of the subject site. Dewatering effluent will be pumped into a settling tank. Water within the settling tank will pumped through bag filters, ion-exchange media, and GAC filters in series prior to discharge into the storm drains.

Management of Treatment System Materials

Dewatering effluent will be pumped directly into the treatment system from the excavation with use of hoses and localized sumps to minimize handling. The Contractor will establish staging areas for equipment or materials storage that may be possible sources of pollution away from any dewatering activities, to the extent practicable.

Sediment from the tank used in the treatment system will be characterized and removed from the site to an appropriate receiving facility, in accordance with applicable laws and regulations. Bag, ion resin, and GAC filters will be replaced/disposed of as necessary.