NOTICE OF INTENT FOR DISCHARGE UNDER MASSACHUSETTS REMEDIATION GENERAL PERMIT MAG910000

KENMORE SQUARE NORTH COMMONWEALTH BUILDING

BOSTON, MASSACHUSETTS

APRIL 11, 2019

Prepared For:
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
5 POST OFFICE SQUARE, SUITE 100
MAIL CODE OEP06-4
BOSTON, MA 02109-3912

On Behalf Of:
Related Beal Construction, LLC
117 Milk Street
Boston, MA 02109

PROJECT NO. 6216

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

April 11, 2019

United States Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, MA 02109-3912

Attention: RGP-NOI Processing

Reference: Kenmore Square North – Commonwealth Building, Boston, Massachusetts
Notice of Intent for Construction Dewatering Discharge Under
Massachusetts Remediation General Permit MAG910000

Ladies and Gentlemen:

The purpose of this letter report is to provide a summary of the site and groundwater quality information in support of an application for approval from the U.S. Environmental Protection Agency (EPA) for the temporary discharge of groundwater into the Charles River via a storm drain system during construction at the above referenced site. Refer to **Figure 1** Project Location Plan for the general site locus.

These services were performed and this permit application was prepared with the authorization of Related Beal. These services are subject to the limitations contained in **Attachment A**.

The required Notice of Intent Form contained in the RGP permit and Boston Water & Sewer Dewatering Discharge Permit Application is included in **Appendix B**.

Applicant/Operator

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

Related Beal Construction, LLC
177 Milk Street
Boston, MA 02109

Attention: Mr. Max Cassidy

Tel: 617-501-4732

Existing Conditions

The subject site consists of three (3) adjoining parcels of land that are occupied by multi-story commercial buildings located at 541 Commonwealth Avenue (Building 2), 537-539 Commonwealth Avenue (Building 3), and 533 Commonwealth Avenue (Building 4). The existing buildings front onto Commonwealth Avenue to the south, Deerfield Street to the west,

a private alleyway to the east, and a private alleyway to the north. Each existing building contains a basement with slab at approximate Elevation +8.4.

The existing ground surface across the subject site varies from Elevation +18 to Elevation +20 along Commonwealth Avenue and generally slopes downward to the north, toward the private alleyway. The existing ground surface in the private alley located to the north of the building generally slopes from Elevation +19 to Elevation +12.5 from west to east. Elevations referenced herein are in feet and refer to the Boston City Base (BCB) Datum

The limits of the subject site are shown on **Figure 2**, which is based on a plan entitled Subsurface Exploration Plan.

Proposed Scope of Site Development

We understand that the proposed redevelopment of the subject site will include the demolition of the existing buildings followed by construction of an 8 to 9-story steel-framed structure overlying two (2) levels of below-grade parking. The proposed building footprint is understood to occupy an approximate 16,800 square foot irregular plan area.

Construction of the below-grade level will require an excavation approximately 25-35 feet deep. The lateral earth support system consisting of a continuous slurry wall which will extend as much as 15 feet into the relatively impervious marine clay deposit, will remain in-place and be used as the perimeter foundation wall. The continuous concrete structural mat together with the slurry wall will effectively create a dam around the perimeter of the basement.

Site Environmental Setting and Surrounding Historical Places

Based on the current Massachusetts Geographic Information Systems (GIS) DEP Priority Resources Map of Boston, the subject site is not located within the boundaries of a Potentially Productive Aquifer or within a Zone II, Interim Wellhead Protection Area as defined by the Massachusetts Department of Environmental Protection. There are no known public or private drinking water supply wells, no Areas of Critical Environmental Concern, no fish habitats, and no habitats of Species of Special Concern or Threatened or Endangered Species within 500 feet of the subject site. There are no surface water bodies or wetland areas located at the subject site. The nearest surface water body is the Charles River, classified by the DEP as a Class B Surface Water Body, that is located approximately 625 feet to the north of the subject site. No areas designated as solid waste facilities (landfills) are located within 0.5 miles of the subject site. A copy of the DEP Priority Resources Map depicting the location of the subject site is included in **Appendix C**.

A review of the most recent federal listing of threatened and endangered species published by the U.S. Fish and Wildlife Service identified no threatened and/or endangered species at or in the vicinity of the proposed discharge location and/or discharge outfall. In addition, a

review of the Massachusetts Division of Fisheries and Wildlife on-line database identified no threatened or endangered species at the point of discharge and/or the discharge outfall. Based upon the above, the site is considered Criterion A pursuant to Appendix IV of the RGP. A document of indicating threatened and endangered species from the U.S. Fish and Wildlife Services and Massachusetts Division of Fisheries on-line databases is included in **Appendix C**.

The subject site's four (4) addresses are not individually listed on the State and National Register of Historical Places (BOS.7563) and thus construction dewatering that is proposed at the subject site meets the Permit Eligibility Criterion A under the Remediation General Permit. A copy of the database search for the subject site's addresses are included in **Appendix C**.

Site History

According to historical records, the existing buildings at the subject site were constructed between 1916 and 1950. Since their initial construction, notable uses of the existing buildings include an oil burning equipment company, the New England School of Photography as well as retail shops, offices, restaurants, and nightclubs.

During 2000, the basement of the 539 Commonwealth Avenue building was flooded due to a malfunctioning sprinkler system. On-site personnel reported a spill of an oil/water mixture on the basement floor slab that was subsequently vacuumed and cleaned by Clean Harbors Environmental Services. The laboratory analysis of the oil and water mixture indicated the presence of PCBs at a maximum concentration of 520 parts per million (ppm). According to the Post-Cleanup Assessment Report prepared by others in May 2002, the cleanup activities referenced above, were conducted in accordance with EPA's Toxic Substances Control Act (TSCA) guidelines. It is understood that several rounds of wipe sampling that were subsequently conducted in the affected area indicated that PCB clean-up activities were successful within the basement of 539 Commonwealth Avenue, but the source of the PCBs was not identified.

Construction Site Dewatering

It is anticipated that excavation within the proposed footprint of the common foundation will extend approximately 25 feet below the observed groundwater level. In order to facilitate construction of the below grade levels, to provide support of the excavation, and to provide an effective groundwater cut-off during construction, a continuous slurry wall will be installed as the perimeter wall of the common foundation. Hence, construction dewatering will be necessary within the footprint of the common foundation to facilitate construction of the proposed below grade levels and additional foundation elements.

Given that the excavation will be performed within a slurry wall that will act as a groundwater cut-off, the volume of groundwater that will require construction dewatering will generally be limited to within the area of the common foundation. The rate of

construction dewatering discharge will vary as the excavation progresses from the relatively pervious fill material into the relatively impermeable underlying organic and clay deposits. It is anticipated that the rate of construction dewatering to facilitate excavation of the fill material will be on the order of 75 to 100 gallons per minute (gpm). However, as the excavation extends into the underlying clay deposits, it is anticipated that rate of construction dewatering will decrease to approximately 25 to 50 gallons per minute. These estimates do not include surface run-off which will be removed from the excavation during periods of precipitation.

Given that the area of the common foundation occupies a majority of the subject site, temporary on-site collection and recharge of groundwater is not feasible. As a result, construction dewatering will require the discharge of collected groundwater into the storm drain system under the requested Remediation General Permit.

A review of available subgrade utility plans provided by the Boston Water and Sewer Commission indicates that stormwater is collected within catch basins along Commonwealth Avenue and Deerfield Street and flows northeast. Stormwater drains beneath Deerfield Street and Commonwealth Avenue run under Storrow Drive and eventually discharge into the Charles River at SDO 042. The locations of the relevant stormwater drains in relation to the subject site are indicated on **Figure 2**. The flow path of the discharge is shown in plans provided by the Boston Water and Sewer Commission which are included in **Figures 3**.

Summary of Groundwater Analysis

On January 31, 2019, McPhail Associates, LLC obtained a sample of groundwater from monitoring well B-1A (OW) which is located within the proposed footprint of the common building foundation at the northern portion of the subject site. The groundwater samples were submitted to a certified laboratory for analysis for the presence of compounds required under the EPA's Remediation General Permit (RGP) application, including total suspended solids (TSS), total residual chlorine, total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs) including total benzene, toluene, ethylbenzene and xylenes (BTEX), poly-aromatic hydrocarbons (PAHs), total phenols, pesticides and PCBs, and total recoverable metals. The results of the laboratory analysis are summarized in **Table 1**, and laboratory data is included in **Appendix D**.

With the exception of arsenic and iron, the results of the laboratory testing did not detect concentrations which triggered Water Quality-Based Effluent Limitations (WQBELs). It is noted that the concentrations of chloride, copper, and iron did not exceed applicable MCP reporting thresholds. established in Appendix VI of the RGP. Although TPH, lead, and arsenic were not detected in the groundwater samples at concentrations which exceed the applicable EPA effluent limits for off-site discharge, these compounds have been identified as contaminants of concern in soil. As a result, these compounds are considered to be potentially present in the construction dewatering effluent during excavation of fill material at the subject site. It is anticipated that the construction dewatering treatment system that

is discussed below, which include sedimentation components, will reduce potential concentrations of the above referenced contaminants of concern in the effluent to below the applicable RGP discharge limits.

Pursuant to Section 4.2.2 of the EPA 2017 RGP, a surface water body sample of the Charles River was obtained for this application and the results of the laboratory analysis are summarized in **Table 2**, as well as the laboratory data is included in **Appendix E**.

Additionally, previous groundwater testing completed at the subject site did not indicate detectable levels of Extractable Petroleum Hydrocarbons (EPH) in two observation wells in August 2016. The results of the laboratory analysis are summarized in **Table 3**, and laboratory data is included in **Appendix F**.

A Dilution Factor (DF) was calculated for the detected levels of metals pursuant to the procedure contained in RGP MAG910000, Appendix V. The purpose of the DF calculation is to establish Total Recoverable Limits for metals, taking into consideration the anticipated dilution of the detected analyte upon discharge into the Charles River. The calculated DF was then used to find the appropriate Dilution Range Concentrations (DRCs) contained in MAG910000, Appendix IV. The Minimum Flow Rate calculated by the USGS Streamstats GIS database at the location of discharge into the Charles River for 7 consecutive days with a recurrence interval of 10 years (7Q10 flow) is 24.7 thus resulting in a DF of 111.86 assuming a design flow rate of 100 GPM.

Groundwater Treatment

Based on the results of the above referenced groundwater analyses, it is our opinion that a 20,000-gallon capacity settling tank and bag filters will be required to settle out particulate matter which may contain elevated levels of inorganics in groundwater to meet the applicable effluent limits established by the US EPA prior to discharge. It is noted that the size of the settling tank may be reduced once an effective groundwater cut-off has been achieved. A schematic of the treatment system is shown on **Figure 4**.

A Best Management Practices Plan (BMPP) has been prepared as **Appendix G** 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 assess site environmental conditions and groundwater data to support a NOI for the off-site discharge of temporary construction dewatering application under the Massachusetts Remediation General Permit during the redevelopment of the Commonwealth Building at the proposed Kenmore Square North project located at 533-541 Commonwealth Avenue in Boston. 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, groundwater treatment is necessary to meet allowable effluent limits established by the US EPA prior to discharge. The proposed construction dewatering effluent treatment system will consist of one settling tank 20,000-gallons in capacity and bag filters in series in order to meet the applicable discharge limits established by the EPA. However, should the effluent monitoring results indicate levels of total iron or other contaminates in excess of the limits established in the Massachusetts Remediation General Permit, additional mitigative measures will be implemented to meet the allowable discharge limits. Additionally, it is noted that the size of the settling tank may be reduced once an effective groundwater cut-off has been achieved and TSS concentrations in the effluent are managed accordingly.

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

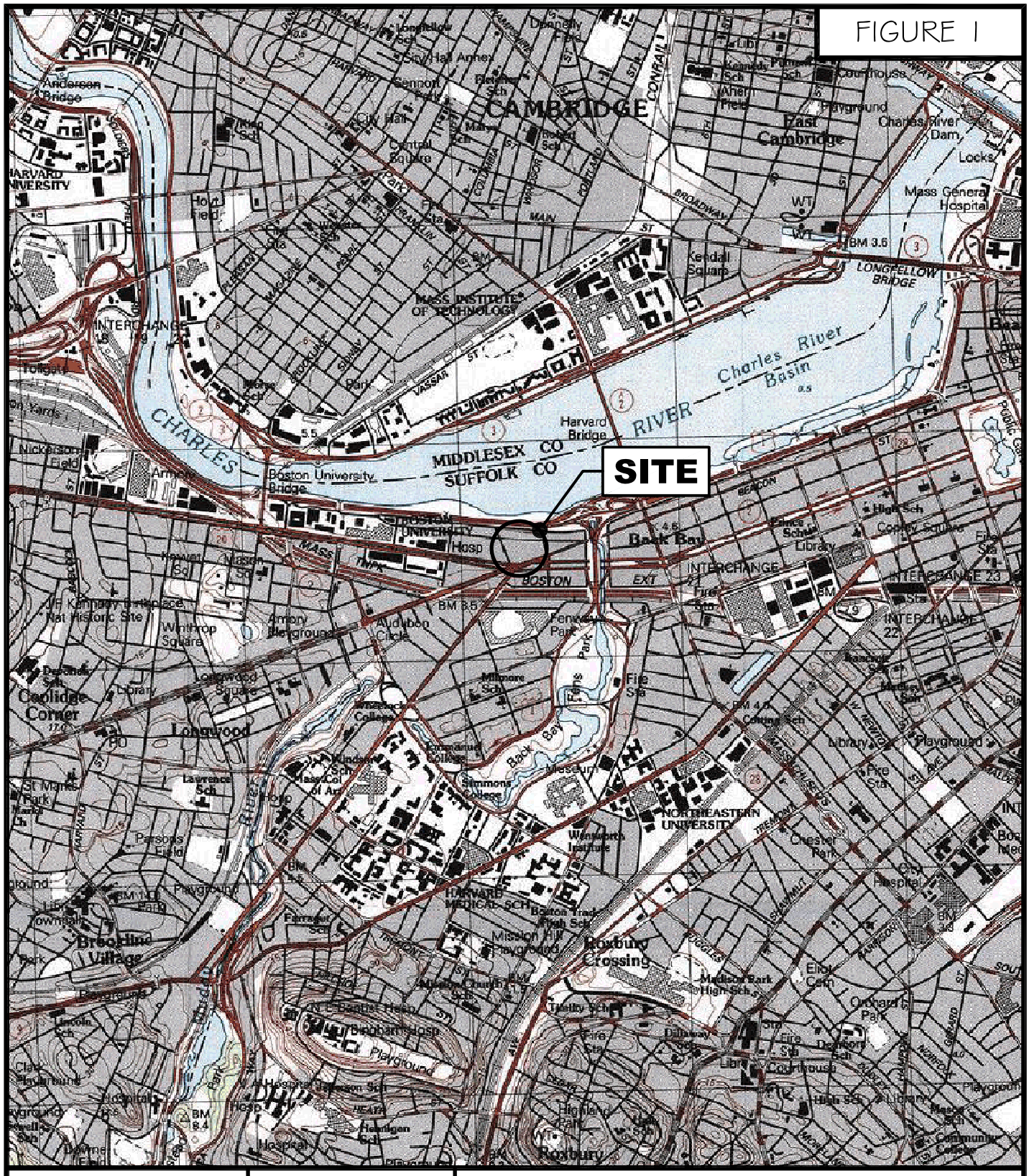
Kirk W. Seaman

William J. Burns, L.S.P.

KWS/wjb

N:\Working Documents\Reports\6216_Building C RGP_020419.docx

FIGURE 1



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N

SCALE 1:25,000

PROJECT LOCATION PLAN

KENMORE SQUARE NORTH

BOSTON MASSACHUSETTS

LEGEND

- APPROXIMATE LOCATION OF BORING PERFORMED BY GEOLOGIC EARTH EXPLORATION, INC. DURING THE PERIOD OF AUGUST 4 TO 22, 2016 FOR McPHAIL ASSOCIATES, LLC
- APPROXIMATE LOCATION OF BORING PERFORMED BY DRILLEX ENVIRONMENTAL ON AUGUST 1 AND 2, 2017 FOR McPHAIL ASSOCIATES, LLC
- APPROXIMATE LOCATION OF BORING PERFORMED BY CARR-DEE CORP. DURING THE PERIOD OF JUNE 26, 2018 THROUGH JULY 9, 2018 FOR McPHAIL ASSOCIATES, LLC
- APPROXIMATE LOCATION OF TEST PIT PERFORMED BY CHUTEHALL CONSTRUCTION CO. DURING JUNE 11 THROUGH JUNE 16, 2018 FOR McPHAIL ASSOCIATES, LLC
- (OW) — INDICATES OBSERVATION WELL INSTALLED WITHIN COMPLETED BOREHOLE

REFERENCE: THIS PLAN WAS PREPARED FROM A 20-SCALE DRAWING ENTITLED, "EXISTING CONDITIONS PLAN" DATED FEBRUARY 10, 2016 PREPARED BY NITSCH ENGINEERING

FILE NAME: N:\Acad\DB\6216\6216-F02rev1.dwg

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KENMORE SQUARE NORTH - COMMONWEALTH BUILDING

BOSTON MASSACHUSETTS

SUBSURFACE EXPLORATION PLAN

FOR

RELATED BEAL CONSTRUCTION, LLC

BY

McPHAIL ASSOCIATES, LLC

Date: APRIL 2019	Dwn: F.G.P.	Chkd: O.C.D.	Scale: 1" = 20'
Project No: 6216			FIGURE 2

FIGURE 3

REFERENCE: THIS PLAN WAS PREPARED FROM A 100-SCALE DRAWING ENTITLED "BOSTON WATER AND SEWER" PRINTED ON APRIL 17, 2012 BY BOSTON WATER AND SEWER COMMISSION.

NORTH

OUTFALL
SDO042
(11.70)

LOCATION OF DISCHARGE INTO CHARLES RIVER

SDO118
UN

SDO040
UN

STORROW MEMO DR

PUMP STATION
PS2

BACK ST

CG89
(11.70)

APPROXIMATE LIMITS OF SUBJECT SITE

DEERFIELD ST

RALEIGH ST

BEACON ST

BAY STATE RD

KENMORE SQUARE

PARKING

GRAPHIC SCALE

100 0 100 200

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KENMORE SQUARE NORTH - COMMONWEALTH BUILDING
BOSTON MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PATH

FOR

RELATED BEAL CONSTRUCTION, LLC

BY

McPHAIL ASSOCIATES, LLC

Date: MARCH 2019	Dwn: I.J.M.	Chkd: K.W.S.	Scale: 1" = 100
Project No: 6216			

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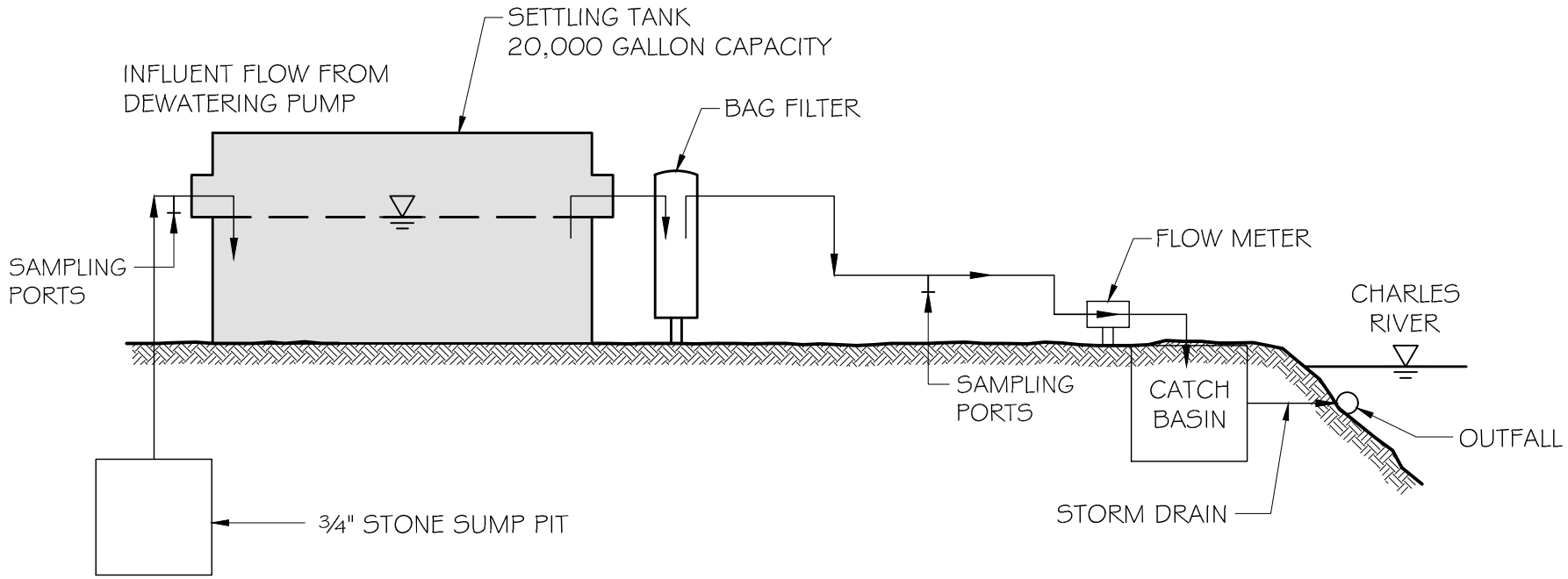
FILE NAME: N:\Acad\JOBS\6216\RGP\6216-F04.dwg

FIGURE 4



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KENMORE SQUARE NORTH - COMMONWEALTH BUILDING

BOSTON MASSACHUSETTS

SCHEMATIC OF TREATMENT SYSTEM

FOR

RELATED BEAL CONSTRUCTION, LLC

BY

McPHAIL ASSOCIATES, LLC

CONSULTING GEOTECHNICAL ENGINEERS

Date: MARCH 2019	Dwn: I.J.M.	Chkd: K.W.S.	Scale: N.T.S.
Project No: 6216			

Table 1
Labratory Analytical Results - Groundwater
B-1A (OW)

Kenmore Square North
Commonwealth Building
Boston, MA
Project No.6216

LOCATION	EPA - Freshwater Aquatic Life Chronic Criteria	Building C RGP Sample B-1A (OW)
SAMPLING DATE		**1/31/2019**
LAB SAMPLE ID		**L1904083-01**
SAMPLE TYPE		**WATER**
General Chemistry (ug/l)		
Chlorine, Total Residual		ND(20)
Chromium, Hexavalent	11	ND(10)
Chromium, Trivalent	74	ND(10)
Cyanide, Total	5.2	ND(5)
Nitrogen, Ammonia		2170
pH (SU)		-
Phenolics, Total		ND(30)
Solids, Total Suspended		11000
TPH, SGT-HEM		ND(4000)
Chloride	230000	**608000**
Total Metals (ug/l)		
Antimony, Total		ND(4)
Arsenic, Total	150	3.34
Cadmium, Total	0.25	ND(0.2)
Chromium, Total		ND(1)
Copper, Total		ND(1)
Iron, Total	1000	**6460**
Lead, Total	2.5	ND(1)
Mercury, Total	0.77	ND(0.2)
Nickel, Total	52	ND(2)
Selenium, Total	5	ND(5)
Silver, Total		ND(0.4)
Zinc, Total	120	ND(10)
Microextractables (ug/l)		
SUM		ND
Polychlorinated Biphenyls (ug/l)		
SUM		ND
Semivolatile Organics (ug/l)		
SUM		ND
Semivolatile Organics (ug/l)		
SUM		ND
Volatile Organics (ug/l)		
SUM		ND

ND - Not detected in excess of the detection limit
(#) - Detection limit

Table 2
Labratory Analytical Results - Surface Water
Charles River

Kenmore Square North
Commonwealth Building
Boston, MA
Project No.6216

LOCATION	EPA - Freshwater Aquatic Life Chronic Criteria	SURFACE WATER CHARLES RIVER SAMPLE
SAMPLING DATE		**1/23/2019**
LAB SAMPLE ID		**L1902926-01**
SAMPLE TYPE		**WATER**
General Chemistry (ug/l)		
Cyanide, Total	5.2	ND(5)
Nitrogen, Ammonia		121
pH (SU)		7
Hardness		76900
Total Metals (ug/l)		
Antimony, Total		ND(4)
Arsenic, Total	150	ND(1)
Cadmium, Total	0.25	ND(0.2)
Chromium, Total		ND(1)
Copper, Total		1.77
Iron, Total	1000	410
Lead, Total	2.5	ND(1)
Mercury, Total	0.77	0.2
Nickel, Total	52	ND(2)
Selenium, Total	5	ND(5)
Silver, Total		ND(0.4)
Zinc, Total	120	ND(10)

ND - Not detected in excess of the detection limit
(#) - Detection limit

TABLE 3
ANALYTICAL RESULTS - Historical Groundwater

Kenmore Square North
Boston, MA
Project No. 6216

LOCATION	RCGW-2	B-1A (OW)	B-2 (OW)
SAMPLING DATE		8/18/2016	8/22/2016
LAB SAMPLE ID		L1625933-01	L1626224-01
Extractable Petroleum Hydrocarbons (ug/l)			
C9-C18 Aliphatics	5000	ND(100)	ND(100)
C19-C36 Aliphatics	50000	ND(100)	ND(100)
C11-C22 Aromatics, Adjusted	5000	ND(100)	ND(100)
Naphthalene	700	ND(10)	-
2-Methylnaphthalene	2000	ND(10)	-
Acenaphthylene	40	ND(10)	-
Acenaphthene	10000	ND(10)	-
Fluorene	40	ND(10)	-
Phenanthrene	10000	ND(10)	-
Anthracene	30	ND(10)	-
Fluoranthene	200	ND(10)	-
Pyrene	20	ND(10)	-
Benzo(a)anthracene	1000	ND(10)	-
Chrysene	70	ND(10)	-
Benzo(b)fluoranthene	400	ND(10)	-
Benzo(k)fluoranthene	100	ND(10)	-
Benzo(a)pyrene	500	ND(10)	-
Indeno(1,2,3-cd)Pyrene	100	ND(10)	-
Dibenzo(a,h)anthracene	40	ND(10)	-
Benzo(ghi)perylene	20	ND(10)	-

ND-not detected in excess of the laboratory method detection limits in ()
Bold-exceeds RCGW-2 reporting threshold.
Tested compounds not shown do not exceed laboratory detection limits.

APPENDIX A:

LIMITATIONS

LIMITATIONS

The purpose of this report is to present the results of testing of groundwater samples obtained from monitoring wells located at the Landmark Center property listed with the addresses of 533-541 Commonwealth Avenue in Boston, 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 seasonal water table, past practices used in disposal and other factors.

Laboratory analyses have been performed for specific constituents during the course of this assessment, as described in the text. However, it should be noted that additional constituents not searched for during the current study may be present in soil and/or groundwater at the site.

This report and application have been prepared on behalf of and for the exclusive use of Related Beal Construction, LLC. 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
BOSTON WATER & SEWER DEWATERING DISCHARGE PERMIT APPLICATION

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

A. General site information:

1. Name of site: Kenmore Square North - Commonwealth Building	Site address: 541-533 Commonwealth Ave Street:		
	City: Boston	State: MA	Zip: 02215
2. Site owner RREF II Kenmore Lessor II, LLC	Contact Person: Max Cassidy		
	Telephone: 617.501.4732	Email: mcassidy@relatedbeal.com	
	Mailing address: 117 Milk Street Street:		
Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private ☐ Other; if so, specify:	City: Boston	State: MA	Zip: 02109
3. Site operator, if different than owner Related Beal Construction, LLC	Contact Person: Max Cassidy		
	Telephone: 617 501 4732	Email: mcassidy@relatedbeal.com	
	Mailing address: Street: 177 Milk Street		
	City: Boston	State: MA	Zip: 02109
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:	5. Other regulatory program(s) that apply to the site (check all that apply): ☐ MA Chapter 21e; list RTN(s): ☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:	☐ CERCLA ☐ UIC Program ☐ POTW Pretreatment ☐ CWA Section 404	

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Charles River	MA72-38	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. Water Code: 7239050 Class: B Category: 5 TMDL Count: 1 TMDL - 301.0

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.	24.7
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.	111.86

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: 2/28/2019

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

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ☐ Existing discharge ■ New discharge ☐ New source	
Outfall(s): SDO042	Outfall location(s): (Latitude, Longitude) 42.351184, -71.097680
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Boston Stormwater drain ☐ A private storm sewer system ■ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ☐ Yes ■ No Has the operator has received permission from the owner to use such system for discharges? (check one): ☐ Yes ■ No, if so, explain, with an estimated timeframe for obtaining permission: Upon approval of NPDES 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): 06/2019 - 05/20 Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="4">☐ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
■ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
☐ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✓	1	121.4500	75	2170	2170	Report mg/L	---
Chloride		✓	1	44.300.0	500	608000	608000	Report µg/l	---
Total Residual Chlorine	✓		1	121.4500	20	<DL	<DL	0.2 mg/L	
Total Suspended Solids		✓	1	121.2540	500	11000	11000	30 mg/L	
Antimony	✓		1	EPA	4	<DL	<DL	206 µg/L	
Arsenic		✓	1	EPA	1	3.34	3.34	104 µg/L	
Cadmium	✓		1	EPA	.2	<DL	<DL	10.2 µg/L	
Chromium III	✓		1	1.7196A	10	<DL	<DL	323 µg/L	
Chromium VI	✓		1	1.7196A	10	<DL	<DL	323 µg/L	
Copper	✓		1	EPA	1	<DL	<DL	242 µg/L	
Iron		✓	1	19.200.7	50	6460	6460	5,000 µg/L	
Lead	✓		1	3.200.8	1	<DL	<DL	160 µg/L	
Mercury	✓		1	3.245.1	.2	<DL	<DL	0.739 µg/L	
Nickel	✓		1	3.200.8	2	<DL	<DL	1,450 µg/L	
Selenium	✓		1	3.200.8	5	<DL	<DL	235.8 µg/L	
Silver	✓		1	3.200.8	0.4	<DL	<DL	35.1 µg/L	
Zinc	✓		1	3.200.8	10	<DL	<DL	420 µg/L	
Cyanide	✓		1	121.4500	5	<DL	<DL	178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX	✓		1	128624.1	1	<DL	<DL	100 µg/L	---
Benzene	✓		1	128624.1	1	<DL	<DL	5.0 µg/L	---
1,4 Dioxane	✓		1	128624.1	50	<DL	<DL	200 µg/L	---
Acetone	✓		1	128624.1	10	<DL	<DL	7.97 mg/L	---
Phenol	✓		1	128624.1	30	<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	128.624.	1.0	<DL.	<DL.	4.4 µg/L	
1,2 Dichlorobenzene	✔		1	128.624.	5	<DL.	<DL.	600 µg/L	---
1,3 Dichlorobenzene	✔		1	128.624.	5	<DL.	<DL.	320 µg/L	---
1,4 Dichlorobenzene	✔		1	128.624.	5	<DL.	<DL.	5.0 µg/L	---
Total dichlorobenzene	✔		1	128.624.	5	<DL.	<DL.	763 µg/L in NH	---
1,1 Dichloroethane	✔		1	128.624.	1.5	<DL.	<DL.	70 µg/L	---
1,2 Dichloroethane	✔		1	128.624.	1.5	<DL.	<DL.	5.0 µg/L	---
1,1 Dichloroethylene	✔		1	128.624.	1	<DL.	<DL.	3.2 µg/L	---
Ethylene Dibromide								0.05 µg/L	---
Methylene Chloride	✔		1	128.624.	1	<DL.	<DL.	4.6 µg/L	---
1,1,1 Trichloroethane	✔		1	128.624.	2	<DL.	<DL.	200 µg/L	---
1,1,2 Trichloroethane	✔		1	128.624.	1.5	<DL.	<DL.	5.0 µg/L	---
Trichloroethylene	✔		1	128.624.	1	<DL.	<DL.	5.0 µg/L	---
Tetrachloroethylene	✔		1	128.624.	1	<DL.	<DL.	5.0 µg/L	
cis-1,2 Dichloroethylene	✔		1	128.624.	1	<DL.	<DL.	70 µg/L	---
Vinyl Chloride	✔		1	128.624.	1	<DL.	<DL.	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		1	129.625.	0.1	<DL.	<DL.	190 µg/L	
Diethylhexyl phthalate	✔		1	129.625.	0.1	<DL.	<DL.	101 µg/L	
Total Group I PAHs	✔		1	129.625.	0.1	<DL.	<DL.	1.0 µg/L	---
Benzo(a)anthracene	✔		1	129.625.	0.1	<DL.	<DL.	As Total PAHs	
Benzo(a)pyrene	✔		1	129.625.	0.1	<DL.	<DL.		
Benzo(b)fluoranthene	✔		1	129.625.	0.1	<DL.	<DL.		
Benzo(k)fluoranthene	✔		1	129.625.	0.1	<DL.	<DL.		
Chrysene	✔		1	129.625.	0.1	<DL.	<DL.		
Dibenzo(a,h)anthracene	✔		1	129.625.	0.1	<DL.	<DL.		
Indeno(1,2,3-cd)pyrene	✔		1	129.625.	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	1.8270D	0.1	<DL	<DL	100 µg/L	---
Naphthalene	✓		1	1.8270D	1	<DL	<DL	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✓		1	127.608	0.25	<DL	<DL	0.000064 µg/L	---
Pentachlorophenol	✓		1	127.608	0.25	<DL	<DL	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✓		1	74.1664A	400	<DL	<DL	5.0 mg/L	---
Ethanol	✓							Report mg/L	---
Methyl-tert-Butyl Ether	✓		1	1.8260C	10	<DL	<DL	70 µg/L	
tert-Butyl Alcohol	✓		1	1.8260C	100	<DL	<DL	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✓		1	1.8260C	20	<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			1	Horiba	6.66				
Temperature			1	Horiba	17.18 C				
Hardness			1	Horiba	75500				
pH- Surface Water			1	1214500I	7				
Hardness - Surface Water			1	EPA 300	76900				

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.
Frac Tank, Bag Filters

Identify each major treatment component (check any that apply):
■ Fractionation tanks☐ Equalization tank ☐ Oil/water separator ☐ Mechanical filter ☐ Media filter
☐ Chemical feed tank ☐ Air stripping unit ■ Bag filter ☐ Other; if so, specify:

Indicate if either of the following will occur (check any that apply):
☐ Chlorination ☐ De-chlorination

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Frac Tank(s) Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	100
Provide the proposed maximum effluent flow in gpm.	100
Provide the average effluent flow in gpm.	25
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

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

I. Supplemental information

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

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

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

J. Certification requirement

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

BMPP certification statement: A BMPP Statement has been prepared in accordance with good engineering practices following Part 2.5 of the RGP and shall be implemented upon initiation of discharge.

Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ☐
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ☐ No ■ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☐ No ☐ NA ■

Submission of documentation to and approval from BWSC in tandem with this NOI

Signature: [signature]

Date: 4/12/19

Print Name and Title: Max Cassidy - Senior Project Manager

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

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: Related Beal Construction, LLC Address: 117 Milk Street Boston MA 02109

Phone Number: 617 451 2100 Fax number: _____

Contact person name: Max Cassidy Title: Senior Project Manager

Cell number: 617 265 0815 Email address: mcassidy@relatedbeal.com

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

Owner's Information (if different from above):

Owner of property being dewatered: RREF II Kenmore Lessor II, LLC

Owner's mailing address: 117 Milk Street, Boston, MA 02109 Phone number: 617 265 0815

Location of Discharge & Proposed Treatment System(s):

Street number and name: 533-541 Commonwealth Ave Neighborhood Kenmore/Fenway

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

Describe Proposed Pre-Treatment System(s): Frac Tank and Bag Filters

BWSC Outfall No. SDO 042 Receiving Waters Charles River

Temporary Discharges (Provide Anticipated Dates of Discharge): From 6/2019 To 5/2020

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

Permanent Discharges

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

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

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

Signature of Authorized Representative for Property Owner: _____ Date: 4/10/19

APPENDIX C:

DEP PRIORITY RESOURCES MAP

U.S. FISH AND WILDLIFE SERVICES - LIST OF THREATENED AND ENDANGERED SPECIES

MASSACHUSETTS DIVISION OF FISHERIES - LIST OF THREATENED AND ENDANGERED SPECIES

OTHER SUPPLIMENTAL INFORMATION

MassDEP - Bureau of Waste Site Cleanup

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

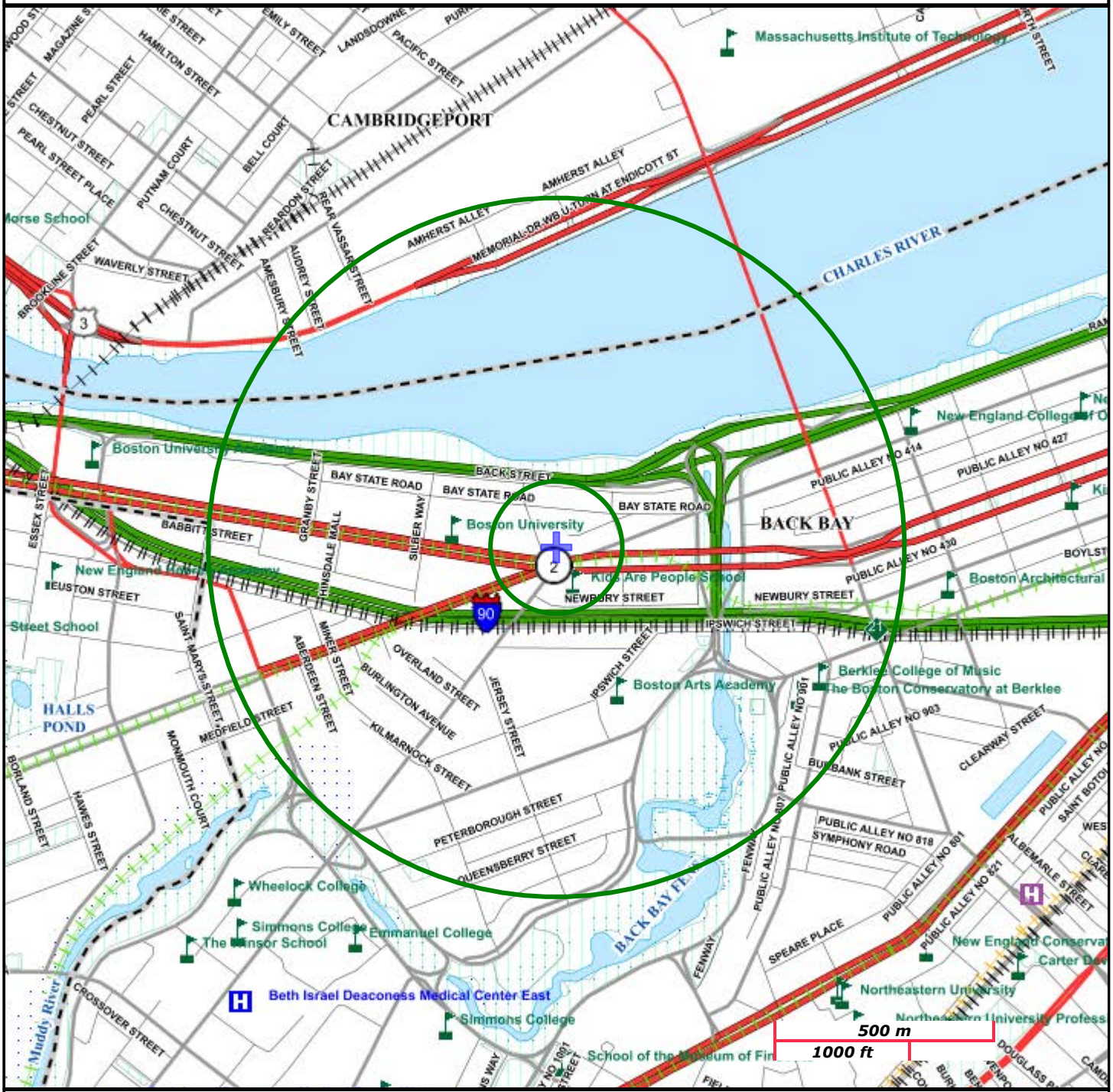
Site Information:

541 COMMONWEALTH AVE BOSTON, MA

NAD83 UTM Meters:
4690683mN , 327295mE (Zone: 19)
March 14, 2019

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

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

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

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: March 14, 2019
Consultation Code: 05E1NE00-2019-SLI-1133
Event Code: 05E1NE00-2019-E-02601
Project Name: Kenmore Square North - Commonwealth

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: 05E1NE00-2019-SLI-1133

Event Code: 05E1NE00-2019-E-02601

Project Name: Kenmore Square North - Commonwealth

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/42.34925458922436N71.0968074530758W

Counties: Suffolk, MA

Endangered Species Act Species

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

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

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

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

---

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

Critical habitats

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

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Place: Fenway - Kenmore; Street No: 533; Street Name: Commonwealth Ave; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Place: Fenway - Kenmore; Street No: 535; Street Name: Commonwealth Ave; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Street No: 537; Street Name: Commonwealth Ave; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Place: Fenway - Kenmore; Street No: 541; Street Name: Commonwealth Ave; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

Kirk W. Seaman

From: Vakalopoulos, Catherine (DEP) <catherine.vakalopoulos@state.ma.us>
Sent: Tuesday, March 19, 2019 3:16 PM
To: Kirk W. Seaman
Subject: RE: Dilution Factor Confirmation - Kenmore Square North Boston, MA

Hi Kirk,
Thanks and hope you had a nice St. Patrick's Day weekend too. Your dilution factor calculation of 111.86 for this proposed discharge (design flow: 100 gpm) through BWSC storm drain SDO 042 to the Charles River upstream of the Esplanade and the Mass. Ave. bridge is correct.

And thanks for confirming that you will apply for WM15 (unless the site needs to go under the MCP).

Take care,

Cathy

Cathy Vakalopoulos, Massachusetts Department of Environmental Protection
1 Winter St., Boston, MA 02108, 617-348-4026

From: Kirk W. Seaman [mailto:KSeaman@mcphailgeo.com]
Sent: Tuesday, March 19, 2019 2:37 PM
To: Vakalopoulos, Catherine (DEP)
Subject: Dilution Factor Confirmation - Kenmore Square North Boston, MA

Hi Cathy,

I did double check my records and this may be our first permit not completed at an MCP so thank you for providing that information. When we apply for that RGP, I will be sure to complete the requirements and procure a check for the WM 15.

On a parallel note, another potential non-MCP site needs an RGP and accesses the same storm drain line. The site with the addresses 533-541 Commonwealth Ave is proposing discharge into the Charles River with the same outfall SDO 042 and with the Lat/long (42°21'04.8"N 71°05'51.8"W). I got the same Streamstats info (7Q10 – 24.7) and last time and our design flow rate is proposed at 100 gpm. Using the same math, I got 111.86 again for a dilution factor.

Barring any soil data that requires notification to the DEP, I will also complete the requirements for the WM 15 for this site as well.

Let me know if I can clarify anything above.

Thanks again for your help and hope you had a great St. Patrick's Day weekend.

Kirk W. Seaman

McPHAIL ASSOCIATES, LLC

APPENDIX D:

LABORATORY ANALYTICAL DATA – GROUNDWATER

ANALYTICAL REPORT

Lab Number:	L1904083
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	KENMORE SQUARE NORTH
Project Number:	6216.9.00
Report Date:	02/12/19

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

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

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1904083-01	BUILDING B RGP SAMPLE B-1A (OW)	WATER	BOSTON, MA	01/31/19 14:00	01/31/19
L1904083-02	BUILDING C RGP SAMPLE B-6 (OW)	WATER	BOSTON, MA	01/31/19 11:00	01/31/19

Project Name:	KENMORE SQUARE NORTH	**Lab Number:**	L1904083
Project Number:	6216.9.00	**Report Date:**	02/12/19

Case Narrative

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

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

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

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

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

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

Project Name:	KENMORE SQUARE NORTH	**Lab Number:**	L1904083
Project Number:	6216.9.00	**Report Date:**	02/12/19

Case Narrative (continued)

Report Submission

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

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

Chlorine, Total Residual

The WG1202901-4 MS recovery (72%), performed on L1904083-02, 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: 02/12/19

ORGANICS

VOLATILES

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1904083

Project Number: 6216.9.00 **Report Date:** 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-01
Client ID: BUILDING B RGP SAMPLE B-1A (OW)
Sample Location: BOSTON, MA

Date Collected: 01/31/19 14:00
Date Received: 01/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 02/01/19 15:15
Analyst: NLK

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

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1904083

Project Number: 6216.9.00 **Report Date:** 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-01 Date Collected: 01/31/19 14:00

Client ID: BUILDING B RGP SAMPLE B-1A (OW) Date Received: 01/31/19

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	99		60-140
Fluorobenzene	104		60-140
4-Bromofluorobenzene	97		60-140

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1904083

Project Number: 6216.9.00 **Report Date:** 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-01
Client ID: BUILDING B RGP SAMPLE B-1A (OW)
Sample Location: BOSTON, MA

Date Collected: 01/31/19 14:00
Date Received: 01/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 02/01/19 15:15
Analyst: NLK

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	112		60-140
4-Bromofluorobenzene	77		60-140

Project Name: KENMORE SQUARE NORTH
Lab Number: L1904083
Project Number: 6216.9.00
Report Date: 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-01
Client ID: BUILDING B RGP SAMPLE B-1A (OW)
Sample Location: BOSTON, MA

Date Collected: 01/31/19 14:00
Date Received: 01/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 02/07/19 12:29
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 02/07/19 11:16

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: KENMORE SQUARE NORTH **Lab Number:** L1904083

Project Number: 6216.9.00 **Report Date:** 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-02
Client ID: BUILDING C RGP SAMPLE B-6 (OW)
Sample Location: BOSTON, MA

Date Collected: 01/31/19 11:00
Date Received: 01/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 02/01/19 15:52
Analyst: NLK

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

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1904083

Project Number: 6216.9.00 **Report Date:** 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-02 Date Collected: 01/31/19 11:00

Client ID: BUILDING C RGP SAMPLE B-6 (OW) Date Received: 01/31/19

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	95		60-140
Fluorobenzene	92		60-140
4-Bromofluorobenzene	96		60-140

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1904083

Project Number: 6216.9.00 **Report Date:** 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-02
Client ID: BUILDING C RGP SAMPLE B-6 (OW)
Sample Location: BOSTON, MA

Date Collected: 01/31/19 11:00
Date Received: 01/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 02/01/19 15:52
Analyst: NLK

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	98		60-140
4-Bromofluorobenzene	76		60-140

Project Name: KENMORE SQUARE NORTH
Lab Number: L1904083
Project Number: 6216.9.00
Report Date: 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-02
Client ID: BUILDING C RGP SAMPLE B-6 (OW)
Sample Location: BOSTON, MA

Date Collected: 01/31/19 11:00
Date Received: 01/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 02/07/19 12:57
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 02/07/19 11:16

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: KENMORE SQUARE NORTH
Project Number: 6216.9.00
Lab Number: L1904083
Report Date: 02/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1-SIM
Analytical Date: 02/01/19 14:38
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-02 Batch: WG1203299-4					
1,4-Dioxane	ND		ug/l	50	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	113		60-140
4-Bromofluorobenzene	77		60-140

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00
Lab Number: L1904083
Report Date: 02/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 02/01/19 14:38
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1203300-4					
Methylene chloride	ND		ug/l	1.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
Tetrachloroethene	ND		ug/l	1.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--
1,4-Dichlorobenzene	ND		ug/l	5.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
Acetone	ND		ug/l	10	--
Methyl tert butyl ether	ND		ug/l	10	--
Tert-Butyl Alcohol	ND		ug/l	100	--
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00
Lab Number: L1904083
Report Date: 02/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 02/01/19 14:38
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1203300-4					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	98		60-140
Fluorobenzene	105		60-140
4-Bromofluorobenzene	94		60-140

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 02/07/19 12:00
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 02/07/19 11:16

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01-02 Batch: WG1204559-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG1203299-3								
1,4-Dioxane	110		-		60-140	-		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Fluorobenzene	113				60-140
4-Bromofluorobenzene	77				60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQUARE NORTH

Project Number: 6216.9.00

Lab Number: L1904083

Report Date: 02/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1203300-3								
Methylene chloride	90		-		60-140	-		28
1,1-Dichloroethane	90		-		50-150	-		49
Carbon tetrachloride	100		-		70-130	-		41
1,1,2-Trichloroethane	90		-		70-130	-		45
Tetrachloroethene	85		-		70-130	-		39
1,2-Dichloroethane	100		-		70-130	-		49
1,1,1-Trichloroethane	100		-		70-130	-		36
Benzene	100		-		65-135	-		61
Toluene	90		-		70-130	-		41
Ethylbenzene	90		-		60-140	-		63
Vinyl chloride	95		-		5-195	-		66
1,1-Dichloroethene	90		-		50-150	-		32
cis-1,2-Dichloroethene	85		-		60-140	-		30
Trichloroethene	90		-		65-135	-		48
1,2-Dichlorobenzene	85		-		65-135	-		57
1,3-Dichlorobenzene	80		-		70-130	-		43
1,4-Dichlorobenzene	85		-		65-135	-		57
p/m-Xylene	85		-		60-140	-		30
o-xylene	80		-		60-140	-		30
Acetone	112		-		40-160	-		30
Methyl tert butyl ether	100		-		60-140	-		30
Tert-Butyl Alcohol	110		-		60-140	-		30
Tertiary-Amyl Methyl Ether	95		-		60-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQUARE NORTH

Project Number: 6216.9.00

Lab Number: L1904083

Report Date: 02/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1203300-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	98				60-140
Fluorobenzene	104				60-140
4-Bromofluorobenzene	93				60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQUARE NORTH

Project Number: 6216.9.00

Lab Number: L1904083

Report Date: 02/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01-02		Batch: WG1204559-2						
1,2-Dibromoethane	100		-		80-120	-			A

Matrix Spike Analysis

Batch Quality Control

Project Name: KENMORE SQUARE NORTH

Project Number: 6216.9.00

Lab Number: L1904083

Report Date: 02/12/19

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*	*Column*
Microextractables by GC - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1204559-3 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)													
1,2-Dibromoethane	ND	0.249	0.242	97		-	-		80-120	-		20	A

SEMIVOLATILES

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00
Lab Number: L1904083
Report Date: 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-01
Client ID: BUILDING B RGP SAMPLE B-1A (OW)
Sample Location: BOSTON, MA

Date Collected: 01/31/19 14:00
Date Received: 01/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 02/03/19 00:35
Analyst: ALS

Extraction Method: EPA 625.1
Extraction Date: 02/01/19 08:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	59		42-122
2-Fluorobiphenyl	69		46-121
4-Terphenyl-d14	84		47-138

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1904083

Project Number: 6216.9.00 **Report Date:** 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-01
Client ID: BUILDING B RGP SAMPLE B-1A (OW)
Sample Location: BOSTON, MA

Date Collected: 01/31/19 14:00
Date Received: 01/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 02/02/19 10:30
Analyst: CB

Extraction Method: EPA 625.1
Extraction Date: 02/01/19 08:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	ND		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		25-87
Phenol-d6	29		16-65
Nitrobenzene-d5	71		42-122
2-Fluorobiphenyl	61		46-121
2,4,6-Tribromophenol	93		45-128
4-Terphenyl-d14	66		47-138

Project Name: KENMORE SQUARE NORTH
Lab Number: L1904083
Project Number: 6216.9.00
Report Date: 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-02
Client ID: BUILDING C RGP SAMPLE B-6 (OW)
Sample Location: BOSTON, MA

Date Collected: 01/31/19 11:00
Date Received: 01/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 02/03/19 01:03
Analyst: ALS

Extraction Method: EPA 625.1
Extraction Date: 02/01/19 08:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	72		42-122
2-Fluorobiphenyl	79		46-121
4-Terphenyl-d14	90		47-138

Project Name: KENMORE SQUARE NORTH
Lab Number: L1904083
Project Number: 6216.9.00
Report Date: 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-02
Client ID: BUILDING C RGP SAMPLE B-6 (OW)
Sample Location: BOSTON, MA

Date Collected: 01/31/19 11:00
Date Received: 01/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 02/02/19 10:56
Analyst: CB

Extraction Method: EPA 625.1
Extraction Date: 02/01/19 08:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	ND		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	48		25-87
Phenol-d6	35		16-65
Nitrobenzene-d5	95		42-122
2-Fluorobiphenyl	68		46-121
2,4,6-Tribromophenol	92		45-128
4-Terphenyl-d14	70		47-138

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1
Analytical Date: 02/02/19 19:55
Analyst: ALS

Extraction Method: EPA 625.1
Extraction Date: 02/01/19 07:51

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1202976-1					
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	46		42-122
2-Fluorobiphenyl	59		46-121
4-Terphenyl-d14	83		47-138

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1-SIM
Analytical Date: 02/03/19 12:05
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 02/01/19 17:07

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-02 Batch: WG1203179-1					
Acenaphthene	ND		ug/l	0.10	--
Fluoranthene	ND		ug/l	0.10	--
Naphthalene	ND		ug/l	0.10	--
Benzo(a)anthracene	ND		ug/l	0.10	--
Benzo(a)pyrene	ND		ug/l	0.10	--
Benzo(b)fluoranthene	ND		ug/l	0.10	--
Benzo(k)fluoranthene	ND		ug/l	0.10	--
Chrysene	ND		ug/l	0.10	--
Acenaphthylene	ND		ug/l	0.10	--
Anthracene	ND		ug/l	0.10	--
Benzo(ghi)perylene	ND		ug/l	0.10	--
Fluorene	ND		ug/l	0.10	--
Phenanthrene	ND		ug/l	0.10	--
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--
Pyrene	ND		ug/l	0.10	--
Pentachlorophenol	ND		ug/l	1.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	46		25-87
Phenol-d6	32		16-65
Nitrobenzene-d5	76		42-122
2-Fluorobiphenyl	67		46-121
2,4,6-Tribromophenol	84		45-128
4-Terphenyl-d14	76		47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1202976-2								
Bis(2-ethylhexyl)phthalate	100		-		29-137	-		30
Butyl benzyl phthalate	106		-		1-140	-		30
Di-n-butylphthalate	99		-		8-120	-		30
Di-n-octylphthalate	111		-		19-132	-		30
Diethyl phthalate	95		-		1-120	-		30
Dimethyl phthalate	91		-		1-120	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	75				42-122
2-Fluorobiphenyl	82				46-121
4-Terphenyl-d14	85				47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG1203179-2								
Acenaphthene	78		-		60-132	-		30
Fluoranthene	86		-		43-121	-		30
Naphthalene	68		-		36-120	-		30
Benzo(a)anthracene	87		-		42-133	-		30
Benzo(a)pyrene	96		-		32-148	-		30
Benzo(b)fluoranthene	92		-		42-140	-		30
Benzo(k)fluoranthene	95		-		25-146	-		30
Chrysene	86		-		44-140	-		30
Acenaphthylene	80		-		54-126	-		30
Anthracene	86		-		43-120	-		30
Benzo(ghi)perylene	95		-		1-195	-		30
Fluorene	83		-		70-120	-		30
Phenanthrene	82		-		65-120	-		30
Dibenzo(a,h)anthracene	97		-		1-200	-		30
Indeno(1,2,3-cd)pyrene	99		-		1-151	-		30
Pyrene	89		-		70-120	-		30
Pentachlorophenol	66		-		38-152	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQUARE NORTH

Project Number: 6216.9.00

Lab Number: L1904083

Report Date: 02/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG1203179-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	47				25-87
Phenol-d6	34				16-65
Nitrobenzene-d5	78				42-122
2-Fluorobiphenyl	70				46-121
2,4,6-Tribromophenol	101				45-128
4-Terphenyl-d14	76				47-138

PCBS

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1904083

Project Number: 6216.9.00 **Report Date:** 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-01
Client ID: BUILDING B RGP SAMPLE B-1A (OW)
Sample Location: BOSTON, MA

Date Collected: 01/31/19 14:00
Date Received: 01/31/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 02/01/19 15:30
Analyst: WR

Extraction Method: EPA 608.3
Extraction Date: 02/01/19 06:45
Cleanup Method: EPA 3665A
Cleanup Date: 02/01/19
Cleanup Method: EPA 3660B
Cleanup Date: 02/01/19

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		37-123	B
Decachlorobiphenyl	80		38-114	B
2,4,5,6-Tetrachloro-m-xylene	89		37-123	A
Decachlorobiphenyl	73		38-114	A

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 127,608.3
Analytical Date: 01/31/19 21:31
Analyst: WR

Extraction Method: EPA 608.3
Extraction Date: 01/31/19 07:03
Cleanup Method: EPA 3665A
Cleanup Date: 01/31/19
Cleanup Method: EPA 3660B
Cleanup Date: 01/31/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1202623-1						
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	85		37-123	B
Decachlorobiphenyl	79		38-114	B
2,4,5,6-Tetrachloro-m-xylene	87		37-123	A
Decachlorobiphenyl	77		38-114	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQUARE NORTH

Project Number: 6216.9.00

Lab Number: L1904083

Report Date: 02/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG1202623-2									
Aroclor 1016	76		-		50-140	-		36	A
Aroclor 1260	63		-		8-140	-		38	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87				37-123	B
Decachlorobiphenyl	81				38-114	B
2,4,5,6-Tetrachloro-m-xylene	92				37-123	A
Decachlorobiphenyl	78				38-114	A

METALS

Project Name: KENMORE SQUARE NORTH
Lab Number: L1904083
Project Number: 6216.9.00
Report Date: 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-01
Client ID: BUILDING B RGP SAMPLE B-1A (OW)
Sample Location: BOSTON, MA
Date Collected: 01/31/19 14:00
Date Received: 01/31/19
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	02/01/19 12:45	02/04/19 12:44	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00334		mg/l	0.00100	--	1	02/01/19 12:45	02/04/19 12:44	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	02/01/19 12:45	02/04/19 12:44	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	02/01/19 12:45	02/04/19 12:44	EPA 3005A	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	02/01/19 12:45	02/04/19 12:44	EPA 3005A	3,200.8	AM
Iron, Total	6.46		mg/l	0.050	--	1	02/01/19 12:45	02/01/19 20:18	EPA 3005A	19,200.7	AB
Lead, Total	ND		mg/l	0.00100	--	1	02/01/19 12:45	02/04/19 12:44	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	02/01/19 11:14	02/01/19 17:14	EPA 245.1	3,245.1	GD
Nickel, Total	ND		mg/l	0.00200	--	1	02/01/19 12:45	02/04/19 12:44	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	02/01/19 12:45	02/04/19 12:44	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	02/01/19 12:45	02/04/19 12:44	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	02/01/19 12:45	02/04/19 12:44	EPA 3005A	3,200.8	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		02/04/19 12:44	NA	107,-	

Project Name: KENMORE SQUARE NORTH
Lab Number: L1904083
Project Number: 6216.9.00
Report Date: 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-02
Client ID: BUILDING C RGP SAMPLE B-6 (OW)
Sample Location: BOSTON, MA
Date Collected: 01/31/19 11:00
Date Received: 01/31/19
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	02/01/19 12:45	02/04/19 12:48	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	02/01/19 12:45	02/04/19 12:48	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	02/01/19 12:45	02/04/19 12:48	EPA 3005A	3,200.8	AM
Chromium, Total	0.00120		mg/l	0.00100	--	1	02/01/19 12:45	02/04/19 12:48	EPA 3005A	3,200.8	AM
Copper, Total	0.00226		mg/l	0.00100	--	1	02/01/19 12:45	02/04/19 12:48	EPA 3005A	3,200.8	AM
Iron, Total	0.619		mg/l	0.050	--	1	02/01/19 12:45	02/01/19 21:16	EPA 3005A	19,200.7	AB
Lead, Total	0.00131		mg/l	0.00100	--	1	02/01/19 12:45	02/04/19 12:48	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	02/01/19 11:14	02/01/19 17:15	EPA 245.1	3,245.1	GD
Nickel, Total	ND		mg/l	0.00200	--	1	02/01/19 12:45	02/04/19 12:48	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	02/01/19 12:45	02/04/19 12:48	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	02/01/19 12:45	02/04/19 12:48	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	02/01/19 12:45	02/04/19 12:48	EPA 3005A	3,200.8	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		02/04/19 12:48	NA	107,-	

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1904083

Project Number: 6216.9.00 **Report Date:** 02/12/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1203061-1										
Mercury, Total	ND		mg/l	0.00020	--	1	02/01/19 11:14	02/01/19 16:55	3,245.1	GD

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1203073-1										
Antimony, Total	ND		mg/l	0.00400	--	1	02/01/19 12:45	02/04/19 11:33	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	02/01/19 12:45	02/04/19 11:33	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	02/01/19 12:45	02/04/19 11:33	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	02/01/19 12:45	02/04/19 11:33	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	02/01/19 12:45	02/04/19 11:33	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	02/01/19 12:45	02/04/19 11:33	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	02/01/19 12:45	02/04/19 11:33	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	02/01/19 12:45	02/04/19 11:33	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	02/01/19 12:45	02/04/19 11:33	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	02/01/19 12:45	02/04/19 11:33	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1203076-1										
Iron, Total	ND		mg/l	0.050	--	1	02/01/19 12:45	02/01/19 20:09	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQUARE NORTH

Project Number: 6216.9.00

Lab Number: L1904083

Report Date: 02/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1203061-2								
Mercury, Total	98		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1203073-2								
Antimony, Total	96		-		85-115	-		
Arsenic, Total	104		-		85-115	-		
Cadmium, Total	108		-		85-115	-		
Chromium, Total	97		-		85-115	-		
Copper, Total	97		-		85-115	-		
Lead, Total	104		-		85-115	-		
Nickel, Total	100		-		85-115	-		
Selenium, Total	112		-		85-115	-		
Silver, Total	103		-		85-115	-		
Zinc, Total	109		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1203076-2								
Iron, Total	104		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1203061-3 QC Sample: L1903905-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00500	100		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1203073-3 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)												
Antimony, Total	ND	0.5	0.5815	116		-	-		70-130	-		20
Arsenic, Total	0.00334	0.12	0.1327	108		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05628	110		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.2013	101		-	-		70-130	-		20
Copper, Total	ND	0.25	0.2421	97		-	-		70-130	-		20
Lead, Total	ND	0.51	0.5280	104		-	-		70-130	-		20
Nickel, Total	ND	0.5	0.4922	98		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1395	116		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05129	102		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.5513	110		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1203076-3 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)												
Iron, Total	6.46	1	7.50	104		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1203061-4 QC Sample: L1903905-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1203073-4 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.00334	0.00359	mg/l	7		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	ND	ND	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	ND	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1203076-4 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)						
Iron, Total	6.46	6.61	mg/l	2		20

INORGANICS
&
MISCELLANEOUS

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00
Lab Number: L1904083
Report Date: 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-01
Client ID: BUILDING B RGP SAMPLE B-1A (OW)
Sample Location: BOSTON, MA
Sample Depth:
Matrix: Water
Date Collected: 01/31/19 14:00
Date Received: 01/31/19
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	11.		mg/l	5.0	NA	1	-	02/01/19 10:45	121,2540D	DR
Cyanide, Total	ND		mg/l	0.005	--	1	02/01/19 11:35	02/01/19 14:59	121,4500CN-CE	AG
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	01/31/19 22:04	121,4500CL-D	AS
Nitrogen, Ammonia	2.17		mg/l	0.075	--	1	02/01/19 03:30	02/04/19 20:44	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	02/01/19 16:30	02/01/19 21:15	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	02/04/19 07:42	02/05/19 05:45	4,420.1	GD
Chromium, Hexavalent	ND		mg/l	0.010	--	1	02/01/19 00:45	02/01/19 01:12	1,7196A	MA
Anions by Ion Chromatography - Westborough Lab										
Chloride	608.		mg/l	12.5	--	25	-	02/02/19 18:27	44,300.0	JR

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00
Lab Number: L1904083
Report Date: 02/12/19

SAMPLE RESULTS

Lab ID: L1904083-02
Client ID: BUILDING C RGP SAMPLE B-6 (OW)
Sample Location: BOSTON, MA
Sample Depth:
Matrix: Water
Date Collected: 01/31/19 11:00
Date Received: 01/31/19
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	ND		mg/l	5.0	NA	1	-	02/01/19 10:45	121,2540D	DR
Cyanide, Total	ND		mg/l	0.005	--	1	02/01/19 11:35	02/01/19 15:03	121,4500CN-CE	AG
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	01/31/19 22:04	121,4500CL-D	AS
Nitrogen, Ammonia	0.155		mg/l	0.075	--	1	02/01/19 03:30	02/04/19 20:40	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	02/01/19 16:30	02/01/19 21:15	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	02/04/19 07:42	02/05/19 05:47	4,420.1	GD
Chromium, Hexavalent	ND		mg/l	0.010	--	1	02/01/19 00:45	02/01/19 01:13	1,7196A	MA
Anions by Ion Chromatography - Westborough Lab										
Chloride	159.		mg/l	12.5	--	25	-	02/02/19 18:39	44,300.0	JR

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1904083

Project Number: 6216.9.00 **Report Date:** 02/12/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1202901-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	01/31/19 22:04	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1202925-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	02/01/19 00:45	02/01/19 01:11	1,7196A	MA
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1202937-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	02/01/19 03:30	02/04/19 20:33	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1202982-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	02/01/19 10:45	121,2540D	DR
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1203034-1										
Cyanide, Total	ND		mg/l	0.005	--	1	02/01/19 11:35	02/01/19 14:52	121,4500CN-CE	AG
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1203167-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	02/01/19 16:30	02/01/19 21:15	74,1664A	ML
Anions by Ion Chromatography - Westborough Lab for sample(s): 01-02 Batch: WG1203484-1										
Chloride	ND		mg/l	0.500	--	1	-	02/02/19 15:27	44,300.0	JR
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1203529-1										
Phenolics, Total	ND		mg/l	0.030	--	1	02/04/19 07:42	02/05/19 05:43	4,420.1	GD

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQUARE NORTH

Project Number: 6216.9.00

Lab Number: L1904083

Report Date: 02/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1202901-2								
Chlorine, Total Residual	104		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1202925-2								
Chromium, Hexavalent	98		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1202937-2								
Nitrogen, Ammonia	85		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1203034-2								
Cyanide, Total	110		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1203167-2								
TPH	91		-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-02 Batch: WG1203484-2								
Chloride	100		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1203529-2								
Phenolics, Total	88		-		70-130	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1202901-4 QC Sample: L1904083-02 Client ID: BUILDING C RGP SAMPLE B-6 (OW)												
Chlorine, Total Residual	ND	0.25	0.18	**72**	Q	-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1202925-4 QC Sample: L1904083-02 Client ID: BUILDING C RGP SAMPLE B-6 (OW)												
Chromium, Hexavalent	ND	0.1	0.092	92		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1202937-4 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)												
Nitrogen, Ammonia	2.17	4	5.84	92		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1203034-4 QC Sample: L1904083-02 Client ID: BUILDING C RGP SAMPLE B-6 (OW)												
Cyanide, Total	ND	0.2	0.208	104		-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1203167-4 QC Sample: L1904083-02 Client ID: BUILDING C RGP SAMPLE B-6 (OW)												
TPH	ND	20	17.9	90		-	-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1203484-3 QC Sample: L1904055-01 Client ID: MS Sample												
Chloride	69.2	40	108	97		-	-		90-110	-		18
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1203529-4 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)												
Phenolics, Total	ND	0.4	0.38	96		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1202901-3 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1202925-3 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1202937-3 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)						
Nitrogen, Ammonia	2.17	2.22	mg/l	2		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1202982-2 QC Sample: L1904048-01 Client ID: DUP Sample						
Solids, Total Suspended	220	230	mg/l	4		29
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1203034-3 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1203167-3 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)						
TPH, SGT-HEM	ND	ND	mg/l	NC		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1203484-4 QC Sample: L1904055-01 Client ID: DUP Sample						
Chloride	69.2	69.8	mg/l	1		18

Lab Duplicate Analysis

Batch Quality Control

Project Name: KENMORE SQUARE NORTH

Project Number: 6216.9.00

Lab Number: L1904083

Report Date: 02/12/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1203529-3 QC Sample: L1904083-01 Client ID: BUILDING B RGP SAMPLE B-1A (OW)					
Phenolics, Total	ND	ND	mg/l	NC	20

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1904083-01A	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		624.1-SIM-RGP(7)
L1904083-01B	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		624.1-SIM-RGP(7)
L1904083-01C	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		624.1-SIM-RGP(7)
L1904083-01D	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		624.1-RGP(7)
L1904083-01E	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		624.1-RGP(7)
L1904083-01F	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		624.1-RGP(7)
L1904083-01H	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		504(14)
L1904083-01I	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		504(14)
L1904083-01J	Vial HCl preserved	A	NA		3.0	Y	Absent		SUB-ETHANOL(14)
L1904083-01K	Vial HCl preserved	A	NA		3.0	Y	Absent		SUB-ETHANOL(14)
L1904083-01L	Vial HCl preserved	A	NA		3.0	Y	Absent		SUB-ETHANOL(14)
L1904083-01M	Plastic 250ml HNO3 preserved	A	<2	<2	3.0	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1904083-01N	Plastic 250ml NaOH preserved	A	>12	>12	3.0	Y	Absent		TCN-4500(14)
L1904083-01O	Plastic 500ml H2SO4 preserved	A	<2	<2	3.0	Y	Absent		NH3-4500(28)
L1904083-01P	Amber 950ml H2SO4 preserved	A	<2	<2	3.0	Y	Absent		TPHENOL-420(28)
L1904083-01Q	Plastic 950ml unpreserved	A	7	7	3.0	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1)
L1904083-01R	Plastic 950ml unpreserved	A	7	7	3.0	Y	Absent		TSS-2540(7)
L1904083-01S	Amber 1000ml HCl preserved	A	NA		3.0	Y	Absent		TPH-1664(28)
L1904083-01T	Amber 1000ml HCl preserved	A	NA		3.0	Y	Absent		TPH-1664(28)
L1904083-01U	Amber 1000ml Na2S2O3	A	7	7	3.0	Y	Absent		PCB-608.3(7)
L1904083-01V	Amber 1000ml Na2S2O3	A	7	7	3.0	Y	Absent		PCB-608.3(7)

*Values in parentheses indicate holding time in days

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1904083-01W	Amber 1000ml Na2S2O3	A	7	7	3.0	Y	Absent		625.1-RGP(7)
L1904083-01X	Amber 1000ml Na2S2O3	A	7	7	3.0	Y	Absent		625.1-RGP(7)
L1904083-01Y	Amber 1000ml Na2S2O3	A	7	7	3.0	Y	Absent		625.1-SIM-RGP(7)
L1904083-01Z	Amber 1000ml Na2S2O3	A	7	7	3.0	Y	Absent		625.1-SIM-RGP(7)
L1904083-02A	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		624.1-SIM-RGP(7)
L1904083-02B	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		624.1-SIM-RGP(7)
L1904083-02C	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		624.1-SIM-RGP(7)
L1904083-02D	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		624.1-RGP(7)
L1904083-02E	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		624.1-RGP(7)
L1904083-02F	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		624.1-RGP(7)
L1904083-02H	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		504(14)
L1904083-02I	Vial Na2S2O3 preserved	A	NA		3.0	Y	Absent		504(14)
L1904083-02J	Vial HCl preserved	A	NA		3.0	Y	Absent		SUB-ETHANOL(14)
L1904083-02K	Vial HCl preserved	A	NA		3.0	Y	Absent		SUB-ETHANOL(14)
L1904083-02L	Vial HCl preserved	A	NA		3.0	Y	Absent		SUB-ETHANOL(14)
L1904083-02M	Plastic 250ml HNO3 preserved	A	<2	<2	3.0	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1904083-02N	Plastic 250ml NaOH preserved	A	>12	>12	3.0	Y	Absent		TCN-4500(14)
L1904083-02O	Plastic 500ml H2SO4 preserved	A	<2	<2	3.0	Y	Absent		NH3-4500(28)
L1904083-02P	Amber 950ml H2SO4 preserved	A	<2	<2	3.0	Y	Absent		TPHENOL-420(28)
L1904083-02Q	Plastic 950ml unpreserved	A	7	7	3.0	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1)
L1904083-02R	Plastic 950ml unpreserved	A	7	7	3.0	Y	Absent		TSS-2540(7)
L1904083-02S	Amber 1000ml HCl preserved	A	NA		3.0	Y	Absent		TPH-1664(28)
L1904083-02T	Amber 1000ml HCl preserved	A	NA		3.0	Y	Absent		TPH-1664(28)
L1904083-02U	Amber 1000ml Na2S2O3	A	7	7	3.0	Y	Absent		HOLD-8082()
L1904083-02V	Amber 1000ml Na2S2O3	A	7	7	3.0	Y	Absent		HOLD-8082()
L1904083-02W	Amber 1000ml Na2S2O3	A	7	7	3.0	Y	Absent		625.1-RGP(7)

*Values in parentheses indicate holding time in days

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.00

Lab Number: L1904083
Report Date: 02/12/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1904083-02X	Amber 1000ml Na2S2O3	A	7	7	3.0	Y	Absent		625.1-RGP(7)
L1904083-02Y	Amber 1000ml Na2S2O3	A	7	7	3.0	Y	Absent		625.1-SIM-RGP(7)
L1904083-02Z	Amber 1000ml Na2S2O3	A	7	7	3.0	Y	Absent		625.1-SIM-RGP(7)

*Values in parentheses indicate holding time in days

Project Name:	KENMORE SQUARE NORTH	**Lab Number:**	L1904083
Project Number:	6216.9.00	**Report Date:**	02/12/19

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).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
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.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total'

result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

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

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

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Project Name:	KENMORE SQUARE NORTH	**Lab Number:**	L1904083
Project Number:	6216.9.00	**Report Date:**	02/12/19

REFERENCES

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

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

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

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

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

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

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

107 Alpha Analytical - In-house calculation method.

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

127 Method 608.3: Organochlorine Pesticides and PCBs by GC/HSD, EPA 821-R-16-009, December 2016.

128 Method 624.1: Purgeables by GC/MS, EPA 821-R-16-008, December 2016.

129 Method 625.1: Base/Neutrals and Acids by GC/MS, EPA 821-R-16-007, December 2016.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
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 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

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

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

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

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

Serial_No:02121915:52

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

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

Date Rec'd in Lab: L1904083
ALPHA Job #: 1-31-19

Project Information

Project Name: Kenmore Square North
Project Location: Boston, MA
Project #: 6216.9.00
Project Manager: KWS
ALPHA Quote #:

Client Information

Client: McPhial Associates, LLC
Address: 2269 Massachusetts Avenue
Cambridge, MA 02140
Phone: 617-868-1420
Fax: 617-868-1423
Email: kseaman@mcphailgeo.com
☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report Information Data Deliverables

☐ FAX ☐ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
EPA NPDES RGP	

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

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

ANALYSIS

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TPH-1664	Tphenol	625.1-RGP, 625.1 SIM-RGP	HexCr, TRC-4500, CL	TSS-2540	Total RGP Metals	NH3	TCN	Sub-Ethanol	504 624.1-RGP, 624.1SIM-RGP	PCB 608.3		Sample Specific Comments	TOTAL # BOTTLES
04083-01	Building B RGP Sample B-1A(ow)	1/31/19	1400	GW	TMC	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐		25
02	Building C RGP Sample B-6(ow)	1/31/19	11:00	GW	TMC	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐		25

PLEASE ANSWER QUESTIONS ABOVE!

	TPH-1664	Tphenol	625.1	HexCr	TSS	Metals	NH3	TCN	Sub-Ethanol	504 624.1	PCB 608.3	
Container Type	A	A	A	P	P	P	P	P	V	V	A	-
Preservative	B	D	H	A	A	C	D	E	B	H	H	-

IS YOUR PROJECT MA MCP or CT RCP?

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

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	1/31/19 15:25	John Kirby AAL	1/31/19 16:50
John Kirby AAL	1/31/19 18:20	[signature]	1/31/19 18:20

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.

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

Test America (Nashville)
2960 Foster Creighton Drive
Nashville, TN 37204

Alpha Job Number
L1904083

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 603.319.5010 Email: mgulli@alphalab.com	Project Location: MA Project Manager: Melissa Gulli **Turnaround & Deliverables Information** Due Date: 02/11/19 Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L1904083

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	BUILDING B RGP SAMPLE B-1A (OW)	01-31-19 14:00	WATER	Ethanol by EPA 1671 Revision A	
	BUILDING C RGP SAMPLE B-6A (OW)	01-31-19 11:00	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		2/4/19 14:10		
Form No: AL_subcoc				

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-167913-1
Client Project/Site: L1904083
Revision: 1

For:
Alpha Analytical Inc
145 Flanders Road
Westborough, Massachusetts 01581-1019

Attn: Reports Dept.

Authorized for release by:
2/8/2019 6:34:40 PM

Ken Hayes, Project Manager II
(615)301-5035
ken.hayes@testamericainc.com

Table of Contents

Sample Summary

Client: Alpha Analytical Inc
Project/Site: L1904083

TestAmerica Job ID: 490-167913-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-167913-1	BUILDING B RGP SAMPLE B-1A (OW)	Water	01/31/19 14:00	02/05/19 09:00
490-167913-2	BUILDING C RGP SAMPLE B-6 (OW)	Water	01/31/19 11:00	02/05/19 09:00

Case Narrative

Client: Alpha Analytical Inc
Project/Site: L1904083

TestAmerica Job ID: 490-167913-1

Job ID: 490-167913-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-167913-1

REVISED REPORT: Revised to correct the sample ID in 490-167913-2 at the client's request. This report replaces the one generated on 02/08/19 @ 1536.

Comments
No additional comments.

Receipt
The samples were received on 2/5/2019 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.7° C.

GC Semi VOA
Method 1671A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 490-573728.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: Alpha Analytical Inc
Project/Site: L1904083

TestAmerica Job ID: 490-167913-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L1904083

TestAmerica Job ID: 490-167913-1

Client Sample ID: BUILDING B RGP SAMPLE B-1A (OW) **Lab Sample ID: 490-167913-1**
Date Collected: 01/31/19 14:00 **Matrix: Water**
Date Received: 02/05/19 09:00

Method: 1671A - Ethanol (GC/FID)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		2000	500	ug/L			02/05/19 15:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl acetate (Surr)	*82*		*70 - 130*		*02/05/19 15:36*	*1*

Client Sample Results

Client: Alpha Analytical Inc
Project/Site: L1904083

TestAmerica Job ID: 490-167913-1

Client Sample ID: BUILDING C RGP SAMPLE B-6 (OW)

Lab Sample ID: 490-167913-2

Date Collected: 01/31/19 11:00
Matrix: Water
Date Received: 02/05/19 09:00

Method: 1671A - Ethanol (GC/FID)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		2000	500	ug/L			02/05/19 15:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl acetate (Surr)	*82*		*70 - 130*		*02/05/19 15:43*	*1*

QC Sample Results

Client: Alpha Analytical Inc
Project/Site: L1904083

TestAmerica Job ID: 490-167913-1

Method: 1671A - Ethanol (GC/FID)

Lab Sample ID: MB 490-573728/4
Matrix: Water
Analysis Batch: 573728

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		2000	500	ug/L			02/05/19 15:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Isopropyl acetate (Surr)	*89*		*70 - 130*		*02/05/19 15:12*	*1*

Lab Sample ID: LCS 490-573728/5
Matrix: Water
Analysis Batch: 573728

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ethanol			50200	53870		ug/L		107	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Isopropyl acetate (Surr)	*84*		*70 - 130*

Lab Sample ID: LCSD 490-573728/6
Matrix: Water
Analysis Batch: 573728

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethanol			50200	51040		ug/L		102	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Isopropyl acetate (Surr)	*81*		*70 - 130*

QC Association Summary

Client: Alpha Analytical Inc
Project/Site: L1904083

TestAmerica Job ID: 490-167913-1

GC VOA

Analysis Batch: 573728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-167913-1	BUILDING B RGP SAMPLE B-1A (OW)	Total/NA	Water	1671A	
490-167913-2	BUILDING C RGP SAMPLE B-6 (OW)	Total/NA	Water	1671A	
MB 490-573728/4	Method Blank	Total/NA	Water	1671A	
LCS 490-573728/5	Lab Control Sample	Total/NA	Water	1671A	
LCSD 490-573728/6	Lab Control Sample Dup	Total/NA	Water	1671A	

Lab Chronicle

Client: Alpha Analytical Inc
Project/Site: L1904083

TestAmerica Job ID: 490-167913-1

Client Sample ID: BUILDING B RGP SAMPLE B-1A (OW)

Lab Sample ID: 490-167913-1
Matrix: Water
Date Collected: 01/31/19 14:00
Date Received: 02/05/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1671A		1			573728	02/05/19 15:36	ZXS	TAL NSH

Client Sample ID: BUILDING C RGP SAMPLE B-6 (OW)

Lab Sample ID: 490-167913-2
Matrix: Water
Date Collected: 01/31/19 11:00
Date Received: 02/05/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	1671A		1			573728	02/05/19 15:43	ZXS	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Alpha Analytical Inc
Project/Site: L1904083

TestAmerica Job ID: 490-167913-1

Method	Method Description	Protocol	Laboratory
1671A	Ethanol (GC/FID)	EPA	TAL NSH

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Alpha Analytical Inc
Project/Site: L1904083

TestAmerica Job ID: 490-167913-1

Laboratory: TestAmerica Nashville

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2938	06-30-19 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1671A		Water	Ethanol

Maine	State Program	1	TN00032	11-03-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1671A		Water	Ethanol

Massachusetts	State Program	1	M-TN032	06-30-19

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
1671A		Water	Ethanol

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-167913 Chain of Custody

Cooler Received/Opened On 2/5/2019 @ 9:00

Time Samples Removed From Cooler 12:45 Time Samples Placed In Storage 12:52 (2 Hour Window)

1. Tracking # 128306940196900494 (last 4 digits, FedEx) Courier: UPS ~~FedEx~~ MDT on 2/5/19

IR Gun ID 31470368 pH Strip Lot _____ Chlorine Strip Lot _____

2. Temperature of rep. sample or temp blank when opened: 1.7 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO (NA)

4. Were custody seals on outside of cooler? YES (NO) NA

If yes, how many and where: _____

5. Were the seals intact, signed, and dated correctly? YES...NO...(NA)

6. Were custody papers inside cooler? (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES (NO) and Intact YES...NO...(NA)

Were these signed and dated correctly? YES...NO...(NA)

8. Packing mat'l used? (Bubblewrap) Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)...NO...NA

12. Did all container labels and tags agree with custody papers? (YES)...NO...NA

13a. Were VOA vials received? (YES)...NO...NA

b. Was there any observable headspace present in any VOA vial? YES (NO)...NA

● ⬅ Larger than this.

14. Was there a Trip Blank in this cooler? YES (NO)...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (intial) J.J

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...(NA)

b. Did the bottle labels indicate that the correct preservatives were used (YES)...NO...NA

16. Was residual chlorine present? YES...NO...(NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) J.J

17. Were custody papers properly filled out (ink, signed, etc)? (YES)...NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)...NO...NA

19. Were correct containers used for the analysis requested? (YES)...NO...NA

20. Was sufficient amount of sample sent in each container? (YES)...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) J.J

I certify that I attached a label with the unique LIMS number to each container (intial) J.J

21. Were there Non-Conformance issues at login? YES (NO) Was a NCM generated? YES (NO) #_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 8/23/17

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

Loc: 490
167913

Test America (Nashville)
2960 Foster Creighton Drive
Nashville, TN 37204

Alpha Job Number
L1904083

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 603.319.5010 Email: mgulli@alphalab.com	Project Location: MA Project Manager: Melissa Gulli **Turnaround & Deliverables Information** Due Date: 02/11/19 Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L1904083

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	BUILDING B RGP SAMPLE B-1A (OW)	01-31-19 14:00	WATER	Ethanol by EPA 1671 Revision A	
	BUILDING C RGP SAMPLE B-6A (OW)	01-31-19 11:00	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		2/4/19 14:10	James Willis Jordan	02/05/19 09:00
Form No: AL_subcoc				

TA-NAS / 1.7

APPENDIX E:

LABORATORY ANALYTICAL DATA – SURFACE WATER

ANALYTICAL REPORT

Lab Number:	L1902926
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Brendan O'Neil
Phone:	(617) 868-1420
Project Name:	LANDMARK CENTER
Project Number:	5512
Report Date:	01/28/19

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

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

Project Name: LANDMARK CENTER
Project Number: 5512

Lab Number: L1902926
Report Date: 01/28/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1902926-01	SURFACE WATER CHARLES RIVER SAMPLE	WATER	BOSTON, MA	01/23/19 13:00	01/23/19

Project Name:	LANDMARK CENTER	**Lab Number:**	L1902926
Project Number:	5512	**Report Date:**	01/28/19

Case Narrative

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

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

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

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

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

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

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

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 01/28/19

METALS

Project Name: LANDMARK CENTER
Lab Number: L1902926
Project Number: 5512
Report Date: 01/28/19

SAMPLE RESULTS

Lab ID: L1902926-01
Client ID: SURFACE WATER CHARLES RIVER
Sample Location: SAMPLE
BOSTON, MA
Sample Depth:
Matrix: Water

Date Collected: 01/23/19 13:00
Date Received: 01/23/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	01/24/19 07:50	01/24/19 12:25	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	01/24/19 07:50	01/24/19 12:25	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	01/24/19 07:50	01/24/19 12:25	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	01/24/19 07:50	01/24/19 12:25	EPA 3005A	3,200.8	AM
Copper, Total	0.00177		mg/l	0.00100	--	1	01/24/19 07:50	01/24/19 12:25	EPA 3005A	3,200.8	AM
Iron, Total	0.410		mg/l	0.050	--	1	01/24/19 07:50	01/24/19 14:09	EPA 3005A	19,200.7	LC
Lead, Total	ND		mg/l	0.00100	--	1	01/24/19 07:50	01/24/19 12:25	EPA 3005A	3,200.8	AM
Mercury, Total	0.00020		mg/l	0.00020	--	1	01/24/19 11:13	01/24/19 17:20	EPA 245.1	3,245.1	MG
Nickel, Total	ND		mg/l	0.00200	--	1	01/24/19 07:50	01/24/19 12:25	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	01/24/19 07:50	01/24/19 12:25	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	01/24/19 07:50	01/24/19 12:25	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	01/24/19 07:50	01/24/19 12:25	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	76.9		mg/l	0.660	NA	1	01/24/19 07:50	01/24/19 14:09	EPA 3005A	1,6010D	LC

Project Name: LANDMARK CENTER
Project Number: 5512
Lab Number: L1902926
Report Date: 01/28/19

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: WG1200436-1										
Iron, Total	ND		mg/l	0.050	--	1	01/24/19 07:50	01/24/19 13:40	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: WG1200438-1										
Antimony, Total	ND		mg/l	0.00400	--	1	01/24/19 07:50	01/24/19 12:08	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	01/24/19 07:50	01/24/19 12:08	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	01/24/19 07:50	01/24/19 12:08	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	01/24/19 07:50	01/24/19 12:08	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	01/24/19 07:50	01/24/19 12:08	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	01/24/19 07:50	01/24/19 12:08	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	01/24/19 07:50	01/24/19 12:08	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	01/24/19 07:50	01/24/19 12:08	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	01/24/19 07:50	01/24/19 12:08	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	01/24/19 07:50	01/24/19 12:08	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: WG1200545-1										
Mercury, Total	ND		mg/l	0.00020	--	1	01/24/19 11:13	01/24/19 16:53	3,245.1	MG

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: LANDMARK CENTER

Project Number: 5512

Lab Number: L1902926

Report Date: 01/28/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1200436-2								
Iron, Total	110		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1200438-2								
Antimony, Total	88		-		85-115	-		
Arsenic, Total	106		-		85-115	-		
Cadmium, Total	105		-		85-115	-		
Chromium, Total	94		-		85-115	-		
Copper, Total	95		-		85-115	-		
Lead, Total	101		-		85-115	-		
Nickel, Total	96		-		85-115	-		
Selenium, Total	110		-		85-115	-		
Silver, Total	97		-		85-115	-		
Zinc, Total	105		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1200545-2								
Mercury, Total	100		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: LANDMARK CENTER
Project Number: 5512

Lab Number: L1902926
Report Date: 01/28/19

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: WG1200436-3 QC Sample: L1902857-02 Client ID: MS Sample												
Iron, Total	ND	1	1.12	112		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1200436-7 QC Sample: L1902926-01 Client ID: SURFACE WATER CHARLES RIVER SAMPLE												
Iron, Total	0.410	1	1.50	109		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1200438-3 QC Sample: L1902926-01 Client ID: SURFACE WATER CHARLES RIVER SAMPLE												
Antimony, Total	ND	0.5	0.5252	105		-	-		70-130	-		20
Arsenic, Total	ND	0.12	0.1287	107		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05418	106		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.1967	98		-	-		70-130	-		20
Copper, Total	0.00177	0.25	0.2460	98		-	-		70-130	-		20
Lead, Total	ND	0.51	0.5210	102		-	-		70-130	-		20
Nickel, Total	ND	0.5	0.4910	98		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1285	107		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05069	101		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.5398	108		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1200545-3 QC Sample: L1902841-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00494	99		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1200545-5 QC Sample: L1902841-02 Client ID: MS Sample												
Mercury, Total	0.00029	0.005	0.00492	92		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: LANDMARK CENTER
Project Number: 5512

Lab Number: L1902926
Report Date: 01/28/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1200436-4 QC Sample: L1902857-02 Client ID: DUP Sample						
Iron, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1200436-8 QC Sample: L1902926-01 Client ID: SURFACE WATER CHARLES RIVER SAMPLE						
Iron, Total	0.410	0.402	mg/l	2		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1200438-4 QC Sample: L1902926-01 Client ID: SURFACE WATER CHARLES RIVER SAMPLE						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.00177	0.00171	mg/l	3		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	ND	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1200545-4 QC Sample: L1902841-01 Client ID: DUP Sample						
Mercury, Total	ND	0.00033	mg/l	NC		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: LANDMARK CENTER

Project Number: 5512

Lab Number: L1902926

Report Date: 01/28/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1200545-6 QC Sample: L1902841-02 Client ID: DUP Sample					
Mercury, Total	0.00029	0.00024	mg/l	19	20

INORGANICS
&
MISCELLANEOUS

Project Name: LANDMARK CENTER
Project Number: 5512
Lab Number: L1902926
Report Date: 01/28/19

SAMPLE RESULTS

Lab ID: L1902926-01
Client ID: SURFACE WATER CHARLES RIVER SAMPLE
Sample Location: BOSTON, MA
Sample Depth:
Matrix: Water

Date Collected: 01/23/19 13:00
Date Received: 01/23/19
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	ND		mg/l	0.005	--	1	01/24/19 03:35	01/24/19 13:04	121,4500CN-CE	LH
pH (H)	7.0		SU	-	NA	1	-	01/24/19 07:17	121,4500H+-B	MA
Nitrogen, Ammonia	0.121		mg/l	0.075	--	1	01/24/19 02:00	01/24/19 20:58	121,4500NH3-BH	AT

Project Name: LANDMARK CENTER
Project Number: 5512
Lab Number: L1902926
Report Date: 01/28/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1200399-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	01/24/19 02:00	01/24/19 20:39	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1200410-1										
Cyanide, Total	ND		mg/l	0.005	--	1	01/24/19 03:35	01/24/19 12:56	121,4500CN-CE	LH

Lab Control Sample Analysis

Batch Quality Control

Project Name: LANDMARK CENTER

Project Number: 5512

Lab Number: L1902926

Report Date: 01/28/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1200399-2								
Nitrogen, Ammonia	94		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1200410-2								
Cyanide, Total	94		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1200452-1								
pH	100		-		99-101	-		5

Matrix Spike Analysis
Batch Quality Control

Project Name: LANDMARK CENTER
Project Number: 5512

Lab Number: L1902926
Report Date: 01/28/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1200399-4 QC Sample: L1902835-03 Client ID: MS Sample												
Nitrogen, Ammonia	0.750	4	4.11	84		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1200410-4 QC Sample: L1902875-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.179	90		-	-		90-110	-		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: LANDMARK CENTER

Project Number: 5512

Lab Number: L1902926

Report Date: 01/28/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1200399-3 QC Sample: L1902835-03 Client ID: DUP Sample						
Nitrogen, Ammonia	0.750	0.712	mg/l	5		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1200410-3 QC Sample: L1902875-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1200452-2 QC Sample: L1902887-01 Client ID: DUP Sample						
pH	6.9	6.9	SU	0		5

Project Name: LANDMARK CENTER
Project Number: 5512

Lab Number: L1902926
Report Date: 01/28/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1902926-01A	Plastic 250ml HNO3 preserved	A	<2	<2	5.2	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),HARDT(180),PB-2008T(180),SB-2008T(180)
L1902926-01B	Plastic 250ml H2SO4 preserved	A	<2	<2	5.2	Y	Absent		NH3-4500(28)
L1902926-01C	Plastic 950ml unpreserved	A	7	7	5.2	Y	Absent		PH-4500(.01)
L1902926-01D	Plastic 250ml NaOH preserved	A	>12	>12	5.2	Y	Absent		TCN-4500(14)

*Values in parentheses indicate holding time in days

Project Name:	LANDMARK CENTER	**Lab Number:**	L1902926
Project Number:	5512	**Report Date:**	01/28/19

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).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
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.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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.

Report Format: Data Usability Report

Project Name:	LANDMARK CENTER	**Lab Number:**	L1902926
Project Number:	5512	**Report Date:**	01/28/19

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the 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:	LANDMARK CENTER	**Lab Number:**	L1902926
Project Number:	5512	**Report Date:**	01/28/19

REFERENCES

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

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

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

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 624/624.1: 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 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

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

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

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

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

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: 1/23/19

ALPHA Job #: L1902926

Client Information

Client: McPhail Associates, LLC
Address: 2269 Massachusetts Avenue
Cambridge, MA 02140
Phone: 6178681420
Fax: 6178681423
Email: bao/kseaman@mcphailgeo.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Landark Center
Project Location: Boston, MA
Project #: 5512
Project Manager: BAO/KWS
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☐ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NPDES RGP	RGP

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

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

Other Project Specific Requirements/Comments/Detection Limits:

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	NH3	TSS, Chloride, Residual Chlorine	RGP Metals	TCN	pH, Hardness Temperture	HexCr, Tri Cr	Sample Specific Comments	TOTAL # BOTTLES
0292606	Surface Water Charles River Sample	1/23/19	1300	SW	JSW	☒	☐	☒	☒	☒	☐		4
Container Type						P	-	P	P	P	-		
Preservative						E	-	C	D	A	-		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(I) (rev. 30-JUL-07)

Relinquished By:	Date/Time	Received By:	Date/Time
	1/23/19 13:00	Cooler 1/23/19	1300
cooler 1-23-19	1/23/19 1600		1600
	1730		1/23/19 1730

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.

APPENDIX F:

LABORATORY ANALYTICAL DATA – HISTORICAL GROUNDWATER

ANALYTICAL REPORT

Lab Number:	L1625933
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	KENMORE SQ. NORTH
Project Number:	6216.9.01
Report Date:	08/22/16

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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

Project Name: KENMORE SQ. NORTH
Project Number: 6216.9.01

Lab Number: L1625933
Report Date: 08/22/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1625933-01	B-1A (OW)	WATER	BOSTON, MA	08/18/16 14:00	08/18/16
L1625933-02	B-8 (OW)	WATER	BOSTON, MA	08/18/16 15:00	08/18/16

Project Name: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

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).	YES
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: KENMORE SQ. NORTH **Lab Number:** L1625933
Project Number: 6216.9.01 **Report Date:** 08/22/16

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:	KENMORE SQ. NORTH	**Lab Number:**	L1625933
Project Number:	6216.9.01	**Report Date:**	08/22/16

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question H:

The initial calibration, associated with L1625933-02, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0018), as well as the average response factor for 1,4-dioxane.

The continuing calibration standard, associated with L1625933-02, 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.

EPH

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

VPH

L1625933-02: The sample has elevated detection limits due to the dilution required by the sample matrix.

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: Cristin Walker

Title: Technical Director/Representative Date: 08/22/16

ORGANICS

VOLATILES

Project Name: KENMORE SQ. NORTH
Project Number: 6216.9.01
Lab Number: L1625933
Report Date: 08/22/16

SAMPLE RESULTS

Lab ID: L1625933-02
Client ID: B-8 (OW)
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 08/20/16 00:48
Analyst: BD

Date Collected: 08/18/16 15:00
Date Received: 08/18/16
Field Prep: Not Specified

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

Project Name: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

SAMPLE RESULTS

Lab ID: L1625933-02 Date Collected: 08/18/16 15:00

Client ID: B-8 (OW) Date Received: 08/18/16

Sample Location: BOSTON, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylene (Total)	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene (total)	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	7.3		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

SAMPLE RESULTS

Lab ID: L1625933-02 Date Collected: 08/18/16 15:00

Client ID: B-8 (OW) Date Received: 08/18/16

Sample Location: BOSTON, MA Field Prep: Not Specified

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	98		70-130

Project Name: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/19/16 20:19
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 02 Batch: WG924600-5					
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	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: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/19/16 20:19
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 02 Batch: WG924600-5					
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: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/19/16 20:19
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 02 Batch: WG924600-5					
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	--
Ethyl Acetate	ND		ug/l	10	--
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	2.0	--
Iodomethane	ND		ug/l	10	--
tert-Butyl Alcohol	ND		ug/l	10	--
Vinyl acetate	ND		ug/l	2.5	--
Acrolein	ND		ug/l	10	--
2-Chloroethylvinyl ether	ND		ug/l	10	--
Ethyl methacrylate	ND		ug/l	5.0	--
Methyl cyclohexane	ND		ug/l	10	--
Cyclohexane	ND		ug/l	10	--
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--
1,4-Diethylbenzene	ND		ug/l	2.0	--
4-Ethyltoluene	ND		ug/l	2.0	--

Project Name: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 08/19/16 20:19
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 02 Batch: WG924600-5					
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	--
1,4-Dichlorobutane	ND		ug/l	5.0	--
Acrylonitrile	ND		ug/l	5.0	--
Halothane	ND		ug/l	2.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	105		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: KENMORE SQ. NORTH
Project Number: 6216.9.01

Lab Number: L1625933
Report Date: 08/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG924600-3 WG924600-4								
Methylene chloride	98		94		70-130	4		20
1,1-Dichloroethane	100		92		70-130	8		20
Chloroform	110		96		70-130	14		20
Carbon tetrachloride	97		89		70-130	9		20
1,2-Dichloropropane	100		87		70-130	14		20
Dibromochloromethane	90		82		70-130	9		20
1,1,2-Trichloroethane	100		90		70-130	11		20
Tetrachloroethene	100		88		70-130	13		20
Chlorobenzene	98		87		70-130	12		20
Trichlorofluoromethane	100		93		70-130	7		20
1,2-Dichloroethane	100		95		70-130	5		20
1,1,1-Trichloroethane	98		89		70-130	10		20
Bromodichloromethane	98		87		70-130	12		20
trans-1,3-Dichloropropene	99		84		70-130	16		20
cis-1,3-Dichloropropene	94		86		70-130	9		20
1,1-Dichloropropene	98		87		70-130	12		20
Bromoform	88		75		70-130	16		20
1,1,2,2-Tetrachloroethane	100		87		70-130	14		20
Benzene	97		88		70-130	10		20
Toluene	100		88		70-130	13		20
Ethylbenzene	96		82		70-130	16		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQ. NORTH

Project Number: 6216.9.01

Lab Number: L1625933

Report Date: 08/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG924600-3 WG924600-4								
Chloromethane	85		80		70-130	6		20
Bromomethane	110		92		70-130	18		20
Vinyl chloride	99		88		70-130	12		20
Chloroethane	100		95		70-130	5		20
1,1-Dichloroethene	100		96		70-130	4		20
trans-1,2-Dichloroethene	100		93		70-130	7		20
Trichloroethene	98		87		70-130	12		20
1,2-Dichlorobenzene	98		86		70-130	13		20
1,3-Dichlorobenzene	99		87		70-130	13		20
1,4-Dichlorobenzene	98		86		70-130	13		20
Methyl tert butyl ether	100		91		70-130	9		20
p/m-Xylene	100		85		70-130	16		20
o-Xylene	100		85		70-130	16		20
cis-1,2-Dichloroethene	100		97		70-130	3		20
Dibromomethane	97		86		70-130	12		20
1,2,3-Trichloropropane	91		81		70-130	12		20
Styrene	100		90		70-130	11		20
Dichlorodifluoromethane	81		74		70-130	9		20
Acetone	91		83		70-130	9		20
Carbon disulfide	90		82		70-130	9		20
2-Butanone	100		93		70-130	7		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQ. NORTH

Project Number: 6216.9.01

Lab Number: L1625933

Report Date: 08/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG924600-3 WG924600-4								
4-Methyl-2-pentanone	100		81		70-130	**21**	Q	20
2-Hexanone	99		81		70-130	20		20
Bromochloromethane	110		98		70-130	12		20
Tetrahydrofuran	100		94		70-130	6		20
2,2-Dichloropropane	110		94		70-130	16		20
1,2-Dibromoethane	100		88		70-130	13		20
1,3-Dichloropropane	99		87		70-130	13		20
1,1,1,2-Tetrachloroethane	95		81		70-130	16		20
Bromobenzene	96		84		70-130	13		20
n-Butylbenzene	120		82		70-130	**38**	Q	20
sec-Butylbenzene	98		85		70-130	14		20
tert-Butylbenzene	95		83		70-130	13		20
o-Chlorotoluene	96		85		70-130	12		20
p-Chlorotoluene	93		82		70-130	13		20
1,2-Dibromo-3-chloropropane	88		78		70-130	12		20
Hexachlorobutadiene	110		95		70-130	15		20
Isopropylbenzene	93		79		70-130	16		20
p-Isopropyltoluene	100		86		70-130	15		20
Naphthalene	100		89		70-130	12		20
n-Propylbenzene	95		82		70-130	15		20
1,2,3-Trichlorobenzene	100		88		70-130	13		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: KENMORE SQ. NORTH
Project Number: 6216.9.01

Lab Number: L1625933
Report Date: 08/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG924600-3 WG924600-4								
1,2,4-Trichlorobenzene	100		89		70-130	12		20
1,3,5-Trimethylbenzene	96		84		70-130	13		20
1,2,4-Trimethylbenzene	98		82		70-130	18		20
Ethyl ether	98		94		70-130	4		20
Isopropyl Ether	99		89		70-130	11		20
Ethyl-Tert-Butyl-Ether	100		92		70-130	8		20
Tertiary-Amyl Methyl Ether	100		93		70-130	7		20
1,4-Dioxane	102		86		70-130	17		20
Ethyl Acetate	100		90		70-130	11		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	110		96		70-130	14		20
Iodomethane	71		**69**	Q	70-130	3		20
tert-Butyl Alcohol	92		86		70-130	7		20
Vinyl acetate	110		94		70-130	16		20
Acrolein	100		82		70-130	20		20
2-Chloroethylvinyl ether	97		84		70-130	14		20
Ethyl methacrylate	96		86		70-130	11		20
Methyl cyclohexane	97		91		70-130	6		20
Cyclohexane	100		90		70-130	11		20
trans-1,4-Dichloro-2-butene	**60**	Q	77		70-130	**25**	Q	20
1,4-Diethylbenzene	99		87		70-130	13		20
4-Ethyltoluene	96		84		70-130	13		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQ. NORTH

Project Number: 6216.9.01

Lab Number: L1625933

Report Date: 08/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02 Batch: WG924600-3 WG924600-4								
1,2,4,5-Tetramethylbenzene	100		92		70-130	8		20
1,4-Dichlorobutane	89		77		70-130	14		20
Acrylonitrile	100		88		70-130	13		20
Halothane	100		90		70-130	11		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		95		70-130
Toluene-d8	103		99		70-130
4-Bromofluorobenzene	95		96		70-130
Dibromofluoromethane	103		104		70-130

PETROLEUM HYDROCARBONS

Project Name: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

SAMPLE RESULTS

Lab ID:	L1625933-01	Date Collected:	08/18/16 14:00
Client ID:	B-1A (OW)	Date Received:	08/18/16
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	08/19/16 03:29
Analytical Date:	08/19/16 16:52	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	08/19/16

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	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	10.0	--	1
2-Methylnaphthalene	ND		ug/l	10.0	--	1
Acenaphthylene	ND		ug/l	10.0	--	1
Acenaphthene	ND		ug/l	10.0	--	1
Fluorene	ND		ug/l	10.0	--	1
Phenanthrene	ND		ug/l	10.0	--	1
Anthracene	ND		ug/l	10.0	--	1
Fluoranthene	ND		ug/l	10.0	--	1
Pyrene	ND		ug/l	10.0	--	1
Benzo(a)anthracene	ND		ug/l	10.0	--	1
Chrysene	ND		ug/l	10.0	--	1
Benzo(b)fluoranthene	ND		ug/l	10.0	--	1
Benzo(k)fluoranthene	ND		ug/l	10.0	--	1
Benzo(a)pyrene	ND		ug/l	10.0	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	--	1
Dibenzo(a,h)anthracene	ND		ug/l	10.0	--	1
Benzo(ghi)perylene	ND		ug/l	10.0	--	1

Project Name: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

SAMPLE RESULTS

Lab ID:	L1625933-01	Date Collected:	08/18/16 14:00
Client ID:	B-1A (OW)	Date Received:	08/18/16
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	71		40-140
o-Terphenyl	71		40-140
2-Fluorobiphenyl	68		40-140
2-Bromonaphthalene	67		40-140

Project Name: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

SAMPLE RESULTS

Lab ID:	L1625933-02	Date Collected:	08/18/16 15:00
Client ID:	B-8 (OW)	Date Received:	08/18/16
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	08/19/16 03:29
Analytical Date:	08/19/16 17:25	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	08/19/16

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	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	10.0	--	1
2-Methylnaphthalene	ND		ug/l	10.0	--	1
Acenaphthylene	ND		ug/l	10.0	--	1
Acenaphthene	ND		ug/l	10.0	--	1
Fluorene	ND		ug/l	10.0	--	1
Phenanthrene	ND		ug/l	10.0	--	1
Anthracene	ND		ug/l	10.0	--	1
Fluoranthene	ND		ug/l	10.0	--	1
Pyrene	ND		ug/l	10.0	--	1
Benzo(a)anthracene	ND		ug/l	10.0	--	1
Chrysene	ND		ug/l	10.0	--	1
Benzo(b)fluoranthene	ND		ug/l	10.0	--	1
Benzo(k)fluoranthene	ND		ug/l	10.0	--	1
Benzo(a)pyrene	ND		ug/l	10.0	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	--	1
Dibenzo(a,h)anthracene	ND		ug/l	10.0	--	1
Benzo(ghi)perylene	ND		ug/l	10.0	--	1

Project Name: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

SAMPLE RESULTS

Lab ID:	L1625933-02	Date Collected:	08/18/16 15:00
Client ID:	B-8 (OW)	Date Received:	08/18/16
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	74		40-140
o-Terphenyl	52		40-140
2-Fluorobiphenyl	47		40-140
2-Bromonaphthalene	47		40-140

Project Name: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

SAMPLE RESULTS

Lab ID:	L1625933-02	D	Date Collected:	08/18/16 15:00
Client ID:	B-8 (OW)		Date Received:	08/18/16
Sample Location:	BOSTON, MA		Field Prep:	Not Specified
Matrix:	Water			
Analytical Method:	100,VPH-04-1.1			
Analytical Date:	08/19/16 15:33			
Analyst:	JM			

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		ug/l	250	--	5
C9-C12 Aliphatics	ND		ug/l	250	--	5
C9-C10 Aromatics	ND		ug/l	250	--	5
C5-C8 Aliphatics, Adjusted	ND		ug/l	250	--	5
C9-C12 Aliphatics, Adjusted	ND		ug/l	250	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	100		70-130
2,5-Dibromotoluene-FID	113		70-130

Project Name: KENMORE SQ. NORTH
Project Number: 6216.9.01

Lab Number: L1625933
Report Date: 08/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 08/19/16 16:21
Analyst: SR

Extraction Method: EPA 3510C
Extraction Date: 08/19/16 03:29
Cleanup Method: EPH-04-1
Cleanup Date: 08/19/16

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG924096-1					
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	--
Naphthalene	ND		ug/l	10.0	--
2-Methylnaphthalene	ND		ug/l	10.0	--
Acenaphthylene	ND		ug/l	10.0	--
Acenaphthene	ND		ug/l	10.0	--
Fluorene	ND		ug/l	10.0	--
Phenanthrene	ND		ug/l	10.0	--
Anthracene	ND		ug/l	10.0	--
Fluoranthene	ND		ug/l	10.0	--
Pyrene	ND		ug/l	10.0	--
Benzo(a)anthracene	ND		ug/l	10.0	--
Chrysene	ND		ug/l	10.0	--
Benzo(b)fluoranthene	ND		ug/l	10.0	--
Benzo(k)fluoranthene	ND		ug/l	10.0	--
Benzo(a)pyrene	ND		ug/l	10.0	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	--
Dibenzo(a,h)anthracene	ND		ug/l	10.0	--
Benzo(ghi)perylene	ND		ug/l	10.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	69		40-140
o-Terphenyl	54		40-140
2-Fluorobiphenyl	50		40-140
2-Bromonaphthalene	53		40-140

Project Name: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 08/19/16 09:21
Analyst: JM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 02 Batch: WG924251-3					
C5-C8 Aliphatics	ND		ug/l	50.0	--
C9-C12 Aliphatics	ND		ug/l	50.0	--
C9-C10 Aromatics	ND		ug/l	50.0	--
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	101		70-130
2,5-Dibromotoluene-FID	113		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: KENMORE SQ. NORTH
Project Number: 6216.9.01

Lab Number: L1625933
Report Date: 08/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG924096-2 WG924096-3								
C9-C18 Aliphatics	76		78		40-140	3		25
C19-C36 Aliphatics	93		91		40-140	2		25
C11-C22 Aromatics	80		84		40-140	5		25
Naphthalene	69		70		40-140	1		25
2-Methylnaphthalene	70		71		40-140	1		25
Acenaphthylene	74		74		40-140	0		25
Acenaphthene	75		75		40-140	0		25
Fluorene	74		73		40-140	1		25
Phenanthrene	78		77		40-140	1		25
Anthracene	78		76		40-140	3		25
Fluoranthene	83		80		40-140	4		25
Pyrene	87		85		40-140	2		25
Benzo(a)anthracene	80		77		40-140	4		25
Chrysene	85		81		40-140	5		25
Benzo(b)fluoranthene	86		80		40-140	7		25
Benzo(k)fluoranthene	86		81		40-140	6		25
Benzo(a)pyrene	78		75		40-140	4		25
Indeno(1,2,3-cd)Pyrene	81		76		40-140	6		25
Dibenzo(a,h)anthracene	83		78		40-140	6		25
Benzo(ghi)perylene	78		73		40-140	7		25
Nonane (C9)	56		59		30-140	5		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQ. NORTH

Project Number: 6216.9.01

Lab Number: L1625933

Report Date: 08/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG924096-2 WG924096-3								
Decane (C10)	66		67		40-140	2		25
Dodecane (C12)	72		72		40-140	0		25
Tetradecane (C14)	76		74		40-140	3		25
Hexadecane (C16)	80		78		40-140	3		25
Octadecane (C18)	86		84		40-140	2		25
Nonadecane (C19)	87		84		40-140	4		25
Eicosane (C20)	88		85		40-140	3		25
Docosane (C22)	88		86		40-140	2		25
Tetracosane (C24)	88		86		40-140	2		25
Hexacosane (C26)	88		86		40-140	2		25
Octacosane (C28)	88		85		40-140	3		25
Triacontane (C30)	87		84		40-140	4		25
Hexatriacontane (C36)	86		83		40-140	4		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	87		93		40-140
o-Terphenyl	81		81		40-140
2-Fluorobiphenyl	75		78		40-140
2-Bromonaphthalene	79		81		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: KENMORE SQ. NORTH
Project Number: 6216.9.01

Lab Number: L1625933
Report Date: 08/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 02 Batch: WG924251-1 WG924251-2								
C5-C8 Aliphatics	87		84		70-130	3		25
C9-C12 Aliphatics	88		84		70-130	5		25
C9-C10 Aromatics	91		90		70-130	1		25
Benzene	87		85		70-130	2		25
Toluene	89		88		70-130	2		25
Ethylbenzene	90		88		70-130	1		25
p/m-Xylene	91		89		70-130	2		25
o-Xylene	89		88		70-130	1		25
Methyl tert butyl ether	85		85		70-130	0		25
Naphthalene	88		90		70-130	2		25
1,2,4-Trimethylbenzene	91		90		70-130	1		25
Pentane	82		80		70-130	2		25
2-Methylpentane	87		85		70-130	3		25
2,2,4-Trimethylpentane	90		88		70-130	3		25
n-Nonane	92		88		30-130	5		25
n-Decane	90		86		70-130	4		25
n-Butylcyclohexane	93		89		70-130	4		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQ. NORTH

Project Number: 6216.9.01

Lab Number: L1625933

Report Date: 08/22/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 02 Batch: WG924251-1 WG924251-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	91		91		70-130
2,5-Dibromotoluene-FID	100		100		70-130

Project Name: KENMORE SQ. NORTH
Project Number: 6216.9.01

Lab Number: L1625933
Report Date: 08/22/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1625933-01A	Amber 1000ml HCl preserved	A	<2	3.5	Y	Absent	EPH-DELUX-10(14)
L1625933-01B	Amber 1000ml HCl preserved	A	<2	3.5	Y	Absent	EPH-DELUX-10(14)
L1625933-02A	Vial HCl preserved	A	N/A	3.5	Y	Absent	MCP-8260-10(14)
L1625933-02B	Vial HCl preserved	A	N/A	3.5	Y	Absent	MCP-8260-10(14)
L1625933-02C	Vial HCl preserved	A	N/A	3.5	Y	Absent	VPH-10(14)
L1625933-02D	Vial HCl preserved	A	N/A	3.5	Y	Absent	VPH-10(14)
L1625933-02E	Amber 1000ml HCl preserved	A	<2	3.5	Y	Absent	EPH-DELUX-10(14)
L1625933-02F	Amber 1000ml HCl preserved	A	<2	3.5	Y	Absent	EPH-DELUX-10(14)

*Values in parentheses indicate holding time in days

Project Name:	KENMORE SQ. NORTH	**Lab Number:**	L1625933
Project Number:	6216.9.01	**Report Date:**	08/22/16

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

Data Qualifiers

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

Report Format: Data Usability Report

Project Name:	KENMORE SQ. NORTH	**Lab Number:**	L1625933
Project Number:	6216.9.01	**Report Date:**	08/22/16

Data Qualifiers

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

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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

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

Report Format: Data Usability Report

Project Name: KENMORE SQ. NORTH **Lab Number:** L1625933

Project Number: 6216.9.01 **Report Date:** 08/22/16

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.

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.

100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, 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, SM9222D-MF**.

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

Date Rec'd in Lab: 8/18/16

ALPHA Job #: L1625933

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

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

Project Information

Project Name: 6276.9.01

Project Location: Boston, MA.

Project #: Kenmore Sq. North

Project Manager: WSB

ALPHA Quote #:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Client Information

Client: McPhail Assoc.

Address: 2269 Mass Ave
Cambridge Ma.

Phone: (617) 868-1420

Email:

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

METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13

EPH: ☒ Ranges & Targets ☐ Ranges Only

VPH: ☐ Ranges & Targets ☒ Ranges Only

☐ PCB ☐ PEST

TPH: ☐ Quant Only ☐ Fingerprint

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	VOC	SVOC	METALS	METALS	EPH	VPH	PCB	TPH	Sample Comments	TOTAL # BOTTLES
25933.01	B-1A (ow)	8/18/16	2:00	MW	MG					X					2
.02	B-8 (ow)	8/18/16	3:00	MW	MG	X				X	X				6
Container Type						V				A	V				
Preservative						B				B/A	B				

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
	8/18/16 3:00	AAL	8/18/16 16:32
AAL	8/18/16 18:08		8/18/16 1805

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

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

Method Blank Summary
Form 4

Client	: McPhail Associates	**Lab Number**	: L1625933
Project Name	: KENMORE SQ. NORTH	**Project Number**	: 6216.9.01
Lab Sample ID	: WG924600-5	**Lab File ID**	: VJ160819A13
Instrument ID	: JACK		
Matrix	: WATER	**Analysis Date**	: 08/19/16 20:19

Client Sample No.	Lab Sample ID	Analysis Date
WG924600-3LCS	WG924600-3	08/19/16 18:39
WG924600-4LCSD	WG924600-4	08/19/16 19:12
B-8 (OW)	L1625933-02	08/20/16 00:48

Continuing Calibration
Form 7

Client	: McPhail Associates	**Lab Number**	: L1625933	
Project Name	: KENMORE SQ. NORTH	**Project Number**	: 6216.9.01	
Instrument ID	: JACK	**Calibration Date**	: 08/19/16 18:39	
Lab File ID	: VJ160819A07	**Init. Calib. Date(s)**	: 08/09/16	08/09/16
Sample No	: WG924600-2	**Init. Calib. Times**	: 07:56	14:04
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	94	0
Dichlorodifluoromethane	0.243	0.198	-	18.5	20	71	.02
Chloromethane	0.419	0.355	-	15.3	20	76	-.03
Vinyl chloride	0.389	0.386	-	0.8	20	92	0
Bromomethane	10	11.363	-	-13.6	20	100	0
Chloroethane	0.207	0.22	-	-6.3	20	91	.02
Trichlorofluoromethane	0.338	0.354	-	-4.7	20	87	.02
Ethyl ether	0.125	0.123	-	1.6	20	89	0
1,1-Dichloroethene	0.251	0.255	-	-1.6	20	93	0
Carbon disulfide	0.913	0.82	-	10.2	20	85	.02
Freon-113	0.22	0.235	-	-6.8	20	90	.01
Iodomethane	10	7.072	-	29.3*	20	66	0
Acrolein	0.024	0.026*	-	-8.3	20	91	0
Methylene chloride	0.294	0.289	-	1.7	20	99	.01
Acetone	10	9.091	-	9.1	20	97	.02
trans-1,2-Dichloroethene	0.278	0.285	-	-2.5	20	91	.02
Methyl acetate	10	11.081	-	-10.8	20	95	0
Methyl tert-butyl ether	0.524	0.554	-	-5.7	20	94	.01
tert-Butyl alcohol	50	45.625	-	8.8	20	93	.01
Diisopropyl ether	0.883	0.875	-	0.9	20	89	0
1,1-Dichloroethane	0.529	0.554	-	-4.7	20	93	0
Halothane	0.181	0.191	-	-5.5	20	91	.01
Acrylonitrile	0.064	0.065	-	-1.6	20	94	.02
Ethyl tert-butyl ether	0.702	0.732	-	-4.3	20	94	.02
Vinyl acetate	0.422	0.449	-	-6.4	20	94	.01
cis-1,2-Dichloroethene	0.301	0.319	-	-6	20	93	.02
2,2-Dichloropropane	0.372	0.406	-	-9.1	20	91	0
Bromochloromethane	0.117	0.124	-	-6	20	94	.01
Cyclohexane	0.556	0.555	-	0.2	20	89	.01
Chloroform	0.456	0.488	-	-7	20	95	.01
Ethyl acetate	0.148	0.154	-	-4.1	20	94	.01
Carbon tetrachloride	0.311	0.302	-	2.9	20	88	0
Tetrahydrofuran	0.052	0.054	-	-3.8	20	98	.01
Dibromofluoromethane	0.167	0.172	-	-3	20	96	.01
1,1,1-Trichloroethane	0.396	0.387	-	2.3	20	87	.02
2-Butanone	10	10.204	-	-2	20	97	.02
1,1-Dichloropropene	0.393	0.384	-	2.3	20	88	0
Benzene	1.303	1.261	-	3.2	20	90	0
tert-Amyl methyl ether	0.597	0.614	-	-2.8	20	94	.01
1,2-Dichloroethane-d4	0.172	0.162	-	5.8	20	91	.01
1,2-Dichloroethane	0.273	0.28	-	-2.6	20	92	0
Methyl cyclohexane	0.52	0.503	-	3.3	20	87	0
Trichloroethene	0.302	0.297	-	1.7	20	90	0
Dibromomethane	10	9.703	-	3	20	93	0
1,2-Dichloropropane	0.302	0.307	-	-1.7	20	94	.01

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: McPhail Associates	**Lab Number**	: L1625933	
Project Name	: KENMORE SQ. NORTH	**Project Number**	: 6216.9.01	
Instrument ID	: JACK	**Calibration Date**	: 08/19/16 18:39	
Lab File ID	: VJ160819A07	**Init. Calib. Date(s)**	: 08/09/16	08/09/16
Sample No	: WG924600-2	**Init. Calib. Times**	: 07:56	14:04
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
2-Chloroethyl vinyl ether	0.135	0.131	-	3	20	96	0
Bromodichloromethane	0.327	0.322	-	1.5	20	94	0
1,4-Dioxane	0.0022	0.00226*	-	-2.7	20	105	0
cis-1,3-Dichloropropene	0.448	0.422	-	5.8	20	92	0
Chlorobenzene-d5	1	1	-	0	20	97	0
Toluene-d8	0.934	0.959	-	-2.7	20	96	0
Toluene	0.925	0.944	-	-2.1	20	90	0
4-Methyl-2-pentanone	10	9.963	-	0.4	20	96	0
Tetrachloroethene	0.406	0.413	-	-1.7	20	92	0
trans-1,3-Dichloropropene	0.387	0.382	-	1.3	20	92	0
Ethyl methacrylate	0.297	0.286	-	3.7	20	92	0
1,1,2-Trichloroethane	0.191	0.198	-	-3.7	20	94	.01
Chlorodibromomethane	10	9.012	-	9.9	20	90	0
1,3-Dichloropropane	0.417	0.413	-	1	20	93	0
1,2-Dibromoethane	0.22	0.227	-	-3.2	20	95	0
2-Hexanone	0.122	0.122	-	0	20	98	0
Chlorobenzene	1.086	1.068	-	1.7	20	92	0
Ethylbenzene	2.047	1.955	-	4.5	20	92	0
1,1,1,2-Tetrachloroethane	0.34	0.322	-	5.3	20	94	0
p/m Xylene	0.806	0.801	-	0.6	20	94	0
o Xylene	0.812	0.798	-	1.7	20	92	0
Styrene	1.378	1.385	-	-0.5	20	93	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	103	0
Bromoform	0.268	0.236	-	11.9	20	91	0
Isopropylbenzene	3.287	3.06	-	6.9	20	95	0
4-Bromofluorobenzene	0.669	0.637	-	4.8	20	99	0
Bromobenzene	0.754	0.722	-	4.2	20	98	0
n-Propylbenzene	4.054	3.84	-	5.3	20	95	0
1,4-Dichlorobutane	0.788	0.704	-	10.7	20	93	0
1,1,2,2-Tetrachloroethane	0.482	0.486	-	-0.8	20	95	0
4-Ethyltoluene	3.423	3.298	-	3.7	20	95	0
2-Chlorotoluene	2.633	2.526	-	4.1	20	96	0
1,3,5-Trimethylbenzene	2.844	2.722	-	4.3	20	97	0
1,2,3-Trichloropropane	0.394	0.36	-	8.6	20	90	0
trans-1,4-Dichloro-2-buten	0.211	0.126	-	40.3*	20	63	0
4-Chlorotoluene	2.45	2.29	-	6.5	20	96	0
tert-Butylbenzene	2.459	2.339	-	4.9	20	99	-.01
1,2,4-Trimethylbenzene	2.833	2.781	-	1.8	20	100	0
sec-Butylbenzene	3.604	3.531	-	2	20	100	-.01
p-Isopropyltoluene	2.943	2.929	-	0.5	20	100	0
1,3-Dichlorobenzene	1.584	1.563	-	1.3	20	100	0
1,4-Dichlorobenzene	1.553	1.524	-	1.9	20	100	-.01
p-Diethylbenzene	1.742	1.731	-	0.6	20	101	-.01
n-Butylbenzene	2.557	2.962	-	-15.8	20	125	0
1,2-Dichlorobenzene	1.421	1.394	-	1.9	20	101	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: McPhail Associates	**Lab Number**	: L1625933	
Project Name	: KENMORE SQ. NORTH	**Project Number**	: 6216.9.01	
Instrument ID	: JACK	**Calibration Date**	: 08/19/16 18:39	
Lab File ID	: VJ160819A07	**Init. Calib. Date(s)**	: 08/09/16	08/09/16
Sample No	: WG924600-2	**Init. Calib. Times**	: 07:56	14:04
Channel	:			

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2,4,5-Tetramethylbenzene	2.359	2.491	-	-5.6	20	99	0
1,2-Dibromo-3-chloropropan	0.073	0.065	-	11	20	97	0
1,3,5-Trichlorobenzene	1.015	1.06	-	-4.4	20	98	-.01
Hexachlorobutadiene	0.348	0.37	-	-6.3	20	102	0
1,2,4-Trichlorobenzene	0.821	0.837	-	-1.9	20	97	0
Naphthalene	1.571	1.599	-	-1.8	20	96	0
1,2,3-Trichlorobenzene	0.677	0.693	-	-2.4	20	97	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L1626224
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	KENMORE SQUARE NORTH
Project Number:	6216.9.9
Report Date:	08/23/16

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.9

Lab Number: L1626224
Report Date: 08/23/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1626224-01	B-2 (OW)	WATER	BOSTON, MA	08/22/16 08:30	08/22/16
L1626224-02	B-3 (OW)	WATER	BOSTON, MA	08/22/16 10:00	08/22/16
L1626224-03	B-6 (OW)	WATER	BOSTON, MA	08/22/16 12:00	08/22/16

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1626224

Project Number: 6216.9.9 **Report Date:** 08/23/16

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).	YES
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?	YES
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:	KENMORE SQUARE NORTH	**Lab Number:**	L1626224
Project Number:	6216.9.9	**Report Date:**	08/23/16

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:	KENMORE SQUARE NORTH	**Lab Number:**	L1626224
Project Number:	6216.9.9	**Report Date:**	08/23/16

Case Narrative (continued)

MCP Related Narratives

EPH

In reference to question G:

L1626224-02 and -03: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question I:

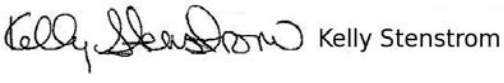
L1626224-01 was analyzed for a subset of MCP analytes per the Chain of Custody.

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:  Kelly Stenstrom

Title: Technical Director/Representative Date: 08/23/16

ORGANICS

PETROLEUM HYDROCARBONS

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1626224

Project Number: 6216.9.9 **Report Date:** 08/23/16

SAMPLE RESULTS

Lab ID:	L1626224-01	Date Collected:	08/22/16 08:30
Client ID:	B-2 (OW)	Date Received:	08/22/16
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	08/22/16 19:42
Analytical Date:	08/23/16 15:00	Cleanup Method1:	EPH-04-1
Analyst:	DV	Cleanup Date1:	08/23/16

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	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	97		40-140
o-Terphenyl	89		40-140
2-Fluorobiphenyl	75		40-140
2-Bromonaphthalene	69		40-140

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1626224

Project Number: 6216.9.9 **Report Date:** 08/23/16

SAMPLE RESULTS

Lab ID:	L1626224-02	Date Collected:	08/22/16 10:00
Client ID:	B-3 (OW)	Date Received:	08/22/16
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	08/23/16 11:03		
Analyst:	JM		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		ug/l	50.0	--	1
C9-C12 Aliphatics	76.8		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	76.8		ug/l	50.0	--	1
Benzene	ND		ug/l	2.00	--	1
Toluene	ND		ug/l	2.00	--	1
Ethylbenzene	ND		ug/l	2.00	--	1
p/m-Xylene	ND		ug/l	2.00	--	1
o-Xylene	ND		ug/l	2.00	--	1
Methyl tert butyl ether	ND		ug/l	3.00	--	1
Naphthalene	6.02		ug/l	4.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	103		70-130
2,5-Dibromotoluene-FID	112		70-130

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1626224

Project Number: 6216.9.9 **Report Date:** 08/23/16

SAMPLE RESULTS

Lab ID:	L1626224-02	Date Collected:	08/22/16 10:00
Client ID:	B-3 (OW)	Date Received:	08/22/16
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	08/22/16 19:38
Analytical Date:	08/23/16 15:32	Cleanup Method1:	EPH-04-1
Analyst:	DV	Cleanup Date1:	08/23/16

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	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	10.0	--	1
2-Methylnaphthalene	ND		ug/l	10.0	--	1
Acenaphthylene	ND		ug/l	10.0	--	1
Acenaphthene	ND		ug/l	10.0	--	1
Fluorene	ND		ug/l	10.0	--	1
Phenanthrene	ND		ug/l	10.0	--	1
Anthracene	ND		ug/l	10.0	--	1
Fluoranthene	ND		ug/l	10.0	--	1
Pyrene	ND		ug/l	10.0	--	1
Benzo(a)anthracene	ND		ug/l	10.0	--	1
Chrysene	ND		ug/l	10.0	--	1
Benzo(b)fluoranthene	ND		ug/l	10.0	--	1
Benzo(k)fluoranthene	ND		ug/l	10.0	--	1
Benzo(a)pyrene	ND		ug/l	10.0	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	--	1
Dibenzo(a,h)anthracene	ND		ug/l	10.0	--	1
Benzo(ghi)perylene	ND		ug/l	10.0	--	1

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1626224

Project Number: 6216.9.9 **Report Date:** 08/23/16

SAMPLE RESULTS

Lab ID:	L1626224-02	Date Collected:	08/22/16 10:00
Client ID:	B-3 (OW)	Date Received:	08/22/16
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	90		40-140
o-Terphenyl	61		40-140
2-Fluorobiphenyl	52		40-140
2-Bromonaphthalene	53		40-140

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1626224

Project Number: 6216.9.9 **Report Date:** 08/23/16

SAMPLE RESULTS

Lab ID:	L1626224-03	Date Collected:	08/22/16 12:00
Client ID:	B-6 (OW)	Date Received:	08/22/16
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	08/22/16 19:38
Analytical Date:	08/23/16 16:04	Cleanup Method1:	EPH-04-1
Analyst:	DV	Cleanup Date1:	08/23/16

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	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	10.0	--	1
2-Methylnaphthalene	ND		ug/l	10.0	--	1
Acenaphthylene	ND		ug/l	10.0	--	1
Acenaphthene	ND		ug/l	10.0	--	1
Fluorene	ND		ug/l	10.0	--	1
Phenanthrene	ND		ug/l	10.0	--	1
Anthracene	ND		ug/l	10.0	--	1
Fluoranthene	ND		ug/l	10.0	--	1
Pyrene	ND		ug/l	10.0	--	1
Benzo(a)anthracene	ND		ug/l	10.0	--	1
Chrysene	ND		ug/l	10.0	--	1
Benzo(b)fluoranthene	ND		ug/l	10.0	--	1
Benzo(k)fluoranthene	ND		ug/l	10.0	--	1
Benzo(a)pyrene	ND		ug/l	10.0	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	--	1
Dibenzo(a,h)anthracene	ND		ug/l	10.0	--	1
Benzo(ghi)perylene	ND		ug/l	10.0	--	1

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1626224

Project Number: 6216.9.9 **Report Date:** 08/23/16

SAMPLE RESULTS

Lab ID:	L1626224-03	Date Collected:	08/22/16 12:00
Client ID:	B-6 (OW)	Date Received:	08/22/16
Sample Location:	BOSTON, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	75		40-140
o-Terphenyl	71		40-140
2-Fluorobiphenyl	57		40-140
2-Bromonaphthalene	59		40-140

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.9

Lab Number: L1626224
Report Date: 08/23/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 08/23/16 13:25
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 08/22/16 19:38
Cleanup Method: EPH-04-1
Cleanup Date: 08/23/16

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 02-03 Batch: WG924901-1					
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	--
Naphthalene	ND		ug/l	10.0	--
2-Methylnaphthalene	ND		ug/l	10.0	--
Acenaphthylene	ND		ug/l	10.0	--
Acenaphthene	ND		ug/l	10.0	--
Fluorene	ND		ug/l	10.0	--
Phenanthrene	ND		ug/l	10.0	--
Anthracene	ND		ug/l	10.0	--
Fluoranthene	ND		ug/l	10.0	--
Pyrene	ND		ug/l	10.0	--
Benzo(a)anthracene	ND		ug/l	10.0	--
Chrysene	ND		ug/l	10.0	--
Benzo(b)fluoranthene	ND		ug/l	10.0	--
Benzo(k)fluoranthene	ND		ug/l	10.0	--
Benzo(a)pyrene	ND		ug/l	10.0	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	--
Dibenzo(a,h)anthracene	ND		ug/l	10.0	--
Benzo(ghi)perylene	ND		ug/l	10.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	95		40-140
o-Terphenyl	69		40-140
2-Fluorobiphenyl	52		40-140
2-Bromonaphthalene	55		40-140

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.9
Lab Number: L1626224
Report Date: 08/23/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 08/23/16 13:25
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 08/22/16 19:42
Cleanup Method: EPH-04-1
Cleanup Date: 08/23/16

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG924902-1					
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	95		40-140
o-Terphenyl	69		40-140
2-Fluorobiphenyl	52		40-140
2-Bromonaphthalene	55		40-140

Project Name: KENMORE SQUARE NORTH **Lab Number:** L1626224

Project Number: 6216.9.9 **Report Date:** 08/23/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 08/23/16 09:10
Analyst: JM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 02 Batch: WG925157-3					
C5-C8 Aliphatics	ND		ug/l	50.0	--
C9-C12 Aliphatics	ND		ug/l	50.0	--
C9-C10 Aromatics	ND		ug/l	50.0	--
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--
Benzene	ND		ug/l	2.00	--
Toluene	ND		ug/l	2.00	--
Ethylbenzene	ND		ug/l	2.00	--
p/m-Xylene	ND		ug/l	2.00	--
o-Xylene	ND		ug/l	2.00	--
Methyl tert butyl ether	ND		ug/l	3.00	--
Naphthalene	ND		ug/l	4.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	97		70-130
2,5-Dibromotoluene-FID	102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.9

Lab Number: L1626224
Report Date: 08/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 02-03 Batch: WG924901-2 WG924901-3								
C9-C18 Aliphatics	85		82		40-140	4		25
C19-C36 Aliphatics	95		94		40-140	1		25
C11-C22 Aromatics	70		80		40-140	13		25
Naphthalene	60		68		40-140	13		25
2-Methylnaphthalene	59		67		40-140	13		25
Acenaphthylene	60		69		40-140	14		25
Acenaphthene	63		72		40-140	13		25
Fluorene	64		73		40-140	13		25
Phenanthrene	66		75		40-140	13		25
Anthracene	66		74		40-140	11		25
Fluoranthene	70		80		40-140	13		25
Pyrene	72		82		40-140	13		25
Benzo(a)anthracene	67		77		40-140	14		25
Chrysene	73		83		40-140	13		25
Benzo(b)fluoranthene	71		81		40-140	13		25
Benzo(k)fluoranthene	73		81		40-140	10		25
Benzo(a)pyrene	64		74		40-140	14		25
Indeno(1,2,3-cd)Pyrene	66		78		40-140	17		25
Dibenzo(a,h)anthracene	69		80		40-140	15		25
Benzo(ghi)perylene	65		77		40-140	17		25
Nonane (C9)	67		65		30-140	3		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.9

Lab Number: L1626224
Report Date: 08/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 02-03 Batch: WG924901-2 WG924901-3								
Decane (C10)	76		74		40-140	3		25
Dodecane (C12)	82		79		40-140	4		25
Tetradecane (C14)	86		82		40-140	5		25
Hexadecane (C16)	88		84		40-140	5		25
Octadecane (C18)	91		88		40-140	3		25
Nonadecane (C19)	92		89		40-140	3		25
Eicosane (C20)	92		90		40-140	2		25
Docosane (C22)	93		91		40-140	2		25
Tetracosane (C24)	92		91		40-140	1		25
Hexacosane (C26)	92		91		40-140	1		25
Octacosane (C28)	92		91		40-140	1		25
Triacontane (C30)	91		89		40-140	2		25
Hexatriacontane (C36)	87		89		40-140	2		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	101		97		40-140
o-Terphenyl	74		83		40-140
2-Fluorobiphenyl	66		74		40-140
2-Bromonaphthalene	66		75		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.9

Lab Number: L1626224
Report Date: 08/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG924902-2 WG924902-3								
C9-C18 Aliphatics	85		82		40-140	4		25
C19-C36 Aliphatics	95		94		40-140	1		25
C11-C22 Aromatics	70		80		40-140	13		25
Naphthalene	60		68		40-140	13		25
2-Methylnaphthalene	59		67		40-140	13		25
Acenaphthylene	60		69		40-140	14		25
Acenaphthene	63		72		40-140	13		25
Fluorene	64		73		40-140	13		25
Phenanthrene	66		75		40-140	13		25
Anthracene	66		74		40-140	11		25
Fluoranthene	70		80		40-140	13		25
Pyrene	72		82		40-140	13		25
Benzo(a)anthracene	67		77		40-140	14		25
Chrysene	73		83		40-140	13		25
Benzo(b)fluoranthene	71		81		40-140	13		25
Benzo(k)fluoranthene	73		81		40-140	10		25
Benzo(a)pyrene	64		74		40-140	14		25
Indeno(1,2,3-cd)Pyrene	66		78		40-140	17		25
Dibenzo(a,h)anthracene	69		80		40-140	15		25
Benzo(ghi)perylene	65		77		40-140	17		25
Nonane (C9)	67		65		30-140	3		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.9

Lab Number: L1626224
Report Date: 08/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG924902-2 WG924902-3								
Decane (C10)	76		74		40-140	3		25
Dodecane (C12)	82		79		40-140	4		25
Tetradecane (C14)	86		82		40-140	5		25
Hexadecane (C16)	88		84		40-140	5		25
Octadecane (C18)	91		88		40-140	3		25
Nonadecane (C19)	92		89		40-140	3		25
Eicosane (C20)	92		90		40-140	2		25
Docosane (C22)	93		91		40-140	2		25
Tetracosane (C24)	92		91		40-140	1		25
Hexacosane (C26)	92		91		40-140	1		25
Octacosane (C28)	92		91		40-140	1		25
Triacontane (C30)	91		89		40-140	2		25
Hexatriacontane (C36)	87		89		40-140	2		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	101		97		40-140
o-Terphenyl	74		83		40-140
2-Fluorobiphenyl	66		74		40-140
2-Bromonaphthalene	66		75		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQUARE NORTH

Project Number: 6216.9.9

Lab Number: L1626224

Report Date: 08/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 02 Batch: WG925157-1 WG925157-2								
C5-C8 Aliphatics	83		84		70-130	1		25
C9-C12 Aliphatics	90		88		70-130	2		25
C9-C10 Aromatics	88		89		70-130	1		25
Benzene	84		85		70-130	1		25
Toluene	87		87		70-130	0		25
Ethylbenzene	87		87		70-130	1		25
p/m-Xylene	88		89		70-130	1		25
o-Xylene	87		87		70-130	0		25
Methyl tert butyl ether	76		76		70-130	1		25
Naphthalene	79		81		70-130	2		25
1,2,4-Trimethylbenzene	88		89		70-130	1		25
Pentane	80		81		70-130	1		25
2-Methylpentane	85		85		70-130	1		25
2,2,4-Trimethylpentane	86		87		70-130	0		25
n-Nonane	93		91		30-130	2		25
n-Decane	92		90		70-130	2		25
n-Butylcyclohexane	94		92		70-130	2		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQUARE NORTH

Project Number: 6216.9.9

Lab Number: L1626224

Report Date: 08/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 02 Batch: WG925157-1 WG925157-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	85		84		70-130
2,5-Dibromotoluene-FID	90		89		70-130

METALS

Project Name: KENMORE SQUARE NORTH
Lab Number: L1626224
Project Number: 6216.9.9
Report Date: 08/23/16

SAMPLE RESULTS

Lab ID: L1626224-02
Client ID: B-3 (OW)
Sample Location: BOSTON, MA
Matrix: Water

Date Collected: 08/22/16 10:00
Date Received: 08/22/16
Field Prep: Not Specified

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	08/23/16 07:50	08/23/16 12:16	EPA 3005A	97,6010C	JH

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.9
Lab Number: L1626224
Report Date: 08/23/16

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): 02 Batch: WG925002-1										
Lead, Dissolved	ND		mg/l	0.010	--	1	08/23/16 07:50	08/23/16 11:34	97,6010C	JH

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: KENMORE SQUARE NORTH

Project Number: 6216.9.9

Lab Number: L1626224

Report Date: 08/23/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Dissolved Metals - Mansfield Lab Associated sample(s): 02 Batch: WG925002-2 WG925002-3								
Lead, Dissolved	106		104		80-120	2		20

Project Name: KENMORE SQUARE NORTH
Project Number: 6216.9.9

Lab Number: L1626224
Report Date: 08/23/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1626224-01A	Amber 1000ml HCl preserved	A	<2	3.8	Y	Absent	EPH-10(14)
L1626224-01B	Amber 1000ml HCl preserved	A	<2	3.8	Y	Absent	EPH-10(14)
L1626224-02A	Vial HCl preserved	A	N/A	3.8	Y	Absent	VPH-DELUX-10(14)
L1626224-02B	Vial HCl preserved	A	N/A	3.8	Y	Absent	VPH-DELUX-10(14)
L1626224-02D	Amber 1000ml HCl preserved	A	<2	3.8	Y	Absent	EPH-DELUX-10(14)
L1626224-02E	Amber 1000ml HCl preserved	A	<2	3.8	Y	Absent	EPH-DELUX-10(14)
L1626224-02F	Plastic 950ml unpreserved	A	7	3.8	Y	Absent	-
L1626224-02G	Amber 1000ml unpreserved	A	7	3.8	Y	Absent	HOLD-8270(7)
L1626224-02H	Amber 1000ml unpreserved	A	7	3.8	Y	Absent	HOLD-8270(7)
L1626224-02X	Plastic 120ml HNO3 preserved Fil	A	<2	3.8	Y	Absent	MCP-PB-6010S-10(180)
L1626224-03A	Amber 1000ml HCl preserved	A	<2	3.8	Y	Absent	EPH-DELUX-10(14)
L1626224-03B	Amber 1000ml HCl preserved	A	<2	3.8	Y	Absent	EPH-DELUX-10(14)
L1626224-03C	Amber 1000ml unpreserved	A	7	3.8	Y	Absent	HOLD-8270(7)
L1626224-03D	Amber 1000ml unpreserved	A	7	3.8	Y	Absent	HOLD-8270(7)

*Values in parentheses indicate holding time in days

Project Name:	KENMORE SQUARE NORTH	**Lab Number:**	L1626224
Project Number:	6216.9.9	**Report Date:**	08/23/16

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

Data Qualifiers

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

Report Format: Data Usability Report

Project Name:	KENMORE SQUARE NORTH	**Lab Number:**	L1626224
Project Number:	6216.9.9	**Report Date:**	08/23/16

Data Qualifiers

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

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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

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

Report Format: Data Usability Report

Project Name:	KENMORE SQUARE NORTH	**Lab Number:**	L1626224
Project Number:	6216.9.9	**Report Date:**	08/23/16

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.

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.

100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, 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, SM9222D-MF**.

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:08231618:15

CHAIN OF CUSTODY

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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: 8/22/16

ALPHA Job #: L1626224

Client Information

Client: McPhail Assoc.
Address: 2269 Mass. Ave. Cambridge, MA
Phone: 617-868-1420
Email: WJB@mcphailgeo.com

Project Information

Project Name: 6216.9.9
Project Location: Boston, MA.
Project #: Kenmore Sqr. North
Project Manager: WJB
ALPHA Quote #:

Turn-Around Time

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

Date Due: 08-23-16

Additional Project Information:

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; Dissolved Lead; Ranges only. Stnd.

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	EPH	VPH	Dissolved Lead	Sample Comments	Total # Bottles
26224.01	B-2 (OW)	8/22/16	8:30	GW	TMC	X				2
.02	B-3 (OW)	↓	10:00	↓	↓	X	X	X		7
.03	B-6 (OW)	↓	12:00	↓	↓	X				4
	~~B-7 (OW)~~					~~X~~				4

	EPH	VPH	Dissolved Lead
Container Type	A	V	P
Preservative	A	B	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
T. Comer	8/22/16 12:30	[signature] AAL	8/22/16 1320
[signature]	8/22/16 1800	[signature]	8/22/16 1800

APPENDIX G:

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 Commonwealth Building at the proposed Kenmore Square North project located at 533-541 Commonwealth Avenue in Boston, Massachusetts. This Best Management Practices Plan (BMPP) has been prepared as an Appendix to the RGP 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 common foundation, dewatering effluent is anticipated to be pumped from localized sumps and trenches within the excavation directly into a settling tank. The effluent will then flow through any necessary treatment systems and discharge through hoses or piping connected into the storm water drains located beneath Fullerton Street and the southern portion of the subject site. Based upon a review of the City of Boston stormwater drainage plan, the above referenced stormwater drain ultimately discharges into the Charles River. Dewatering effluent treatment will consist of bag filters and a sedimentation tank to remove suspended soil particulates prior to off-site discharge.

Discharge Monitoring and Compliance

Regular sampling and testing will be conducted at the influent to the system and the treated effluent as required by the RGP. This includes laboratory testing required within days 1 and 3 of initial discharge, weekly for the first month, and the monthly testing to be conducted through the end of the scheduled discharge.

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.

System Maintenance

A number of methods will be used to minimize the potential for violations during the term of this permit discharge. Scheduled regular maintenance of the treatment system will be conducted to verify proper operation. Regular maintenance will include checking the condition of the treatment system equipment such as the settling tanks, bag filters, ion exchange filter

system, hoses, pumps, and flow meters. Equipment will be monitored daily for potential issues or 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 nearest surface water body is the Charles River which is located approximately 625 feet to the southeast of the subject site. Dewatering effluent will be pumped into a settling tank. Water within the settling tank will pumped through bag filters fin series prior to discharge into the storm drains.

Management of Treatment System Materials

Dewatering effluent will be pumped directly to 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 filters will be disposed of as necessary.