NOTICE OF INTENT FOR DISCHARGE PURSUANT TO MASSACHUSETTS REMEDIATION GENERAL PERMIT MAG910000

SCAPE BOYLSTON

BOSTON, MASSACHUSETTS

APRIL 3, 2020

Prepared For:

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

On Behalf Of:

Suffolk Construction

PROJECT NO. 6546

2269 Massachusetts Avenue
Cambridge, MA 02140
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April 3, 2020

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

Attention: EPA/OEP RGP Applications Coordinator
Reference: SCAPE Boylston, 1252-1270 Boylston Street; Boston, Massachusetts
Notice of Intent for Temporary Construction Dewatering Discharge;
Massachusetts Remediation General Permit MAG910000

Ladies and Gentlemen:

Enclosed herein is our Notice of Intent for Temporary Construction Dewatering Discharge for the proposed SCAPE Boylston Project to be located at 1252-1270 Boylston Street in Boston, Massachusetts. These services were performed and this permit application was prepared with the authorization of our client, SCAPE Boylston, LLC.

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.

Very truly yours,

McPHAIL ASSOCIATES, LLC

Benjamin E. Downing, P.E.

William J. Burns, L.S.P.

N:\Working Documents\Reports\6546 RGP 040320.docx

BED/wjb

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

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1.0 - INTRODUCTION

1.1 - GENERAL

In accordance with the provisions of the Remediation General Permit MAG910000 that has been prepared for the Commonwealth of Massachusetts, the following is a summary of the site and groundwater quality information in support of a Notice of Intent for the temporary discharge of groundwater into the Charles River via the City of Boston municipal storm drain system. The temporary discharge of construction dewatering will occur as part of the work associated with the proposed SCAPE Boylston development to be located at 1252-1270 Boylston Street in Boston, Massachusetts (subject 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 our client, SCAPE Boylston, LLC. These services are subject to the limitations contained in **Appendix A**.

The required Notice of Intent Form contained in the RGP permit and Boston Water & Sewer Dewatering Discharge Permit Application are included in **Appendix B**. This project is considered Activity Category III-G as defined in the RGP. Based on the activity category, and in accordance with the RGP, contamination Type A: Inorganics, Type B: Non-Halogenated Volatile Organic Compounds (VOCs), Type D: Non-Halogenated Semi-Volatile Organic Compounds (SVOCs), and Type F: Fuel Parameters as defined in Table 2 of the RGP apply. Water Quality Based Effluent Limitations (WQBELs) were calculated in accordance with Appendix V of the RGP for the parameters detected.

1.2 – APPLICANT/OPEATOR

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

Suffolk Construction
65 Allerton Street
Boston, MA 02119

Attention: Ted Davenport, Senior Project Manager

Tel: 617-517-3529
Email: tdavenport@suffolk.com

1.3 – SITE OWNER

SCAPE Boylston, LLC
22 Boston Wharf Road, 7th Floor
Boston, MA 02210

Attention: David Hunt

Tel: 978-979-2065
Email: david.hunt@scape.com

2.0 – SITE AND PROJECT DESCRIPTION

2.1 – EXISTING SITE CONDITIONS

The 1252-1270 Boylston Street site occupies an approximate 33,585 square-foot plan area which fronts onto Boylston Street to the north and is bounded to the east by a Sunoco gas station located at 1250 Boylston Street, to the west by a residential building known as The Veridian located at 1282 Boylston Street, and to the south by Private Alley 937.

The site is occupied by two (2), 3-story concrete/masonry buildings which occupy the majority of the property. On the Boylston Street side, the buildings consist of 2 stories above-grade with 1 below-grade level. Existing ground surface on the east side of the site slopes downward from north to south such that the rear of the buildings consists of 3 stories above-grade. It is understood that the basements of the existing buildings extend out beneath the sidewalk along Boylston Street. There is paved parking space located along Public Alley 937 on the rear of the buildings.

Existing ground surface on the Boylston Street side of the property is at approximately Elevation +19.5 and ground surface on the private alley side of the property is at approximately Elevation +13.5. The limits of the subject site are shown on the enclosed **Figure 2**.

2.2 – PROPOSED DEVELOPMENT

It is understood that the proposed development includes the demolition of the existing buildings followed by the construction of a 2-level podium structure on the 1270 Boylston Street parcel which will be connected to a C-shaped 11- to 15-story residential tower with a mechanical penthouse on the 1252-1268 Boylston Street parcel. The above-grade construction will be concrete framed and will occupy an approximate 23,000 square-foot plan area.

One (1) to two (2) levels of below-grade space will extend below the proposed podium and tower structures and will occupy an approximate 23,500 square-foot rectangular plan area. The lowest level slab will be located at Elevation -4, which corresponds to depths of approximately 23.5 to 17.5 feet below ground surface.

2.3 – SITE ENVIRONMENTAL SETTING AND SURROUNDING HISTORICAL PLACES

Based on an on-line edition of the Massachusetts Geographic Information Systems MassDEP MCP Numerical Ranking System Map, the subject site is not located within the boundaries of a Sole Source Aquifer, Potentially Productive Aquifer or within a Zone II, Interim Wellhead Protection Area as defined by the Massachusetts Department of Environmental Protection. Further, there are no public drinking water supply wells, no Areas of Critical Environmental Concern, no fish habitats, no habitats of Species of Special Concern or Threatened or Endangered Species within specified distances of the subject site.

The Resource Map indicates that there are no water bodies or wetland areas at the subject site. The closest body of water is the Back Bay Fens located approximately 450 feet to the southeast of the subject site. No areas designated as solid waste sites (landfills) are noted as being located within 1,000 feet of the site. A copy of the Massachusetts DEP Phase I Site Assessment Map is included in **Appendix C**.

A review of information provided by the U.S. Fish and Wildlife Service in an Information for Planning and Conservation (IPaC) Trust Resource Report for the project site did not identify the presence of threatened or endangered species at or in the vicinity of the discharge location and/or discharge outfall. Further, the Trust Resource Report did not identify the presence of a critical habitat in the vicinity of the discharge outfall and/or discharge location. Based upon the above, the site is considered a Criterion A pursuant to Appendix IV of the RGP. A copy of the IPaC Trust Resource Report and U.S. Fish and Wildlife Service's Nationwide Standard Conservation Measures are included in **Appendix C**.

The subject site is not listed on the State or National Register of Historical Places. The nearest locations that are listed on the State Register of Historical Places are the Sumner Apartment Building located approximately 125 feet southwest of the site, the H.C. Birburie Town Houses located approximately 200 feet to the south of the site, and the Back Bay Fens Victory Garden located approximately 350 feet to the east of the site. Copies of the State of Massachusetts MACRIS reports are included in **Appendix C**.

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

2.4 – SITE AND RELEASE HISTORY

Based on the available records, the subject site was undeveloped prior to the late 1910s. The existing 1252-1268 Boylston Street building was constructed in 1923 and was utilized as an auto sales & service center until at least 1957. Various shops, restaurants, office spaces, and a bowling alley have also occupied the building since it was constructed.

The existing 1270 Boylston Street building was constructed in 1919 and has been utilized for catering and/or as a restaurant space since that time.

MCP Release History

In 2019, results of laboratory analyses identified Reportable Concentrations of petroleum compounds, VOCs, and SVOCs in soil and/or groundwater at the subject site. A Release Notification Form (RNF) was submitted to the DEP on behalf of the site owner on April 19, 2019 and Release Tracking Number (RTN) 3-35573 was assigned to the site.

With regards to soil, a Reportable Concentration of 2-methylnaphthalne was identified in fill material in an isolated area on the northern edge of the site. Reportable Concentrations of VOCs and petroleum compounds were identified in samples of the natural alluvial sand deposit obtained from the central and southwestern portions of the site.

The Reportable Concentrations of petroleum compounds in groundwater were identified in samples obtained from monitoring wells located within the southwestern corner of the site.

3.0 – CONSTRUCTION SITE DEWATERING AND TREATMENT

3.1 – SITE DEWATERING DETAILS

Groundwater was observed at the subject site ranging from about Elevation +6.3 to Elevation +8.2, which corresponds to depths ranging from approximately 6 to 13 feet below ground surface.

Excavations for the below-grade space will extend to approximately Elevation -8, which corresponds to depths ranging from 27.5 to 21.5 feet below ground surface. Below-grade construction of the proposed development will be conducted as a mass excavation within a continuously interlocking steel sheet pile perimeter which will create a temporary groundwater cut off during construction. It is anticipated that the rate of construction dewatering to facilitate excavation will be on the order of 100 gallons per minute (gpm). This estimate does not include surface run-off which will be removed from the excavation during periods of precipitation.

Given the extent of excavation, temporary on-site collection and recharge of groundwater is not feasible as part of the proposed construction activities. As a result, construction dewatering will require the discharge of collected groundwater into the municipal 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 Boylston Street and connects to the stormwater drain system. The stormwater drains beneath this portion of Boylston Street run west before shifting north beneath Jersey Street, northeast beneath Brookline Avenue, north beneath Deerfield Street, and then run under Storrow Drive and eventually discharge into the Charles River at SDO 042. The location of the relevant stormwater catch basin in relation to the subject site is indicated on **Figure 2**. The flow path of the discharge is shown in plans provided by the Boston Water and Sewer Commission which is included in **Figure 3**.

3.2 – SUMMARY OF GROUNDWATER ANALYSIS

In February 2020, McPhail Associates, LLC obtained one (1) sample of groundwater at the subject site from monitoring well MA-3 (OW). The groundwater sample was submitted to a certified laboratory for analysis for the presence of compounds required to be tested for under the EPA's Remediation General Permit (RGP) application, including total suspended solids (TSS), pH, total residual chlorine, cyanide, ammonia, total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs) including total benzene, toluene, ethylbenzene and xylenes (BTEX), semi-volatile organic compounds (SVOCs), and total recoverable metals. Analytical results of the testing of the above referenced groundwater sample that was obtained in February 2020 are summarized on the enclosed **Table 1**, and laboratory data is included in **Appendix D**. In addition, additional groundwater testing was performed at the subject site as part of a due diligence assessment in early 2019 and as part of MCP compliance efforts in March 2020, the results of which are included on the enclosed **Table 2** and laboratory data is included in **Appendix E**.

An upstream surface water sample was obtained from the Charles River (42° 21' 05" N, 71° 05' 57" W) in March 2020 and analyzed for the presence of pH, total metals, hardness and ammonia nitrogen. The approximate location of sample collection is indicated on the enclosed **Figure 3**, analytical test results are included on the enclosed **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 15.9 MGD thus resulting in a DF of 111.4 assuming a design flow rate of 100 GPM.

In summary, groundwater testing performed at the subject site has detected concentrations of iron, cyanide, total BTEX compounds, benzene, MTBE and Tert-Butyl Alcohol which exceed the applicable Water Quality Based Effluent Limitations contained in Table 2 of

Section 2.1 of the RGP. Additionally, the detected concentrations of Total BTEX, benzene MTBE and Tert-Butyl Alcohol exceed the applicable technology based effluent limitations contained in Table 2 of Section 2.1 of the RGP. The detected concentrations of the tested constituents detected in the on-site groundwater and surface water samples are further summarized in the MA Limits book tables that are included in **Appendix C**. It is anticipated that the construction dewatering treatment system that is discussed below, which includes granular activated carbon will reduce concentrations of BTEX, MTBE and Tert-Butyl Alcohol in the effluent to below the applicable TBELs.

In accordance with the RGP, and given that the subject site is a listed DEP release site, the proposed dewatering associated with this permit application is considered Contaminated/Formerly Contaminated Site Dewatering (Category III). Given that the site contamination is considered "Known", this project is considered Activity Category III-G as defined in the RGP. Based on the activity category, and in accordance with the RGP, contamination Type A: Inorganics, Type B: Non-Halogenated VOCs, and Type F: Fuel Parameters as defined in Table 2 of the RGP apply.

3.3 – GROUNDWATER TREATMENT

Based upon the anticipated rates of construction dewatering in conjunction with the results of the above referenced groundwater analyses, it is our opinion that a treatment system consisting of an approximately 20,000-gallon capacity settling tank, bag filters, granular activated carbon (GAC) filters in series is necessary to meet the effluent limitations of the RGP. These treatment components will be used to settle out particulate matter containing inorganic compounds and lower concentrations of dissolved petroleum related constituents in the effluent to meet the applicable discharge limits established by the US EPA prior to discharge. If the results of compliance monitoring indicate elevated concentrations of metals in the effluent an ion resin exchange filter may be added as additional component to the treatment system. In addition, if increased pH levels are detected in the effluent (such as during the placement of concrete for the foundation system) carbon dioxide gas for pH adjustment will be utilized, if necessary, as construction activities at the subject site transition from excavation to installation of concrete footings. If the addition of concrete requires a pH conditioner to meet permit effluent limitations or applicable water quality standards, a Notice of Change (NOC) will be filed on behalf of the operator with the specific laboratory data sheets and necessary information attached.

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.

4.0 – SUMMARY AND CONCLUSIONS

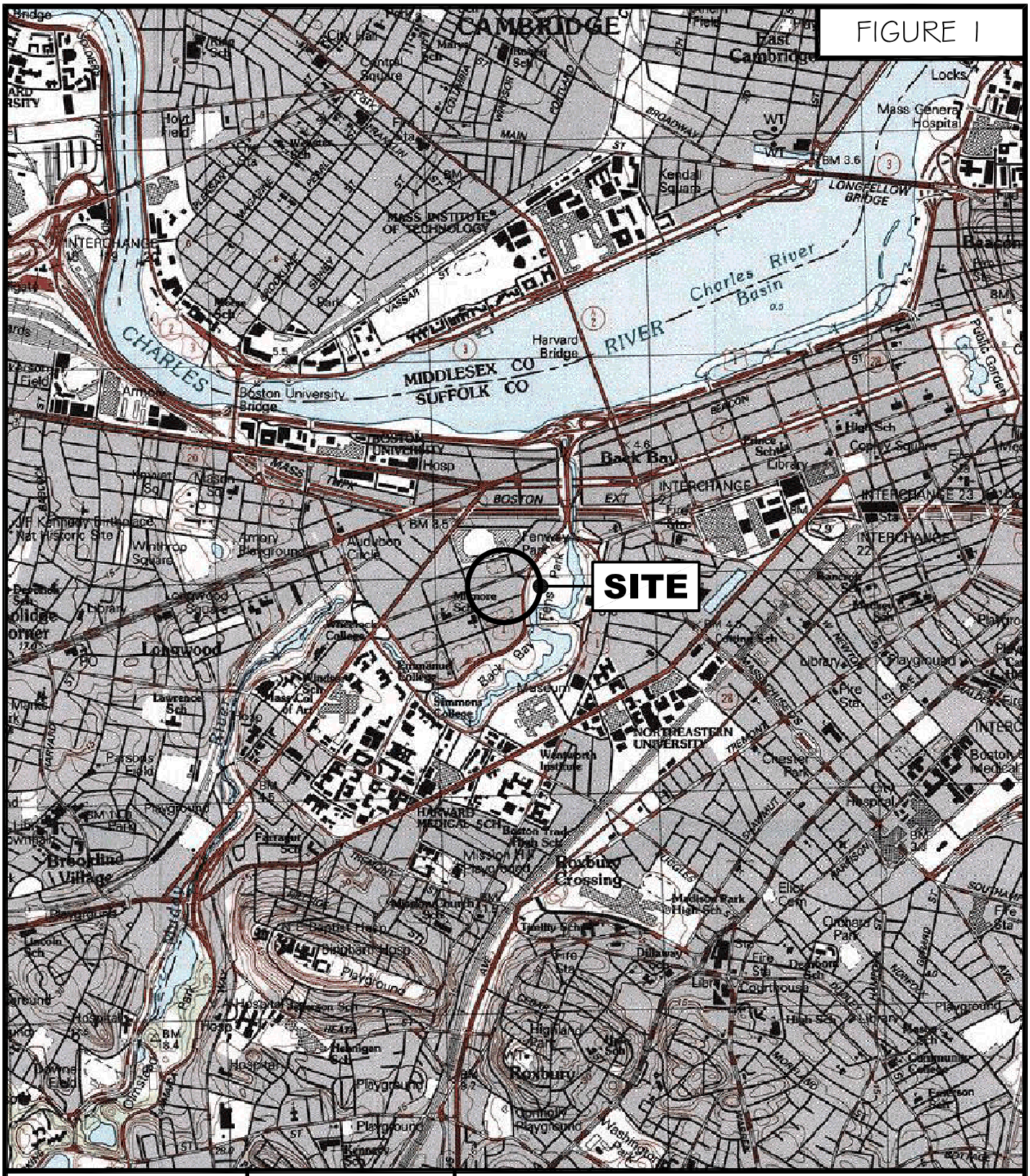
The purpose of this report is to summarize site environmental conditions and groundwater data to support a Notice of Intent to discharge under the Remediation General Permit, for

the off-site discharge of dewatered groundwater which will be encountered during the redevelopment of the subject site. The groundwater testing results reported in this application have been provided to the site owner.

Based on the results of the above referenced groundwater analyses, treatment of construction dewatering effluent will be necessary to meet the discharge limits for inorganic compounds and petroleum related constituents such as total BTEX, MTBE, and Tert-Butyl Alcohol established by the US EPA prior to off-site discharge. The proposed construction dewatering effluent treatment system will consist of a 20,000-gallon capacity settling tank, bag filters, granular activated carbon (GAC) filters and, if required, pH adjustment tank and ion resin media filters in series in order to meet the discharge limits established by the RGP. However, should the effluent monitoring results identify concentrations of contaminants that are in excess of the limits established by the RGP, additional mitigative measures will be implemented to meet the allowable discharge limits.

FIGURES

FIGURE 1



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N

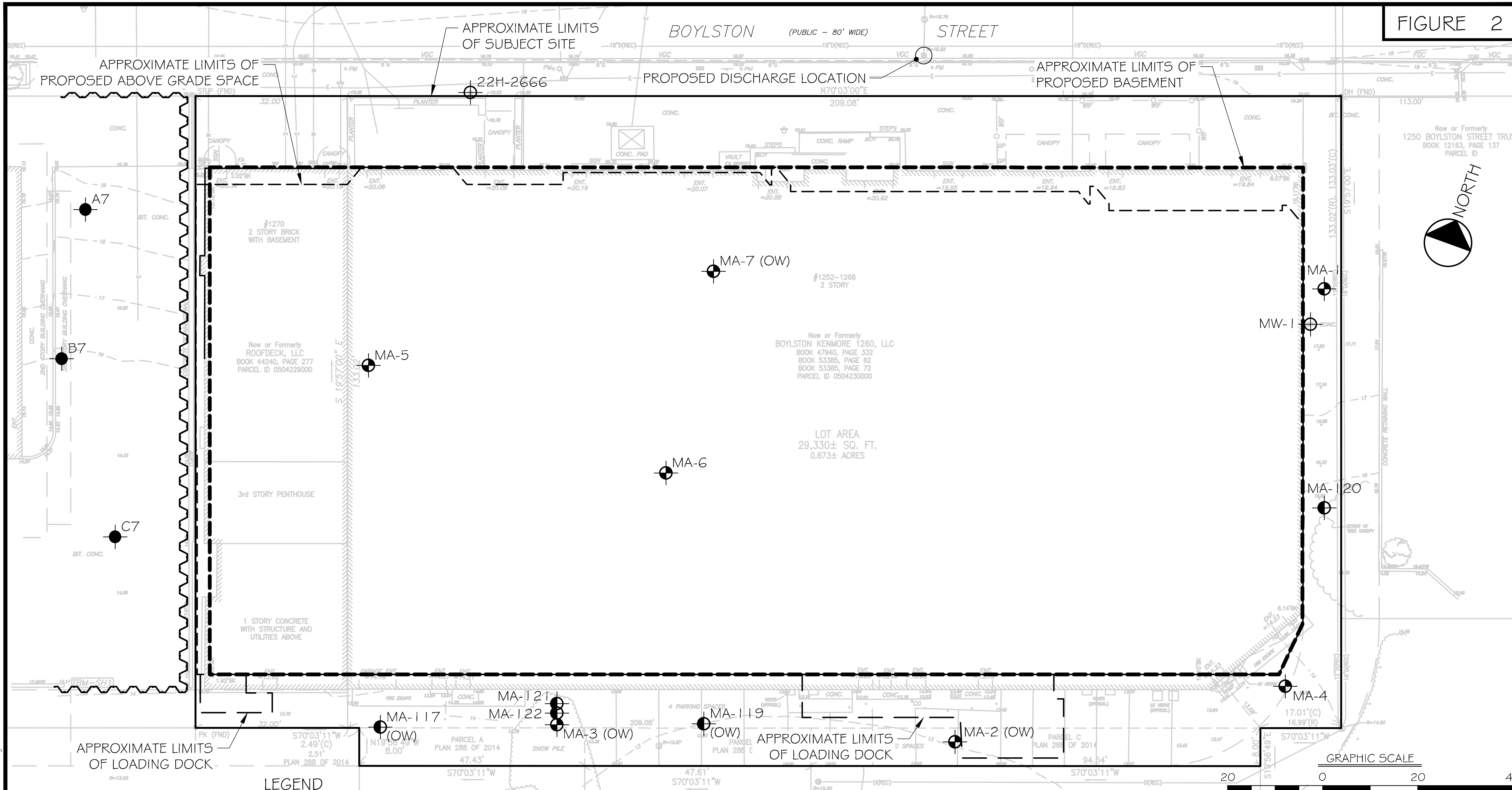
SCALE 1:25,000

PROJECT LOCATION PLAN

SCAPE BOYLSTON

BOSTON MASSACHUSETTS

FIGURE 2


BOYLSTON (PUBLIC – 80' WIDE) STREET
APPROXIMATE LIMITS OF SUBJECT SITE
APPROXIMATE LIMITS OF PROPOSED ABOVE GRADE SPACE
22H-2666
PROPOSED DISCHARGE LOCATION
APPROXIMATE LIMITS OF PROPOSED BASEMENT
N70°03'00"E
209.08'
NORTH
A7
B7
C7
MA-7 (OW)
MA-5
MA-6
MA-1
MW-1
MA-120
MA-4
MA-121
MA-122
MA-117 (OW)
MA-3 (OW)
MA-119 (OW)
MA-2 (OW)
#1270
2 STORY BRICK
WITH BASEMENT
#1252–1268
2 STORY
Now or Formerly
ROOFDECK, LLC
BOOK 44240, PAGE 277
PARCEL ID 0504229000
Now or Formerly
BOYLSTON KENMORE 1260, LLC
BOOK 47940, PAGE 332
BOOK 53385, PAGE 62
BOOK 53385, PAGE 72
PARCEL ID 0504230000
Now or Formerly
1250 BOYLSTON STREET TRUST
BOOK 12163, PAGE 137
PARCEL ID
LOT AREA
29,330± SQ. FT.
0.673± ACRES
3rd STORY PENTHOUSE
1 STORY CONCRETE
WITH STRUCTURE AND
UTILITIES ABOVE
S 19°57'00" E
133.02'(R) 133.03'(C)
S19°57'00"E
113.00'
APPROXIMATE LIMITS OF LOADING DOCK
APPROXIMATE LIMITS OF LOADING DOCK
S70°03'11"W
47.43'
47.61'
94.54'
PARCEL A
PLAN 288 OF 2014
PARCEL C
PLAN 288 OF 2014
GRAPHIC SCALE
20 0 20 40

LEGEND

- — APPROXIMATE LOCATION OF BORING PERFORMED BY TECHNICAL DRILLING SERVICES, INC. ON MARCH 2 AND 3, 2020 FOR McPHAIL ASSOCIATES, LLC
- — APPROXIMATE LOCATION OF BORING PERFORMED BY CARR-DEE CORP. DURING NOVEMBER 14 THROUGH 29, 2018 FOR McPHAIL ASSOCIATES, LLC
- — APPROXIMATE LOCATION OF BORING PERFORMED BY OTHERS
- — OBSERVATION WELL INSTALLED BY OTHERS
- (OW) — INDICATES OBSERVATION WELL INSTALLED WITHIN COMPLETED BOREHOLE

REFERENCE: THIS PLAN WAS PREPARED FROM A 10-SCALE DRAWING ENTITLED "EXISTING CONDITIONS PLAN" DATED MARCH 15, 2018 BY FELDMAN LAND SURVEYORS

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1252-1270 BOYLSTON STREET
BOSTON MASSACHUSETTS

SUBSURFACE EXPLORATION PLAN
FOR
SCAPE Boylston
BY
McPHAIL ASSOCIATES, LLC

Date: MARCH 2020	Dwn: M.B.S.	Chkd: B.E.D.	Scale: 1" = 20'
Project No: 6546			

FILE NAME: N:\Acad\JOBS\6546\FGP6546.E02.dwg

APPROXIMATE LOCATION OF SURFACE WATER SAMPLE

PROPOSED OUTFALL LOCATION

PROPOSED DISCHARGE LOCATION

APPROXIMATE LIMITS OF SUBJECT SITE

NORTH

REFERENCE: THIS PLAN WAS PREPARED FROM A 100-SCALE DRAWING PROVIDED BY THE BOSTON WATER AND SEWER COMMISSION ON APRIL 17, 2012

GRAPHIC SCALE

150 0 150 300 600

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1252-1270 BOYLSTON STREET

BOSTON MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PATH PLAN

FOR

SCAPE Boylston

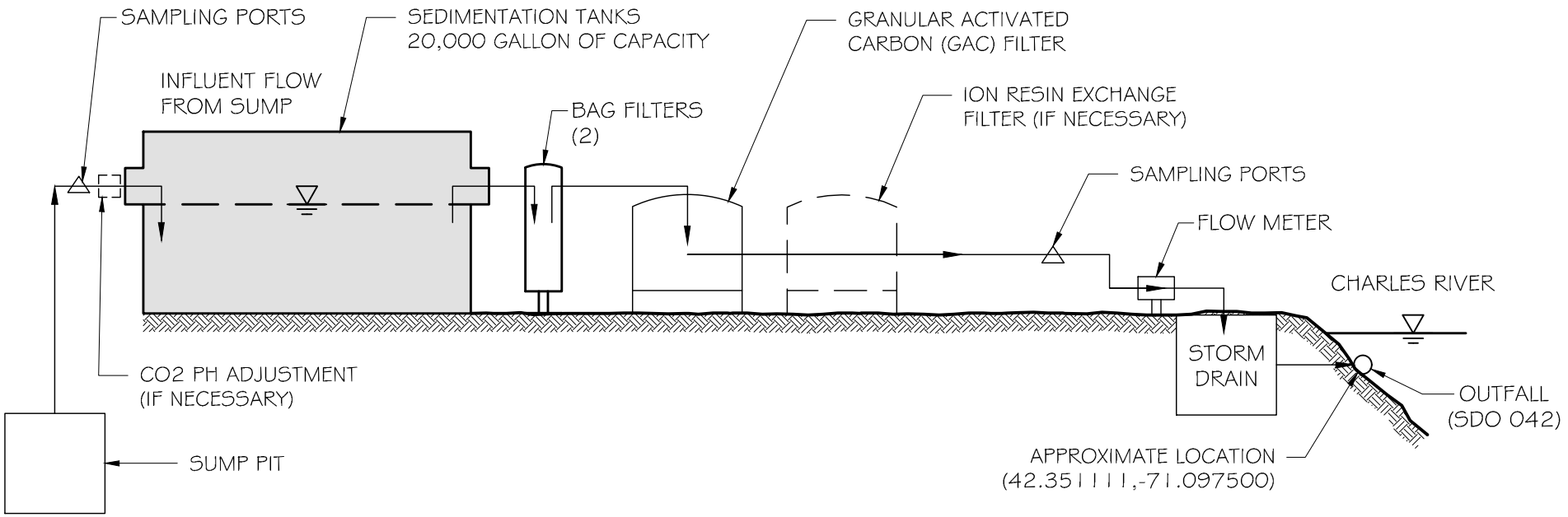
BY

McPHAIL ASSOCIATES, LLC

Date: APRIL 2020	Dwn: M.B.S.	Chkd: B.E.D.	Scale: 1" = 150'
Project No: 6546			FIGURE 3

FILE NAME: \\McPhail-fs2\McPhail\Acad\JOBS\6546\RGP\6546-E04.dwg

FIGURE 4



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1252-1270 BOYLSTON STREET
BOSTON MASSACHUSETTS

SCHEMATIC OF TREATMENT SYSTEM

FOR
SCAPE Boylston
BY
McPHAIL ASSOCIATES, LLC
CONSULTING GEOTECHNICAL ENGINEERS

Date: MARCH 2020	Dwn: M.B.S.	Chkd: B.E.D.	Scale: N.T.S.
Project No: 6546			

TABLES

Table 1
Laboratory Analytical Resuts - Groundwater

SCAPE Boylston
Boston, MA
Project No. 6289

LOCATION	Water Quality Based Effluent Limitation	Technology Based Effluent Limitation	MA-3 (OW)
SAMPLING DATE			2/14/2020
LAB SAMPLE ID			L2006971-01
SAMPLE TYPE			Groundwater
A. Inorganics (ug/l)			
Nitrogen, Ammonia	Reporting	Reporting	7040
Chloride	Reporting	Reporting	1210000
Chlorine, Total Residual	11	200	ND(20)
Solids, Total Suspended	3000	30000	17000
pH (H)	6.5-8.3	6.5-8.3	6.8
Hardness			375000
Antimony, Total	640	206	ND(4)
Arsenic, Total	10	104	ND(1)
Cadmium, Total	0.25	10.2	ND(0.2)
Chromium, Total			3.07
Chromium, Trivalent	74	323	ND(10)
Chromium, Hexavalent	11	323	ND(10)
Copper, Total	9	242	1.59
Iron, Total	1000	5000	**4820**
Lead, Total	2.5	160	ND(1)
Mercury, Total	0.77	0.739	ND(0.2)
Nickel, Total	52	1450	ND(2)
Selenium, Total	5	235.8	ND(5)
Silver, Total	3.2	35.1	ND(0.4)
Zinc, Total	120	420	ND(10)
Cyanide, Total	5.2	178	**13**
B. Non-Halogenated Volatile Organic Compounds (ug/l)			
Total BTEX	100	100	**141**
Benzene	5	5	**110**
Toluene			13
Ethylbenzene			8.6
p/m-Xylene			9.4
o-xylene			ND(2.5)
1,4-Dioxane	200	200	ND(250)
Acetone	7.97	7.97	ND(25)
Phenolics, Total	300	1080	ND(30)
D. Non-Halogenated Semi-Volatile Organic Compounds (ug/l)			
Bis(2-ethylhexyl)phthalate	Sum = 3	Sum = 190	ND(2.2)
Butyl benzyl phthalate			ND(5)
Di-n-butylphthalate			ND(5)
Di-n-octylphthalate			ND(5)
Diethyl phthalate			ND(5)
Dimethyl phthalate	2.2	101	ND(5)
Total Group I PAHs	*As Individual PAHs*	1	ND
Benzo(a)anthracene	0.0038	As Total Group I PAHs	ND(0.1)
Benzo(a)pyrene	0.0038		ND(0.1)
Benzo(b)fluoranthene	0.0038		ND(0.1)
Benzo(k)fluoranthene	0.0038		ND(0.1)
Chrysene	0.0038		ND(0.1)
Dibenzo(a,h)anthracene	0.0038		ND(0.1)
Indeno(1,2,3-cd)pyrene	0.0038		ND(0.1)
Total Group II PAHs	100	100	0.37
Acenaphthene	As Total Group II PAHs including Naphthalene	As Total Group II PAHs including Naphthalene	ND(0.1)
Acenaphthylene			ND(0.1)
Anthracene			ND(0.1)
Benzo(ghi)perylene			ND(0.1)
Fluoranthene			ND(0.1)
Fluorene			ND(0.1)
Phenanthrene			ND(0.1)
Naphthalene	20	20	0.37
Pyrene			ND(0.1)
F. Fuels Parameters (ug/l)			
TPH, SGT-HEM	5000	5000	ND(4000)
Ethanol	Reporting	Reporting	ND(20000)
Methyl tert butyl ether	20	70	**42**
Tert-Butyl Alcohol	120	120	**810**
Tertiary-Amyl Methyl Ether	90	90	ND(50)

ND - Not detected in excess of the laboratory reporting limit
(#) - Detection Limit
Bold - exceeds WQBEL Criteria

McPhail Associates, LLC

TABLE 2
LABORATORY ANALYTICAL RESULTS - ADDITIONAL GW TESTING

SCAPE Boston
Boston, Massachusetts
Project No. 6546

LOCATION	RCGW-2 Reporting Standards 2014	MW-1	MA-2 (OW)	MA-3 (OW)	MA-3 (OW)	MA-3 (OW)	MW-7 (OW)	MA-117 (OW)	MA-119 (OW)
SAMPLING DATE		**1/7/2019**	**2/4/2019**	**1/7/2019**	**3/29/2019**	**3/9/2020**	**1/7/2019**	**3/9/2020**	**3/9/2020**
LAB SAMPLE ID		**L1900731-01**	**L1904415-01**	**L1900731-02**	**L1912751-01**	**L2010509-01**	**L1900731-03**	**L2010509-02**	**L2010509-03**
SAMPLE TYPE		**Groundwater**	**Groundwater**	**Groundwater**	**Groundwater**	**WATER**	**Groundwater**	**WATER**	**WATER**
MCP Dissolved Metals (ug/l)									
Antimony, Dissolved	8000	-	-	ND(50)	-	-	-	-	-
Arsenic, Dissolved	900	-	-	ND(5)	-	-	-	-	-
Beryllium, Dissolved	200	-	-	ND(5)	-	-	-	-	-
Cadmium, Dissolved	4	-	-	ND(4)	-	-	-	-	-
Chromium, Dissolved	300	-	-	ND(10)	-	-	-	-	-
Copper, Dissolved	100000	-	-	ND(10)	-	-	-	-	-
Lead, Dissolved	10	-	-	ND(10)	-	-	-	-	-
Mercury, Dissolved	20	-	-	ND(0.2)	-	-	-	-	-
Nickel, Dissolved	200	-	-	ND(25)	-	-	-	-	-
Selenium, Dissolved	100	-	-	ND(10)	-	-	-	-	-
Silver, Dissolved	7	-	-	ND(7)	-	-	-	-	-
Thallium, Dissolved	3000	-	-	ND(20)	-	-	-	-	-
Zinc, Dissolved	900	-	-	ND(50)	-	-	-	-	-
MCP Volatile Organics* (ug/l)									
Chlorobenzene	200	ND(1)	ND(1)	ND(10)	-	-	18	-	-
Benzene	1000	ND(0.5)	6.4	100	-	-	ND(0.5)	-	-
Toluene	40000	ND(1)	1.2	11	-	-	ND(1)	-	-
Ethylbenzene	5000	ND(1)	ND(1)	12	-	-	ND(1)	-	-
Methyl tert butyl ether	5000	ND(2)	29	35	-	-	2.5	-	-
p/m-Xylene	3000	ND(2)	2.8	ND(20)	-	-	ND(2)	-	-
Xylenes, Total	3000	ND(1)	2.8	ND(10)	-	-	ND(1)	-	-
Isopropylbenzene	100000	ND(2)	7.6	38	-	-	ND(2)	-	-
n-Propylbenzene	10000	ND(2)	7.3	37	-	-	ND(2)	-	-
SUM		ND	56.6	233	-	-	20.5	-	-
Extractable Petroleum Hydrocarbons with Target Analytes (ug/l)									
C9-C18 Aliphatics	5000	ND(100)	-	ND(100)	-	ND(100)	ND(100)	ND(100)	131
C19-C36 Aliphatics	50000	ND(100)	-	ND(100)	-	ND(100)	ND(100)	ND(100)	ND(100)
C11-C22 Aromatics	5000	ND(100)	-	ND(100)	-	ND(100)	ND(100)	ND(100)	106
Naphthalene	700	ND(10)	-	ND(10)	-	-	ND(10)	-	-
2-Methylnaphthalene	2000	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Acenaphthylene	40	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Acenaphthene	10000	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Fluorene	40	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Phenanthrene	10000	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Anthracene	30	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Fluoranthene	200	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Pyrene	20	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Benzo(a)anthracene	1000	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Chrysene	70	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Benzo(b)fluoranthene	400	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Benzo(k)fluoranthene	100	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Benzo(a)pyrene	500	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Indeno(1,2,3-cd)Pyrene	100	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Dibenzo(a,h)anthracene	40	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Benzo(ghi)perylene	20	ND(10)	-	ND(10)	-	-	ND(10)	-	-
Volatile Petroleum Hydrocarbons with Target Analytes (ug/l)									
C9-C10 Aromatics	4000	ND(50)	192	335	ND(500)	ND(1000)	ND(50)	ND(1000)	ND(1000)
C5-C8 Aliphatics	3000	78.8	758	**4550**	**5520**	**5910**	78.2	**7040**	**7910**
C9-C12 Aliphatics	5000	ND(50)	73.1	174	654	ND(1000)	ND(50)	ND(1000)	1120
Benzene	1000	-	-	-	-	145	-	116	ND(20)
Toluene	40000	-	-	-	-	ND(20)	-	ND(20)	ND(20)
Ethylbenzene	5000	-	-	-	-	ND(20)	-	ND(20)	190
p/m-Xylene	3000	-	-	-	-	ND(20)	-	ND(20)	ND(20)
o-Xylene	3000	-	-	-	-	ND(20)	-	ND(20)	ND(20)
Methyl tert butyl ether	5000	-	-	-	-	ND(30)	-	ND(30)	ND(30)
Naphthalene	700	-	-	-	-	ND(40)	-	ND(40)	ND(40)

ND - Not detected in excess of the reporting limit
(#) - Reporting limit
Bold - exceeds RCGW-2 value

Table 3
Laboratory Analytical Resuts - Receiving Water

SCAPE Boylston
Boston, MA
Project No. 6289

LOCATION	2002 EPA - Freshwater Aquatic Life Chronic Criteria	CHARLES RIVER-BU
SAMPLING DATE		3/11/2020
LAB SAMPLE ID		L2011007-01
SAMPLE TYPE		WATER
A. Inorganics (ug/l)		
Nitrogen, Ammonia		ND(75)
Chloride	230000	152000
pH (H)		7.4
Hardness		71000
Antimony, Total		ND(4)
Arsenic, Total	150	ND(1)
Cadmium, Total	0.25	ND(0.2)
Chromium, Total		ND(1)
Chromium, Trivalent	74	ND(10)
Chromium, Hexavalent	11	ND(10)
Copper, Total		2.04
Iron, Total	1000	526
Lead, Total	2.5	**2.82**
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	13.02

ND - Not detected in excess of the detection limit
(#) - Detection Limit
Bold - exceeds 2002 EPA - Freshwater Aquatic Life Chronic Criteria

McPhail Associates, LLC

APPENDIX A:

LIMITATIONS

LIMITATIONS

The purpose of this report is to present the results of testing of groundwater samples obtained from on-site monitoring wells in connection with the development of the SCAPE Boylston project to be located at 1252-1270 Boylston Street 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 at the site, and other factors.

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

This report and application have been prepared on behalf of and for the exclusive use of Suffolk Construction and SCAPE Boylston, 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

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

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:
SCAPE Boylston</td><td colspan="3">Site address: 1252-1270 Boylston Street
Street:</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02215</td></tr>
<tr><td rowspan="4">2. Site owner
SCAPE Boylston, LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: David Hunt</td></tr>
<tr><td colspan="2">Telephone: 978-979-2065</td><td>Email: david.hunt@scape.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 22 Boston Wharf Road, 7th Floor</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02210</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Suffolk Construction</td><td colspan="3">Contact Person: Ted Davenport</td></tr>
<tr><td colspan="2">Telephone: 617-517-3529</td><td>Email: tdavenport@suffolk.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 65 Allerton Street</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02119</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:

NPDES permit is (check all that apply: ■ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s): 3-35573
☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:
☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Charles River	MA72-038	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.

Boston Inner Harbor MA70-02 - See Appendix C for further information

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 cfs
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	111.4

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: 4/2/20

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: BTEX, MTBE, tert-amyl methyl ether, C5-C8 Aliphatics	
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): SDO 042	Outfall location(s): (Latitude, Longitude) 42.351111, -71.097500
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Discharge indirectly into the Charles River through BWSC system ☐ 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 See Appendix B for further information 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 this NOI Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ■ Yes ☐ No See Appendix B for further information	
Provide the expected start and end dates of discharge(s) (month/year): Temporary Treatment System 06/2020 - 06/2021 Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

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

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✓	1	121,4500	75	7040	7040	Report mg/L	---
Chloride		✓	1	443000	500	1210000	1210000	Report µg/l	---
Total Residual Chlorine	✓		1	121,4500	20	<DL	<DL	0.2 mg/L	
Total Suspended Solids		✓	1	1212540I	5000	17000	17000	30 mg/L	
Antimony	✓		1	1,6020A	4	<DL	<DL	206 µg/L	
Arsenic	✓		1	1,6020A	1	<DL	<DL	104 µg/L	
Cadmium	✓		1	1,6020A	0.2	<DL	<DL	10.2 µg/L	
Chromium III	✓		1	1,6020A	10	<DL	<DL	323 µg/L	
Chromium VI	✓		1	1,6020A	10	<DL	<DL	323 µg/L	
Copper	✓		1	1,6020A	1	1.59	1.59	242 µg/L	
Iron		✓	1	19200.7	50	4820	4820	5,000 µg/L	
Lead	✓		1	1,6020A	1	<DL	<DL	160 µg/L	
Mercury	✓		1	3,245.1	0.2	<DL	<DL	0.739 µg/L	
Nickel	✓		1	1,6020A	2	<DL	<DL	1,450 µg/L	
Selenium	✓		1	1,6020A	5	<DL	<DL	235.8 µg/L	
Silver	✓		1	1,6020A	0.4	<DL	<DL	35.1 µg/L	
Zinc	✓		1	1,6020A	10	<DL	<DL	420 µg/L	
Cyanide		✓	1	121,4500	5	13	13	178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX		✓	1	128,624.1	2.5	141	141	100 µg/L	---
Benzene		✓	1	128,624.1	2.5	110	110	5.0 µg/L	---
1,4 Dioxane	✓		1	128,624.1	250	<DL	<DL	200 µg/L	---
Acetone	✓		1	128,624.1	25	<DL	<DL	7.97 mg/L	---
Phenol	✓		1	128,624.1	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	✓		0					4.4 µg/L	
1,2 Dichlorobenzene	✓		0					600 µg/L	---
1,3 Dichlorobenzene	✓		0					320 µg/L	---
1,4 Dichlorobenzene	✓		0					5.0 µg/L	---
Total dichlorobenzene	✓		0					763 µg/L in NH	---
1,1 Dichloroethane	✓		0					70 µg/L	---
1,2 Dichloroethane	✓		0					5.0 µg/L	---
1,1 Dichloroethylene	✓		0					3.2 µg/L	---
Ethylene Dibromide	✓		0					0.05 µg/L	---
Methylene Chloride	✓		0					4.6 µg/L	---
1,1,1 Trichloroethane	✓		0					200 µg/L	---
1,1,2 Trichloroethane	✓		0					5.0 µg/L	---
Trichloroethylene	✓		0					5.0 µg/L	---
Tetrachloroethylene	✓		0					5.0 µg/L	
cis-1,2 Dichloroethylene	✓		0					70 µg/L	---
Vinyl Chloride	✓		0					2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✓		1	18270D-S	5.0	<DL	<DL	190 µg/L	
Diethylhexyl phthalate	✓		1	18270D-S	5.0	<DL	<DL	101 µg/L	
Total Group I PAHs	✓		1	18270D-S	0.10	<DL	<DL	1.0 µg/L	---
Benzo(a)anthracene	✓		1	18270D-S	0.10	<DL	<DL	As Total PAHs	
Benzo(a)pyrene	✓		1	18270D-S	0.10	<DL	<DL		
Benzo(b)fluoranthene	✓		1	18270D-S	0.10	<DL	<DL		
Benzo(k)fluoranthene	✓		1	18270D-S	0.10	<DL	<DL		
Chrysene	✓		1	18270D-S	0.10	<DL	<DL		
Dibenzo(a,h)anthracene	✓		1	18270D-S	0.10	<DL	<DL		
Indeno(1,2,3-cd)pyrene	✓		1	18270D-S	0.10	<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	18270D-S	0.10	7.1	7.1	100 µg/L	---
Naphthalene	✓		1	129,625.1	0.1	0.37	0.37	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✓		0	127,608.3				0.000064 µg/L	---
Pentachlorophenol	✓		0	18270D-S				1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons		✓	1	74,1664A	4000	<DL	<DL	5.0 mg/L	---
Ethanol	✓		1	600.1671	20000	<DL	<DL	Report mg/L	---
Methyl-tert-Butyl Ether		✓	1	1,8260C	25	42	42	70 µg/L	
tert-Butyl Alcohol		✓	1	1,8260C	250	810	810	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✓		1	1,8260C	50	<DL	<DL	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
pH - Influent		✓	1	121,4500		6.8	6.8		
Hardness - Influent		✓	1		660	375000	375000		
C5-C8 Aliphatics		✓	8	131,VPH	10000	7910	3980		
pH - Receiving Water		✓	1	121,4500		7.4	7.4		
Hardness - Receiving Water		✓	1			71000	71000		
Temp - Receiving Water		✓	1			5 C			

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.
Settling tank, bag filters, and granulated activated carbon filter. If necessary to meet discharge limits, pH adjustment or ion media resin vessels will be added

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

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 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.	15
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

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

F. Chemical and additive information

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

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

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.

FWS Supporting Information

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 implemented in accordance with good engineering practices following Part 2.5 of the RGP.	
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ☐
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ☐ No ■ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ■ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☐ No ■ NA ☐
Signature: 	Date: 3/31/20
Print Name and Title: Ted Davenport, 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: Suffolk Construction Address: 65 Allerton Street, Boston, MA 02119

Phone Number: 617-517-3529 Fax number: _____

Contact person name: Ted Davenport Title: Senior Project Manager

Cell number: 774-277-0799 Email address: tdavenport@suffolk.com

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

Owner's Information (if different from above):

Owner of property being dewatered: SCAPE Boylston, LLC

Owner's mailing address: 22 Boston Wharf Road, 7th Floor, Boston, MA 02210 Phone number: 978-979-2065

Location of Discharge & Proposed Treatment System(s):

Street number and name: 1252-1270 Boylston St Neighborhood Fenway

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

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

BWSC Outfall No. SDO 042 Receiving Waters Charles River

Temporary Discharges (Provide Anticipated Dates of Discharge): From 6/2020 To 6/2021

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

Permanent Discharges

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

---

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

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

Signature of Authorized Representative for Property Owner: _____ Date: 3/31/20

APPENDIX C:

ADDITIONAL NOI SUPPORT INFORMATION

MassDEP - Bureau of Waste Site Cleanup

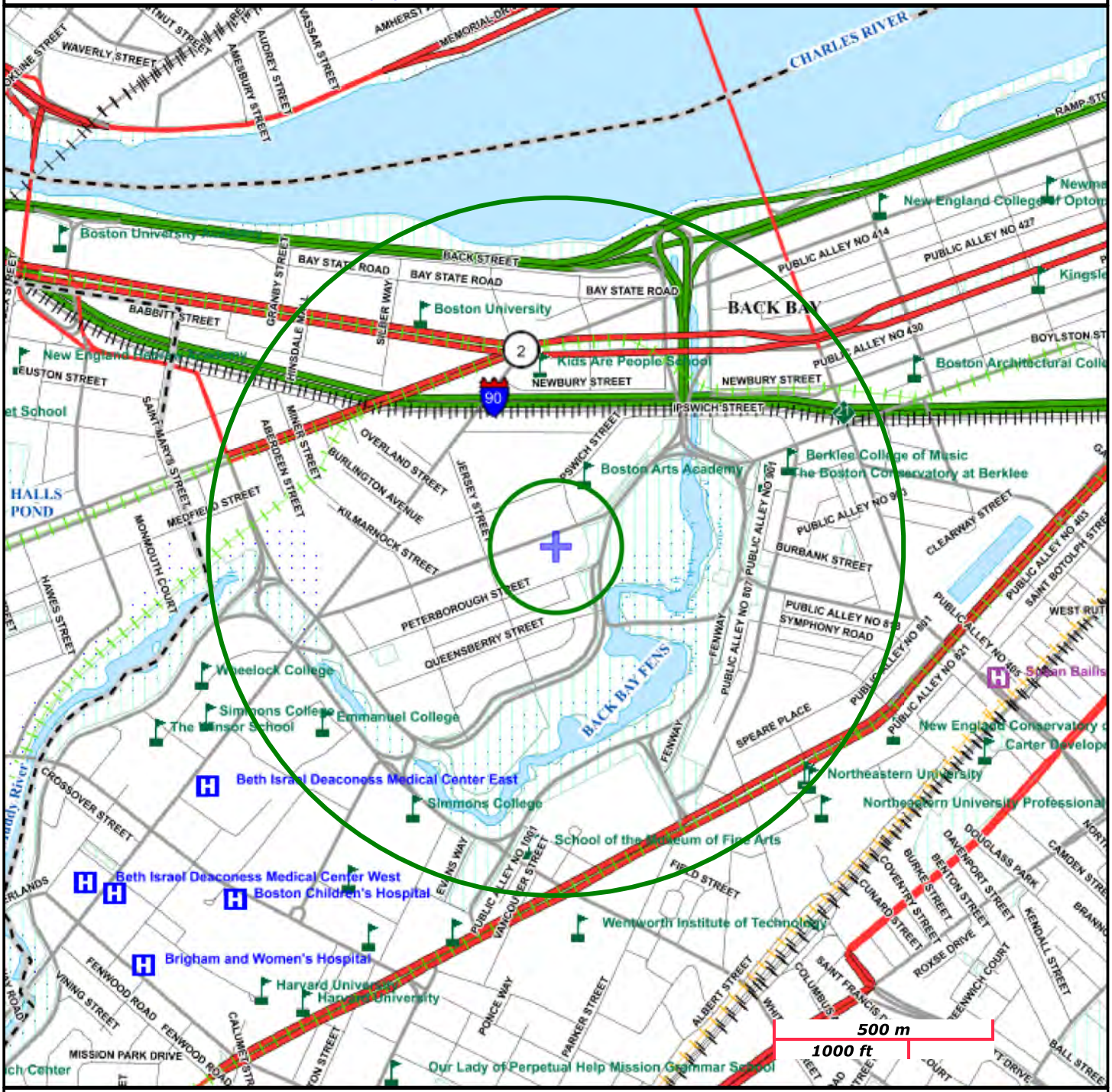
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
SCAPE BOYLSTON, LLC
1260 BOYLSTON STREET BOSTON, MA

NAD83 UTM Meters:
4690187mN , 327357mE (Zone: 19)
March 30, 2020

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



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

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

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

Aquifers: Medium Yield, High Yield, EPA Sole Source

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

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

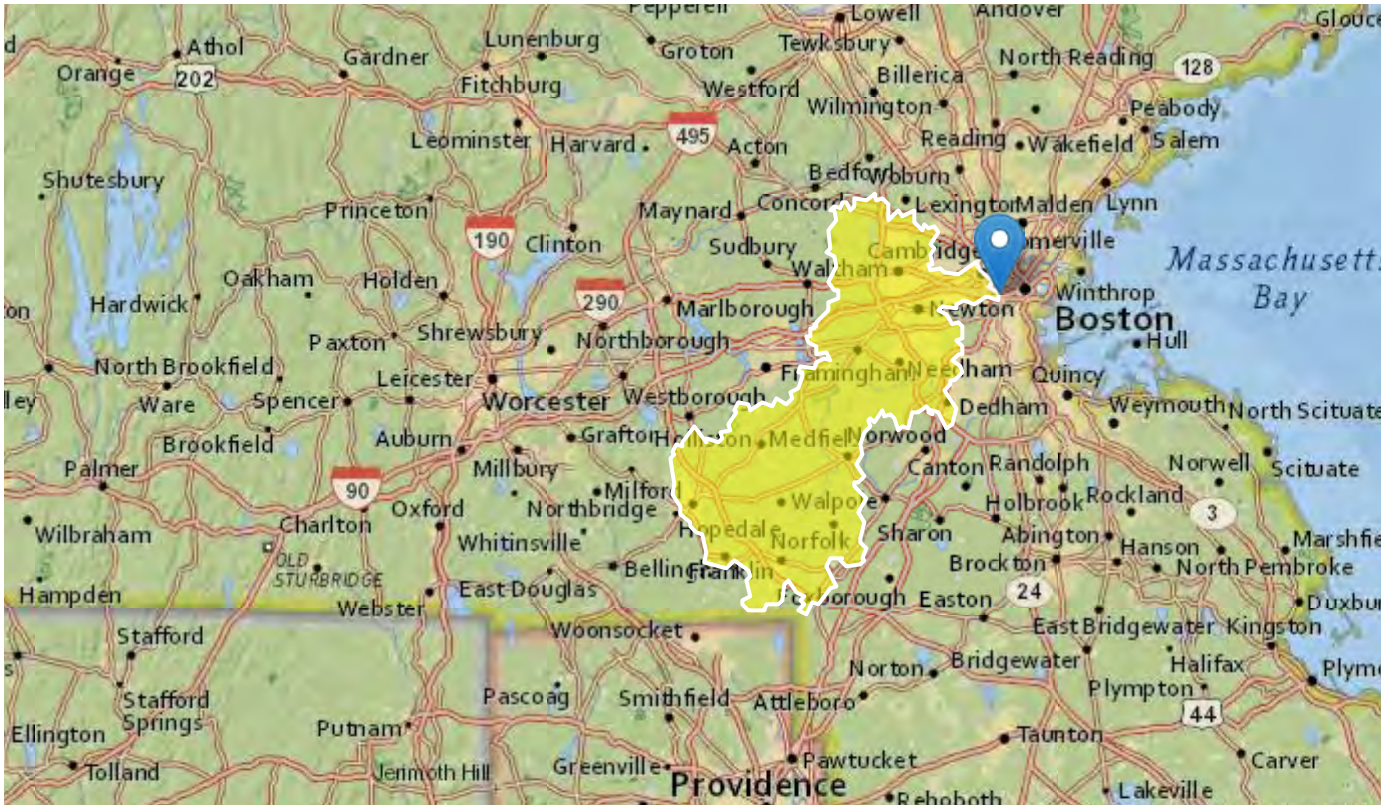
FEMA 100yr Floodplain; Protected Open Space; ACEC

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

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

StreamStats Report - Charles River BU Boathouse

Region ID: MA
Workspace ID: MA20200326194215279000
Clicked Point (Latitude, Longitude): 42.35304, -71.09796
Time: 2020-03-26 15:42:31 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	283	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.327	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.23	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	283	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	2.327	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.23	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

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

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

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	49.6	ft^3/s
7 Day 10 Year Low Flow	24.7	ft^3/s

Low-Flow Statistics Citations

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

Application Version: 4.3.11

Enter number values in green boxes based on the instructions to the right

Notes: Revised 1-24-20

Enter values in the units specified

↓		
15.9	Q_R = Enter upstream flow in **MGD**	Freshwater: leave 0 unless 7Q10 or alternate Q_R AND a dilution factor >1 approved by the State; Saltwater (estuarine and marine): leave 0 unless QR approved by the State
0.144	Q_P = Enter discharge flow in **MGD**	Enter the design flow or 1 MGD, whichever is less (100 gpm design flow = 0.144 MGD and is entered by default)
0	Downstream 7Q10	Leave 0 unless Q_R approved by the State

Enter a dilution factor for saltwater receiving water (this box does not apply to freshwater receiving waters)

↓	
0	Freshwater: leave 0 Saltwater (estuarine and marine): leave 0 unless DF approved by the State

Enter values in the units specified

↓		
375	C_d = Enter influent hardness in **mg/L** $CaCO_3$	Applies to freshwater receiving waters only
71	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$	

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

↓		Impaired for metals? ↓	
7.4	pH in **Standard Units**		pH, temperature, and ammonia required for all discharges
5	Temperature in **°C**		Hardness required for freshwater
0	Ammonia in **mg/L**		Salinity required for saltwater (estuarine and marine)
71	Hardness in **mg/L** $CaCO_3$		Metals required for all discharges if detected in the influent and if dilution factor approved by State
0	Salinity in **ppt**		Enter 0 if non-detect or testing not required
0	Antimony in **µg/L**	no	If receiving water is not listed as impaired for metals in State 303(d) List, change to "no" using dropdown
0	Arsenic in **µg/L**	no	
0	Cadmium in **µg/L**	yes	
0	Chromium III in **µg/L**	yes	
0	Chromium VI in **µg/L**	yes	
2.04	Copper in **µg/L**	yes	
526	Iron in **µg/L**	yes	
2.82	Lead in **µg/L**	yes	
0	Mercury in **µg/L**	yes	
0	Nickel in **µg/L**	yes	
0	Selenium in **µg/L**	yes	
0	Silver in **µg/L**	yes	
13.02	Zinc in **µg/L**	yes	

Enter **influent** concentrations in the units specified

↓		
0	TRC in **µg/L**	if >1 sample, enter maximum influent measurement
7.04	Ammonia in **mg/L**	if >10 samples, may enter 95th percentile of influent measurements using
0	Antimony in **µg/L**	EPA's *Technical Support Document for Water Quality-based Toxics Control*
0	Arsenic in **µg/L**	Enter 0 if non-detect or testing not required
0	Cadmium in **µg/L**	
3.07	Chromium III in **µg/L**	
0	Chromium VI in **µg/L**	
1.59	Copper in **µg/L**	
4820	Iron in **µg/L**	
0	Lead in **µg/L**	
0	Mercury in **µg/L**	
0	Nickel in **µg/L**	
0	Selenium in **µg/L**	
0	Silver in **µg/L**	
0	Zinc in **µg/L**	
13	Cyanide in **µg/L**	
0	Phenol in **µg/L**	
0	Carbon Tetrachloride in **µg/L**	
0	Tetrachloroethylene in **µg/L**	
0	Total Phthalates in **µg/L**	
0	Diethylhexylphthalate in **µg/L**	
0	Benzo(a)anthracene in **µg/L**	
0	Benzo(a)pyrene in **µg/L**	
0	Benzo(b)fluoranthene in **µg/L**	
0	Benzo(k)fluoranthene in **µg/L**	
0	Chrysene in **µg/L**	
0	Dibenzo(a,h)anthracene in **µg/L**	
0	Indeno(1,2,3-cd)pyrene in **µg/L**	

42 Methyl-tert butyl ether in **µg/L**

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 30, 2020
Consultation Code: 05E1NE00-2020-SLI-1915
Event Code: 05E1NE00-2020-E-05734
Project Name: SCAPE Boylston

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2020-SLI-1915

Event Code: 05E1NE00-2020-E-05734

Project Name: SCAPE Boylston

Project Type: DEVELOPMENT

Project Description: 1252 to 1270 Boylston Street

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.3447952632813N71.09596507738519W

Counties: Suffolk, MA

Endangered Species Act Species

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

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

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

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

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

Critical habitats

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

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Place: Fenway; Street Name: Boylston; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
BOS.9273	Boylston Street Bridge	Boylston St	Boston	1880
BOS.9274	O'Reily, John Boyle Memorial	Boylston St	Boston	1896
BOS.9285	Mother's Rest Children's Playground	Boylston St	Boston	
BOS.9644	Boylston Street Subway Tunnel	Boylston St	Boston	1914
BOS.7353	Church of the Redemption (Universalist)	1103 Boylston St	Boston	1923
BOS.7354	Fenmore Apartments	1109 Boylston St	Boston	1914
BOS.7355	Fenmore Apartments	1111 Boylston St	Boston	1914
BOS.7351	Fritz-Carlton Hotel - Bostonian Hotel	1136-1150 Boylston St	Boston	1901
BOS.7352	Massachusetts Historical Society Building	1154 Boylston St	Boston	1899
BOS.7518	State Street Trust Company Building	130-132 Massachusetts Ave	Boston	1902
BOS.9276	Back Bay Fens Victory Garden	Park Dr	Boston	c 1940

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Boston; Street Name: peterborough; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
BOS.7578	Church of the Disciples	Peterborough St	Boston	1904
BOS.7570	Birburie, H. C. Town House	22 Peterborough St	Boston	1903
BOS.7571	Birburie, H. C. Town House	24 Peterborough St	Boston	1903
BOS.7572	Birburie, H. C. Town House	26 Peterborough St	Boston	1903
BOS.7338	Birburie, H. C. Town House	28 Peterborough St	Boston	1903
BOS.7573	Birburie, H. C. Town House	30 Peterborough St	Boston	1903
BOS.7574	Birburie, H. C. Town House	32 Peterborough St	Boston	1903
BOS.7575	Sumner Apartment Building	35-45 Peterborough St	Boston	1915
BOS.7576	Stuart Apartment Building	36-46 Peterborough St	Boston	1915
BOS.7577	Millmore, Martin Public School	85 Peterborough St	Boston	1929
BOS.7579	Peterborough Chambers Apartment Building	131 Peterborough St	Boston	1911

Benjamin Downing

From: Ruan, Xiaodan (DEP) <xiaodan.ruan@state.ma.us>
Sent: Friday, April 03, 2020 1:25 AM
To: Benjamin Downing
Cc: Vakalopoulos, Catherine (DEP)
Subject: Re: SCAPE Boylston - RGP Dilution Factor

Hi Benjamin,

Thank you for update the design flow. I can confirm your dilution factor calculation for this proposed discharge for the SCAPE Boylston project at 1252-1270 Boylston Street Boston to the Charles River is correct.

Here is some information to use in the NOI:
Waterbody ID: MA72-38
Classification: B(CSO)
Outstanding Resource Water?: no
State's most recent Integrated List is located here: https://www.mass.gov/files/documents/2020/01/07/16ilwplist.pdf, search for "MA72-38" to see the causes of impairments.
TMDLs: there are 2 approved TMDLs for this segment (pathogens and phosphorus)

As the site is listed as a *current* MCP site, you do not need to apply with MassDEP.

Thanks,
Xiaodan

From: Benjamin Downing <BDowning@mcphailgeo.com>
Sent: Thursday, April 2, 2020 8:08 AM
To: Vakalopoulos, Catherine (DEP); Ruan, Xiaodan (DEP)
Subject: RE: SCAPE Boylston - RGP Dilution Factor

Good morning Xiaodon,

I was double checking my calculations this morning and the maximum flow rate is actually going to be 100 gpm. Please review these updated dilution factor calcs instead:

7Q10 for Charles River: 24.7 cfs = 15.9 MGD
Design flow: 100 gpm = 0.144 MGD
DF = (15.9 + 0.144)/0.144 = 111.4

Can you please confirm if this DF is acceptable? Thank you.

Ben

Benjamin E. Downing, P.E.

APPENDIX D:

LABORATORY ANALYTICAL DATA - GROUNDWATER

ANALYTICAL REPORT

Lab Number:	L2006971
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	SCAPE BOYLSTON
Project Number:	6546.9.T7
Report Date:	02/26/20

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

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

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2006971-01	MA-3 (OW)	GROUNDWATER	BOSTON, MA	02/14/20 10:00	02/14/20

Project Name:	SCAPE BOYLSTON	**Lab Number:**	L2006971
Project Number:	6546.9.T7	**Report Date:**	02/26/20

Case Narrative

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

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

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

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

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

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

Project Name:	SCAPE BOYLSTON	**Lab Number:**	L2006971
Project Number:	6546.9.T7	**Report Date:**	02/26/20

Case Narrative (continued)

Report Submission

February 26, 2020: This final report includes the results of all requested analyses.

February 21, 2020: This is a preliminary report.

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.

Sample Receipt

The analyses performed were specified by the client.

L2006971-01: The sample was received above the appropriate pH for the Total Phenol - EPA 420.1 analysis. The laboratory added additional H2SO4 to a pH <2.

Volatile Organics by Method 624

L2006971-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

Volatile Organics by SIM

L2006971-01: The sample has an elevated detection limit due to the dilution required by the elevated concentrations of non-target compounds in the sample.

L2006971-01: The surrogate recovery is above the acceptance criteria for fluorobenzene (151%). Since the sample was non-detect for all target analytes, re-analysis was not required.

The surrogate recovery for the WG1341949-3 LCS, associated with L2006971-01, is above the acceptance criteria for fluorobenzene (242%). The associated LCS spike compound(s) are within overall acceptance criteria, therefore, 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: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 02/26/20

ORGANICS

VOLATILES

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7
Lab Number: L2006971
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006971-01 D
Client ID: MA-3 (OW)
Sample Location: BOSTON, MA

Date Collected: 02/14/20 10:00
Date Received: 02/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 128,624.1
Analytical Date: 02/20/20 01:25
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	--	2.5
1,1-Dichloroethane	ND		ug/l	3.8	--	2.5
Carbon tetrachloride	ND		ug/l	2.5	--	2.5
1,1,2-Trichloroethane	ND		ug/l	3.8	--	2.5
Tetrachloroethene	ND		ug/l	2.5	--	2.5
1,2-Dichloroethane	ND		ug/l	3.8	--	2.5
1,1,1-Trichloroethane	ND		ug/l	5.0	--	2.5
Benzene	110		ug/l	2.5	--	2.5
Toluene	13		ug/l	2.5	--	2.5
Ethylbenzene	8.6		ug/l	2.5	--	2.5
Vinyl chloride	ND		ug/l	2.5	--	2.5
1,1-Dichloroethene	ND		ug/l	2.5	--	2.5
cis-1,2-Dichloroethene	ND		ug/l	2.5	--	2.5
Trichloroethene	ND		ug/l	2.5	--	2.5
1,2-Dichlorobenzene	ND		ug/l	12	--	2.5
1,3-Dichlorobenzene	ND		ug/l	12	--	2.5
1,4-Dichlorobenzene	ND		ug/l	12	--	2.5
p/m-Xylene	9.4		ug/l	5.0	--	2.5
o-xylene	ND		ug/l	2.5	--	2.5
Xylenes, Total	9.4		ug/l	2.5	--	2.5
Acetone	ND		ug/l	25	--	2.5
Methyl tert butyl ether	42		ug/l	25	--	2.5
Tert-Butyl Alcohol	810		ug/l	250	--	2.5
Tertiary-Amyl Methyl Ether	ND		ug/l	50	--	2.5

Project Name: SCAPE BOYLSTON
Lab Number: L2006971
Project Number: 6546.9.T7
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006971-01 D
Client ID: MA-3 (OW)
Sample Location: BOSTON, MA

Date Collected: 02/14/20 10:00
Date Received: 02/14/20
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	98		60-140
4-Bromofluorobenzene	85		60-140

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7
Lab Number: L2006971
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006971-01 D
Client ID: MA-3 (OW)
Sample Location: BOSTON, MA

Date Collected: 02/14/20 10:00
Date Received: 02/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 128,624.1-SIM
Analytical Date: 02/18/20 14:46
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM - Westborough Lab						
1,4-Dioxane	ND		ug/l	250	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	**151**	Q	60-140
4-Bromofluorobenzene	102		60-140

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1-SIM
Analytical Date: 02/18/20 13:00
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1341949-4					
1,4-Dioxane	ND		ug/l	50	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	115		60-140
4-Bromofluorobenzene	133		60-140

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7
Lab Number: L2006971
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 02/19/20 16:43
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1341980-8					
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	1.0	--
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: SCAPE BOYLSTON
Project Number: 6546.9.T7
Lab Number: L2006971
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 02/19/20 16:43
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1341980-8					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	94		60-140
Fluorobenzene	94		60-140
4-Bromofluorobenzene	83		60-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1341949-3								
1,4-Dioxane	100		-		60-140	-		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Fluorobenzene	**242**	Q			60-140
4-Bromofluorobenzene	116				60-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1341980-7								
Methylene chloride	85		-		60-140	-		28
1,1-Dichloroethane	85		-		50-150	-		49
Carbon tetrachloride	95		-		70-130	-		41
1,1,2-Trichloroethane	95		-		70-130	-		45
Tetrachloroethene	90		-		70-130	-		39
1,2-Dichloroethane	95		-		70-130	-		49
1,1,1-Trichloroethane	95		-		70-130	-		36
Benzene	90		-		65-135	-		61
Toluene	95		-		70-130	-		41
Ethylbenzene	80		-		60-140	-		63
Vinyl chloride	85		-		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	80		-		65-135	-		57
1,3-Dichlorobenzene	75		-		70-130	-		43
1,4-Dichlorobenzene	75		-		65-135	-		57
p/m-Xylene	82		-		60-140	-		30
o-xylene	75		-		60-140	-		30
Acetone	130		-		40-160	-		30
Methyl tert butyl ether	105		-		60-140	-		30
Tert-Butyl Alcohol	130		-		60-140	-		30
Tertiary-Amyl Methyl Ether	95		-		60-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOYLSTON

Project Number: 6546.9.T7

Lab Number: L2006971

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1341980-7								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	101				60-140
Fluorobenzene	98				60-140
4-Bromofluorobenzene	83				60-140

SEMIVOLATILES

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006971-01
Client ID: MA-3 (OW)
Sample Location: BOSTON, MA

Date Collected: 02/14/20 10:00
Date Received: 02/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 129,625.1
Analytical Date: 02/20/20 16:45
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 00:26

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	45		42-122
2-Fluorobiphenyl	50		46-121
4-Terphenyl-d14	51		47-138

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7
Lab Number: L2006971
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006971-01
Client ID: MA-3 (OW)
Sample Location: BOSTON, MA

Date Collected: 02/14/20 10:00
Date Received: 02/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 129,625.1-SIM
Analytical Date: 02/18/20 17:03
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 00:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	0.37		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	53		25-87
Phenol-d6	43		16-65
Nitrobenzene-d5	88		42-122
2-Fluorobiphenyl	69		46-121
2,4,6-Tribromophenol	78		45-128
4-Terphenyl-d14	74		47-138

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1
Analytical Date: 02/19/20 13:51
Analyst: JG

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 00:26

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1341281-1					
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	83		42-122
2-Fluorobiphenyl	82		46-121
4-Terphenyl-d14	79		47-138

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7
Lab Number: L2006971
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1-SIM
Analytical Date: 02/18/20 11:58
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 02/17/20 00:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1341283-1					
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	61		25-87
Phenol-d6	50		16-65
Nitrobenzene-d5	98		42-122
2-Fluorobiphenyl	76		46-121
2,4,6-Tribromophenol	70		45-128
4-Terphenyl-d14	85		47-138

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOYLSTON

Project Number: 6546.9.T7

Lab Number: L2006971

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1341281-2								
Bis(2-ethylhexyl)phthalate	103		-		29-137	-		82
Butyl benzyl phthalate	108		-		1-140	-		60
Di-n-butylphthalate	93		-		8-120	-		47
Di-n-octylphthalate	95		-		19-132	-		69
Diethyl phthalate	94		-		1-120	-		100
Dimethyl phthalate	90		-		1-120	-		183

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	85				42-122
2-Fluorobiphenyl	79				46-121
4-Terphenyl-d14	104				47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1341283-2								
Acenaphthene	88		-		60-132	-		30
Fluoranthene	93		-		43-121	-		30
Naphthalene	82		-		36-120	-		30
Benzo(a)anthracene	99		-		42-133	-		30
Benzo(a)pyrene	101		-		32-148	-		30
Benzo(b)fluoranthene	103		-		42-140	-		30
Benzo(k)fluoranthene	94		-		25-146	-		30
Chrysene	90		-		44-140	-		30
Acenaphthylene	76		-		54-126	-		30
Anthracene	100		-		43-120	-		30
Benzo(ghi)perylene	94		-		1-195	-		30
Fluorene	87		-		70-120	-		30
Phenanthrene	95		-		65-120	-		30
Dibenzo(a,h)anthracene	96		-		1-200	-		30
Indeno(1,2,3-cd)pyrene	98		-		1-151	-		30
Pyrene	91		-		70-120	-		30
Pentachlorophenol	88		-		38-152	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1341283-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	64				25-87
Phenol-d6	53				16-65
Nitrobenzene-d5	103				42-122
2-Fluorobiphenyl	72				46-121
2,4,6-Tribromophenol	81				45-128
4-Terphenyl-d14	83				47-138

METALS

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7
Lab Number: L2006971
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006971-01
Client ID: MA-3 (OW)
Sample Location: BOSTON, MA
Sample Depth:
Matrix: Groundwater

Date Collected: 02/14/20 10:00
Date Received: 02/14/20
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	02/18/20 18:03	02/18/20 23:10	EPA 3005A	3,200.8	MG
Arsenic, Total	ND		mg/l	0.00100	--	1	02/18/20 18:03	02/18/20 23:10	EPA 3005A	3,200.8	MG
Cadmium, Total	ND		mg/l	0.00020	--	1	02/18/20 18:03	02/18/20 23:10	EPA 3005A	3,200.8	MG
Chromium, Total	0.00307		mg/l	0.00100	--	1	02/18/20 18:03	02/18/20 23:10	EPA 3005A	3,200.8	MG
Copper, Total	0.00159		mg/l	0.00100	--	1	02/18/20 18:03	02/18/20 23:10	EPA 3005A	3,200.8	MG
Iron, Total	4.82		mg/l	0.050	--	1	02/18/20 18:03	02/20/20 10:42	EPA 3005A	19,200.7	LC
Lead, Total	ND		mg/l	0.00100	--	1	02/18/20 18:03	02/18/20 23:10	EPA 3005A	3,200.8	MG
Mercury, Total	ND		mg/l	0.00020	--	1	02/19/20 15:36	02/19/20 20:20	EPA 245.1	3,245.1	AL
Nickel, Total	ND		mg/l	0.00200	--	1	02/18/20 18:03	02/18/20 23:10	EPA 3005A	3,200.8	MG
Selenium, Total	ND		mg/l	0.00500	--	1	02/18/20 18:03	02/18/20 23:10	EPA 3005A	3,200.8	MG
Silver, Total	ND		mg/l	0.00040	--	1	02/18/20 18:03	02/18/20 23:10	EPA 3005A	3,200.8	MG
Zinc, Total	ND		mg/l	0.01000	--	1	02/18/20 18:03	02/18/20 23:10	EPA 3005A	3,200.8	MG
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	375		mg/l	0.660	NA	1	02/18/20 18:03	02/20/20 10:42	EPA 3005A	19,200.7	LC
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		02/18/20 23:10	NA	107,-	

Project Name: SCAPE BOYLSTON **Lab Number:** L2006971

Project Number: 6546.9.T7 **Report Date:** 02/26/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1341571-1										
Mercury, Total	ND		mg/l	0.0002	--	1	02/19/20 15:36	02/19/20 19:18	3,245.1	AL

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1341832-1										
Antimony, Total	ND		mg/l	0.00400	--	1	02/18/20 17:18	02/18/20 21:49	3,200.8	MG
Arsenic, Total	ND		mg/l	0.00100	--	1	02/18/20 17:18	02/18/20 21:49	3,200.8	MG
Cadmium, Total	ND		mg/l	0.00020	--	1	02/18/20 17:18	02/18/20 21:49	3,200.8	MG
Chromium, Total	ND		mg/l	0.00100	--	1	02/18/20 17:18	02/18/20 21:49	3,200.8	MG
Copper, Total	ND		mg/l	0.00100	--	1	02/18/20 17:18	02/18/20 21:49	3,200.8	MG
Lead, Total	ND		mg/l	0.00100	--	1	02/18/20 17:18	02/18/20 21:49	3,200.8	MG
Nickel, Total	ND		mg/l	0.00200	--	1	02/18/20 17:18	02/18/20 21:49	3,200.8	MG
Selenium, Total	ND		mg/l	0.00500	--	1	02/18/20 17:18	02/18/20 21:49	3,200.8	MG
Silver, Total	ND		mg/l	0.00040	--	1	02/18/20 17:18	02/18/20 21:49	3,200.8	MG
Zinc, Total	ND		mg/l	0.01000	--	1	02/18/20 17:18	02/18/20 21:49	3,200.8	MG

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: WG1342255-1										
Iron, Total	ND		mg/l	0.050	--	1	02/18/20 18:03	02/20/20 10:15	19,200.7	LC

Prep Information

Digestion Method: EPA 3005A

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7
Lab Number: L2006971
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1342255-1										
Hardness	ND		mg/l	0.660	NA	1	02/18/20 18:03	02/20/20 10:15	19,200.7	LC

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOYLSTON

Project Number: 6546.9.T7

Lab Number: L2006971

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1341571-2								
Mercury, Total	95		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1341832-2								
Antimony, Total	104		-		85-115	-		
Arsenic, Total	107		-		85-115	-		
Cadmium, Total	108		-		85-115	-		
Chromium, Total	101		-		85-115	-		
Copper, Total	99		-		85-115	-		
Lead, Total	107		-		85-115	-		
Nickel, Total	104		-		85-115	-		
Selenium, Total	114		-		85-115	-		
Silver, Total	98		-		85-115	-		
Zinc, Total	113		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1342255-2								
Iron, Total	98		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1342255-2								
Hardness	90		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1341571-3 QC Sample: L2006519-01 Client ID: MS Sample												
Mercury, Total	0.0025	0.005	0.0075	100		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1341571-5 QC Sample: L2006519-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.0044	88		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1341832-3 QC Sample: L2006407-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.4866	97		-	-		70-130	-		20
Arsenic, Total	ND	0.12	0.1173	98		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05148	101		-	-		70-130	-		20
Chromium, Total	0.00223	0.2	0.1931	95		-	-		70-130	-		20
Copper, Total	0.01245	0.25	0.2495	95		-	-		70-130	-		20
Lead, Total	ND	0.51	0.5213	102		-	-		70-130	-		20
Nickel, Total	ND	0.5	0.4858	97		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1107	92		-	-		70-130	-		20
Silver, Total	ND	0.05	0.04653	93		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.5166	103		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342255-3 QC Sample: L2000002-135 Client ID: MS Sample												
Iron, Total	0.146	1	1.12	97		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342255-3 QC Sample: L2000002-135 Client ID: MS Sample												
Hardness	84.4	66.2	139	82		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1341571-4 QC Sample: L2006519-01 Client ID: DUP Sample						
Mercury, Total	0.0025	0.0027	mg/l	6		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1341571-6 QC Sample: L2006519-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1341832-4 QC Sample: L2006407-01 Client ID: DUP 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	0.00223	0.00252	mg/l	12		20
Copper, Total	0.01245	0.01268	mg/l	2		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: WG1342255-4 QC Sample: L2000002-135 Client ID: DUP Sample						
Iron, Total	0.146	0.143	mg/l	2		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1342255-4 QC Sample: L2000002-135 Client ID: DUP Sample						
Hardness	84.4	83.3	mg/l	1		20

INORGANICS
&
MISCELLANEOUS

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

SAMPLE RESULTS

Lab ID: L2006971-01
Client ID: MA-3 (OW)
Sample Location: BOSTON, MA

Date Collected: 02/14/20 10:00
Date Received: 02/14/20
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	17.		mg/l	5.0	NA	1	-	02/17/20 10:01	121,2540D	EM
Cyanide, Total	0.013		mg/l	0.005	--	1	02/16/20 14:50	02/17/20 14:36	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	02/15/20 09:00	121,4500CL-D	MA
pH (H)	6.8		SU	-	NA	1	-	02/14/20 20:00	121,4500H+-B	JW
Nitrogen, Ammonia	7.04		mg/l	0.075	--	1	02/16/20 13:58	02/17/20 21:01	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	02/17/20 16:30	02/17/20 21:30	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	02/18/20 05:05	02/18/20 09:46	4,420.1	MV
Chromium, Hexavalent	ND		mg/l	0.010	--	1	02/14/20 20:30	02/14/20 21:31	1,7196A	JW
Anions by Ion Chromatography - Westborough Lab										
Chloride	1210		mg/l	25.0	--	50	-	02/14/20 23:23	44,300.0	AT

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7
Lab Number: L2006971
Report Date: 02/26/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1340999-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	02/14/20 20:30	02/14/20 21:26	1,7196A	JW
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1341009-1										
Chloride	ND		mg/l	0.500	--	1	-	02/14/20 17:11	44,300.0	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341099-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	02/15/20 09:00	121,4500CL-D	MA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341226-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	02/16/20 13:58	02/17/20 20:41	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341245-1										
Cyanide, Total	ND		mg/l	0.005	--	1	02/16/20 14:50	02/17/20 14:14	121,4500CN-CE	LH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341310-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	02/17/20 10:01	121,2540D	EM
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341553-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	02/17/20 16:30	02/17/20 21:30	74,1664A	ML
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1341666-1										
Phenolics, Total	ND		mg/l	0.030	--	1	02/18/20 05:05	02/18/20 09:39	4,420.1	MV

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOYLSTON

Project Number: 6546.9.T7

Lab Number: L2006971

Report Date: 02/26/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1340989-1								
pH	101		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1340999-2								
Chromium, Hexavalent	97		-		85-115	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1341009-2								
Chloride	97		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1341099-2								
Chlorine, Total Residual	96		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1341226-2								
Nitrogen, Ammonia	93		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1341245-2								
Cyanide, Total	99		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1341553-2								
TPH	90		-		64-132	-		34

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOYLSTON

Project Number: 6546.9.T7

Lab Number: L2006971

Report Date: 02/26/20

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1341666-2					
Phenolics, Total	81	-	70-130	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1340999-4 QC Sample: L2006971-01 Client ID: MA-3 (OW)												
Chromium, Hexavalent	ND	0.1	0.093	93		-	-		85-115	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341009-3 QC Sample: L2006713-04 Client ID: MS Sample												
Chloride	17.9	4	21.2	**83**	Q	-	-		90-110	-		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341099-4 QC Sample: L2006765-02 Client ID: MS Sample												
Chlorine, Total Residual	ND	0.25	0.23	92		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341226-4 QC Sample: L2006734-01 Client ID: MS Sample												
Nitrogen, Ammonia	1.77	4	5.51	94		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341245-4 QC Sample: L2006740-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.201	100		-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341553-4 QC Sample: L2006633-02 Client ID: MS Sample												
TPH	ND	20	16.3	82		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341666-4 QC Sample: L2006971-01 Client ID: MA-3 (OW)												
Phenolics, Total	ND	0.4	0.38	94		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1340989-2 QC Sample: L2006819-05 Client ID: DUP Sample						
pH	6.5	6.4	SU	2		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1340999-3 QC Sample: L2006971-01 Client ID: MA-3 (OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341009-4 QC Sample: L2006713-04 Client ID: DUP Sample						
Chloride	17.9	17.9	mg/l	0		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341099-3 QC Sample: L2006765-01 Client ID: DUP Sample						
Chlorine, Total Residual	0.73	0.72	mg/l	1		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341226-3 QC Sample: L2006734-01 Client ID: DUP Sample						
Nitrogen, Ammonia	1.77	1.74	mg/l	2		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341245-3 QC Sample: L2006740-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341310-2 QC Sample: L2006930-01 Client ID: DUP Sample						
Solids, Total Suspended	64	60	mg/l	6		29
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341553-3 QC Sample: L2006633-01 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1341666-3 QC Sample: L2006971-01 Client ID: MA-3 (OW)						
Phenolics, Total	ND	ND	mg/l	NC		20

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

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(*)
L2006971-01A	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2006971-01B	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2006971-01C	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2006971-01D	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2006971-01E	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2006971-01F	Vial Na2S2O3 preserved	A	NA		2.7	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L2006971-01H	Vial unpreserved	A	NA		2.7	Y	Absent		SUB-ETHANOL(14)
L2006971-01I	Vial unpreserved	A	NA		2.7	Y	Absent		SUB-ETHANOL(14)
L2006971-01J	Vial unpreserved	A	NA		2.7	Y	Absent		SUB-ETHANOL(14)
L2006971-01K	Plastic 250ml NaOH preserved	A	>12	>12	2.7	Y	Absent		TCN-4500(14)
L2006971-01L	Plastic 250ml HNO3 preserved	A	<2	<2	2.7	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),HARDU(180),FE-UI(180),AG-2008T(180),SE-2008T(180),HG-U(28),AS-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L2006971-01M	Plastic 500ml H2SO4 preserved	A	<2	<2	2.7	Y	Absent		NH3-4500(28)
L2006971-01N	Plastic 950ml unpreserved	A	7	7	2.7	Y	Absent		HEXCR-7196(1),CL-300(28),TRC-4500(1),PH-4500(.01)
L2006971-01O	Plastic 950ml unpreserved	A	7	7	2.7	Y	Absent		TSS-2540(7)
L2006971-01P	Amber 950ml H2SO4 preserved	A	5	<2	2.7	N	Absent		TPHENOL-420(28)
L2006971-01Q	Amber 1000ml Na2S2O3	A	7	7	2.7	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7)
L2006971-01R	Amber 1000ml Na2S2O3	A	7	7	2.7	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7)
L2006971-01S	Amber 1000ml Na2S2O3	A	7	7	2.7	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7)
L2006971-01T	Amber 1000ml Na2S2O3	A	7	7	2.7	Y	Absent		625.1-RGP(7),625.1-SIM-RGP(7)
L2006971-01U	Amber 1000ml HCl preserved	A	NA		2.7	Y	Absent		TPH-1664(28)
L2006971-01V	Amber 1000ml HCl preserved	A	NA		2.7	Y	Absent		TPH-1664(28)

*Values in parentheses indicate holding time in days

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.T7

Lab Number: L2006971
Report Date: 02/26/20

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

Project Name:	SCAPE BOYLSTON	**Lab Number:**	L2006971
Project Number:	6546.9.T7	**Report Date:**	02/26/20

GLOSSARY

Acronyms

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

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

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

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	SCAPE BOYLSTON	**Lab Number:**	L2006971
Project Number:	6546.9.T7	**Report Date:**	02/26/20

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

Terms

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

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

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

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

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

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

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

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

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

Data Qualifiers

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

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

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

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

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

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

Report Format: Data Usability Report

Project Name:	SCAPE BOYLSTON	**Lab Number:**	L2006971
Project Number:	6546.9.T7	**Report Date:**	02/26/20

Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	SCAPE BOYLSTON	**Lab Number:**	L2006971
Project Number:	6546.9.T7	**Report Date:**	02/26/20

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.

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.

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), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

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

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
World Class Chemistry

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

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

Date Rec'd in Lab: 2/14/20

ALPHA Job #: L2006971

Project Information

Project Name: SCAPE Boylston

Project Location: Boston, MA

Project #: 6546.9.T7

Project Manager: BED

ALPHA Quote #:

Client Information

Client: McPhail Associates, LLC

Address: 2269 Massachusetts Avenue

Cambridge, MA 02140

Phone: (617) 868-1420

Fax:

Email: bdowning@mcphailgeo.com

☐ These samples have been Previously analyzed by Alpha

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	

Other Project Specific Requirements/Comments/Detection Limits:

Circle the following if required:

SALINITY HARDNESS PH

Sect. A inorganics: Ammonia, Chloride, TRC,TSS,CrVI,CrIII, Tot-CN, RGP Metals

B- Non-Hal- VOC- 8260, 8260-SIM, Tot. Phenol Sect C- VOC- 8260 & 504

D: 625 (PAHs); E- PCB's, PCP(8270/8270-SIM); F-TPH, 8260, Sub-Ethanol

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	RGP Metals (200.8) (A)	TSS- (A)	Ammonia (4500 (A))	TCN (A)	HexCr (7196), Cl- (A)	8260 (B, C, F)	BTEX and Benzene (8260) (B)	504-EDB (C)	625 - (D) -Group I & II PAHs	PCB-608- (E)	TPH-1664-(F)	SUB-ETHANOL (F)	Sample Specific Comments	TOTAL # BOTTLES
06971-01	MA-3 (OW)	02/14/20	10:00	GW	EKC	☒	☒	☒	☒	☒	☒	☒	☐	☒	☐	☒	☒		20/21
Container Type						P	P	P	P	P	V	V	-	A	-	A	V		
Preservative						C	A	D	E	A	B	B	-	H	-	B	B		

SAMPLE HANDLING

Filtration

☐ Done

☐ Not Needed

☐ Lab to do

Preservation

☐ Lab to do

(Please specify below)

Relinquished By:	Date/Time	Received By:	Date/Time
EKC	02/14/20 12:00	[signature] AAL	2/14 1630
[signature] AAL	2/14 1830	[signature] AAL	2/14 1830

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

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

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

Tek Lab, Inc.
5445 Horsehoe Lake Road
Collinsville, IL 62234-7425

Alpha Job Number
L2006971

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2006971

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
	MA-3 (OW)	02-14-20 10:00	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		2/17/20		
Form No: AL_subcoc				

February 25, 2020

Melissa Gulli
Alpha Analytical
145 Flanders Road
Westborough, MA 01581
TEL: (603) 319-5010
FAX:

RE: L2006971 **WorkOrder:** 20020979

Dear Melissa Gulli:

TEKLAB, INC received 1 sample on 2/18/2020 9:20:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Marvin L. Darling II

Marvin L. Darling
Project Manager
(618)344-1004 ex 41
mdarling@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Report Contents

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20020979
Client Project: L2006971
Report Date: 25-Feb-2020

This reporting package includes the following:

Teklab, Inc.
Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20020979
Client Project: L2006971
Report Date: 25-Feb-2020

Abbr Definition

*	Analytes on report marked with an asterisk are not NELAP accredited
CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
CRQL	A Client Requested Quantitation Limit is a reporting limit that varies according to customer request. The CRQL may not be less than the MDL.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilution factors.
DNI	Did not ignite
DUP	Laboratory duplicate is a replicate aliquot prepared under the same laboratory conditions and independently analyzed to obtain a measure of precision.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample is a sample matrix, free from the analytes of interest,spiked with verified known amounts of analytes and analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MBLK	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	"The method detection limit is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results."
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions.
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TIC	Tentatively identified compound: Analytes tentatively identified in the sample by using a library search. Only results not in the calibration standard will be reported as tentatively identified compounds. Results for tentatively identified compounds that are not present in the calibration standard, but are assigned a specific chemical name based upon the library search, are calculated using total peak areas from reconstructed ion chromatograms and a response factor of one. The nearest Internal Standard is used for the calculation. The results of any TICs must be considered estimated, and are flagged with a "T". If the estimated result is above the calibration range it is flagged "ET"
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# -	Unknown hydrocarbon	B -	Analyte detected in associated Method Blank
C -	RL shown is a Client Requested Quantitation Limit	E -	Value above quantitation range
H -	Holding times exceeded	I -	Associated internal standard was outside method criteria
J -	Analyte detected below quantitation limits	M -	Manual Integration used to determine area response
ND -	Not Detected at the Reporting Limit	R -	RPD outside accepted recovery limits
S -	Spike Recovery outside recovery limits	T -	TIC(Tentatively identified compound)
X -	Value exceeds Maximum Contaminant Level		

Teklab, Inc.
Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2006971

Work Order: 20020979
Report Date: 25-Feb-2020

Cooler Receipt Temp: 2.0 °C

Locations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email jhriley@teklabinc.com

Collinsville Air

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email EHurley@teklabinc.com

Chicago

Address 1319 Butterfield Rd.
Downers Grove, IL 60515
Phone (630) 324-6855
Fax
Email arenner@teklabinc.com

Teklab, Inc.
Environmental Laboratory

Accreditations

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20020979
Client Project: L2006971
Report Date: 25-Feb-2020

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	3/3/2020	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2020	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2020	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2020	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2020	Collinsville
Arkansas	ADEQ	88-0966		3/14/2021	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2020	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville
Tennessee	TDEC	04905		3/3/2020	Collinsville

Teklab, Inc. Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 20020979
Client Project: L2006971
Report Date: 25-Feb-2020
Lab ID: 20020979-001
Client Sample ID: MA-3 (OW)
Matrix: AQUEOUS
Collection Date: 02/14/2020 10:00

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE ORGANICS								
Ethanol	*	20		**ND**	mg/L	1	02/19/2020 13:18	R273169

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2006971

Work Order: 20020979
Report Date: 25-Feb-2020

EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE ORG

Batch R273169 **SampType:** MBLK Units **mg/L**
SampID: MBLK-021920

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	20		**ND**						02/19/2020

Batch R273169 **SampType:** LCS Units **mg/L**
SampID: LCS-021920

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	20		**220**	250.0	0	87.2	70	132	02/19/2020

Batch R273169 **SampType:** MS Units **mg/L**
SampID: 20020982-002AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	20		**240**	250.0	0	95.8	70	132	02/19/2020

Batch R273169 **SampType:** MSD Units **mg/L** RPD Limit **30**
SampID: 20020982-002AMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethanol	20		**240**	250.0	0	94.5	239.5	1.37	02/19/2020

Teklab, Inc. Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2006971

Work Order: 20020979
Report Date: 25-Feb-2020

Carrier: UPS

Received By: AH

Completed by: Amanda R. Ham
On: 18-Feb-2020

Reviewed by: Elizabeth A. Hurley
On: 18-Feb-2020

Pages to follow: Chain of custody 1 Extra pages included 0

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C **2.0**
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☑	No ☐	No VOA vials ☐
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA ☐
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA ☑

Any No responses must be detailed below or on the COC.

Subcontract Chain of Custody

Tek Lab, Inc.
5445 Horsehoe Lake Road
Collinsville, IL 62234-7425

Alpha Job Number
L2006971

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2006971

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
L2006971-001	MA-3 (OW)	02-14-20 10:00	WATER	Ethanol by EPA 1671 Revision A	

2.0 LT63 ice
OK HS VL
2/18/20

	Relinquished By:	Date/Time:	Received By:	Date/Time:
		2/17/20	UPS	2/18/20 0920
Form No: AL_subcoc				

VL 2/18/20

APPENDIX E:

LABORATORY ANALYTICAL DATA – ADDITIONAL GROUNDWATER

ANALYTICAL REPORT

Lab Number:	L1900731
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	SCAPE BOSTON
Project Number:	6546.9.00
Report Date:	01/11/19

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: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1900731
Report Date: 01/11/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1900731-01	MW-1	GROUNDWATER	BOSTON, MA	01/07/19 11:00	01/07/19
L1900731-02	MA-3 (OW)	GROUNDWATER	BOSTON, MA	01/07/19 09:15	01/07/19
L1900731-03	MW-7 (OW)	GROUNDWATER	BOSTON, MA	01/07/19 12:15	01/07/19

Project Name: SCAPE BOSTON **Lab Number:** L1900731

Project Number: 6546.9.00 **Report Date:** 01/11/19

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: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1900731
Report Date: 01/11/19

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. 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:	SCAPE BOSTON	**Lab Number:**	L1900731
Project Number:	6546.9.00	**Report Date:**	01/11/19

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

L1900731-02: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

In reference to question G:

L1900731-02: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The initial calibration, associated with L1900731-01 through -03, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0028), as well as the average response factor for 1,4-dioxane.

The continuing calibration standard, associated with L1900731-01 through -03, 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.

VPH

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

EPH

In reference to question G:

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

Metals

In reference to question G:

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

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

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: 01/11/19

ORGANICS

VOLATILES

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-01
Client ID: MW-1
Sample Location: BOSTON, MA

Date Collected: 01/07/19 11:00
Date Received: 01/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 97,8260C
Analytical Date: 01/08/19 11:37
Analyst: MKS

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	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	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

Project Name: SCAPE BOSTON **Lab Number:** L1900731

Project Number: 6546.9.00 **Report Date:** 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-01 Date Collected: 01/07/19 11:00

Client ID: MW-1 Date Received: 01/07/19

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
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	ND		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

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-01
Client ID: MW-1
Sample Location: BOSTON, MA
Date Collected: 01/07/19 11:00
Date Received: 01/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
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
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	108		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	107		70-130

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-02 D
Client ID: MA-3 (OW)
Sample Location: BOSTON, MA

Date Collected: 01/07/19 09:15
Date Received: 01/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 97,8260C
Analytical Date: 01/08/19 12:10
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	20	--	10
1,1-Dichloroethane	ND		ug/l	10	--	10
Chloroform	ND		ug/l	10	--	10
Carbon tetrachloride	ND		ug/l	10	--	10
1,2-Dichloropropane	ND		ug/l	10	--	10
Dibromochloromethane	ND		ug/l	10	--	10
1,1,2-Trichloroethane	ND		ug/l	10	--	10
Tetrachloroethene	ND		ug/l	10	--	10
Chlorobenzene	ND		ug/l	10	--	10
Trichlorofluoromethane	ND		ug/l	20	--	10
1,2-Dichloroethane	ND		ug/l	10	--	10
1,1,1-Trichloroethane	ND		ug/l	10	--	10
Bromodichloromethane	ND		ug/l	10	--	10
trans-1,3-Dichloropropene	ND		ug/l	4.0	--	10
cis-1,3-Dichloropropene	ND		ug/l	4.0	--	10
1,3-Dichloropropene, Total	ND		ug/l	4.0	--	10
1,1-Dichloropropene	ND		ug/l	20	--	10
Bromoform	ND		ug/l	20	--	10
1,1,2,2-Tetrachloroethane	ND		ug/l	10	--	10
Benzene	100		ug/l	5.0	--	10
Toluene	11		ug/l	10	--	10
Ethylbenzene	12		ug/l	10	--	10
Chloromethane	ND		ug/l	20	--	10
Bromomethane	ND		ug/l	20	--	10
Vinyl chloride	ND		ug/l	10	--	10
Chloroethane	ND		ug/l	20	--	10
1,1-Dichloroethene	ND		ug/l	10	--	10
trans-1,2-Dichloroethene	ND		ug/l	10	--	10

Project Name: SCAPE BOSTON **Lab Number:** L1900731

Project Number: 6546.9.00 **Report Date:** 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-02 D Date Collected: 01/07/19 09:15
Client ID: MA-3 (OW) Date Received: 01/07/19
Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	10	--	10
1,2-Dichlorobenzene	ND		ug/l	10	--	10
1,3-Dichlorobenzene	ND		ug/l	10	--	10
1,4-Dichlorobenzene	ND		ug/l	10	--	10
Methyl tert butyl ether	35		ug/l	20	--	10
p/m-Xylene	ND		ug/l	20	--	10
o-Xylene	ND		ug/l	10	--	10
Xylene (Total)	ND		ug/l	10	--	10
cis-1,2-Dichloroethene	ND		ug/l	10	--	10
1,2-Dichloroethene (total)	ND		ug/l	10	--	10
Dibromomethane	ND		ug/l	20	--	10
1,2,3-Trichloropropane	ND		ug/l	20	--	10
Styrene	ND		ug/l	10	--	10
Dichlorodifluoromethane	ND		ug/l	20	--	10
Acetone	ND		ug/l	50	--	10
Carbon disulfide	ND		ug/l	20	--	10
2-Butanone	ND		ug/l	50	--	10
4-Methyl-2-pentanone	ND		ug/l	50	--	10
2-Hexanone	ND		ug/l	50	--	10
Bromochloromethane	ND		ug/l	20	--	10
Tetrahydrofuran	ND		ug/l	20	--	10
2,2-Dichloropropane	ND		ug/l	20	--	10
1,2-Dibromoethane	ND		ug/l	20	--	10
1,3-Dichloropropane	ND		ug/l	20	--	10
1,1,1,2-Tetrachloroethane	ND		ug/l	10	--	10
Bromobenzene	ND		ug/l	20	--	10
n-Butylbenzene	ND		ug/l	20	--	10
sec-Butylbenzene	ND		ug/l	20	--	10
tert-Butylbenzene	ND		ug/l	20	--	10
o-Chlorotoluene	ND		ug/l	20	--	10
p-Chlorotoluene	ND		ug/l	20	--	10
1,2-Dibromo-3-chloropropane	ND		ug/l	20	--	10
Hexachlorobutadiene	ND		ug/l	6.0	--	10
Isopropylbenzene	38		ug/l	20	--	10
p-Isopropyltoluene	ND		ug/l	20	--	10
Naphthalene	ND		ug/l	20	--	10
n-Propylbenzene	37		ug/l	20	--	10

Project Name: SCAPE BOSTON
Lab Number: L1900731
Project Number: 6546.9.00
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-02 D
Client ID: MA-3 (OW)
Sample Location: BOSTON, MA

Date Collected: 01/07/19 09:15
Date Received: 01/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	20	--	10
1,2,4-Trichlorobenzene	ND		ug/l	20	--	10
1,3,5-Trimethylbenzene	ND		ug/l	20	--	10
1,2,4-Trimethylbenzene	ND		ug/l	20	--	10
Ethyl ether	ND		ug/l	20	--	10
Isopropyl Ether	ND		ug/l	20	--	10
Ethyl-Tert-Butyl-Ether	ND		ug/l	20	--	10
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--	10
1,4-Dioxane	ND		ug/l	2500	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	106		70-130

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-03
Client ID: MW-7 (OW)
Sample Location: BOSTON, MA

Date Collected: 01/07/19 12:15
Date Received: 01/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 97,8260C
Analytical Date: 01/08/19 11:03
Analyst: MKS

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	18		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	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	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

Project Name: SCAPE BOSTON **Lab Number:** L1900731

Project Number: 6546.9.00 **Report Date:** 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-03 Date Collected: 01/07/19 12:15

Client ID: MW-7 (OW) Date Received: 01/07/19

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	2.5		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	ND		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

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-03
Client ID: MW-7 (OW)
Sample Location: BOSTON, MA
Date Collected: 01/07/19 12:15
Date Received: 01/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
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
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	110		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	115		70-130

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1900731
Report Date: 01/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 01/08/19 06:02
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1195657-5					
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	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
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: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1900731
Report Date: 01/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 01/08/19 06:02
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1195657-5					
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: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1900731
Report Date: 01/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 01/08/19 06:02
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1195657-5					
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	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	112		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.00

Lab Number: L1900731

Report Date: 01/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1195657-3 WG1195657-4								
Methylene chloride	110		110		70-130	0		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	110		110		70-130	0		20
Carbon tetrachloride	120		120		70-130	0		20
1,2-Dichloropropane	94		88		70-130	7		20
Dibromochloromethane	98		100		70-130	2		20
1,1,2-Trichloroethane	86		86		70-130	0		20
Tetrachloroethene	99		97		70-130	2		20
Chlorobenzene	91		96		70-130	5		20
Trichlorofluoromethane	120		120		70-130	0		20
1,2-Dichloroethane	110		110		70-130	0		20
1,1,1-Trichloroethane	120		120		70-130	0		20
Bromodichloromethane	110		110		70-130	0		20
trans-1,3-Dichloropropene	92		94		70-130	2		20
cis-1,3-Dichloropropene	100		100		70-130	0		20
1,1-Dichloropropene	100		100		70-130	0		20
Bromoform	99		100		70-130	1		20
1,1,2,2-Tetrachloroethane	78		85		70-130	9		20
Benzene	96		95		70-130	1		20
Toluene	88		90		70-130	2		20
Ethylbenzene	92		92		70-130	0		20
Chloromethane	83		82		70-130	1		20
Bromomethane	110		110		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.00

Lab Number: L1900731

Report Date: 01/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1195657-3 WG1195657-4								
Vinyl chloride	100		99		70-130	1		20
Chloroethane	110		110		70-130	0		20
1,1-Dichloroethene	110		110		70-130	0		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	110		100		70-130	10		20
1,2-Dichlorobenzene	86		95		70-130	10		20
1,3-Dichlorobenzene	87		95		70-130	9		20
1,4-Dichlorobenzene	88		94		70-130	7		20
Methyl tert butyl ether	110		110		70-130	0		20
p/m-Xylene	90		90		70-130	0		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	110		100		70-130	10		20
Dibromomethane	100		100		70-130	0		20
1,2,3-Trichloropropane	82		86		70-130	5		20
Styrene	90		95		70-130	5		20
Dichlorodifluoromethane	110		100		70-130	10		20
Acetone	110		110		70-130	0		20
Carbon disulfide	100		100		70-130	0		20
2-Butanone	91		92		70-130	1		20
4-Methyl-2-pentanone	76		78		70-130	3		20
2-Hexanone	83		85		70-130	2		20
Bromochloromethane	110		110		70-130	0		20
Tetrahydrofuran	80		81		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.00

Lab Number: L1900731

Report Date: 01/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1195657-3 WG1195657-4								
2,2-Dichloropropane	120		120		70-130	0		20
1,2-Dibromoethane	94		92		70-130	2		20
1,3-Dichloropropane	84		88		70-130	5		20
1,1,1,2-Tetrachloroethane	100		99		70-130	1		20
Bromobenzene	92		98		70-130	6		20
n-Butylbenzene	76		81		70-130	6		20
sec-Butylbenzene	82		89		70-130	8		20
tert-Butylbenzene	87		90		70-130	3		20
o-Chlorotoluene	84		89		70-130	6		20
p-Chlorotoluene	84		90		70-130	7		20
1,2-Dibromo-3-chloropropane	80		91		70-130	13		20
Hexachlorobutadiene	94		93		70-130	1		20
Isopropylbenzene	88		92		70-130	4		20
p-Isopropyltoluene	82		89		70-130	8		20
Naphthalene	77		84		70-130	9		20
n-Propylbenzene	83		88		70-130	6		20
1,2,3-Trichlorobenzene	80		92		70-130	14		20
1,2,4-Trichlorobenzene	84		91		70-130	8		20
1,3,5-Trimethylbenzene	83		91		70-130	9		20
1,2,4-Trimethylbenzene	82		90		70-130	9		20
Ethyl ether	100		110		70-130	10		20
Isopropyl Ether	89		90		70-130	1		20
Ethyl-Tert-Butyl-Ether	100		100		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.00

Lab Number: L1900731

Report Date: 01/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1195657-3 WG1195657-4								
Tertiary-Amyl Methyl Ether	100		100		70-130	0		20
1,4-Dioxane	104		94		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		102		70-130
Toluene-d8	92		93		70-130
4-Bromofluorobenzene	95		101		70-130
Dibromofluoromethane	115		111		70-130

PETROLEUM HYDROCARBONS

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID:	L1900731-01	Date Collected:	01/07/19 11:00
Client ID:	MW-1	Date Received:	01/07/19
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Groundwater		
Analytical Method:	131,VPH-18-2.1		
Analytical Date:	01/09/19 10:28		
Analyst:	MZ		

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

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	78.8		ug/l	50.0	--	1
C9-C12 Aliphatics	ND		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	78.8		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	97		70-130
2,5-Dibromotoluene-FID	113		70-130

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID:	L1900731-01	Date Collected:	01/07/19 11:00
Client ID:	MW-1	Date Received:	01/07/19
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Groundwater	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	01/08/19 07:41
Analytical Date:	01/09/19 20:57	Cleanup Method1:	EPH-04-1
Analyst:	DG	Cleanup Date1:	01/09/19

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

Extractable Petroleum Hydrocarbons - Westborough Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-01
Client ID: MW-1
Sample Location: BOSTON, MA
Date Collected: 01/07/19 11:00
Date Received: 01/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	60		40-140
o-Terphenyl	91		40-140
2-Fluorobiphenyl	104		40-140
2-Bromonaphthalene	97		40-140

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID:	L1900731-02	Date Collected:	01/07/19 09:15
Client ID:	MA-3 (OW)	Date Received:	01/07/19
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Groundwater	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	01/08/19 07:41
Analytical Date:	01/09/19 21:42	Cleanup Method1:	EPH-04-1
Analyst:	DG	Cleanup Date1:	01/09/19

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

Extractable Petroleum Hydrocarbons - Westborough Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-02
Client ID: MA-3 (OW)
Sample Location: BOSTON, MA
Date Collected: 01/07/19 09:15
Date Received: 01/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	59		40-140
o-Terphenyl	89		40-140
2-Fluorobiphenyl	97		40-140
2-Bromonaphthalene	89		40-140

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID:	L1900731-02	D	Date Collected:	01/07/19 09:15
Client ID:	MA-3 (OW)		Date Received:	01/07/19
Sample Location:	BOSTON, MA		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Groundwater			
Analytical Method:	131,VPH-18-2.1			
Analytical Date:	01/09/19 11:49			
Analyst:	MZ			

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

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	4680		ug/l	100	--	2
C9-C12 Aliphatics	532		ug/l	100	--	2
C9-C10 Aromatics	335		ug/l	100	--	2
C5-C8 Aliphatics, Adjusted	4550		ug/l	100	--	2
C9-C12 Aliphatics, Adjusted	174		ug/l	100	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	105		70-130
2,5-Dibromotoluene-FID	121		70-130

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID:	L1900731-03	Date Collected:	01/07/19 12:15
Client ID:	MW-7 (OW)	Date Received:	01/07/19
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Groundwater		
Analytical Method:	131,VPH-18-2.1		
Analytical Date:	01/09/19 11:09		
Analyst:	MZ		

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

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	78.2		ug/l	50.0	--	1
C9-C12 Aliphatics	ND		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	78.2		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	100		70-130
2,5-Dibromotoluene-FID	116		70-130

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID:	L1900731-03	Date Collected:	01/07/19 12:15
Client ID:	MW-7 (OW)	Date Received:	01/07/19
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Groundwater	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	01/08/19 07:41
Analytical Date:	01/09/19 22:27	Cleanup Method1:	EPH-04-1
Analyst:	DG	Cleanup Date1:	01/09/19

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

Extractable Petroleum Hydrocarbons - Westborough Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-03
Client ID: MW-7 (OW)
Sample Location: BOSTON, MA
Date Collected: 01/07/19 12:15
Date Received: 01/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	68		40-140
o-Terphenyl	85		40-140
2-Fluorobiphenyl	94		40-140
2-Bromonaphthalene	84		40-140

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1900731
Report Date: 01/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 01/08/19 00:54
Analyst: DG

Extraction Method: EPA 3510C
Extraction Date: 01/07/19 16:16
Cleanup Method: EPH-04-1
Cleanup Date: 01/07/19

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-03 Batch: WG1195470-1					
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	57		40-140
o-Terphenyl	61		40-140
2-Fluorobiphenyl	71		40-140
2-Bromonaphthalene	65		40-140

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1900731
Report Date: 01/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 01/09/19 09:48
Analyst: MZ

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-03 Batch: WG1196093-4					
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	93		70-130
2,5-Dibromotoluene-FID	107		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1900731
Report Date: 01/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03 Batch: WG1195470-2 WG1195470-3								
C9-C18 Aliphatics	74		77		40-140	4		25
C19-C36 Aliphatics	80		80		40-140	0		25
C11-C22 Aromatics	83		78		40-140	6		25
Naphthalene	62		60		40-140	3		25
2-Methylnaphthalene	63		61		40-140	3		25
Acenaphthylene	70		68		40-140	3		25
Acenaphthene	70		69		40-140	1		25
Fluorene	75		72		40-140	4		25
Phenanthrene	81		75		40-140	8		25
Anthracene	81		75		40-140	8		25
Fluoranthene	83		76		40-140	9		25
Pyrene	83		76		40-140	9		25
Benzo(a)anthracene	80		74		40-140	8		25
Chrysene	84		79		40-140	6		25
Benzo(b)fluoranthene	84		76		40-140	10		25
Benzo(k)fluoranthene	82		77		40-140	6		25
Benzo(a)pyrene	80		74		40-140	8		25
Indeno(1,2,3-cd)Pyrene	78		72		40-140	8		25
Dibenzo(a,h)anthracene	81		78		40-140	4		25
Benzo(ghi)perylene	72		70		40-140	3		25
Nonane (C9)	55		58		30-140	5		25
Decane (C10)	62		64		40-140	3		25
Dodecane (C12)	66		69		40-140	4		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.00

Lab Number: L1900731

Report Date: 01/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03 Batch: WG1195470-2 WG1195470-3								
Tetradecane (C14)	68		73		40-140	7		25
Hexadecane (C16)	72		75		40-140	4		25
Octadecane (C18)	75		75		40-140	0		25
Nonadecane (C19)	76		75		40-140	1		25
Eicosane (C20)	76		75		40-140	1		25
Docosane (C22)	76		74		40-140	3		25
Tetracosane (C24)	75		74		40-140	1		25
Hexacosane (C26)	74		73		40-140	1		25
Octacosane (C28)	73		72		40-140	1		25
Triacontane (C30)	74		73		40-140	1		25
Hexatriacontane (C36)	79		78		40-140	1		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	59		59		40-140
o-Terphenyl	72		66		40-140
2-Fluorobiphenyl	77		72		40-140
2-Bromonaphthalene	70		66		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.00

Lab Number: L1900731

Report Date: 01/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03 Batch: WG1196093-2 WG1196093-3								
C5-C8 Aliphatics	109		104		70-130	5		25
C9-C12 Aliphatics	108		105		70-130	3		25
C9-C10 Aromatics	94		91		70-130	3		25
Benzene	94		91		70-130	3		25
Toluene	84		81		70-130	3		25
Ethylbenzene	96		93		70-130	3		25
p/m-Xylene	96		93		70-130	3		25
o-Xylene	95		92		70-130	3		25
Methyl tert butyl ether	96		93		70-130	3		25
Naphthalene	96		95		70-130	1		25
1,2,4-Trimethylbenzene	94		91		70-130	3		25
Pentane	108		105		70-130	3		25
2-Methylpentane	109		105		70-130	4		25
2,2,4-Trimethylpentane	112		108		70-130	4		25
n-Nonane	106		102		30-130	4		25
n-Decane	112		109		70-130	3		25
n-Butylcyclohexane	106		103		70-130	3		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	98		95		70-130
2,5-Dibromotoluene-FID	112		109		70-130

METALS

Project Name: SCAPE BOSTON
Lab Number: L1900731
Project Number: 6546.9.00
Report Date: 01/11/19

SAMPLE RESULTS

Lab ID: L1900731-02
Client ID: MA-3 (OW)
Sample Location: BOSTON, MA
Date Collected: 01/07/19 09:15
Date Received: 01/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Dissolved Metals - Mansfield Lab											
Antimony, Dissolved	ND		mg/l	0.050	--	1	01/09/19 15:14	01/09/19 22:49	EPA 3005A	97,6010D	LC
Arsenic, Dissolved	ND		mg/l	0.005	--	1	01/09/19 15:14	01/09/19 22:49	EPA 3005A	97,6010D	LC
Beryllium, Dissolved	ND		mg/l	0.005	--	1	01/09/19 15:14	01/09/19 22:49	EPA 3005A	97,6010D	LC
Cadmium, Dissolved	ND		mg/l	0.004	--	1	01/09/19 15:14	01/09/19 22:49	EPA 3005A	97,6010D	LC
Chromium, Dissolved	ND		mg/l	0.010	--	1	01/09/19 15:14	01/09/19 22:49	EPA 3005A	97,6010D	LC
Copper, Dissolved	ND		mg/l	0.010	--	1	01/09/19 15:14	01/09/19 22:49	EPA 3005A	97,6010D	LC
Lead, Dissolved	ND		mg/l	0.010	--	1	01/09/19 15:14	01/09/19 22:49	EPA 3005A	97,6010D	LC
Mercury, Dissolved	ND		mg/l	0.0002	--	1	01/09/19 10:34	01/09/19 18:34	EPA 7470A	97,7470A	MG
Nickel, Dissolved	ND		mg/l	0.025	--	1	01/09/19 15:14	01/09/19 22:49	EPA 3005A	97,6010D	LC
Selenium, Dissolved	ND		mg/l	0.010	--	1	01/09/19 15:14	01/09/19 22:49	EPA 3005A	97,6010D	LC
Silver, Dissolved	ND		mg/l	0.007	--	1	01/09/19 15:14	01/09/19 22:49	EPA 3005A	97,6010D	LC
Thallium, Dissolved	ND		mg/l	0.020	--	1	01/09/19 15:14	01/09/19 22:49	EPA 3005A	97,6010D	LC
Zinc, Dissolved	ND		mg/l	0.050	--	1	01/09/19 15:14	01/09/19 22:49	EPA 3005A	97,6010D	LC

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1900731
Report Date: 01/11/19

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: WG1196010-1										
Mercury, Dissolved	ND		mg/l	0.0002	--	1	01/09/19 10:34	01/09/19 18:29	97,7470A	MG

Prep Information

Digestion Method: EPA 7470A

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: WG1196087-1										
Antimony, Dissolved	ND		mg/l	0.050	--	1	01/09/19 15:14	01/09/19 21:27	97,6010D	LC
Arsenic, Dissolved	ND		mg/l	0.005	--	1	01/09/19 15:14	01/09/19 21:27	97,6010D	LC
Beryllium, Dissolved	ND		mg/l	0.005	--	1	01/09/19 15:14	01/09/19 21:27	97,6010D	LC
Cadmium, Dissolved	ND		mg/l	0.004	--	1	01/09/19 15:14	01/09/19 21:27	97,6010D	LC
Chromium, Dissolved	ND		mg/l	0.010	--	1	01/09/19 15:14	01/09/19 21:27	97,6010D	LC
Copper, Dissolved	ND		mg/l	0.010	--	1	01/09/19 15:14	01/09/19 21:27	97,6010D	LC
Lead, Dissolved	ND		mg/l	0.010	--	1	01/09/19 15:14	01/09/19 21:27	97,6010D	LC
Nickel, Dissolved	ND		mg/l	0.025	--	1	01/09/19 15:14	01/09/19 21:27	97,6010D	LC
Selenium, Dissolved	ND		mg/l	0.010	--	1	01/09/19 15:14	01/09/19 21:27	97,6010D	LC
Silver, Dissolved	ND		mg/l	0.007	--	1	01/09/19 15:14	01/09/19 21:27	97,6010D	LC
Thallium, Dissolved	ND		mg/l	0.020	--	1	01/09/19 15:14	01/09/19 21:27	97,6010D	LC
Zinc, Dissolved	ND		mg/l	0.050	--	1	01/09/19 15:14	01/09/19 21:27	97,6010D	LC

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.00

Lab Number: L1900731

Report Date: 01/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Dissolved Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1196010-2 WG1196010-3								
Mercury, Dissolved	89		95		80-120	7		20
MCP Dissolved Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1196087-2 WG1196087-3								
Antimony, Dissolved	92		95		80-120	3		20
Arsenic, Dissolved	102		107		80-120	5		20
Beryllium, Dissolved	93		95		80-120	2		20
Cadmium, Dissolved	104		107		80-120	3		20
Chromium, Dissolved	96		98		80-120	2		20
Copper, Dissolved	94		95		80-120	1		20
Lead, Dissolved	100		102		80-120	2		20
Nickel, Dissolved	95		96		80-120	1		20
Selenium, Dissolved	106		107		80-120	1		20
Silver, Dissolved	99		99		80-120	0		20
Thallium, Dissolved	98		100		80-120	2		20
Zinc, Dissolved	102		103		80-120	1		20

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1900731
Report Date: 01/11/19

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(*)
L1900731-01A	Vial HCl preserved	A	NA		4.0	Y	Absent		VPH-18(14),MCP-8260-10(14)
L1900731-01B	Vial HCl preserved	A	NA		4.0	Y	Absent		VPH-18(14),MCP-8260-10(14)
L1900731-01C	Vial HCl preserved	A	NA		4.0	Y	Absent		VPH-18(14),MCP-8260-10(14)
L1900731-01D	Amber 1000ml HCl preserved	A	<2	<2	4.0	Y	Absent		EPH-DELUX-10(14)
L1900731-01E	Amber 1000ml HCl preserved	A	<2	<2	4.0	Y	Absent		EPH-DELUX-10(14)
L1900731-02A	Vial HCl preserved	A	NA		4.0	Y	Absent		VPH-18(14),MCP-8260-10(14)
L1900731-02B	Vial HCl preserved	A	NA		4.0	Y	Absent		VPH-18(14),MCP-8260-10(14)
L1900731-02C	Vial HCl preserved	A	NA		4.0	Y	Absent		VPH-18(14),MCP-8260-10(14)
L1900731-02D	Plastic 500ml unpreserved	A	7	7	4.0	Y	Absent		-
L1900731-02E	Amber 1000ml HCl preserved	A	<2	<2	4.0	Y	Absent		EPH-DELUX-10(14)
L1900731-02F	Amber 1000ml HCl preserved	A	<2	<2	4.0	Y	Absent		EPH-DELUX-10(14)
L1900731-02X	Plastic 250ml HNO3 preserved Filtrates	A	NA		4.0	Y	Absent		MCP-CD-6010S-10(180),MCP-7470S-10(28),MCP-AG-6010S-10(180),MCP-TL-6010S-10(180),MCP-ZN-6010S-10(180),MCP-AS-6010S-10(180),MCP-CR-6010S-10(180),MCP-BE-6010S-10(180),MCP-SB-6010S-10(180),MCP-PB-6010S-10(180),MCP-CU-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180)
L1900731-03A	Vial HCl preserved	A	NA		4.0	Y	Absent		VPH-18(14),MCP-8260-10(14)
L1900731-03B	Vial HCl preserved	A	NA		4.0	Y	Absent		VPH-18(14),MCP-8260-10(14)
L1900731-03C	Vial HCl preserved	A	NA		4.0	Y	Absent		VPH-18(14),MCP-8260-10(14)
L1900731-03D	Amber 1000ml HCl preserved	A	<2	<2	4.0	Y	Absent		EPH-DELUX-10(14)
L1900731-03E	Amber 1000ml HCl preserved	A	<2	<2	4.0	Y	Absent		EPH-DELUX-10(14)

*Values in parentheses indicate holding time in days

Project Name:	SCAPE BOSTON	**Lab Number:**	L1900731
Project Number:	6546.9.00	**Report Date:**	01/11/19

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:	SCAPE BOSTON	**Lab Number:**	L1900731
Project Number:	6546.9.00	**Report Date:**	01/11/19

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:	SCAPE BOSTON	**Lab Number:**	L1900731
Project Number:	6546.9.00	**Report Date:**	01/11/19

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.

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

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

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

Date Rec'd in Lab: 1/7/19

ALPHA Job #: L1900731

Client Information

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

Project Information

Project Name: SCAPE Boston
Project Location: Boston, MA
Project #: 6546.900
Project Manager: BED
ALPHA Quote #:

Turn-Around Time

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

Report Information - Data Deliverables

☑ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

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

Additional Project Information:

☐ Run TCLP (if triggered)

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Sample Depth	Sample Material	Collection Date	Collection Time	Sampler Initials	Soil Assessment Package IV (less VOC)	VOC: ☐ 8260	Total Solids	SVOC: ☐ PAH	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	TOTAL METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	DISSOLVED METALS: ☐ RCRA8 ☑ PP13 ☐ MCP 14	METALS: Total Sb,Be,Ni,Tl,V,Zn	☐ PCBs ☐ Pesticides	RGP Section A Inorganics				SAMPLE INFO *Filtration* ☐ Field ☐ Lab to do *Preservation* ☐ Lab to do Sample Comments	TOTAL # BOTTLES
0073I-01	MW-1		GW	1/7/19	1100	TMC		X			X	X										5
02	MA-3(ow)				915			X			X	X		X							Lab Filter Metals	6
03	MA-7(ow)				1215			X			X	X										4
Container Type								V			A	V		P								
Preservative								B			B	P		A								

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

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

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=Ascorbix Acid
J=NH_4Cl
K=Zn Acetate
O=Other

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

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	1/7/19 1400	COOLER	1-7-19 1400
Cooler	1/7/19 1600	McPhail Associates secure sample storage for laboratory pick-up 1-7-19	1615
McPhail Associates secure sample storage for laboratory pick-up 1-7-19	1755	[signature]	1/7/19 1755

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

DOC ID: 25188 Rev 0 (11/28/2017)

Method Blank Summary
Form 4
VOLATILES

Client	: McPhail Associates	**Lab Number**	: L1900731
Project Name	: SCAPE BOSTON	**Project Number**	: 6546.9.00
Lab Sample ID	: WG1195657-5	**Lab File ID**	: VJ190108A08
Instrument ID	: JACK		
Matrix	: WATER	**Analysis Date**	: 01/08/19 06:02

Client Sample No.	Lab Sample ID	Analysis Date
WG1195657-3LCS	WG1195657-3	01/08/19 04:22
WG1195657-4LCSD	WG1195657-4	01/08/19 04:55
MW-7 (OW)	L1900731-03	01/08/19 11:03
MW-1	L1900731-01	01/08/19 11:37
MA-3 (OW)	L1900731-02D	01/08/19 12:10

Continuing Calibration
Form 7

Client	: McPhail Associates	**Lab Number**	: L1900731		
Project Name	: SCAPE BOSTON	**Project Number**	: 6546.9.00		
Instrument ID	: JACK	**Calibration Date**	: 01/08/19 04:22		
Lab File ID	: VJ190108A02	**Init. Calib. Date(s)**	: 12/06/18	12/07/18	
Sample No	: WG1195657-2	**Init. Calib. Times**	: 22:48	02:43	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	65	0
Dichlorodifluoromethane	0.385	0.411	-	-6.8	20	63	0
Chloromethane	0.451	0.375	-	16.9	20	59	.02
Vinyl chloride	0.451	0.466	-	-3.3	20	63	0
Bromomethane	0.231	0.26	-	-12.6	20	83	0
Chloroethane	0.244	0.277	-	-13.5	20	68	0
Trichlorofluoromethane	0.6	0.752	-	-25.3*	20	73	0
Ethyl ether	0.177	0.185	-	-4.5	20	68	0
1,1-Dichloroethene	0.332	0.362	-	-9	20	71	0
Carbon disulfide	0.866	0.91	-	-5.1	20	71	0
Methylene chloride	0.358	0.409	-	-14.2	20	74	0
Acetone	10	11.358	-	-13.6	20	68	0
trans-1,2-Dichloroethene	0.362	0.385	-	-6.4	20	71	0
Methyl tert-butyl ether	0.916	1.026	-	-12	20	70	0
Diisopropyl ether	1.373	1.225	-	10.8	20	58	0
1,1-Dichloroethane	0.788	0.793	-	-0.6	20	66	0
Ethyl tert-butyl ether	1.205	1.252	-	-3.9	20	66	0
cis-1,2-Dichloroethene	0.423	0.449	-	-6.1	20	71	0
2,2-Dichloropropane	0.658	0.811	-	-23.3*	20	80	0
Bromochloromethane	0.181	0.198	-	-9.4	20	72	0
Chloroform	0.769	0.83	-	-7.9	20	73	0
Carbon tetrachloride	0.597	0.723	-	-21.1*	20	78	0
Tetrahydrofuran	0.104	0.083	-	20.2*	20	52	0
Dibromofluoromethane	0.238	0.273	-	-14.7	20	75	0
1,1,1-Trichloroethane	0.693	0.8	-	-15.4	20	73	0
2-Butanone	0.129	0.117	-	9.3	20	58	0
1,1-Dichloropropene	0.624	0.644	-	-3.2	20	69	0
Benzene	1.812	1.745	-	3.7	20	67	0
tert-Amyl methyl ether	1.077	1.12	-	-4	20	69	0
1,2-Dichloroethane-d4	0.321	0.346	-	-7.8	20	68	0
1,2-Dichloroethane	0.558	0.635	-	-13.8	20	74	0
Trichloroethene	0.439	0.468	-	-6.6	20	71	0
Dibromomethane	0.218	0.228	-	-4.6	20	69	0
1,2-Dichloropropane	0.433	0.405	-	6.5	20	64	0
Bromodichloromethane	0.568	0.618	-	-8.8	20	73	0
1,4-Dioxane	0.00294	0.00304*	-	-3.4	20	66	0
cis-1,3-Dichloropropene	0.7	0.72	-	-2.9	20	69	0
Chlorobenzene-d5	1	1	-	0	20	77	0
Toluene-d8	1.3	1.191	-	8.4	20	70	0
Toluene	1.437	1.264	-	12	20	67	0
4-Methyl-2-pentanone	0.139	0.106	-	23.7*	20	57	0
Tetrachloroethene	0.643	0.639	-	0.6	20	77	0
trans-1,3-Dichloropropene	0.795	0.734	-	7.7	20	73	0
1,1,2-Trichloroethane	0.348	0.301	-	13.5	20	68	0
Chlorodibromomethane	0.476	0.467	-	1.9	20	77	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: McPhail Associates	**Lab Number**	: L1900731		
Project Name	: SCAPE BOSTON	**Project Number**	: 6546.9.00		
Instrument ID	: JACK	**Calibration Date**	: 01/08/19 04:22		
Lab File ID	: VJ190108A02	**Init. Calib. Date(s)**	: 12/06/18	12/07/18	
Sample No	: WG1195657-2	**Init. Calib. Times**	: 22:48	02:43	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,3-Dichloropropane	0.746	0.631	-	15.4	20	64	0
1,2-Dibromoethane	0.416	0.391	-	6	20	73	0
2-Hexanone	0.255	0.213	-	16.5	20	64	0
Chlorobenzene	1.556	1.415	-	9.1	20	71	0
Ethylbenzene	2.818	2.604	-	7.6	20	72	0
1,1,1,2-Tetrachloroethane	0.55	0.551	-	-0.2	20	79	0
p/m Xylene	1.284	1.133	-	11.8	20	68	0
o Xylene	1.042	0.975	-	6.4	20	75	0
Styrene	1.711	1.552	-	9.3	20	70	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	83	0
Bromoform	0.528	0.521	-	1.3	20	84	0
Isopropylbenzene	5.591	4.912	-	12.1	20	74	0
4-Bromofluorobenzene	0.933	0.889	-	4.7	20	78	0
Bromobenzene	1.195	1.099	-	8	20	81	0
n-Propylbenzene	6.206	5.135	-	17.3	20	70	0
1,1,2,2-Tetrachloroethane	0.897	0.705	-	21.4*	20	65	0
2-Chlorotoluene	4.097	3.432	-	16.2	20	72	0
1,3,5-Trimethylbenzene	4.284	3.574	-	16.6	20	72	0
1,2,3-Trichloropropane	0.777	0.634	-	18.4	20	65	0
4-Chlorotoluene	3.761	3.165	-	15.8	20	72	0
tert-Butylbenzene	3.723	3.255	-	12.6	20	75	0
1,2,4-Trimethylbenzene	4.026	3.305	-	17.9	20	70	0
sec-Butylbenzene	5.157	4.219	-	18.2	20	69	0
p-Isopropyltoluene	4.378	3.583	-	18.2	20	70	0
1,3-Dichlorobenzene	2.289	1.995	-	12.8	20	73	0
1,4-Dichlorobenzene	2.269	1.987	-	12.4	20	76	0
n-Butylbenzene	3.347	2.543	-	24*	20	64	0
1,2-Dichlorobenzene	2.077	1.779	-	14.3	20	73	0
1,2-Dibromo-3-chloropropan	0.142	0.113	-	20.4*	20	73	0
Hexachlorobutadiene	0.454	0.429	-	5.5	20	77	0
1,2,4-Trichlorobenzene	0.957	0.809	-	15.5	20	72	0
Naphthalene	1.718	1.329	-	22.6*	20	69	0
1,2,3-Trichlorobenzene	0.824	0.655	-	20.5*	20	67	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L1904415
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	SCAPE BOSTON
Project Number:	6546.9.00
Report Date:	02/06/19

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: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1904415
Report Date: 02/06/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1904415-01	MA-2 (OW)	GROUNDWATER	BOSTON, MA	02/04/19 11:00	02/04/19

Project Name:	SCAPE BOSTON	**Lab Number:**	L1904415
Project Number:	6546.9.00	**Report Date:**	02/06/19

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)?	YES
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:	SCAPE BOSTON	**Lab Number:**	L1904415
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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:	SCAPE BOSTON	**Lab Number:**	L1904415
Project Number:	6546.9.00	**Report Date:**	02/06/19

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question H:

The initial calibration, associated with L1904415-01, did not meet the method required minimum response factor on the lowest calibration standard for 2-butanone (0.0851), 4-methyl-2-pentanone (0.0666), and 1,4-dioxane (0.0016), as well as the average response factor for 2-butanone, 4-methyl-2-pentanone, and 1,4-dioxane.

The continuing calibration standard, associated with L1904415-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

VPH

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

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

Authorized Signature: Melissa Cripps

Title: Technical Director/Representative Date: 02/06/19

QC OUTLIER SUMMARY REPORT

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1904415
Report Date: 02/06/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics - Westborough Lab								
8260C	Batch QC	WG1204150-3	2,2-Dichloropropane	LCS	140	70-130	01	potential high bias
8260C	Batch QC	WG1204150-4	Acetone	LCSD	27	20	01	non-directional bias
8260C	Batch QC	WG1204150-4	2,2-Dichloropropane	LCSD	140	70-130	01	potential high bias
8260C	Batch QC	WG1204150-4	1,4-Dioxane	LCSD	28	20	01	non-directional bias
8260C	Batch QC	WG1204150-4	1,4-Dioxane	LCSD	68	70-130	01	potential low bias

ORGANICS

VOLATILES

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1904415
Report Date: 02/06/19

SAMPLE RESULTS

Lab ID: L1904415-01
Client ID: MA-2 (OW)
Sample Location: BOSTON, MA

Date Collected: 02/04/19 11:00
Date Received: 02/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 97,8260C
Analytical Date: 02/06/19 06:50
Analyst: MM

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	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	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	6.4		ug/l	0.50	--	1
Toluene	1.2		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

Project Name: SCAPE BOSTON **Lab Number:** L1904415

Project Number: 6546.9.00 **Report Date:** 02/06/19

SAMPLE RESULTS

Lab ID: L1904415-01 Date Collected: 02/04/19 11:00

Client ID: MA-2 (OW) Date Received: 02/04/19

Sample Location: BOSTON, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	29		ug/l	2.0	--	1
p/m-Xylene	2.8		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	2.8		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	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	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	2.3		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	7.6		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	7.3		ug/l	2.0	--	1

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1904415
Report Date: 02/06/19

SAMPLE RESULTS

Lab ID: L1904415-01
Client ID: MA-2 (OW)
Sample Location: BOSTON, MA
Date Collected: 02/04/19 11:00
Date Received: 02/04/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
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
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl 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	115		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	101		70-130

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1904415
Report Date: 02/06/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 02/06/19 06:25
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1204150-5					
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	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
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: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1904415
Report Date: 02/06/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 02/06/19 06:25
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1204150-5					
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	--
Xylenes, 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	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	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: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1904415
Report Date: 02/06/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 02/06/19 06:25
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1204150-5					
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	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.00

Lab Number: L1904415

Report Date: 02/06/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1204150-3 WG1204150-4								
Methylene chloride	110		110		70-130	0		20
1,1-Dichloroethane	110		120		70-130	9		20
Chloroform	120		120		70-130	0		20
Carbon tetrachloride	120		120		70-130	0		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	92		95		70-130	3		20
1,1,2-Trichloroethane	94		94		70-130	0		20
Tetrachloroethene	100		100		70-130	0		20
Chlorobenzene	95		96		70-130	1		20
Trichlorofluoromethane	120		120		70-130	0		20
1,2-Dichloroethane	120		120		70-130	0		20
1,1,1-Trichloroethane	130		130		70-130	0		20
Bromodichloromethane	120		120		70-130	0		20
trans-1,3-Dichloropropene	97		98		70-130	1		20
cis-1,3-Dichloropropene	110		110		70-130	0		20
1,1-Dichloropropene	120		120		70-130	0		20
Bromoform	87		87		70-130	0		20
1,1,2,2-Tetrachloroethane	82		83		70-130	1		20
Benzene	110		110		70-130	0		20
Toluene	96		95		70-130	1		20
Ethylbenzene	99		99		70-130	0		20
Chloromethane	84		84		70-130	0		20
Bromomethane	100		95		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1904415
Report Date: 02/06/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1204150-3 WG1204150-4								
Vinyl chloride	100		100		70-130	0		20
Chloroethane	110		100		70-130	10		20
1,1-Dichloroethene	110		99		70-130	11		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	120		110		70-130	9		20
1,2-Dichlorobenzene	88		91		70-130	3		20
1,3-Dichlorobenzene	90		89		70-130	1		20
1,4-Dichlorobenzene	85		91		70-130	7		20
Methyl tert butyl ether	120		120		70-130	0		20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	120		110		70-130	9		20
Dibromomethane	110		120		70-130	9		20
1,2,3-Trichloropropane	84		82		70-130	2		20
Styrene	90		90		70-130	0		20
Dichlorodifluoromethane	99		100		70-130	1		20
Acetone	110		84		70-130	**27**	Q	20
Carbon disulfide	100		110		70-130	10		20
Methyl ethyl ketone	90		84		70-130	7		20
Methyl isobutyl ketone	84		83		70-130	1		20
2-Hexanone	70		74		70-130	6		20
Bromochloromethane	120		130		70-130	8		20
Tetrahydrofuran	91		87		70-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.00

Lab Number: L1904415

Report Date: 02/06/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1204150-3 WG1204150-4								
2,2-Dichloropropane	**140**	Q	**140**	Q	70-130	0		20
1,2-Dibromoethane	92		90		70-130	2		20
1,3-Dichloropropane	94		94		70-130	0		20
1,1,1,2-Tetrachloroethane	94		96		70-130	2		20
Bromobenzene	92		91		70-130	1		20
n-Butylbenzene	87		90		70-130	3		20
sec-Butylbenzene	89		91		70-130	2		20
tert-Butylbenzene	86		90		70-130	5		20
o-Chlorotoluene	90		92		70-130	2		20
p-Chlorotoluene	88		90		70-130	2		20
1,2-Dibromo-3-chloropropane	82		86		70-130	5		20
Hexachlorobutadiene	95		100		70-130	5		20
Isopropylbenzene	89		90		70-130	1		20
p-Isopropyltoluene	87		89		70-130	2		20
Naphthalene	76		79		70-130	4		20
n-Propylbenzene	88		90		70-130	2		20
1,2,3-Trichlorobenzene	84		88		70-130	5		20
1,2,4-Trichlorobenzene	88		89		70-130	1		20
1,3,5-Trimethylbenzene	87		90		70-130	3		20
1,2,4-Trimethylbenzene	89		90		70-130	1		20
Diethyl ether	96		100		70-130	4		20
Diisopropyl Ether	100		100		70-130	0		20
Ethyl-Tert-Butyl-Ether	110		110		70-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.00

Lab Number: L1904415

Report Date: 02/06/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1204150-3 WG1204150-4								
Tertiary-Amyl Methyl Ether	110		110		70-130	0		20
1,4-Dioxane	90		**68**	Q	70-130	**28**	Q	20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	104		110		70-130
Toluene-d8	93		93		70-130
4-Bromofluorobenzene	97		99		70-130
Dibromofluoromethane	107		106		70-130

PETROLEUM HYDROCARBONS

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1904415
Report Date: 02/06/19

SAMPLE RESULTS

Lab ID: L1904415-01
Client ID: MA-2 (OW)
Sample Location: BOSTON, MA

Date Collected: 02/04/19 11:00
Date Received: 02/04/19
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 131,VPH-18-2.1
Analytical Date: 02/05/19 16:51
Analyst: MZ

Trap: EST, Carbopack B/Carboxen 1000&1001

Analytical Column: Restek, RTX-502.2, 105m, 0.53ID, 3um

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	787		ug/l	50.0	--	1
C9-C12 Aliphatics	267		ug/l	50.0	--	1
C9-C10 Aromatics	192		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	758		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	73.1		ug/l	50.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	104		70-130
2,5-Dibromotoluene-FID	107		70-130

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1904415
Report Date: 02/06/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 02/05/19 12:42
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG1204165-4					
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	91		70-130
2,5-Dibromotoluene-FID	98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1904415
Report Date: 02/06/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG1204165-2 WG1204165-3								
C5-C8 Aliphatics	98		99		70-130	1		25
C9-C12 Aliphatics	116		121		70-130	4		25
C9-C10 Aromatics	108		109		70-130	1		25
Benzene	95		95		70-130	0		25
Toluene	99		100		70-130	1		25
Ethylbenzene	106		106		70-130	0		25
p/m-Xylene	105		106		70-130	1		25
o-Xylene	104		105		70-130	1		25
Methyl tert butyl ether	97		98		70-130	0		25
Naphthalene	100		100		70-130	0		25
1,2,4-Trimethylbenzene	108		109		70-130	1		25
Pentane	88		88		70-130	0		25
2-Methylpentane	102		103		70-130	1		25
2,2,4-Trimethylpentane	103		104		70-130	1		25
n-Nonane	112		113		30-130	1		25
n-Decane	119		120		70-130	1		25
n-Butylcyclohexane	118		118		70-130	0		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	105		105		70-130
2,5-Dibromotoluene-FID	110		112		70-130

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1904415
Report Date: 02/06/19

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(*)
L1904415-01A	Vial HCl preserved	A	NA		4.0	Y	Absent		MCP-8260-10(14)
L1904415-01B	Vial HCl preserved	A	NA		4.0	Y	Absent		MCP-8260-10(14)
L1904415-01C	Vial HCl preserved	A	NA		4.0	Y	Absent		VPH-18(14)
L1904415-01D	Vial HCl preserved	A	NA		4.0	Y	Absent		VPH-18(14)

*Values in parentheses indicate holding time in days

Project Name:	SCAPE BOSTON	**Lab Number:**	L1904415
Project Number:	6546.9.00	**Report Date:**	02/06/19

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:	SCAPE BOSTON	**Lab Number:**	L1904415
Project Number:	6546.9.00	**Report Date:**	02/06/19

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.

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

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

Date Rec'd in Lab: 02/04/19

ALPHA Job #: L1904415

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: SCAPE Boston
- Project Location: Boston, MA
- Project #: 6546.9.00
- Project Manager: BEJ
- ALPHA Quote #:

Report Information - Data Deliverables
- ☐ ADEx
- ☐ EMAIL

Billing Information
- ☐ Same as Client info
- PO #:

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

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

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

Additional Project Information:
- ☐ Run TCLP (if triggered)

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Sample Depth	Sample Material	Collection Date	Collection Time	Sampler Initials	Soil Assessment Package IV (less VOC)	VOC: ☐ 8260	Total Solids	SVOC: ☐ PAH	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	TOTAL METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	DISSOLVED METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	METALS: Total Sb,Be,Ni,Tl,V,Zn	☐ PCBs ☐ Pesticides	RGP Section A Inorganics	VPH Standard			SAMPLE INFO *Filtration* ☐ Field ☐ Lab to do *Preservation* ☐ Lab to do Sample Comments	TOTAL # BOTTLES
04415-01	MA-2 (OW)	—	GW	2/4/19	1100	TH		X										X				4

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

Sample Material
F=Fil, S=Sand, O=Organics, C=Clay, N=Natural, T=Till, GM=Glaciomarine, GW=Groundwater

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=Ascorbix Acid, J=NH_4Cl, K=Zn Acetate, O=Other

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

	Container Type	Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	2/4/19 1145	McPhail Associates secure sample storage for laboratory pick-up	
McPhail Associates secure sample storage for laboratory pick-up		AAL	2/4/19 16:50
AAL	2/4/19 1830		2/4/19 1830

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

DOC ID: 25188 Rev 0 (11/28/2017)

Method Blank Summary
Form 4
VOLATILES

Client	: McPhail Associates	**Lab Number**	: L1904415
Project Name	: SCAPE BOSTON	**Project Number**	: 6546.9.00
Lab Sample ID	: WG1204150-5	**Lab File ID**	: V16190206A08
Instrument ID	: VOA116		
Matrix	: WATER	**Analysis Date**	: 02/06/19 06:25

Client Sample No.	Lab Sample ID	Analysis Date
WG1204150-3LCS	WG1204150-3	02/06/19 03:27
WG1204150-4LCSD	WG1204150-4	02/06/19 03:53
MA-2 (OW)	L1904415-01	02/06/19 06:50

Continuing Calibration
Form 7

Client	: McPhail Associates	**Lab Number**	: L1904415		
Project Name	: SCAPE BOSTON	**Project Number**	: 6546.9.00		
Instrument ID	: VOA116	**Calibration Date**	: 02/06/19 03:27		
Lab File ID	: V16190206A01	**Init. Calib. Date(s)**	: 01/14/19	01/14/19	
Sample No	: WG1204150-2	**Init. Calib. Times**	: 05:29	08:28	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	66	0
Dichlorodifluoromethane	0.293	0.292	-	0.3	20	64	0
Chloromethane	0.357	0.298	-	16.5	20	57	0
Vinyl chloride	0.296	0.307	-	-3.7	20	71	0
Bromomethane	0.153	0.154	-	-0.7	20	78	0
Chloroethane	0.145	0.156	-	-7.6	20	72	0
Trichlorofluoromethane	0.386	0.453	-	-17.4	20	75	0
Ethyl ether	0.097	0.093	-	4.1	20	65	0
1,1-Dichloroethene	0.182	0.198	-	-8.8	20	70	0
Carbon disulfide	0.553	0.566	-	-2.4	20	68	0
Methylene chloride	0.198	0.218	-	-10.1	20	77	0
Acetone	10	10.96	-	-9.6	20	66	0
trans-1,2-Dichloroethene	0.205	0.227	-	-10.7	20	76	0
Methyl tert-butyl ether	0.494	0.582	-	-17.8	20	76	0
Diisopropyl ether	0.756	0.787	-	-4.1	20	68	0
1,1-Dichloroethane	0.423	0.483	-	-14.2	20	73	0
Ethyl tert-butyl ether	0.678	0.756	-	-11.5	20	71	0
cis-1,2-Dichloroethene	0.223	0.259	-	-16.1	20	77	0
2,2-Dichloropropane	0.367	0.498	-	-35.7*	20	90	0
Bromochloromethane	0.086	0.106	-	-23.3*	20	74	0
Chloroform	0.412	0.495	-	-20.1*	20	81	0
Carbon tetrachloride	0.361	0.44	-	-21.9*	20	79	0
Tetrahydrofuran	10	9.129	-	8.7	20	60	0
Dibromofluoromethane	0.259	0.278	-	-7.3	20	69	0
1,1,1-Trichloroethane	0.387	0.51	-	-31.8*	20	83	0
2-Butanone	0.074	0.067*	-	9.5	20	59	0
1,1-Dichloropropene	0.319	0.384	-	-20.4*	20	79	0
Benzene	0.87	0.963	-	-10.7	20	76	0
tert-Amyl methyl ether	0.559	0.624	-	-11.6	20	77	0
1,2-Dichloroethane-d4	0.357	0.37	-	-3.6	20	66	0
1,2-Dichloroethane	0.322	0.381	-	-18.3	20	77	0
Trichloroethene	0.225	0.263	-	-16.9	20	78	0
Dibromomethane	0.11	0.119	-	-8.2	20	71	0
1,2-Dichloropropane	0.231	0.231	-	0	20	70	0
Bromodichloromethane	0.314	0.374	-	-19.1	20	79	0
1,4-Dioxane	0.00153	0.00138*	-	9.8	20	57	0
cis-1,3-Dichloropropene	0.366	0.418	-	-14.2	20	78	0
Chlorobenzene-d5	1	1	-	0	20	78	0
Toluene-d8	1.27	1.18	-	7.1	20	73	0
Toluene	0.689	0.661	-	4.1	20	77	0
4-Methyl-2-pentanone	0.079	0.066*	-	16.5	20	67	0
Tetrachloroethene	0.29	0.296	-	-2.1	20	81	0
trans-1,3-Dichloropropene	0.451	0.437	-	3.1	20	77	0
1,1,2-Trichloroethane	0.175	0.165	-	5.7	20	71	0
Chlorodibromomethane	0.271	0.248	-	8.5	20	73	0

* Value outside of QC limits.

Continuing Calibration
Form 7

Client	: McPhail Associates	**Lab Number**	: L1904415		
Project Name	: SCAPE BOSTON	**Project Number**	: 6546.9.00		
Instrument ID	: VOA116	**Calibration Date**	: 02/06/19 03:27		
Lab File ID	: V16190206A01	**Init. Calib. Date(s)**	: 01/14/19	01/14/19	
Sample No	: WG1204150-2	**Init. Calib. Times**	: 05:29	08:28	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,3-Dichloropropane	0.395	0.37	-	6.3	20	71	0
1,2-Dibromoethane	0.209	0.193	-	7.7	20	72	0
2-Hexanone	0.149	0.105	-	29.5*	20	55	0
Chlorobenzene	0.726	0.689	-	5.1	20	75	0
Ethylbenzene	1.344	1.335	-	0.7	20	78	0
1,1,1,2-Tetrachloroethane	0.274	0.258	-	5.8	20	72	0
p/m Xylene	0.511	0.504	-	1.4	20	78	0
o Xylene	0.492	0.466	-	5.3	20	76	0
Styrene	0.82	0.735	-	10.4	20	73	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	85	0
Bromoform	0.319	0.277	-	13.2	20	77	0
Isopropylbenzene	2.917	2.59	-	11.2	20	77	0
4-Bromofluorobenzene	1.083	1.045	-	3.5	20	83	0
Bromobenzene	0.599	0.549	-	8.3	20	81	0
n-Propylbenzene	3.334	2.927	-	12.2	20	77	0
1,1,2,2-Tetrachloroethane	0.48	0.394	-	17.9	20	69	0
2-Chlorotoluene	2.203	1.991	-	9.6	20	79	0
1,3,5-Trimethylbenzene	2.286	1.993	-	12.8	20	76	0
1,2,3-Trichloropropane	0.446	0.376	-	15.7	20	73	0
4-Chlorotoluene	2.021	1.784	-	11.7	20	76	0
tert-Butylbenzene	1.989	1.713	-	13.9	20	74	0
1,2,4-Trimethylbenzene	2.267	2.022	-	10.8	20	77	0
sec-Butylbenzene	2.789	2.492	-	10.6	20	75	0
p-Isopropyltoluene	2.434	2.113	-	13.2	20	76	0
1,3-Dichlorobenzene	1.141	1.033	-	9.5	20	78	0
1,4-Dichlorobenzene	1.111	0.949	-	14.6	20	75	0
n-Butylbenzene	2.132	1.854	-	13	20	78	0
1,2-Dichlorobenzene	1.024	0.904	-	11.7	20	76	0
1,2-Dibromo-3-chloropropan	0.073	0.059	-	19.2	20	68	0
Hexachlorobutadiene	0.237	0.225	-	5.1	20	84	0
1,2,4-Trichlorobenzene	0.624	0.55	-	11.9	20	78	0
Naphthalene	1.496	1.134	-	24.2*	20	66	0
1,2,3-Trichlorobenzene	0.557	0.47	-	15.6	20	75	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L1912751
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	SCAPE BOSTON
Project Number:	6546.9.00
Report Date:	04/03/19

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: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1912751
Report Date: 04/03/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1912751-01	MA-3 (OW)	GROUNDWATER	BOSTON, MA	03/29/19 11:15	03/29/19

Project Name:	SCAPE BOSTON	**Lab Number:**	L1912751
Project Number:	6546.9.00	**Report Date:**	04/03/19

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:	SCAPE BOSTON	**Lab Number:**	L1912751
Project Number:	6546.9.00	**Report Date:**	04/03/19

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:	SCAPE BOSTON	**Lab Number:**	L1912751
Project Number:	6546.9.00	**Report Date:**	04/03/19

Case Narrative (continued)

MCP Related Narratives

VPH

In reference to question G:

L1912751-01: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

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

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 04/03/19

QC OUTLIER SUMMARY REPORT

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1912751
Report Date: 04/03/19

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

ORGANICS

PETROLEUM HYDROCARBONS

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1912751
Report Date: 04/03/19

SAMPLE RESULTS

Lab ID: L1912751-01 D
Client ID: MA-3 (OW)
Sample Location: BOSTON, MA
Date Collected: 03/29/19 11:15
Date Received: 03/29/19
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 131,VPH-18-2.1
Analytical Date: 04/03/19 11:21
Analyst: MKS

Trap: EST, Carbopack B/Carboxen 1000&1001
Analytical Column: Restek, RTX-502.2, 105m, 0.53ID, 3um

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	5720		ug/l	500	--	10
C9-C12 Aliphatics	654		ug/l	500	--	10
C9-C10 Aromatics	ND		ug/l	500	--	10
C5-C8 Aliphatics, Adjusted	5520		ug/l	500	--	10
C9-C12 Aliphatics, Adjusted	654		ug/l	500	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	104		70-130
2,5-Dibromotoluene-FID	109		70-130

Project Name: SCAPE BOSTON
Project Number: 6546.9.00
Lab Number: L1912751
Report Date: 04/03/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 04/03/19 10:00
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG1222623-4					
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	98		70-130
2,5-Dibromotoluene-FID	102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1912751
Report Date: 04/03/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG1222623-2 WG1222623-3								
C5-C8 Aliphatics	103		105		70-130	2		25
C9-C12 Aliphatics	104		107		70-130	3		25
C9-C10 Aromatics	97		101		70-130	4		25
Benzene	99		103		70-130	4		25
Toluene	99		104		70-130	5		25
Ethylbenzene	103		107		70-130	4		25
p/m-Xylene	100		104		70-130	4		25
o-Xylene	98		102		70-130	4		25
Methyl tert butyl ether	107		112		70-130	5		25
Naphthalene	98		103		70-130	5		25
1,2,4-Trimethylbenzene	97		101		70-130	4		25
Pentane	100		103		70-130	3		25
2-Methylpentane	103		107		70-130	4		25
2,2,4-Trimethylpentane	105		108		70-130	3		25
n-Nonane	108		112		30-130	4		25
n-Decane	96		100		70-130	3		25
n-Butylcyclohexane	107		111		70-130	4		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	93		98		70-130
2,5-Dibromotoluene-FID	97		102		70-130

Project Name: SCAPE BOSTON
Project Number: 6546.9.00

Lab Number: L1912751
Report Date: 04/03/19

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(*)
L1912751-01A	Vial HCl preserved	A	NA		2.5	Y	Absent		VPH-18(14)
L1912751-01B	Vial HCl preserved	A	NA		2.5	Y	Absent		VPH-18(14)
L1912751-01C	Vial HCl preserved	A	NA		2.5	Y	Absent		VPH-18(14)

*Values in parentheses indicate holding time in days

Project Name:	SCAPE BOSTON	**Lab Number:**	L1912751
Project Number:	6546.9.00	**Report Date:**	04/03/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	SCAPE BOSTON	**Lab Number:**	L1912751
Project Number:	6546.9.00	**Report Date:**	04/03/19

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

Terms

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

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.

Report Format: Data Usability Report

Project Name:	SCAPE BOSTON	**Lab Number:**	L1912751
Project Number:	6546.9.00	**Report Date:**	04/03/19

REFERENCES

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

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

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: 3/29/19

ALPHA Job #: L1912751

Client Information

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

Additional Project Information:

☐ Run TCLP (if triggered)

Project Information

Project Name: SCAPE Boston
Project Location: Boston, MA
Project #: 6546.9.00
Project Manager: BED
ALPHA Quote #:

Turn-Around Time

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

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

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

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Sample Depth	Sample Material	Collection Date	Collection Time	Sampler Initials	Soil Assessment Package IV (less VOC)	VOC: ☐ 8260	Total Solids	SVOC: ☐ PAH	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	TOTAL METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	DISSOLVED METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	METALS: Total Sb,Be,Ni,Tl,V,Zn	☐ PCBs ☐ Pesticides	RGP Section A Inorganics				SAMPLE INFO *Filtration* ☐ Field ☐ Lab to do *Preservation* ☐ Lab to do Sample Comments	TOTAL # BOTTLES
1275) - 01	MA-3 (GW)	—	GW	3/29/19	1115	TMC						X										3

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

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

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=Ascorbix Acid
J=NH_4Cl
K=Zn Acetate
O=Other

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

	Container Type																					
	Preservative																					

Relinquished By:	Date/Time	Received By:	Date/Time
	3/29/19 1200		
		McPhail Associates secure sample storage for laboratory pick-up	
McPhail Associates secure sample storage for laboratory pick-up	3/29/19 1615	JGindaman AAL	3/29/19 1615
JGindaman AAL	3/29/19 1745		3/29/19 1745

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

DOC ID: 25188 Rev 0 (11/28/2017)

ANALYTICAL REPORT

Lab Number:	L2010509
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	SCAPE BOYLSTON
Project Number:	6546.9.10
Report Date:	03/13/20

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

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

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.10

Lab Number: L2010509
Report Date: 03/13/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2010509-01	MA-3 (OW)	WATER	BOSTON, MA	03/09/20 12:30	03/09/20
L2010509-02	MA-117 (OW)	WATER	BOSTON, MA	03/09/20 11:30	03/09/20
L2010509-03	MA-119 (OW)	WATER	BOSTON, MA	03/09/20 13:40	03/09/20

Project Name: SCAPE BOYLSTON **Lab Number:** L2010509

Project Number: 6546.9.10 **Report Date:** 03/13/20

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:	SCAPE BOYLSTON	**Lab Number:**	L2010509
Project Number:	6546.9.10	**Report Date:**	03/13/20

Case Narrative

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

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

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

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

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

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

Project Name:	SCAPE BOYLSTON	**Lab Number:**	L2010509
Project Number:	6546.9.10	**Report Date:**	03/13/20

Case Narrative (continued)

MCP Related Narratives

EPH

In reference to question I:

All samples were analyzed for a subset of MCP analytes per client request.

VPH

In reference to question G:

L2010509-01 through -03: One or more of the target analytes did not achieve the requested CAM reporting limits.

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

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 03/13/20

QC OUTLIER SUMMARY REPORT

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.10

Lab Number: L2010509
Report Date: 03/13/20

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

ORGANICS

PETROLEUM HYDROCARBONS

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.10
Lab Number: L2010509
Report Date: 03/13/20

SAMPLE RESULTS

Lab ID:	L2010509-01	Date Collected:	03/09/20 12:30
Client ID:	MA-3 (OW)	Date Received:	03/09/20
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	135,EPH-19-2.1	Extraction Date:	03/10/20 15:53
Analytical Date:	03/11/20 12:17	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	03/11/20

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

Extractable Petroleum Hydrocarbons - Westborough Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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	54		40-140
o-Terphenyl	54		40-140
2-Fluorobiphenyl	59		40-140
2-Bromonaphthalene	61		40-140

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.10
Lab Number: L2010509
Report Date: 03/13/20

SAMPLE RESULTS

Lab ID:	L2010509-01	D	Date Collected:	03/09/20 12:30
Client ID:	MA-3 (OW)		Date Received:	03/09/20
Sample Location:	BOSTON, MA		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	131,VPH-18-2.1			
Analytical Date:	03/11/20 15:57			
Analyst:	BAD			

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

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	6050		ug/l	1000	--	10
C9-C12 Aliphatics	ND		ug/l	1000	--	10
C9-C10 Aromatics	ND		ug/l	1000	--	10
C5-C8 Aliphatics, Adjusted	5910		ug/l	1000	--	10
C9-C12 Aliphatics, Adjusted	ND		ug/l	1000	--	10
Benzene	145		ug/l	20.0	--	10
Toluene	ND		ug/l	20.0	--	10
Ethylbenzene	ND		ug/l	20.0	--	10
p/m-Xylene	ND		ug/l	20.0	--	10
o-Xylene	ND		ug/l	20.0	--	10
Methyl tert butyl ether	ND		ug/l	30.0	--	10
Naphthalene	ND		ug/l	40.0	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	106		70-130
2,5-Dibromotoluene-FID	101		70-130

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.10
Lab Number: L2010509
Report Date: 03/13/20

SAMPLE RESULTS

Lab ID:	L2010509-02	Date Collected:	03/09/20 11:30
Client ID:	MA-117 (OW)	Date Received:	03/09/20
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	135,EPH-19-2.1	Extraction Date:	03/10/20 15:53
Analytical Date:	03/11/20 12:56	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	03/11/20

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	57		40-140
o-Terphenyl	63		40-140
2-Fluorobiphenyl	67		40-140
2-Bromonaphthalene	70		40-140

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.10
Lab Number: L2010509
Report Date: 03/13/20

SAMPLE RESULTS

Lab ID:	L2010509-02	D	Date Collected:	03/09/20 11:30
Client ID:	MA-117 (OW)		Date Received:	03/09/20
Sample Location:	BOSTON, MA		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	131,VPH-18-2.1			
Analytical Date:	03/11/20 16:27			
Analyst:	BAD			

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

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	7160		ug/l	1000	--	10
C9-C12 Aliphatics	ND		ug/l	1000	--	10
C9-C10 Aromatics	ND		ug/l	1000	--	10
C5-C8 Aliphatics, Adjusted	7040		ug/l	1000	--	10
C9-C12 Aliphatics, Adjusted	ND		ug/l	1000	--	10
Benzene	116		ug/l	20.0	--	10
Toluene	ND		ug/l	20.0	--	10
Ethylbenzene	ND		ug/l	20.0	--	10
p/m-Xylene	ND		ug/l	20.0	--	10
o-Xylene	ND		ug/l	20.0	--	10
Methyl tert butyl ether	ND		ug/l	30.0	--	10
Naphthalene	ND		ug/l	40.0	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	105		70-130
2,5-Dibromotoluene-FID	98		70-130

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.10
Lab Number: L2010509
Report Date: 03/13/20

SAMPLE RESULTS

Lab ID:	L2010509-03	Date Collected:	03/09/20 13:40
Client ID:	MA-119 (OW)	Date Received:	03/09/20
Sample Location:	BOSTON, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	135,EPH-19-2.1	Extraction Date:	03/10/20 15:53
Analytical Date:	03/11/20 13:34	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	03/11/20

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	131		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	106		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	106		ug/l	100	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	55		40-140
o-Terphenyl	67		40-140
2-Fluorobiphenyl	74		40-140
2-Bromonaphthalene	77		40-140

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.10
Lab Number: L2010509
Report Date: 03/13/20

SAMPLE RESULTS

Lab ID:	L2010509-03	D	Date Collected:	03/09/20 13:40
Client ID:	MA-119 (OW)		Date Received:	03/09/20
Sample Location:	BOSTON, MA		Field Prep:	Not Specified
Sample Depth:				
Matrix:	Water			
Analytical Method:	131,VPH-18-2.1			
Analytical Date:	03/11/20 16:57			
Analyst:	BAD			

Trap:	EST, Carbopack B/Carboxen 1000&1001	Analytical Column:	Restek, RTX-502.2, 105m, 0.53ID, 3um

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	7910		ug/l	1000	--	10
C9-C12 Aliphatics	1310		ug/l	1000	--	10
C9-C10 Aromatics	ND		ug/l	1000	--	10
C5-C8 Aliphatics, Adjusted	7910		ug/l	1000	--	10
C9-C12 Aliphatics, Adjusted	1120		ug/l	1000	--	10
Benzene	ND		ug/l	20.0	--	10
Toluene	ND		ug/l	20.0	--	10
Ethylbenzene	190		ug/l	20.0	--	10
p/m-Xylene	ND		ug/l	20.0	--	10
o-Xylene	ND		ug/l	20.0	--	10
Methyl tert butyl ether	ND		ug/l	30.0	--	10
Naphthalene	ND		ug/l	40.0	--	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	103		70-130
2,5-Dibromotoluene-FID	98		70-130

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.10
Lab Number: L2010509
Report Date: 03/13/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 135,EPH-19-2.1
Analytical Date: 03/11/20 09:05
Analyst: MEO

Extraction Method: EPA 3510C
Extraction Date: 03/10/20 15:53
Cleanup Method: EPH-04-1
Cleanup Date: 03/11/20

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-03 Batch: WG1349415-1					
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	51		40-140
o-Terphenyl	55		40-140
2-Fluorobiphenyl	61		40-140
2-Bromonaphthalene	62		40-140

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.10
Lab Number: L2010509
Report Date: 03/13/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 03/11/20 13:12
Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-03 Batch: WG1350483-4					
C5-C8 Aliphatics	ND		ug/l	100	--
C9-C12 Aliphatics	ND		ug/l	100	--
C9-C10 Aromatics	ND		ug/l	100	--
C5-C8 Aliphatics, Adjusted	ND		ug/l	100	--
C9-C12 Aliphatics, Adjusted	ND		ug/l	100	--
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	90		70-130
2,5-Dibromotoluene-FID	84		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOYLSTON

Project Number: 6546.9.10

Lab Number: L2010509

Report Date: 03/13/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03 Batch: WG1349415-2 WG1349415-3								
C9-C18 Aliphatics	57		57		40-140	0		25
C19-C36 Aliphatics	67		72		40-140	7		25
C11-C22 Aromatics	73		74		40-140	1		25
Naphthalene	60		62		40-140	3		25
2-Methylnaphthalene	65		68		40-140	5		25
Acenaphthylene	67		69		40-140	3		25
Acenaphthene	70		73		40-140	4		25
Fluorene	69		71		40-140	3		25
Phenanthrene	72		73		40-140	1		25
Anthracene	74		75		40-140	1		25
Fluoranthene	72		72		40-140	0		25
Pyrene	74		74		40-140	0		25
Benzo(a)anthracene	73		73		40-140	0		25
Chrysene	78		78		40-140	0		25
Benzo(b)fluoranthene	71		71		40-140	0		25
Benzo(k)fluoranthene	74		74		40-140	0		25
Benzo(a)pyrene	71		70		40-140	1		25
Indeno(1,2,3-cd)Pyrene	68		69		40-140	1		25
Dibenzo(a,h)anthracene	72		73		40-140	1		25
Benzo(ghi)perylene	65		65		40-140	0		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOYLSTON

Project Number: 6546.9.10

Lab Number: L2010509

Report Date: 03/13/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03 Batch: WG1349415-2 WG1349415-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	60		64		40-140
o-Terphenyl	68		71		40-140
2-Fluorobiphenyl	70		73		40-140
2-Bromonaphthalene	73		76		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOYLSTON

Project Number: 6546.9.10

Lab Number: L2010509

Report Date: 03/13/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-03 Batch: WG1350483-2 WG1350483-3								
C5-C8 Aliphatics	107		107		70-130	0		25
C9-C12 Aliphatics	105		105		70-130	0		25
C9-C10 Aromatics	108		106		70-130	2		25
Benzene	112		111		70-130	1		25
Toluene	111		109		70-130	2		25
Ethylbenzene	110		109		70-130	1		25
p/m-Xylene	110		108		70-130	2		25
o-Xylene	109		107		70-130	2		25
Methyl tert butyl ether	115		113		70-130	2		25
Naphthalene	107		105		70-130	2		25
1,2,4-Trimethylbenzene	108		106		70-130	2		25
Pentane	112		110		70-130	2		25
2-Methylpentane	108		107		70-130	1		25
2,2,4-Trimethylpentane	106		105		70-130	1		25
n-Nonane	107		106		30-130	1		25
n-Decane	103		102		70-130	1		25
n-Butylcyclohexane	107		106		70-130	1		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	100		98		70-130
2,5-Dibromotoluene-FID	94		92		70-130

Project Name: SCAPE BOYLSTON
Project Number: 6546.9.10

Lab Number: L2010509
Report Date: 03/13/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2010509-01A	Vial HCl preserved	B	NA		3.7	Y	Absent		VPH-DELUX-18(14)
L2010509-01B	Vial HCl preserved	B	NA		3.7	Y	Absent		VPH-DELUX-18(14)
L2010509-01C	Vial HCl preserved	B	NA		3.7	Y	Absent		VPH-DELUX-18(14)
L2010509-01D	Amber 1000ml HCl preserved	B	<2	<2	3.7	Y	Absent		EPH-20(14)
L2010509-01E	Amber 1000ml HCl preserved	B	<2	<2	3.7	Y	Absent		EPH-20(14)
L2010509-02A	Vial HCl preserved	B	NA		3.7	Y	Absent		VPH-DELUX-18(14)
L2010509-02B	Vial HCl preserved	B	NA		3.7	Y	Absent		VPH-DELUX-18(14)
L2010509-02C	Vial HCl preserved	B	NA		3.7	Y	Absent		VPH-DELUX-18(14)
L2010509-02D	Amber 1000ml HCl preserved	B	<2	<2	3.7	Y	Absent		EPH-20(14)
L2010509-02E	Amber 1000ml HCl preserved	B	<2	<2	3.7	Y	Absent		EPH-20(14)
L2010509-03A	Vial HCl preserved	B	NA		3.7	Y	Absent		VPH-DELUX-18(14)
L2010509-03B	Vial HCl preserved	B	NA		3.7	Y	Absent		VPH-DELUX-18(14)
L2010509-03C	Vial HCl preserved	B	NA		3.7	Y	Absent		VPH-DELUX-18(14)
L2010509-03D	Amber 1000ml HCl preserved	B	<2	<2	3.7	Y	Absent		EPH-20(14)
L2010509-03E	Amber 1000ml HCl preserved	B	<2	<2	3.7	Y	Absent		EPH-20(14)

*Values in parentheses indicate holding time in days

Project Name:	SCAPE BOYLSTON	**Lab Number:**	L2010509
Project Number:	6546.9.10	**Report Date:**	03/13/20

GLOSSARY

Acronyms

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

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

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

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	SCAPE BOYLSTON	**Lab Number:**	L2010509
Project Number:	6546.9.10	**Report Date:**	03/13/20

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

Terms

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

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

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

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

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

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

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

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

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

Data Qualifiers

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

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

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

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

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

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

Report Format: Data Usability Report

Project Name:	SCAPE BOYLSTON	**Lab Number:**	L2010509
Project Number:	6546.9.10	**Report Date:**	03/13/20

Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	SCAPE BOYLSTON	**Lab Number:**	L2010509
Project Number:	6546.9.10	**Report Date:**	03/13/20

REFERENCES

131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

135 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, December 2019, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, March 1, 2020.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

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

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
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: 3/9/20

ALPHA Job #: L2010509

Client Information

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

Project Information

Project Name: ~~BOSTON~~ SCAPE Boylston
Project Location: Boston, MA
Project #: 6546.9.10
Project Manager: BED
ALPHA Quote #:

Turn-Around Time

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

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

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

Additional Project Information:

☐ Run TCLP (if triggered)

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Sample Depth	Sample Material	Collection Date	Collection Time	Sampler Initials
0509-01	MA-3 (OW)		GW	3/9/20	1210	TM
-02	MA-117 (OW)		GW		1130	
-03	MA-119 (OW)		GW		1340	

Soil Assessment Package IV (less VOC)	VOC: ☐ 8260	Total Solids	SVOC: ☐ PAH	EPH: ☐ Ranges & Targets ☒ Ranges Only	VPH: ☒ Ranges & Targets ☐ Ranges Only	TOTAL METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	DISSOLVED METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	METALS: Total Sb,Be,Ni,Tl,V,Zn	☐ PCBs ☐ Pesticides	RGP Section A Inorganics				SAMPLE INFO *Filtration* ☐ Field ☐ Lab to do *Preservation* ☐ Lab to do Sample Comments	TOTAL # BOTTLES
				X	X										5
				X	X										5
				X	X										5

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

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

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

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

	Container Type	Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	3/9/20 1420		3/9/20 1420
McPhail Associates secure sample storage for laboratory pick-up		McPhail Associates secure sample storage for laboratory pick-up	
	3/9/20 1745		3/9/20 1745

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

DOC ID: 25188 Rev 0 (11/28/2017)

APPENDIX F:

LABORATORY ANALYTICAL DATA – SURFACE WATER

ANALYTICAL REPORT

Lab Number:	L2011007
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	SCAPE BOSTON
Project Number:	6546.9.T7
Report Date:	03/17/20

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

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

Project Name: SCAPE BOSTON
Project Number: 6546.9.T7

Lab Number: L2011007
Report Date: 03/17/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2011007-01	CHARLES RIVER-BU	WATER	BOSTON, MA	03/11/20 13:30	03/11/20

Project Name:	SCAPE BOSTON	**Lab Number:**	L2011007
Project Number:	6546.9.T7	**Report Date:**	03/17/20

Case Narrative

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

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

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

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

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

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

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:  Caitlin Walukevich

Title: Technical Director/Representative Date: 03/17/20

METALS

Project Name: SCAPE BOSTON
Project Number: 6546.9.T7
Lab Number: L2011007
Report Date: 03/17/20

SAMPLE RESULTS

Lab ID: L2011007-01
Client ID: CHARLES RIVER-BU
Sample Location: BOSTON, MA
Date Collected: 03/11/20 13:30
Date Received: 03/11/20
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	03/12/20 19:16	03/13/20 13:37	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	03/12/20 19:16	03/13/20 13:37	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	03/12/20 19:16	03/13/20 13:37	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	03/12/20 19:16	03/13/20 13:37	EPA 3005A	3,200.8	AM
Copper, Total	0.00204		mg/l	0.00100	--	1	03/12/20 19:16	03/13/20 13:37	EPA 3005A	3,200.8	AM
Iron, Total	0.526		mg/l	0.050	--	1	03/12/20 19:16	03/16/20 20:39	EPA 3005A	19,200.7	LC
Lead, Total	0.00282		mg/l	0.00100	--	1	03/12/20 19:16	03/13/20 13:37	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	03/12/20 19:19	03/13/20 11:02	EPA 245.1	3,245.1	GD
Nickel, Total	ND		mg/l	0.00200	--	1	03/12/20 19:16	03/13/20 13:37	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	03/12/20 19:16	03/13/20 13:37	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	03/12/20 19:16	03/13/20 13:37	EPA 3005A	3,200.8	AM
Zinc, Total	0.01302		mg/l	0.01000	--	1	03/12/20 19:16	03/13/20 13:37	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	71.0		mg/l	0.660	NA	1	03/12/20 19:16	03/16/20 20:39	EPA 3005A	19,200.7	LC
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		03/13/20 13:37	NA	107,-	

Project Name: SCAPE BOSTON
Project Number: 6546.9.T7
Lab Number: L2011007
Report Date: 03/17/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1350388-1										
Antimony, Total	ND		mg/l	0.00400	--	1	03/12/20 19:16	03/13/20 12:21	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	03/12/20 19:16	03/13/20 12:21	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	03/12/20 19:16	03/13/20 12:21	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	03/12/20 19:16	03/13/20 12:21	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	03/12/20 19:16	03/13/20 12:21	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	03/12/20 19:16	03/13/20 12:21	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	03/12/20 19:16	03/13/20 12:21	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	03/12/20 19:16	03/13/20 12:21	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	03/12/20 19:16	03/13/20 12:21	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	03/12/20 19:16	03/13/20 12:21	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: WG1350395-1										
Mercury, Total	ND		mg/l	0.00020	--	1	03/12/20 19:19	03/13/20 10:36	3,245.1	GD

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1350436-1										
Iron, Total	ND		mg/l	0.050	--	1	03/12/20 19:16	03/16/20 19:39	19,200.7	LC

Prep Information

Digestion Method: EPA 3005A

Project Name: SCAPE BOSTON
Project Number: 6546.9.T7
Lab Number: L2011007
Report Date: 03/17/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1350436-1										
Hardness	ND		mg/l	0.660	NA	1	03/12/20 19:16	03/16/20 19:39	19,200.7	LC

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.T7

Lab Number: L2011007

Report Date: 03/17/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1350388-2								
Antimony, Total	86		-		85-115	-		
Arsenic, Total	108		-		85-115	-		
Cadmium, Total	106		-		85-115	-		
Chromium, Total	100		-		85-115	-		
Copper, Total	96		-		85-115	-		
Lead, Total	108		-		85-115	-		
Nickel, Total	101		-		85-115	-		
Selenium, Total	111		-		85-115	-		
Silver, Total	105		-		85-115	-		
Zinc, Total	112		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1350395-2								
Mercury, Total	104		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1350436-2								
Iron, Total	109		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1350436-2								
Hardness	106		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: SCAPE BOSTON
Project Number: 6546.9.T7

Lab Number: L2011007
Report Date: 03/17/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1350388-3 QC Sample: L2010800-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.4450	89		-	-		70-130	-		20
Arsenic, Total	ND	0.12	0.1311	109		-	-		70-130	-		20
Cadmium, Total	0.00036	0.051	0.05792	113		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.1963	98		-	-		70-130	-		20
Copper, Total	0.00156	0.25	0.2382	95		-	-		70-130	-		20
Lead, Total	ND	0.51	0.5545	109		-	-		70-130	-		20
Nickel, Total	0.1157	0.5	0.6220	101		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1560	130		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05296	106		-	-		70-130	-		20
Zinc, Total	0.04521	0.5	0.6204	115		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1350395-3 QC Sample: L2010800-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00526	105		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1350436-3 QC Sample: L2010800-01 Client ID: MS Sample												
Iron, Total	0.616	1	1.69	107		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1350436-3 QC Sample: L2010800-01 Client ID: MS Sample												
Hardness	595	66.2	662	101		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: SCAPE BOSTON
Project Number: 6546.9.T7

Lab Number: L2011007
Report Date: 03/17/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1350388-4 QC Sample: L2010800-01 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	ND	ND	mg/l	NC		20
Cadmium, Total	0.00036	0.00034	mg/l	6		20
Copper, Total	0.00156	0.00144	mg/l	8		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.1157	0.1127	mg/l	3		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.04521	0.04043	mg/l	11		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1350395-4 QC Sample: L2010800-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1350436-4 QC Sample: L2010800-01 Client ID: DUP Sample						
Iron, Total	0.616	0.594	mg/l	4		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1350436-4 QC Sample: L2010800-01 Client ID: DUP Sample						
Hardness	595	576	mg/l	3		20

INORGANICS
&
MISCELLANEOUS

Project Name: SCAPE BOSTON
Project Number: 6546.9.T7

Lab Number: L2011007
Report Date: 03/17/20

SAMPLE RESULTS

Lab ID: L2011007-01
Client ID: CHARLES RIVER-BU
Sample Location: BOSTON, MA

Date Collected: 03/11/20 13:30
Date Received: 03/11/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.4		SU	-	NA	1	-	03/12/20 10:18	121,4500H+-B	JA
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	03/12/20 03:14	03/12/20 21:42	121,4500NH3-BH	AT
Chromium, Hexavalent	ND		mg/l	0.010	--	1	03/12/20 06:00	03/12/20 07:32	1,7196A	CB
Anions by Ion Chromatography - Westborough Lab										
Chloride	152.		mg/l	12.5	--	25	-	03/12/20 08:21	44,300.0	JT

Project Name: SCAPE BOSTON
Project Number: 6546.9.T7
Lab Number: L2011007
Report Date: 03/17/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1350000-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	03/12/20 03:14	03/12/20 21:36	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1350088-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	03/12/20 06:00	03/12/20 07:26	1,7196A	CB
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1350894-1										
Chloride	ND		mg/l	0.500	--	1	-	03/12/20 07:57	44,300.0	JT

Lab Control Sample Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.T7

Lab Number: L2011007

Report Date: 03/17/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1350000-2								
Nitrogen, Ammonia	96		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1350088-2								
Chromium, Hexavalent	104		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1350131-1								
pH	100		-		99-101	-		5
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1350894-2								
Chloride	105		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: SCAPE BOSTON
Project Number: 6546.9.T7

Lab Number: L2011007
Report Date: 03/17/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1350000-4 QC Sample: L2010703-04 Client ID: MS Sample												
Nitrogen, Ammonia	0.119	4	3.71	90		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1350088-4 QC Sample: L2011007-01 Client ID: CHARLES RIVER-BU												
Chromium, Hexavalent	ND	0.1	0.098	98		-	-		85-115	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1350894-3 QC Sample: L2011009-01 Client ID: MS Sample												
Chloride	651	100	727	**76**	Q	-	-		90-110	-		18

Lab Duplicate Analysis

Batch Quality Control

Project Name: SCAPE BOSTON

Project Number: 6546.9.T7

Lab Number: L2011007

Report Date: 03/17/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1350000-3 QC Sample: L2010703-04 Client ID: DUP Sample						
Nitrogen, Ammonia	0.119	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1350088-3 QC Sample: L2011007-01 Client ID: CHARLES RIVER-BU						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1350131-2 QC Sample: L2010876-01 Client ID: DUP Sample						
pH	7.1	7.0	SU	1		5
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1350894-4 QC Sample: L2011009-01 Client ID: DUP Sample						
Chloride	651	648	mg/l	0		18

Project Name: SCAPE BOSTON
Project Number: 6546.9.T7

Lab Number: L2011007
Report Date: 03/17/20

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(*)
L2011007-01A	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),HARDU(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L2011007-01B	Plastic 250ml H2SO4 preserved	A	<2	<2	5.2	Y	Absent		NH3-4500(28)
L2011007-01C	Plastic 500ml unpreserved	A	7	7	5.2	Y	Absent		CL-300(28),HEXCR-7196(1),PH-4500(.01)

*Values in parentheses indicate holding time in days

Project Name:	SCAPE BOSTON	**Lab Number:**	L2011007
Project Number:	6546.9.T7	**Report Date:**	03/17/20

GLOSSARY

Acronyms

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

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

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

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	SCAPE BOSTON	**Lab Number:**	L2011007
Project Number:	6546.9.T7	**Report Date:**	03/17/20

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

Terms

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

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

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

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

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

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

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

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

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

Data Qualifiers

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

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

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

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

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

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

Report Format: Data Usability Report

Project Name:	SCAPE BOSTON	**Lab Number:**	L2011007
Project Number:	6546.9.T7	**Report Date:**	03/17/20

Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	SCAPE BOSTON	**Lab Number:**	L2011007
Project Number:	6546.9.T7	**Report Date:**	03/17/20

REFERENCES

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

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

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

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

107 Alpha Analytical - In-house calculation method.

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

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

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

Date Rec'd in Lab: 3/11/20

ALPHA Job #: L2011007

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

Project Information

Project Name: SCAPE Boylston

Project Location: Boston, MA

Project #: 6546.9.T7

Project Manager: BED

ALPHA Quote #:

Client Information

Client: McPhail Associates, LLC

Address: 2269 Massachusetts Avenue

Cambridge, MA 02140

Phone: (617) 868-1420

Fax:

Email: bdowning@mcphailgeo.com

☐ These samples have been Previously analyzed by Alpha

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	

Other Project Specific Requirements/Comments/Detection Limits:

Circle the following if required:
SALINITY HARDNESS PH
Sect. A inorganics: Ammonia, Chloride, TRC,TSS,CrVI,CrIII, Tot-CN, RGP Metals
B- Non-Hal- VOC- 8260, 8260-SIM, Tot. Phenol Sect C- VOC- 8260 & 504
D: 625 (PAHs): E- PCB's, PCP(8270/8270-SIM): F-TPH, 8260, Sub-Ethanol

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	RGP Metals (200.8) (A)	pH/hardness	Ammonia (4500 (A))	TCN (A)	HexCr (7196), Cl- (A)	8260 (B, C, F)	BTEX and Benzene (8260) (B)	504-EDB (C)	625 - (D) -Group I & II PAHs	PCB-608- (E)	TPH-1664-(F)	SUB-ETHANOL (F)	Sample Specific Comments	TOTAL # BOTTLES
11007-01	Charles River - BU	3/11/20	1:30		IMB	☒	☒	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐		3
Container Type						P	P	P	P	P	V	V	-	A	-	A	V		
Preservative						C	A	D	E	A	B	B	-	H	-	B	B		

Relinquished By:	Date/Time	Received By:	Date/Time
Ian Bachner	3/11/20 2:00	fridge	3/11/20 2:00
[illegible] AAL 3/11 1730	3/11/20 1615	[illegible] AAL	3/11/20 1615
		[illegible]	3/11/20 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.

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

APPENDIX G:

BEST MANAGEMENT PRACTICE PLAN

BEST MANAGEMENT PRACTICES 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 development of the SCAPE Boylston project 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 building foundation, dewatering effluent is anticipated to be pumped from localized sumps and trenches within the excavation directly into a settling tank. Dewatering effluent treatment will consist of a settling tank, bag filters to remove suspended soil particulates, granular activated carbon filters and, if required, ion resin media vessels prior to off-site discharge. pH adjustment will be conducted, if necessary, through the addition of hydrochloric acid, caustic soda and carbon dioxide. The effluent will then flow through the necessary treatment systems and discharge through hoses or piping connected into the storm water drains located beneath Boylston Street, Jersey Street, Brookline Avenue, and Deerfield Street. Based upon a review of the Boston Water and Sewer Commission stormwater drainage plan, the above referenced stormwater drain system ultimately discharges into the Charles River at outfall SDO 042.

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

be conducted weekly for three (3) additional weeks beginning no earlier than 24 hours following initial sampling, and monthly as described below. Any adjustments/reductions in monitoring frequency must be approved by EPA in writing.

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

Dewatering activity for the Site is classified as Category III-G: Sites with Known Contamination. Monitoring shall include analysis of influent and effluent samples for the presence of: pH and inorganics as listed in the RGP including: ammonia, chloride, total residual chlorine, total suspended solids, antimony, arsenic, cadmium, chromium III, chromium VI, copper, lead, mercury, nickel, selenium, silver, zinc and cyanide. Additional monitoring for VOCs and/or fuel parameters will be performed as required by the terms of the RGP authorization.

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 and periodic cleaning of the treatment system will be conducted to verify proper operation and shall be conducted in accordance with Section 1.11 of the project earthwork specifications. Regular maintenance will include checking the condition of the treatment system equipment such as the settling tanks, bag filters, hoses, pumps, and flow meters. Equipment will be monitored daily for potential matters and unscheduled maintenance requirements.

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

Miscellaneous Items

It is anticipated that the erosion control measures and the nature of the site will minimize potential runoff to or from the site. The project specifications also include requirements for

erosion control. Site security for the treatment system will be addressed within the overall site security plan.

No adverse effects on designated uses of surrounding surface water bodies is anticipated. The nearest surface water body is the Back Bay Fens which is located approximately 450 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, GAC filters and, as necessary, ion exchange chambers prior to discharge into the storm drains.

Management of Treatment System Materials

Dewatering effluent will be pumped directly into the treatment system from the excavation with use of hoses and localized sumps to minimize handling. The Contractor will establish staging areas for equipment or materials storage that may be possible sources of pollution away from any dewatering activities, to the extent practicable.

Sediment from the tank used in the treatment system will be characterized and removed from the site to an appropriate receiving facility, in accordance with applicable laws and regulations. Bag and ion filters will be replaced/disposed of as necessary.