NOTICE OF INTENT FOR DISCHARGE - PURSUANT TO MASSACHUSETTS - DEWATERING GENERAL PERMIT - MAG070000 -

121-139 FIRST STREET -

CAMBRIDGE, MASSACHUSETTS -

NOVEMBER 28, 2016 -

Prepared For: -
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY -
DEWATERING GP PROCESSING -
INDUSTRIAL PERMIT UNIT (OEP 06-4) -
5 POST OFFICE SQUARE, SUITE 100 -
BOSTON, MA 02109-3912 -

On Behalf Of: -
US Parcel A, LLC -
111 First Street -
Cambridge, MA 02141 -

PROJECT NO. 5863

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

November 28, 2016

United States Environmental Protection Agency
Dewatering GP Processing
Industrial Permit Unit (OEP 06-4)
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Attention: To Whom It May Concern

Reference: 121-139 First Street; Cambridge, Massachusetts
Notice of Intent for Temporary Construction Dewatering Discharge;
Massachusetts Dewatering General Permit MAG070000

Ladies and Gentlemen:

In accordance with the provisions of the Dewatering General Permit MAG070000 (DGP) that was issued to the Commonwealth of Massachusetts, the following is a summary of the site and groundwater quality information in support of a Notice of Intent (NOI) for the discharge of construction dewatering into the Charles River via the City of Cambridge storm drain system. The temporary discharge of construction dewatering will occur during redevelopment of the 121-139 First Street property in Cambridge, Massachusetts (the "subject site"). Refer to **Figure 1,** Project Location Plan for the general site locus.

These services were performed and this permit application was prepared in accordance with our proposal dated October 21, 2016, and the subsequent authorization of Urban Spaces, LLC. These services are subject to the limitations contained in **Appendix A**.

The required Notice of Intent Form contained in the DGP permit and the City of Cambridge Permit to Dewater are included in **Appendix B**.

Applicant/Operator

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

Nauset Construction Corp.
10 Kearney Road; Suite 301
Needham, MA 02494

Attention: Mr. Antony Papantonis

Tel: (781) 453-2220
Email: apapantonis@nausetconstruction.com

Existing Conditions

Fronting onto First Street to the east, the site is bounded by Charles Street to the north, Bent Street to the south, and the Cambridge Electric light Co. property and a paved parking lot to the west.

Prior to the recent demolition operations at the site, a one to two-story, wood-framed building with a footprint of about 4,700 square feet was located within the northern portion of the site. The former building had a basement below a majority of its footprint extending about six feet below the adjacent exterior grades.

The remainder of the site consists of paved parking and driveway areas. An approximate 10-foot wide easement for the Cambridge Electric Light Co. property is located to the west of the former building. The ground surface at the site ranges from about Elevation +20 to about Elevation +21.5.

Proposed Scope of Site Development

The proposed redevelopment is understood to consist of an irregularly-shaped, five-story, office building with a footprint of about 11,500 square feet. The proposed building is planned to include a partial basement adjacent to First Street with a footprint of about 3,000 square feet. It is understood that the elevation of the ground floor and basement slabs will be at about Elevation +20.4 and Elevation +9.9, respectively.

Temporary construction dewatering is anticipated to be required to facilitate excavation to the basement subgrade, which will extend about 14 to 19 feet below the existing ground surface or about 5 to 9 feet below the observed groundwater level at the site.

Site Environmental Setting, Nearby DEP-listed Disposal Sites, Endangered Species and Surrounding Historical Places

Based on an on-line edition of the Massachusetts Geographic Information Systems MassDEP Phase I Site Assessment Map (GIS Map) viewed on July 29, 2015, 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 GIS Map indicates that there are no water bodies or wetland areas at the subject site. The nearest water body is the Charles River is located approximately 0.2 miles to the east of the subject site. No areas designated as solid waste sites (landfills) are noted as being

located within 1,000 feet of the site. According to the City of Cambridge municipal GIS database, the Bent Street Open Space, which is located approximately 175 feet to the west of the subject site, is a designated protected open space. A copy of the GIS Map is included in **Appendix C**. In addition, a report prepared by Environmental Database Resource, Inc. (EDR) was reviewed for this study. Based on EDR's search of FEMA Flood Plain Maps, the subject site is not located within a 100 year or 500 year flood plain.

The northern portion of the subject site is listed with the Massachusetts Department of Environmental Protection (DEP) under Release Tracking Number (RTN) 3-23447 due to a release of C11-C22 aromatic hydrocarbons, naphthalene, 2-methylnaphthalene, mercury, arsenic, and lead in soil and phenanthrene in groundwater. Although reportable exceedances were spread out throughout different parcels of land with separate addresses, the releases were filed under one RNF given that the exceedances appeared to be related to historic fill contained within each parcel and the parcels were managed as one development (Bent Street Development). Based on the results of analytical testing of groundwater, the subject site is not considered to have been impacted by the chemical contaminants found in soil or the phenanthrene observed in groundwater at the adjacent parcel. The properties were classified for a Class B-2 RAO in 2004 given that a condition of No Significant Risk exists at the parcels, which is contingent upon maintaining an Activity and Use Limitation (AUL).

Additionally, a recent subsurface exploration program was conducted at the southern portion of the subject site (131 through 139 First Street) on November 2015. As part of the pre-characterization program, representative samples of fill material obtained and tested for the presence of compounds typically required by in-state disposal facilities in accordance with DEP Policy #COMM-97-001 entitled "Reuse and Disposal of Contaminated Soil at Massachusetts Landfills. Exceedances of PAHs, TPH, total lead, total arsenic and total mercury were reported to the DEP, which assigned a new RTN 3-33469 to the subject site. Hence, the subject site has two (2) RTNs, the newly assigned RTN 3-33469 that applies to the entire subject site, and the older RTN 3-23447 that only applies to the 121 First Street portion of the subject site. The results of the chemical analysis on groundwater samples did not identify concentrations of metals, EPH, VOC, and VPH in excess of the applicable RCGW-2 Reportable Concentrations.

The above RTNs at the site are currently being managed in accordance with the provisions of 310 CMR 40.0000, the Massachusetts Contingency Plan. A Release Abatement Measure Plan was filed for subject site related to the excavation and off-site disposal of soils impacted by the release.

A review of information provided in an Information for Planning and Conservation Trust Resource Report (IPaC Report) prepared by the U.S. Fish and Wildlife Service for the subject site did not identify the presence of endangered species at or in the vicinity of the discharge location and/or discharge outfall. Further, the IPaC Report did not identify the presence of a critical habitat in the vicinity of the discharge location and/or discharge outfall. However, the report indicated that the Red Knot bird, which is classified as a "threatened" species,

should be considered with regard to this project. Based on correspondence with Ms. Maria Ter of the New England Field Office for the U.S. Fish and Wildlife Service, groundwater discharge from the subject site to the Charles River is not considered likely to adversely affect the Red Knot bird. Based upon the above, the site is considered a Criterion B pursuant to Appendix IV of the DGP. A copy of the IPaC Report is included in **Appendix C**.

A review of the most recent National Register of Historical Places for Suffolk County in Boston, Massachusetts did not identify records or addresses of historic places that exist in the immediate vicinity of the subject site and/or outfall location.

Construction Site Dewatering

Stabilized groundwater levels observed within the groundwater monitoring wells installed at the site ranged from about Elevation +10.5 to Elevation +11.2. It is anticipated that excavation within the basement portion of the proposed building will extend about 5 to 9 feet below the observed groundwater level. In order to facilitate construction of the basement level, to provide support of the excavation, and to provide an effective groundwater cut-off during construction (to mitigate the volume of construction dewatering effluent), a sheet pile cofferdam will be installed around the perimeter of the basement foundation wall. Thus, construction dewatering will be generally required within the footprint of the cofferdam to facilitate construction of the proposed basement level of the building, but may also be required within other areas of the site during and following precipitation events.

It is anticipated that construction dewatering discharge during removal of the fill and organic soils will initially be on the order about 75 to 100 gallons per minute (gpm). However, once the excavation has been dewatered to the proposed subgrade elevation it is anticipated that rate of construction dewatering will decrease to approximately 25 to 50 gallons per minute as a result of the groundwater cut-off. These estimates do not include surface run-off which will be removed from the excavation during and following precipitation events.

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

A review of stormwater and sewer plans available on the City of Cambridge Sewer and Stormwater database indicates a catch basin adjacent to the site that flows to a dedicated storm drain located beneath First Street. The storm drain flows north beneath First Street to Thorndike Street where it turns east and discharges into the Charles River at outfall D02OF0000. The location of the catch basin in relation to the subject site is indicated on **Figure 2**. The flow path of the discharge is shown on **Figure 3**.

Summary of Groundwater Analysis

In November 2015, a three (3) groundwater samples were obtained from monitoring wells that were installed at the subject site as part of an environmental due diligence assessment. Subsequently, in November 2016, a groundwater sample was obtained from an existing groundwater monitoring well to characterize the groundwater for off-site discharge in anticipation of construction dewatering activities. The following is a summary of the results of the laboratory analyses.

Groundwater Analyses November 2015

On November 13, 2015, groundwater samples were obtained from groundwater monitoring wells B-1(OW) and B-201(OW). The samples were submitted for chemical testing for the presence of volatile organic compounds (VOC), volatile petroleum compounds (VPH), and extractible petroleum hydrocarbons (EPH) with target analytes. Additionally, a sample was collected from groundwater monitoring well B-202(OW) on November 18, 2015 and submitted for laboratory analysis for the presence of VOCs and dissolved MCP-14 metals. A summary of the chemical test results is provided in **Table 1** and chemical test data is included in **Appendix D**.

VOCs, VPHs and EPHs

The results of the laboratory analysis did not detect the presence of VOCs, VPHs and EPHs with target analytes in excess of the laboratory detection limits, which are below the applicable RCGW-2 reporting standards.

Dissolved MCP-14 Metals

The results of laboratory analysis did not identify the presence of dissolved MCP-14 metals above the laboratory method detection limits, with the exception of dissolved barium, which was identified in sample B-202(OW) at a concentration of 0.34 mg/L. The RCGW-2 Reportable Concentration for dissolved barium is 50 mg/L. In summary, the results of laboratory analysis did not identify dissolved RCRA-8 metals above applicable RCGW-2 Reportable Concentrations.

Groundwater Analyses October 21, 2016

On October 21, 2016, a sample of groundwater was obtained from monitoring well B-1(OW) and submitted for laboratory analysis for the presence of total metals, VOCs, semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), total cyanide, total residual chlorine, total phenolics, microextractables, total suspended solids (TSS), pH, ammonia nitrogen, and chloride. A summary of the chemical test results is provided in **Table 2** and chemical test data is included in **Appendix D**.

Total Metals

With the exception of copper, iron, lead, and zinc, the laboratory analytical results did not identify detectable levels of total metals in the submitted sample of groundwater. Total copper, iron, lead, and zinc, were reported at concentrations of 2.1 µg/l, 4,380 µg/l, 2 µg/l, and 58.7 µg/l, respectively. The detected levels of total copper and zinc are below the respective EPA effluent limits of 5.2 µg/l and 66.6 µg/L for discharge to a fresh water body.

The reported concentrations for total iron and lead exceed the respective EPA effluent limits of 1,000 µg/l and 2 µg/l for discharge into a fresh water body. As a result, a Dilution Factor (DF) was calculated in accordance with the procedure contained in DGP MAG070000, Appendix VII. The purpose of the DF calculation is to establish Total Recoverable Limits for metals, taking into consideration the anticipated dilution of the detected analytes upon discharge into the Charles River. Using the USGS StreamStats GIS database, the 7Q10 flow was calculated for the receiving water at the outfall location. Based on the calculated value of 7Q10, the DF was determined to be 134. Therefore, in accordance with the dilution range concentrations provided in DGP MAG070000, Appendix VII for the determined DF, the detected levels of total iron and lead are below than the respective dilution concentrations of 5,000 µg/l and 132 µg/l for discharge into a freshwater body. The USGS StreamStats GIS database calculations for the discharge location in the Charles River are provided in **Appendix E**.

VOC, SVOC, PCB, Total Cyanide, Total Residual Chlorine, Total Phenolics, Microextractables

The results did not indicate the presence of VOC, SVOC, PCB, total cyanide, total residual chlorine, total phenolics, microextractables at concentrations above the instrument reporting limit, which are below the respective EPA effluent limits for discharge into a fresh water body.

TSS, pH, Ammonia Nitrogen, and Chloride

The TSS concentration of the groundwater was 14,000 µg/l, which is below the applicable EPA effluent limit of 30,000 µg/l for discharge into a freshwater body. The pH of the groundwater was 7.05 S.U., which is within the acceptable range of 6.5 S.U to 8.4 S.U. for discharge into a freshwater body. The results indicated concentrations of ammonia nitrogen and chloride in the tested groundwater sample of 2,980 µg/l and 1,610,000 µg/l, respectively.

Groundwater Treatment

Based on the results of the above referenced groundwater analyses, it is our opinion that a 10,000-gallon capacity settling tank and bag filter in series will be required to settle out suspended particulates in the discharge during construction dewatering to meet applicable

effluent limits established by the US EPA prior to off-site discharge. A schematic of the treatment system is shown on **Figure 4**.

Summary and Conclusions

The purpose of this report is to assess site environmental conditions and groundwater data to support an application for a Massachusetts Dewatering General Permit for off-site discharge of dewatered groundwater which will be encountered during redevelopment of the 121-139 First Street property in Cambridge, Massachusetts.

Based on the results of the above referenced groundwater analyses, treatment of construction dewatering will be necessary to meet allowable effluent limits by the US EPA prior to off-site discharge. The proposed construction dewatering effluent treatment system will consist of one 10,000-gallon capacity settling tank and bag filters in series to meet the applicable discharge limits of TSS. However, should the effluent monitoring results indicate levels of TSS in excess of the limits established in the Massachusetts DGP, additional mitigative measures will be implemented to meet the allowable discharge limits.

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

Very truly yours,

McPHAIL ASSOCIATES, LLC

Scott S. Smith, P.E.

Thomas J. Fennick, P.E., L.S.P.

SSS/tjf

N:\Working Documents\Reports\5863_DGP 112816.docx

FIGURE 1

McPHAIL ASSOCIATES, LLC
Geotechnical and
Geoenvironmental Engineers
2269 Massachusetts Avenue
Cambridge, MA 02140
617/868-1420
617/868-1423 (Fax)
www.mcphailgeo.com

N

SCALE 1:25,000

PROJECT LOCATION PLAN

121 - 139 FIRST STREET

CAMBRIDGE MASSACHUSETTS

FIGURE 2

NORTH

APPROXIMATE LIMITS OF PROPOSED
4 TO 5-STORY BUILDING

PROPOSED STORMWATER
INFILTRATION SYSTEM

PROPOSED STORM DRAIN
TO RECEIVE EFFLUENT

GROUND FLOOR SLAB
AT APPROX. EL.+20.5

BASEMENT SLAB AT
APPROX. EL.+10

B-1 (OW)
B-2
B-201 (OW)
B-202 (OW)
B-203
B-301
B-302
B-304
B-305
B-306
B-307
MW-1
MW-2
MW-3
TP-203A
TP-203B
TP-203C
TP-203D

Cambridge LLC
DEED BOOK 59218, PAGE 148
3,081±S.F.(C)

Bent Associates Ltd. Partnership
DEED BOOK 55811, PAGE 586
(Parcel II)

Cambridge Elec. Light Co.
DEED BOOK 6039, PAGE 151

PROPERTY ID#10-38
The Elder First Street Realty Trust
DEED BOOK 39889, PAGE 307
6,103±S.F.(C)

PROPERTY ID#10-31
Bent Associates Ltd. Partnership
DEED BOOK 55811, PAGE 586

BENT STREET

CHARLES STREET

FIRST STREET

LEGEND

— APPROXIMATE LOCATION OF TEST PIT PERFORMED BY NEW HAMPSHIRE DEMOLITION, INC. ON SEPTEMBER 13, 2016 FOR OTHERS

— APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY TECHNICAL DRILLING SERVICES, INC. ON OCTOBER 28, 2016 FOR McPHAIL ASSOCIATES, LLC

— APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY GEOLOGIC EARTH EXPLORATION, INC. DURING THE PERIOD OF NOVEMBER 24 THROUGH 26, 2014 FOR McPHAIL ASSOCIATES, LLC

— APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY SOIL EXPLORATION CORP. ON MARCH 19, 2013 FOR OTHERS

— APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY TECHNICAL DRILLING SERVICES, INC. ON NOVEMBER 10 AND 11, 2015 FOR McPHAIL ASSOCIATES, LLC

(OW) — INDICATES OBSERVATION WELL INSTALLED WITHIN COMPLETED BOREHOLE

REFERENCE: THIS PLAN WAS PREPARED FROM A 20-SCALE DRAWING ENTITLED, "ALTA / ACSM LAND TITLE SURVEY" DATED JULY 3, 2014 PREPARED BY HANCOCK ASSOCIATES

GRAPHIC SCALE
20 0 20 40

FILE NAME: N:\Acad\JOBS\5863\Dewatering\5863-E02_Dewater.dwg

McPHAIL ASSOCIATES, LLC
Geotechnical and Geoenvironmental Engineers
2269 Massachusetts Avenue
Cambridge, MA 02140
617/868-1420
617/868-1423 (Fax)
www.mcphailgeo.com

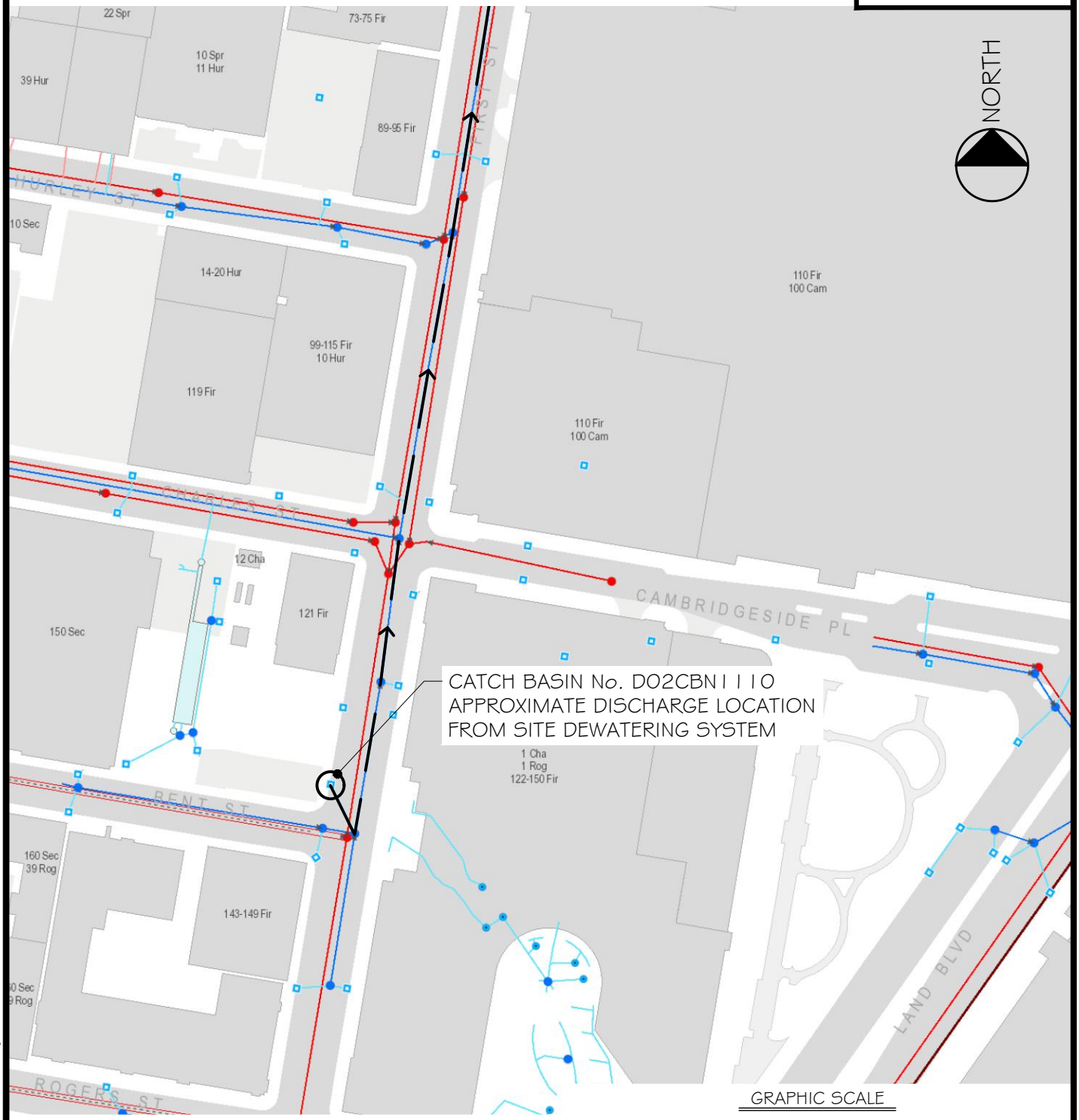
121 - 139 FIRST STREET
CAMBRIDGE MASSACHUSETTS

SUBSURFACE EXPLORATION PLAN

FOR
US PARCEL A, LLC
BY
McPHAIL ASSOCIATES, LLC

Date: NOVEMBER 2016	Dwn: M.B.S.	Chkd: S.S.S.	Scale: 1" = 20'
Project No: 5863			

FIGURE 3A



GRAPHIC SCALE

80 0 80 160

LEGEND

↗ — INDICATES DIRECTION OF FLOW

REFERENCE: THIS PLAN WAS PREPARED FROM A 96-SCALE DRAWING ENTITLED, "CITY OF CAMBRIDGE" PRINTED ON NOVEMBER 7, 2016 BY THE CITY OF CAMBRIDGE

McPHAIL ASSOCIATES, LLC
Geotechnical and Geoenvironmental Engineers
2269 Massachusetts Avenue
Cambridge, MA 02140
617/868-1420
617/868-1423 (Fax)
www.mcphailgeo.com

121 - 139 FIRST STREET

CAMBRIDGE MASSACHUSETTS

DISCHARGE LOCATION PLAN

FOR

US PARCEL A, LLC

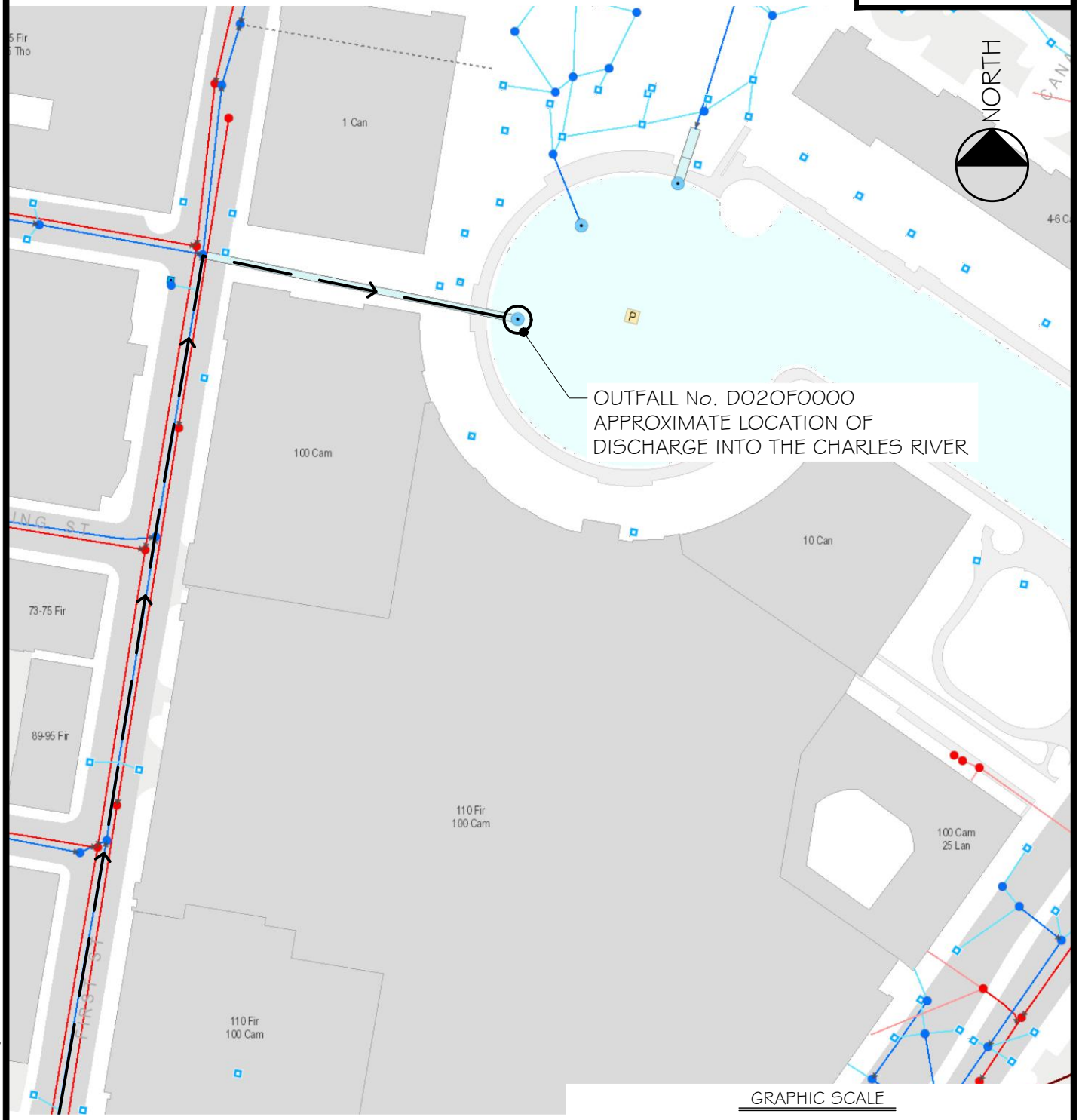
BY

McPHAIL ASSOCIATES, LLC

Date: NOVEMBER 2016	Dwn: M.B.S.	Chkd: S.S.S.	Scale: 1" = 80'
Project No: 5863			

FILE NAME: N:\Acad\JOBS\5863\Dewatering\5863-E03A.dwg

FIGURE 3B



GRAPHIC SCALE

80 0 80 160

LEGEND

↗ — INDICATES DIRECTION OF FLOW

REFERENCE: THIS PLAN WAS PREPARED FROM A 96-SCALE DRAWING ENTITLED, "CITY OF CAMBRIDGE" PRINTED ON NOVEMBER 7, 2016 BY THE CITY OF CAMBRIDGE

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Geotechnical and Geoenvironmental Engineers
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121 - 139 FIRST STREET

CAMBRIDGE MASSACHUSETTS

DISCHARGE LOCATION PLAN

FOR

US PARCEL A, LLC

BY

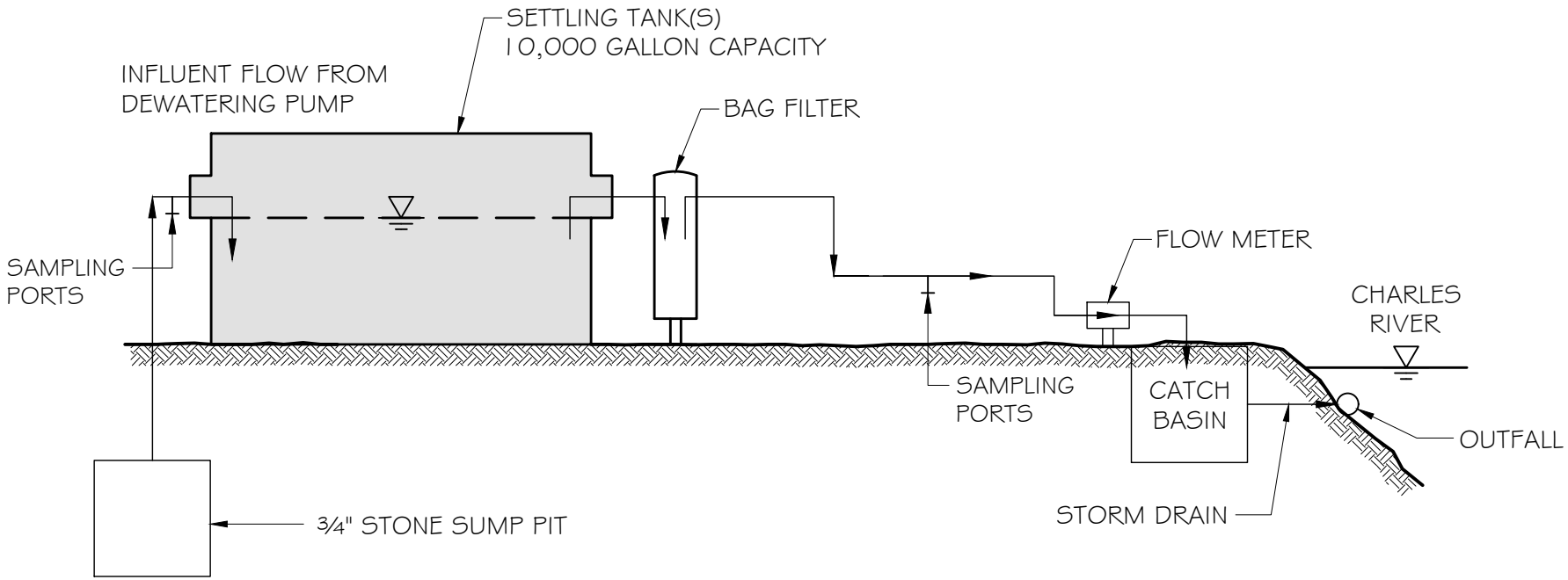
McPHAIL ASSOCIATES, LLC

Date: NOVEMBER 2016	Dwn: M.B.S.	Chkd: S.S.S.	Scale: 1" = 80'
Project No: 5863			

FILE NAME: N:\CadJOBS\5863\Dewatering\5863-E03B.dwg

FILE NAME: N:\Acad\JOBS\5863\Dewatering\5863-E04.dwg

FIGURE 4



McPHAIL ASSOCIATES, LLC
Geotechnical and
Geoenvironmental Engineers
2269 Massachusetts Avenue
Cambridge, MA 02140
617/868-1420
617/868-1423 (Fax)
www.mcphailgeo.com

121 - 139 FIRST STREET

CAMBRIDGE MASSACHUSETTS

SCHEMATIC OF TREATMENT SYSTEM

FOR

US PARCEL A, LLC

BY

McPHAIL ASSOCIATES, LLC

Date: NOVEMBER 2016	Dwn: M.B.S.	Chkd: S.S.S.	Scale: N.T.S.
Project No: 5863			

TABLE 1
GROUNDWATER ANALYTICAL DATA

FIRST STREET PUD - PARCEL A
PROJECT NO. 5863

LOCATION	RCGW-2 Reportable Concentrations	B-201 (OW)	B-1 (OW)	B-202 (OW)
SAMPLING DATE		11/13/2015	11/13/2015	11/18/2015
LAB SAMPLE ID		L1529838-01	L1529838-02	L1530323-05
Extractable Petroleum Hydrocarbons (mg/L)				
C9-C18 Aliphatics	5	ND(0.1)	ND(0.1)	-
C19-C36 Aliphatics	50	ND(0.1)	ND(0.1)	-
C11-C22 Aromatics		ND(0.1)	ND(0.1)	-
C11-C22 Aromatics, Adjusted	5	ND(0.1)	ND(0.1)	-
Naphthalene	0.7	ND(0.01)	ND(0.01)	-
2-Methylnaphthalene	2	ND(0.01)	ND(0.01)	-
Acenaphthylene	0.04	ND(0.01)	ND(0.01)	-
Acenaphthene	10	ND(0.01)	ND(0.01)	-
Fluorene	0.04	ND(0.01)	ND(0.01)	-
Phenanthrene	10	ND(0.01)	ND(0.01)	-
Anthracene	0.03	ND(0.01)	ND(0.01)	-
Fluoranthene	0.2	ND(0.01)	ND(0.01)	-
Pyrene	0.02	ND(0.01)	ND(0.01)	-
Benzo(a)anthracene	1	ND(0.01)	ND(0.01)	-
Chrysene	0.07	ND(0.01)	ND(0.01)	-
Benzo(b)fluoranthene	0.4	ND(0.01)	ND(0.01)	-
Benzo(k)fluoranthene	0.1	ND(0.01)	ND(0.01)	-
Benzo(a)pyrene	0.5	ND(0.01)	ND(0.01)	-
Indeno(1,2,3-cd)Pyrene	0.1	ND(0.01)	ND(0.01)	-
Dibenzo(a,h)anthracene	0.04	ND(0.01)	ND(0.01)	-
Benzo(ghi)perylene	0.02	ND(0.01)	ND(0.01)	-
MCP Dissolved Metals (mg/L)				
Antimony, Dissolved	8	-	-	ND(0.05)
Arsenic, Dissolved	0.9	-	-	ND(0.005)
Barium, Dissolved	50	-	-	0.34
Beryllium, Dissolved	0.2	-	-	ND(0.005)
Cadmium, Dissolved	0.004	-	-	ND(0.004)
Chromium, Dissolved	0.3	-	-	ND(0.01)
Lead, Dissolved	0.01	-	-	ND(0.01)
Mercury, Dissolved	0.02	-	-	ND(0.0002)
Nickel, Dissolved	0.2	-	-	ND(0.025)
Selenium, Dissolved	0.1	-	-	ND(0.01)
Silver, Dissolved	0.007	-	-	ND(0.007)
Thallium, Dissolved	3	-	-	ND(0.02)
Vanadium, Dissolved	4	-	-	ND(0.01)
Zinc, Dissolved	0.9	-	-	ND(0.05)
MCP Volatile Organics (mg/L)				
ALL ND		ND	ND	ND
Volatile Petroleum Hydrocarbons (mg/L)				
C5-C8 Aliphatics		ND(0.05)	ND(0.05)	-
C9-C12 Aliphatics		ND(0.05)	ND(0.05)	-
C9-C10 Aromatics	4	ND(0.05)	ND(0.05)	-
C5-C8 Aliphatics, Adjusted	3	ND(0.05)	ND(0.05)	-
C9-C12 Aliphatics, Adjusted	5	ND(0.05)	ND(0.05)	-

ND - Not detected above laboratory reporting limits
(#) - Detection Limit
"-" - Not analyzed

TABLE 2
GROUNDWATER ANALYTICAL DATA

FIRST STREET PUD - PARCEL A
PROJECT NO. 5863

LOCATION SAMPLING DATE LAB SAMPLE ID	RCGW-2 Reportable Concentrations	DGP Limits	DGP Limits with Dilution Factor	Units	B-1 (OW) 10/21/2016 L1634100-01
Anions by Ion Chromatography					
Chloride		Monitor Only		ug/l	1610000
General Chemistry					
Solids, Total Suspended		30000		ug/l	14000
Cyanide, Total	30	5.2		ug/l	ND(5)
Chlorine, Total Residual		11		ug/l	ND(20)
Nitrogen, Ammonia				ug/l	2980
pH (H)		6.5-8.4		SU	7.05
Phenolics, Total		300		ug/l	ND(30)
Chromium, Hexavalent	300	11.4	1140	ug/l	ND(10)
Microextractables by GC					
1,2-Dibromoethane	2	0.05		ug/l	ND(0.012)
Polychlorinated Biphenyls by GC					
Total		0.000064		ug/l	ND
Semivolatile Organics by GC/MS					
Total				ug/l	ND
Semivolatile Organics by GC/MS-SIM					
Total				ug/l	ND
Total Metals					
Antimony, Total	8000	5.6	141	ug/l	ND(4)
Arsenic, Total	900	10	540	ug/l	ND(0.5)
Cadmium, Total	4	0.2	20	ug/l	ND(0.2)
Chromium, Total	300			ug/l	ND(1)
Copper, Total	100000	5.2	520	ug/l	2.1
Iron, Total		1000	5000	ug/l	4380
Lead, Total	10	1.3	132	ug/l	2
Mercury, Total	20	0.9	2.3	ug/l	ND(0.2)
Nickel, Total	200	29	2380	ug/l	ND(2)
Selenium, Total	100	5	408	ug/l	ND(5)
Silver, Total	7	1.2	115	ug/l	ND(0.4)
Zinc, Total	900	66.6	1480	ug/l	58.7
Volatile Organics by GC/MS					
Total					ND
Volatile Organics by GC/MS-SIM					
Total					ND
Total Petroleum Hydrocarbons					
TPH, SGT-HEM	5000	5000		ug/l	ND(4400)

ND - Not detected above laboratory reporting limits
(#) - Detection Limit
"-" - Not analyzed

APPENDIX A:

LIMITATIONS

LIMITATIONS

The purpose of this report is to present a summary of environmental conditions, including the results of testing of groundwater samples obtained from a groundwater monitoring well on the property located at 121-139 First Street in Cambridge, Massachusetts in support of an application for approval of temporary construction dewatering discharge of groundwater into surface waters of the Commonwealth of Massachusetts under EPA's Massachusetts Dewatering General Permit MAG070000.

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

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

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

This report and application have been prepared on behalf of and for the exclusive use of Urban Spaces, 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

CITY OF CAMBRIDGE PERMIT TO DEWATER

II. Suggested Notice of Intent (NOI) Format

1. General facility information. Please provide the following information about the facility.

a) Name of facility: 121-139 First Street	**Mailing Address for the Facility:** US Parcel A, LLC 111 First Street Cambridge, MA 02141	
b) Location Address of the Facility (if different from mailing address): 121-139 First Street Cambridge, MA	**Facility Location** **longitude:** -71.078062 **latitude:** 42.366937	**Type of Business:** Construction Site **Facility SIC codes:**

c) Name of facility owner: US Parcel A, LLC **Owner's email:** jhirsch@urbanspacesllc.com

Owner's Tel #: (617) 868-5558 **Owner's Fax #:** (801) 991-5002

Address of owner (if different from facility address)

Same as mailing address

Owner is (check one): 1. Federal____ 2. State _____ 3. Private __✓__ 4. Other _____(Describe)_____

Legal name of Operator, if not owner: Nauset Construction Corp.

Operator Contact Name: Anthony Papantonis

Operator Tel Number: (781) 400-8034 **Fax Number:** (781) 453-2250

Operator's email: apapantonis@nausetconstruction.com

Operator Address (if different from owner)

10 Kearney Road, Suite 307 Needham, MA 02494

d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? __✓__

e) Check Yes or No for the following:

1. **Has a prior NPDES permit been granted for the discharge? Yes ____ No_✓_ If Yes, Permit Number: _____**
2. **Is the discharge a "new discharger" as defined by 40 CFR Section 122.2? Yes_____ No_✓_**
3. **Is the facility covered by an individual NPDES permit? Yes_____ No_✓_ If Yes, Permit Number ____**
4. **Is there a pending application on file with EPA for this discharge? Yes _____ No _✓_ If Yes, date of submittal:**

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed)

a) Name of receiving water into which discharge will occur: Charles River

State Water Quality Classification: Class B **Freshwater:** Yes **Marine Water:** No

b) Describe the discharge activities for which the owner/applicant is seeking coverage:

1. Construction dewatering of groundwater intrusion and/or storm water accumulation.
2. ✓ Short-term or long-term dewatering of foundation sumps.
3. Other.

c) Number of outfalls 1

For each outfall:

d) Estimate the maximum daily and average monthly flow of the discharge (in gallons per day – GPD). Max Daily Flow 144,000 **GPD**
Average Monthly Flow 126,000 **GPD**

e.) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH 8.3 **Min pH** 6.5

f.) Identify the source of the discharge (i.e. potable water, surface water, or groundwater). If groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit. Groundwater (see attached report)

g.) What treatment does the wastewater receive prior to discharge? See attached report.

h.) Is the discharge continuous? Yes _____ **No** ✓ **If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B)** B
If (P), number of days or months per year of the discharge _____ **and the specific months of discharge** _____;
If (I), number of days/year there is a discharge 3 to 5 days per week
Is the discharge temporary? Yes ✓ **No** _____
If yes, approximate start date of dewatering December 2016 **approximate end date of dewatering** December 2017

i.) Latitude and longitude of each discharge within 100 feet (See http://www.epa.gov/tri/report/siting_tool): Outfall 1: long. -71.076266 **lat.** 42.369137**; Outfall 2: long.**_____ **lat.**_____**; Outfall 3: long.**_____ **lat.**_____.

j.) If the source of the discharge is potable water, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water and attach any calculation sheets used to support stream flow and dilution calculations 29.7 **cfs**
(See Appendix VIII for equations and additional information)

MASSACHUSETTS FACILITIES: See Section 3.4 and Appendix 1 of the General Permit for more information on Areas of Critical Environmental Concern (ACEC):

k.) Does the discharge occur in an ACEC? Yes _____ No __✓__
If yes, provide the name of the ACEC: _____

3. Contaminant Information

a) Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC_{50} in percent for aquatic organism(s)). No.

b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge.

4. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendix IV. In addition, respond to the following questions.

a) Which of the three eligibility criteria listed in Appendix IV, Criterion (A, B, or C) have you met? B

b) Please attach documentation with your NOI supporting your response. Please see Appendix IV for acceptable documentation

5. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

a) See Screening Process in Appendix III and respond to questions regarding your site and any historic properties listed or eligible for listing on the National Register of Historic Places. Question 1: Yes __✓__ No ____ ; Question 2: No _____ Yes _____ See attached report.

b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes _____ or No __✓__ If yes, attach the results of the consultation(s).

c) Which of the three National Historic Preservation Act eligibility criterion listed in Appendix III, Criterion (A, B, or C) have you met? A

d) Is the project located on property of religious or cultural significance to an Indian Tribe? Yes _____ or No __✓__ If yes, provide that name of the Indian Tribe associated with the property. _____

6. Supplemental Information: Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

7. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the dewatering system; (2) the discharge consists solely of dewatering and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product or finished product; (4) if the discharge of dewatering subsequently mixes with other permitted wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for dewatering discharge; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate 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, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: 121-139 First Street

Operator signature: 

Print Full Name and Title: Anthony Papantonis, President

Date: 11/21/16

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

PERMIT TO DEWATER

Location: 121-139 First Street

X Temporary

_____ Permanent

Owner: US Parcel A, LLC

Contractor: Nauset Construction Corp.

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

II. The issuance of this permit is based in part on the submission packet of the applicant with documentation as follows:
Notice of Intent for Discharge Pursuant to Massachusetts Dewatering General Permit MAG070000

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

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

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

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

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

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

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

X. Where material or debris has washed or flowed into or has been placed in existing gutters, drains, pipes or structures, such material or debris shall be entirely removed and satisfactorily disposed of by the Contractor during the progress of work as directed by the Public Works Department.

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

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

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

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

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

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

City Manager	Property Manager: Corporate Entity President, General Partner or Trustee Trustee with Instrument of Authority Jeff Hirsch Vice President of Operations Urban Spaces, LLC on behalf of US-Parcel A, LLC
Date	11/28/16 Date
City Solicitor	Contractor ANTHONY N. PAPANTONIS NAUSET CONSTRUCTION CORP.
Date	11-21-16 Date
Commissioner of Public Works	Contractor
Date	Date

Cc: Engineering

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

APPENDIX C:

MASSACHUSETTS PHASE I SITE ASSESSMENT MAP

IPAC TRUST RESOURCE REPORT

MassDEP - Bureau of Waste Site Cleanup

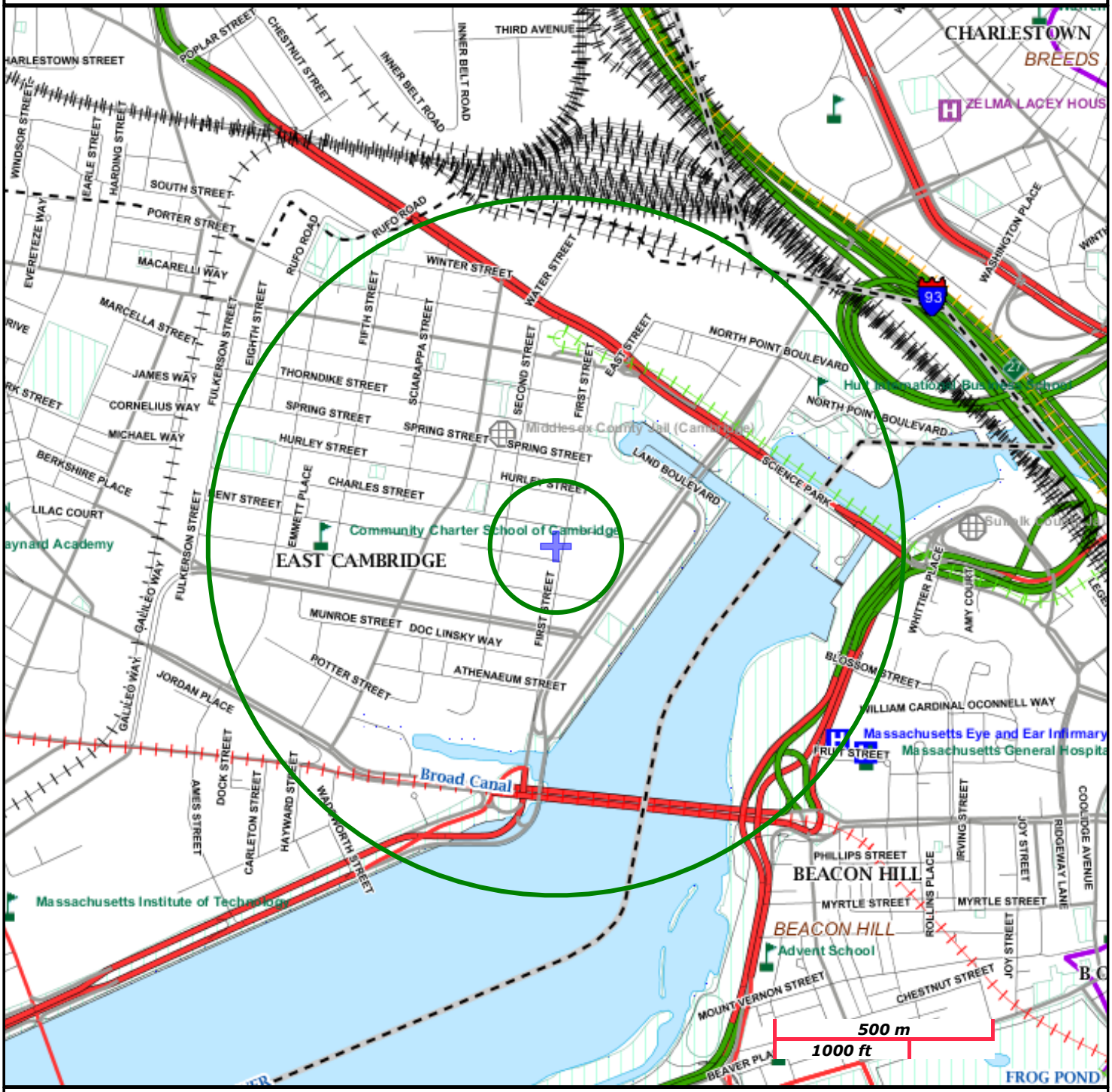
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
PARCEL A
131 FIRST STREET CAMBRIDGE, MA

NAD83 UTM Meters:
4692603mN , 328892mE (Zone: 19)
July 29, 2015

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



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

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

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

Aquifers: Medium Yield, High Yield, EPA Sole Source

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

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

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

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

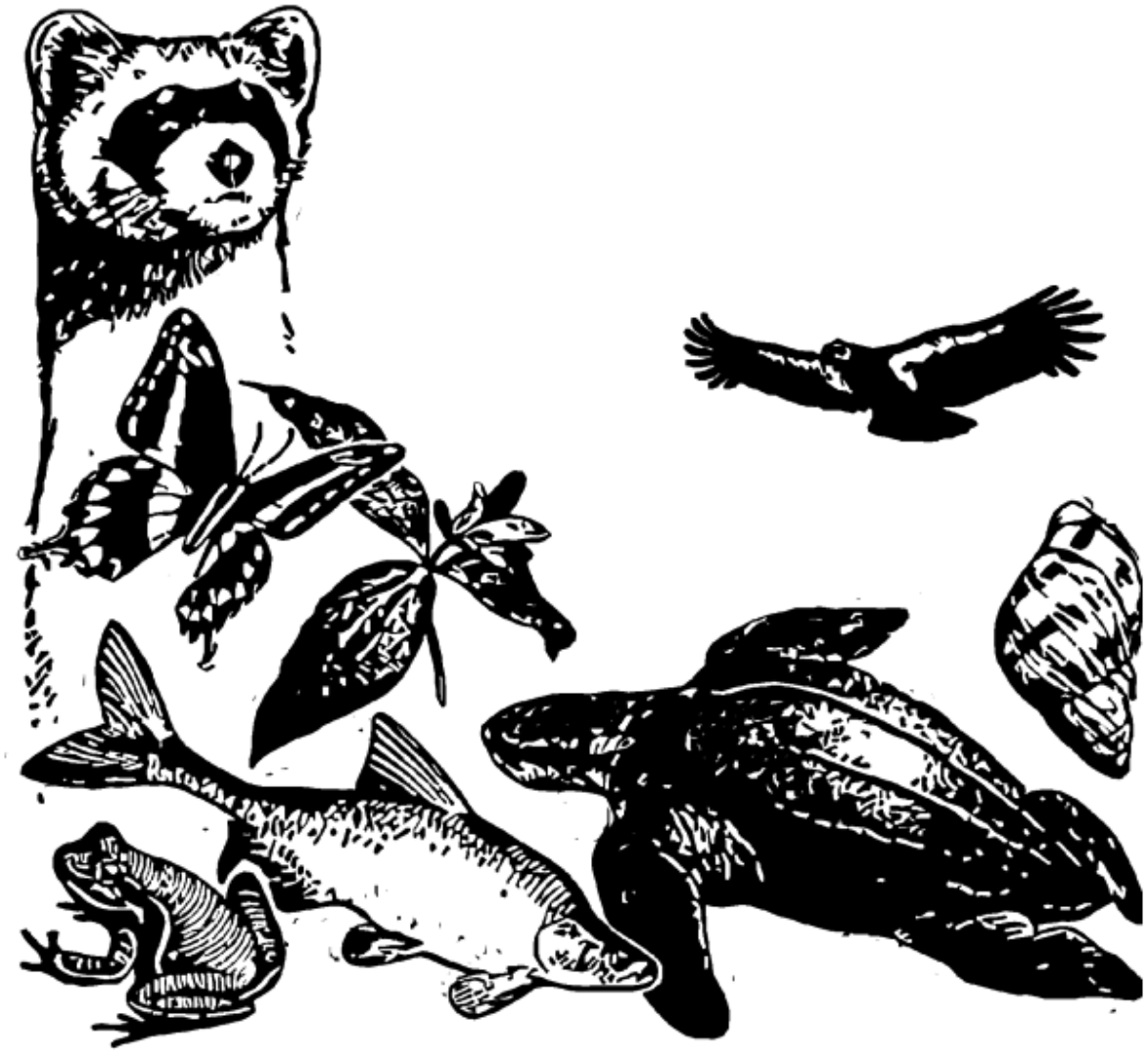
U.S. Fish & Wildlife Service

121-139 First Street

IPaC Trust Resources Report

Generated November 15, 2016 07:57 AM MST, IPaC v3.0.9

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

Table of Contents

U.S. Fish & Wildlife Service

IPaC Trust Resources Report

NAME

121-139 First Street

LOCATION

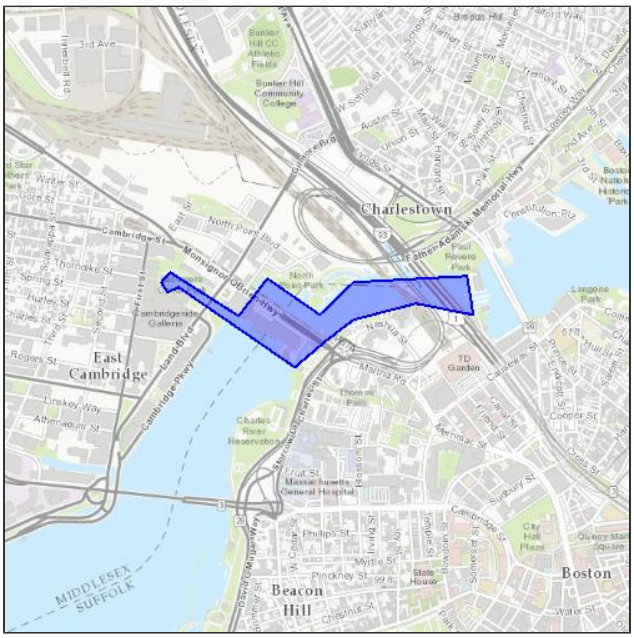
Middlesex and Suffolk counties, Massachusetts

DESCRIPTION

Temporary construction dewatering for proposed 5 story building with footprint of about 4,700 square feet.

IPAC LINK

https://ecos.fws.gov/ipac/project/37X36-JX3WJ-HSTEG-WGS6E-6RTAXY



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

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

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Birds

Red Knot Calidris canutus rufa — Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0DM

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

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1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.birdscanada.org/birdmon/default/datasummaries.jsp

The following species of migratory birds could potentially be affected by activities in this location:

American Oystercatcher Haematopus palliatus — Bird of conservation concern
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0G8

American Bittern Botaurus lentiginosus — Bird of conservation concern
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
On Land Season: Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black-billed Cuckoo Coccyzus erythropthalmus — Bird of conservation concern
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus — Bird of conservation concern
On Land Season: Breeding

Canada Warbler Wilsonia canadensis — Bird of conservation concern
On Land Season: Breeding

Hudsonian Godwit Limosa haemastica — Bird of conservation concern
At Sea Season: Migrating

Least Bittern Ixobrychus exilis
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B092

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN

Peregrine Falcon Falco peregrinus — Bird of conservation concern
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps — Bird of conservation concern
On Land Season: Breeding

Prairie Warbler Dendroica discolor — Bird of conservation concern
On Land Season: Breeding

Purple Sandpiper Calidris maritima — Bird of conservation concern
On Land Season: Wintering

Saltmarsh Sparrow Ammodramus caudacutus — Bird of conservation concern
On Land Season: Breeding

Seaside Sparrow Ammodramus maritimus — Bird of conservation concern
On Land Season: Breeding

Short-eared Owl Asio flammeus — Bird of conservation concern
On Land Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Snowy Egret Egretta thula — Bird of conservation concern
On Land Season: Breeding

Upland Sandpiper Bartramia longicauda — Bird of conservation concern
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HC

Willow Flycatcher Empidonax traillii — Bird of conservation concern
On Land Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wood Thrush Hylocichla mustelina — Bird of conservation concern
On Land Season: Breeding

Worm Eating Warbler Helmitheros vermivorum — Bird of conservation concern
On Land Season: Breeding

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

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

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

DATA LIMITATIONS

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

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

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

DATA EXCLUSIONS

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

DATA PRECAUTIONS

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

This location overlaps all or part of the following wetlands:

Estuarine And Marine Deepwater

E1UBLx

Lake

L1UBH

A full description for each wetland code can be found at the National Wetlands Inventory website: http://107.20.228.18/decoders/wetlands.aspx

APPENDIX D:

LABORATORY ANALYTICAL DATA

ANALYTICAL REPORT

Lab Number:	L1529838
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	FIRST STREET PUD
Project Number:	5863.9.01
Report Date:	11/20/15

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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

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

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1529838
Report Date: 11/20/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1529838-01	B-201 (OW)	WATER	CAMBRIDGE, MA	11/13/15 13:30	11/13/15
L1529838-02	B-1 (OW)	WATER	CAMBRIDGE, MA	11/13/15 14:00	11/13/15
~~L1529838-03~~	~~B-202~~	~~WATER~~	~~CAMBRIDGE, MA~~	~~11/13/15 15:00~~	~~11/13/15~~

Project Name: FIRST STREET PUD **Lab Number:** L1529838

Project Number: 5863.9.01 **Report Date:** 11/20/15

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)?	YES

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: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1529838
Report Date: 11/20/15

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. 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:	FIRST STREET PUD	**Lab Number:**	L1529838
Project Number:	5863.9.01	**Report Date:**	11/20/15

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question H:

The initial calibration, associated with L1529838-01 and -02, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.00348), as well as the average response factor for 1,4-dioxane.

The continuing calibration standard, associated with L1529838-01 and -02, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

EPH

In reference to question G:

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

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

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 11/20/15

ORGANICS

VOLATILES

Project Name: FIRST STREET PUD
Project Number: 5863.9.01
Lab Number: L1529838
Report Date: 11/20/15

SAMPLE RESULTS

Lab ID: L1529838-01
Client ID: B-201 (OW)
Sample Location: CAMBRIDGE, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 11/19/15 07:56
Analyst: MM

Date Collected: 11/13/15 13:30
Date Received: 11/13/15
Field Prep: Not Specified

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

Project Name: FIRST STREET PUD **Lab Number:** L1529838

Project Number: 5863.9.01 **Report Date:** 11/20/15

SAMPLE RESULTS

Lab ID: L1529838-01 Date Collected: 11/13/15 13:30

Client ID: B-201 (OW) Date Received: 11/13/15

Sample Location: CAMBRIDGE, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	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
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: FIRST STREET PUD **Lab Number:** L1529838

Project Number: 5863.9.01 **Report Date:** 11/20/15

SAMPLE RESULTS

Lab ID: L1529838-01 Date Collected: 11/13/15 13:30

Client ID: B-201 (OW) Date Received: 11/13/15

Sample Location: CAMBRIDGE, MA Field Prep: Not Specified

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

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

Project Name: FIRST STREET PUD
Project Number: 5863.9.01
Lab Number: L1529838
Report Date: 11/20/15

SAMPLE RESULTS

Lab ID: L1529838-02
Client ID: B-1 (OW)
Sample Location: CAMBRIDGE, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 11/19/15 08:29
Analyst: MM

Date Collected: 11/13/15 14:00
Date Received: 11/13/15
Field Prep: Not Specified

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

Project Name: FIRST STREET PUD **Lab Number:** L1529838

Project Number: 5863.9.01 **Report Date:** 11/20/15

SAMPLE RESULTS

Lab ID: L1529838-02 Date Collected: 11/13/15 14:00

Client ID: B-1 (OW) Date Received: 11/13/15

Sample Location: CAMBRIDGE, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	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
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: FIRST STREET PUD **Lab Number:** L1529838

Project Number: 5863.9.01 **Report Date:** 11/20/15

SAMPLE RESULTS

Lab ID: L1529838-02 Date Collected: 11/13/15 14:00

Client ID: B-1 (OW) Date Received: 11/13/15

Sample Location: CAMBRIDGE, MA Field Prep: Not Specified

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	112		70-130

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1529838
Report Date: 11/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/19/15 05:47
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG842311-3					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1529838
Report Date: 11/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/19/15 05:47
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG842311-3					
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: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1529838
Report Date: 11/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/19/15 05:47
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-02 Batch: WG842311-3					
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	104		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	106		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST STREET PUD

Project Number: 5863.9.01

Lab Number: L1529838

Report Date: 11/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG842311-1 WG842311-2								
Methylene chloride	97		91		70-130	6		20
1,1-Dichloroethane	98		96		70-130	2		20
Chloroform	96		94		70-130	2		20
Carbon tetrachloride	96		96		70-130	0		20
1,2-Dichloropropane	94		90		70-130	4		20
Dibromochloromethane	84		84		70-130	0		20
1,1,2-Trichloroethane	89		88		70-130	1		20
Tetrachloroethene	101		94		70-130	7		20
Chlorobenzene	99		95		70-130	4		20
Trichlorofluoromethane	98		97		70-130	1		20
1,2-Dichloroethane	101		98		70-130	3		20
1,1,1-Trichloroethane	100		94		70-130	6		20
Bromodichloromethane	92		95		70-130	3		20
trans-1,3-Dichloropropene	91		89		70-130	2		20
cis-1,3-Dichloropropene	89		92		70-130	3		20
1,1-Dichloropropene	98		97		70-130	1		20
Bromoform	83		84		70-130	1		20
1,1,2,2-Tetrachloroethane	87		83		70-130	5		20
Benzene	98		93		70-130	5		20
Toluene	96		94		70-130	2		20
Ethylbenzene	101		94		70-130	7		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST STREET PUD

Project Number: 5863.9.01

Lab Number: L1529838

Report Date: 11/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG842311-1 WG842311-2								
Chloromethane	95		87		70-130	9		20
Bromomethane	88		86		70-130	2		20
Vinyl chloride	96		84		70-130	13		20
Chloroethane	101		95		70-130	6		20
1,1-Dichloroethene	100		95		70-130	5		20
trans-1,2-Dichloroethene	100		101		70-130	1		20
Trichloroethene	100		95		70-130	5		20
1,2-Dichlorobenzene	97		92		70-130	5		20
1,3-Dichlorobenzene	101		92		70-130	9		20
1,4-Dichlorobenzene	99		90		70-130	10		20
Methyl tert butyl ether	86		87		70-130	1		20
p/m-Xylene	102		96		70-130	6		20
o-Xylene	103		95		70-130	8		20
cis-1,2-Dichloroethene	99		93		70-130	6		20
Dibromomethane	93		95		70-130	2		20
1,2,3-Trichloropropane	86		82		70-130	5		20
Styrene	100		96		70-130	4		20
Dichlorodifluoromethane	93		91		70-130	2		20
Acetone	87		92		70-130	6		20
Carbon disulfide	86		87		70-130	1		20
2-Butanone	83		89		70-130	7		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST STREET PUD

Project Number: 5863.9.01

Lab Number: L1529838

Report Date: 11/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG842311-1 WG842311-2								
4-Methyl-2-pentanone	78		82		70-130	5		20
2-Hexanone	74		80		70-130	8		20
Bromochloromethane	94		88		70-130	7		20
Tetrahydrofuran	80		86		70-130	7		20
2,2-Dichloropropane	101		96		70-130	5		20
1,2-Dibromoethane	90		85		70-130	6		20
1,3-Dichloropropane	87		84		70-130	4		20
1,1,1,2-Tetrachloroethane	95		91		70-130	4		20
Bromobenzene	99		91		70-130	8		20
n-Butylbenzene	102		92		70-130	10		20
sec-Butylbenzene	99		92		70-130	7		20
tert-Butylbenzene	103		94		70-130	9		20
o-Chlorotoluene	101		95		70-130	6		20
p-Chlorotoluene	101		95		70-130	6		20
1,2-Dibromo-3-chloropropane	82		84		70-130	2		20
Hexachlorobutadiene	103		98		70-130	5		20
Isopropylbenzene	102		94		70-130	8		20
p-Isopropyltoluene	99		92		70-130	7		20
Naphthalene	**66**	Q	76		70-130	14		20
n-Propylbenzene	101		95		70-130	6		20
1,2,3-Trichlorobenzene	73		89		70-130	20		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1529838
Report Date: 11/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-02 Batch: WG842311-1 WG842311-2								
1,2,4-Trichlorobenzene	76		84		70-130	10		20
1,3,5-Trimethylbenzene	102		93		70-130	9		20
1,2,4-Trimethylbenzene	105		97		70-130	8		20
Ethyl ether	88		88		70-130	0		20
Isopropyl Ether	94		93		70-130	1		20
Ethyl-Tert-Butyl-Ether	90		91		70-130	1		20
Tertiary-Amyl Methyl Ether	86		88		70-130	2		20
1,4-Dioxane	78		104		70-130	**29**	Q	20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	100		96		70-130
4-Bromofluorobenzene	98		95		70-130
Dibromofluoromethane	102		103		70-130

PETROLEUM HYDROCARBONS

Project Name: FIRST STREET PUD
Project Number: 5863.9.01
Lab Number: L1529838
Report Date: 11/20/15

SAMPLE RESULTS

Lab ID:	L1529838-01	Date Collected:	11/13/15 13:30
Client ID:	B-201 (OW)	Date Received:	11/13/15
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	11/18/15 13:10		
Analyst:	KD		

Quality Control Information

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

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	96		70-130
2,5-Dibromotoluene-FID	96		70-130

Project Name: FIRST STREET PUD
Project Number: 5863.9.01
Lab Number: L1529838
Report Date: 11/20/15

SAMPLE RESULTS

Lab ID:	L1529838-01	Date Collected:	11/13/15 13:30
Client ID:	B-201 (OW)	Date Received:	11/13/15
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	11/19/15 07:49
Analytical Date:	11/19/15 18:03	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	11/19/15

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: FIRST STREET PUD
Lab Number: L1529838
Project Number: 5863.9.01
Report Date: 11/20/15

SAMPLE RESULTS

Lab ID:	L1529838-01	Date Collected:	11/13/15 13:30
Client ID:	B-201 (OW)	Date Received:	11/13/15
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	62		40-140
o-Terphenyl	79		40-140
2-Fluorobiphenyl	84		40-140
2-Bromonaphthalene	86		40-140

Project Name: FIRST STREET PUD
Project Number: 5863.9.01
Lab Number: L1529838
Report Date: 11/20/15

SAMPLE RESULTS

Lab ID:	L1529838-02	Date Collected:	11/13/15 14:00
Client ID:	B-1 (OW)	Date Received:	11/13/15
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	11/18/15 13:51		
Analyst:	KD		

Quality Control Information

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

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	97		70-130
2,5-Dibromotoluene-FID	98		70-130

Project Name: FIRST STREET PUD
Project Number: 5863.9.01
Lab Number: L1529838
Report Date: 11/20/15

SAMPLE RESULTS

Lab ID:	L1529838-02	Date Collected:	11/13/15 14:00
Client ID:	B-1 (OW)	Date Received:	11/13/15
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1	Extraction Date:	11/19/15 07:49
Analytical Date:	11/19/15 18:41	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	11/19/15

Quality Control Information

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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	10.0	--	1
2-Methylnaphthalene	ND		ug/l	10.0	--	1
Acenaphthylene	ND		ug/l	10.0	--	1
Acenaphthene	ND		ug/l	10.0	--	1
Fluorene	ND		ug/l	10.0	--	1
Phenanthrene	ND		ug/l	10.0	--	1
Anthracene	ND		ug/l	10.0	--	1
Fluoranthene	ND		ug/l	10.0	--	1
Pyrene	ND		ug/l	10.0	--	1
Benzo(a)anthracene	ND		ug/l	10.0	--	1
Chrysene	ND		ug/l	10.0	--	1
Benzo(b)fluoranthene	ND		ug/l	10.0	--	1
Benzo(k)fluoranthene	ND		ug/l	10.0	--	1
Benzo(a)pyrene	ND		ug/l	10.0	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	10.0	--	1
Dibenzo(a,h)anthracene	ND		ug/l	10.0	--	1
Benzo(ghi)perylene	ND		ug/l	10.0	--	1

Project Name: FIRST STREET PUD
Lab Number: L1529838
Project Number: 5863.9.01
Report Date: 11/20/15

SAMPLE RESULTS

Lab ID:	L1529838-02	Date Collected:	11/13/15 14:00
Client ID:	B-1 (OW)	Date Received:	11/13/15
Sample Location:	CAMBRIDGE, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	66		40-140
o-Terphenyl	69		40-140
2-Fluorobiphenyl	69		40-140
2-Bromonaphthalene	69		40-140

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1529838
Report Date: 11/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 11/19/15 16:10
Analyst: SR

Extraction Method: EPA 3510C
Extraction Date: 11/19/15 07:49
Cleanup Method: EPH-04-1
Cleanup Date: 11/19/15

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG842247-1					
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	66		40-140
o-Terphenyl	64		40-140
2-Fluorobiphenyl	63		40-140
2-Bromonaphthalene	42		40-140

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1529838
Report Date: 11/20/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 11/18/15 10:16
Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG842404-3					
C5-C8 Aliphatics	ND		ug/l	50.0	--
C9-C12 Aliphatics	ND		ug/l	50.0	--
C9-C10 Aromatics	ND		ug/l	50.0	--
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--
Benzene	ND		ug/l	2.00	--
Toluene	ND		ug/l	2.00	--
Ethylbenzene	ND		ug/l	2.00	--
p/m-Xylene	ND		ug/l	2.00	--
o-Xylene	ND		ug/l	2.00	--
Methyl tert butyl ether	ND		ug/l	3.00	--
Naphthalene	ND		ug/l	4.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	95		70-130
2,5-Dibromotoluene-FID	94		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST STREET PUD

Project Number: 5863.9.01

Lab Number: L1529838

Report Date: 11/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG842247-2 WG842247-3								
C9-C18 Aliphatics	49		54		40-140	10		25
C19-C36 Aliphatics	70		75		40-140	7		25
C11-C22 Aromatics	84		87		40-140	4		25
Naphthalene	66		73		40-140	10		25
2-Methylnaphthalene	72		78		40-140	8		25
Acenaphthylene	72		77		40-140	7		25
Acenaphthene	77		81		40-140	5		25
Fluorene	79		82		40-140	4		25
Phenanthrene	82		85		40-140	4		25
Anthracene	84		87		40-140	4		25
Fluoranthene	78		80		40-140	3		25
Pyrene	81		84		40-140	4		25
Benzo(a)anthracene	76		78		40-140	3		25
Chrysene	80		84		40-140	5		25
Benzo(b)fluoranthene	78		79		40-140	1		25
Benzo(k)fluoranthene	77		79		40-140	3		25
Benzo(a)pyrene	80		83		40-140	4		25
Indeno(1,2,3-cd)Pyrene	76		77		40-140	1		25
Dibenzo(a,h)anthracene	76		80		40-140	5		25
Benzo(ghi)perylene	79		80		40-140	1		25
Nonane (C9)	40		46		30-140	14		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST STREET PUD

Project Number: 5863.9.01

Lab Number: L1529838

Report Date: 11/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG842247-2 WG842247-3								
Decane (C10)	48		55		40-140	14		25
Dodecane (C12)	55		60		40-140	9		25
Tetradecane (C14)	58		63		40-140	8		25
Hexadecane (C16)	61		66		40-140	8		25
Octadecane (C18)	64		69		40-140	8		25
Nonadecane (C19)	64		69		40-140	8		25
Eicosane (C20)	64		69		40-140	8		25
Docosane (C22)	63		68		40-140	8		25
Tetracosane (C24)	64		68		40-140	6		25
Hexacosane (C26)	65		69		40-140	6		25
Octacosane (C28)	67		72		40-140	7		25
Triacontane (C30)	68		73		40-140	7		25
Hexatriacontane (C36)	75		82		40-140	9		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	60		65		40-140
o-Terphenyl	78		80		40-140
2-Fluorobiphenyl	76		78		40-140
2-Bromonaphthalene	77		81		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST STREET PUD

Project Number: 5863.9.01

Lab Number: L1529838

Report Date: 11/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG842404-1 WG842404-2								
C5-C8 Aliphatics	101		98		70-130	3		25
C9-C12 Aliphatics	103		101		70-130	2		25
C9-C10 Aromatics	103		102		70-130	1		25
Benzene	105		102		70-130	3		25
Toluene	105		102		70-130	3		25
Ethylbenzene	106		104		70-130	2		25
p/m-Xylene	106		104		70-130	2		25
o-Xylene	105		103		70-130	2		25
Methyl tert butyl ether	100		99		70-130	1		25
Naphthalene	96		97		70-130	1		25
1,2,4-Trimethylbenzene	103		102		70-130	1		25
Pentane	100		97		70-130	3		25
2-Methylpentane	102		99		70-130	3		25
2,2,4-Trimethylpentane	101		98		70-130	3		25
n-Nonane	97		94		30-130	3		25
n-Decane	93		91		70-130	2		25
n-Butylcyclohexane	98		96		70-130	2		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST STREET PUD

Project Number: 5863.9.01

Lab Number: L1529838

Report Date: 11/20/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG842404-1 WG842404-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	103		103		70-130
2,5-Dibromotoluene-FID	102		101		70-130

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1529838
Report Date: 11/20/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1529838-01A	Vial HCl preserved	A	N/A	3.9	Y	Absent	MCP-8260-10(14)
L1529838-01B	Vial HCl preserved	A	N/A	3.9	Y	Absent	MCP-8260-10(14)
L1529838-01D	Vial HCl preserved	A	N/A	3.9	Y	Absent	VPH-DELUX-10(14)
L1529838-01E	Vial HCl preserved	A	N/A	3.9	Y	Absent	VPH-DELUX-10(14)
L1529838-01G	Amber 1000ml HCl preserved	A	<2	3.9	Y	Absent	EPH-DELUX-10(14)
L1529838-01H	Amber 1000ml HCl preserved	A	<2	3.9	Y	Absent	EPH-DELUX-10(14)
L1529838-02A	Vial HCl preserved	A	N/A	3.9	Y	Absent	MCP-8260-10(14)
L1529838-02B	Vial HCl preserved	A	N/A	3.9	Y	Absent	MCP-8260-10(14)
L1529838-02D	Vial HCl preserved	A	N/A	3.9	Y	Absent	VPH-DELUX-10(14)
L1529838-02E	Vial HCl preserved	A	N/A	3.9	Y	Absent	VPH-DELUX-10(14)
L1529838-02G	Amber 1000ml HCl preserved	A	<2	3.9	Y	Absent	EPH-DELUX-10(14)
L1529838-02H	Amber 1000ml HCl preserved	A	<2	3.9	Y	Absent	EPH-DELUX-10(14)
L1529838-03A	Vial HCl preserved	A	N/A	3.9	Y	Absent	HOLD-8260(14)
L1529838-03B	Vial HCl preserved	A	N/A	3.9	Y	Absent	HOLD-8260(14)
L1529838-03D	Plastic 250ml HNO3 preserved	A	<2	3.9	Y	Absent	HOLD-METAL(180)
L1529838-03E	Plastic 250ml unpreserved	A	7	3.9	Y	Absent	HOLD-METAL(180)

*Values in parentheses indicate holding time in days

Project Name:	FIRST STREET PUD	**Lab Number:**	L1529838
Project Number:	5863.9.01	**Report Date:**	11/20/15

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

Data Qualifiers

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

Report Format: Data Usability Report

Project Name:	FIRST STREET PUD	**Lab Number:**	L1529838
Project Number:	5863.9.01	**Report Date:**	11/20/15

Data Qualifiers

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:	FIRST STREET PUD	**Lab Number:**	L1529838
Project Number:	5863.9.01	**Report Date:**	11/20/15

REFERENCES

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

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

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 8260C: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; Iodomethane (methyl iodide) (soil); Methyl methacrylate (soil); Azobenzene.
EPA 8270D: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

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

mg 11/18/15 updated COC

CHAIN OF COSTODY

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: 11/13/15

ALPHA Job #: L1529838

Project Information

Project Name: First Street PUD

Project Location: Cambridge, MA

Project #: 5863.9.01

Project Manager: Scott Smith

ALPHA Quote #:

Client Information

Client: McPhail Associates, LLC

Address: 2269 Massachusetts Avenue

Cambridge, MA 02140

Phone: 617-868-1420

Fax: 617-868-1423

Email: ssmith@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
MA MCP	RCGW-2

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	MCP-14 Dissolved Metals	VOC 8260	EPH Deluxe	VPH Deluxe	Sample Specific Comments	TOTAL # BOTTLES
29838 01	B-201 (OW)	11/13/15	1330	MW	TMC	☐	☒	☒	☒		6
02	B-1 (OW)	↓	1400	↓		☐	☒	☒	☒		6
~~03~~	~~B-202~~	~~↓~~	~~1500~~	~~↓~~		~~☒~~	~~☒~~	~~☐~~	~~☐~~		~~4~~

TOTAL

	MCP-14 Dissolved Metals	VOC 8260	(blank)	EPH Deluxe	VPH Deluxe							
Container Type	P	V	-	A	V	-	-	-	-	-	-	-
Preservative	A	B	-	B	B	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	11/13/15 1505	[signature] AAL	11/13/15 1515
[signature]	11/13/15 1823	[signature]	11/13/15 1823

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)

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: 11/13/15

ALPHA Job #: L1529838

Project Information

Project Name: First Street PUD

Project Location: Cambridge, MA

Project #: 5863.9.01

Project Manager: Scott Smith

ALPHA Quote #:

Client Information

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Cambridge, MA 02140

Phone: 617-868-1420

Fax: 617-868-1423

Email: ssmith@mcphailgeo.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report Information Data Deliverables

☐ FAX ☐ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MA MCP	RCGW-2

ANALYSIS

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	MCP-14 Dissolved Metals	VOC 8260		EPH Deluxe	VPH Deluxe	Sample Specific Comments	TOTAL # BOTTLES
29838 01	B-201 (OW)	11/13/15	1330	MW	TMC	☐	☒	☐	☒	☒		6
02	B-1 (OW)	↓	1400	↓		☐	☒	☐	☒	☒		6
03	B-202	↓	1500	↓		☒	☒	☐	☐	☐		4
											TOTAL	

	MCP-14 Dissolved Metals	VOC 8260		EPH Deluxe	VPH Deluxe							
Container Type	P	V	-	A	V	-	-	-	-	-	-	-
Preservative	A	B	-	B	B	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	11/13/15 1505	[signature] AAL	11/13/15 1515
[signature]	11/13/15 1823	[signature]	11/13/15 1823

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)

7A
Volatile Organics CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1529838

Instrument ID: Jack.i Calibration Date: 19-NOV-2015 Time: 04:10

Lab File ID: 1119A01 Init. Calib. Date(s): 17-NOV-2 18-NOV-2

Sample No: 8260 CCAL Init. Calib. Times : 21:16 00:29

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
dichlorodifluoromethane	.40003	.37049	.1	-7	20	
chloromethane	.83023	.78691	.1	-5	20	
vinyl chloride	.69288	.66668	.1	-4	20	
bromomethane	.27086	.23893	.1	-12	20	
chloroethane	.43531	.43821	.1	1	20	
trichlorofluoromethane	.97611	.95291	.1	-2	20	
ethyl ether	.36391	.32203	.05	-12	20	
1,1,-dichloroethene	.57678	.57934	.1	0	20	
carbon disulfide	1.6151	1.3888	.1	-14	20	
freon-113	.63853	.63822	.1	0	20	
iodomethane	100	124	.05	24	20	F
acrolein	.07815	.07682	.05	-2	20	
methylene chloride	.72679	.70766	.1	-3	20	
acetone	.16666	.145	.1	-13	20	
trans-1,2-dichloroethene	.6996	.69722	.1	0	20	
methyl acetate	.50602	.42218	.1	-17	20	
methyl tert butyl ether	1.8440	1.5938	.1	-14	20	
tert butyl alcohol	.04351	.02865	.05	-34	20	F
Diisopropyl Ether	3.9584	3.7136	.01	-6	20	
1,1-dichloroethane	1.6864	1.6479	.2	-2	20	
acrylonitrile	.27926	.23457	.05	-16	20	
Halothane	.63827	.61784	.05	-3	20	
Ethyl-Tert-Butyl-Ether	2.8348	2.5381	.05	-10	20	
vinyl acetate	2.263	1.9893	.05	-12	20	
cis-1,2-dichloroethene	.85452	.84656	.1	-1	20	
2,2-dichloropropane	1.2162	1.2340	.05	1	20	
cyclohexane	1.7975	1.6977	.01	-6	30	
bromochloromethane	.38953	.3653	.05	-6	20	
chloroform	1.5383	1.4783	.2	-4	20	
carbontetrachloride	1.1339	1.0919	.1	-4	20	
tetrahydrofuran	.27656	.22154	.05	-20	20	
ethyl acetate	.81542	.65755	.05	-19	20	
1,1,1-trichloroethane	1.2785	1.2735	.1	0	20	
1,1-dichloropropene	1.1048	1.0872	.05	-2	20	
2-butanone	.32003	.2668	.1	-17	20	
benzene	3.3931	3.3210	.5	-2	20	
Tertiary-Amyl Methyl Ether	1.9766	1.6923	.05	-14	20	
1,2-dichloroethane	1.1554	1.1633	.1	1	20	

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1529838

Instrument ID: Jack.i Calibration Date: 19-NOV-2015 Time: 04:10

Lab File ID: 1119A01 Init. Calib. Date(s): 17-NOV-2 18-NOV-2

Sample No: 8260 CCAL Init. Calib. Times : 21:16 00:29

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
methyl cyclohexane	1.4158	1.3533	.01	-4	30	
trichloroethene	.86654	.87135	.2	1	20	
dibromomethane	.43351	.40347	.05	-7	20	
1,2-dichloropropane	1.0084	.94376	.1	-6	20	
bromodichloromethane	1.0944	1.0041	.2	-8	20	
1,4-dioxane	.00382	.00297	.05	-22	20	F
2-chloroethylvinyl ether	.47022	.37078	.05	-21	20	F
cis-1,3-dichloropropene	1.3186	1.1755	.2	-11	20	
toluene	2.7880	2.6839	.4	-4	20	
tetrachloroethene	1.2759	1.2891	.2	1	20	
4-methyl-2-pentanone	.24963	.19581	.1	-22	20	F
trans-1,3-dichloropropene	1.3306	1.2065	.1	-9	20	
1,1,2-trichloroethane	.65929	.58483	.1	-11	20	
ethyl-methacrylate	1.0770	.85616	.01	-21	30	
chlorodibromomethane	.91019	.76941	.1	-15	20	
1,3-dichloropropane	1.4555	1.2678	.05	-13	20	
1,2-dibromoethane	.7818	.70772	.1	-9	20	
2-hexanone	.58932	.4365	.1	-26	20	F
chlorobenzene	3.1473	3.1124	.5	-1	20	
ethyl benzene	5.3926	5.4317	.1	1	20	
1,1,1,2-tetrachloroethane	1.0941	1.0379	.05	-5	20	
p/m xylene	2.1671	2.2176	.1	2	20	
o xylene	2.0670	2.1272	.3	3	20	
bromoform	.90913	.75427	.1	-17	20	
styrene	3.4267	3.4361	.3	0	20	
isopropylbenzene	10.672	10.839	.1	2	20	
bromobenzene	2.4617	2.4309	.05	-1	20	
1,4-dichlorobutane	3.5564	3.4008	.01	-4	30	
n-propylbenzene	8.329	8.3982	.05	1	20	
1,1,2,2,-tetrachloroethane	1.6172	1.4104	.3	-13	20	
4-ethyltoluene	11.412	11.768	.05	3	20	
2-chlorotoluene	8.329	8.3982	.05	1	20	
1,2,3-trichloropropane	1.4008	1.2106	.05	-14	20	
1,3,5-trimethybenzene	8.9125	9.0647	.05	2	20	
trans-1,4-dichloro-2-butene	.67467	.54401	.05	-19	20	
4-chorotoluene	7.2859	7.3930	.05	1	20	
tert-butylbenzene	7.4406	7.6546	.05	3	20	
1,2,4-trimethylbenzene	8.3839	8.7907	.05	5	20	

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1529838

Instrument ID: Jack.i Calibration Date: 19-NOV-2015 Time: 04:10

Lab File ID: 1119A01 Init. Calib. Date(s): 17-NOV-2 18-NOV-2

Sample No: 8260 CCAL Init. Calib. Times : 21:16 00:29

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
sec-butylbenzene	10.933	10.794	.01	-1	20	
p-isopropyltoluene	9.1126	9.0073	.05	-1	20	
1,3-dichlorobenzene	4.6961	4.7324	.6	1	20	
1,4-dichlorobenzene	4.6379	4.5790	.5	-1	20	
p-diethylbenzene	5.2079	5.2936	.05	2	20	
n-butylbenzene	7.1508	7.2676	.05	2	20	
1,2-dichlorobenzene	4.1307	3.9966	.4	-3	20	
1,2,4,5-tetramethylbenzene	6.7106	6.4997	.05	-3	20	
1,2-dibromo-3-chloropropane	.22199	.18232	.05	-18	20	
1,3,5-trichlorobenzene	1.1529	1.0392	.05	-10	20	
1,2,4-trichlorobenzene	1.6607	1.2591	.2	-24	20	F
hexachlorobutadiene	.71979	.73946	.05	3	20	
naphthalene	100	66.004	.05	-34	20	F
1,2,3-trichlorobenzene	100	72.699	.05	-27	20	F
dibromofluoromethane	.24349	.24768	.05	2	20	
1,2-dichloroethane-d4	.33016	.31345	.05	-5	20	
toluene-d8	1.2269	1.2317	.01	0	20	
4-bromofluorobenzene	.88446	.86325	.05	-2	20	

FORM VII MCP-8260-10

ANALYTICAL REPORT

Lab Number:	L1530323
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	FIRST STREET PUD
Project Number:	5863.9.01
Report Date:	11/30/15

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

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

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1530323
Report Date: 11/30/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
~~L1530323-01~~	~~GP-1~~	~~WATER~~	~~CAMBRIDGE, MA~~	~~11/18/15 11:00~~	~~11/18/15~~
~~L1530323-02~~	~~B-205 (OW)~~	~~WATER~~	~~CAMBRIDGE, MA~~	~~11/18/15 12:30~~	~~11/18/15~~
~~L1530323-03~~	~~B-204 (OW)~~	~~WATER~~	~~CAMBRIDGE, MA~~	~~11/18/15 13:30~~	~~11/18/15~~
~~L1530323-04~~	~~B-207 (OW)~~	~~WATER~~	~~CAMBRIDGE, MA~~	~~11/18/15 13:45~~	~~11/18/15~~
L1530323-05	B-202 (OW)	WATER	CAMBRIDGE, MA	11/18/15 14:30	11/18/15

Project Name: FIRST STREET PUD **Lab Number:** L1530323

Project Number: 5863.9.01 **Report Date:** 11/30/15

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)?	YES

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: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1530323
Report Date: 11/30/15

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. 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:	FIRST STREET PUD	**Lab Number:**	L1530323
Project Number:	5863.9.01	**Report Date:**	11/30/15

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

L1530323-02: One of the sample containers was received above the appropriate pH for the EPH analysis. The laboratory added additional HCl to a pH <2.

L1530323-04: The sample was received above the appropriate pH for the EPH analysis. The laboratory added additional HCl to a pH <2.

Volatile Organics

In reference to question H:

The initial calibration, associated with L1530323-02 through -05, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.00431), as well as the average response factor for 1,4-dioxane. The initial calibration verification is outside acceptance criteria for dichlorodifluoromethane (166%), but within overall method criteria.

The continuing calibration standard, associated with L1530323-02 through -05, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

EPH

In reference to question G:

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

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

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 11/30/15

ORGANICS

VOLATILES

Project Name: FIRST STREET PUD
Project Number: 5863.9.01
Lab Number: L1530323
Report Date: 11/30/15

SAMPLE RESULTS

Lab ID: L1530323-05
Client ID: B-202 (OW)
Sample Location: CAMBRIDGE, MA
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 11/22/15 12:10
Analyst: MM

Date Collected: 11/18/15 14:30
Date Received: 11/18/15
Field Prep: Not Specified

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

Project Name: FIRST STREET PUD **Lab Number:** L1530323

Project Number: 5863.9.01 **Report Date:** 11/30/15

SAMPLE RESULTS

Lab ID: L1530323-05 Date Collected: 11/18/15 14:30

Client ID: B-202 (OW) Date Received: 11/18/15

Sample Location: CAMBRIDGE, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	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
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: FIRST STREET PUD
Lab Number: L1530323
Project Number: 5863.9.01
Report Date: 11/30/15

SAMPLE RESULTS

Lab ID: L1530323-05
Client ID: B-202 (OW)
Sample Location: CAMBRIDGE, MA
Date Collected: 11/18/15 14:30
Date Received: 11/18/15
Field Prep: Not Specified

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	**135**	Q	70-130

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1530323
Report Date: 11/30/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/22/15 08:56
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 02-05 Batch: WG843340-3					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1530323
Report Date: 11/30/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/22/15 08:56
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 02-05 Batch: WG843340-3					
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: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1530323
Report Date: 11/30/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 11/22/15 08:56
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 02-05 Batch: WG843340-3					
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	117		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	114		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST STREET PUD

Project Number: 5863.9.01

Lab Number: L1530323

Report Date: 11/30/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02-05 Batch: WG843340-1 WG843340-2								
Methylene chloride	92		89		70-130	3		20
1,1-Dichloroethane	95		99		70-130	4		20
Chloroform	96		103		70-130	7		20
Carbon tetrachloride	93		103		70-130	10		20
1,2-Dichloropropane	92		98		70-130	6		20
Dibromochloromethane	96		98		70-130	2		20
1,1,2-Trichloroethane	94		96		70-130	2		20
Tetrachloroethene	90		101		70-130	12		20
Chlorobenzene	90		95		70-130	5		20
Trichlorofluoromethane	92		101		70-130	9		20
1,2-Dichloroethane	108		109		70-130	1		20
1,1,1-Trichloroethane	98		104		70-130	6		20
Bromodichloromethane	96		104		70-130	8		20
trans-1,3-Dichloropropene	96		99		70-130	3		20
cis-1,3-Dichloropropene	96		102		70-130	6		20
1,1-Dichloropropene	95		104		70-130	9		20
Bromoform	90		104		70-130	14		20
1,1,2,2-Tetrachloroethane	93		102		70-130	9		20
Benzene	88		92		70-130	4		20
Toluene	86		90		70-130	5		20
Ethylbenzene	88		95		70-130	8		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST STREET PUD

Project Number: 5863.9.01

Lab Number: L1530323

Report Date: 11/30/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02-05 Batch: WG843340-1 WG843340-2								
Chloromethane	79		89		70-130	12		20
Bromomethane	99		89		70-130	11		20
Vinyl chloride	78		86		70-130	10		20
Chloroethane	84		81		70-130	4		20
1,1-Dichloroethene	84		87		70-130	4		20
trans-1,2-Dichloroethene	90		96		70-130	6		20
Trichloroethene	89		96		70-130	8		20
1,2-Dichlorobenzene	86		101		70-130	16		20
1,3-Dichlorobenzene	92		103		70-130	11		20
1,4-Dichlorobenzene	87		104		70-130	18		20
Methyl tert butyl ether	101		104		70-130	3		20
p/m-Xylene	93		99		70-130	6		20
o-Xylene	94		100		70-130	6		20
cis-1,2-Dichloroethene	91		99		70-130	8		20
Dibromomethane	94		102		70-130	8		20
1,2,3-Trichloropropane	90		99		70-130	10		20
Styrene	96		100		70-130	4		20
Dichlorodifluoromethane	92		93		70-130	1		20
Acetone	124		**136**	Q	70-130	9		20
Carbon disulfide	73		78		70-130	7		20
2-Butanone	99		104		70-130	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1530323
Report Date: 11/30/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02-05 Batch: WG843340-1 WG843340-2								
4-Methyl-2-pentanone	112		115		70-130	3		20
2-Hexanone	106		105		70-130	1		20
Bromochloromethane	102		107		70-130	5		20
Tetrahydrofuran	102		105		70-130	3		20
2,2-Dichloropropane	99		109		70-130	10		20
1,2-Dibromoethane	96		97		70-130	1		20
1,3-Dichloropropane	93		91		70-130	2		20
1,1,1,2-Tetrachloroethane	93		103		70-130	10		20
Bromobenzene	83		100		70-130	19		20
n-Butylbenzene	89		104		70-130	16		20
sec-Butylbenzene	84		104		70-130	**21**	Q	20
tert-Butylbenzene	84		102		70-130	19		20
o-Chlorotoluene	85		107		70-130	**23**	Q	20
p-Chlorotoluene	83		103		70-130	**22**	Q	20
1,2-Dibromo-3-chloropropane	83		108		70-130	**26**	Q	20
Hexachlorobutadiene	89		114		70-130	**25**	Q	20
Isopropylbenzene	83		101		70-130	20		20
p-Isopropyltoluene	88		105		70-130	18		20
Naphthalene	90		94		70-130	4		20
n-Propylbenzene	83		97		70-130	16		20
1,2,3-Trichlorobenzene	105		97		70-130	8		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST STREET PUD

Project Number: 5863.9.01

Lab Number: L1530323

Report Date: 11/30/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 02-05 Batch: WG843340-1 WG843340-2								
1,2,4-Trichlorobenzene	96		104		70-130	8		20
1,3,5-Trimethylbenzene	88		102		70-130	15		20
1,2,4-Trimethylbenzene	86		103		70-130	18		20
Ethyl ether	93		91		70-130	2		20
Isopropyl Ether	92		98		70-130	6		20
Ethyl-Tert-Butyl-Ether	96		100		70-130	4		20
Tertiary-Amyl Methyl Ether	99		102		70-130	3		20
1,4-Dioxane	103		87		70-130	17		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		113		70-130
Toluene-d8	99		92		70-130
4-Bromofluorobenzene	88		94		70-130
Dibromofluoromethane	116		117		70-130

METALS

Project Name: FIRST STREET PUD
Project Number: 5863.9.01
Lab Number: L1530323
Report Date: 11/30/15

SAMPLE RESULTS

Lab ID: L1530323-05
Client ID: B-202 (OW)
Sample Location: CAMBRIDGE, MA
Matrix: Water
Date Collected: 11/18/15 14:30
Date Received: 11/18/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab											
Antimony, Dissolved	ND		mg/l	0.050	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH
Arsenic, Dissolved	ND		mg/l	0.005	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH
Barium, Dissolved	0.340		mg/l	0.010	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH
Beryllium, Dissolved	ND		mg/l	0.005	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH
Cadmium, Dissolved	ND		mg/l	0.004	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH
Chromium, Dissolved	ND		mg/l	0.01	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH
Lead, Dissolved	ND		mg/l	0.010	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH
Mercury, Dissolved	ND		mg/l	0.0002	--	1	11/20/15 11:08	11/20/15 18:42	EPA 7470A	97,7470A	DB
Nickel, Dissolved	ND		mg/l	0.025	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH
Selenium, Dissolved	ND		mg/l	0.010	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH
Silver, Dissolved	ND		mg/l	0.007	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH
Thallium, Dissolved	ND		mg/l	0.020	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH
Vanadium, Dissolved	ND		mg/l	0.010	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH
Zinc, Dissolved	ND		mg/l	0.050	--	1	11/19/15 11:45	11/20/15 16:46	EPA 3005A	97,6010C	JH

Project Name: FIRST STREET PUD **Lab Number:** L1530323

Project Number: 5863.9.01 **Report Date:** 11/30/15

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 03,05 Batch: WG842335-1										
Antimony, Dissolved	ND		mg/l	0.050	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH
Arsenic, Dissolved	ND		mg/l	0.005	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH
Barium, Dissolved	ND		mg/l	0.010	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH
Beryllium, Dissolved	ND		mg/l	0.005	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH
Cadmium, Dissolved	ND		mg/l	0.004	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH
Chromium, Dissolved	ND		mg/l	0.01	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH
Lead, Dissolved	ND		mg/l	0.010	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH
Nickel, Dissolved	ND		mg/l	0.025	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH
Selenium, Dissolved	ND		mg/l	0.010	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH
Silver, Dissolved	ND		mg/l	0.007	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH
Thallium, Dissolved	ND		mg/l	0.020	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH
Vanadium, Dissolved	ND		mg/l	0.010	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH
Zinc, Dissolved	ND		mg/l	0.050	--	1	11/19/15 11:45	11/20/15 13:13	97,6010C	JH

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Dissolved Metals - Westborough Lab for sample(s): 03,05 Batch: WG842809-1										
Mercury, Dissolved	ND		mg/l	0.0002	--	1	11/20/15 11:08	11/20/15 18:31	97,7470A	DB

Prep Information

Digestion Method: EPA 7470A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST STREET PUD

Project Number: 5863.9.01

Lab Number: L1530323

Report Date: 11/30/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Dissolved Metals - Westborough Lab Associated sample(s): 03,05 Batch: WG842335-2 WG842335-3								
Antimony, Dissolved	82		82		80-120	0		20
Arsenic, Dissolved	108		105		80-120	3		20
Barium, Dissolved	98		98		80-120	0		20
Beryllium, Dissolved	98		95		80-120	3		20
Cadmium, Dissolved	111		110		80-120	1		20
Chromium, Dissolved	95		95		80-120	0		20
Lead, Dissolved	104		102		80-120	2		20
Nickel, Dissolved	98		97		80-120	1		20
Selenium, Dissolved	112		113		80-120	1		20
Silver, Dissolved	101		99		80-120	2		20
Thallium, Dissolved	107		107		80-120	0		20
Vanadium, Dissolved	100		100		80-120	0		20
Zinc, Dissolved	100		99		80-120	1		20
MCP Dissolved Metals - Westborough Lab Associated sample(s): 03,05 Batch: WG842809-2 WG842809-3								
Mercury, Dissolved	113		115		80-120	2		20

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1530323
Report Date: 11/30/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1530323-01A	Vial HCl preserved	A	N/A	4.3	Y	Absent	VPH-DELUX-10(14)
L1530323-01B	Vial HCl preserved	A	N/A	4.3	Y	Absent	VPH-DELUX-10(14)
L1530323-01C	Amber 1000ml HCl preserved	A	<2	4.3	Y	Absent	EPH-DELUX-10(14)
L1530323-01D	Amber 1000ml HCl preserved	A	<2	4.3	Y	Absent	EPH-DELUX-10(14)
L1530323-02A	Vial HCl preserved	A	N/A	4.3	Y	Absent	MCP-8260-10(14)
L1530323-02B	Vial HCl preserved	A	N/A	4.3	Y	Absent	MCP-8260-10(14)
L1530323-02C	Vial HCl preserved	A	N/A	4.3	Y	Absent	VPH-DELUX-10(14)
L1530323-02D	Vial HCl preserved	A	N/A	4.3	Y	Absent	VPH-DELUX-10(14)
L1530323-02E	Amber 1000ml HCl preserved	A	<2	4.3	Y	Absent	EPH-DELUX-10(14)
L1530323-02F	Amber 1000ml HCl preserved	A	<2	4.3	Y	Absent	EPH-DELUX-10(14)
L1530323-03A	Vial HCl preserved	A	N/A	4.3	Y	Absent	MCP-8260-10(14)
L1530323-03B	Vial HCl preserved	A	N/A	4.3	Y	Absent	MCP-8260-10(14)
L1530323-03C	Vial HCl preserved	A	N/A	4.3	Y	Absent	VPH-DELUX-10(14)
L1530323-03D	Vial HCl preserved	A	N/A	4.3	Y	Absent	VPH-DELUX-10(14)
L1530323-03E	Amber 1000ml HCl preserved	A	<2	4.3	Y	Absent	EPH-DELUX-10(14)
L1530323-03F	Amber 1000ml HCl preserved	A	<2	4.3	Y	Absent	EPH-DELUX-10(14)
L1530323-03G	Plastic 500ml unpreserved	A	7	4.3	Y	Absent	-
L1530323-03X	Plastic 120ml HNO3 preserved spl	A	<2	4.3	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-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-SB-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)
L1530323-04A	Vial HCl preserved	A	N/A	4.3	Y	Absent	MCP-8260-10(14)
L1530323-04B	Vial HCl preserved	A	N/A	4.3	Y	Absent	MCP-8260-10(14)
L1530323-04C	Vial HCl preserved	A	N/A	4.3	Y	Absent	VPH-DELUX-10(14)
L1530323-04D	Vial HCl preserved	A	N/A	4.3	Y	Absent	VPH-DELUX-10(14)
L1530323-04E	Amber 1000ml HCl preserved	A	<2	4.3	Y	Absent	EPH-DELUX-10(14)

*Values in parentheses indicate holding time in days

Project Name: FIRST STREET PUD
Project Number: 5863.9.01

Lab Number: L1530323
Report Date: 11/30/15

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1530323-04F	Amber 1000ml HCl preserved	A	<2	4.3	Y	Absent	EPH-DELUX-10(14)
L1530323-05A	Vial HCl preserved	A	N/A	4.3	Y	Absent	MCP-8260-10(14)
L1530323-05B	Vial HCl preserved	A	N/A	4.3	Y	Absent	MCP-8260-10(14)
L1530323-05C	Plastic 500ml unpreserved	A	7	4.3	Y	Absent	-
L1530323-05X	Plastic 120ml HNO3 preserved spl	A	<2	4.3	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-BA-6010S-10(180),MCP-BE-6010S-10(180),MCP-SB-6010S-10(180),MCP-PB-6010S-10(180),MCP-NI-6010S-10(180),MCP-SE-6010S-10(180),MCP-V-6010S-10(180)

*Values in parentheses indicate holding time in days

Project Name:	FIRST STREET PUD	**Lab Number:**	L1530323
Project Number:	5863.9.01	**Report Date:**	11/30/15

GLOSSARY

Acronyms

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NI - Not Ignitable.

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

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

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

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

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

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

Footnotes

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

Terms

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: Data Usability Report

Project Name:	FIRST STREET PUD	**Lab Number:**	L1530323
Project Number:	5863.9.01	**Report Date:**	11/30/15

Data Qualifiers

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:	FIRST STREET PUD	**Lab Number:**	L1530323
Project Number:	5863.9.01	**Report Date:**	11/30/15

REFERENCES

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

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

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 8260C: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; Iodomethane (methyl iodide) (soil); Methyl methacrylate (soil); Azobenzene.
EPA 8270D: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

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: 11/18/15

ALPHA Job #: L1530323

Client Information

Client: McPhail Associates, LLC
Address: 2269 Massachusetts Avenue
Cambridge, MA 02140
Phone: 617-868-1420
Fax: 617-868-1423
Email: ssmith@mcphailgeo.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: First Street PUD
Project Location: Cambridge, MA
Project #: 5863.9.01
Project Manager: Scott Smith
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☐ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
MA MCP	RCGW-2

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	MCP-14 Dissolved Metals	VOC 8260		EPH Deluxe	VPH Deluxe								Sample Specific Comments	TOTAL # BOTTLES
30323 -01	GP-1 [redacted]	11/18/15	11:00	GW	SGH	☐	☐	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐		4
-02	B-205(OW)		12:30			☐	☒	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐		6
-03	B-204(OW)		13:30			☒	☒	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐		7
-04	B-207(OW)		13:45			☐	☒	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐		6
-05	B-202(OW)		14:30			☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		3
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	TOTAL	
						Container Type	P	V	-	A	V	-	-	-	-	-	-	-	
						Preservative	A	B	-	B	B	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	11/18/15 16:00	[signature]	11/18/15 1630
[signature]	11/18/15 1810	Graham Phillips	11/18/15 1810

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)

7A
Volatile Organics CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1530323

Instrument ID: Jack.i Calibration Date: 22-NOV-2015 Time: 06:31

Lab File ID: 1122A02 Init. Calib. Date(s): 17-NOV-2 18-NOV-2

Sample No: 8260 CCAL Init. Calib. Times : 21:32 00:45

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
dichlorodifluoromethane	.38785	.35543	.1	-8	20	
chloromethane	.82764	.65202	.1	-21	20	F
vinyl chloride	.68671	.53412	.1	-22	20	F
bromomethane	.26284	.26031	.1	-1	20	
chloroethane	.44366	.37382	.1	-16	20	
trichlorofluoromethane	.98894	.91098	.1	-8	20	
ethyl ether	.35371	.33	.05	-7	20	
1,1,-dichloroethene	.61744	.51594	.1	-16	20	
carbon disulfide	1.6873	1.2363	.1	-27	20	F
freon-113	.64745	.60181	.1	-7	20	
iodomethane	100	120	.05	20	20	F
acrolein	.07608	.07795	.05	2	20	
methylene chloride	.71891	.66519	.1	-7	20	
acetone	100	124	.1	24	20	F
trans-1,2-dichloroethene	.7217	.65021	.1	-10	20	
methyl acetate	.46383	.47196	.1	2	20	
methyl tert butyl ether	1.6453	1.6637	.1	1	20	
tert butyl alcohol	.04431	.05877	.05	33	20	F
Diisopropyl Ether	3.6643	3.3827	.01	-8	20	
1,1-dichloroethane	1.7001	1.6165	.2	-5	20	
acrylonitrile	.25719	.25459	.05	-1	20	
Halothane	.66954	.62085	.05	-7	20	
Ethyl-Tert-Butyl-Ether	2.5266	2.4306	.05	-4	20	
vinyl acetate	1.9911	1.9820	.05	0	20	
cis-1,2-dichloroethene	.86914	.79331	.1	-9	20	
2,2-dichloropropane	1.1944	1.1863	.05	-1	20	
cyclohexane	1.7649	1.5000	.01	-15	30	
bromochloromethane	.3819	.388	.05	2	20	
chloroform	1.5560	1.4918	.2	-4	20	
carbontetrachloride	1.1680	1.0832	.1	-7	20	
tetrahydrofuran	.24518	.25155	.05	3	20	
ethyl acetate	.6652	.66221	.05	0	20	
1,1,1-trichloroethane	1.3212	1.2911	.1	-2	20	
1,1-dichloropropene	1.0330	.98493	.05	-5	20	
2-butanone	.28108	.27748	.1	-1	20	
benzene	3.4034	2.9929	.5	-12	20	
Tertiary-Amyl Methyl Ether	1.7392	1.7246	.05	-1	20	
1,2-dichloroethane	1.1193	1.2126	.1	8	20	

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1530323

Instrument ID: Jack.i Calibration Date: 22-NOV-2015 Time: 06:31

Lab File ID: 1122A02 Init. Calib. Date(s): 17-NOV-2 18-NOV-2

Sample No: 8260 CCAL Init. Calib. Times : 21:32 00:45

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
methyl cyclohexane	1.3841	1.1807	.01	-15	30	
trichloroethene	.89377	.79157	.2	-11	20	
dibromomethane	.47403	.44715	.05	-6	20	
1,2-dichloropropane	.96834	.89428	.1	-8	20	
bromodichloromethane	1.0608	1.0179	.2	-4	20	
1,4-dioxane	.00413	.00426	.05	3	20	F
2-chloroethylvinyl ether	100	116	.05	16	20	
cis-1,3-dichloropropene	1.2229	1.1788	.2	-4	20	
toluene	2.8286	2.4458	.4	-14	20	
tetrachloroethene	1.2734	1.1426	.2	-10	20	
4-methyl-2-pentanone	.21403	.24056	.1	12	20	
trans-1,3-dichloropropene	1.2420	1.1931	.1	-4	20	
1,1,2-trichloroethane	.62195	.5813	.1	-7	20	
ethyl-methacrylate	.95516	.91269	.01	-4	30	
chlorodibromomethane	.8559	.82046	.1	-4	20	
1,3-dichloropropane	1.3746	1.2840	.05	-7	20	
1,2-dibromoethane	.74346	.71351	.1	-4	20	
2-hexanone	.49658	.52753	.1	6	20	
chlorobenzene	3.1584	2.8502	.5	-10	20	
ethyl benzene	5.3928	4.7347	.1	-12	20	
1,1,1,2-tetrachloroethane	1.0483	.97567	.05	-7	20	
p/m xylene	2.1558	2.0044	.1	-7	20	
o xylene	2.0250	1.9063	.3	-6	20	
bromoform	.83281	.75241	.1	-10	20	
styrene	3.2995	3.1573	.3	-4	20	
isopropylbenzene	10.384	8.6041	.1	-17	20	
bromobenzene	2.4135	2.0104	.05	-17	20	
1,4-dichlorobutane	3.3995	2.9375	.01	-14	30	
n-propylbenzene	11.811	9.8409	.05	-17	20	
1,1,2,2,-tetrachloroethane	1.4968	1.3906	.3	-7	20	
4-ethyltoluene	11.229	9.4705	.05	-16	20	
2-chlorotoluene	8.0296	6.8219	.05	-15	20	
1,2,3-trichloropropane	1.2808	1.1545	.05	-10	20	
1,3,5-trimethybenzene	8.5829	7.5451	.05	-12	20	
trans-1,4-dichloro-2-butene	.53719	.51946	.05	-3	20	
4-chorotoluene	7.1298	5.9467	.05	-17	20	
tert-butylbenzene	7.3975	6.2525	.05	-15	20	
1,2,4-trimethylbenzene	8.4137	7.2547	.05	-14	20	

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1530323

Instrument ID: Jack.i Calibration Date: 22-NOV-2015 Time: 06:31

Lab File ID: 1122A02 Init. Calib. Date(s): 17-NOV-2 18-NOV-2

Sample No: 8260 CCAL Init. Calib. Times : 21:32 00:45

Compound	RRF	RRF	MIN RRF	%D	MAX %D
sec-butylbenzene	10.790	9.0581	.01	-16	20
p-isopropyltoluene	8.8262	7.7627	.05	-12	20
1,3-dichlorobenzene	4.6062	4.2250	.6	-8	20
1,4-dichlorobenzene	4.5315	3.9625	.5	-13	20
p-diethylbenzene	5.0934	4.2745	.05	-16	20
n-butylbenzene	7.0115	6.2209	.05	-11	20
1,2-dichlorobenzene	4.1959	3.6131	.4	-14	20
1,2,4,5-tetramethylbenzene	6.4747	5.8762	.05	-9	20
1,2-dibromo-3-chloropropane	.20673	.17177	.05	-17	20
1,3,5-trichlorobenzene	1.0853	1.2625	.05	16	20
1,2,4-trichlorobenzene	100	96.469	.2	-4	20
hexachlorobutadiene	.81223	.72389	.05	-11	20
naphthalene	100	90.519	.05	-9	20
1,2,3-trichlorobenzene	100	105	.05	5	20
dibromofluoromethane	.255	.29589	.05	16	20
1,2-dichloroethane-d4	.32014	.34712	.05	8	20
toluene-d8	1.2259	1.2100	.01	-1	20
4-bromofluorobenzene	.8981	.79336	.05	-12	20

FORM VII MCP-8260-10

ANALYTICAL REPORT

Lab Number:	L1634100
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	FIRST ST. P.U.D PARCEL A
Project Number:	5863
Report Date:	10/28/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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

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

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863

Lab Number: L1634100
Report Date: 10/28/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1634100-01	B-1 (OW)	WATER	121 FIRST ST. CAMBRIDGE	10/21/16 15:00	10/21/16

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Case Narrative

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

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

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

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

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

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

Project Name:	FIRST ST. P.U.D PARCEL A	**Lab Number:**	L1634100
Project Number:	5863	**Report Date:**	10/28/16

Case Narrative (continued)

Volatile Organics

L1634100-01 The analysis of Ethanol was quantitated from a one-point calibration.

Semivolatile Organics

The WG945198-2/-3 LCS/LCSD recoveries, associated with L1634100-01, are below the acceptance criteria for benzidine (9%/8%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported.

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

Authorized Signature: Lura L Troy

Title: Technical Director/Representative Date: 10/28/16

ORGANICS

VOLATILES

Project Name: FIRST ST. P.U.D PARCEL A **Lab Number:** L1634100

Project Number: 5863 **Report Date:** 10/28/16

SAMPLE RESULTS

Lab ID: L1634100-01
Client ID: B-1 (OW)
Sample Location: 121 FIRST ST. CAMBRIDGE
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/26/16 18:20
Analyst: MM

Date Collected: 10/21/16 15:00
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	--	1
1,1-Dichloroethane	ND		ug/l	0.75	--	1
Chloroform	ND		ug/l	0.75	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.8	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.75	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.5	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.75	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	1.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	1.0	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	2.5	--	1

Project Name: FIRST ST. P.U.D PARCEL A **Lab Number:** L1634100

Project Number: 5863 **Report Date:** 10/28/16

SAMPLE RESULTS

Lab ID: L1634100-01 Date Collected: 10/21/16 15:00

Client ID: B-1 (OW) Date Received: 10/21/16

Sample Location: 121 FIRST ST. CAMBRIDGE Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	--	1
1,4-Dichlorobenzene	ND		ug/l	2.5	--	1
Methyl tert butyl ether	ND		ug/l	1.0	--	1
p/m-Xylene	ND		ug/l	1.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	5.0	--	1
1,4-Dichlorobutane	ND		ug/l	5.0	--	1
1,2,3-Trichloropropane	ND		ug/l	5.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	5.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Ethyl methacrylate	ND		ug/l	5.0	--	1
Acrylonitrile	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.5	--	1
Tetrahydrofuran	ND		ug/l	5.0	--	1
2,2-Dichloropropane	ND		ug/l	2.5	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	2.5	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	2.5	--	1
o-Chlorotoluene	ND		ug/l	2.5	--	1
p-Chlorotoluene	ND		ug/l	2.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	2.5	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--	1

Project Name: FIRST ST. P.U.D PARCEL A **Lab Number:** L1634100

Project Number: 5863 **Report Date:** 10/28/16

SAMPLE RESULTS

Lab ID: L1634100-01 Date Collected: 10/21/16 15:00

Client ID: B-1 (OW) Date Received: 10/21/16

Sample Location: 121 FIRST ST. CAMBRIDGE Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--	1
Ethyl ether	ND		ug/l	2.5	--	1
Tert-Butyl Alcohol	ND		ug/l	10	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	111		70-130

Project Name: FIRST ST. P.U.D PARCEL A
Lab Number: L1634100
Project Number: 5863
Report Date: 10/28/16

SAMPLE RESULTS

Lab ID: L1634100-01
Client ID: B-1 (OW)
Sample Location: 121 FIRST ST. CAMBRIDGE
Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 10/26/16 18:20
Analyst: MM

Date Collected: 10/21/16 15:00
Date Received: 10/21/16
Field Prep: Not Specified

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

Project Name: FIRST ST. P.U.D PARCEL A
Lab Number: L1634100
Project Number: 5863
Report Date: 10/28/16

SAMPLE RESULTS

Lab ID: L1634100-01
Client ID: B-1 (OW)
Sample Location: 121 FIRST ST. CAMBRIDGE
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 10/26/16 15:42
Analyst: NS

Date Collected: 10/21/16 15:00
Date Received: 10/21/16
Field Prep: Not Specified
Extraction Method: EPA 504.1
Extraction Date: 10/26/16 13:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.012	--	1	A

Project Name: FIRST ST. P.U.D PARCEL A
Lab Number: L1634100
Project Number: 5863
Report Date: 10/28/16

SAMPLE RESULTS

Lab ID: L1634100-01 R
Client ID: B-1 (OW)
Sample Location: 121 FIRST ST. CAMBRIDGE
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/28/16 08:21
Analyst: MM

Date Collected: 10/21/16 15:00
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Ethanol	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	102		70-130

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 10/26/16 14:34
Analyst: NS

Extraction Method: EPA 504.1
Extraction Date: 10/26/16 13:08

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG945966-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C-SIM(M)
Analytical Date: 10/26/16 10:33
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG945967-5					
1,4-Dioxane	ND		ug/l	3.0	--

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/28/16 06:17
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG945968-10					
Ethanol	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	83		70-130
Dibromofluoromethane	101		70-130

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/26/16 10:33
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG945968-5					
Methylene chloride	ND		ug/l	3.0	--
1,1-Dichloroethane	ND		ug/l	0.75	--
Chloroform	ND		ug/l	0.75	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,2-Dichloropropane	ND		ug/l	1.8	--
Dibromochloromethane	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.75	--
Tetrachloroethene	ND		ug/l	0.50	--
Chlorobenzene	ND		ug/l	0.50	--
Trichlorofluoromethane	ND		ug/l	2.5	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Bromodichloromethane	ND		ug/l	0.50	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.5	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.75	--
Ethylbenzene	ND		ug/l	0.50	--
Chloromethane	ND		ug/l	2.5	--
Bromomethane	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	0.50	--
1,2-Dichloroethene, Total	ND		ug/l	0.50	--
Trichloroethene	ND		ug/l	0.50	--

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/26/16 10:33
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG945968-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	--
1,3-Dichlorobenzene	ND		ug/l	2.5	--
1,4-Dichlorobenzene	ND		ug/l	2.5	--
Methyl tert butyl ether	ND		ug/l	1.0	--
p/m-Xylene	ND		ug/l	1.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	5.0	--
1,4-Dichlorobutane	ND		ug/l	5.0	--
1,2,3-Trichloropropane	ND		ug/l	5.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	5.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	5.0	--
Vinyl acetate	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Ethyl methacrylate	ND		ug/l	5.0	--
Acrylonitrile	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.5	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.5	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.5	--
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--
Bromobenzene	ND		ug/l	2.5	--
n-Butylbenzene	ND		ug/l	0.50	--

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/26/16 10:33
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG945968-5					
sec-Butylbenzene	ND		ug/l	0.50	--
tert-Butylbenzene	ND		ug/l	2.5	--
o-Chlorotoluene	ND		ug/l	2.5	--
p-Chlorotoluene	ND		ug/l	2.5	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Isopropylbenzene	ND		ug/l	0.50	--
p-Isopropyltoluene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	2.5	--
n-Propylbenzene	ND		ug/l	0.50	--
1,2,3-Trichlorobenzene	ND		ug/l	2.5	--
1,2,4-Trichlorobenzene	ND		ug/l	2.5	--
1,3,5-Trimethylbenzene	ND		ug/l	2.5	--
1,2,4-Trimethylbenzene	ND		ug/l	2.5	--
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	--
Ethyl ether	ND		ug/l	2.5	--
Tert-Butyl Alcohol	ND		ug/l	10	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--

Tentatively Identified Compounds

No Tentatively Identified Compounds ND ug/l

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/26/16 10:33
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG945968-5					

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

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01		Batch: WG945966-2						
1,2-Dibromoethane	113		-		70-130	-		20	A
1,2-Dibromo-3-chloropropane	110		-		70-130	-		20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

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: WG945967-3 WG945967-4								
1,4-Dioxane	110		120		70-130	9		25
1,1,2,2-Tetrachloroethane	100		110		70-130	10		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863

Lab Number: L1634100
Report Date: 10/28/16

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: WG945968-3 WG945968-4								
Methylene chloride	98		100		70-130	2		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	110		100		70-130	10		20
Carbon tetrachloride	100		100		63-132	0		20
1,2-Dichloropropane	100		110		70-130	10		20
Dibromochloromethane	87		91		63-130	4		20
1,1,2-Trichloroethane	94		94		70-130	0		20
2-Chloroethylvinyl ether	100		100		70-130	0		20
Tetrachloroethene	96		95		70-130	1		20
Chlorobenzene	97		95		75-130	2		25
Trichlorofluoromethane	110		110		62-150	0		20
1,2-Dichloroethane	110		110		70-130	0		20
1,1,1-Trichloroethane	100		100		67-130	0		20
Bromodichloromethane	100		100		67-130	0		20
trans-1,3-Dichloropropene	89		93		70-130	4		20
cis-1,3-Dichloropropene	96		97		70-130	1		20
1,1-Dichloropropene	100		100		70-130	0		20
Bromoform	81		82		54-136	1		20
1,1,2,2-Tetrachloroethane	90		100		67-130	11		20
Benzene	110		100		70-130	10		25
Toluene	97		98		70-130	1		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

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: WG945968-3 WG945968-4								
Ethylbenzene	97		96		70-130	1		20
Chloromethane	110		110		64-130	0		20
Bromomethane	96		100		39-139	4		20
Vinyl chloride	110		110		55-140	0		20
Chloroethane	120		120		55-138	0		20
1,1-Dichloroethene	110		100		61-145	10		25
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	100		100		70-130	0		25
1,2-Dichlorobenzene	94		97		70-130	3		20
1,3-Dichlorobenzene	94		94		70-130	0		20
1,4-Dichlorobenzene	92		92		70-130	0		20
Methyl tert butyl ether	100		110		63-130	10		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		90		70-130	5		20
cis-1,2-Dichloroethene	110		110		70-130	0		20
Dibromomethane	100		100		70-130	0		20
1,4-Dichlorobutane	92		98		70-130	6		20
Iodomethane	87		93		70-130	7		20
1,2,3-Trichloropropane	96		99		64-130	3		20
Styrene	95		95		70-130	0		20
Dichlorodifluoromethane	110		110		36-147	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

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: WG945968-3 WG945968-4								
Acetone	100		110		58-148	10		20
Carbon disulfide	100		100		51-130	0		20
2-Butanone	100		91		63-138	9		20
Vinyl acetate	98		100		70-130	2		20
4-Methyl-2-pentanone	89		92		59-130	3		20
2-Hexanone	86		91		57-130	6		20
Ethyl methacrylate	91		100		70-130	9		20
Acrolein	94		100		70-130	6		20
Acrylonitrile	100		110		70-130	10		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	120		100		58-130	18		20
2,2-Dichloropropane	100		100		63-133	0		20
1,2-Dibromoethane	94		94		70-130	0		20
1,3-Dichloropropane	96		98		70-130	2		20
1,1,1,2-Tetrachloroethane	90		92		64-130	2		20
Bromobenzene	91		90		70-130	1		20
n-Butylbenzene	100		100		53-136	0		20
sec-Butylbenzene	92		92		70-130	0		20
tert-Butylbenzene	90		88		70-130	2		20
o-Chlorotoluene	95		95		70-130	0		20
p-Chlorotoluene	92		94		70-130	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863

Lab Number: L1634100
Report Date: 10/28/16

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: WG945968-3 WG945968-4								
1,2-Dibromo-3-chloropropane	88		87		41-144	1		20
Hexachlorobutadiene	99		95		63-130	4		20
Isopropylbenzene	96		94		70-130	2		20
p-Isopropyltoluene	93		95		70-130	2		20
Naphthalene	97		100		70-130	3		20
n-Propylbenzene	92		96		69-130	4		20
1,2,3-Trichlorobenzene	92		95		70-130	3		20
1,2,4-Trichlorobenzene	94		97		70-130	3		20
1,3,5-Trimethylbenzene	95		92		64-130	3		20
1,3,5-Trichlorobenzene	92		92		70-130	0		20
1,2,4-Trimethylbenzene	96		95		70-130	1		20
trans-1,4-Dichloro-2-butene	**48**	Q	**55**	Q	70-130	14		20
Halothane	100		100		70-130	0		20
Ethyl ether	110		110		59-134	0		20
Methyl Acetate	100		110		70-130	10		20
Ethyl Acetate	99		100		70-130	1		20
Isopropyl Ether	100		110		70-130	10		20
Cyclohexane	100		110		70-130	10		20
Tert-Butyl Alcohol	98		94		70-130	4		20
Ethyl-Tert-Butyl-Ether	98		100		70-130	2		20
Tertiary-Amyl Methyl Ether	96		100		66-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

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: WG945968-3 WG945968-4								
1,4-Dioxane	100		102		56-162	2		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	110		110		70-130	0		20
Methyl cyclohexane	100		100		70-130	0		20
p-Diethylbenzene	97		92		70-130	5		20
4-Ethyltoluene	94		93		70-130	1		20
1,2,4,5-Tetramethylbenzene	98		99		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		107		70-130
Toluene-d8	99		97		70-130
4-Bromofluorobenzene	97		100		70-130
Dibromofluoromethane	104		106		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

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: WG945968-8 WG945968-9								
Vinyl chloride	120		110		55-140	9		20
Trichloroethene	100		96		70-130	4		25
cis-1,2-Dichloroethene	100		97		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	113		116		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	88		86		70-130
Dibromofluoromethane	106		107		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG945966-3 QC Sample: L1634100-01 Client ID: B-1 (OW)													
1,2-Dibromoethane	ND	0.283	0.314	111		-	-		70-130	-		20	A
1,2-Dibromo-3-chloropropane	ND	0.283	0.291	103		-	-		70-130	-		20	A

SEMIVOLATILES

Project Name: FIRST ST. P.U.D PARCEL A **Lab Number:** L1634100

Project Number: 5863 **Report Date:** 10/28/16

SAMPLE RESULTS

Lab ID: L1634100-01
Client ID: B-1 (OW)
Sample Location: 121 FIRST ST. CAMBRIDGE
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 10/26/16 13:38
Analyst: PS

Date Collected: 10/21/16 15:00
Date Received: 10/21/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 10/24/16 15:40

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

Project Name: FIRST ST. P.U.D PARCEL A **Lab Number:** L1634100

Project Number: 5863 **Report Date:** 10/28/16

SAMPLE RESULTS

Lab ID: L1634100-01 Date Collected: 10/21/16 15:00

Client ID: B-1 (OW) Date Received: 10/21/16

Sample Location: 121 FIRST ST. CAMBRIDGE Field Prep: Not Specified

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	59		21-120
Phenol-d6	39		10-120
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	89		15-120
2,4,6-Tribromophenol	100		10-120
4-Terphenyl-d14	88		41-149

Project Name: FIRST ST. P.U.D PARCEL A **Lab Number:** L1634100

Project Number: 5863 **Report Date:** 10/28/16

SAMPLE RESULTS

Lab ID:	L1634100-01	Date Collected:	10/21/16 15:00
Client ID:	B-1 (OW)	Date Received:	10/21/16
Sample Location:	121 FIRST ST. CAMBRIDGE	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	10/24/16 15:49
Analytical Date:	10/27/16 02:55		
Analyst:	KV		

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

Project Name: FIRST ST. P.U.D PARCEL A **Lab Number:** L1634100

Project Number: 5863 **Report Date:** 10/28/16

SAMPLE RESULTS

Lab ID: L1634100-01 Date Collected: 10/21/16 15:00

Client ID: B-1 (OW) Date Received: 10/21/16

Sample Location: 121 FIRST ST. CAMBRIDGE Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	53		21-120
Phenol-d6	26		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	97		15-120
2,4,6-Tribromophenol	**181**	Q	10-120
4-Terphenyl-d14	113		41-149

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/25/16 12:05
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 10/24/16 15:40

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG945198-1					
Benzidine	ND		ug/l	20	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--
1,2-Dichlorobenzene	ND		ug/l	2.0	--
1,3-Dichlorobenzene	ND		ug/l	2.0	--
1,4-Dichlorobenzene	ND		ug/l	2.0	--
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--
2,4-Dinitrotoluene	ND		ug/l	5.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	2.0	--
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Hexachlorocyclopentadiene	ND		ug/l	20	--
Isophorone	ND		ug/l	5.0	--
Nitrobenzene	ND		ug/l	2.0	--
NDPA/DPA	ND		ug/l	2.0	--
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	--
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--
Biphenyl	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
2-Nitroaniline	ND		ug/l	5.0	--
3-Nitroaniline	ND		ug/l	5.0	--

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/25/16 12:05
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 10/24/16 15:40

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG945198-1					
4-Nitroaniline	ND		ug/l	5.0	--
Dibenzofuran	ND		ug/l	2.0	--
n-Nitrosodimethylamine	ND		ug/l	2.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
p-Chloro-m-cresol	ND		ug/l	2.0	--
2-Chlorophenol	ND		ug/l	2.0	--
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	10	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--
4,6-Dinitro-o-cresol	ND		ug/l	10	--
Phenol	ND		ug/l	5.0	--
2-Methylphenol	ND		ug/l	5.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--
Benzoic Acid	ND		ug/l	50	--
Benzyl Alcohol	ND		ug/l	2.0	--
Carbazole	ND		ug/l	2.0	--

Tentatively Identified Compounds			
Unknown	4.24	J	ug/l

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/25/16 12:05
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 10/24/16 15:40

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG945198-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	25		21-120
Phenol-d6	17		10-120
Nitrobenzene-d5	45		23-120
2-Fluorobiphenyl	51		15-120
2,4,6-Tribromophenol	55		10-120
4-Terphenyl-d14	72		41-149

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 10/25/16 11:42
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 10/24/16 15:45

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG945200-1					
Acenaphthene	ND		ug/l	0.10	--
2-Chloronaphthalene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.20	--
Benzo(a)anthracene	ND		ug/l	0.20	--
Benzo(a)pyrene	ND		ug/l	0.20	--
Benzo(b)fluoranthene	ND		ug/l	0.20	--
Benzo(k)fluoranthene	ND		ug/l	0.20	--
Chrysene	ND		ug/l	0.20	--
Acenaphthylene	ND		ug/l	0.20	--
Anthracene	ND		ug/l	0.20	--
Benzo(ghi)perylene	ND		ug/l	0.20	--
Fluorene	ND		ug/l	0.20	--
Phenanthrene	ND		ug/l	0.20	--
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	--
Pyrene	ND		ug/l	0.20	--
1-Methylnaphthalene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--
Pentachlorophenol	ND		ug/l	0.80	--
Hexachlorobenzene	ND		ug/l	0.80	--
Hexachloroethane	ND		ug/l	0.80	--

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 10/25/16 11:42
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 10/24/16 15:45

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG945200-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	30		21-120
Phenol-d6	21		10-120
Nitrobenzene-d5	54		23-120
2-Fluorobiphenyl	62		15-120
2,4,6-Tribromophenol	64		10-120
4-Terphenyl-d14	87		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863

Lab Number: L1634100
Report Date: 10/28/16

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: WG945198-2 WG945198-3								
Benzidine	**9**	Q	**8**	Q	10-75	10		30
1,2,4-Trichlorobenzene	59		57		39-98	3		30
Bis(2-chloroethyl)ether	71		69		40-140	3		30
1,2-Dichlorobenzene	57		55		40-140	4		30
1,3-Dichlorobenzene	55		52		40-140	6		30
1,4-Dichlorobenzene	54		54		36-97	0		30
3,3'-Dichlorobenzidine	67		68		40-140	1		30
2,4-Dinitrotoluene	74		72		24-96	3		30
2,6-Dinitrotoluene	76		74		40-140	3		30
Azobenzene	79		78		40-140	1		30
4-Chlorophenyl phenyl ether	70		69		40-140	1		30
4-Bromophenyl phenyl ether	72		71		40-140	1		30
Bis(2-chloroisopropyl)ether	66		63		40-140	5		30
Bis(2-chloroethoxy)methane	74		74		40-140	0		30
Hexachlorocyclopentadiene	65		63		40-140	3		30
Isophorone	78		76		40-140	3		30
Nitrobenzene	75		72		40-140	4		30
NDPA/DPA	70		70		40-140	0		30
n-Nitrosodi-n-propylamine	78		76		29-132	3		30
Bis(2-ethylhexyl)phthalate	85		86		40-140	1		30
Butyl benzyl phthalate	84		78		40-140	7		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

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: WG945198-2 WG945198-3								
Di-n-butylphthalate	80		77		40-140	4		30
Di-n-octylphthalate	88		85		40-140	3		30
Diethyl phthalate	74		73		40-140	1		30
Dimethyl phthalate	75		75		40-140	0		30
Biphenyl	75		73		40-140	3		30
4-Chloroaniline	53		49		40-140	8		30
2-Nitroaniline	73		76		52-143	4		30
3-Nitroaniline	54		55		25-145	2		30
4-Nitroaniline	66		64		51-143	3		30
Dibenzofuran	69		68		40-140	1		30
1,2,4,5-Tetrachlorobenzene	73		70		2-134	4		30
Acetophenone	84		80		39-129	5		30
n-Nitrosodimethylamine	40		40		22-74	0		30
2,4,6-Trichlorophenol	74		77		30-130	4		30
p-Chloro-m-cresol	80		80		23-97	0		30
2-Chlorophenol	67		66		27-123	2		30
2,4-Dichlorophenol	75		75		30-130	0		30
2,4-Dimethylphenol	87		82		30-130	6		30
2-Nitrophenol	69		70		30-130	1		30
4-Nitrophenol	54		58		10-80	7		30
2,4-Dinitrophenol	62		62		20-130	0		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

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: WG945198-2 WG945198-3								
4,6-Dinitro-o-cresol	71		70		20-164	1		30
Phenol	32		35		12-110	9		30
2-Methylphenol	66		66		30-130	0		30
3-Methylphenol/4-Methylphenol	60		66		30-130	10		30
2,4,5-Trichlorophenol	78		77		30-130	1		30
Benzoic Acid	27		26		10-164	4		30
Benzyl Alcohol	61		60		26-116	2		30
Carbazole	74		70		55-144	6		30
Parathion, ethyl	104		98		40-140	6		30
Atrazine	104		101		40-140	3		30
Caprolactam	23		27		10-130	16		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	51		52		21-120
Phenol-d6	37		38		10-120
Nitrobenzene-d5	76		73		23-120
2-Fluorobiphenyl	74		71		15-120
2,4,6-Tribromophenol	69		68		10-120
4-Terphenyl-d14	72		67		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

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: WG945200-2 WG945200-3								
Acenaphthene	96		99		37-111	3		40
2-Chloronaphthalene	93		95		40-140	2		40
Fluoranthene	106		109		40-140	3		40
Hexachlorobutadiene	73		76		40-140	4		40
Naphthalene	87		88		40-140	1		40
Benzo(a)anthracene	107		107		40-140	0		40
Benzo(a)pyrene	98		99		40-140	1		40
Benzo(b)fluoranthene	90		89		40-140	1		40
Benzo(k)fluoranthene	100		103		40-140	3		40
Chrysene	99		100		40-140	1		40
Acenaphthylene	103		105		40-140	2		40
Anthracene	108		111		40-140	3		40
Benzo(ghi)perylene	112		113		40-140	1		40
Fluorene	102		104		40-140	2		40
Phenanthrene	96		99		40-140	3		40
Dibenzo(a,h)anthracene	103		102		40-140	1		40
Indeno(1,2,3-cd)pyrene	102		102		40-140	0		40
Pyrene	96		98		26-127	2		40
1-Methylnaphthalene	88		92		40-140	4		40
2-Methylnaphthalene	91		94		40-140	3		40
Pentachlorophenol	84		85		9-103	1		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

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: WG945200-2 WG945200-3								
Hexachlorobenzene	95		98		40-140	3		40
Hexachloroethane	77		81		40-140	5		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	47		50		21-120
Phenol-d6	33		34		10-120
Nitrobenzene-d5	91		92		23-120
2-Fluorobiphenyl	77		80		15-120
2,4,6-Tribromophenol	80		81		10-120
4-Terphenyl-d14	82		86		41-149

PCBS

Project Name: FIRST ST. P.U.D PARCEL A
Lab Number: L1634100
Project Number: 5863
Report Date: 10/28/16

SAMPLE RESULTS

Lab ID: L1634100-01
Client ID: B-1 (OW)
Sample Location: 121 FIRST ST. CAMBRIDGE
Matrix: Water
Analytical Method: 5,608
Analytical Date: 10/27/16 00:54
Analyst: JW

Date Collected: 10/21/16 15:00
Date Received: 10/21/16
Field Prep: Not Specified
Extraction Method: EPA 608
Extraction Date: 10/26/16 08:49
Cleanup Method: EPA 3665A
Cleanup Date: 10/26/16
Cleanup Method: EPA 3660B
Cleanup Date: 10/26/16

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	96		30-150	A
Decachlorobiphenyl	68		30-150	A

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,608
Analytical Date: 10/27/16 01:34
Analyst: JW

Extraction Method: EPA 608
Extraction Date: 10/26/16 08:49
Cleanup Method: EPA 3665A
Cleanup Date: 10/26/16
Cleanup Method: EPA 3660B
Cleanup Date: 10/26/16

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG945889-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.200	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	88		30-150	A
Decachlorobiphenyl	80		30-150	A

Matrix Spike Analysis
Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863

Lab Number: L1634100
Report Date: 10/28/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG945889-3 QC Sample: L1600010-117 Client ID: MS Sample													
Aroclor 1016	ND	1	0.725	72		-	-		40-140	-		50	A
Aroclor 1260	ND	1	0.513	51		-	-		40-140	-		50	A

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89				30-150	A
Decachlorobiphenyl	70				30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG945889-2									
Aroclor 1016	108		-		40-140	-		50	A
Aroclor 1260	79		-		40-140	-		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	99				30-150	A
Decachlorobiphenyl	83				30-150	A

Lab Duplicate Analysis
Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863

Lab Number: L1634100
Report Date: 10/28/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits	
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG945889-4 QC Sample: L1600010-117 Client ID: DUP Sample							
Aroclor 1016	ND	ND	ug/l	NC		50	A
Aroclor 1221	ND	ND	ug/l	NC		50	A
Aroclor 1232	ND	ND	ug/l	NC		50	A
Aroclor 1242	ND	ND	ug/l	NC		50	A
Aroclor 1248	ND	ND	ug/l	NC		50	A
Aroclor 1254	ND	ND	ug/l	NC		50	A
Aroclor 1260	ND	ND	ug/l	NC		50	A

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	92		96		30-150	A
Decachlorobiphenyl	84		74		30-150	A

METALS

Project Name: FIRST ST. P.U.D PARCEL A
Lab Number: L1634100
Project Number: 5863
Report Date: 10/28/16

SAMPLE RESULTS

Lab ID: L1634100-01
Client ID: B-1 (OW)
Sample Location: 121 FIRST ST. CAMBRIDGE
Matrix: Water

Date Collected: 10/21/16 15:00
Date Received: 10/21/16
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	0.0040	--	1	10/26/16 15:30	10/27/16 09:31	EPA 3005A	1,6020A	AM
Arsenic, Total	ND		mg/l	0.0005	--	1	10/26/16 15:30	10/27/16 09:31	EPA 3005A	1,6020A	AM
Cadmium, Total	ND		mg/l	0.0002	--	1	10/26/16 15:30	10/27/16 09:31	EPA 3005A	1,6020A	AM
Chromium, Total	ND		mg/l	0.0010	--	1	10/26/16 15:30	10/27/16 09:31	EPA 3005A	1,6020A	AM
Copper, Total	0.0021		mg/l	0.0010	--	1	10/26/16 15:30	10/27/16 09:31	EPA 3005A	1,6020A	AM
Iron, Total	4.38		mg/l	0.050	--	1	10/26/16 15:30	10/27/16 03:54	EPA 3005A	19,200.7	FB
Lead, Total	0.002		mg/l	0.0005	--	1	10/26/16 15:30	10/27/16 09:31	EPA 3005A	1,6020A	AM
Mercury, Total	ND		mg/l	0.00020	--	1	10/26/16 11:41	10/26/16 19:02	EPA 245.1	3,245.1	EA
Nickel, Total	ND		mg/l	0.0020	--	1	10/26/16 15:30	10/27/16 09:31	EPA 3005A	1,6020A	AM
Selenium, Total	ND		mg/l	0.005	--	1	10/26/16 15:30	10/27/16 09:31	EPA 3005A	1,6020A	AM
Silver, Total	ND		mg/l	0.0004	--	1	10/26/16 15:30	10/27/16 09:31	EPA 3005A	1,6020A	AM
Zinc, Total	0.0587		mg/l	0.0100	--	1	10/26/16 15:30	10/27/16 09:31	EPA 3005A	1,6020A	AM

Project Name: FIRST ST. P.U.D PARCEL A **Lab Number:** L1634100

Project Number: 5863 **Report Date:** 10/28/16

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: WG945926-1										
Mercury, Total	ND		mg/l	0.0002	--	1	10/26/16 11:41	10/26/16 18:14	3,245.1	EA

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: WG946032-1										
Antimony, Total	ND		mg/l	0.0040	--	1	10/26/16 15:30	10/27/16 09:07	1,6020A	AM
Arsenic, Total	ND		mg/l	0.0005	--	1	10/26/16 15:30	10/27/16 09:07	1,6020A	AM
Cadmium, Total	ND		mg/l	0.0002	--	1	10/26/16 15:30	10/27/16 09:07	1,6020A	AM
Chromium, Total	ND		mg/l	0.0010	--	1	10/26/16 15:30	10/27/16 09:07	1,6020A	AM
Copper, Total	ND		mg/l	0.0010	--	1	10/26/16 15:30	10/27/16 09:07	1,6020A	AM
Lead, Total	ND		mg/l	0.0005	--	1	10/26/16 15:30	10/27/16 09:07	1,6020A	AM
Nickel, Total	ND		mg/l	0.0020	--	1	10/26/16 15:30	10/27/16 09:07	1,6020A	AM
Selenium, Total	ND		mg/l	0.005	--	1	10/26/16 15:30	10/27/16 09:07	1,6020A	AM
Silver, Total	ND		mg/l	0.0004	--	1	10/26/16 15:30	10/27/16 09:07	1,6020A	AM
Zinc, Total	ND		mg/l	0.0100	--	1	10/26/16 15:30	10/27/16 09:07	1,6020A	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG946034-1										
Iron, Total	ND		mg/l	0.050	--	1	10/26/16 15:30	10/27/16 04:15	19,200.7	FB

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG945926-2								
Mercury, Total	111		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG946032-2								
Antimony, Total	106		-		80-120	-		
Arsenic, Total	101		-		80-120	-		
Cadmium, Total	104		-		80-120	-		
Chromium, Total	102		-		80-120	-		
Copper, Total	107		-		80-120	-		
Lead, Total	104		-		80-120	-		
Nickel, Total	108		-		80-120	-		
Selenium, Total	100		-		80-120	-		
Silver, Total	105		-		80-120	-		
Zinc, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG946034-2								
Iron, Total	99		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

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: WG945926-3 QC Sample: L1633732-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.0052	104		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG945926-5 QC Sample: L1634366-01 Client ID: MS Sample												
Mercury, Total	0.00105	0.005	0.0060	98		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG946032-3 QC Sample: L1634031-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.5673	113		-	-		75-125	-		20
Arsenic, Total	ND	0.12	0.1201	100		-	-		75-125	-		20
Cadmium, Total	ND	0.051	0.0504	99		-	-		75-125	-		20
Chromium, Total	ND	0.2	0.1924	96		-	-		75-125	-		20
Copper, Total	0.0029	0.25	0.2561	101		-	-		75-125	-		20
Lead, Total	ND	0.51	0.5064	99		-	-		75-125	-		20
Nickel, Total	ND	0.5	0.5049	101		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.118	98		-	-		75-125	-		20
Silver, Total	ND	0.05	0.0497	99		-	-		75-125	-		20
Zinc, Total	ND	0.5	0.4855	97		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG946034-3 QC Sample: L1634031-01 Client ID: MS Sample												
Iron, Total	ND	1	0.962	96		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863

Lab Number: L1634100
Report Date: 10/28/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG945926-4 QC Sample: L1633732-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG945926-6 QC Sample: L1634366-01 Client ID: DUP Sample						
Mercury, Total	0.00105	0.0011	mg/l	8		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG946032-4 QC Sample: L1634031-01 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	ND	ND	mg/l	NC		20
Copper, Total	0.0029	0.0024	mg/l	16		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: WG946034-4 QC Sample: L1634031-01 Client ID: DUP Sample						
Iron, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

SAMPLE RESULTS

Lab ID: L1634100-01
Client ID: B-1 (OW)
Sample Location: 121 FIRST ST. CAMBRIDGE
Matrix: Water

Date Collected: 10/21/16 15:00
Date Received: 10/21/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	14.		mg/l	5.0	NA	1	-	10/26/16 13:35	121,2540D	SG
Cyanide, Total	ND		mg/l	0.005	--	1	10/24/16 14:25	10/25/16 12:56	121,4500CN-CE	JO
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	10/21/16 22:30	121,4500CL-D	AS
Nitrogen, Ammonia	2.98		mg/l	0.075	--	1	10/25/16 21:30	10/26/16 22:35	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.40	--	1.1	10/25/16 17:00	10/25/16 22:40	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	10/25/16 09:34	10/25/16 13:39	4,420.1	AW
Chromium, Hexavalent	ND		mg/l	0.010	--	1	10/22/16 00:56	10/22/16 01:14	121,3500CR-B	JC
Anions by Ion Chromatography - Westborough Lab										
Chloride	1610		mg/l	25.0	--	50	-	10/24/16 20:41	44,300.0	AU

Project Name: FIRST ST. P.U.D PARCEL A **Lab Number:** L1634100

Project Number: 5863 **Report Date:** 10/28/16

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: WG944649-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	10/21/16 22:30	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG944656-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	10/22/16 00:56	10/22/16 01:14	121,3500CR-B	JC
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG944735-1										
Cyanide, Total	ND		mg/l	0.005	--	1	10/24/16 14:25	10/25/16 12:40	121,4500CN-CE	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG945455-1										
Phenolics, Total	ND		mg/l	0.030	--	1	10/25/16 09:34	10/25/16 13:23	4,420.1	AW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG945640-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	10/25/16 17:00	10/25/16 22:40	74,1664A	ML
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG945711-1										
Chloride	ND		mg/l	0.500	--	1	-	10/24/16 17:11	44,300.0	AU
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG945718-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	10/25/16 21:30	10/26/16 22:12	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG945853-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	10/26/16 13:35	121,2540D	SG

Lab Control Sample Analysis

Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A

Project Number: 5863

Lab Number: L1634100

Report Date: 10/28/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG944649-2								
Chlorine, Total Residual	105		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG944656-2								
Chromium, Hexavalent	103		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG944735-2								
Cyanide, Total	91		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG945455-2								
Phenolics, Total	94		-		70-130	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG945640-2								
TPH	85		-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG945711-2								
Chloride	100		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG945718-2								
Nitrogen, Ammonia	98		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

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: WG944656-3 QC Sample: L1634100-01 Client ID: B-1 (OW)												
Chromium, Hexavalent	ND	0.1	0.104	104		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG944735-4 WG944735-5 QC Sample: L1633441-03 Client ID: MS Sample												
Cyanide, Total	0.020	0.2	0.211	95		0.203	91		90-110	4		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG945455-4 QC Sample: L1600010-113 Client ID: MS Sample												
Phenolics, Total	ND	0.4	0.41	103		-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG945640-4 QC Sample: L1633867-01 Client ID: MS Sample												
TPH	ND	20	17.9	90		-	-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG945711-3 QC Sample: L1634081-02 Client ID: MS Sample												
Chloride	221	100	323	103		-	-		40-151	-		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG945718-4 QC Sample: L1633732-01 Client ID: MS Sample												
Nitrogen, Ammonia	0.218	4	4.09	97		-	-		80-120	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863

Lab Number: L1634100
Report Date: 10/28/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG944649-3 QC Sample: L1634100-01 Client ID: B-1 (OW)						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG944656-4 QC Sample: L1634100-01 Client ID: B-1 (OW)						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG944735-3 QC Sample: L1633441-01 Client ID: DUP Sample						
Cyanide, Total	ND	0.020	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG945455-3 QC Sample: L1600010-113 Client ID: DUP Sample						
Phenolics, Total	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG945640-3 QC Sample: L1633867-01 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG945711-4 QC Sample: L1634081-02 Client ID: DUP Sample						
Chloride	221	221	mg/l	0		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG945718-3 QC Sample: L1633732-01 Client ID: DUP Sample						
Nitrogen, Ammonia	0.218	0.214	mg/l	2		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG945853-2 QC Sample: L1633867-01 Client ID: DUP Sample						
Solids, Total Suspended	37	38	mg/l	3		29

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863

Lab Number: L1634100
Report Date: 10/28/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1634100-01A	Vial HCl preserved	A	N/A	2.2	Y	Absent	8260-SIM(14),8260(14)
L1634100-01B	Vial HCl preserved	A	N/A	2.2	Y	Absent	8260-SIM(14),8260(14)
L1634100-01C	Vial HCl preserved	A	N/A	2.2	Y	Absent	8260-SIM(14),8260(14)
L1634100-01D	Vial Na2S2O3 preserved	A	N/A	2.2	Y	Absent	504(14)
L1634100-01E	Vial Na2S2O3 preserved	A	N/A	2.2	Y	Absent	504(14)
L1634100-01F	Plastic 250ml HNO3 preserved	A	<2	2.2	Y	Absent	SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180)
L1634100-01G	Amber 1000ml Na2S2O3	A	8	2.2	Y	Absent	PCB-608(7)
L1634100-01H	Amber 1000ml Na2S2O3	A	8	2.2	Y	Absent	PCB-608(7)
L1634100-01I	Amber 1000ml unpreserved	A	8	2.2	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1634100-01J	Amber 1000ml unpreserved	A	8	2.2	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1634100-01K	Plastic 950ml unpreserved	A	8	2.2	Y	Absent	CL-300(28),HEXCR-3500(1),TRC-4500(1)
L1634100-01L	Plastic 250ml NaOH preserved	A	>12	2.2	Y	Absent	TCN-4500(14)
L1634100-01M	Amber 1000ml HCl preserved	A	N/A	2.2	Y	Absent	TPH-1664(28)
L1634100-01N	Amber 1000ml HCl preserved	A	N/A	2.2	Y	Absent	TPH-1664(28)
L1634100-01P	Amber 950ml H2SO4 preserved	A	<2	2.2	Y	Absent	TPHENOL-420(28)
L1634100-01Q	Plastic 950ml unpreserved	A	8	2.2	Y	Absent	TSS-2540(7)
L1634100-01X	Plastic 500ml H2SO4 preserved sp	A	<2	2.2	Y	Absent	NH3-4500(28)

*Values in parentheses indicate holding time in days

Project Name:	FIRST ST. P.U.D PARCEL A	**Lab Number:**	L1634100
Project Number:	5863	**Report Date:**	10/28/16

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

Data Qualifiers

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

Report Format: Data Usability Report

Project Name:	FIRST ST. P.U.D PARCEL A	**Lab Number:**	L1634100
Project Number:	5863	**Report Date:**	10/28/16

Data Qualifiers

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

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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

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

Report Format: Data Usability Report

Project Name: FIRST ST. P.U.D PARCEL A
Project Number: 5863
Lab Number: L1634100
Report Date: 10/28/16

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.

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

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

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

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

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

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

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

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

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

Westborough Facility:

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

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE 1 OF 1

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

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

Date Rec'd in Lab: 10/21/16

ALPHA Job #: L1634100

Client Information

Client: McPhail Associates
Address: 2269 Mass Ave
Cambridge MA
Phone: 617-868-1410
Email:

Project Information

Project Name: First St. P.U.D Parcel A
Project Location: 121 first st. Cambridge
Project #: 5863
Project Manager: Scott Smith
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 EPA RGP Criteria

Additional Project Information:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	EPA RGP	Sample Comments	TOTAL # BOTTLES
34100-01	B-1 (out)	10/21	15:00	GW	MGS									X		4

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

Container Type
Preservative

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
	10/21 1540 MS		10/21/16 17:40
AAL	10/21/16 1815		10/21/16 18:15

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

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

APPENDIX E:

USGS STREAMSTATS DATA

StreamStats Version 3.0

Flow Statistics Ungaged Site Report

Date: Wed Nov 16, 2016 11:37:13 AM GMT-5
Study Area: Massachusetts
NAD 1983 Latitude: 42.368 (42 22 05)
NAD 1983 Longitude: -71.068 (-71 04 05)
Drainage Area: 313 mi2

Low Flows Basin Characteristics			
100% Statewide Low Flow WRIR00 4135 (313 mi2)			
Parameter	**Value**	**Regression Equation Valid Range**	
		Min	**Max**
Drainage Area (square miles)	313 (above max value 149)	1.61	149
Mean Basin Slope from 250K DEM (percent)	2.315	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.25	0	1.29
Massachusetts Region (dimensionless)	0	0	1

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Probability of Perennial Flow Basin Characteristics			
100% Perennial Flow Probability (313 mi2)			
Parameter	**Value**	**Regression Equation Valid Range**	
		Min	**Max**
Drainage Area (square miles)	313 (above max value 1.99)	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	47.18	0	100
Percent Forest (percent)	38.76	0	100
Massachusetts Region (dimensionless)	0	0	1

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Bankfull Flows Basin Characteristics			
100% Bankfull Statewide SIR2013 5155 (313 mi2)			
Parameter	**Value**	**Regression Equation Valid Range**	
		Min	**Max**
Drainage Area (square miles)	313	0.6	329
Mean Basin Slope from 10m DEM (percent)	5.469	2.2	23.9

Low Flows Statistics						
Statistic	**Value**	**Unit**	**Prediction Error (percent)**	**Equivalent years of record**	**90-Percent Prediction Interval**	
					Min	**Max**

D60	280	ft3/s				
D70	195	ft3/s				
D75	160	ft3/s				
D80	127	ft3/s				
D85	102	ft3/s				
D90	80.8	ft3/s				
D95	54.8	ft3/s				
D98	36.7	ft3/s				
D99	30.6	ft3/s				
M7D2Y	58.3	ft3/s				
AUGD50	110	ft3/s				
M7D10Y	29.7	ft3/s				

http://pubs.usgs.gov/wri/wri004135/ (http://pubs.usgs.gov/wri/wri004135/)
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.

Probability of Perennial Flow Statistics						
Statistic	Value	Unit	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
					Min	Max
PROBPEREN	1	dim				

http://pubs.usgs.gov/sir/2006/5031/pdfs/SIR_2006-5031rev.pdf (http://pubs.usgs.gov/sir/2006/5031/pdfs/SIR_2006-5031rev.pdf)
Bent_ G.C._ and Steeves_ P.A._ 2006_ A revised logistic regression equation and an automated procedure for mapping the probability of a stream flowing perennially in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2006-5031_ 107 p.

Bankfull Flows Statistics						
Statistic	Value	Unit	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
					Min	Max
BFWDTH	138	ft	21			
BFDPTH	4.8	ft	20			
BFAREA	663	ft2	29			
BFFLOW	2310	ft3/s	55			

http://pubs.usgs.gov/sir/2013/5155/ (http://pubs.usgs.gov/sir/2013/5155/)
Bent_ G.C._ and Waite_ A.M._ 2013_ Equations for estimating bankfull channel geometry and discharge for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2013-5155_ 62 p._

Accessibility FOIA Privacy Policies and Notices
U.S. Department of the Interior | U.S. Geological Survey
URL: http://streamstatsags.cr.usgs.gov/v3_beta/FTreport.htm
Page Contact Information: StreamStats Help
Page Last Modified: 11/24/2015 14:32:58 (Web2)
Streamstats Status News
USA.gov