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

DRISCOLL SCHOOL

BROOKLINE, MASSACHUSETTS

FEBRUARY 3, 2021

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

On Behalf Of:
Town of Brookline
333 Washington Street
Third Floor
Brookline, MA 02445

PROJECT NO. 6693

2269 Massachusetts Avenue
Cambridge, MA 02140
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(617) 868-1420

February 3, 2021

United States Environmental Protection Agency
Remediation 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: Driscoll School, Brookline, Massachusetts
Notice of Intent for Temporary Construction Dewatering Discharge;
Massachusetts Remediation General Permit MAG9100000

Ladies and Gentlemen:

In accordance with the provisions of the Remediation General Permit MAG9100000 (RGP) that was issued to the Commonwealth of Massachusetts by the US EPA, 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 Muddy River via the Town of Brookline storm drain system. Temporary discharge of construction dewatering will occur during development of the Michael Driscoll School (MDS) located at 64 Westbourne Terrace in Brookline, 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 on behalf of The Town of Brookline with the authorization of Jonathan Levi Architects. These services are subject to the limitations contained in **Appendix A**.

The applicable RGP Notice of Intent (NOI) Form is included in **Appendix B**.

Applicant/Operator

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

Gilbane Construction
10 Channel Street
Boston, MA 02210

Attention: Mr. Robert Braga Jr.

Tel: (617) 960-2956

Existing Conditions

The existing MDS fronts onto Westbourne Terrace to the north, and is bounded by Bartlett Street to the west. Bartlett Crescent parallels the school to the southwest. Currently, an existing 2 to 3-story brick school building occupies the northern portion of the site, a playground, an athletic field and tennis courts are present at the southern and eastern ends of the school property. The existing ground surface across the project site generally slopes

downward from north to south ranging from approximately Elevation +125 along Westbourne Terrace to about Elevation +103 along Washington Street. Elevations cited herein are in feet and are referenced to the Town of Brookline Datum.

Proposed Scope of Site Development

Based on the information provided to us, the proposed 4-story Driscoll School building will occupy a footprint of approximately 43,900 square feet. The proposed structure will include a basement level that extends below approximately half of the building footprint. Within the northern and eastern portions of the building, the basement will occupy a footprint of approximately 25,000 square feet at approximately Elevation +88. The basement is planned to contain a gymnasium, locker rooms, storage, and mechanical space. The first floor of the new building is understood to be at approximately Elevation +106 with a portion of the first-floor space extending beyond the basement footprint to the south and west.

Site Environmental Setting, Review of MA DEP-listed Disposal Sites, Endangered Species and Surrounding Historical Places

Based on the current Massachusetts Geographic Information Systems (GIS) DEP Priority Resources Map of Brookline, the subject site is not located within the boundaries of a Potentially Productive Aquifer or within a Zone II, Interim Wellhead Protection Area as defined by the Massachusetts Department of Environmental Protection. There are no known public or private drinking water supply wells, no Areas of Critical Environmental Concern, no fish habitats, and no habitats of Species of Special Concern or Threatened or Endangered Species within 500 feet of the subject site. There are no surface water bodies or wetland areas located at the subject site. The nearest surface water body is the Muddy River, classified by the DEP as a Class B Surface Water Body, that is located approximately 1 mile to the east of the subject site. The Muddy River has two approved TMDLs for pathogens and phosphorous. No areas designated as solid waste facilities (landfills) are located within 0.5 miles of the subject site. A copy of the DEP Priority Resources Map depicting the location of the subject site is included in **Appendix C**.

McPhail prepared a Phase I Environmental Site Assessment (ESA) for the property dated November 30, 2018. As documented therein, according to the Massachusetts Department of Environmental Protection (DEP) Waste Site database, the subject site is listed with the DEP under historic Release Tracking Number (RTN) 3-14448 due to a 120-day release condition. As reported by others, RTN 3-14448 is associated with a release of No. 4 fuel oil to soils which was encountered during the replacement of one (1) fuel oil underground storage tank (UST). As identified by the DEP database, RTN 3-14448 was closed out under a Class A-2 Response Action Outcome (RAO) Statement in April of 1997 and a Permanent Solution (regulatory closure) has been achieved for the release. The release area is located within the vicinity of the existing (replacement) UST located beneath the paved parking lot outside of the boiler room that is within the western portion of the existing school building.

A series of subsurface explorations were recently completed at the site to pre-characterize site soils in anticipation of the construction of a new school building. The presence of the

volatile organic compound (VOC) tetrachloroethene ("PCE") and the volatile petroleum hydrocarbon (VPH) fractions C9-C10 Aromatics and C5-C8 Aliphatics (the contaminants of concern or "COCs") were detected in soil at concentrations that exceeded the applicable MA DEP RCS-1 Reportable Concentrations as contained in the Massachusetts Contingency Plan 310 CMR 40.0000 (MCP). Accordingly, the Town of Brookline filed a Release Notification Form (RNF) with the DEP on July 23, 2020 listing the above COCs as reportable releases to soil at the site. Release Tracking Number (RTN) 3-36385 was assigned to the release by the DEP.

Additional explorations were completed at the site to further assess the nature and extent of contamination in soil, and to assess possible impacts of the above COCs to groundwater. The extent of the PCE release to soil has been defined and Reportable Concentrations of PCE in groundwater were not detected. The results of supplemental testing of soil samples obtained from the additional borings in the vicinity of the petroleum/VPH release identified the presence of VPH fractions, 2-methylnaphthalene, ethylbenzene, naphthalene, and p/m-Xylene at concentrations that exceed the MA DEP RCS-1 Reporting Concentration.

The results of sampling and testing of groundwater samples obtained from monitoring wells installed at the site identified the presence of the VPH Fraction C9-C10 Aromatics at a concentration 5,420 µg/L, which exceeds the MCP RCGW-2 Reportable Concentration of 4,000 µg/L. Given that the release condition has been identified in a different environmental media (groundwater) than what was previously reported to the DEP, a Revised RNF was submitted to the DEP on November 25 to include VPH Fraction C9-C10 Aromatics in groundwater as a contaminant of concern at the site under RTN 3-36385.

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 identified the presence of one (1) threatened species in the vicinity of the discharge location and/or discharge outfall. The report identifies the Northern Long-Eared Bat as a threatened species; however, it is unlikely that the development of new structure will impact the Northern Long-Eared Bat. Further, the IPaC Report did not identify the presence of a critical habitat in the vicinity of the discharge location and/or discharge outfall. Based upon the above, the site is considered a Criterion C pursuant to Appendix IV of the RGP. A copy of the IPaC Report is included in **Appendix C**.

The proposed development parcel currently consists of a playground, field and tennis courts and is not individually listed on the State and National Register of Historical Places. It is determined that proposed construction will likely not affect listed historical places and thus construction dewatering that is proposed at the subject site meets the Permit Eligibility Criterion A under the Remediation General Permit. A copy of the database search for the subject site's addresses are included in **Appendix C**.

Construction Site Dewatering

To accommodate the construction of the basement foundations and below-grade space, excavation to construct the lowest-level slab is anticipated to extend from about 17 to 19

feet below the existing ground surface within the eastern portion of the site and slightly deeper at the proposed footing and elevator pit locations. In addition, overexcavation of the fill material could extend up to 5 feet below the footings. To limit potential adverse excavation-related impacts to private property, temporary excavation support is proposed along a majority of the basement. The temporary excavation earth support system will likely consist of a cantilevered soldier pile and timber lagging wall.

Given the proposed area of excavation and the existing school will be maintained through construction, on-site recharge of water is very limited. Therefore, on-site recharge of collected groundwater for temporary excavation dewatering is not considered feasible. Therefore, discharge of collected groundwater during foundation construction into the Town of Brookline's drain system will be required.

A review of the existing site plan indicates that the area surrounding the subject site is serviced by the Town of Brookline catch basins that ultimately flow to the Muddy River. Accordingly, a Remediation General Permit will require discharging the collected water into the Town's drain lines. The locations of storm drains surrounding the subject site are indicated on the attached **Figure 3**. The proposed discharge location is the drain located in the eastern portion of the site, as shown on **Figure 3**.

Based upon the proposed excavation depth and the existing groundwater conditions, it is anticipated that temporary construction dewatering will be required for approximately (6) to (12) months during foundation construction. The proposed dewatering system will consist of well points located around the excavation as well as localized sumping. It is estimated that the maximum continuous groundwater discharge required for foundation construction will be on the order of 250 gallons per minute. This quantity does not include surface runoff which would require removal from the excavation over the limited duration of a rain storm and shortly thereafter.

Summary of Groundwater Analysis

In April, July and October, 2020, and January 2021, McPhail Associates, LLC obtained samples of groundwater from monitoring wells B-103(OW), B-106A(OW) B-116(OW), B-310(OW), B-303I(OW) and B-303C(OW) which are located throughout the eastern portion of the subject site within the area of proposed excavation and dewatering. The groundwater sampling events completed during April, July and October, 2020 were performed as part our assessment of the PCE and petroleum hydrocarbon release conditions as previously discussed. Groundwater samples obtained during that time period were submitted to a certified laboratory for analysis for the presence of VOCs, VPH, and extractable petroleum hydrocarbons (EPH). More recently, the January 2021 sampling event was completed to obtain samples of groundwater for submittal to a certified laboratory for analysis for the presence of compounds required under the EPA's Remediation General Permit (RGP) application, including total suspended solids (TSS), total residual chlorine, cyanide, ammonia, chloride, hardness, total recoverable metals as well as pH, total petroleum hydrocarbons, and ethanol. The results of the laboratory analysis are summarized in **Table 1**, and laboratory data is included in **Appendix D**.

The results of the laboratory analysis indicated that the detected concentrations of chloride and iron exceed the 2002 EPA recommended chronic freshwater human health consumption and/or aquatic life criteria.

Pursuant to Section 4.2.2 of the EPA 2017 RGP, a surface water body sample was obtained from the Muddy River and submitted for testing for the presence of pH, ammonia nitrogen, Hardness, and the RGP 12 total metals. The results of the laboratory analysis are summarized in **Table 2** and the laboratory data is included in **Appendix E**.

A Dilution Factor (DF) was calculated for the detected levels of metals pursuant to the procedure contained in RGP MAG910000, Appendix V. The purpose of the DF calculation is to establish Total Recoverable Limits for metals, taking into consideration the anticipated dilution of the detected analyte upon discharge into the Muddy River. The calculated DF was then used to find the appropriate Dilution Range Concentrations (DRCs) contained in MAG910000, Appendix IV. The Minimum Flow Rate calculated by the USGS Streamstats GIS database at the location of discharge into the Muddy River for 7 consecutive days with a recurrence interval of 10 years (7Q10 flow) is 0.352 MGD thus resulting in a DF of 1.97 assuming a design flow rate of 250 gallons per minute (gpm).

With the exception of iron, results of laboratory testing did not detect concentrations of the tested compounds in excess of the Water Quality-Based Effluent Limitations (WQBELs). It is noted that the concentrations of iron did not exceed applicable MCP reporting thresholds established in Appendix VI of the RGP. It is anticipated that the construction dewatering treatment system that is discussed below will reduce concentrations of iron in the effluent to below the applicable TBELs.

In accordance with the RGP and given that the subject site is an MCP site, the proposed dewatering associated with this permit application is considered Contaminated Site Dewatering from Sites with Known Contamination (Category III-G). Based on historical and current groundwater analysis completed at the site and the constituents of concern (COCs) detected, subcategory A (Inorganics), subcategory B (non-halogenated VOCs), and subcategory F (fuel parameters) apply to the discharge.

Groundwater Treatment

Based on the results of the above referenced groundwater analyses, it is recommended that that a minimum 10,000-gallon capacity settling tank and bag filters be utilized 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 the Notice of Intent for temporary discharge of construction dewatering under

Massachusetts Remediation General Permit (RGP) during development of the MDS located in Brookline, Massachusetts.

Based on the results of the above referenced groundwater analyses, it is recommended that treatment of construction dewatering consisting of a minimum of one (1), 10,000-gallon capacity settling tank and bag filters be utilized to meet the applicable discharge limits of iron and chloride. However, should the effluent monitoring results indicate levels of TSS in excess of the limits established in the Massachusetts RGP, additional mitigative measures will be implemented to meet the allowable discharge limits.

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

Very truly yours,

McPHAIL ASSOCIATES, LLC

Nicholas D. Hodge

Nicholas D. Hodge

Joseph G. Lombardo, Jr., L.S.P.

NDH/jgl

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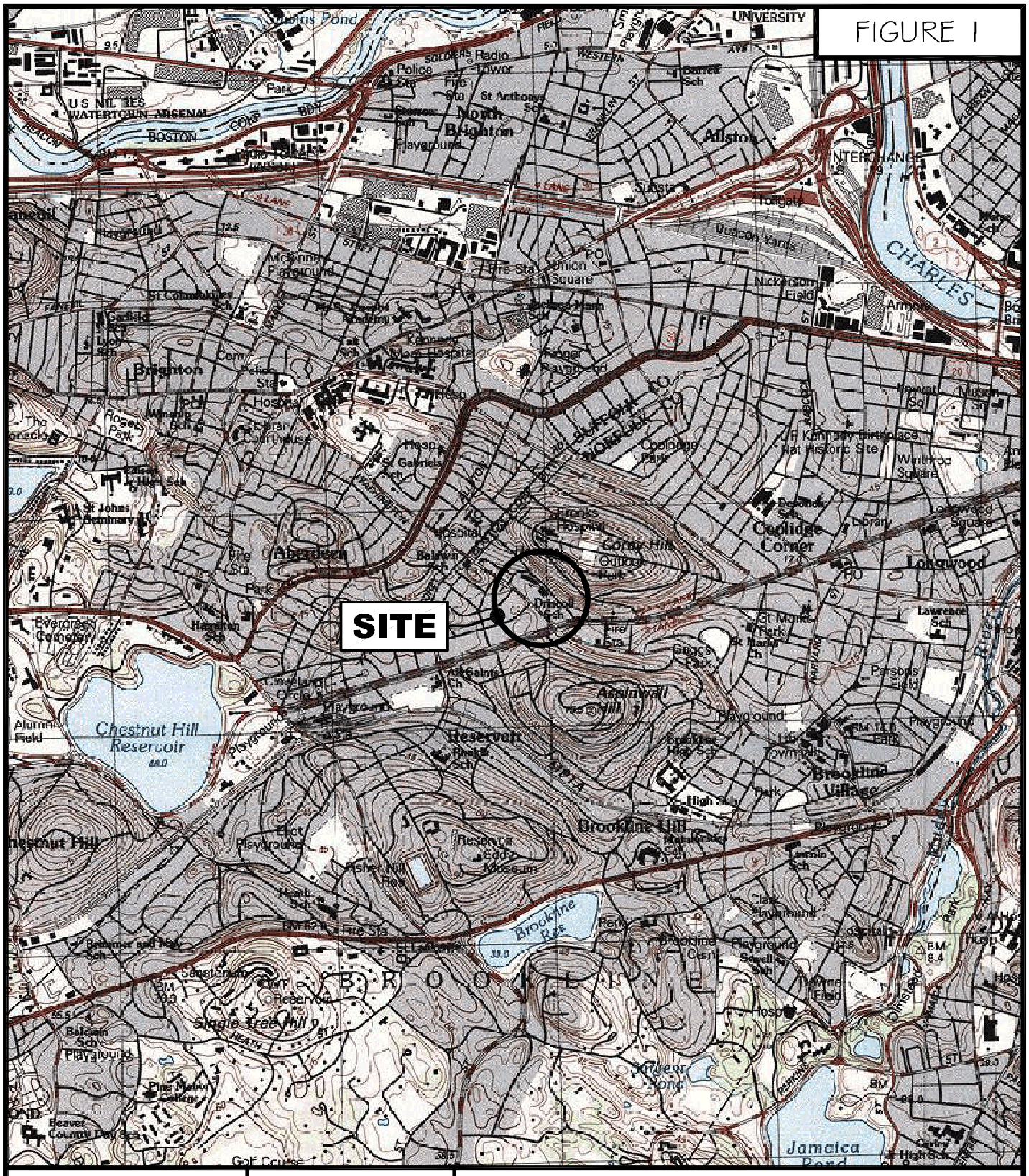
FIGURE 1



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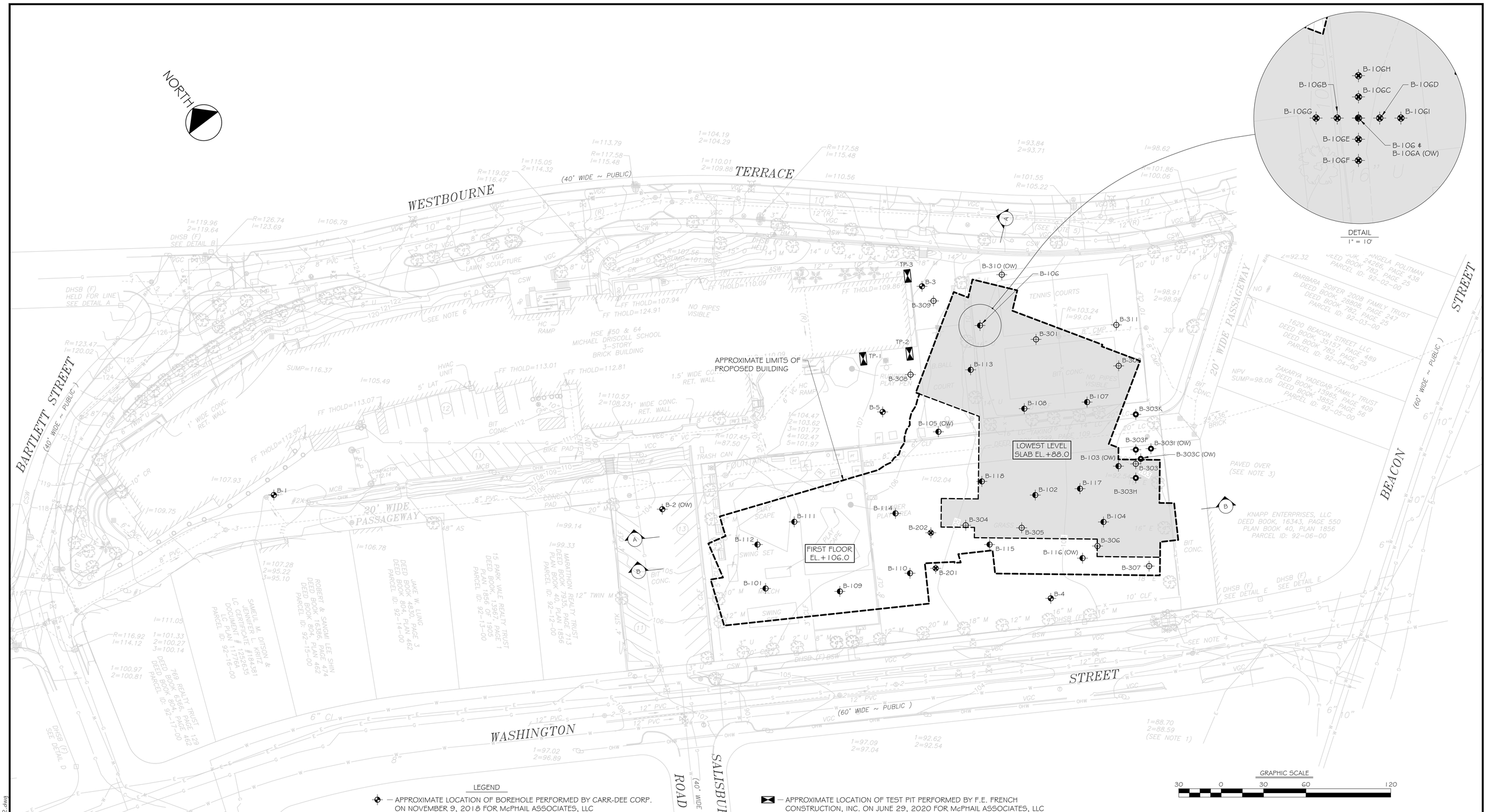
SCALE 1:25,000

PROJECT LOCATION PLAN

DRISCOLL SCHOOL

BROOKLINE MASSACHUSETTS



LEGEND

— APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY CARR-DEE CORP. ON NOVEMBER 9, 2018 FOR McPHAIL ASSOCIATES, LLC

— APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY GEOLOGIC EARTH EXPLORATION, INC. DURING THE PERIOD OF FEBRUARY 17 THROUGH 26, 2020 FOR McPHAIL ASSOCIATES, LLC

— APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY CARR-DEE CORP. ON APRIL 16 AND 17, 2020 FOR McPHAIL ASSOCIATES, LLC

— APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY GEOLOGIC EARTH EXPLORATION, INC. DURING THE PERIOD OF JUNE 25 THROUGH JULY 2, 2020 FOR McPHAIL ASSOCIATES, LLC

— APPROXIMATE LOCATION OF BOREHOLE PERFORMED BY GEOLOGIC EARTH EXPLORATION, INC. ON SEPTEMBER 21 AND 22, 2020 FOR McPHAIL ASSOCIATES, LLC

— APPROXIMATE LOCATION OF TEST PIT PERFORMED BY F.E. FRENCH CONSTRUCTION, INC. ON JUNE 29, 2020 FOR McPHAIL ASSOCIATES, LLC

(OW) — INDICATES OBSERVATION WELL INSTALLED WITHIN COMPLETED BOREHOLE

REFERENCE: THIS PLAN WAS PREPARED FROM A 30-SCALE DRAWING ENTITLED "EXISTING CONDITIONS PLAN OF LAND" UNDATED, PREPARED BY HANCOCK ASSOCIATES

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DRISCOLL SCHOOL

BROOKLINE MASSACHUSETTS

SUBSURFACE EXPLORATION PLAN

FOR

JONATHAN LEVI ARCHITECTS

BY

McPHAIL ASSOCIATES, LLC

Date: OCTOBER 2020	Dwn: F.G.P.	Chkd: N.D.H.	Scale: 1" = 30'
Project No: 6693			FIGURE 2

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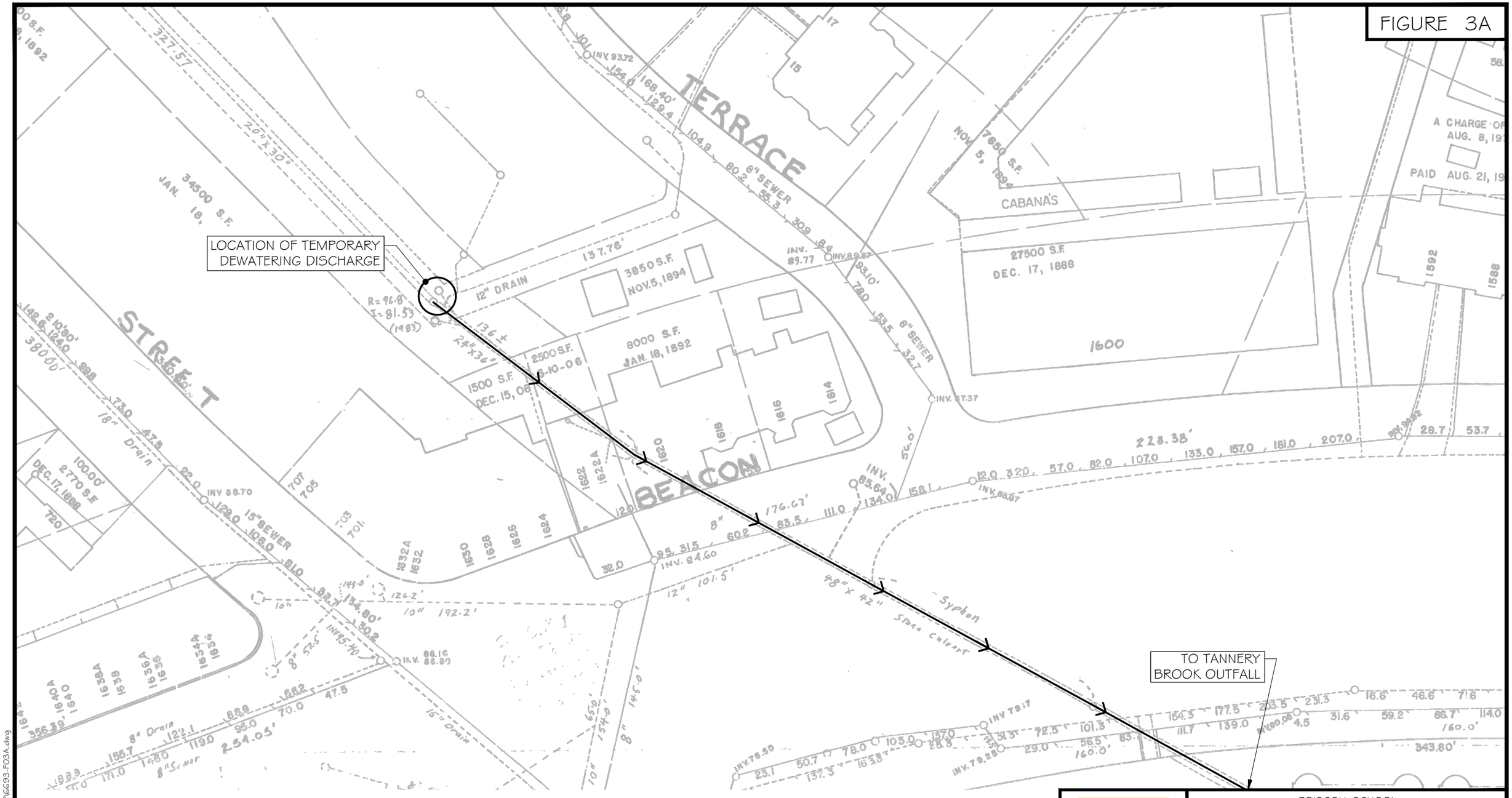
FIGURE 3A



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DRISCOLL SCHOOL

BROOKLINE MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PATH PLAN

FOR

JONATHAN LEVI ARCHITECTS

BY

McPHAIL ASSOCIATES, LLC

Date: JANUARY 2021	Dwn: M.B.S.	Chkd: N.D.H.	Scale: N.T.S.
Project No: 6693			

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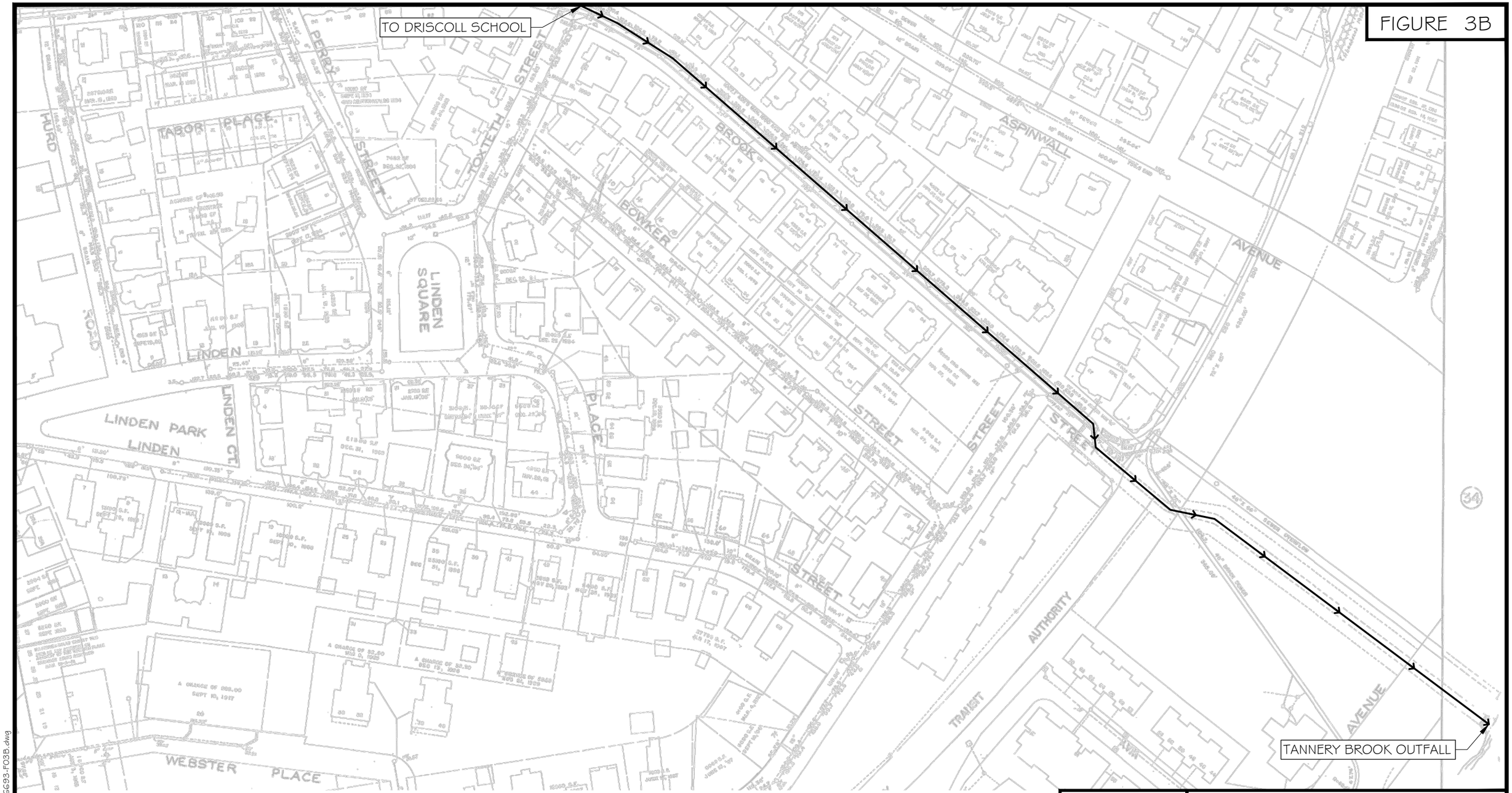
FIGURE 3B



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DRISCOLL SCHOOL

BROOKLINE MASSACHUSETTS

STORM DRAIN DISCHARGE FLOW PATH PLAN

FOR

JONATHAN LEVI ARCHITECTS

BY

McPHAIL ASSOCIATES, LLC

Date: FEBRUARY 2021	Dwn: M.B.S.	Chkd: N.D.H.	Scale: N.T.S.
Project No: 6693			

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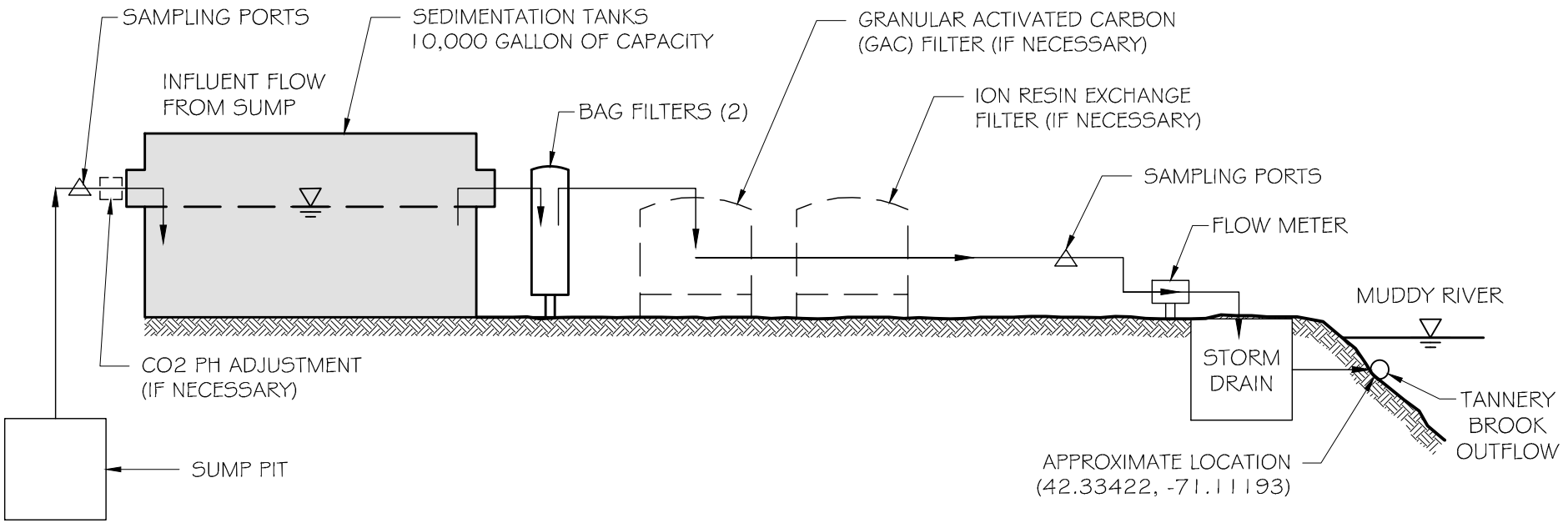
FILE NAME: N:\Acad\JOBS\6693\RGP\6693-F04.dwg

FIGURE 4



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DRISCOLL STREET

BROOKLINE MASSACHUSETTS

SCHEMATIC OF TREATMENT SYSTEM

FOR

JONATHAN LEVI ARCHITECTS

BY

McPHAIL ASSOCIATES, LLC

CONSULTING GEOTECHNICAL ENGINEERS

Date: JANUARY 2021	Dwn: M.B.S.	Chkd: N.D.H.	Scale: N.T.S.
Project No: 6693			

Table 1.
Driscoll School
Project No. 6693

LOCATION	2002 EPA -		B-106A(OW)	B-103(OW)	B-116 (OW)	B-310 (OW)	B-303I	B-303C	B-106A(OW)
SAMPLING DATE	Freshwater		4/21/2020	7/30/2020	7/30/2020	7/30/2020	10/7/2020	10/7/2020	1/27/2021
LAB SAMPLE ID	Aquatic Life	RCGW-2	L2016503-01				L2042881-01	L2042881-02	L2104344-01
SAMPLE TYPE	Chronic		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	WATER
SAMPLE DEPTH (ft.)	Criteria		16'	18'	18'	18'	18'	18'	18'
General Chemistry									
Chromium, Trivalent (ug/l)	74	600	-	-	-	-	-	-	ND(10)
Solids, Total Suspended (ug/l)			-	-	-	-	-	-	6700
Cyanide, Total (ug/l)	5.2	30	-	-	-	-	-	-	ND(5)
Chlorine, Total Residual (ug/l)			-	-	-	-	-	-	ND(20)
pH (H) (SU)			-	-	-	-	-	-	6.5
Nitrogen, Ammonia (ug/l)			-	-	-	-	-	-	569
TPH, SGT-HEM (ug/l)		5000	-	-	-	-	-	-	ND(4400)
Chromium, Hexavalent (ug/l)	11	300	-	-	-	-	-	-	ND(10)
Ethanol (mg/l)			-	-	-	-	-	-	ND(20)
Anions (ug/l)									
Chloride	230000		-	-	-	-	-	-	**431000**
Total Hardness (ug/l)									
Hardness			-	-	-	-	-	-	235000
Total Metals (ug/l)									
Antimony, Total		8000	-	-	-	-	-	-	ND(4)
Arsenic, Total	150	900	-	-	-	-	-	-	ND(1)
Cadmium, Total	0.25	4	-	-	-	-	-	-	ND(0.2)
Chromium, Total		300	-	-	-	-	-	-	ND(1)
Copper, Total		100000	-	-	-	-	-	-	ND(1)
Iron, Total	1000		-	-	-	-	-	-	**2070**
Lead, Total	2.5	10	-	-	-	-	-	-	ND(1)
Mercury, Total	0.77	20	-	-	-	-	-	-	ND(0.2)
Nickel, Total	52	200	-	-	-	-	-	-	ND(2)
Selenium, Total	5	100	-	-	-	-	-	-	ND(5)
Silver, Total		7	-	-	-	-	-	-	ND(0.4)
Zinc, Total	120	900	-	-	-	-	-	-	ND(10)
MCP Volatile Organics (ug/l)									
Methylene chloride		2000	ND(2)	ND (5.0)	ND (5.0)	ND (5.0)	-	-	-
1,1-Dichloroethane		2000	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
Chloroform		50	ND(1)	ND (2.0)	ND (2.0)	ND (2.0)	-	-	-
Carbon tetrachloride		2	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
1,2-Dichloropropane		3	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
Dibromochloromethane		20	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
1,1,2-Trichloroethane		900	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
Tetrachloroethene		50	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
Chlorobenzene		200	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
Trichlorofluoromethane		100000	ND(2)	ND (2.0)	ND (2.0)	ND (2.0)	-	-	-
1,2-Dichloroethane		5	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
1,1,1-Trichloroethane		4000	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
Bromodichloromethane		6	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
trans-1,3-Dichloropropene		10	ND(0.4)	ND (0.40)	ND (0.40)	ND (0.40)	-	-	-
cis-1,3-Dichloropropene		10	ND(0.4)	ND (0.40)	ND (0.40)	ND (0.40)	-	-	-
1,3-Dichloropropene, Total		10	ND(0.4)	-	-	-	-	-	-
1,1-Dichloropropene			ND(2)	ND (0.50)	ND (0.50)	ND (0.50)	-	-	-
Bromoform		700	ND(2)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
1,1,2,2-Tetrachloroethane		9	ND(1)	ND (0.50)	ND (0.50)	ND (0.50)	-	-	-
Benzene		1000	ND(0.5)	ND (1.0)	1.7	ND (1.0)	-	-	-
Toluene		40000	ND(1)	1.2	ND (1.0)	ND (1.0)	-	-	-
Ethylbenzene		5000	ND(1)	53	34	ND (1.0)	-	-	-
Chloromethane		10000	ND(2)	ND (2.0)	ND (2.0)	ND (2.0)	-	-	-
Bromomethane		7	ND(2)	ND (2.0)	ND (2.0)	ND (2.0)	-	-	-
Vinyl chloride		2	ND(1)	ND (2.0)	ND (2.0)	ND (2.0)	-	-	-
Chloroethane		10000	ND(2)	ND (2.0)	ND (2.0)	ND (2.0)	-	-	-
1,1-Dichloroethene		80	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
trans-1,2-Dichloroethene		80	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
Trichloroethene		5	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
1,2-Dichlorobenzene		2000	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
1,3-Dichlorobenzene		6000	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
1,4-Dichlorobenzene		60	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
Methyl tert butyl ether		5000	ND(2)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
p/m-Xylene		3000	ND(2)	94	3.3	ND (2.0)	-	-	-
o-Xylene		3000	ND(1)	31	ND (1.0)	ND (1.0)	-	-	-
Xylenes, Total		3000	ND(1)	-	-	-	-	-	-
cis-1,2-Dichloroethene		20	ND(1)	1.1	ND (1.0)	ND (1.0)	-	-	-
1,2-Dichloroethene, Total			ND(1)	-	-	-	-	-	-
Dibromomethane		50000	ND(2)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
1,2,3-Trichloropropane		10000	ND(2)	ND (2.0)	ND (2.0)	ND (2.0)	-	-	-
Styrene		100	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
Dichlorodifluoromethane		100000	ND(2)	ND (2.0)	ND (2.0)	ND (2.0)	-	-	-
Acetone		50000	ND(5)	ND (10)	ND (10)	ND (10)	-	-	-
Carbon disulfide		10000	ND(2)	ND (5.0)	ND (5.0)	ND (5.0)	-	-	-
Methyl ethyl ketone		50000	ND(5)	ND (10)	ND (10)	ND (10)	-	-	-
Methyl isobutyl ketone		50000	ND(5)	ND (10)	ND (10)	ND (10)	-	-	-
2-Hexanone		10000	ND(5)	ND (10)	ND (10)	ND (10)	-	-	-
Bromochloromethane			ND(2)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
Tetrahydrofuran		50000	ND(2)	ND (2.0)	ND (2.0)	ND (2.0)	-	-	-
2,2-Dichloropropane			ND(2)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
1,2-Dibromoethane		2	ND(2)	ND (0.50)	ND (0.50)	ND (0.50)	-	-	-

Table 1.
Driscoll School
Project No. 6693

LOCATION	2002 EPA -		B-106A(OW)	B-103(OW)	B-116 (OW)	B-310 (OW)	B-303I	B-303C	B-106A(OW)
SAMPLING DATE	Freshwater		4/21/2020	7/30/2020	7/30/2020	7/30/2020	10/7/2020	10/7/2020	1/27/2021
LAB SAMPLE ID	Aquatic Life	RCGW-2	L2016503-01				L2042881-01	L2042881-02	L2104344-01
SAMPLE TYPE	Chronic		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	WATER
SAMPLE DEPTH (ft.)	Criteria		16'	18'	18'	18'	18'	18'	18'
General Chemistry									
Chromium, Trivalent (ug/l)	74	600	-	-	-	-	-	-	ND(10)
Solids, Total Suspended (ug/l)			-	-	-	-	-	-	6700
Cyanide, Total (ug/l)	5.2	30	-	-	-	-	-	-	ND(5)
Chlorine, Total Residual (ug/l)			-	-	-	-	-	-	ND(20)
pH (H) (SU)			-	-	-	-	-	-	6.5
Nitrogen, Ammonia (ug/l)			-	-	-	-	-	-	569
TPH, SGT-HEM (ug/l)		5000	-	-	-	-	-	-	ND(4400)
Chromium, Hexavalent (ug/l)	11	300	-	-	-	-	-	-	ND(10)
Ethanol (mg/l)			-	-	-	-	-	-	ND(20)
Anions (ug/l)									
Chloride	230000		-	-	-	-	-	-	**431000**
Total Hardness (ug/l)									
Hardness			-	-	-	-	-	-	235000
Total Metals (ug/l)									
Antimony, Total		8000	-	-	-	-	-	-	ND(4)
Arsenic, Total	150	900	-	-	-	-	-	-	ND(1)
Cadmium, Total	0.25	4	-	-	-	-	-	-	ND(0.2)
Chromium, Total		300	-	-	-	-	-	-	ND(1)
Copper, Total		100000	-	-	-	-	-	-	ND(1)
Iron, Total	1000		-	-	-	-	-	-	**2070**
Lead, Total	2.5	10	-	-	-	-	-	-	ND(1)
Mercury, Total	0.77	20	-	-	-	-	-	-	ND(0.2)
Nickel, Total	52	200	-	-	-	-	-	-	ND(2)
Selenium, Total	5	100	-	-	-	-	-	-	ND(5)
Silver, Total		7	-	-	-	-	-	-	ND(0.4)
Zinc, Total	120	900	-	-	-	-	-	-	ND(10)
MCP Volatile Organics (ug/l)									
1,3-Dichloropropane		50000	ND(2)	ND (0.50)	ND (0.50)	ND (0.50)	-	-	-
1,1,1,2-Tetrachloroethane		10	ND(1)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
Bromobenzene		10000	ND(2)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
n-Butylbenzene			ND(2)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
sec-Butylbenzene			ND(2)	6.2	9.0	ND (1.0)	-	-	-
tert-Butylbenzene		10000	ND(2)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
o-Chlorotoluene		10000	ND(2)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
p-Chlorotoluene			ND(2)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
1,2-Dibromo-3-chloropropane		1000	ND(2)	ND (2.0)	ND (2.0)	ND (2.0)	-	-	-
Hexachlorobutadiene		50	ND(0.6)	ND (0.60)	ND (0.60)	ND (0.60)	-	-	-
Isopropylbenzene		100000	ND(2)	17	20	ND (1.0)	-	-	-
p-Isopropyltoluene		10000	ND(2)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
Naphthalene		700	ND(2)	43	6.6	ND (2.0)	-	-	-
n-Propylbenzene		10000	ND(2)	47	54	ND (1.0)	-	-	-
1,2,3-Trichlorobenzene			ND(2)	ND (2.0)	ND (2.0)	ND (2.0)	-	-	-
1,2,4-Trichlorobenzene		200	ND(2)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-
1,3,5-Trimethylbenzene		1000	ND(2)	28	2.3	ND (1.0)	-	-	-
1,2,4-Trimethylbenzene		100000	ND(2)	260	46	ND (1.0)	-	-	-
Diethyl ether		10000	ND(2)	ND (2.0)	ND (2.0)	ND (2.0)	-	-	-
Diisopropyl Ether		10000	ND(2)	ND (0.50)	ND (0.50)	ND (0.50)	-	-	-
Ethyl-Tert-Butyl-Ether			ND(2)	ND (0.50)	ND (0.50)	ND (0.50)	-	-	-
Tertiary-Amyl Methyl Ether			ND(2)	ND (0.50)	ND (0.50)	ND (0.50)	-	-	-
1,4-Dioxane		6000	ND(250)	ND (0.50)	ND (0.50)	ND (0.50)	-	-	-
SUM			-	487.5	171.9	-	-	-	-
MADEP-VPH (µg/L)									
C5-C8 ALIPHATICS		3000	-	530	1100	ND (100)	1210	1350	-
C9-C12 ALIPHATICS		5000	-	680	270	ND (100)	3080	6550	-
C9-C10 AROMATICS		4000	-	1300	440	ND (100)	2500	5420	-
BENZENE		1000	-	ND (2.0)	2.1	ND (1.0)	61.5	12.2	-
ETHYLBENZENE		5000	-	48	30	ND (1.0)	126	292	-
METHYL TERT-BUTYL ETHER (MTBE)		5000	-	ND (2.0)	7.1	ND (1.0)	14.1	ND(15)	-
NAPHTHALENE		700	-	35	6.0	ND (5.0)	62	201	-
TOLUENE		40000	-	ND (2.0)	ND (1.0)	ND (1.0)	23	ND(10)	-
M/P-XYLENE		3000	-	85	3.4	ND (2.0)	258	348	-
O-XYLENE		3000	-	28	ND (1.0)	ND (1.0)	33.6	31.5	-
Extractable Petroleum Hydrocarbons (µg/L)									
C9-C18 Aliphatics		5000	-	-	-	-	ND(100)	ND(100)	-
C19-C36 Aliphatics		50000	-	-	-	-	ND(100)	ND(100)	-
C11-C22 Aromatics			-	-	-	-	246	425	-
C11-C22 Aromatics, Adjusted		5000	-	-	-	-	186	278	-
Naphthalene		700	-	-	-	-	42	103	-
2-Methylnaphthalene		2000	-	-	-	-	17.7	43.6	-
Acenaphthylene		40	-	-	-	-	ND(10)	ND(10)	-
Acenaphthene		10000	-	-	-	-	ND(10)	ND(10)	-
Fluorene		40	-	-	-	-	ND(10)	ND(10)	-
Phenanthrene		10000	-	-	-	-	ND(10)	ND(10)	-
Anthracene		30	-	-	-	-	ND(10)	ND(10)	-
Fluoranthene		200	-	-	-	-	ND(10)	ND(10)	-
Pyrene		20	-	-	-	-	ND(10)	ND(10)	-
Benzo(a)anthracene		1000	-	-	-	-	ND(10)	ND(10)	-
Chrysene		70	-	-	-	-	ND(10)	ND(10)	-
Benzo(b)fluoranthene		400	-	-	-	-	ND(10)	ND(10)	-
Benzo(k)fluoranthene		100	-	-	-	-	ND(10)	ND(10)	-
Benzo(a)pyrene		500	-	-	-	-	ND(10)	ND(10)	-
Indeno(1,2,3-cd)Pyrene		100	-	-	-	-	ND(10)	ND(10)	-
Dibenzo(a,h)anthracene		40	-	-	-	-	ND(10)	ND(10)	-
Benzo(ghi)perylene		20	-	-	-	-	ND(10)	ND(10)	-

Table 2
Labratory Analytical Results - Surface Water
Muddy River

Driscoll School
Project No.6693

LOCATION	EPA - Freshwater Aquatic Life Chronic Criteria	MUDDY RIVER OUTFLOW
SAMPLING DATE		1/14/2021
LAB SAMPLE ID		L2102191-01
SAMPLE TYPE		WATER
General Chemistry (ug/l)		
Nitrogen, Ammonia		251
pH (SU)		6.8
Hardness		133000
Total Metals (ug/l)		
Antimony, Total		ND(20)
Arsenic, Total	150	ND(5)
Cadmium, Total	0.25	ND(1)
Chromium, Total		ND(5)
Copper, Total		ND(10)
Iron, Total	1000	408
Lead, Total	2.5	ND(5)
Mercury, Total	0.77	ND(0.2)
Nickel, Total	52	ND(10)
Selenium, Total	5	ND(25)
Silver, Total		ND(2)
Zinc, Total	120	ND(50)

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

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 observation wells at the Michael Driscoll School located at 64 Westbourne Terrace in Brookline, 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 Remediation General Permit MAG9100000.

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 the Town of Brookline. 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 FORMS
NPDES DEWATERING GENERAL PERMIT

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

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:
Michael Driscoll School</td><td colspan="3">Site address: 64 Westbourne Terrace
Street:</td></tr>
<tr><td>City: Brookline</td><td>State: MA</td><td>Zip: 02446</td></tr>
<tr><td rowspan="4">2. Site owner
Town of Brookline

Owner is (check one): ☐ Federal ■ State/Tribal ☐ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Tony Guigli</td></tr>
<tr><td colspan="2">Telephone: 617-730-2044</td><td>Email: tguigli@brooklinema.gov</td></tr>
<tr><td colspan="3">Mailing address: 333 Washington Street
Third Floor
Street:</td></tr>
<tr><td>City: Brookline</td><td>State: MA</td><td>Zip: 02445</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Gilbane Building Company</td><td colspan="3">Contact Person: Robert Braga</td></tr>
<tr><td colspan="2">Telephone: 617-212-3482</td><td>Email: rbraga@gilbaneco.com</td></tr>
<tr><td colspan="3">Mailing address:
10 Channel Center Street, Suite 100
Street:</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02210</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:

NPDES permit is (check all that apply: ■ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s): 3-14448
3-36385
☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:
☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Muddy River	MA72-11	B

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

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

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

3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. chlorophyll-a, dissolved oxygen supersaturation, e.coli, harmful algal blooms, nutrient/eutrophication biological indicators, odor, phosphorus, transparency/clarity

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	0.544 ft^3/sec
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	0.352 MGD

6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ■ Yes ☐ No
If yes, indicate date confirmation received: 1/27/2021

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

C. Source water information:

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

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

2. Source water contaminants: Naphthalene, C9-C10 Aromatics, C9-C12 Aliphatics	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): ☐ Yes ■ No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): ☐ Yes ☐ No
3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): ☐ Yes ■ No	

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ☐ Existing discharge ■ New discharge ☐ New source	
Outfall(s): Tannery Brook Outfall	Outfall location(s): (Latitude, Longitude) 42.33422, -71.11193
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Discharge indirectly into the Muddy River through Town of Brookline Stormwater System ☐ A private storm sewer system ■ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ☐ Yes ■ No, if so, explain, with an estimated timeframe for obtaining permission: Upon approval of this NOI Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ■ Yes ☐ No	
Provide the expected start and end dates of discharge(s) (month/year): April 2021 - March 2022 Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

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

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✔	1	121.4500		569	569	Report mg/L	---
Chloride		✔	1	44,300.0		431000	431000	Report µg/l	---
Total Residual Chlorine		✔	1	121,4500	20	<DL	<DL	0.2 mg/L	28
Total Suspended Solids		✔	1	121,2540D		6700	6700	30 mg/L	
Antimony	✔		1	200.7	4	<DL	<DL	206 µg/L	
Arsenic		✔	1	200.7	1	<DL	<DL	104 µg/L	
Cadmium	✔		1	200.7	0.2	<DL	<DL	10.2 µg/L	
Chromium III	✔		1	107	10	<DL	<DL	323 µg/L	
Chromium VI	✔		1	7196A	10	<DL	<DL	323 µg/L	
Copper	✔		1	200.7	1	<DL	<DL	242 µg/L	
Iron		✔	1	200.7		2070	2070	5,000 µg/L	1844
Lead	✔		1	200.7	1	<DL	<DL	160 µg/L	
Mercury	✔		1	245.1	0.2	<DL	<DL	0.739 µg/L	
Nickel	✔		1	200.7	2	<DL	<DL	1,450 µg/L	
Selenium	✔		1	200.7	5	<DL	<DL	235.8 µg/L	
Silver	✔		1	200.7	0.4	<DL	<DL	35.1 µg/L	
Zinc	✔		1	200.7	10	<DL	<DL	420 µg/L	
Cyanide			1	121.4500	5	<DL	<DL	178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX	✔		1	128.624.1	10	<DL	<DL	100 µg/L	---
Benzene		✔	5	128.624.1	2	61.5	15.8	5.0 µg/L	---
1,4 Dioxane	✔		4	624.1	0.5	<DL	<DL	200 µg/L	---
Acetone	✔		4	624.1	10	<DL	<DL	7.97 mg/L	---
Phenol								1,080 µg/L	

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✔		4	624.1	1	<DL	<DL	4.4 µg/L	
1,2 Dichlorobenzene	✔		4	624.1	1	<DL	<DL	600 µg/L	---
1,3 Dichlorobenzene	✔		4	624.1	1	<DL	<DL	320 µg/L	---
1,4 Dichlorobenzene	✔		4	624.1	1	<DL	<DL	5.0 µg/L	---
Total dichlorobenzene			0					763 µg/L in NH	---
1,1 Dichloroethane	✔		4	624.1	1	<DL	<DL	70 µg/L	---
1,2 Dichloroethane	✔		4	624.1	1	<DL	<DL	5.0 µg/L	---
1,1 Dichloroethylene	✔		4	624.1	1	<DL	<DL	3.2 µg/L	---
Ethylene Dibromide			0					0.05 µg/L	---
Methylene Chloride	✔		4	624.1	5	<DL	<DL	4.6 µg/L	---
1,1,1 Trichloroethane	✔		4	624.1	1	<DL	<DL	200 µg/L	---
1,1,2 Trichloroethane	✔		4	624.1	1	<DL	<DL	5.0 µg/L	---
Trichloroethylene	✔		4	624.1	1	<DL	<DL	5.0 µg/L	---
Tetrachloroethylene	✔		4	624.1	1	<DL	<DL	5.0 µg/L	
cis-1,2 Dichloroethylene	✔		4	624.1	1	1.1	<DL	70 µg/L	---
Vinyl Chloride	✔		4	624.1	2	<DL	<DL	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates			0					190 µg/L	
Diethylhexyl phthalate			0					101 µg/L	
Total Group I PAHs	✔		2	625.1	10	<DL	<DL	1.0 µg/L	---
Benzo(a)anthracene	✔		2	625.1	10	<DL	<DL	As Total PAHs	
Benzo(a)pyrene	✔		2	625.1	10	<DL	<DL		
Benzo(b)fluoranthene	✔		2	625.1	10	<DL	<DL		
Benzo(k)fluoranthene	✔		2	625.1	10	<DL	<DL		
Chrysene	✔		2	625.1	10	<DL	<DL		
Dibenzo(a,h)anthracene	✔		2	625.1	10	<DL	<DL		
Indeno(1,2,3-cd)pyrene	✔		2	625.1	10	<DL	<DL		

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs	✔		1	625.1	2	<DL	<DL	100 µg/L	---
Naphthalene	✔		11	625.1	5	201	46.2	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs			0					0.000064 µg/L	---
Pentachlorophenol			0					1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons			0		4.4	<DL	<DL	5.0 mg/L	---
Ethanol			0		20	<DL	<DL	Report mg/L	---
Methyl-tert-Butyl Ether	✔		5		2	14.1	7.87	70 µg/L	
tert-Butyl Alcohol	✔		4		2	<DL	<DL	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		4		2	<DL	<DL	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
pH - Influent		✔	1	121,4500		6.5	6.5		
hardness (µg/L) - Influent		✔	1	3005A		235000	235000		
pH - receiving water		✔	1	121,4500		7..8			
Hardness (µg/L) - Receiving		✔	1	3005A		456000			
Temp - Receiving Water		✔	1			7C			

E. Treatment system information

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

☐ Adsorption/Absorption ☐ Advanced Oxidation Processes ☐ Air Stripping ☐ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption
☐ Ion Exchange ☐ Precipitation/Coagulation/Flocculation ■ Separation/Filtration ☐ Other; if so, specify:
GAC and ion resin filters will be added to the system, as may be required, based upon the results of influent/effluent testing.

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.
Settling tank with bag filters. If necessary to meet discharge limits, pH adjustment, ion media resin vessels, and/or GAC filter will be added as a NOC.

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

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

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Bag filters Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	250
Provide the proposed maximum effluent flow in gpm.	250
Provide the average effluent flow in gpm.	200
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	N/A

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

F. Chemical and additive information

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

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

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

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

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

G. Endangered Species Act eligibility determination

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

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

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

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

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

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

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

H. National Historic Preservation Act eligibility determination

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

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

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

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

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

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

I. Supplemental information

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

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

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

J. Certification requirement

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

BMPP certification statement:	A BMPP Statement has been implemented in accordance with good engineering practices following Part 2.5 of the RGP and shall be implemented upon initiation of discharge.
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ☐ Submission of this NOI to the Town of Brookline in Tandum with this submission
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ☐ No ■ NA ■
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☐ No ■ NA ☐
Signature: 	Date: 2/2/21
Print Name and Title: Robert Braga - General Superintendent	

APPENDIX C:

MASSACHUSETTS PHASE I SITE ASSESSMENT GIS MAP, IPAC TRUST RESOURCE REPORT, AND MACRIS REPORT

MassDEP - Bureau of Waste Site Cleanup

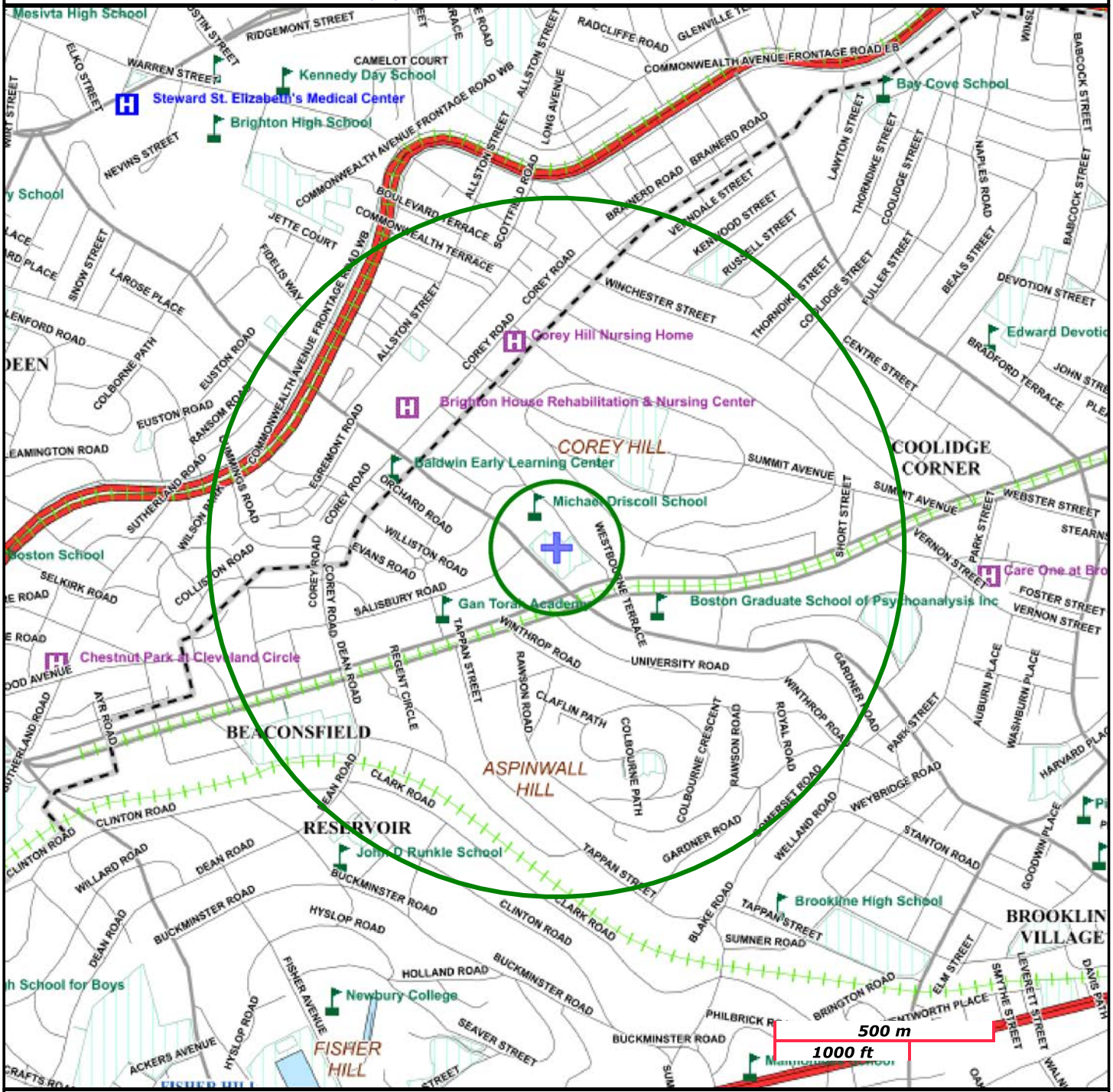
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
DRISCOLL SCHOOL
WESTBOURNE BROOKLINE, MA

NAD83 UTM Meters:
4689781mN , 324047mE (Zone: 19)
January 25, 2021

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



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

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

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

Aquifers: Medium Yield, High Yield, EPA Sole Source

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

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

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

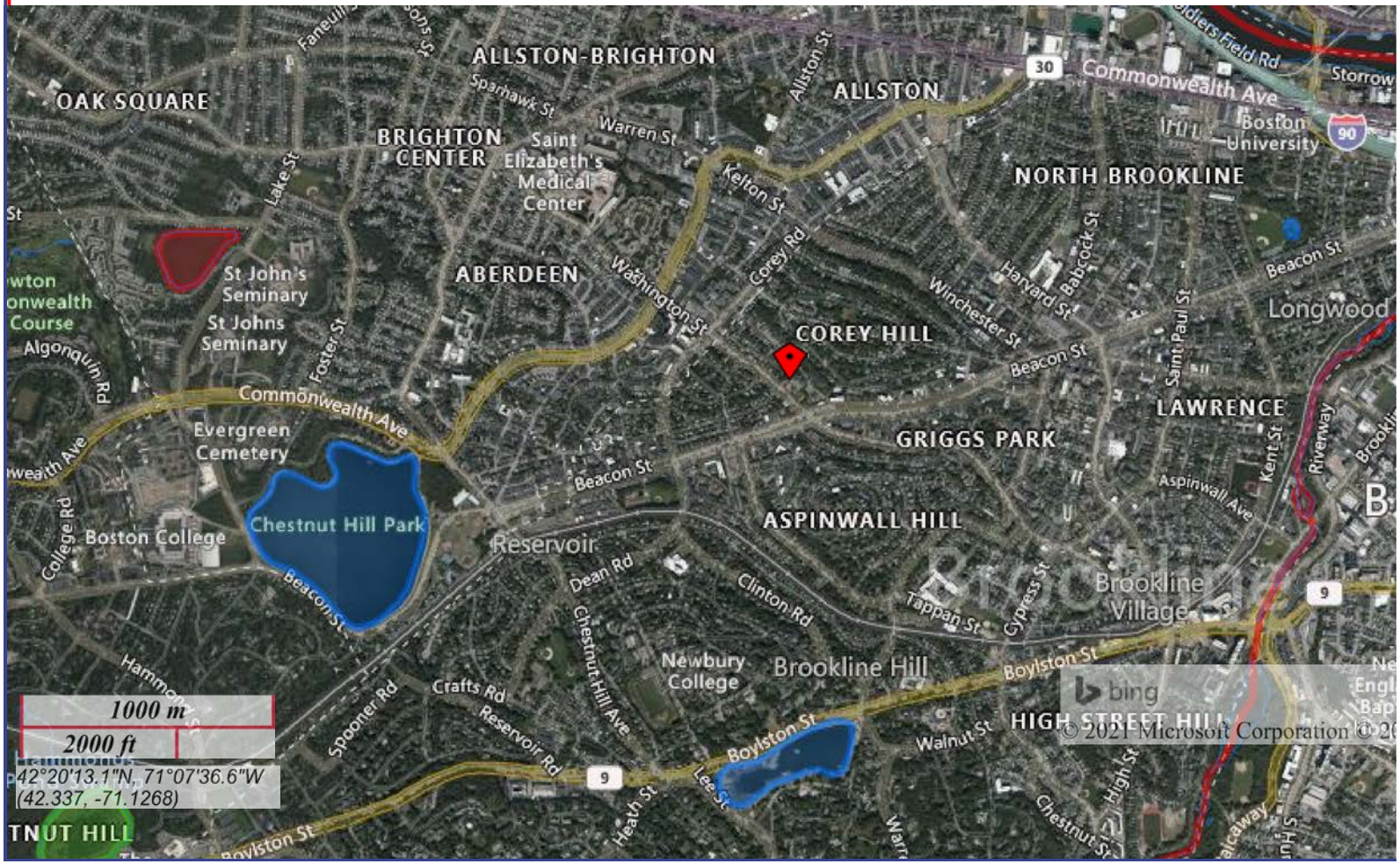
Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

MassDEP Online Map Viewer

2014 Integrated List of Waters Map

Helpful Links:

- The Clean Water Act
- MassDEP Total Maximum Daily Loads



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To: January 26, 2021
Consultation Code: 05E1NE00-2021-SLI-1117
Event Code: 05E1NE00-2021-E-03533
Project Name: Driscoll School

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2021-SLI-1117
Event Code: 05E1NE00-2021-E-03533
Project Name: Driscoll School
Project Type: ** OTHER **
Project Description: Proposed construction of new school building in Brookline, MA.
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.340219700000006,-71.1357494132956,14z

Counties: Norfolk County, Massachusetts

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

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

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

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

---

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

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9045

Critical habitats

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

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

IPaC Record Locator: 460-98696666 January 26, 2021

Subject: Consistency letter for the 'Driscoll School' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear NICHOLAS Hodge:

The U.S. Fish and Wildlife Service (Service) received on January 26, 2021 your effects determination for the 'Driscoll School' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Driscoll School

2. Description

The following description was provided for the project 'Driscoll School':

> Proposed construction of new school building in Brookline, MA.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.340219700000006,-71.1357494132956,14z

Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

Determination Key Description: Northern Long-eared Bat 4(d) Rule
This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   No

2. Will your activity purposefully **Take** northern long-eared bats?

   No

3. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

6. Will the action involve Tree Removal?

   Yes

7. Will the action only remove hazardous trees for the protection of human life or property?

   Yes

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

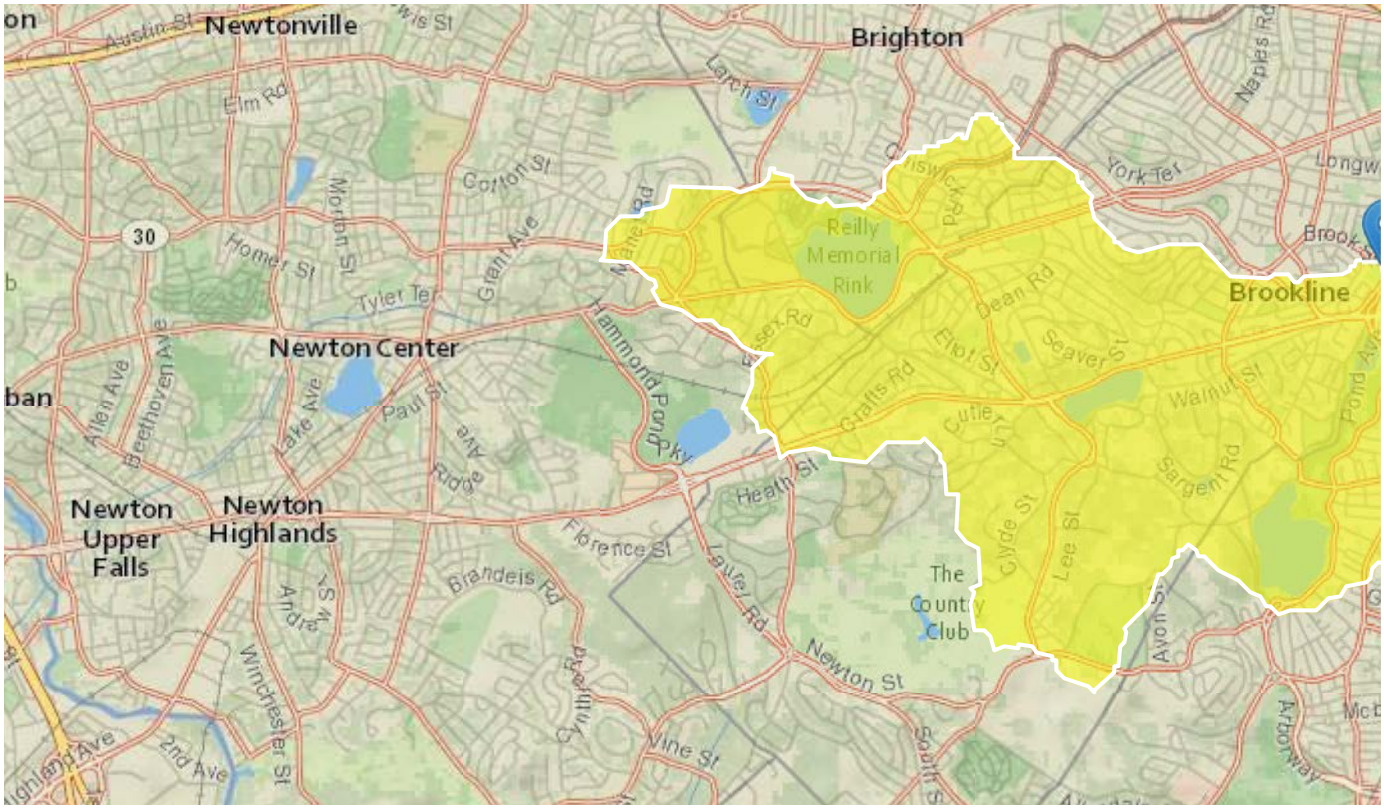
0

Category 5 waters listed alphabetically by major watershed
The 303(d) List – "Waters requiring a TMDL"

Water Body	Segment ID	Description	Size	Units	Impairment	EPA TMDL No.
Muddy River	MA72-11	Headwaters, outlet Ward Pond in Olmstead Park, Boston through Leverett Pond, Boston/Brookline to confluence with Charles River, Boston (four culverted portions totaling approximately 2200 feet (0.42mile)).	3.60	Miles	(Bottom Deposits*)	
					(Flow Regime Modification*)	
					(Non-Native Aquatic Plants*)	
					(Physical substrate habitat alterations*)	
					DDT in Fish Tissue	
					Dissolved Oxygen	
					Escherichia Coli (E. Coli)	32383
					Odor	
					Oil and Grease	
					PCBs In Fish Tissue	
					Phosphorus, Total	
					Turbidity	
					Unspecified Metals in Sediment	
Populatic Pond	MA72096	Norfolk.	42.00	Acres	Algae	40319
					Chlordane in Fish Tissue	
					DDT in Fish Tissue	
					Dissolved Oxygen	40319
					Dissolved Oxygen Supersaturation	40319
					Mercury in Fish Tissue	33880
					Nutrient/Eutrophication Biological Indicators	40319
Powissett Brook	MA72-20	Headwaters, outlet Noannet Pond, Westwood to mouth at confluence with the Charles River, Dover.	1.90	Miles	Combined Biota/Habitat Bioassessments	
Rock Meadow Brook	MA72-21	Headwaters, Fisher Meadow, Westwood to mouth at confluence with the Charles River, Dedham.	3.80	Miles	Algae	40317
					Benthic Macroinvertebrates	
					Dissolved Oxygen	40317
					Nutrient/Eutrophication Biological Indicators	40317
					Phosphorus, Total	40317
Sawmill Brook	MA72-23	Headwaters, Newton to mouth at confluence with the Charles River, Boston.	2.40	Miles	Chloride	
					Dissolved Oxygen	40317
					Escherichia Coli (E. Coli)	32376
					Organic Enrichment (Sewage) Biological Indicators	40317
					Phosphorus, Total	40317
Seaverns Brook	MA72-44	Headwaters outlet Norumbega Reservoir, Weston to mouth at confluence with the Charles River, Weston.	1.60	Miles	Escherichia Coli (E. Coli)	

StreamStats Report

Region ID: MA
Workspace ID: MA20210126172020528000
Clicked Point (Latitude, Longitude): 42.33422, -71.11193
Time: 2021-01-26 12:20:46 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	4.72	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	3.279	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.55	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless
ACRSDFT	Area underlain by stratified drift	0.88	square miles
BSLDEM10M	Mean basin slope computed from 10 m DEM	6.948	percent

Parameter Code	Parameter Description	Value	Unit
CAT1ROADS	Length of interstates lmtd access highways and ramps for lmtd access highways, includes cloverleaf interchanges (USGS Ntl Transp Dataset)	0	miles
CAT2ROADS	Length of sec hwy or maj connecting roads; main arteries & hwys not lmtd access, usually in the US Hwy or State Hwy systems (USGS Ntl Transp Dataset)	5.76	miles
CAT3ROADS	Length of local connecting roads; roads that collect traffic from local roads & connect towns, subdivisions & neighborhoods (USGS Nat Transp Dataset)	10.4	miles
CAT4ROADS	Length of local roads; generally paved street, road, or byway that usually have single lane of traffic in each direction (USGS Ntnl Transp Dataset)	81.9	miles
CENTROIDX	Basin centroid horizontal (x) location in state plane coordinates	229686.4	meters
CENTROIDY	Basin centroid vertical (y) location in state plane units	897514.1	meters
CROSCOUNT1	Number of intersections between streams and roads, where the roads are interstate, limited access highway, or ramp (CAT1ROADS)	0	dimensionless
CROSCOUNT2	Number of intersections between streams and roads, where the roads are secondary highway or major connecting road (CAT2ROADS)	2	dimensionless
CROSCOUNT3	Number of intersections between streams and roads, where roads are local conecting roads (CAT3ROADS)	9	dimensionless
CROSCOUNT4	Number of intersections between streams and roads, where roads are local roads (CAT4ROADS)	28	dimensionless
CRSDFT	Percentage of area of coarse-grained stratified drift	18.9	percent
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	44.3	feet per mi
ELEV	Mean Basin Elevation	143	feet

Parameter Code	Parameter Description	Value	Unit
FOREST	Percentage of area covered by forest	8.45	percent
LAKEAREA	Percentage of Lakes and Ponds	6.46	percent
LC06STOR	Percentage of water bodies and wetlands determined from the NLCD 2006	6.57	percent
LC11DEV	Percentage of developed (urban) land from NLCD 2011 classes 21-24	86.2	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	37.5	percent
LFPLENGTH	Length of longest flow path	4.44	miles
MAXTEMPC	Mean annual maximum air temperature over basin area, in degrees Centigrade	15	feet per mi
OUTLETX	Basin outlet horizontal (x) location in state plane coordinates	231975	feet
OUTLETY	Basin outlet vertical (y) location in state plane coordinates	898265	feet
PCTSNDGRV	Percentage of land surface underlain by sand and gravel deposits	18.9	percent
PRECPRIS00	Basin average mean annual precipitation for 1971 to 2000 from PRISM	47.3	inches
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	1.59	miles
WETLAND	Percentage of Wetlands	0.03	percent

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	4.72	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	3.279	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.55	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

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

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

Statistic	Value	Unit	PII	PIu	SE	SEp
7 Day 2 Year Low Flow	0.954	ft^3/s	0.218	4.02	49.5	49.5
7 Day 10 Year Low Flow	0.544	ft^3/s	0.101	2.74	70.8	70.8

Low-Flow Statistics Citations

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

Application Version: 4.4.0

APPENDIX D:

GROUNDWATER LABORATORY ANALYTICAL DATA

ANALYTICAL REPORT

Lab Number:	L2016503
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	Not Specified
Project Number:	6693
Report Date:	04/23/20

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

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

Project Name: Not Specified
Project Number: 6693

Lab Number: L2016503
Report Date: 04/23/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2016503-01	B-106A(OW)	GROUNDWATER	BROOKLINE, MA	04/21/20 11:15	04/21/20

Project Name: Not Specified **Lab Number:** L2016503

Project Number: 6693 **Report Date:** 04/23/20

MADEP MCP Response Action Analytical Report Certification

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

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

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	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:	Not Specified	**Lab Number:**	L2016503
Project Number:	6693	**Report Date:**	04/23/20

Case Narrative

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

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

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

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

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

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

Project Name: Not Specified
Project Number: 6693
Lab Number: L2016503
Report Date: 04/23/20

Case Narrative (continued)

MCP Related Narratives

Sample Receipt

At the client's request, the analysis of Total Solids was not performed.

Volatile Organics

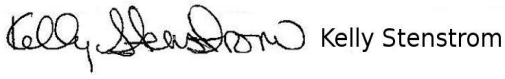
The initial calibration, associated with L2016503-01, utilized a quadratic fit for n-butylbenzene.

In reference to question H:

The initial calibration, associated with L2016503-01, did not meet the method required minimum response factor on the lowest calibration standard for 1,4-dioxane (0.0052), as well as the average response factor for 1,4-dioxane.

The continuing calibration standard, associated with L2016503-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

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

Authorized Signature:  Kelly Stenstrom

Title: Technical Director/Representative Date: 04/23/20

QC OUTLIER SUMMARY REPORT

Project Name: Not Specified
Project Number: 6693

Lab Number: L2016503
Report Date: 04/23/20

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics - Westborough Lab								
8260C	B-106A(OW)	L2016503-01	Dibromofluoromethane	Surrogate	151	70-130	-	potential high bias
8260C	Batch QC	WG1363398-3	Acetone	LCS	140	70-130	01	potential high bias
8260C	Batch QC	WG1363398-3	Methyl ethyl ketone	LCS	140	70-130	01	potential high bias
8260C	Batch QC	WG1363398-4	trans-1,2-Dichloroethene	LCSD	26	20	01	non-directional bias
8260C	Batch QC	WG1363398-4	Dichlorodifluoromethane	LCSD	39	20	01	non-directional bias
8260C	Batch QC	WG1363398-4	Acetone	LCSD	150	70-130	01	potential high bias
8260C	Batch QC	WG1363398-4	Methyl ethyl ketone	LCSD	140	70-130	01	potential high bias
8260C	Batch QC	WG1363398-4	1,4-Dioxane	LCSD	22	20	01	non-directional bias

ORGANICS

VOLATILES

Project Name: Not Specified
Project Number: 6693
Lab Number: L2016503
Report Date: 04/23/20

SAMPLE RESULTS

Lab ID: L2016503-01
Client ID: B-106A(OW)
Sample Location: BROOKLINE, MA

Date Collected: 04/21/20 11:15
Date Received: 04/21/20
Field Prep: Not Specified

Sample Depth:
Matrix: Groundwater
Analytical Method: 97,8260C
Analytical Date: 04/22/20 09:21
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: Not Specified **Lab Number:** L2016503

Project Number: 6693 **Report Date:** 04/23/20

SAMPLE RESULTS

Lab ID: L2016503-01 Date Collected: 04/21/20 11:15

Client ID: B-106A(OW) Date Received: 04/21/20

Sample Location: BROOKLINE, MA Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, 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
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: Not Specified
Project Number: 6693
Lab Number: L2016503
Report Date: 04/23/20

SAMPLE RESULTS

Lab ID: L2016503-01
Client ID: B-106A(OW)
Sample Location: BROOKLINE, MA
Date Collected: 04/21/20 11:15
Date Received: 04/21/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	**151**	Q	70-130

Project Name: Not Specified
Project Number: 6693
Lab Number: L2016503
Report Date: 04/23/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 04/22/20 07:12
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1363398-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: Not Specified
Project Number: 6693
Lab Number: L2016503
Report Date: 04/23/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 04/22/20 07:12
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1363398-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: Not Specified
Project Number: 6693
Lab Number: L2016503
Report Date: 04/23/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 04/22/20 07:12
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1363398-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	109		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 6693

Lab Number: L2016503
Report Date: 04/23/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1363398-3 WG1363398-4								
Methylene chloride	100		120		70-130	18		20
1,1-Dichloroethane	110		120		70-130	9		20
Chloroform	110		110		70-130	0		20
Carbon tetrachloride	110		110		70-130	0		20
1,2-Dichloropropane	110		110		70-130	0		20
Dibromochloromethane	110		110		70-130	0		20
1,1,2-Trichloroethane	110		110		70-130	0		20
Tetrachloroethene	100		100		70-130	0		20
Chlorobenzene	100		110		70-130	10		20
Trichlorofluoromethane	91		99		70-130	8		20
1,2-Dichloroethane	120		120		70-130	0		20
1,1,1-Trichloroethane	110		110		70-130	0		20
Bromodichloromethane	110		110		70-130	0		20
trans-1,3-Dichloropropene	120		120		70-130	0		20
cis-1,3-Dichloropropene	110		120		70-130	9		20
1,1-Dichloropropene	110		110		70-130	0		20
Bromoform	110		120		70-130	9		20
1,1,2,2-Tetrachloroethane	120		120		70-130	0		20
Benzene	110		110		70-130	0		20
Toluene	110		110		70-130	0		20
Ethylbenzene	110		110		70-130	0		20
Chloromethane	90		110		70-130	20		20
Bromomethane	90		94		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 6693

Lab Number: L2016503
Report Date: 04/23/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1363398-3 WG1363398-4								
Vinyl chloride	85		96		70-130	12		20
Chloroethane	100		100		70-130	0		20
1,1-Dichloroethene	95		110		70-130	15		20
trans-1,2-Dichloroethene	100		130		70-130	**26**	Q	20
Trichloroethene	110		110		70-130	0		20
1,2-Dichlorobenzene	110		110		70-130	0		20
1,3-Dichlorobenzene	110		110		70-130	0		20
1,4-Dichlorobenzene	110		110		70-130	0		20
Methyl tert butyl ether	120		120		70-130	0		20
p/m-Xylene	110		110		70-130	0		20
o-Xylene	105		110		70-130	5		20
cis-1,2-Dichloroethene	110		110		70-130	0		20
Dibromomethane	110		120		70-130	9		20
1,2,3-Trichloropropane	120		120		70-130	0		20
Styrene	110		115		70-130	4		20
Dichlorodifluoromethane	74		110		70-130	**39**	Q	20
Acetone	**140**	Q	**150**	Q	70-130	7		20
Carbon disulfide	98		100		70-130	2		20
Methyl ethyl ketone	**140**	Q	**140**	Q	70-130	0		20
Methyl isobutyl ketone	120		120		70-130	0		20
2-Hexanone	120		120		70-130	0		20
Bromochloromethane	110		120		70-130	9		20
Tetrahydrofuran	130		130		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 6693

Lab Number: L2016503
Report Date: 04/23/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1363398-3 WG1363398-4								
2,2-Dichloropropane	110		120		70-130	9		20
1,2-Dibromoethane	110		110		70-130	0		20
1,3-Dichloropropane	110		120		70-130	9		20
1,1,1,2-Tetrachloroethane	110		110		70-130	0		20
Bromobenzene	110		110		70-130	0		20
n-Butylbenzene	99		100		70-130	1		20
sec-Butylbenzene	100		110		70-130	10		20
tert-Butylbenzene	100		110		70-130	10		20
o-Chlorotoluene	110		120		70-130	9		20
p-Chlorotoluene	110		120		70-130	9		20
1,2-Dibromo-3-chloropropane	100		110		70-130	10		20
Hexachlorobutadiene	100		110		70-130	10		20
Isopropylbenzene	110		110		70-130	0		20
p-Isopropyltoluene	100		100		70-130	0		20
Naphthalene	100		100		70-130	0		20
n-Propylbenzene	110		110		70-130	0		20
1,2,3-Trichlorobenzene	97		110		70-130	13		20
1,2,4-Trichlorobenzene	95		100		70-130	5		20
1,3,5-Trimethylbenzene	100		110		70-130	10		20
1,2,4-Trimethylbenzene	100		110		70-130	10		20
Diethyl ether	100		110		70-130	10		20
Diisopropyl Ether	110		120		70-130	9		20
Ethyl-Tert-Butyl-Ether	120		120		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 6693

Lab Number: L2016503
Report Date: 04/23/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1363398-3 WG1363398-4								
Tertiary-Amyl Methyl Ether	110		120		70-130	9		20
1,4-Dioxane	130		104		70-130	**22**	Q	20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		107		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	105		103		70-130
Dibromofluoromethane	103		103		70-130

Project Name: Not Specified
Project Number: 6693

Lab Number: L2016503
Report Date: 04/23/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2016503-01A	Vial HCl preserved	A	NA		4.4	Y	Absent		MCP-8260-10(14)
L2016503-01B	Vial HCl preserved	A	NA		4.4	Y	Absent		MCP-8260-10(14)
L2016503-01C	Vial HCl preserved	A	NA		4.4	Y	Absent		MCP-8260-10(14)
L2016503-01D	Plastic 250ml unpreserved	A	7	7	4.4	Y	Absent		ARCHIVE()

*Values in parentheses indicate holding time in days

Project Name:	Not Specified	**Lab Number:**	L2016503
Project Number:	6693	**Report Date:**	04/23/20

GLOSSARY

Acronyms

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

Footnotes

Report Format: Data Usability Report

Project Name:	Not Specified	**Lab Number:**	L2016503
Project Number:	6693	**Report Date:**	04/23/20

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

Terms

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

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

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

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

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

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

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

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

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

Data Qualifiers

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Report Format: Data Usability Report

Project Name:	Not Specified	**Lab Number:**	L2016503
Project Number:	6693	**Report Date:**	04/23/20

Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	Not Specified	**Lab Number:**	L2016503
Project Number:	6693	**Report Date:**	04/23/20

REFERENCES

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

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

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

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

Westborough Facility:

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

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

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

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

Date Rec'd in Lab: 4/21/20

ALPHA Job #: L2016505

Client Information

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

Additional Project Information:
☐ Run TCLP (if triggered)

Project Information

Project Name:
Project Location: Brookline MA
Project #: 6693
Project Manager: NGH
ALPHA Quote #:

Turn-Around Time

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

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

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

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Sample Depth	Sample Material	Collection Date	Collection Time	Sampler Initials	Soil Assessment Package IV (less VOC)	VOC: ☐ 8260	Total Solids	SVOC: ☐ PAH	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	TOTAL METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	DISSOLVED METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	METALS: Total Sb,Be,Ni,Tl,V,Zn	☐ PCBs ☐ Pesticides	RGP Section A Inorganics				SAMPLE INFO *Filtration* ☐ Field ☐ Lab to do *Preservation* ☐ Lab to do Sample Comments	TOTAL # BOTTLES
16505-01	B-106A(ow)	—	GW	4/21/20	1115	TM		X	X													4
Container Type								V	P													
Preservative								P	A													

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

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

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
TM	4/21/20 1215	McPhail Associates secure sample storage for laboratory pick-up	4/21/20 1217
McPhail Associates secure sample storage for laboratory pick-up	4/21/20 1730		4/21/20 1730

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

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

Method Blank Summary
Form 4
Volatiles

Client	: McPhail Associates	**Lab Number**	: L2016503
Project Name	:	**Project Number**	: 6693
Lab Sample ID	: WG1363398-5	**Lab File ID**	: VJ200422A12
Instrument ID	: JACK		
Matrix	: WATER	**Analysis Date**	: 04/22/20 07:12

Client Sample No.	Lab Sample ID	Analysis Date
WG1363398-3LCS	WG1363398-3	04/22/20 05:03
WG1363398-4LCSD	WG1363398-4	04/22/20 05:35
B-106A(OW)	L2016503-01	04/22/20 09:21

Calibration Verification Summary
Form 7
Volatiles

Client	: McPhail Associates	Lab Number	: L2016503
Project Name	:	Project Number	: 6693
Instrument ID	: JACK	Calibration Date	: 04/22/20 05:03
Lab File ID	: VJ200422A04	Init. Calib. Date(s)	: 04/06/20 04/06/20
Sample No	: WG1363398-2	Init. Calib. Times	: 08:51 12:38
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	86	0
Dichlorodifluoromethane	0.806	0.599	-	25.7*	20	66	0
Chloromethane	0.795	0.714	-	10.2	20	89	0
Vinyl chloride	10	8.497	-	15	20	84	0
Bromomethane	10	9.003	-	10	20	105	0
Chloroethane	0.583	0.6	-	-2.9	20	92	0
Trichlorofluoromethane	1.373	1.251	-	8.9	20	85	0
Ethyl ether	0.404	0.413	-	-2.2	20	94	0
1,1-Dichloroethene	0.779	0.737	-	5.4	20	89	0
Carbon disulfide	1.694	1.669	-	1.5	20	94	0
Methylene chloride	0.759	0.803	-	-5.8	20	92	0
Acetone	10	14.074	-	-40.7*	20	124	0
trans-1,2-Dichloroethene	0.765	0.795	-	-3.9	20	95	0
Methyl tert-butyl ether	1.705	1.98	-	-16.1	20	101	0
Diisopropyl ether	2.425	2.755	-	-13.6	20	113	0
1,1-Dichloroethane	1.494	1.675	-	-12.1	20	105	0
Ethyl tert-butyl ether	2.244	2.615	-	-16.5	20	113	0
cis-1,2-Dichloroethene	0.918	0.983	-	-7.1	20	103	0
2,2-Dichloropropane	1.026	1.18	-	-15	20	108	0
Bromochloromethane	0.397	0.452	-	-13.9	20	103	0
Chloroform	1.411	1.585	-	-12.3	20	106	0
Carbon tetrachloride	1.109	1.203	-	-8.5	20	100	0
Tetrahydrofuran	0.179	0.236	-	-31.8*	20	127	0
Dibromofluoromethane	0.249	0.256	-	-2.8	20	88	0
1,1,1-Trichloroethane	1.285	1.412	-	-9.9	20	104	0
2-Butanone	0.209	0.294	-	-40.7*	20	127	0
1,1-Dichloropropene	1.276	1.408	-	-10.3	20	108	0
Benzene	3.31	3.634	-	-9.8	20	103	0
tert-Amyl methyl ether	1.87	2.112	-	-12.9	20	110	0
1,2-Dichloroethane-d4	0.299	0.323	-	-8	20	101	0
1,2-Dichloroethane	1.109	1.332	-	-20.1*	20	119	0
Trichloroethene	0.873	0.932	-	-6.8	20	102	0
Dibromomethane	0.446	0.5	-	-12.1	20	109	0
1,2-Dichloropropane	0.867	0.939	-	-8.3	20	103	0
Bromodichloromethane	1.028	1.165	-	-13.3	20	109	0
1,4-Dioxane	0.00529	0.00691*	-	-30.6*	20	119	0
cis-1,3-Dichloropropene	1.236	1.408	-	-13.9	20	108	0
Chlorobenzene-d5	1	1	-	0	20	87	0
Toluene-d8	1.216	1.206	-	0.8	20	86	0
Toluene	2.623	2.797	-	-6.6	20	101	0
4-Methyl-2-pentanone	0.237	0.291	-	-22.8*	20	116	0
Tetrachloroethene	1.222	1.261	-	-3.2	20	98	0
trans-1,3-Dichloropropene	1.304	1.503	-	-15.3	20	112	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Volatiles

Client	: McPhail Associates	**Lab Number**	: L2016503
Project Name	:	**Project Number**	: 6693
Instrument ID	: JACK	**Calibration Date**	: 04/22/20 05:03
Lab File ID	: VJ200422A04	**Init. Calib. Date(s)**	: 04/06/20 04/06/20
Sample No	: WG1363398-2	**Init. Calib. Times**	: 08:51 12:38
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,1,2-Trichloroethane	0.652	0.747	-	-14.6	20	111	0
Chlorodibromomethane	0.89	0.971	-	-9.1	20	106	0
1,3-Dichloropropane	1.361	1.564	-	-14.9	20	110	0
1,2-Dibromoethane	0.774	0.871	-	-12.5	20	109	0
2-Hexanone	0.402	0.483	-	-20.1*	20	122	0
Chlorobenzene	2.913	3.057	-	-4.9	20	101	0
Ethylbenzene	4.822	5.232	-	-8.5	20	102	0
1,1,1,2-Tetrachloroethane	1.046	1.118	-	-6.9	20	100	0
p/m Xylene	1.955	2.13	-	-9	20	102	0
o Xylene	1.883	2.005	-	-6.5	20	101	0
Styrene	3.208	3.564	-	-11.1	20	105	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	89	0
Bromoform	1.037	1.157	-	-11.6	20	113	0
Isopropylbenzene	8.368	9.1	-	-8.7	20	101	0
4-Bromofluorobenzene	0.784	0.825	-	-5.2	20	92	0
Bromobenzene	2.307	2.481	-	-7.5	20	103	0
n-Propylbenzene	9.181	9.799	-	-6.7	20	101	0
1,1,2,2-Tetrachloroethane	1.52	1.805	-	-18.7	20	111	0
2-Chlorotoluene	6.467	7.126	-	-10.2	20	105	0
1,3,5-Trimethylbenzene	6.431	6.78	-	-5.4	20	103	0
1,2,3-Trichloropropane	1.313	1.616	-	-23.1*	20	118	0
4-Chlorotoluene	5.914	6.658	-	-12.6	20	106	0
tert-Butylbenzene	5.507	5.731	-	-4.1	20	100	0
1,2,4-Trimethylbenzene	5.951	6.116	-	-2.8	20	104	0
sec-Butylbenzene	7.019	7.288	-	-3.8	20	99	0
p-Isopropyltoluene	10	9.967	-	0.3	20	99	0
1,3-Dichlorobenzene	4.269	4.635	-	-8.6	20	104	0
1,4-Dichlorobenzene	4.23	4.542	-	-7.4	20	104	0
n-Butylbenzene	10	9.891	-	1.1	20	101	0
1,2-Dichlorobenzene	3.99	4.318	-	-8.2	20	104	0
1,2-Dibromo-3-chloropropan	0.251	0.265	-	-5.6	20	110	0
Hexachlorobutadiene	0.805	0.843	-	-4.7	20	102	0
1,2,4-Trichlorobenzene	10	9.472	-	5.3	20	101	0
Naphthalene	10	10.349	-	-3.5	20	113	0
1,2,3-Trichlorobenzene	1.613	1.562	-	3.2	20	98	0

* Value outside of QC limits.

ANALYTICAL REPORT

Lab Number:	L2042881
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	DRISCOLL SCHOOL
Project Number:	6693
Report Date:	10/13/20

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

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

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2042881
Report Date: 10/13/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2042881-01	B-303I	WATER	BROOKLINE, MA	10/07/20 09:30	10/07/20
L2042881-02	B-303C	WATER	BROOKLINE, MA	10/07/20 10:00	10/07/20

Project Name: DRISCOLL SCHOOL **Lab Number:** L2042881

Project Number: 6693 **Report Date:** 10/13/20

MADEP MCP Response Action Analytical Report Certification

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

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

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	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:	DRISCOLL SCHOOL	**Lab Number:**	L2042881
Project Number:	6693	**Report Date:**	10/13/20

Case Narrative

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

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

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

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

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

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

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2042881
Project Number:	6693	**Report Date:**	10/13/20

Case Narrative (continued)

MCP Related Narratives

VPH

In reference to question G:

L2042881-01 and -02: 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: Caitlin Walukevich

Title: Technical Director/Representative Date: 10/13/20

QC OUTLIER SUMMARY REPORT

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2042881
Report Date: 10/13/20

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

There are no QC Outliers associated with this report.

ORGANICS

PETROLEUM HYDROCARBONS

Project Name: DRISCOLL SCHOOL
Project Number: 6693
Lab Number: L2042881
Report Date: 10/13/20

SAMPLE RESULTS

Lab ID:	L2042881-01	Date Collected:	10/07/20 09:30
Client ID:	B-303I	Date Received:	10/07/20
Sample Location:	BROOKLINE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	135,EPH-19-2.1	Extraction Date:	10/08/20 05:02
Analytical Date:	10/09/20 07:47	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	10/08/20

Quality Control Information

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

Extractable Petroleum Hydrocarbons - Westborough Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	246		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	186		ug/l	100	--	1
Naphthalene	42.0		ug/l	10.0	--	1
2-Methylnaphthalene	17.7		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: DRISCOLL SCHOOL
Lab Number: L2042881
Project Number: 6693
Report Date: 10/13/20

SAMPLE RESULTS

Lab ID: L2042881-01
Client ID: B-303I
Sample Location: BROOKLINE, MA
Date Collected: 10/07/20 09:30
Date Received: 10/07/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	53		40-140
o-Terphenyl	70		40-140
2-Fluorobiphenyl	70		40-140
2-Bromonaphthalene	72		40-140

Project Name: DRISCOLL SCHOOL
Lab Number: L2042881
Project Number: 6693
Report Date: 10/13/20

SAMPLE RESULTS

Lab ID:	L2042881-01 D	Date Collected:	10/07/20 09:30
Client ID:	B-303I	Date Received:	10/07/20
Sample Location:	BROOKLINE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water		
Analytical Method:	131,VPH-18-2.1		
Analytical Date:	10/10/20 12:06		
Analyst:	BAD		

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

Quality Control Information

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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	1210		ug/l	200	--	2
C9-C12 Aliphatics	3080		ug/l	200	--	2
C9-C10 Aromatics	2500		ug/l	200	--	2
C5-C8 Aliphatics, Adjusted	1110		ug/l	200	--	2
C9-C12 Aliphatics, Adjusted	ND		ug/l	200	--	2
Benzene	61.5		ug/l	4.00	--	2
Toluene	23.0		ug/l	4.00	--	2
Ethylbenzene	126		ug/l	4.00	--	2
p/m-Xylene	258		ug/l	4.00	--	2
o-Xylene	33.6		ug/l	4.00	--	2
Methyl tert butyl ether	14.1		ug/l	6.00	--	2
Naphthalene	62.0		ug/l	8.00	--	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	114		70-130
2,5-Dibromotoluene-FID	102		70-130

Project Name: DRISCOLL SCHOOL
Project Number: 6693
Lab Number: L2042881
Report Date: 10/13/20

SAMPLE RESULTS

Lab ID:	L2042881-02	Date Collected:	10/07/20 10:00
Client ID:	B-303C	Date Received:	10/07/20
Sample Location:	BROOKLINE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	135,EPH-19-2.1	Extraction Date:	10/08/20 05:02
Analytical Date:	10/09/20 08:11	Cleanup Method1:	EPH-04-1
Analyst:	MEO	Cleanup Date1:	10/08/20

Quality Control Information

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

Extractable Petroleum Hydrocarbons - Westborough Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	425		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	278		ug/l	100	--	1
Naphthalene	103		ug/l	10.0	--	1
2-Methylnaphthalene	43.6		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: DRISCOLL SCHOOL
Lab Number: L2042881
Project Number: 6693
Report Date: 10/13/20

SAMPLE RESULTS

Lab ID: L2042881-02
Client ID: B-303C
Sample Location: BROOKLINE, MA
Date Collected: 10/07/20 10:00
Date Received: 10/07/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	62		40-140
o-Terphenyl	62		40-140
2-Fluorobiphenyl	63		40-140
2-Bromonaphthalene	65		40-140

Project Name: DRISCOLL SCHOOL
Lab Number: L2042881
Project Number: 6693
Report Date: 10/13/20

SAMPLE RESULTS

Lab ID:	L2042881-02 D	Date Collected:	10/07/20 10:00
Client ID:	B-303C	Date Received:	10/07/20
Sample Location:	BROOKLINE, MA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Water		
Analytical Method:	131,VPH-18-2.1		
Analytical Date:	10/10/20 18:07		
Analyst:	BAD		

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

Quality Control Information

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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	1350		ug/l	500	--	5
C9-C12 Aliphatics	6550		ug/l	500	--	5
C9-C10 Aromatics	5420		ug/l	500	--	5
C5-C8 Aliphatics, Adjusted	1340		ug/l	500	--	5
C9-C12 Aliphatics, Adjusted	ND		ug/l	500	--	5
Benzene	12.2		ug/l	10.0	--	5
Toluene	ND		ug/l	10.0	--	5
Ethylbenzene	292		ug/l	10.0	--	5
p/m-Xylene	348		ug/l	10.0	--	5
o-Xylene	31.5		ug/l	10.0	--	5
Methyl tert butyl ether	ND		ug/l	15.0	--	5
Naphthalene	201		ug/l	20.0	--	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	107		70-130
2,5-Dibromotoluene-FID	97		70-130

Project Name: DRISCOLL SCHOOL
Project Number: 6693
Lab Number: L2042881
Report Date: 10/13/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 135,EPH-19-2.1
Analytical Date: 10/08/20 16:35
Analyst: MEO

Extraction Method: EPA 3510C
Extraction Date: 10/07/20 10:35
Cleanup Method: EPH-04-1
Cleanup Date: 10/08/20

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG1419246-1					
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	73		40-140
o-Terphenyl	70		40-140
2-Fluorobiphenyl	77		40-140
2-Bromonaphthalene	78		40-140

Project Name: DRISCOLL SCHOOL **Lab Number:** L2042881

Project Number: 6693 **Report Date:** 10/13/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 131,VPH-18-2.1
Analytical Date: 10/10/20 11:05
Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01-02 Batch: WG1421427-4					
C5-C8 Aliphatics	ND		ug/l	100	--
C9-C12 Aliphatics	ND		ug/l	100	--
C9-C10 Aromatics	ND		ug/l	100	--
C5-C8 Aliphatics, Adjusted	ND		ug/l	100	--
C9-C12 Aliphatics, Adjusted	ND		ug/l	100	--
Benzene	ND		ug/l	2.00	--
Toluene	ND		ug/l	2.00	--
Ethylbenzene	ND		ug/l	2.00	--
p/m-Xylene	ND		ug/l	2.00	--
o-Xylene	ND		ug/l	2.00	--
Methyl tert butyl ether	ND		ug/l	3.00	--
Naphthalene	ND		ug/l	4.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	105		70-130
2,5-Dibromotoluene-FID	96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2042881
Report Date: 10/13/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG1419246-2 WG1419246-3								
C9-C18 Aliphatics	52		53		40-140	2		25
C19-C36 Aliphatics	73		75		40-140	3		25
C11-C22 Aromatics	75		76		40-140	1		25
Naphthalene	64		63		40-140	2		25
2-Methylnaphthalene	67		66		40-140	2		25
Acenaphthylene	66		65		40-140	2		25
Acenaphthene	72		71		40-140	1		25
Fluorene	72		72		40-140	0		25
Phenanthrene	73		74		40-140	1		25
Anthracene	74		74		40-140	0		25
Fluoranthene	76		77		40-140	1		25
Pyrene	76		77		40-140	1		25
Benzo(a)anthracene	74		76		40-140	3		25
Chrysene	77		78		40-140	1		25
Benzo(b)fluoranthene	84		86		40-140	2		25
Benzo(k)fluoranthene	63		65		40-140	3		25
Benzo(a)pyrene	71		73		40-140	3		25
Indeno(1,2,3-cd)Pyrene	70		72		40-140	3		25
Dibenzo(a,h)anthracene	75		77		40-140	3		25
Benzo(ghi)perylene	68		71		40-140	4		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2042881
Report Date: 10/13/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG1419246-2 WG1419246-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	73		74		40-140
o-Terphenyl	74		75		40-140
2-Fluorobiphenyl	76		76		40-140
2-Bromonaphthalene	77		77		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693
Lab Number: L2042881
Report Date: 10/13/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01-02 Batch: WG1421427-2 WG1421427-3								
C5-C8 Aliphatics	99		106		70-130	7		25
C9-C12 Aliphatics	100		106		70-130	6		25
C9-C10 Aromatics	106		112		70-130	6		25
Benzene	108		116		70-130	7		25
Toluene	107		114		70-130	6		25
Ethylbenzene	107		114		70-130	6		25
p/m-Xylene	107		113		70-130	5		25
o-Xylene	106		113		70-130	6		25
Methyl tert butyl ether	115		123		70-130	7		25
Naphthalene	110		116		70-130	5		25
1,2,4-Trimethylbenzene	106		112		70-130	6		25
Pentane	101		108		70-130	7		25
2-Methylpentane	100		107		70-130	7		25
2,2,4-Trimethylpentane	99		105		70-130	6		25
n-Nonane	101		107		30-130	6		25
n-Decane	98		103		70-130	5		25
n-Butylcyclohexane	101		108		70-130	7		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	106		109		70-130
2,5-Dibromotoluene-FID	96		100		70-130

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2042881
Report Date: 10/13/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2042881-01A	Vial HCl preserved	A	NA		2.6	Y	Absent		VPH-DELUX-18(14)
L2042881-01B	Vial HCl preserved	A	NA		2.6	Y	Absent		VPH-DELUX-18(14)
L2042881-01C	Amber 1000ml HCl preserved	A	<2	<2	2.6	Y	Absent		EPH-DELUX-20(14)
L2042881-01D	Amber 1000ml HCl preserved	A	<2	<2	2.6	Y	Absent		EPH-DELUX-20(14)
L2042881-02A	Vial HCl preserved	A	NA		2.6	Y	Absent		VPH-DELUX-18(14)
L2042881-02B	Vial HCl preserved	A	NA		2.6	Y	Absent		VPH-DELUX-18(14)
L2042881-02C	Amber 1000ml HCl preserved	A	<2	<2	2.6	Y	Absent		EPH-DELUX-20(14)
L2042881-02D	Amber 1000ml HCl preserved	A	<2	<2	2.6	Y	Absent		EPH-DELUX-20(14)

*Values in parentheses indicate holding time in days

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2042881
Project Number:	6693	**Report Date:**	10/13/20

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2042881
Project Number:	6693	**Report Date:**	10/13/20

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

Data Qualifiers

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

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

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

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

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

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

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

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

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

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

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

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

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

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

Report Format: Data Usability Report

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2042881
Project Number:	6693	**Report Date:**	10/13/20

Data Qualifiers

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2042881
Project Number:	6693	**Report Date:**	10/13/20

REFERENCES

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

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

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

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

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

Westborough Facility:

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

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

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE ____ OF ____

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: 10/7/20

ALPHA Job #: L2042881

Project Information

Project Name: DRISCOLL SCHOOL
Project Location: BROOKLINE MA
Project #: 6693
Project Manager: NICHOLAS HODGE
ALPHA Quote #:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Client Information

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

Regulatory Requirements & Project Information Requirements

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

Turn-Around Time

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

Additional Project Information:

☐ Run TCLP (if triggered)

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Sample Depth	Sample Material	Collection Date	Collection Time	Sampler Initials	Soil Assessment Package IV (less VOC)	VOC: ☐ 8260	Total Solids	SVOC: ☐ PAH	EPH: ☒ Ranges & Targets ☐ Ranges Only	VPH: ☒ Ranges & Targets ☐ Ranges Only	TOTAL METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	DISSOLVED METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	METALS: Total Sb,Be,Ni,Tl,V,Zn	☐ PCBs ☐ Pesticides	RGP Section A Inorganics				SAMPLE INFO / Sample Comments	TOTAL # BOTTLES
42881-01	B-303I		GW	10/7/2020	09:30	TJH					X	X										4
-02	B-303C		GW	10/7/2020	10:00	TJH					X	X										4
Container Type											A	V										
Preservative											B	B										

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
TYLER HILL [signature]	10/7/2020 11:05	McPhail Associates secure sample storage for laboratory pick-up	
McPhail Associates secure sample storage for laboratory pick-up		[signature] Plum AAL	10/7/20 1655
[signature]	10/7/20 1808	[signature]	10/7/20 1808

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

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

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

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

ANALYTICAL REPORT

Lab Number:	L2104344
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	DRISCOLL SCHOOL
Project Number:	6693
Report Date:	02/02/21

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

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

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2104344
Report Date: 02/02/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2104344-01	B-106A(OW)	WATER	BROOKLINE, MA	01/27/21 09:30	01/27/21

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2104344
Project Number:	6693	**Report Date:**	02/02/21

Case Narrative

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

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

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

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

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

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

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2104344
Project Number:	6693	**Report Date:**	02/02/21

Case Narrative (continued)

Report Submission

February 02, 2021: This final report includes the results of all requested analyses.

February 01, 2021: This is a preliminary report.

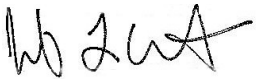
Hexavalent Chromium

WG1459500: An LCS/LCSD was performed in lieu of a Matrix Spike and Laboratory Duplicate due to insufficient sample volume available for analysis.

Nitrogen, Ammonia

The WG1459415-3 Laboratory Duplicate RPD for nitrogen, ammonia (36%), performed on L2104344-01, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

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:  Jennifer L Clements

Title: Technical Director/Representative Date: 02/02/21

METALS

Project Name: DRISCOLL SCHOOL
Lab Number: L2104344
Project Number: 6693
Report Date: 02/02/21

SAMPLE RESULTS

Lab ID: L2104344-01
Client ID: B-106A(OW)
Sample Location: BROOKLINE, MA
Date Collected: 01/27/21 09:30
Date Received: 01/27/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	01/28/21 09:07	01/28/21 14:03	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	01/28/21 09:07	01/28/21 14:03	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	01/28/21 09:07	01/28/21 14:03	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	01/28/21 09:07	01/28/21 14:03	EPA 3005A	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	01/28/21 09:07	01/28/21 14:03	EPA 3005A	3,200.8	AM
Iron, Total	2.07		mg/l	0.050	--	1	01/28/21 09:07	01/28/21 13:20	EPA 3005A	19,200.7	GD
Lead, Total	ND		mg/l	0.00100	--	1	01/28/21 09:07	01/28/21 14:03	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	01/28/21 09:50	01/28/21 21:14	EPA 245.1	3,245.1	VW
Nickel, Total	ND		mg/l	0.00200	--	1	01/28/21 09:07	01/28/21 14:03	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	01/28/21 09:07	01/28/21 14:03	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	01/28/21 09:07	01/28/21 14:03	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	01/28/21 09:07	01/28/21 14:03	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	235		mg/l	0.660	NA	1	01/28/21 09:07	01/28/21 13:20	EPA 3005A	19,200.7	GD
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		01/28/21 14:03	NA	107,-	

Project Name: DRISCOLL SCHOOL **Lab Number:** L2104344

Project Number: 6693 **Report Date:** 02/02/21

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: WG1459571-1										
Antimony, Total	ND		mg/l	0.00400	--	1	01/28/21 09:07	01/28/21 13:43	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	01/28/21 09:07	01/28/21 13:43	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	01/28/21 09:07	01/28/21 13:43	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	01/28/21 09:07	01/28/21 13:43	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	01/28/21 09:07	01/28/21 13:43	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	01/28/21 09:07	01/28/21 13:43	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	01/28/21 09:07	01/28/21 13:43	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	01/28/21 09:07	01/28/21 13:43	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	01/28/21 09:07	01/28/21 13:43	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	01/28/21 09:07	01/28/21 13:43	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1459572-1										
Iron, Total	ND		mg/l	0.050	--	1	01/28/21 09:07	01/28/21 13:01	19,200.7	GD

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1459572-1										
Hardness	ND		mg/l	0.660	NA	1	01/28/21 09:07	01/28/21 13:01	19,200.7	GD

Prep Information

Digestion Method: EPA 3005A

Project Name: DRISCOLL SCHOOL
Project Number: 6693
Lab Number: L2104344
Report Date: 02/02/21

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: WG1459577-1										
Mercury, Total	ND		mg/l	0.00020	--	1	01/28/21 09:50	01/28/21 21:00	3,245.1	VW

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: DRISCOLL SCHOOL

Project Number: 6693

Lab Number: L2104344

Report Date: 02/02/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1459571-2								
Antimony, Total	93		-		85-115	-		
Arsenic, Total	98		-		85-115	-		
Cadmium, Total	100		-		85-115	-		
Chromium, Total	91		-		85-115	-		
Copper, Total	94		-		85-115	-		
Lead, Total	93		-		85-115	-		
Nickel, Total	86		-		85-115	-		
Selenium, Total	96		-		85-115	-		
Silver, Total	93		-		85-115	-		
Zinc, Total	98		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1459572-2								
Iron, Total	98		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1459572-2								
Hardness	101		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1459577-2								
Mercury, Total	98		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2104344
Report Date: 02/02/21

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: WG1459571-3 QC Sample: L2104344-01 Client ID: B-106A(OW)												
Antimony, Total	ND	0.5	0.4700	94		-	-		70-130	-		20
Arsenic, Total	ND	0.12	0.1263	105		-	-		70-130	-		20
Cadmium, Total	ND	0.051	0.05341	105		-	-		70-130	-		20
Chromium, Total	ND	0.2	0.1966	98		-	-		70-130	-		20
Copper, Total	ND	0.25	0.2463	98		-	-		70-130	-		20
Lead, Total	ND	0.51	0.5375	105		-	-		70-130	-		20
Nickel, Total	ND	0.5	0.4720	94		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1257	105		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05149	103		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.5250	105		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1459572-3 QC Sample: L2104344-01 Client ID: B-106A(OW)												
Iron, Total	2.07	1	3.00	93		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1459572-3 QC Sample: L2104344-01 Client ID: B-106A(OW)												
Hardness	235	66.2	302	101		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1459577-3 QC Sample: L2104344-01 Client ID: B-106A(OW)												
Mercury, Total	ND	0.005	0.00461	92		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2104344
Report Date: 02/02/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1459571-4 QC Sample: L2104344-01 Client ID: B-106A(OW)						
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	ND	ND	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	ND	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1459572-4 QC Sample: L2104344-01 Client ID: B-106A(OW)						
Iron, Total	2.07	1.99	mg/l	4		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1459572-4 QC Sample: L2104344-01 Client ID: B-106A(OW)						
Hardness	235	234	mg/l	0		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1459577-4 QC Sample: L2104344-01 Client ID: B-106A(OW)						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: DRISCOLL SCHOOL
Project Number: 6693
Lab Number: L2104344
Report Date: 02/02/21

SAMPLE RESULTS

Lab ID: L2104344-01
Client ID: B-106A(OW)
Sample Location: BROOKLINE, MA
Sample Depth:
Matrix: Water

Date Collected: 01/27/21 09:30
Date Received: 01/27/21
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	6.7		mg/l	5.0	NA	1	-	01/28/21 14:30	121,2540D	AC
Cyanide, Total	ND		mg/l	0.005	--	1	01/28/21 10:15	01/28/21 12:48	121,4500CN-CE	CR
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	01/27/21 22:56	121,4500CL-D	QW
pH (H)	6.5		SU	-	NA	1	-	01/27/21 20:43	121,4500H+-B	AS
Nitrogen, Ammonia	0.569		mg/l	0.075	--	1	01/28/21 03:33	01/29/21 19:44	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.40	--	1.1	01/29/21 19:30	01/29/21 20:30	74,1664A	TL
Chromium, Hexavalent	ND		mg/l	0.010	--	1	01/28/21 06:10	01/28/21 06:50	1,7196A	AW
Anions by Ion Chromatography - Westborough Lab										
Chloride	431.		mg/l	12.5	--	25	-	01/29/21 01:09	44,300.0	AT

Project Name: DRISCOLL SCHOOL
Project Number: 6693
Lab Number: L2104344
Report Date: 02/02/21

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: WG1459414-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	01/27/21 22:56	121,4500CL-D	QW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1459415-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	01/28/21 03:33	01/29/21 19:41	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1459500-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	01/28/21 06:10	01/28/21 06:49	1,7196A	AW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1459573-1										
Cyanide, Total	ND		mg/l	0.005	--	1	01/28/21 10:15	01/28/21 12:30	121,4500CN-CE	CR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1459576-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	01/28/21 14:30	121,2540D	AC
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1459861-1										
Chloride	ND		mg/l	0.500	--	1	-	01/28/21 17:18	44,300.0	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1460143-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	01/29/21 19:30	01/29/21 20:30	74,1664A	TL

Lab Control Sample Analysis

Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2104344
Report Date: 02/02/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1459372-1								
pH	101		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1459414-2								
Chlorine, Total Residual	108		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1459415-2								
Nitrogen, Ammonia	97		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1459500-2 WG1459500-3								
Chromium, Hexavalent	102		102		85-115	0		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1459573-2								
Cyanide, Total	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1459576-2								
Solids, Total Suspended	98		-		80-120	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1459861-2								
Chloride	107		-		90-110	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: DRISCOLL SCHOOL

Project Number: 6693

Lab Number: L2104344

Report Date: 02/02/21

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1460143-2					
TPH	82	-	64-132	-	34

Matrix Spike Analysis
Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2104344
Report Date: 02/02/21

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: WG1459414-4 QC Sample: L2104295-02 Client ID: MS Sample												
Chlorine, Total Residual	ND	0.25	0.25	100		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1459415-4 QC Sample: L2104344-01 Client ID: B-106A(OW)												
Nitrogen, Ammonia	0.569	4	3.96	85		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1459573-4 QC Sample: L2104295-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.199	100		-	-		90-110	-		30
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1459861-3 QC Sample: L2104130-04 Client ID: MS Sample												
Chloride	ND	4	4.10	103		-	-		90-110	-		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1460143-4 QC Sample: L2104358-01 Client ID: MS Sample												
TPH	ND	20	12.1	**60**	Q	-	-		64-132	-		34

Lab Duplicate Analysis

Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2104344
Report Date: 02/02/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1459372-2 QC Sample: L2104306-02 Client ID: DUP Sample						
pH	7.4	7.4	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1459414-3 QC Sample: L2104295-01 Client ID: DUP Sample						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1459415-3 QC Sample: L2104344-01 Client ID: B-106A(OW)						
Nitrogen, Ammonia	0.569	0.394	mg/l	**36**	Q	20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1459573-3 QC Sample: L2104295-01 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1459576-3 QC Sample: L2104120-01 Client ID: DUP Sample						
Solids, Total Suspended	430	450	mg/l	5		29
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1459861-4 QC Sample: L2104130-04 Client ID: DUP Sample						
Chloride	ND	ND	mg/l	NC		18
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1460143-3 QC Sample: L2104344-01 Client ID: B-106A(OW)						
TPH, SGT-HEM	ND	ND	mg/l	NC		34

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2104344
Report Date: 02/02/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2104344-01A	Vial unpreserved	A	NA		3.0	Y	Absent		SUB-ETHANOL(14)
L2104344-01B	Vial unpreserved	A	NA		3.0	Y	Absent		SUB-ETHANOL(14)
L2104344-01C	Vial unpreserved	A	NA		3.0	Y	Absent		SUB-ETHANOL(14)
L2104344-01D	Plastic 250ml NaOH preserved	A	>12	>12	3.0	Y	Absent		TCN-4500(14)
L2104344-01E	Plastic 500ml HNO3 preserved	A	<2	<2	3.0	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),FE-UI(180),CU-2008T(180),HARDU(180),AS-2008T(180),SE-2008T(180),HG-U(28),AG-2008T(180),PB-2008T(180),CR-2008T(180),SB-2008T(180)
L2104344-01F	Plastic 500ml H2SO4 preserved	A	<2	<2	3.0	Y	Absent		NH3-4500(28)
L2104344-01G	Plastic 500ml unpreserved	A	7	7	3.0	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1),PH-4500(.01)
L2104344-01H	Plastic 500ml unpreserved	A	7	7	3.0	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1),PH-4500(.01)
L2104344-01I	Plastic 500ml unpreserved	A	7	7	3.0	Y	Absent		TSS-2540(7)
L2104344-01J	Plastic 500ml unpreserved	A	7	7	3.0	Y	Absent		TSS-2540(7)
L2104344-01K	Amber 1000ml HCl preserved	A	NA		3.0	Y	Absent		TPH-1664(28)
L2104344-01L	Amber 1000ml HCl preserved	A	NA		3.0	Y	Absent		TPH-1664(28)

*Values in parentheses indicate holding time in days

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2104344
Project Number:	6693	**Report Date:**	02/02/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2104344
Project Number:	6693	**Report Date:**	02/02/21

Footnotes

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

Terms

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

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

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

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

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

Data Qualifiers

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

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

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

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

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

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

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

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

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

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

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

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

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2104344
Project Number:	6693	**Report Date:**	02/02/21

Data Qualifiers

the identification is based on a mass spectral library search.

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2104344
Project Number:	6693	**Report Date:**	02/02/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

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

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

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

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

107 Alpha Analytical - In-house calculation method.

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

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

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

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

Westborough Facility:

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

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

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

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

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

Date Rec'd in Lab: 1/27/21

ALPHA Job #: L2104377

Client Information

Client: McPhail Associates, LLC

Address: 2269 Massachusetts Avenue

Cambridge, MA 02140

Phone: (617) 868-1420

Email: nhodge @McPhailgeo.com

Additional Project Information:

☐ Run TCLP (if triggered)

Project Information

Project Name: Driscoll School

Project Location: Brookline, MA

Project #: 6693

Project Manager: Nick Hodge

ALPHA Quote #:

Turn-Around Time

~~Standard~~ ☑ RUSH *(only confirmed if pre-approved!)*

Date Due: ~~*Rush / External Standard TAT~~

TO RECEIVE RESULTS FOR ALL TESTING BY FEB 1, 2021

Report Information - Data Deliverables

☐ ADEx ☑ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☑ Yes ☐ No MA MCP Analytical Methods

☐ Yes ☑ No CT RCP Analytical Methods

☐ Yes ☑ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)

☐ Yes ☑ No GW1 Standards (Info Required for Metals & EPH with Targets)

☐ Yes ☑ No NPDES RGP

☐ Other State /Fed Program ______ Criteria ______

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Sample Depth	Sample Material	Collection Date	Collection Time	Sampler Initials	Soil Assessment Package IV (less VOC)	VOC: ☐ 8260	Total Solids	SVOC: ☐ PAH	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	TOTAL METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	DISSOLVED METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	METALS: Total Sb,Be,Ni,Tl,V,Zn	☐ PCBs ☐ Pesticides	RGP Section A Inorganics	TPH	Ethanol	pH + Hardness	SAMPLE INFO (Filtration ☐ Field ☐ Lab to do; Preservation ☐ Lab to do) Sample Comments	TOTAL # BOTTLES
04377-01	B-106A (OW)	—	GW	1/27/21	9:30	JSF											X	X	X	X		12
Container Type																	P	A	V			
Preservative																	A/C/D/E	B	A			

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

Relinquished By:	Date/Time	Received By:	Date/Time
Julian Finney	1/27/21 11:00	McPhail Associates secure sample storage for laboratory pick-up	1/27/21 11:00
McPhail Associates secure sample storage for laboratory pick-up		[signature] AAL	1/27/21 1600
[signature] AAL	1/27/21 1700	[signature]	1/27/21 1700

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

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

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

ALPHA ANALYTICAL
World Class Chemistry

Subcontract Chain of Custody

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

Alpha Job Number
L2104344

Client Information

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

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date: 02/01/21 (RUSH)
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2104344

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com 1 day RUSH

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	B-106A(OW)	01-27-21 09:30	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
	C. Clean	1/28/21		
Form No: AL_subcoc				

Teklab, Inc.
Environmental Laboratory

http://www.teklabinc.com/

February 02, 2021

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

Illinois	100226
Kansas	E-10374
Louisiana	05002
Louisiana	05003
Oklahoma	9978

RE: L2104344 **WorkOrder:** 21011491

Dear Melissa Gulli:

TEKLAB, INC received 1 sample on 1/29/2021 9:39:00 AM for the analysis presented in the following report.

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

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

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

Sincerely,

Marvin L. Darling II

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

Teklab, Inc.
Environmental Laboratory

Report Contents

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 21011491
Client Project: L2104344
Report Date: 02-Feb-21

This reporting package includes the following:

Teklab, Inc.
Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: Alpha Analytical **Work Order:** 21011491

Client Project: L2104344 **Report Date:** 02-Feb-21

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

Teklab, Inc. Environmental Laboratory

Definitions

http://www.teklabinc.com/

Client: Alpha Analytical

Work Order: 21011491

Client Project: L2104344

Report Date: 02-Feb-21

Qualifiers

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

Teklab, Inc. Environmental Laboratory

Case Narrative

http://www.teklabinc.com/

Client: Alpha Analytical

Client Project: L2104344

Work Order: 21011491

Report Date: 02-Feb-21

Cooler Receipt Temp: 0.4 °C

Locations

Collinsville

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

Springfield

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

Kansas City

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

Collinsville Air

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

Chicago

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

Teklab, Inc. Environmental Laboratory

Accreditations

http://www.teklabinc.com/

Client: Alpha Analytical

Client Project: L2104344

Work Order: 21011491

Report Date: 02-Feb-21

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2022	Collinsville
Kansas	KDHE	E-10374	NELAP	4/30/2021	Collinsville
Louisiana	LDEQ	05002	NELAP	6/30/2021	Collinsville
Louisiana	LDEQ	05003	NELAP	6/30/2021	Collinsville
Oklahoma	ODEQ	9978	NELAP	8/31/2021	Collinsville
Arkansas	ADEQ	88-0966		3/14/2021	Collinsville
Illinois	IDPH	17584		5/31/2021	Collinsville
Kentucky	UST	0073		1/31/2021	Collinsville
Missouri	MDNR	00930		5/31/2021	Collinsville
Missouri	MDNR	930		1/31/2022	Collinsville

Teklab, Inc. Environmental Laboratory

Laboratory Results

http://www.teklabinc.com/

Client: Alpha Analytical
Work Order: 21011491
Client Project: L2104344
Report Date: 02-Feb-21
Lab ID: 21011491-001
Client Sample ID: B-106A (OW)
Matrix: AQUEOUS
Collection Date: 01/27/2021 9:30

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
EPA 600 1671A, PHARMACEUTICAL MANUFACTURING INDUSTRY NON-PURGEABLE VOLATILE ORGANICS								
Ethanol	*	20		**ND**	mg/L	1	02/01/2021 16:10	R286958

Teklab, Inc. Environmental Laboratory

Quality Control Results

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2104344

Work Order: 21011491
Report Date: 02-Feb-21

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

Batch R286958 **SampType:** MBLK Units **mg/L**
SampID: MBLK-020121

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	*	20		**ND**						02/01/202

Batch R286958 **SampType:** LCS Units **mg/L**
SampID: LCS-020121

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	*	20		**220**	250.0	0	86.9	70	132	02/01/202

Batch R286958 **SampType:** MS Units **mg/L**
SampID: 21011493-003AMS

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethanol	*	20		**220**	250.0	0	87.8	70	132	02/01/202

Batch R286958 **SampType:** msd Units **mg/L** RPD Limit **30**
SampID: 21011493-003AMSD

Analyses	Cert	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethanol	*	20		**220**	250.0	0	86.8	219.4	1.09	02/01/202

Teklab, Inc.
Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: Alpha Analytical
Client Project: L2104344

Work Order: 21011491
Report Date: 02-Feb-21

Carrier: UPS

Completed by: Amanda R. Ham
On: 29-Jan-21

Received By: AH

Reviewed by: Marvin L. Darling
On: 29-Jan-21

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

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C 0.4
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice ☐
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐		

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

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

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

Subcontract Chain of Custody

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

Alpha Job Number
L2104344

Client Information

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

Phone: 603.319.5010
Email: mgulli@alphalab.com

Project Information

Project Location: MA
Project Manager: Melissa Gulli

Turnaround & Deliverables Information

Due Date: 02/01/21 (RUSH)
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:
Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2104344

Report to include Method Blank, LCS/LCSD:

Additional Comments: Send all results/reports to subreports@alphalab.com 1 day RUSH 0.4°C UTGI Ice. OHS PRT 1/29/21

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
2101491-001	B-106A(OW)	01-27-21 09:30	WATER	Ethanol by EPA 1671 Revision A	

	Relinquished By:	Date/Time:	Received By:	Date/Time:
	C. Clevenger	1/28/21	UPS	1/29/21 0939
Form No: AL_subcoc				

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

August 10, 2020

Nick Hodge
McPhail Associates
2269 Massachusetts Avenue
Cambridge, MA 02140

Project Location: Brookline, MA
Client Job Number:
Project Number: 6693
Laboratory Work Order Number: 20G1646

Enclosed are results of analyses for samples received by the laboratory on July 31, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jessica L. Hoffman
Project Manager

con-test®
ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

McPhail Associates
2269 Massachusetts Avenue
Cambridge, MA 02140
ATTN: Nick Hodge

REPORT DATE: 8/10/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 6693

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 20G1646

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Brookline, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-103 (OW)	20G1646-01	Ground Water		MADEP-VPH-Feb 2018 Rev 2.1 SW-846 8260C-D	
B-116 (OW)	20G1646-02	Ground Water		MADEP-VPH-Feb 2018 Rev 2.1 SW-846 8260C-D	
B-310 (OW)	20G1646-03	Ground Water		MADEP-VPH-Feb 2018 Rev 2.1 SW-846 8260C-D	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8260C-D

Qualifications:

L-04

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

1,1-Dichloroethylene
20G1646-01[B-103 (OW)], 20G1646-02[B-116 (OW)], 20G1646-03[B-310 (OW)], B263756-BLK1, B263756-BS1, B263756-BSD1, S051133-CCV1

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Methylene Chloride
B263756-BSD1

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

1,1-Dichloroethylene
20G1646-01[B-103 (OW)], 20G1646-02[B-116 (OW)], 20G1646-03[B-310 (OW)], B263756-BLK1, B263756-BS1, B263756-BSD1, S051133-CCV1

1,2-Dibromo-3-chloropropane (DB(
20G1646-01[B-103 (OW)], 20G1646-02[B-116 (OW)], 20G1646-03[B-310 (OW)], B263756-BLK1, B263756-BS1, B263756-BSD1, S051133-CCV1

Acetone
20G1646-01[B-103 (OW)], 20G1646-02[B-116 (OW)], 20G1646-03[B-310 (OW)], B263756-BLK1, B263756-BS1, B263756-BSD1, S051133-CCV1

Diethyl Ether
20G1646-01[B-103 (OW)], 20G1646-02[B-116 (OW)], 20G1646-03[B-310 (OW)], B263756-BLK1, B263756-BS1, B263756-BSD1, S051133-CCV1

Methylene Chloride
20G1646-01[B-103 (OW)], 20G1646-02[B-116 (OW)], 20G1646-03[B-310 (OW)], B263756-BLK1, B263756-BS1, B263756-BSD1, S051133-CCV1

Trichlorofluoromethane (Freon 11)
20G1646-01[B-103 (OW)], 20G1646-02[B-116 (OW)], 20G1646-03[B-310 (OW)], B263756-BLK1, B263756-BS1, B263756-BSD1, S051133-CCV1

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
20G1646-01[B-103 (OW)], 20G1646-02[B-116 (OW)], 20G1646-03[B-310 (OW)], B263756-BLK1, B263756-BS1, B263756-BSD1, S051133-CCV1

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

MADEP-VPH-Feb 2018 Rev 2.1

No significant modifications were made to the method. All VPH samples were received preserved properly at pH <2 in the proper containers as specified on the chain-of-custody form unless specified in this narrative.

Analytical column used for VPH analysis is Restek, Rtx-502.2, 105meter, 0.53mmID, 3um df. Trap used for VPH analysis is Carbopack B/CarboSieveS-III.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brookline, MA | Sample Description: | Work Order: 20G1646

Date Received: 7/31/2020

Field Sample #: B-103 (OW) | Sampled: 7/30/2020 12:30

Sample ID: 20G1646-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
sec-Butylbenzene	6.2	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,1-Dichloroethylene	ND	1.0	µg/L	1	L-04, V-05	SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
cis-1,2-Dichloroethylene	1.1	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Diethyl Ether	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Ethylbenzene	53	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brookline, MA | Sample Description: | Work Order: 20G1646

Date Received: 7/31/2020

Field Sample #: B-103 (OW) | Sampled: 7/30/2020 12:30

Sample ID: 20G1646-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Isopropylbenzene (Cumene)	17	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Methylene Chloride	ND	5.0	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Naphthalene	43	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
n-Propylbenzene	47	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Toluene	1.2	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
1,2,4-Trimethylbenzene	260	40	µg/L	40		SW-846 8260C-D	8/10/20	8/10/20 15:19	MFF
1,3,5-Trimethylbenzene	28	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
m+p Xylene	94	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF
o-Xylene	31	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 18:41	BRF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	91.0	70-130		8/7/20 18:41
1,2-Dichloroethane-d4	110	70-130		8/10/20 15:19
Toluene-d8	97.8	70-130		8/7/20 18:41
Toluene-d8	88.9	70-130		8/10/20 15:19
4-Bromofluorobenzene	93.3	70-130		8/10/20 15:19
4-Bromofluorobenzene	103	70-130		8/7/20 18:41

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brookline, MA | Sample Description: | Work Order: 20G1646

Date Received: 7/31/2020

Field Sample #: B-103 (OW) | Sampled: 7/30/2020 12:30

Sample ID: 20G1646-01

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	530	200	µg/L	2		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 1:51	KMB
C5-C8 Aliphatics	530	200	µg/L	2		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 1:51	KMB
Unadjusted C9-C12 Aliphatics	2100	200	µg/L	2		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 1:51	KMB
C9-C12 Aliphatics	680	200	µg/L	2		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 1:51	KMB
C9-C10 Aromatics	1300	200	µg/L	2		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 1:51	KMB
Benzene	ND	2.0	µg/L	2		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 1:51	KMB
Ethylbenzene	48	2.0	µg/L	2		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 1:51	KMB
Methyl tert-Butyl Ether (MTBE)	ND	2.0	µg/L	2		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 1:51	KMB
Naphthalene	35	10	µg/L	2		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 1:51	KMB
Toluene	ND	2.0	µg/L	2		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 1:51	KMB
m+p Xylene	85	4.0	µg/L	2		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 1:51	KMB
o-Xylene	28	2.0	µg/L	2		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 1:51	KMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	128	70-130		8/9/20 1:51
2,5-Dibromotoluene (PID)	129	70-130		8/9/20 1:51

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brookline, MA | Sample Description: | Work Order: 20G1646

Date Received: 7/31/2020

Field Sample #: B-116 (OW) | Sampled: 7/30/2020 11:30

Sample ID: 20G1646-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Benzene	1.7	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
sec-Butylbenzene	9.0	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,1-Dichloroethylene	ND	1.0	µg/L	1	L-04, V-05	SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Diethyl Ether	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Ethylbenzene	34	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brookline, MA | Sample Description: | Work Order: 20G1646

Date Received: 7/31/2020

Field Sample #: B-116 (OW) | Sampled: 7/30/2020 11:30

Sample ID: 20G1646-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Isopropylbenzene (Cumene)	20	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Methylene Chloride	ND	5.0	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Naphthalene	6.6	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
n-Propylbenzene	54	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,2,4-Trimethylbenzene	46	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
1,3,5-Trimethylbenzene	2.3	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
m+p Xylene	3.3	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:07	BRF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	88.2	70-130		8/7/20 19:07
Toluene-d8	98.1	70-130		8/7/20 19:07
4-Bromofluorobenzene	102	70-130		8/7/20 19:07

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brookline, MA | Sample Description: | Work Order: 20G1646

Date Received: 7/31/2020

Field Sample #: B-116 (OW) | Sampled: 7/30/2020 11:30

Sample ID: 20G1646-02

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	1100	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 0:53	KMB
C5-C8 Aliphatics	1100	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 0:53	KMB
Unadjusted C9-C12 Aliphatics	750	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 0:53	KMB
C9-C12 Aliphatics	270	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 0:53	KMB
C9-C10 Aromatics	440	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 0:53	KMB
Benzene	2.1	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 0:53	KMB
Ethylbenzene	30	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 0:53	KMB
Methyl tert-Butyl Ether (MTBE)	7.1	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 0:53	KMB
Naphthalene	6.0	5.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 0:53	KMB
Toluene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 0:53	KMB
m+p Xylene	3.4	2.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 0:53	KMB
o-Xylene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/8/20	8/9/20 0:53	KMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
2,5-Dibromotoluene (FID)	126	70-130		8/9/20 0:53	
2,5-Dibromotoluene (PID)	129	70-130		8/9/20 0:53	

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brookline, MA | Sample Description: | Work Order: 20G1646

Date Received: 7/31/2020

Field Sample #: B-310 (OW) | Sampled: 7/30/2020 14:00

Sample ID: 20G1646-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,1-Dichloroethylene	ND	1.0	µg/L	1	L-04, V-05	SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Diethyl Ether	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brookline, MA | Sample Description: | Work Order: 20G1646

Date Received: 7/31/2020

Field Sample #: B-310 (OW) | Sampled: 7/30/2020 14:00

Sample ID: 20G1646-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Methylene Chloride	ND	5.0	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	8/7/20	8/7/20 19:33	BRF

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
1,2-Dichloroethane-d4	89.2	70-130		8/7/20	19:33
Toluene-d8	97.7	70-130		8/7/20	19:33
4-Bromofluorobenzene	101	70-130		8/7/20	19:33

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Brookline, MA | Sample Description: | Work Order: 20G1646

Date Received: 7/31/2020

Field Sample #: B-310 (OW) | Sampled: 7/30/2020 14:00

Sample ID: 20G1646-03

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/7/20	8/7/20 15:54	KMB
C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/7/20	8/7/20 15:54	KMB
Unadjusted C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/7/20	8/7/20 15:54	KMB
C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/7/20	8/7/20 15:54	KMB
C9-C10 Aromatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/7/20	8/7/20 15:54	KMB
Benzene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/7/20	8/7/20 15:54	KMB
Ethylbenzene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/7/20	8/7/20 15:54	KMB
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/7/20	8/7/20 15:54	KMB
Naphthalene	ND	5.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/7/20	8/7/20 15:54	KMB
Toluene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/7/20	8/7/20 15:54	KMB
m+p Xylene	ND	2.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/7/20	8/7/20 15:54	KMB
o-Xylene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	8/7/20	8/7/20 15:54	KMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	110	70-130		8/7/20 15:54
2,5-Dibromotoluene (PID)	105	70-130		8/7/20 15:54

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: MA VPH **Analytical Method: MADEP-VPH-Feb 2018 Rev 2.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20G1646-03 [B-310 (OW)]	B263767	5	5.00	08/07/20

Prep Method: MA VPH **Analytical Method: MADEP-VPH-Feb 2018 Rev 2.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20G1646-01 [B-103 (OW)]	B263845	2.5	5.00	08/08/20
20G1646-02 [B-116 (OW)]	B263845	5	5.00	08/08/20

Prep Method: SW-846 5030B **Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20G1646-01 [B-103 (OW)]	B263756	5	5.00	08/07/20
20G1646-02 [B-116 (OW)]	B263756	5	5.00	08/07/20
20G1646-03 [B-310 (OW)]	B263756	5	5.00	08/07/20

Prep Method: SW-846 5030B **Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20G1646-01RE1 [B-103 (OW)]	B263978	0.125	5.00	08/10/20

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B263756 - SW-846 5030B										
Blank (B263756-BLK1)				Prepared & Analyzed: 08/07/20						
Acetone	ND	10	µg/L							V-05
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	1.0	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	10	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	1.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L							V-05
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							L-04, V-05
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	0.50	µg/L							
cis-1,3-Dichloropropene	ND	0.40	µg/L							
trans-1,3-Dichloropropene	ND	0.40	µg/L							
Diethyl Ether	ND	2.0	µg/L							V-05
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							V-16
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.60	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							V-05
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B263756 - SW-846 5030B											
Blank (B263756-BLK1)				Prepared & Analyzed: 08/07/20							
n-Propylbenzene	ND	1.0	µg/L								
Styrene	ND	1.0	µg/L								
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L								
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L								
Tetrachloroethylene	ND	1.0	µg/L								
Tetrahydrofuran	ND	2.0	µg/L								
Toluene	ND	1.0	µg/L								
1,2,3-Trichlorobenzene	ND	2.0	µg/L								
1,2,4-Trichlorobenzene	ND	1.0	µg/L								
1,1,1-Trichloroethane	ND	1.0	µg/L								
1,1,2-Trichloroethane	ND	1.0	µg/L								
Trichloroethylene	ND	1.0	µg/L								
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							V-05	
1,2,3-Trichloropropane	ND	2.0	µg/L								
1,2,4-Trimethylbenzene	ND	1.0	µg/L								
1,3,5-Trimethylbenzene	ND	1.0	µg/L								
Vinyl Chloride	ND	2.0	µg/L								
m+p Xylene	ND	2.0	µg/L								
o-Xylene	ND	1.0	µg/L								
Surrogate: 1,2-Dichloroethane-d4	*22.2*		µg/L	25.0		88.8	70-130				
Surrogate: Toluene-d8	*24.7*		µg/L	25.0		98.9	70-130				
Surrogate: 4-Bromofluorobenzene	*24.9*		µg/L	25.0		99.5	70-130				
LCS (B263756-BS1)				Prepared & Analyzed: 08/07/20							
Acetone	61.2	10	µg/L	100		61.2	40-160			L-14, V-05	†
tert-Amyl Methyl Ether (TAME)	8.79	0.50	µg/L	10.0		87.9	70-130				
Benzene	9.36	1.0	µg/L	10.0		93.6	70-130				
Bromobenzene	9.68	1.0	µg/L	10.0		96.8	70-130				
Bromochloromethane	8.91	1.0	µg/L	10.0		89.1	70-130				
Bromodichloromethane	9.54	1.0	µg/L	10.0		95.4	70-130				
Bromoform	10.4	1.0	µg/L	10.0		104	70-130				
Bromomethane	8.65	2.0	µg/L	10.0		86.5	40-160				†
2-Butanone (MEK)	80.1	10	µg/L	100		80.1	40-160				†
n-Butylbenzene	9.61	1.0	µg/L	10.0		96.1	70-130				
sec-Butylbenzene	9.97	1.0	µg/L	10.0		99.7	70-130				
tert-Butylbenzene	10.0	1.0	µg/L	10.0		100	70-130				
tert-Butyl Ethyl Ether (TBEE)	8.52	0.50	µg/L	10.0		85.2	70-130				
Carbon Disulfide	79.9	5.0	µg/L	100		79.9	70-130				
Carbon Tetrachloride	8.98	1.0	µg/L	10.0		89.8	70-130				
Chlorobenzene	11.0	1.0	µg/L	10.0		110	70-130				
Chlorodibromomethane	9.91	0.50	µg/L	10.0		99.1	70-130				
Chloroethane	7.18	2.0	µg/L	10.0		71.8	70-130				
Chloroform	9.18	2.0	µg/L	10.0		91.8	70-130				
Chloromethane	9.56	2.0	µg/L	10.0		95.6	40-160				†
2-Chlorotoluene	10.2	1.0	µg/L	10.0		102	70-130				
4-Chlorotoluene	10.2	1.0	µg/L	10.0		102	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	8.76	2.0	µg/L	10.0		87.6	70-130			V-05	
1,2-Dibromoethane (EDB)	9.73	0.50	µg/L	10.0		97.3	70-130				
Dibromomethane	9.71	1.0	µg/L	10.0		97.1	70-130				
1,2-Dichlorobenzene	10.4	1.0	µg/L	10.0		104	70-130				
1,3-Dichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130				
1,4-Dichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B263756 - SW-846 5030B												
LCS (B263756-BS1)				Prepared & Analyzed: 08/07/20								
Dichlorodifluoromethane (Freon 12)	7.99	2.0	µg/L	10.0		79.9		40-160				†
1,1-Dichloroethane	8.83	1.0	µg/L	10.0		88.3		70-130				
1,2-Dichloroethane	9.19	1.0	µg/L	10.0		91.9		70-130				
1,1-Dichloroethylene	6.44	1.0	µg/L	10.0		**64.4**	*	70-130			L-04, V-05	
cis-1,2-Dichloroethylene	8.88	1.0	µg/L	10.0		88.8		70-130				
trans-1,2-Dichloroethylene	7.36	1.0	µg/L	10.0		73.6		70-130				
1,2-Dichloropropane	9.32	1.0	µg/L	10.0		93.2		70-130				
1,3-Dichloropropane	9.64	0.50	µg/L	10.0		96.4		70-130				
2,2-Dichloropropane	7.84	1.0	µg/L	10.0		78.4		70-130				
1,1-Dichloropropene	9.19	0.50	µg/L	10.0		91.9		70-130				
cis-1,3-Dichloropropene	9.55	0.40	µg/L	10.0		95.5		70-130				
trans-1,3-Dichloropropene	8.75	0.40	µg/L	10.0		87.5		70-130				
Diethyl Ether	7.14	2.0	µg/L	10.0		71.4		70-130			V-05	
Diisopropyl Ether (DIPE)	8.25	0.50	µg/L	10.0		82.5		70-130				
1,4-Dioxane	82.6	50	µg/L	100		82.6		40-160			V-16	†
Ethylbenzene	10.6	1.0	µg/L	10.0		106		70-130				
Hexachlorobutadiene	11.4	0.60	µg/L	10.0		114		70-130				
2-Hexanone (MBK)	82.3	10	µg/L	100		82.3		40-160				†
Isopropylbenzene (Cumene)	10.8	1.0	µg/L	10.0		108		70-130				
p-Isopropyltoluene (p-Cymene)	10.1	1.0	µg/L	10.0		101		70-130				
Methyl tert-Butyl Ether (MTBE)	7.57	1.0	µg/L	10.0		75.7		70-130				
Methylene Chloride	7.00	5.0	µg/L	10.0		70.0		70-130			V-05	
4-Methyl-2-pentanone (MIBK)	83.4	10	µg/L	100		83.4		40-160				†
Naphthalene	8.89	2.0	µg/L	10.0		88.9		70-130				
n-Propylbenzene	10.4	1.0	µg/L	10.0		104		70-130				
Styrene	10.7	1.0	µg/L	10.0		107		70-130				
1,1,1,2-Tetrachloroethane	10.7	1.0	µg/L	10.0		107		70-130				
1,1,2,2-Tetrachloroethane	10.4	0.50	µg/L	10.0		104		70-130				
Tetrachloroethylene	10.8	1.0	µg/L	10.0		108		70-130				
Tetrahydrofuran	7.89	2.0	µg/L	10.0		78.9		70-130				
Toluene	10.2	1.0	µg/L	10.0		102		70-130				
1,2,3-Trichlorobenzene	9.72	2.0	µg/L	10.0		97.2		70-130				
1,2,4-Trichlorobenzene	10.2	1.0	µg/L	10.0		102		70-130				
1,1,1-Trichloroethane	9.14	1.0	µg/L	10.0		91.4		70-130				
1,1,2-Trichloroethane	10.1	1.0	µg/L	10.0		101		70-130				
Trichloroethylene	10.1	1.0	µg/L	10.0		101		70-130				
Trichlorofluoromethane (Freon 11)	7.10	2.0	µg/L	10.0		71.0		70-130			V-05	
1,2,3-Trichloropropane	9.40	2.0	µg/L	10.0		94.0		70-130				
1,2,4-Trimethylbenzene	9.93	1.0	µg/L	10.0		99.3		70-130				
1,3,5-Trimethylbenzene	10.3	1.0	µg/L	10.0		103		70-130				
Vinyl Chloride	8.83	2.0	µg/L	10.0		88.3		70-130				
m+p Xylene	21.6	2.0	µg/L	20.0		108		70-130				
o-Xylene	10.9	1.0	µg/L	10.0		109		70-130				
Surrogate: 1,2-Dichloroethane-d4	*22.2*		µg/L	25.0		88.6		70-130				
Surrogate: Toluene-d8	*24.9*		µg/L	25.0		99.7		70-130				
Surrogate: 4-Bromofluorobenzene	*25.7*		µg/L	25.0		103		70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B263756 - SW-846 5030B												
LCS Dup (B263756-BSD1)				Prepared & Analyzed: 08/07/20								
Acetone	56.2	10	µg/L	100		56.2		40-160	8.47	20	L-14, V-05	†
tert-Amyl Methyl Ether (TAME)	8.77	0.50	µg/L	10.0		87.7		70-130	0.228	20		
Benzene	9.43	1.0	µg/L	10.0		94.3		70-130	0.745	20		
Bromobenzene	9.83	1.0	µg/L	10.0		98.3		70-130	1.54	20		
Bromochloromethane	8.95	1.0	µg/L	10.0		89.5		70-130	0.448	20		
Bromodichloromethane	9.88	1.0	µg/L	10.0		98.8		70-130	3.50	20		
Bromoform	10.2	1.0	µg/L	10.0		102		70-130	1.26	20		
Bromomethane	8.48	2.0	µg/L	10.0		84.8		40-160	1.98	20		†
2-Butanone (MEK)	80.7	10	µg/L	100		80.7		40-160	0.747	20		†
n-Butylbenzene	9.40	1.0	µg/L	10.0		94.0		70-130	2.21	20		
sec-Butylbenzene	9.88	1.0	µg/L	10.0		98.8		70-130	0.907	20		
tert-Butylbenzene	9.94	1.0	µg/L	10.0		99.4		70-130	1.00	20		
tert-Butyl Ethyl Ether (TBEE)	8.63	0.50	µg/L	10.0		86.3		70-130	1.28	20		
Carbon Disulfide	78.6	5.0	µg/L	100		78.6		70-130	1.64	20		
Carbon Tetrachloride	9.53	1.0	µg/L	10.0		95.3		70-130	5.94	20		
Chlorobenzene	11.1	1.0	µg/L	10.0		111		70-130	0.543	20		
Chlorodibromomethane	10.2	0.50	µg/L	10.0		102		70-130	2.88	20		
Chloroethane	7.43	2.0	µg/L	10.0		74.3		70-130	3.42	20		
Chloroform	9.19	2.0	µg/L	10.0		91.9		70-130	0.109	20		
Chloromethane	9.82	2.0	µg/L	10.0		98.2		40-160	2.68	20		†
2-Chlorotoluene	10.1	1.0	µg/L	10.0		101		70-130	1.08	20		
4-Chlorotoluene	10.5	1.0	µg/L	10.0		105		70-130	2.32	20		
1,2-Dibromo-3-chloropropane (DBCP)	8.40	2.0	µg/L	10.0		84.0		70-130	4.20	20	V-05	
1,2-Dibromoethane (EDB)	9.96	0.50	µg/L	10.0		99.6		70-130	2.34	20		
Dibromomethane	9.82	1.0	µg/L	10.0		98.2		70-130	1.13	20		
1,2-Dichlorobenzene	10.4	1.0	µg/L	10.0		104		70-130	0.768	20		
1,3-Dichlorobenzene	10.4	1.0	µg/L	10.0		104		70-130	1.06	20		
1,4-Dichlorobenzene	10.1	1.0	µg/L	10.0		101		70-130	1.66	20		
Dichlorodifluoromethane (Freon 12)	8.13	2.0	µg/L	10.0		81.3		40-160	1.74	20		†
1,1-Dichloroethane	8.93	1.0	µg/L	10.0		89.3		70-130	1.13	20		
1,2-Dichloroethane	9.20	1.0	µg/L	10.0		92.0		70-130	0.109	20		
1,1-Dichloroethylene	6.86	1.0	µg/L	10.0		**68.6**	*	70-130	6.32	20	L-04, V-05	
cis-1,2-Dichloroethylene	8.87	1.0	µg/L	10.0		88.7		70-130	0.113	20		
trans-1,2-Dichloroethylene	7.28	1.0	µg/L	10.0		72.8		70-130	1.09	20		
1,2-Dichloropropane	9.54	1.0	µg/L	10.0		95.4		70-130	2.33	20		
1,3-Dichloropropane	9.72	0.50	µg/L	10.0		97.2		70-130	0.826	20		
2,2-Dichloropropane	8.07	1.0	µg/L	10.0		80.7		70-130	2.89	20		
1,1-Dichloropropene	9.28	0.50	µg/L	10.0		92.8		70-130	0.975	20		
cis-1,3-Dichloropropene	9.67	0.40	µg/L	10.0		96.7		70-130	1.25	20		
trans-1,3-Dichloropropene	8.77	0.40	µg/L	10.0		87.7		70-130	0.228	20		
Diethyl Ether	7.02	2.0	µg/L	10.0		70.2		70-130	1.69	20	V-05	
Diisopropyl Ether (DIPE)	8.42	0.50	µg/L	10.0		84.2		70-130	2.04	20		
1,4-Dioxane	89.2	50	µg/L	100		89.2		40-160	7.69	20	V-16	†
Ethylbenzene	10.5	1.0	µg/L	10.0		105		70-130	0.759	20		
Hexachlorobutadiene	10.8	0.60	µg/L	10.0		108		70-130	5.05	20		
2-Hexanone (MBK)	83.3	10	µg/L	100		83.3		40-160	1.16	20		†
Isopropylbenzene (Cumene)	10.8	1.0	µg/L	10.0		108		70-130	0.278	20		
p-Isopropyltoluene (p-Cymene)	10.2	1.0	µg/L	10.0		102		70-130	0.889	20		
Methyl tert-Butyl Ether (MTBE)	7.35	1.0	µg/L	10.0		73.5		70-130	2.95	20		
Methylene Chloride	6.30	5.0	µg/L	10.0		**63.0**	*	70-130	10.5	20	L-07, V-05	
4-Methyl-2-pentanone (MIBK)	84.5	10	µg/L	100		84.5		40-160	1.31	20		†
Naphthalene	8.93	2.0	µg/L	10.0		89.3		70-130	0.449	20		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B263756 - SW-846 5030B										
LCS Dup (B263756-BSD1)				Prepared & Analyzed: 08/07/20						
n-Propylbenzene	10.6	1.0	µg/L	10.0		106	70-130	2.28	20	
Styrene	10.8	1.0	µg/L	10.0		108	70-130	0.650	20	
1,1,1,2-Tetrachloroethane	10.6	1.0	µg/L	10.0		106	70-130	0.935	20	
1,1,2,2-Tetrachloroethane	10.5	0.50	µg/L	10.0		105	70-130	0.863	20	
Tetrachloroethylene	11.1	1.0	µg/L	10.0		111	70-130	2.10	20	
Tetrahydrofuran	8.34	2.0	µg/L	10.0		83.4	70-130	5.55	20	
Toluene	10.2	1.0	µg/L	10.0		102	70-130	0.393	20	
1,2,3-Trichlorobenzene	9.70	2.0	µg/L	10.0		97.0	70-130	0.206	20	
1,2,4-Trichlorobenzene	10.0	1.0	µg/L	10.0		100	70-130	1.68	20	
1,1,1-Trichloroethane	9.30	1.0	µg/L	10.0		93.0	70-130	1.74	20	
1,1,2-Trichloroethane	10.2	1.0	µg/L	10.0		102	70-130	1.09	20	
Trichloroethylene	10.4	1.0	µg/L	10.0		104	70-130	2.92	20	
Trichlorofluoromethane (Freon 11)	7.08	2.0	µg/L	10.0		70.8	70-130	0.282	20	V-05
1,2,3-Trichloropropane	9.28	2.0	µg/L	10.0		92.8	70-130	1.28	20	
1,2,4-Trimethylbenzene	9.60	1.0	µg/L	10.0		96.0	70-130	3.38	20	
1,3,5-Trimethylbenzene	10.4	1.0	µg/L	10.0		104	70-130	1.16	20	
Vinyl Chloride	9.12	2.0	µg/L	10.0		91.2	70-130	3.23	20	
m+p Xylene	21.1	2.0	µg/L	20.0		106	70-130	2.25	20	
o-Xylene	10.9	1.0	µg/L	10.0		109	70-130	0.183	20	
Surrogate: 1,2-Dichloroethane-d4	*22.2*		µg/L	25.0		88.8	70-130			
Surrogate: Toluene-d8	*24.9*		µg/L	25.0		99.4	70-130			
Surrogate: 4-Bromofluorobenzene	*25.5*		µg/L	25.0		102	70-130			
Batch B263978 - SW-846 5030B										
Blank (B263978-BLK1)				Prepared & Analyzed: 08/10/20						
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	*27.6*		µg/L	25.0		110	70-130			
Surrogate: Toluene-d8	*22.2*		µg/L	25.0		88.9	70-130			
Surrogate: 4-Bromofluorobenzene	*22.3*		µg/L	25.0		89.1	70-130			
LCS (B263978-BS1)				Prepared & Analyzed: 08/10/20						
1,2,4-Trimethylbenzene	9.68	1.0	µg/L	10.0		96.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	*24.6*		µg/L	25.0		98.6	70-130			
Surrogate: Toluene-d8	*24.0*		µg/L	25.0		95.9	70-130			
Surrogate: 4-Bromofluorobenzene	*25.6*		µg/L	25.0		103	70-130			
LCS Dup (B263978-BSD1)				Prepared & Analyzed: 08/10/20						
1,2,4-Trimethylbenzene	9.43	1.0	µg/L	10.0		94.3	70-130	2.62	20	
Surrogate: 1,2-Dichloroethane-d4	*24.9*		µg/L	25.0		99.7	70-130			
Surrogate: Toluene-d8	*24.6*		µg/L	25.0		98.4	70-130			
Surrogate: 4-Bromofluorobenzene	*25.9*		µg/L	25.0		103	70-130			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B263767 - MA VPH										
Blank (B263767-BLK1)				Prepared & Analyzed: 08/07/20						
Unadjusted C5-C8 Aliphatics	ND	100	µg/L							
C5-C8 Aliphatics	ND	100	µg/L							
Unadjusted C9-C12 Aliphatics	ND	100	µg/L							
C9-C12 Aliphatics	ND	100	µg/L							
C9-C10 Aromatics	ND	100	µg/L							
Benzene	ND	1.0	µg/L							
Butylcyclohexane	ND	1.0	µg/L							
Decane	ND	1.0	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
2-Methylpentane	ND	1.0	µg/L							
Naphthalene	ND	5.0	µg/L							
Nonane	ND	1.0	µg/L							
Pentane	ND	1.0	µg/L							
Toluene	ND	1.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
2,2,4-Trimethylpentane	ND	1.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 2,5-Dibromotoluene (FID)	*36.2*		µg/L	40.0		90.6	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*37.2*		µg/L	40.0		93.1	70-130			
LCS (B263767-BS1)				Prepared & Analyzed: 08/07/20						
Benzene	47.4	1.0	µg/L	50.0		94.8	70-130			
Butylcyclohexane	64.0	1.0	µg/L	50.0		128	70-130			
Decane	53.1	1.0	µg/L	50.0		106	70-130			
Ethylbenzene	48.2	1.0	µg/L	50.0		96.5	70-130			
Methyl tert-Butyl Ether (MTBE)	44.0	1.0	µg/L	50.0		88.1	70-130			
2-Methylpentane	59.5	1.0	µg/L	50.0		119	70-130			
Naphthalene	41.2	5.0	µg/L	50.0		82.4	70-130			
Nonane	62.4	1.0	µg/L	50.0		125	30-130			
Pentane	58.7	1.0	µg/L	50.0		117	70-130			
Toluene	47.4	1.0	µg/L	50.0		94.8	70-130			
1,2,4-Trimethylbenzene	47.6	1.0	µg/L	50.0		95.1	70-130			
2,2,4-Trimethylpentane	57.3	1.0	µg/L	50.0		115	70-130			
m+p Xylene	98.1	2.0	µg/L	100		98.1	70-130			
o-Xylene	48.3	1.0	µg/L	50.0		96.6	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*50.1*		µg/L	40.0		125	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*45.6*		µg/L	40.0		114	70-130			
LCS Dup (B263767-BSD1)				Prepared & Analyzed: 08/07/20						
Benzene	44.7	1.0	µg/L	50.0		89.4	70-130	5.90	25	
Butylcyclohexane	58.6	1.0	µg/L	50.0		117	70-130	8.89	25	
Decane	47.5	1.0	µg/L	50.0		95.0	70-130	11.2	25	
Ethylbenzene	44.6	1.0	µg/L	50.0		89.2	70-130	7.82	25	
Methyl tert-Butyl Ether (MTBE)	43.2	1.0	µg/L	50.0		86.5	70-130	1.85	25	
2-Methylpentane	50.6	1.0	µg/L	50.0		101	70-130	16.3	25	
Naphthalene	40.6	5.0	µg/L	50.0		81.3	70-130	1.44	25	
Nonane	56.6	1.0	µg/L	50.0		113	30-130	9.70	25	
Pentane	51.9	1.0	µg/L	50.0		104	70-130	12.4	25	
Toluene	44.4	1.0	µg/L	50.0		88.8	70-130	6.53	25	
1,2,4-Trimethylbenzene	43.7	1.0	µg/L	50.0		87.4	70-130	8.48	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B263767 - MA VPH										
LCS Dup (B263767-BSD1)				Prepared & Analyzed: 08/07/20						
2,2,4-Trimethylpentane	47.8	1.0	µg/L	50.0		95.5	70-130	18.2	25	
m+p Xylene	90.5	2.0	µg/L	100		90.5	70-130	8.05	25	
o-Xylene	45.3	1.0	µg/L	50.0		90.6	70-130	6.50	25	
Surrogate: 2,5-Dibromotoluene (FID)	*39.8*		µg/L	40.0		99.5	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*42.5*		µg/L	40.0		106	70-130			
Batch B263845 - MA VPH										
Blank (B263845-BLK1)				Prepared & Analyzed: 08/08/20						
Unadjusted C5-C8 Aliphatics	ND	100	µg/L							
C5-C8 Aliphatics	ND	100	µg/L							
Unadjusted C9-C12 Aliphatics	ND	100	µg/L							
C9-C12 Aliphatics	ND	100	µg/L							
C9-C10 Aromatics	ND	100	µg/L							
Benzene	ND	1.0	µg/L							
Butylcyclohexane	ND	1.0	µg/L							
Decane	ND	1.0	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
2-Methylpentane	ND	1.0	µg/L							
Naphthalene	ND	5.0	µg/L							
Nonane	ND	1.0	µg/L							
Pentane	ND	1.0	µg/L							
Toluene	ND	1.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
2,2,4-Trimethylpentane	ND	1.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 2,5-Dibromotoluene (FID)	*37.1*		µg/L	40.0		92.8	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*39.7*		µg/L	40.0		99.2	70-130			
LCS (B263845-BS1)				Prepared & Analyzed: 08/08/20						
Benzene	49.0	1.0	µg/L	50.0		98.0	70-130			
Butylcyclohexane	58.7	1.0	µg/L	50.0		117	70-130			
Decane	46.3	1.0	µg/L	50.0		92.5	70-130			
Ethylbenzene	48.7	1.0	µg/L	50.0		97.4	70-130			
Methyl tert-Butyl Ether (MTBE)	47.2	1.0	µg/L	50.0		94.4	70-130			
2-Methylpentane	53.9	1.0	µg/L	50.0		108	70-130			
Naphthalene	43.8	5.0	µg/L	50.0		87.7	70-130			
Nonane	57.0	1.0	µg/L	50.0		114	30-130			
Pentane	51.5	1.0	µg/L	50.0		103	70-130			
Toluene	48.9	1.0	µg/L	50.0		97.7	70-130			
1,2,4-Trimethylbenzene	48.0	1.0	µg/L	50.0		95.9	70-130			
2,2,4-Trimethylpentane	50.5	1.0	µg/L	50.0		101	70-130			
m+p Xylene	99.0	2.0	µg/L	100		99.0	70-130			
o-Xylene	49.6	1.0	µg/L	50.0		99.3	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*48.1*		µg/L	40.0		120	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*47.3*		µg/L	40.0		118	70-130			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B263845 - MA VPH										
LCS Dup (B263845-BSD1)				Prepared & Analyzed: 08/08/20						
Benzene	51.4	1.0	µg/L	50.0		103	70-130	4.74	25	
Butylcyclohexane	61.0	1.0	µg/L	50.0		122	70-130	3.87	25	
Decane	48.5	1.0	µg/L	50.0		97.0	70-130	4.72	25	
Ethylbenzene	51.3	1.0	µg/L	50.0		103	70-130	5.16	25	
Methyl tert-Butyl Ether (MTBE)	48.7	1.0	µg/L	50.0		97.4	70-130	3.06	25	
2-Methylpentane	57.5	1.0	µg/L	50.0		115	70-130	6.43	25	
Naphthalene	45.3	5.0	µg/L	50.0		90.6	70-130	3.31	25	
Nonane	59.0	1.0	µg/L	50.0		118	30-130	3.39	25	
Pentane	57.5	1.0	µg/L	50.0		115	70-130	11.1	25	
Toluene	51.1	1.0	µg/L	50.0		102	70-130	4.39	25	
1,2,4-Trimethylbenzene	50.4	1.0	µg/L	50.0		101	70-130	5.08	25	
2,2,4-Trimethylpentane	53.7	1.0	µg/L	50.0		107	70-130	6.32	25	
m+p Xylene	104	2.0	µg/L	100		104	70-130	5.07	25	
o-Xylene	51.9	1.0	µg/L	50.0		104	70-130	4.49	25	
Surrogate: 2,5-Dibromotoluene (FID)	*49.0*		µg/L	40.0		123	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*46.3*		µg/L	40.0		116	70-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-VPH-Feb 2018 Rev 2.1 in Water	
Unadjusted C5-C8 Aliphatics	CT,NC,ME,NH-P
C5-C8 Aliphatics	CT,NC,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C10 Aromatics	CT,NC,ME,NH-P
Benzene	CT,NC,ME,NH-P
Ethylbenzene	CT,NC,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,ME,NH-P
Naphthalene	CT,NC,ME,NH-P
Toluene	CT,NC,ME,NH-P
m+p Xylene	CT,NC,ME,NH-P
o-Xylene	CT,NC,ME,NH-P
SW-846 8260C-D in Water	
Acetone	CT,NH,NY,ME
tert-Amyl Methyl Ether (TAME)	NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	NY,ME
sec-Butylbenzene	NY,ME
tert-Butylbenzene	NY,ME
tert-Butyl Ethyl Ether (TBEE)	NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	NY,ME
4-Chlorotoluene	NY,ME
1,2-Dibromo-3-chloropropane (DBCP)	NY
1,2-Dibromoethane (EDB)	NY
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	NY,ME

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Water	
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Diisopropyl Ether (DIPE)	NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	CT,NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	NY,ME
p-Isopropyltoluene (p-Cymene)	CT,NH,NY,ME
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,ME
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,ME
Naphthalene	NH,NY,ME
n-Propylbenzene	CT,NH,NY,ME
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NH,NY,ME
1,2,4-Trichlorobenzene	CT,NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	NY,ME
1,3,5-Trimethylbenzene	NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2021
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021

APPENDIX E:

SURFACE WATER LABORATORY ANALYTICAL DATA

ANALYTICAL REPORT

Lab Number:	L2102191
Client:	McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140
ATTN:	Ambrose Donovan
Phone:	(617) 868-1420
Project Name:	DRISCOLL SCHOOL
Project Number:	6693
Report Date:	01/20/21

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

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

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2102191
Report Date: 01/20/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2102191-01	MUDDY RIVER OUTFLOW	WATER	BROOKLINE	01/14/21 12:30	01/14/21

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2102191
Project Number:	6693	**Report Date:**	01/20/21

Case Narrative

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

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

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

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

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

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

Project Name: DRISCOLL SCHOOL
Project Number: 6693
Lab Number: L2102191
Report Date: 01/20/21

Case Narrative (continued)

Sample Receipt

L2102191-01: The sample was received above the appropriate pH for the Ammonia Nitrogen - SM 4500 analysis. The laboratory added additional H2SO4 to a pH <2.

L2102191-01: The sample was received above the appropriate pH for the Total Metals analysis. The laboratory added additional HNO3 to a pH <2.

Total Metals

L2102191-01: The sample has an elevated detection limit for all elements due to the prep dilution required by the limited sample volume available for analysis.

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

Authorized Signature: Caitlin Walukevich

Title: Technical Director/Representative Date: 01/20/21

METALS

Project Name: DRISCOLL SCHOOL
Lab Number: L2102191
Project Number: 6693
Report Date: 01/20/21

SAMPLE RESULTS

Lab ID: L2102191-01
Client ID: MUDDY RIVER OUTFLOW
Sample Location: BROOKLINE
Date Collected: 01/14/21 12:30
Date Received: 01/14/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.02000	--	1	01/16/21 05:44	01/18/21 08:10	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00500	--	1	01/16/21 05:44	01/18/21 08:10	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00100	--	1	01/16/21 05:44	01/18/21 08:10	EPA 3005A	3,200.8	AM
Chromium, Total	ND		mg/l	0.00500	--	1	01/16/21 05:44	01/18/21 08:10	EPA 3005A	3,200.8	AM
Copper, Total	ND		mg/l	0.01000	--	1	01/16/21 05:44	01/18/21 08:10	EPA 3005A	3,200.8	AM
Iron, Total	0.408		mg/l	0.250	--	1	01/16/21 05:44	01/19/21 14:46	EPA 3005A	19,200.7	EW
Lead, Total	ND		mg/l	0.00500	--	1	01/16/21 05:44	01/18/21 08:10	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	01/16/21 07:44	01/19/21 18:41	EPA 245.1	3,245.1	VW
Nickel, Total	ND		mg/l	0.01000	--	1	01/16/21 05:44	01/18/21 08:10	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.02500	--	1	01/16/21 05:44	01/18/21 08:10	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00200	--	1	01/16/21 05:44	01/18/21 08:10	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.05000	--	1	01/16/21 05:44	01/18/21 08:10	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	222		mg/l	3.30	NA	1	01/16/21 05:44	01/19/21 14:46	EPA 3005A	19,200.7	EW

Project Name: DRISCOLL SCHOOL **Lab Number:** L2102191

Project Number: 6693 **Report Date:** 01/20/21

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: WG1455450-1										
Iron, Total	ND		mg/l	0.050	--	1	01/16/21 05:44	01/19/21 14:37	19,200.7	EW

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1455450-1										
Hardness	ND		mg/l	0.660	NA	1	01/16/21 05:44	01/19/21 14:37	19,200.7	EW

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: WG1455454-1										
Antimony, Total	ND		mg/l	0.00400	--	1	01/16/21 05:44	01/18/21 07:45	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	01/16/21 05:44	01/18/21 07:45	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	01/16/21 05:44	01/18/21 07:45	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	01/16/21 05:44	01/18/21 07:45	3,200.8	AM
Copper, Total	ND		mg/l	0.00200	--	1	01/16/21 05:44	01/18/21 07:45	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	01/16/21 05:44	01/18/21 07:45	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	01/16/21 05:44	01/18/21 07:45	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	01/16/21 05:44	01/18/21 07:45	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	01/16/21 05:44	01/18/21 07:45	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	01/16/21 05:44	01/18/21 07:45	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Project Name: DRISCOLL SCHOOL
Project Number: 6693
Lab Number: L2102191
Report Date: 01/20/21

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: WG1455455-1										
Mercury, Total	ND		mg/l	0.0002	--	1	01/16/21 07:44	01/19/21 18:08	3,245.1	VW

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2102191
Report Date: 01/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1455450-2								
Iron, Total	109		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1455450-2								
Hardness	109		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1455454-2								
Antimony, Total	95		-		85-115	-		
Arsenic, Total	102		-		85-115	-		
Cadmium, Total	109		-		85-115	-		
Chromium, Total	104		-		85-115	-		
Copper, Total	104		-		85-115	-		
Lead, Total	101		-		85-115	-		
Nickel, Total	98		-		85-115	-		
Selenium, Total	104		-		85-115	-		
Silver, Total	99		-		85-115	-		
Zinc, Total	110		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1455455-2								
Mercury, Total	101		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693
Lab Number: L2102191
Report Date: 01/20/21

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: WG1455450-3 QC Sample: L2102191-01 Client ID: MUDDY RIVER OUTFLOW												
Iron, Total	0.408	5	5.81	108		-	-		75-125	-		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1455450-3 QC Sample: L2102191-01 Client ID: MUDDY RIVER OUTFLOW												
Hardness	222	331	578	108		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1455454-3 QC Sample: L2102191-01 Client ID: MUDDY RIVER OUTFLOW												
Antimony, Total	ND	2.5	2.424	97		-	-		70-130	-		20
Arsenic, Total	ND	0.6	0.6245	104		-	-		70-130	-		20
Cadmium, Total	ND	0.255	0.2831	111		-	-		70-130	-		20
Chromium, Total	ND	1	1.048	105		-	-		70-130	-		20
Copper, Total	ND	1.25	1.304	104		-	-		70-130	-		20
Lead, Total	ND	2.55	2.606	102		-	-		70-130	-		20
Nickel, Total	ND	2.5	2.450	98		-	-		70-130	-		20
Selenium, Total	ND	0.6	0.6351	106		-	-		70-130	-		20
Silver, Total	ND	0.25	0.2464	98		-	-		70-130	-		20
Zinc, Total	ND	2.5	2.846	114		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1455455-3 QC Sample: L2102114-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.0047	95		-	-		70-130	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2102191
Report Date: 01/20/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1455450-4 QC Sample: L2102191-01 Client ID: MUDDY RIVER OUTFLOW						
Iron, Total	0.408	0.380	mg/l	7		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1455450-4 QC Sample: L2102191-01 Client ID: MUDDY RIVER OUTFLOW						
Hardness	222	223	mg/l	0		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1455454-4 QC Sample: L2102191-01 Client ID: MUDDY RIVER OUTFLOW						
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	ND	ND	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	ND	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1455455-4 QC Sample: L2102114-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2102191
Report Date: 01/20/21

SAMPLE RESULTS

Lab ID: L2102191-01
Client ID: MUDDY RIVER OUTFLOW
Sample Location: BROOKLINE

Date Collected: 01/14/21 12:30
Date Received: 01/14/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.8		SU	-	NA	1	-	01/15/21 05:23	121,4500H+-B	JA
Nitrogen, Ammonia	0.251		mg/l	0.075	--	1	01/15/21 17:40	01/15/21 21:41	121,4500NH3-BH	AT

Project Name: DRISCOLL SCHOOL
Project Number: 6693
Lab Number: L2102191
Report Date: 01/20/21

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: WG1455533-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	01/15/21 17:40	01/15/21 21:22	121,4500NH3-BH	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2102191
Report Date: 01/20/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1455268-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1455533-2								
Nitrogen, Ammonia	92		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2102191
Report Date: 01/20/21

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: WG1455533-4 QC Sample: L2101596-01 Client ID: MS Sample												
Nitrogen, Ammonia	9.52	4	13.2	92		-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2102191
Report Date: 01/20/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1455268-2 QC Sample: L2102105-01 Client ID: DUP Sample						
pH	7.2	7.1	SU	1		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1455533-3 QC Sample: L2101596-01 Client ID: DUP Sample						
Nitrogen, Ammonia	9.52	9.54	mg/l	0		20

Project Name: DRISCOLL SCHOOL
Project Number: 6693

Lab Number: L2102191
Report Date: 01/20/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2102191-01A	Plastic 120ml HNO3 preserved split	A	7	<2	4.2	N	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),HARDU(180),FE-UI(180),SE-2008T(180),AS-2008T(180),AG-2008T(180),HG-U(28),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L2102191-01B	Plastic 500ml H2SO4 preserved	A	7	<2	4.2	N	Absent		NH3-4500(28)
L2102191-01C	Plastic 500ml unpreserved	A	7	7	4.2	Y	Absent		PH-4500(.01)

*Values in parentheses indicate holding time in days

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2102191
Project Number:	6693	**Report Date:**	01/20/21

GLOSSARY

Acronyms

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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

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

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

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

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

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

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

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Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2102191
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Footnotes

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

Terms

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

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

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

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

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

Data Qualifiers

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

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

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

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

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

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

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

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

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

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

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

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

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2102191
Project Number:	6693	**Report Date:**	01/20/21

Data Qualifiers

the identification is based on a mass spectral library search.

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	DRISCOLL SCHOOL	**Lab Number:**	L2102191
Project Number:	6693	**Report Date:**	01/20/21

REFERENCES

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

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

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

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

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

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

Westborough Facility:

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

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

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL — World Class Chemistry

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

Date Rec'd in Lab: 1/14/21

ALPHA Job #: L2102181

Client Information

Client: McPhail Associates, LLC

Address: 2269 Massachusetts Avenue

Cambridge, MA 02140

Phone: (617) 868-1420

Email: NHodge @McPhailgeo.com

Additional Project Information:

☐ Run TCLP (if triggered)

Project Information

Project Name: Driscoll School

Project Location: Brookline, MA

Project #: 6693

Project Manager: Nick Hodge

ALPHA Quote #:

Turn-Around Time

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

Date Due:

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☒ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods

☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)

☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)

☒ Yes ☐ No NPDES RGP

☐ Other State /Fed Program ____________ Criteria ____________

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Sample Depth	Sample Material	Collection Date	Collection Time	Sampler Initials	Soil Assessment Package IV (less VOC)	VOC: ☐ 8260	Total Solids	SVOC: ☐ PAH	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	TOTAL METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	DISSOLVED METALS: ☐ RCRA8 ☐ PP13 ☐ MCP 14	METALS: Total Sb,Be,Ni,Tl,V,Zn	☐ PCBs ☐ Pesticides	RGP Section A Inorganics	RGP Metals (200.8)(A)	pH and Hardness	Ammonia (4500)(A)	SAMPLE INFO / Sample Comments	TOTAL # BOTTLES
02191-01	Muddy River OutFlow		GW	1/14/20	12:30	GRA												X	X	X		2
Container Type																		P	P	P		
Preservative																		A	A	A		

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

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

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

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
Jarrett Anderson	1/14/20 2:30	McPhail Associates secure sample storage for laboratory pick-up	1/14/21 1610
McPhail Associates secure sample storage for laboratory pick-up	1/14/21 1610	Mike Dick	1/14/21 1610
Mike Dick	1/14/21 1700	Kevin Law	1/14/21 1700

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

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

APPENDIX F:

BEST MANAGEMENT PRACTICE PLAN

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

Water Treatment and Management

During construction of the proposed building foundation, dewatering effluent is anticipated to be pumped from well points or from localized sumps and trenches within the excavation directly into a settling tank. A review of available subgrade sanitary and storm sewer system plans accessed by the Town of Brookline's Engineering Department indicated discharge from the subject site outfalls at C400-034 near Brookline Avenue along the Muddy River as seen in (Figures 3A and 3B). Dewatering effluent treatment will consist of a settling tank and bag filters to remove suspended soil particulates, and an prior to off-site discharge. pH adjustment will be conducted, if necessary, through the addition of hydrochloric acid, caustic soda and carbon dioxide. Additionally, granular activated carbon (GAC) and/or ion resin media filters will be added to the system, if deemed necessary based on the results of influent and effluent sample analysis.

Discharge Monitoring and Compliance

Regular sampling and testing will be conducted at the influent to the system and the treated effluent as required by the RGP. During the first week of discharge, the operator must sample the untreated influent and treated effluent two times: one (1) sample of untreated influent and one (1) sample of treated effluent be collected on the first day of discharge, and one (1) sample of untreated influent and one (1) sample of treated effluent must be collected on one additional non-consecutive day within the first week of discharge. Samples must be analyzed in accordance with 40 CFR §136 unless otherwise specified by the RGP,

with a maximum 5-day turnaround time and results must be reviewed no more than 48 hours from receipt of the results of each sampling event. After the first week, samples may be analyzed with up to a ten (10)-day turnaround time and results must be reviewed no more than 72 hours from receipt of the results. If the treatment system is operating as designed and achieving the effluent limitations outlined in the RGP, on-going sampling shall be conducted weekly for three (3) additional weeks beginning no earlier than 24 hours following initial sampling, and monthly thereafter as described below. Any adjustments/reductions in monitoring frequency must be approved by EPA in writing.

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

Dewatering activity for the Site is classified as Category III-G: Sites with Known Contamination. Monitoring shall include analysis of influent and effluent samples dictated by the EPA.

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

The total monthly flow will be monitored by checking and documenting the flow through the flow meter to be installed on the system. Flow will be maintained below the "system design flow" by regularly monitoring flow and adjusting the amount of construction dewatering as needed. Monthly monitoring reports will be compiled and maintained at the site.

System Maintenance

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

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

Miscellaneous Items

It is anticipated that the erosion control measures and the nature of the site will minimize potential runoff to or from the site. The project specifications also include requirements for erosion control. Site security for the treatment system will be addressed within the overall site security plan.

No adverse effects on designated uses of surrounding surface water bodies is anticipated. The nearest surface water body is the Muddy River, classified by the DEP as a Class B Surface Water Body, that is located approximately 1 mile to the east of the subject site. Dewatering effluent will be pumped into a settling tank. Water within the settling tank will pumped through bag filters and, if deemed necessary GAC filters and/or ion exchange chambers prior to discharge into the storm drains.

Management of Treatment System Materials

Dewatering effluent will be pumped directly into the treatment system from the excavation with use of hoses and localized sumps to minimize handling. The Contractor will establish staging areas for equipment or materials storage that may be possible sources of pollution away from any dewatering activities, to the extent practicable.

Sediment from the tank used in the treatment system will be characterized and removed from the site to an appropriate receiving facility, in accordance with applicable laws and regulations. Filter media will be replaced/disposed of as necessary.