John Moriarty & Associates, Inc.
Three Church Street
Winchester, MA 01890
Phone : 781-729-3900
FAX : 781-729-8456

MORIARTY

U.S. Environmental Protection Agency
Office of Ecosystem Protection
EPA/OEP RGP Applications Coordinator
5 Post Office Square, Suite 100 (OEP06-01)
Boston, MA 02109-3912

January 18th 2019

Re: Notice of Intent for the Remediation General Permit
Temporary Construction Dewatering for Site Redevelopment
Boston Landing Block B – Sports Complex
77 Guest Street, Boston, Massachusetts

Dear Sir/Madam:

On behalf of NB Development Group, LLC, John Moriarty & Associates (JMA) has submitted this Notice of Intent (NOI) to the U.S. Environmental Protection Agency (U.S. EPA) for coverage under the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) MAG910000 for the 77 Guest Street (the Site) property. This letter and supporting documentation were prepared in accordance with the U.S. EPA guidance for construction dewatering under the RGP program. JMA is the earthwork contractor for the project and will have direct responsibility of the subcontractors performing the dewatering activities at the Site. Subcontractors working for JMA on the project will be required to meet the requirements of this NOI and the RGP. The location of the Site and the discharge location via a storm drain outfall are shown on Figure 1 and the extent of the Site area is shown on Figure 2.

The Site is located at 77 Guest Street in the Brighton neighborhood of Boston, Massachusetts, south of the Charles River as shown on Figure 1. Redevelopment activities at the Site include excavation of urban fill and natural soils to support the construction of a multi-story mixed-use building, and the installation of new utility systems. The Site is associated with Massachusetts Contingency Plan (MCP) disposal sites identified by Release Tracking Numbers (RTNs) 3-12896, 3-13320, 3-13319, 3-31357, 3-32003, 3-32004, 3-33597. The temporary construction dewatering will discharge via an existing storm drain outfall. The storm drain outfall discharges to the Charles River, the location of which is shown in Figure 1.

The earthwork to prepare the Site for redevelopment will require excavation of soil to approximately 4 to 7 feet below ground surface (bgs) depending on the location. Groundwater is anticipated to be encountered between approximately 4 and 16 feet bgs. Excavations will be sloped to achieve the proposed depths and groundwater that flows into the excavations during construction activities will be treated prior to discharge to an existing storm drain such that the discharged effluent meets the effluent limitations established by

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NPDES Part 2.1 and Appendix V of the RGP Application. Figure 3 includes a schematic of the proposed dewatering treatment system. The completed NOI for the Remediation General Permit form is included as Appendix A.

The receiving waterbody for the treatment system will be the Charles River. Information regarding the receiving water was collected from the Massachusetts Year 2014 Integrated List of Waters which is included in Appendix B. Dilution calculation information including correspondence with DEP is included in Appendix C. Analytical laboratory data for on-Site and surface water sampling is summarized in Tables 1 and 2, respectively, and analytical data reports are included in Appendix D. Municipal correspondence in the form of a Dewatering Discharge Permit application is provided in Appendix E, which will be submitted to the Boston Water and Sewer Commission concurrently with the submittal of this NOI. The Dewatering Discharge Permit indicates a notification of discharge into the Charles River, via a municipal storm sewer system has been provided to the Owner of the discharge system.

According to the Information for Planning and Conservation (IPaC), the excavation activities will not impact Areas of Critical Environmental Concern (ACEC) or Habitats of Rare Wetland Wildlife. A review of the information on the U.S. Fish and Wildlife Service website led to the conclusion that the discharge will not impact federally-listed threatened or endangered species. A letter from that agency is included in Appendix F. An email requesting information regarding Oceanic Fisheries was sent to the National Oceanic and Atmospheric Administration (NOAA), and their response, included in Appendix F, states that no listed species are known to occur in the Charles River in the area of discharge. Additional supplemental information required by the RGP is included in Appendix G and are referenced within the completed NOI (Appendix A).

Thank you for your consideration of this NOI/Permit. Please feel free to contact us if you wish to discuss the information contained in this application, or if any additional information is needed.

Very truly yours,
John Moriarty & Associates

Jamie Noon
Project Manager

Encl. Table 1 – Summary of Groundwater Quality Data
Table 2 – Summary of Surface Water Quality Data
Figure 1 – Locus Plan
Figure 2 – Location of Proposed Excavation and Dewatering

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Figure 3 – Proposed Groundwater Treatment Schematic
Appendix A – Notice of Intent Form
Appendix B – Massachusetts Category 5 Waters "Waters requiring a TDML"
Appendix C – Charles River Dilution Calculations
Appendix D – Analytical Data Reports
Appendix E – Municipal Correspondence
Appendix F – Federal Correspondence
Appendix G – National Register of Historic Places - Brighton, MA

cc: City of Boston Board of Health
DEP Bureau of Water Resources
Mr. Keith Craig, Mr. Robert Graham, and Mr. Dan McGillicuddy ~ NB Development Group LLC
Mr. Stan Sadkowski, P.E. ~ Sanborn, Head & Associates, Inc.
Mr. Tom Mullen AIA, LEEP AP ~ Elkus Manfredi Architects

TABLES

Table 1
Summary of Groundwater Quality Data
Boston Landing Block B - Sports Complex
77 Guest Street, Boston, MA

LOCATION	NPDES TBEL	Units	SH-415(W)	SH-414(W)	SH-412(W)	Maximum Detection	Average Detection
SAMPLE ID			NPDES-1	NPDES-2	NPDES-3		
SAMPLING DATE			11/14/2018	11/14/2018	11/14/2018		
Anions by Ion Chromatography							
Chloride	Monitor Only	ug/L	**1,560,000**	**2,570,000**	**545,000**	2,570,000	1,558,333
General Chemistry							
Chromium, Trivalent	323	ug/L	<10	**22**	<10	22	11
Solids, Total Suspended	30	mg/L	**110**	**2,300**	**530**	2,300	980
Cyanide, Total	178,000	ug/L	<5	<5	**21**	21	9
Chlorine, Total Residual	200	ug/L	<20	<20	<20	BDL	BDL
pH (H)	NS	SU	**5.9**	**6.2**	**6.3**	6.3	6.1
Nitrogen, Ammonia	Monitor Only	ug/L	**104**	**8,370**	**1,450**	8,370	3,308
TPH, SGT-HEM	5,000	ug/L	<4000	<4000	<4000	BDL	BDL
Phenolics, Total	1,080	ug/L	<30	<30	<30	BDL	BDL
Chromium, Hexavalent	323	ug/L	<10	<10	<10	BDL	BDL
Microextractables by GC							
1,2-Dibromoethane	0.05	ug/L	<0.01	<0.01	<0.01	BDL	BDL
Polychlorinated Biphenyls by GC							
Aroclor 1016	NS	ug/L	<0.25	<0.25	<0.25	BDL	BDL
Aroclor 1221	NS	ug/L	<0.25	<0.25	<0.25	BDL	BDL
Aroclor 1232	NS	ug/L	<0.25	<0.25	<0.25	BDL	BDL
Aroclor 1242	NS	ug/L	<0.25	<0.25	<0.25	BDL	BDL
Aroclor 1248	NS	ug/L	<0.25	<0.25	<0.25	BDL	BDL
Aroclor 1254	NS	ug/L	<0.25	<0.25	<0.25	BDL	BDL
Aroclor 1260	NS	ug/L	<0.20	<0.20	<0.20	BDL	BDL
Total PCBs	0.000064	ug/L	BDL(0.25)	BDL(0.25)	BDL(0.25)	BDL	BDL
Semivolatile Organics by GC/MS							
Bis(2-ethylhexyl)phthalate	101	ug/L	**2.2**	<2.2	<2.2	2.2	1.5
Butyl benzyl phthalate	NS	ug/L	<5.0	<5.0	<5.0	BDL	BDL
Di-n-butylphthalate	NS	ug/L	<5.0	<5.0	<5.0	BDL	BDL
Di-n-octylphthalate	NS	ug/L	<5.0	<5.0	<5.0	BDL	BDL
Diethyl phthalate	NS	ug/L	<5.0	<5.0	<5.0	BDL	BDL
Dimethyl phthalate	NS	ug/L	<5.0	<5.0	<5.0	BDL	BDL
Total Phthalates	190	ug/L	**2.2**	BDL(5.0)	BDL(5.0)	2.2	1.5
Semivolatile Organics by GC/MS-SIM							
Acenaphthene	See "Total Group 2 PAHs"	ug/L	<0.10	<0.10	<0.10	BDL	BDL
Fluoranthene	See "Total Group 2 PAHs"	ug/L	**0.54**	<0.10	**0.35**	0.54	0.31
Naphthalene	20	ug/L	**0.13**	**0.13**	**0.11**	0.13	0.12
Benzo(a)anthracene	See "Total Group 1 PAHs"	ug/L	**0.17**	<0.10	**0.20**	0.20	0.14
Benzo(a)pyrene	See "Total Group 1 PAHs"	ug/L	**0.19**	<0.10	**0.40**	0.40	0.21
Benzo(b)fluoranthene	See "Total Group 1 PAHs"	ug/L	**0.3**	<0.10	**0.67**	0.67	0.34
Benzo(k)fluoranthene	See "Total Group 1 PAHs"	ug/L	**0.12**	<0.10	**0.28**	0.28	0.15
Chrysene	See "Total Group 1 PAHs"	ug/L	**0.26**	<0.10	**0.32**	0.32	0.21
Acenaphthylene	See "Total Group 2 PAHs"	ug/L	<0.10	<0.10	<0.10	BDL	BDL
Anthracene	See "Total Group 2 PAHs"	ug/L	<0.10	<0.10	<0.10	BDL	BDL
Benzo(ghi)perylene	See "Total Group 2 PAHs"	ug/L	**0.19**	<0.10	**0.50**	0.5	0.25
Fluorene	See "Total Group 2 PAHs"	ug/L	<0.1	<0.10	<0.10	BDL	BDL
Phenanthrene	See "Total Group 2 PAHs"	ug/L	**0.32**	<0.10	<0.10	0.32	0.14
Dibenzo(a,h)anthracene	See "Total Group 1 PAHs"	ug/L	<0.10	<0.10	**0.11**	0.11	0.07
Indeno(1,2,3-cd)pyrene	See "Total Group 1 PAHs"	ug/L	**0.14**	<0.10	**0.38**	0.38	0.19
Pyrene	See "Total Group 2 PAHs"	ug/L	**0.46**	<0.10	**0.37**	0.46	0.29
Pentachlorophenol	1.0	ug/L	<1.0	<1.0	<1.0	BDL	BDL
Total Group 1 PAHs	1.0	ug/L	**1.18**	BDL(1.0)	**2.36**	**2.36**	**1.31**
Total Group 2 PAHs	100	ug/L	**1.1**	**0.13**	**0.98**	**1.1**	**1.00**
Total SVOCs	NS	ug/L	**2.82**	**0.13**	**3.69**	**4.31**	**2.43**
Total Hardness by SM 2340B							
Hardness	NS	ug/L	**1,010,000**	**680,000**	**183,000**	1,010,000	624,333
Total Metals							
Antimony, Total	206	ug/L	<4.0	<4.0	<4.0	BDL	BDL
Arsenic, Total	104	ug/L	**1.08**	**4.28**	**5.95**	5.95	3.77
Cadmium, Total	10.2	ug/L	**1.15**	**0.31**	**0.29**	1.15	0.58
Chromium, Total	323	ug/L	**6.91**	**22.19**	**8.08**	22.19	12.39
Copper, Total	242	ug/L	**4.62**	**39.67**	**27.2**	39.67	23.83
Iron, Total	5,000	ug/L	**3,150**	**94,300**	**9,140**	94,300	35,530
Lead, Total	160	ug/L	**4.75**	**44.88**	**51.96**	51.96	33.86
Mercury, Total	0.739	ug/L	<0.20	<0.20	<0.20	BDL	BDL
Nickel, Total	1450	ug/L	**16.95**	**8.24**	**4.64**	16.95	9.94
Selenium, Total	235.8	ug/L	<5.0	<5.0	<5.0	BDL	BDL
Silver, Total	35.1	ug/L	<0.40	<0.40	<0.40	BDL	BDL
Zinc, Total	420	ug/L	**26.27**	**55.92**	**120.7**	120.7	67.63
Dissolved Metals							
Antimony, Dissolved	206	ug/L	<4	<4	<4	BDL	BDL
Arsenic, Dissolved	104	ug/L	<1	**1.5**	**2.3**	2.3	1.43
Cadmium, Dissolved	10.2	ug/L	**1**	<0.2	**0.3**	1	0.47
Chromium, Dissolved	323	ug/L	<1	**1.2**	<1	1.2	0.73
Copper, Dissolved	242	ug/L	**2**	<1	**3.2**	3.2	1.9
Iron, Dissolved	5,000	ug/L	**338**	**74,400**	**2,420**	74,400	25,719
Lead, Dissolved	160	ug/L	<1	<1	<1	BDL	BDL
Mercury, Dissolved	0.739	ug/L	<0.2	<0.2	<0.2	BDL	BDL
Nickel, Dissolved	1,450	ug/L	**16**	**3.1**	**3**	16	7.4
Selenium, Dissolved	235.8	ug/L	<5	<5	<5	BDL	BDL
Silver, Dissolved	35.1	ug/L	<0.4	<0.4	<0.4	BDL	BDL
Zinc, Dissolved	420	ug/L	**10.1**	<10	**57.5**	57.5	24.2
Volatile Organics by GC/MS							
Methylene chloride	4.6	ug/L	<1.0	<1.0	<1.0	BDL	BDL
1,1-Dichloroethane	70	ug/L	<1.5	<1.5	**380**	380	127
Carbon tetrachloride	4.4	ug/L	<1.0	<1.0	<1.0	BDL	BDL
1,1,2-Trichloroethane	5.0	ug/L	<1.5	<1.5	<1.5	BDL	BDL
Tetrachloroethene	5.0	ug/L	<1.0	<1.0	**1.0**	1.0	0.7
1,2-Dichloroethane	5.0	ug/L	<1.5	<1.5	<1.5	BDL	BDL
1,1,1-Trichloroethane	200	ug/L	<2.0	<2.0	**2,600**	2,600	867
Benzene	5.0	ug/L	<1.0	<1.0	<1.0	BDL	BDL
Toluene	See "Total BTEX"	ug/L	<1.0	<1.0	<1.0	BDL	BDL
Ethylbenzene	See "Total BTEX"	ug/L	<1.0	<1.0	<1.0	BDL	BDL
Vinyl chloride	2.0	ug/L	<1.0	<1.0	**7.4**	7.4	2.8
1,1-Dichloroethene	3.2	ug/L	<1.0	<1.0	**72**	72	24
cis-1,2-Dichloroethene	70	ug/L	<1.0	<1.0	**14**	14	5
Trichloroethene	5.0	ug/L	<1.0	**1.00**	**5.2**	5.2	2.2
1,2-Dichlorobenzene	600	ug/L	<5.0	<5.0	<5.0	BDL	BDL
1,3-Dichlorobenzene	320	ug/L	<5.0	<5.0	<5.0	BDL	BDL
1,4-Dichlorobenzene	5.0	ug/L	<5.0	<5.0	<5.0	BDL	BDL
p/m-Xylene	NS	ug/L	<2.0	<2.0	<2.0	BDL	BDL
o-xylene	NS	ug/L	<1.0	<1.0	<1.0	BDL	BDL
Xylenes, Total	See "Total BTEX"	ug/L	<1.0	<1.0	<1.0	BDL	BDL
Acetone	7970	ug/L	<10	<10	<10	BDL	BDL
Methyl tert butyl ether	70	ug/L	<10	<10	<10	BDL	BDL
Tert-Butyl Alcohol	120	ug/L	<100	<100	<100	BDL	BDL
Tertiary-Amyl Methyl Ether	90	ug/L	<20	<20	<20	BDL	BDL
Total BTEX	100	ug/L	BDL (1.0)	BDL (1.0)	BDL (1.0)	BDL	BDL
Volatile Organics by GC/MS-SIM							
1,4-Dioxane	200	ug/L	<50	<50	<50	BDL	BDL

Notes:
1. Samples were collected by Sanborn, Head & Associates, Inc. (Sanborn Head) on the indicated dates and were analyzed by Alpha Analytical Laboratories, Inc. of Westborough, MA.
2. Average concentrations for each analyte were calculated as an arithmetic average of detected concentrations and half of the detection limits where analytes were not detected.
3. Bolded values indicate detections above the laboratory reporting limits.
4. Abbreviations:
NPDES = National Pollutant Discharge Elimination System
TBEL = Technology based effluent limitation
WQBEL = Water quality based effluent limitation
MCP = Massachusetts Continentcy Plan
RCGW-2 = MCP Reportable Concentration for groundwater category GW-2.
ug/L = micrograms per liter
mg/L = milligrams per liter
"<" indicates the analyte was not detected above the laboratory reporting limit shown
BDL = below detection limit
NS = No Standard
BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes

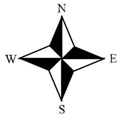
Table 2
Summary of Surface Water Quality Data
Boston Landing Block B - Sports Complex
77 Guest Street, Boston, MA

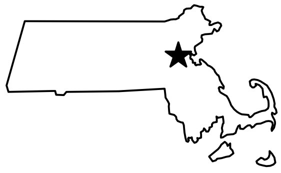
LOCATION	Units	CHARLES RIVER, BRIGHTON, MA
SAMPLING DATE		**11/14/2018**
SAMPLE TYPE		**Surface Water**
WATER BODY		**Charles River**
SAMPLE LOCATION (LAT, LONG)		**42.365633, -71.137331**
General Chemistry		
Chromium, Trivalent	ug/L	<10
pH (H)	SU	**7.0**
Nitrogen, Ammonia	ug/L	**271**
Chromium, Hexavalent	ug/L	<10
Total Hardness by SM 2340B		
Hardness	ug/L	**73,600**
Total Metals		
Antimony, Total	ug/L	<4
Arsenic, Total	ug/L	<1
Cadmium, Total	ug/L	<0.2
Chromium, Total	ug/L	**1.0**
Copper, Total	ug/L	**2.96**
Iron, Total	ug/L	**1,180**
Lead, Total	ug/L	**2.19**
Mercury, Total	ug/L	<0.2
Nickel, Total	ug/L	<2.0
Selenium, Total	ug/L	<5.0
Silver, Total	ug/L	<0.4
Zinc, Total	ug/L	<10

Notes:
1. The sample was collected by Sanborn, Head & Associates, Inc. (Sanborn Head) on the indicated dates and were analyzed by Alpha Analytical Laboratories, Inc. of Westborough, MA.
2. Bolded values indicate detections above the laboratory reporting limits.
3. Abbreviations:
ug/L = micrograms per liter
"<" indicates the analyte was not detected above the laboratory reporting limit shown
SU = standard units

FIGURES

File:P:\3400s\3410.15\Graphics Files\CAD\NPDES-DEC18\LOCUS.dwg Plot Date: 12-14-18





NOTES:
Base map was taken from the "Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Information Technology Division"
7.5 minute USGS Quadrangle Maps: Newton, Massachusetts REV: 1987

Drawn By: C.Dias
Designed By: S.Knowles
Reviewed By: S.Sadkowski
Project No: 3410.15
Date: December 2018

SCALE: 1:25,000

SANBORN HEAD

Figure 1

Locus Plan

NPDES Remediation General Permit

Boston Landing - Sports Complex
Boston, Massachusetts

NOTES:

1. THE BASE MAP WAS DRAWN FROM A PLAN ENTITLED, "20-609 EC", RECEIVED ELECTRONICALLY FROM BEALS ASSOCIATES OF BOSTON, MA DATED SEPTEMBER 14, 2018.
2. THE PROPOSED SPORTS COMPLEX BOUNDARY WAS RECEIVED ELECTRONICALLY FROM ELKUS-MANFREDI ARCHITECTS OF BOSTON, MA ON AUGUST 7, 2018.
3. SANBORN HEAD SOIL BORING LOCATIONS WERE MARKED IN THE FIELD USING A TOPCON GRS-1 GLOBAL POSITIONING SYSTEM (GPS) AND SHOULD BE CONSIDERED APPROXIMATE. BORINGS UNDER THE OBSERVATION OF SANBORN HEAD.

LEGEND:

Y-7A/SH-415W ●	APPROXIMATE LOCATION AND DESIGNATION OF SOIL PRE-CHARACTERIZATION BORING OBSERVED BY SANBORN HEAD (SEPTEMBER 2012 AND MARCH 2015)
SH-412W ●	APPROXIMATE LOCATION AND DESIGNATION OF SOIL BORING OBSERVED BY SANBORN HEAD (MARCH 2015)
━━	APPROXIMATE LIMITS OF SPORTS COMPLEX BUILDING, LIMITS OF EXCAVATION AND DEWATERING AREA
━ ‒ ━	77 GUEST STREET PROPERTY BOUNDARY
━ ‒ ━	125 GUEST STREET PROPERTY BOUNDARY

NO.	DATE	DESCRIPTION	BY

SANBORN HEAD

GRAPHICAL SCALE
30' 15' 0' 30' 60'

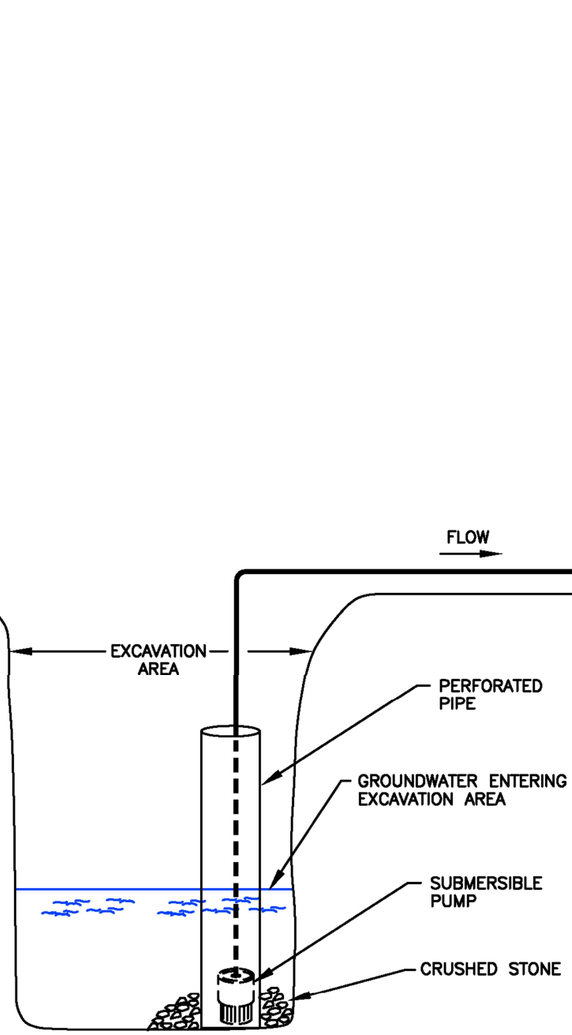
DRAWN BY: C.DIAS
DESIGNED BY: S.KNOWLES
REVIEWED BY: S.SADKOWSKI
PROJECT MGR: A.BLOMEKE
PIC: S.SADKOWSKI
DATE: DECEMBER 2018

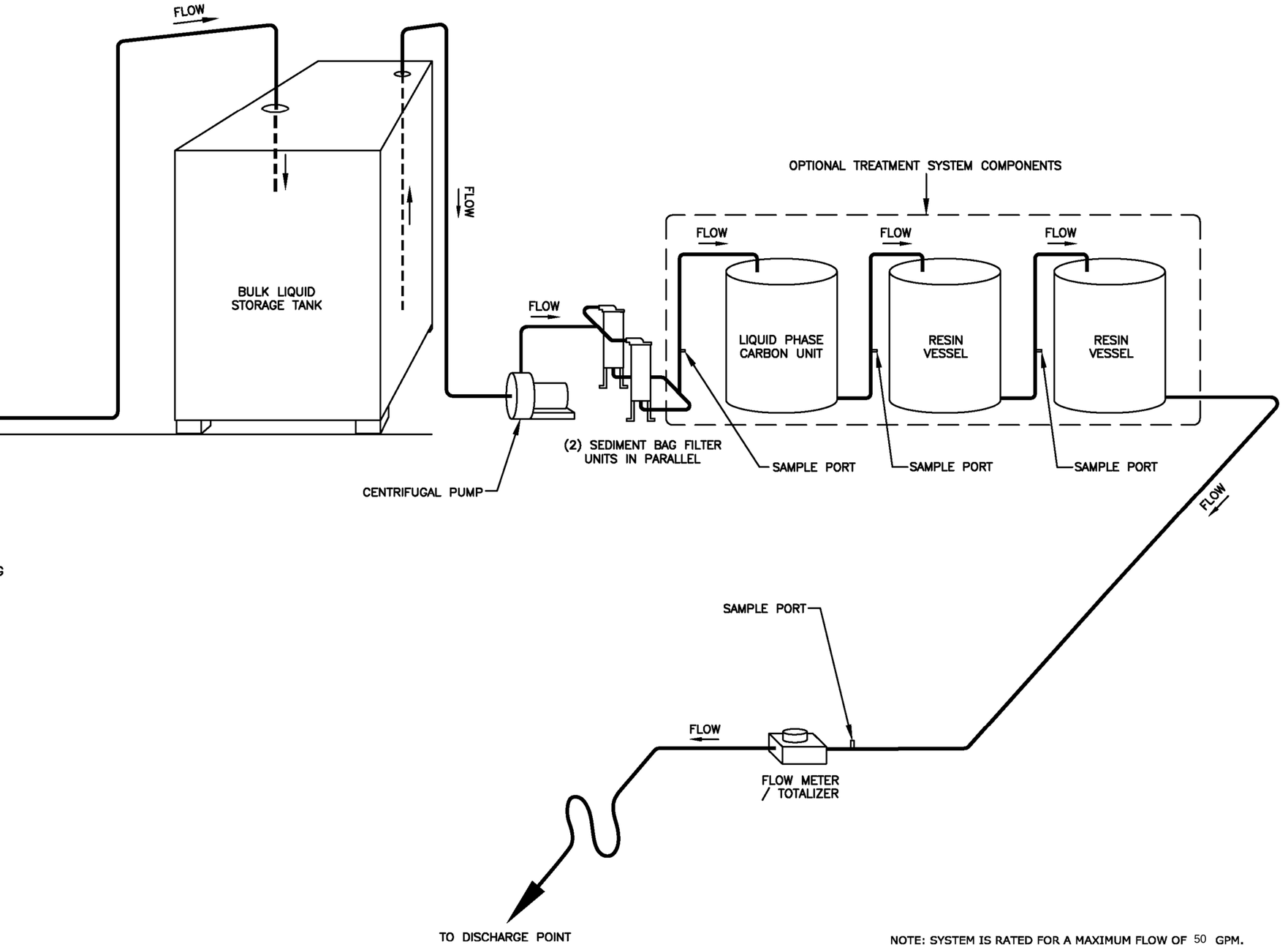
NPDES REMEDIATION GENERAL PERMIT
BOSTON LANDING - SPORTS COMPLEX
BOSTON, MASSACHUSETTS

LOCATION OF PROPOSED EXCAVATION AND DEWATERING

PROJECT NUMBER: 3410.15

SHEET NUMBER: 2





NOTE: SYSTEM IS RATED FOR A MAXIMUM FLOW OF 50 GPM.

SANBORN HEAD

GRAPHICAL SCALE
20' 10' 0' 20' 40'

NO.	DATE	DESCRIPTION	BY

DRAWN BY: C.DIAS
DESIGNED BY: S.KNOWLES
REVIEWED BY: S.SADKOWSKI
PROJECT MGR: A.BLOMEKE
PIC: S.SADKOWSKI
DATE: DECEMBER 2018

NPDES REMEDIATION GENERAL PERMIT
BOSTON LANDING - SPORTS COMPLEX
BRIGHTON, MASSACHUSETTS

PROJECT NUMBER: 3410.15

PROPOSED GROUNDWATER TREATMENT SCHEMATIC

SHEET NUMBER: 3

APPENDIX A

NOTICE OF INTENT FORM

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

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:
Boston Landing Block B - Sports Complex</td><td colspan="3">Site address: 77 Guest Street
Street:</td></tr>
<tr><td>City: Brighton</td><td>State: MA</td><td>Zip: 02135</td></tr>
<tr><td rowspan="4">2. Site owner
NB Development Group LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Kieth Craig</td></tr>
<tr><td colspan="2">Telephone: 617-987-2500</td><td>Email: kcraig@nbdevelopmentgroup.com</td></tr>
<tr><td colspan="3">Mailing address: 221 North Beacon Street
Street:</td></tr>
<tr><td>City: Brighton</td><td>State: MA</td><td>Zip: 02135</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
John Moriarty & Associates</td><td colspan="3">Contact Person: Jamie Noon</td></tr>
<tr><td colspan="2">Telephone: 781-729-3900</td><td>Email: jnoon@jm-a.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 3 Church Street #2</td></tr>
<tr><td>City: Winchester</td><td>State: MA</td><td>Zip: 01890</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:
NA

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): 3-33597, 3-32004, 3-32003, 3-31357, 3-13320, 3-13320, 3-13319, 3-12896
☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:
☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Charles River	MA72-36	Class B (CSO)

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 See Figure 1

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

If yes, specify: Freshwater wetlands are located approximately 0.5 miles north of the Site. Protected Open Spaces are located within 0.5 miles to the north and west.

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. See Appendix B

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.	15.7 MGD See Appendix C
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.	219.2 See Appendix C

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: 11/30/2018

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

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): See Table 1 and Appendix D ■ Yes ☐ No	☐ Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☐ Yes ☐ No	☐ The receiving water ☐ A surface water other than the receiving water; if so, indicate waterbody:	☐ Potable water; if so, indicate municipality or origin: ☐ Other; if so, specify:

2. Source water contaminants: Chloride, Trivalent Chromium, TSS, Cyanide, Nitrogen (Ammonia), Bis(2-ethylhexyl)phthalate, Fluoranthene, Naphthalene, Benzo(a)anthracene, Benzo(a)Pyrene, Benzo(B)fluoranthene, Benzo(k)fluoranthene, Chrysene, Benzo(g,h,i)perylene, Phenanthrene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Pyrene, Arsenic, Cadmium, Chromium (total), Copper, Iron, Lead, Nickel, Zinc, 1,1-Dichloroethane, Tetrachloroethene, 1,1,1-Trichloroethane, Vinyl Chloride, 1,1-Dichloroethene, cis-1,2-Dichloroethene, Trichloroethene,	
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): BWSC Stormwater Outfall #25E037	Outfall location(s): (Latitude, Longitude) 42.364764, -71.138187

Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify:

Effluent will enter an existing storm water drainage system that discharges into the Charles River at the BWSC Storm Drain Outfall # 25E037

☐ A private storm sewer system ■ A municipal storm sewer system

If the discharge enters the receiving water via a private or municipal storm sewer system:

Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No See Appendix E

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: A Dewatering Discharge Permit is being submitted to the Boston Water and Sewer Commission (BWSC) concurrently with the submittal of this NOI, as the NOI is a required attachment to the BWSC Discharge Permit application. The draft application is included in Appendix E.

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): March 2019 - March 2020

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		✔	3	4500NH3	150	8370	3308	Report mg/L	---
Chloride		✔	3	300.0	25000	2570000	1558333	Report µg/l	---
Total Residual Chlorine	✔		3	4500CL	20	ND	ND	0.2 mg/L	2411 µg/L
Total Suspended Solids		✔	3	2540D	50000	2300000	980000	30 mg/L	---
Antimony	✔		3	200.8	4.0	ND	ND	206 µg/L	140284 µg/L
Arsenic		✔	3	200.8	1.0	5.95	3.77	104 µg/L	2192 µg/L
Cadmium		✔	3	200.8	2.0	1.15	0.58	10.2 µg/L	49.28 µg/L
Chromium III		✔	3	200.8	1.0	22.19	12.39	323 µg/L	15173.1 µg/L
Chromium VI	✔		3	7196A	10	ND	ND	323 µg/L	2506.4 µg/L
Copper		✔	3	200.8	1.0	39.67	23.83	242 µg/L	1005.5 µg/L
Iron		✔	3	200.7	50	94300	35530	5,000 µg/L	1000 µg/L
Lead		✔	3	200.8	1.0	51.96	33.86	160 µg/L	29.38 µg/L
Mercury	✔		3	245.1	0.2	ND	ND	0.739 µg/L	198.56 µg/L
Nickel		✔	3	200.8	2.0	16.95	9.94	1,450 µg/L	9253.4 µg/L
Selenium	✔		3	200.8	5.0	ND	ND	235.8 µg/L	1096 µg/L
Silver	✔		3	200.8	0.4	ND	ND	35.1 µg/L	539.5 µg/L
Zinc		✔	3	200.8	10	120.7	67.63	420 µg/L	21247.8 µg/L
Cyanide		✔	3	4500CN	5	21	9	178 mg/L	1139.8 µg/L
B. Non-Halogenated VOCs									
Total BTEX	✔		3	624.1	1.0	ND	ND	100 µg/L	---
Benzene	✔		3	624.1	1.0	ND	ND	5.0 µg/L	---
1,4 Dioxane	✔		3	624.1	50	ND	ND	200 µg/L	---
Acetone	✔		3	624.1	10	ND	ND	7.97 mg/L	---
Phenol	✔		3	420.1	30	ND	ND	1,080 µg/L	65758 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	✔		3	624.1	1.0	ND	ND	4.4 µg/L	350.7 µg/L
1,2 Dichlorobenzene	✔		3	624.1	5.0	ND	ND	600 µg/L	---
1,3 Dichlorobenzene	✔		3	624.1	5.0	ND	ND	320 µg/L	---
1,4 Dichlorobenzene	✔		3	624.1	5.0	ND	ND	5.0 µg/L	---
Total dichlorobenzene	✔		3	624.1	5.0	ND	ND	763 µg/L in NH	---
1,1 Dichloroethane		✔	3	624.1	1.0	380	127	70 µg/L	---
1,2 Dichloroethane	✔		3	624.1	1.5	ND	ND	5.0 µg/L	---
1,1 Dichloroethylene		✔	3	624.1	1.0	72	24	3.2 µg/L	---
Ethylene Dibromide	✔		3	504.1	0.01	ND	ND	0.05 µg/L	---
Methylene Chloride	✔		3	624.1	1.0	ND	ND	4.6 µg/L	---
1,1,1 Trichloroethane		✔	3	624.1	2.0	2600	867	200 µg/L	---
1,1,2 Trichloroethane	✔		3	624.1	1.5	ND	ND	5.0 µg/L	---
Trichloroethylene		✔	3	624.1	1.0	5.2	2.2	5.0 µg/L	---
Tetrachloroethylene		✔	3	624.1	1.0	1.0	0.7	5.0 µg/L	723.3 µg/L
cis-1,2 Dichloroethylene		✔	3	624.1	1.0	14	5	70 µg/L	---
Vinyl Chloride		✔	3	624.1	1.0	7.4	2.8	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates		✔	3	624.1	5.0	2.2	1.5	190 µg/L	---
Diethylhexyl phthalate		✔	3	624.1	2.2	2.2	1.5	101 µg/L	482.2 µg/L
Total Group I PAHs		✔	3	624.1	0.10	2.36	1.31	1.0 µg/L	---
Benzo(a)anthracene		✔	3	625.1	0.10	0.20	0.14	As Total PAHs	0.8329 µg/L
Benzo(a)pyrene		✔	3	625.1	0.10	0.40	0.21		0.8329 µg/L
Benzo(b)fluoranthene		✔	3	625.1	0.10	0.67	0.34		0.8329 µg/L
Benzo(k)fluoranthene		✔	3	625.1	0.10	0.28	0.15		0.8329 µg/L
Chrysene		✔	3	625.1	0.10	0.32	0.21		0.8329 µg/L
Dibenzo(a,h)anthracene		✔	3	625.1	0.10	0.11	0.07		0.8329 µg/L
Indeno(1,2,3-cd)pyrene		✔	3	625.1	0.10	0.38	0.19		0.8329 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
Total Group II PAHs		✔	3	624.1	0.10	1.1	1.0	100 µg/L	---
Naphthalene		✔	3	624.1	0.10	0.13	0.12	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		3	608.3	0.25	ND	ND	0.000064 µg/L	---
Pentachlorophenol	✔		3	635.1	1.0	ND	ND	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		3	1664A	4000	ND	ND	5.0 mg/L	---
Ethanol								Report mg/L	---
Methyl-tert-Butyl Ether	✔		3	624.1	10	ND	ND	70 µg/L	4384 µg/L
tert-Butyl Alcohol	✔		3	624.1	100	ND	ND	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		3	624.1	20	ND	ND	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			3	4500H+-B		6.3 SU	6.1 SU		
Temperature			3	field		15.7oC	14.7oC		

E. Treatment system information

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

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

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

Groundwater encountered during construction activities will be pumped into a treatment system prior to discharge into an existing stormwater catch basin. The first element of the treatment system will be a fractionalization tank where solids will settle out. The effluent will then pass through the following as necessary: a bag filter, a granular activated carbon vessel, and two cation resin vessels plumbed in series. The effluent will be discharged to the existing storm drain system.

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: Cation resin vessel if needed

Indicate if either of the following will occur (check any that apply):

☐ Chlorination ☐ De-chlorination

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Frac Tank Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	50
Provide the proposed maximum effluent flow in gpm.	50
Provide the average effluent flow in gpm.	30
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

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

F. Chemical and additive information

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

☐ Algaecides/biocides ☐ Antifoams ☐ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ☐ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ☐ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ☐ Other; if so, specify:
None anticipated

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: See Appendix F

■ **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. See Appendix F

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

See Appendix G

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.

Appendix B includes the Massachusetts Category 5 Waters "Waters requiring a TMDL" and lists pollutants for the Charles River
Appendix C includes calculations for the dilution factor
Appendix D includes the analytical data collected by Sanborn, Head & Associates, Inc.
Appendix E includes municipal correspondence
Appendix F includes correspondence from the National Oceanic and Atmospheric Administration and the US Fish and Wildlife Service
Appendix G includes a list of Historic Places in Brighton, Massachusetts.

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

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

J. Certification requirement

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

BMPP certification statement:	A BMPP meeting the requirements of this general permit will be developed and implemented upon initiation of discharge.
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ☐
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ■ No ☐ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☐ No ☐ NA ■
Signature:	Date: 1/19/19
Print Name and Title:	CHRIS BIGELOW PROJECT SUPERINTENDANT

APPENDIX B

MASSACHUSETTS CATEGORY 5 WATERS
"WATERS REQUIRING A TDML"

Appendix B

Massachusetts Category 5 Waters
"Waters requiring a TMDL"

NAME	SEGMENT ID	DESCRIPTION	SIZE	UNITS	IMPAIRMENT CAUSE	EPA TMDL NO.
Charles River	MA72-07	Chestnut Street, Needham to Watertown Dam, Watertown.	24.774	MILES	(Eurasian Water Milfoil, Myriophyllum spicatum*)	
					(Fish-Passage Barrier*)	
					(Non-Native Aquatic Plants*)	
					(Other flow regime alterations*)	
					DDT	
					Escherichia coli	32370
					Fishes Bioassessments	
					Nutrient/Eutrophication Biological Indicators	40317
					PCB in Fish Tissue	
					Phosphorus (Total)	40317
Charles River	MA72-36	Watertown Dam, Watertown to the Boston University Bridge, Boston/Cambridge (formerly part of segment MA72-08).	6.052	MILES	(Fish-Passage Barrier*)	
					(Non-Native Aquatic Plants*)	
					(Other flow regime alterations*)	
					Chlorophyll-a	33826
					DDT	
					Escherichia coli	32371
					Fishes Bioassessments	
					Nutrient/Eutrophication Biological Indicators	33826
					Oil and Grease	
					Other	
					Oxygen, Dissolved	
					PCB in Fish Tissue	
					pH, High	
					Phosphorus (Total)	33826
					Secchi disk transparency	33826
					Sediment Bioassays -- Acute Toxicity Freshwater	

APPENDIX C

CHARLES RIVER DILUTION CALCULATIONS

Project Boston Landing Block B – Sports Complex
Location Boston, Massachusetts
Subject Dilution Factor Calculations
Calculated By S. Knowles Date 11/28/2018
Checked By A. Blomeke, P.E. Date 12/13/2018

\\wesserv2\shdata\3400s\3410.15\Source Files\Block B NPDES RGP\Appendix C - Charles River Stream Calcs\20181213 Dilution Factor.docx

PURPOSE:
To calculate the dilution factor (DF) for metal concentrations in a potential discharge from on-site construction dewatering activities.

METHOD:

$$DF = (Qd + Qs)/Qd$$

Where: DF = Dilution Factor
Qd = Design flow rate of the discharge in million gallons per day (MGD)
Qs = Receiving water 7Q10 flow (MGD) where 7Q10 is the minimum flow for 7 consecutive days with a recurrence interval of 10 years

GIVEN:
1.0 gpm = 0.00144 MGD
1.0 cfs = 0.64632 MGD
Qd = 50 gpm = 0.072 MGD
Qs = 24.3 cfs = 15.71 MGD of flow into the Charles River [Reference 1]

CALCULATION:

$$DF = (0.072 \text{ MGD} + 15.71 \text{ MGD}) / 0.072 \text{ MGD}$$

DF = 219.19

RESULTS:

The resulting dilution factor to be used when discharging to the Charles River is 219.19.

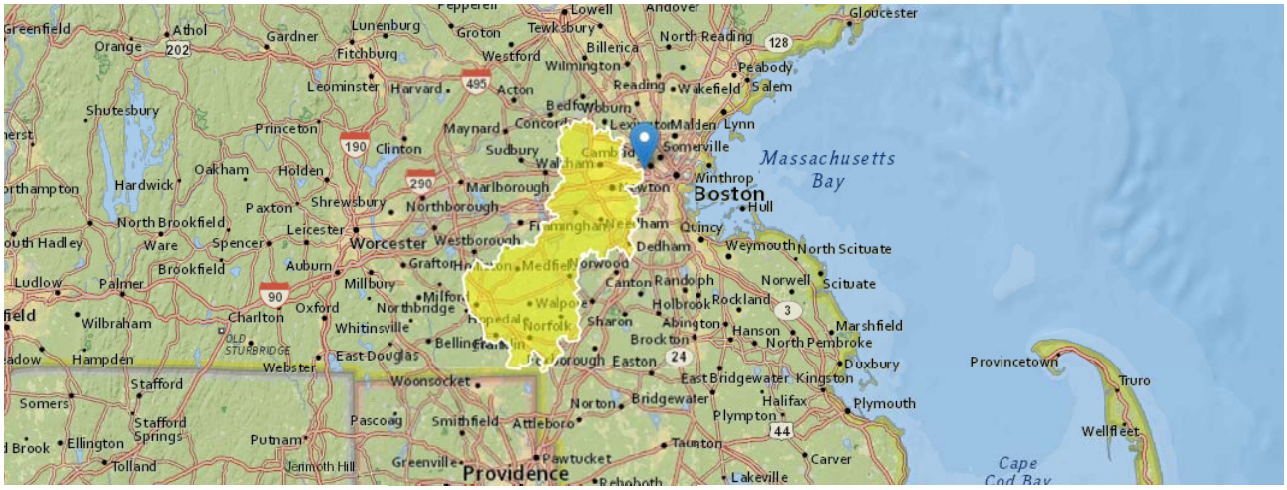
REFERENCES:

[1] StreamStats Report. Accessed online: http://streamstatsags.usgs.gov/ss/ (Refer to Attachment A)

Reference 1

Appendix C

Region ID: MA
Workspace ID: MA20181128195630513000
Clicked Point (Latitude, Longitude): 42.36563, -71.13727
Time: 2018-11-28 14:56:46 -0500



NBL Block B

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	279	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.342	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.23	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	279	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	2.342	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.23	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

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

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

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

Statistic	Value	Unit
7 Day 2 Year Low Flow	48.9	ft^3/s
7 Day 10 Year Low Flow	24.3	ft^3/s

Low-Flow Statistics Citations

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

Application Version: 4.2.1

From: Vakalopoulos, Catherine (DEP)
To: Sara Knowles
Subject: RE: Brighton, MA RGP
Date: Friday, November 30, 2018 4:42:52 PM

Hi Sara,
I've checked the 7Q10 on the Charles River at the lat/long listed below in Brighton and also your dilution factor calculation. Both are correct.

To assist you with filling out the RGP NOI, this segment of the Charles River is identified as MA72-36 and its classification is B(CSO). The RGP does not allow discharges to Outstanding Resource Waters (ORW) but the Charles River is not classified as one.

MassDEP's latest approved Integrated List is located here: https://www.mass.gov/files/documents/2016/08/sa/14list2_0.pdf. If you do a search for "MA72-36", you will see a list of impairment causes. You will also see two different TMDLs listed, one for pathogens and another for phosphorus.

To find the Designated Uses, go to 314 CMR 4.05(3)(b) (https://www.mass.gov/files/documents/2016/11/nv/314cmr04.pdf) and you'll see that for Class B waters:

> "These waters are designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. Where designated in 314 CMR 4.06, they shall be suitable as a source of public water supply with appropriate treatment ("Treated Water Supply"). Class B waters shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value."

Therefore, based on the impairment causes and the language at 314 CMR 4.05(3)(b), the impaired Designated Uses are aquatic life, primary and secondary contact, and fish consumption (there is no shellfishing on the Charles).

Also, if this site is not a *current* MCP site, in addition to sending the NOI to EPA, you'll also have to apply with MassDEP. The link for the instructions is: https://www.mass.gov/how-to/wm-15-npdes-general-permit-notice-of-intent. There is a $500 fee unless the operator is fee-exempt (e.g. a municipality).

Please let me know if you have any questions.

Cathy

Cathy Vakalopoulos, Massachusetts Department of Environmental Protection
1 Winter St., Boston, MA 02108, 617-348-4026
Please consider the environment before printing this e-mail

From: Sara Knowles [mailto:sknowles@sanbornhead.com]

Sent: Wednesday, November 28, 2018 4:10 PM
To: Vakalopoulos, Catherine (DEP)
Subject: Brighton, MA RGP

Good afternoon Catherine,

I would like to confirm the following 7Q10 value for a RGP project located in Brighton, MA. Using StreamStats, I selected the nearest point to the drain outlet within the Charles River near Herter Park.

Site Address: 77 Guest Street, Brighton, Boston, MA
Type of Discharge: Via drain outlet in the Charles River with the approximate latitude and longitude indicated below.
Approximate Discharge Lat/Long:
Lat: 42.365548 Long: -71.137436
Approximate Basin Delineation Point Selected:
Lat: 42.36563 Long: -71.13727
Design Discharge Flow: 50 gpm = 0.072 MGD
Upstream StreamStats Generated, 7Q10: 24.3 cfs = 15.71 MGD
Dilution Factor: DF = 219.2

I have attached a draft calculation sheet which was used to arrive at the above dilution factor. Please let me know if you require any further information.

Thank you,
-Sara

--
Sara Knowles
Environmental Engineer
_____
SANBORN, HEAD & ASSOCIATES, INC.
1 Technology Park Drive, Westford, MA 01886
T 978.392.0900 D 978.577.1022 C 978.609.3600
www.sanbornhead.com

APPENDIX D

ANALYTICAL DATA REPORTS

ANALYTICAL REPORT

Lab Number:	L1846753
Client:	Sanborn, Head & Associates, Inc. 1 Technology Park Drive Westford, MA 01886
ATTN:	Amy Blomeke
Phone:	(978) 577-1024
Project Name:	NBL BLOCK B
Project Number:	3410.15
Report Date:	11/20/18

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: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846753
Report Date: 11/20/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1846753-01	CHARLES RIVER, BRIGHTON, MA	WATER	BRIGHTON, MA	11/14/18 12:15	11/14/18

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846753
Report Date: 11/20/18

Case Narrative

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

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

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

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

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

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

Project Name:	NBL BLOCK B	**Lab Number:**	L1846753
Project Number:	3410.15	**Report Date:**	11/20/18

Case Narrative (continued)

Hexavalent Chromium

WG1179583: A Matrix Spike and Laboratory Duplicate could not be performed due to insufficient sample volume available for analysis.

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

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 11/20/18

METALS

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846753
Report Date: 11/20/18

SAMPLE RESULTS

Lab ID: L1846753-01
Client ID: CHARLES RIVER, BRIGHTON, MA
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 12:15
Date Received: 11/14/18
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	11/16/18 15:30	11/19/18 10:35	EPA 3005A	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 10:35	EPA 3005A	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	11/16/18 15:30	11/19/18 10:35	EPA 3005A	3,200.8	AM
Chromium, Total	0.00100		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 10:35	EPA 3005A	3,200.8	AM
Copper, Total	0.00296		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 10:35	EPA 3005A	3,200.8	AM
Iron, Total	1.18		mg/l	0.050	--	1	11/16/18 15:30	11/19/18 14:57	EPA 3005A	19,200.7	AB
Lead, Total	0.00219		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 10:35	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	11/15/18 12:48	11/16/18 17:39	EPA 245.1	3,245.1	MG
Nickel, Total	ND		mg/l	0.00200	--	1	11/16/18 15:30	11/19/18 10:35	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	11/16/18 15:30	11/19/18 10:35	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	11/16/18 15:30	11/19/18 10:35	EPA 3005A	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	11/16/18 15:30	11/19/18 10:35	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	73.6		mg/l	0.660	NA	1	11/16/18 15:30	11/19/18 14:57	EPA 3005A	19,200.7	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		11/19/18 10:35	NA	107,-	

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846753
Report Date: 11/20/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1179831-1										
Mercury, Total	ND		mg/l	0.00020	--	1	11/15/18 12:48	11/16/18 17:15	3,245.1	MG

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1180231-1										
Antimony, Total	ND		mg/l	0.00400	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	11/16/18 15:30	11/19/18 09:12	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: WG1180260-1										
Iron, Total	ND		mg/l	0.050	--	1	11/16/18 15:30	11/16/18 18:53	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846753
Report Date: 11/20/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1180260-1										
Hardness	ND		mg/l	0.660	NA	1	11/16/18 15:30	11/16/18 18:53	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846753

Report Date: 11/20/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1179831-2								
Mercury, Total	113		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1180231-2								
Antimony, Total	90		-		85-115	-		
Arsenic, Total	100		-		85-115	-		
Cadmium, Total	110		-		85-115	-		
Chromium, Total	103		-		85-115	-		
Copper, Total	102		-		85-115	-		
Lead, Total	101		-		85-115	-		
Nickel, Total	100		-		85-115	-		
Selenium, Total	100		-		85-115	-		
Silver, Total	104		-		85-115	-		
Zinc, Total	100		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1180260-2								
Iron, Total	102		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1180260-2								
Hardness	108		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846753
Report Date: 11/20/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1179831-3 QC Sample: L1846522-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00469	94		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1179831-5 QC Sample: L1846522-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00481	96		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1180231-3 QC Sample: L1846522-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.5562	111		-	-		70-130	-		20
Arsenic, Total	0.01128	0.12	0.1376	105		-	-		70-130	-		20
Cadmium, Total	0.00020	0.051	0.05614	110		-	-		70-130	-		20
Chromium, Total	0.00997	0.2	0.2391	114		-	-		70-130	-		20
Copper, Total	0.03814	0.25	0.3132	110		-	-		70-130	-		20
Lead, Total	0.05189	0.51	0.5890	105		-	-		70-130	-		20
Nickel, Total	0.01093	0.5	0.5673	111		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1242	104		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05718	114		-	-		70-130	-		20
Zinc, Total	0.05880	0.5	0.6239	113		-	-		70-130	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846753
Report Date: 11/20/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1180231-7 QC Sample: L1846537-03 Client ID: MS Sample										
Antimony, Total	ND	0.5	0.4688	94		-	-	70-130	-	20
Arsenic, Total	ND	0.12	0.1211	101		-	-	70-130	-	20
Cadmium, Total	ND	0.051	0.05619	110		-	-	70-130	-	20
Chromium, Total	ND	0.2	0.2070	104		-	-	70-130	-	20
Copper, Total	0.00580	0.25	0.2598	102		-	-	70-130	-	20
Lead, Total	0.0020	0.51	0.5234	102		-	-	70-130	-	20
Nickel, Total	ND	0.5	0.5266	105		-	-	70-130	-	20
Selenium, Total	ND	0.12	0.1228	102		-	-	70-130	-	20
Silver, Total	ND	0.05	0.05135	103		-	-	70-130	-	20
Zinc, Total	0.0315	0.5	0.5461	103		-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1180260-3 QC Sample: L1846522-01 Client ID: MS Sample										
Iron, Total	5.89	1	15.8	**991**	Q	-	-	75-125	-	20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1180260-3 QC Sample: L1846522-01 Client ID: MS Sample										
Hardness	131	66.2	211	121		-	-	75-125	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1180260-7 QC Sample: L1846537-03 Client ID: MS Sample										
Iron, Total	0.259	1	1.24	98		-	-	75-125	-	20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1180260-7 QC Sample: L1846537-03 Client ID: MS Sample										
Hardness	29.1	66.2	96.8	102		-	-	75-125	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846753
Report Date: 11/20/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1179831-4 QC Sample: L1846522-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1179831-6 QC Sample: L1846522-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1180231-4 QC Sample: L1846522-01 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.01128	0.01377	mg/l	20		20
Cadmium, Total	0.00020	ND	mg/l	NC		20
Chromium, Total	0.00997	0.02152	mg/l	**73**	Q	20
Copper, Total	0.03814	0.04178	mg/l	9		20
Lead, Total	0.05189	0.05205	mg/l	0		20
Nickel, Total	0.01093	0.01618	mg/l	**39**	Q	20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	0.00042	mg/l	NC		20
Zinc, Total	0.05880	0.07047	mg/l	18		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1180231-8 QC Sample: L1846537-03 Client ID: DUP Sample						
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.00580	0.00617	mg/l	6		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846753

Report Date: 11/20/18

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1180260-4 QC Sample: L1846522-01 Client ID: DUP Sample						
Iron, Total	5.89	11.8	mg/l	**67**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1180260-8 QC Sample: L1846537-03 Client ID: DUP Sample						
Iron, Total	0.259	0.293	mg/l	12		20

INORGANICS
&
MISCELLANEOUS

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846753
Report Date: 11/20/18

SAMPLE RESULTS

Lab ID: L1846753-01
Client ID: CHARLES RIVER, BRIGHTON, MA
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 12:15
Date Received: 11/14/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	7.0		SU	-	NA	1	-	11/14/18 22:34	121,4500H+-B	AS
Nitrogen, Ammonia	0.271		mg/l	0.075	--	1	11/16/18 16:00	11/19/18 22:03	121,4500NH3-BH	AT
Chromium, Hexavalent	ND		mg/l	0.010	--	1	11/15/18 00:15	11/15/18 00:43	1,7196A	JW

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846753
Report Date: 11/20/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1179583-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	11/15/18 00:15	11/15/18 00:42	1,7196A	JW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1180088-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	11/16/18 16:00	11/19/18 21:36	121,4500NH3-BH	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846753

Report Date: 11/20/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1179561-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1179583-2								
Chromium, Hexavalent	98		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1180088-2								
Nitrogen, Ammonia	102		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846753
Report Date: 11/20/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1180088-4 QC Sample: L1845847-01 Client ID: MS Sample												
Nitrogen, Ammonia	ND	4	3.70	92		-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846753
Report Date: 11/20/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1179561-2 QC Sample: L1846754-03 Client ID: DUP Sample						
pH	6.3	6.3	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1180088-3 QC Sample: L1845847-01 Client ID: DUP Sample						
Nitrogen, Ammonia	ND	ND	mg/l	NC		20

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846753
Report Date: 11/20/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
D	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1846753-01A	Plastic 250ml HNO3 preserved	D	<2	<2	3.2	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),HARDU(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1846753-01B	Plastic 60ml unpreserved	D	7	7	3.2	Y	Absent		HEXCR-7196(1),PH-4500(.01)
L1846753-01C	Plastic 500ml H2SO4 preserved	D	<2	<2	3.2	Y	Absent		NH3-4500(28)

*Values in parentheses indicate holding time in days

Project Name:	NBL BLOCK B	**Lab Number:**	L1846753
Project Number:	3410.15	**Report Date:**	11/20/18

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

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

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

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

Report Format: Data Usability Report

Project Name:	NBL BLOCK B	**Lab Number:**	L1846753
Project Number:	3410.15	**Report Date:**	11/20/18

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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

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

Report Format: Data Usability Report

Project Name:	NBL BLOCK B	**Lab Number:**	L1846753
Project Number:	3410.15	**Report Date:**	11/20/18

REFERENCES

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

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

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

107 Alpha Analytical - In-house calculation method.

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

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

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

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

Westborough Facility:

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

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

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL World Class Chemistry

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

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

Date Rec'd in Lab: 11/14/18

ALPHA Job #: L1846753

Client Information

Client: Sanborn, Head & Associates, Inc.

Address: 1 Technology Park Drive

Westford, MA 01886

Phone: 978-932-0900

Fax:

Email: ABlomeke@sanbornhead.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: NBL Block B

Project Location: Brighton, MA

Project #: 3410.15

Project Manager: A. Blomeke

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info

PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NPDES RGP	NPDES Reporting Limits

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☐ Yes ☒ No Are MCP Analytical Methods Required?

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

Other Project Specific Requirements/Comments/Detection Limits:

Total Metals: Ag, As, Cd, Cr, Cu, Ni, Pb, Sb, Se, Zn, Fe, Hg
HexCr, TriCr (lab calc)

NPDES RGP minimum Levels (detection limits) must be met

ANALYSIS

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total Metals - See Notes	pH	Hardness (freshwater only)	Salinity (Saltwater only)	Ammonia (SM 4500 B and/or 350.1)								Sample Specific Comments	TOTAL # BOTTLES
46753-01	Charles River, Brighton, MA	11/14/18	12:35	SW	DMD	☒	☒	☒	☐	☒	☐	☐	☐	☐	☐	☐	☐	See Notes	
Container Type						-	-	-	-	-	-	-	-	-	-	-	-		
Preservative						-	-	-	-	-	-	-	-	-	-	-	-		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[signature] 11/14/18	15:12	[signature] AAL	11-14-18 15:12
[signature] AAL	11-14-18/1625	[signature]	11/14/18 1845

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

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

ANALYTICAL REPORT

Lab Number:	L1846754
Client:	Sanborn, Head & Associates, Inc. 1 Technology Park Drive Westford, MA 01886
ATTN:	Amy Blomeke
Phone:	(978) 577-1024
Project Name:	NBL BLOCK B
Project Number:	3410.15
Report Date:	11/21/18

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: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1846754-01	NPDES-1	WATER	BRIGHTON, MA	11/14/18 07:30	11/14/18
L1846754-02	NPDES-2	WATER	BRIGHTON, MA	11/14/18 09:30	11/14/18
L1846754-03	NPDES-3	WATER	BRIGHTON, MA	11/14/18 11:00	11/14/18

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Case Narrative

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

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

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

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

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

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

Project Name:	NBL BLOCK B	**Lab Number:**	L1846754
Project Number:	3410.15	**Report Date:**	11/21/18

Case Narrative (continued)

Sample Receipt

L1846754-01, -02 and -03: Containers for Ethanol were received, but the analysis was not requested on the chain of custody. The analysis was not performed at the client's request.

Volatile Organics by SIM

WG1180917-8: The surrogate recovery is above the acceptance criteria for fluorobenzene (160%). Since the sample was non-detect for all target analytes, re-analysis was not required.

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

Authorized Signature: Melissa Cripps

Title: Technical Director/Representative Date: 11/21/18

ORGANICS

VOLATILES

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-01
Client ID: NPDES-1
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 07:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 11/16/18 12:41
Analyst: GT

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

Project Name: NBL BLOCK B
Lab Number: L1846754
Project Number: 3410.15
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-01
Client ID: NPDES-1
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 07:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	97		60-140
Fluorobenzene	99		60-140
4-Bromofluorobenzene	118		60-140

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-01
Client ID: NPDES-1
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 07:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 11/16/18 12:41
Analyst: GT

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	119		60-140
4-Bromofluorobenzene	98		60-140

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-01
Client ID: NPDES-1
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 07:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 11/17/18 14:15
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 11/17/18 13:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-02
Client ID: NPDES-2
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 09:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 11/16/18 13:17
Analyst: GT

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

Project Name: NBL BLOCK B
Lab Number: L1846754
Project Number: 3410.15
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-02
Client ID: NPDES-2
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 09:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	98		60-140
Fluorobenzene	99		60-140
4-Bromofluorobenzene	118		60-140

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-02
Client ID: NPDES-2
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 09:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 11/16/18 13:17
Analyst: GT

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	119		60-140
4-Bromofluorobenzene	107		60-140

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-02
Client ID: NPDES-2
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 09:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 11/17/18 14:49
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 11/17/18 13:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-03
Client ID: NPDES-3
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 11:00
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 11/19/18 15:04
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	1.0	--	1
1,1-Dichloroethane	380	E	ug/l	1.5	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	1.0		ug/l	1.0	--	1
1,2-Dichloroethane	ND		ug/l	1.5	--	1
1,1,1-Trichloroethane	1700	E	ug/l	2.0	--	1
Benzene	ND		ug/l	1.0	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Vinyl chloride	7.4		ug/l	1.0	--	1
1,1-Dichloroethene	72		ug/l	1.0	--	1
cis-1,2-Dichloroethene	14		ug/l	1.0	--	1
Trichloroethene	5.2		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	5.0	--	1
1,3-Dichlorobenzene	ND		ug/l	5.0	--	1
1,4-Dichlorobenzene	ND		ug/l	5.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
Acetone	ND		ug/l	10	--	1
Methyl tert butyl ether	ND		ug/l	10	--	1
Tert-Butyl Alcohol	ND		ug/l	100	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--	1

Project Name: NBL BLOCK B
Lab Number: L1846754
Project Number: 3410.15
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-03
Client ID: NPDES-3
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 11:00
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	92		60-140
Fluorobenzene	92		60-140
4-Bromofluorobenzene	100		60-140

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-03
Client ID: NPDES-3
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 11:00
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1-SIM
Analytical Date: 11/19/18 15:04
Analyst: GT

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	107		60-140
4-Bromofluorobenzene	94		60-140

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-03
Client ID: NPDES-3
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 11:00
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 11/17/18 15:05
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 11/17/18 13:09

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.010	--	1	A

Project Name: NBL BLOCK B
Lab Number: L1846754
Project Number: 3410.15
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-03 D
Client ID: NPDES-3
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 11:00
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 128,624.1
Analytical Date: 11/20/18 11:26
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,1-Dichloroethane	350		ug/l	30	--	20
1,1,1-Trichloroethane	2600		ug/l	40	--	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	92		60-140
Fluorobenzene	83		60-140
4-Bromofluorobenzene	99		60-140

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 11/16/18 12:04
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1180229-12					
Methylene chloride	ND		ug/l	1.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
Tetrachloroethene	ND		ug/l	1.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--
1,4-Dichlorobenzene	ND		ug/l	5.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
Acetone	ND		ug/l	10	--
Methyl tert butyl ether	ND		ug/l	10	--
Tert-Butyl Alcohol	ND		ug/l	100	--
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 11/16/18 12:04
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1180229-12					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	98		60-140
Fluorobenzene	98		60-140
4-Bromofluorobenzene	115		60-140

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 11/19/18 10:43
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG1180229-16					
Methylene chloride	ND		ug/l	1.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
Tetrachloroethene	ND		ug/l	1.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--
1,4-Dichlorobenzene	ND		ug/l	5.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
Acetone	ND		ug/l	10	--
Methyl tert butyl ether	ND		ug/l	10	--
Tert-Butyl Alcohol	ND		ug/l	100	--
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 11/19/18 10:43
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG1180229-16					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	102		60-140
Fluorobenzene	139		60-140
4-Bromofluorobenzene	96		60-140

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1
Analytical Date: 11/20/18 10:50
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG1180229-20					
Methylene chloride	ND		ug/l	1.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
Tetrachloroethene	ND		ug/l	1.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Vinyl chloride	ND		ug/l	1.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--
1,4-Dichlorobenzene	ND		ug/l	5.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	10	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	92		60-140
Fluorobenzene	84		60-140
4-Bromofluorobenzene	98		60-140

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 11/17/18 13:42
Analyst: AWS

Extraction Method: EPA 504.1
Extraction Date: 11/17/18 13:09

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - Westborough Lab for sample(s): 01-03 Batch: WG1180531-1						
1,2-Dibromoethane	ND		ug/l	0.010	--	A

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1-SIM
Analytical Date: 11/16/18 12:04
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-02 Batch: WG1180917-4					
1,4-Dioxane	ND		ug/l	50	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	118		60-140
4-Bromofluorobenzene	107		60-140

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 128,624.1-SIM
Analytical Date: 11/19/18 10:43
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 03 Batch: WG1180917-8					
1,4-Dioxane	ND		ug/l	50	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Fluorobenzene	**160**	Q	60-140
4-Bromofluorobenzene	97		60-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1180229-11								
Methylene chloride	90		-		60-140	-		28
1,1-Dichloroethane	95		-		50-150	-		49
Carbon tetrachloride	95		-		70-130	-		41
1,1,2-Trichloroethane	95		-		70-130	-		45
Tetrachloroethene	95		-		70-130	-		39
1,2-Dichloroethane	95		-		70-130	-		49
1,1,1-Trichloroethane	105		-		70-130	-		36
Benzene	95		-		65-135	-		61
Toluene	100		-		70-130	-		41
Ethylbenzene	110		-		60-140	-		63
Vinyl chloride	70		-		5-195	-		66
1,1-Dichloroethene	90		-		50-150	-		32
cis-1,2-Dichloroethene	85		-		60-140	-		30
Trichloroethene	90		-		65-135	-		48
1,2-Dichlorobenzene	110		-		65-135	-		57
1,3-Dichlorobenzene	100		-		70-130	-		43
1,4-Dichlorobenzene	110		-		65-135	-		57
p/m-Xylene	105		-		60-140	-		30
o-xylene	100		-		60-140	-		30
Acetone	64		-		40-160	-		30
Methyl tert butyl ether	100		-		60-140	-		30
Tert-Butyl Alcohol	96		-		60-140	-		30
Tertiary-Amyl Methyl Ether	100		-		60-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846754

Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1180229-11								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	98				60-140
Fluorobenzene	99				60-140
4-Bromofluorobenzene	112				60-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG1180229-15								
Methylene chloride	65		-		60-140	-		28
1,1-Dichloroethane	75		-		50-150	-		49
Carbon tetrachloride	85		-		70-130	-		41
1,1,2-Trichloroethane	95		-		70-130	-		45
Tetrachloroethene	90		-		70-130	-		39
1,2-Dichloroethane	90		-		70-130	-		49
1,1,1-Trichloroethane	90		-		70-130	-		36
Benzene	100		-		65-135	-		61
Toluene	95		-		70-130	-		41
Ethylbenzene	90		-		60-140	-		63
Vinyl chloride	70		-		5-195	-		66
1,1-Dichloroethene	60		-		50-150	-		32
cis-1,2-Dichloroethene	85		-		60-140	-		30
Trichloroethene	85		-		65-135	-		48
1,2-Dichlorobenzene	100		-		65-135	-		57
1,3-Dichlorobenzene	90		-		70-130	-		43
1,4-Dichlorobenzene	95		-		65-135	-		57
p/m-Xylene	90		-		60-140	-		30
o-xylene	85		-		60-140	-		30
Acetone	44		-		40-160	-		30
Methyl tert butyl ether	70		-		60-140	-		30
Tert-Butyl Alcohol	70		-		60-140	-		30
Tertiary-Amyl Methyl Ether	90		-		60-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846754

Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG1180229-15								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	93				60-140
Fluorobenzene	96				60-140
4-Bromofluorobenzene	96				60-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG1180229-19								
Methylene chloride	95		-		60-140	-		28
1,1-Dichloroethane	100		-		50-150	-		49
Carbon tetrachloride	90		-		70-130	-		41
1,1,2-Trichloroethane	95		-		70-130	-		45
Tetrachloroethene	100		-		70-130	-		39
1,2-Dichloroethane	85		-		70-130	-		49
1,1,1-Trichloroethane	95		-		70-130	-		36
Benzene	100		-		65-135	-		61
Toluene	100		-		70-130	-		41
Ethylbenzene	95		-		60-140	-		63
Vinyl chloride	95		-		5-195	-		66
1,1-Dichloroethene	55		-		50-150	-		32
cis-1,2-Dichloroethene	90		-		60-140	-		30
Trichloroethene	90		-		65-135	-		48
1,2-Dichlorobenzene	110		-		65-135	-		57
1,3-Dichlorobenzene	95		-		70-130	-		43
1,4-Dichlorobenzene	100		-		65-135	-		57
p/m-Xylene	92		-		60-140	-		30
o-xylene	90		-		60-140	-		30
Methyl tert butyl ether	85		-		60-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846754

Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG1180229-19								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Pentafluorobenzene	92				60-140
Fluorobenzene	83				60-140
4-Bromofluorobenzene	102				60-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846754

Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab	Associated sample(s): 01-03 Batch: WG1180531-2								
1,2-Dibromoethane	113		-		80-120	-			A

Lab Control Sample Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG1180917-3								
1,4-Dioxane	130		-		60-140	-		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Fluorobenzene	120				60-140
4-Bromofluorobenzene	95				60-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 03 Batch: WG1180917-7								
1,4-Dioxane	100		-		60-140	-		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Fluorobenzene	115				60-140
4-Bromofluorobenzene	92				60-140

Matrix Spike Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846754

Report Date: 11/21/18

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*	*Column*
Microextractables by GC - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1180531-3 QC Sample: L1846754-01 Client ID: NPDES-1													
1,2-Dibromoethane	ND	0.252	0.280	111		-	-		80-120	-		20	A

SEMIVOLATILES

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-01
Client ID: NPDES-1
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 07:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 11/19/18 18:27
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 11/17/18 09:02

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	82		42-122
2-Fluorobiphenyl	82		46-121
4-Terphenyl-d14	77		47-138

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-01
Client ID: NPDES-1
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 07:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 11/21/18 02:07
Analyst: CB

Extraction Method: EPA 625.1
Extraction Date: 11/17/18 09:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	0.54		ug/l	0.10	--	1
Naphthalene	0.13		ug/l	0.10	--	1
Benzo(a)anthracene	0.17		ug/l	0.10	--	1
Benzo(a)pyrene	0.19		ug/l	0.10	--	1
Benzo(b)fluoranthene	0.30		ug/l	0.10	--	1
Benzo(k)fluoranthene	0.12		ug/l	0.10	--	1
Chrysene	0.26		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	0.19		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	0.32		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	0.14		ug/l	0.10	--	1
Pyrene	0.46		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	47		25-87
Phenol-d6	32		16-65
Nitrobenzene-d5	70		42-122
2-Fluorobiphenyl	66		46-121
2,4,6-Tribromophenol	84		45-128
4-Terphenyl-d14	69		47-138

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-02
Client ID: NPDES-2
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 09:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 11/19/18 18:55
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 11/17/18 09:02

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	84		42-122
2-Fluorobiphenyl	82		46-121
4-Terphenyl-d14	71		47-138

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-02
Client ID: NPDES-2
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 09:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 11/21/18 02:34
Analyst: CB

Extraction Method: EPA 625.1
Extraction Date: 11/17/18 09:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	0.13		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	46		25-87
Phenol-d6	33		16-65
Nitrobenzene-d5	65		42-122
2-Fluorobiphenyl	66		46-121
2,4,6-Tribromophenol	87		45-128
4-Terphenyl-d14	64		47-138

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-03
Client ID: NPDES-3
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 11:00
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 11/19/18 19:23
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 11/17/18 09:02

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	85		42-122
2-Fluorobiphenyl	86		46-121
4-Terphenyl-d14	76		47-138

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-03
Client ID: NPDES-3
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 11:00
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 11/21/18 03:00
Analyst: CB

Extraction Method: EPA 625.1
Extraction Date: 11/17/18 09:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	0.35		ug/l	0.10	--	1
Naphthalene	0.11		ug/l	0.10	--	1
Benzo(a)anthracene	0.20		ug/l	0.10	--	1
Benzo(a)pyrene	0.40		ug/l	0.10	--	1
Benzo(b)fluoranthene	0.67		ug/l	0.10	--	1
Benzo(k)fluoranthene	0.28		ug/l	0.10	--	1
Chrysene	0.32		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	0.50		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	0.11		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	0.38		ug/l	0.10	--	1
Pyrene	0.37		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		25-87
Phenol-d6	37		16-65
Nitrobenzene-d5	75		42-122
2-Fluorobiphenyl	75		46-121
2,4,6-Tribromophenol	96		45-128
4-Terphenyl-d14	66		47-138

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1
Analytical Date: 11/18/18 18:27
Analyst: SZ

Extraction Method: EPA 625.1
Extraction Date: 11/17/18 09:02

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1180476-1					
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.2	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		42-122
2-Fluorobiphenyl	86		46-121
4-Terphenyl-d14	82		47-138

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1-SIM
Analytical Date: 11/18/18 17:55
Analyst: CB

Extraction Method: EPA 625.1
Extraction Date: 11/17/18 09:03

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-03 Batch: WG1180477-1					
Acenaphthene	ND		ug/l	0.10	--
Fluoranthene	ND		ug/l	0.10	--
Naphthalene	ND		ug/l	0.10	--
Benzo(a)anthracene	ND		ug/l	0.10	--
Benzo(a)pyrene	ND		ug/l	0.10	--
Benzo(b)fluoranthene	ND		ug/l	0.10	--
Benzo(k)fluoranthene	ND		ug/l	0.10	--
Chrysene	ND		ug/l	0.10	--
Acenaphthylene	ND		ug/l	0.10	--
Anthracene	ND		ug/l	0.10	--
Benzo(ghi)perylene	ND		ug/l	0.10	--
Fluorene	ND		ug/l	0.10	--
Phenanthrene	ND		ug/l	0.10	--
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--
Pyrene	ND		ug/l	0.10	--
Pentachlorophenol	ND		ug/l	1.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	44		25-87
Phenol-d6	31		16-65
Nitrobenzene-d5	66		42-122
2-Fluorobiphenyl	69		46-121
2,4,6-Tribromophenol	76		45-128
4-Terphenyl-d14	69		47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1180476-2								
Bis(2-ethylhexyl)phthalate	97		-		29-137	-		30
Butyl benzyl phthalate	103		-		1-140	-		30
Di-n-butylphthalate	101		-		8-120	-		30
Di-n-octylphthalate	102		-		19-132	-		30
Diethyl phthalate	87		-		1-120	-		30
Dimethyl phthalate	92		-		1-120	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Nitrobenzene-d5	89				42-122
2-Fluorobiphenyl	87				46-121
4-Terphenyl-d14	83				47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-03 Batch: WG1180477-2								
Acenaphthene	79		-		60-132	-		30
Fluoranthene	84		-		43-121	-		30
Naphthalene	71		-		36-120	-		30
Benzo(a)anthracene	76		-		42-133	-		30
Benzo(a)pyrene	84		-		32-148	-		30
Benzo(b)fluoranthene	80		-		42-140	-		30
Benzo(k)fluoranthene	87		-		25-146	-		30
Chrysene	85		-		44-140	-		30
Acenaphthylene	82		-		54-126	-		30
Anthracene	87		-		43-120	-		30
Benzo(ghi)perylene	81		-		1-195	-		30
Fluorene	80		-		70-120	-		30
Phenanthrene	78		-		65-120	-		30
Dibenzo(a,h)anthracene	81		-		1-200	-		30
Indeno(1,2,3-cd)pyrene	82		-		1-151	-		30
Pyrene	85		-		70-120	-		30
Pentachlorophenol	70		-		38-152	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846754

Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-03 Batch: WG1180477-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	44				25-87
Phenol-d6	33				16-65
Nitrobenzene-d5	68				42-122
2-Fluorobiphenyl	74				46-121
2,4,6-Tribromophenol	85				45-128
4-Terphenyl-d14	72				47-138

PCBS

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-01
Client ID: NPDES-1
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 07:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 11/20/18 04:43
Analyst: WR

Extraction Method: EPA 608.3
Extraction Date: 11/17/18 08:22
Cleanup Method: EPA 3665A
Cleanup Date: 11/17/18
Cleanup Method: EPA 3660B
Cleanup Date: 11/17/18

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		37-123	B
Decachlorobiphenyl	58		38-114	B
2,4,5,6-Tetrachloro-m-xylene	82		37-123	A
Decachlorobiphenyl	62		38-114	A

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-02
Client ID: NPDES-2
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 09:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 11/20/18 04:56
Analyst: WR

Extraction Method: EPA 608.3
Extraction Date: 11/17/18 08:22
Cleanup Method: EPA 3665A
Cleanup Date: 11/17/18
Cleanup Method: EPA 3660B
Cleanup Date: 11/17/18

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		37-123	B
Decachlorobiphenyl	51		38-114	B
2,4,5,6-Tetrachloro-m-xylene	82		37-123	A
Decachlorobiphenyl	57		38-114	A

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-03
Client ID: NPDES-3
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 11:00
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 127,608.3
Analytical Date: 11/20/18 05:09
Analyst: WR

Extraction Method: EPA 608.3
Extraction Date: 11/17/18 08:22
Cleanup Method: EPA 3665A
Cleanup Date: 11/17/18
Cleanup Method: EPA 3660B
Cleanup Date: 11/17/18

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

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		37-123	B
Decachlorobiphenyl	50		38-114	B
2,4,5,6-Tetrachloro-m-xylene	71		37-123	A
Decachlorobiphenyl	50		38-114	A

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 127,608.3
Analytical Date: 11/20/18 03:27
Analyst: WR

Extraction Method: EPA 608.3
Extraction Date: 11/17/18 08:22
Cleanup Method: EPA 3665A
Cleanup Date: 11/17/18
Cleanup Method: EPA 3660B
Cleanup Date: 11/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-03 Batch: WG1180474-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.200	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		37-123	B
Decachlorobiphenyl	72		38-114	B
2,4,5,6-Tetrachloro-m-xylene	78		37-123	A
Decachlorobiphenyl	72		38-114	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846754

Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-03 Batch: WG1180474-2									
Aroclor 1016	70		-		50-140	-		36	A
Aroclor 1260	66		-		8-140	-		38	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	66				37-123	B
Decachlorobiphenyl	59				38-114	B
2,4,5,6-Tetrachloro-m-xylene	69				37-123	A
Decachlorobiphenyl	61				38-114	A

METALS

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-01
Client ID: NPDES-1
Sample Location: BRIGHTON, MA
Sample Depth:
Matrix: Water

Date Collected: 11/14/18 07:30
Date Received: 11/14/18
Field Prep: Refer to COC

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	11/16/18 15:30	11/19/18 10:39	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00108		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 10:39	EPA 3005A	3,200.8	AM
Cadmium, Total	0.00115		mg/l	0.00020	--	1	11/16/18 15:30	11/19/18 10:39	EPA 3005A	3,200.8	AM
Chromium, Total	0.00691		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 10:39	EPA 3005A	3,200.8	AM
Copper, Total	0.00462		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 10:39	EPA 3005A	3,200.8	AM
Iron, Total	3.15		mg/l	0.050	--	1	11/16/18 15:30	11/19/18 15:17	EPA 3005A	19,200.7	AB
Lead, Total	0.00475		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 10:39	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	11/15/18 12:48	11/16/18 17:40	EPA 245.1	3,245.1	MG
Nickel, Total	0.01695		mg/l	0.00200	--	1	11/16/18 15:30	11/19/18 10:39	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	11/16/18 15:30	11/19/18 10:39	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	11/16/18 15:30	11/19/18 10:39	EPA 3005A	3,200.8	AM
Zinc, Total	0.02627		mg/l	0.01000	--	1	11/16/18 15:30	11/19/18 10:39	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	1010		mg/l	0.660	NA	1	11/16/18 15:30	11/19/18 15:17	EPA 3005A	19,200.7	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		11/19/18 10:39	NA	107,-	
Dissolved Metals - Mansfield Lab											
Antimony, Dissolved	ND		mg/l	0.0040	--	1	11/16/18 16:12	11/19/18 12:02	EPA 3005A	3,200.8	AM
Arsenic, Dissolved	ND		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 12:02	EPA 3005A	3,200.8	AM
Cadmium, Dissolved	0.0010		mg/l	0.0002	--	1	11/16/18 16:12	11/19/18 12:02	EPA 3005A	3,200.8	AM
Chromium, Dissolved	ND		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 12:02	EPA 3005A	3,200.8	AM
Copper, Dissolved	0.002		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 12:02	EPA 3005A	3,200.8	AM
Iron, Dissolved	0.338		mg/l	0.050	--	1	11/16/18 16:12	11/19/18 19:17	EPA 3005A	19,200.7	AB
Lead, Dissolved	ND		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 12:02	EPA 3005A	3,200.8	AM
Mercury, Dissolved	ND		mg/l	0.00020	--	1	11/16/18 12:14	11/16/18 21:32	EPA 245.1	3,245.1	MG

Project Name: NBL BLOCK B
Lab Number: L1846754
Project Number: 3410.15
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-01
Client ID: NPDES-1
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 07:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Nickel, Dissolved	0.0160		mg/l	0.0020	--	1	11/16/18 16:12	11/19/18 12:02	EPA 3005A	3,200.8	AM
Selenium, Dissolved	ND		mg/l	0.0050	--	1	11/16/18 16:12	11/19/18 12:02	EPA 3005A	3,200.8	AM
Silver, Dissolved	ND		mg/l	0.0004	--	1	11/16/18 16:12	11/19/18 12:02	EPA 3005A	3,200.8	AM
Zinc, Dissolved	0.0101		mg/l	0.0100	--	1	11/16/18 16:12	11/19/18 12:02	EPA 3005A	3,200.8	AM

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-02
Client ID: NPDES-2
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 09:30
Date Received: 11/14/18
Field Prep: Refer to COC

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	11/16/18 15:30	11/19/18 11:12	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00428		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 11:12	EPA 3005A	3,200.8	AM
Cadmium, Total	0.00031		mg/l	0.00020	--	1	11/16/18 15:30	11/19/18 11:12	EPA 3005A	3,200.8	AM
Chromium, Total	0.02219		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 11:12	EPA 3005A	3,200.8	AM
Copper, Total	0.03967		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 11:12	EPA 3005A	3,200.8	AM
Iron, Total	94.3		mg/l	0.050	--	1	11/16/18 15:30	11/19/18 15:23	EPA 3005A	19,200.7	AB
Lead, Total	0.04488		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 11:12	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	11/15/18 12:48	11/16/18 17:42	EPA 245.1	3,245.1	MG
Nickel, Total	0.00824		mg/l	0.00200	--	1	11/16/18 15:30	11/19/18 11:12	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	11/16/18 15:30	11/19/18 11:12	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	11/16/18 15:30	11/19/18 11:12	EPA 3005A	3,200.8	AM
Zinc, Total	0.05592		mg/l	0.01000	--	1	11/16/18 15:30	11/19/18 11:12	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	680		mg/l	0.660	NA	1	11/16/18 15:30	11/19/18 15:23	EPA 3005A	19,200.7	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	0.022		mg/l	0.010	--	1		11/19/18 11:12	NA	107,-	
Dissolved Metals - Mansfield Lab											
Antimony, Dissolved	ND		mg/l	0.0040	--	1	11/16/18 16:12	11/19/18 12:53	EPA 3005A	3,200.8	AM
Arsenic, Dissolved	0.0015		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 12:53	EPA 3005A	3,200.8	AM
Cadmium, Dissolved	ND		mg/l	0.0002	--	1	11/16/18 16:12	11/19/18 12:53	EPA 3005A	3,200.8	AM
Chromium, Dissolved	0.0012		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 12:53	EPA 3005A	3,200.8	AM
Copper, Dissolved	ND		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 12:53	EPA 3005A	3,200.8	AM
Iron, Dissolved	74.4		mg/l	0.050	--	1	11/16/18 16:12	11/19/18 20:21	EPA 3005A	19,200.7	AB
Lead, Dissolved	ND		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 12:53	EPA 3005A	3,200.8	AM
Mercury, Dissolved	ND		mg/l	0.00020	--	1	11/16/18 12:14	11/16/18 21:37	EPA 245.1	3,245.1	MG

Project Name: NBL BLOCK B
Lab Number: L1846754
Project Number: 3410.15
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-02
Client ID: NPDES-2
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 09:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Nickel, Dissolved	0.0031		mg/l	0.0020	--	1	11/16/18 16:12	11/19/18 12:53	EPA 3005A	3,200.8	AM
Selenium, Dissolved	ND		mg/l	0.0050	--	1	11/16/18 16:12	11/19/18 12:53	EPA 3005A	3,200.8	AM
Silver, Dissolved	ND		mg/l	0.0004	--	1	11/16/18 16:12	11/19/18 12:53	EPA 3005A	3,200.8	AM
Zinc, Dissolved	ND		mg/l	0.0100	--	1	11/16/18 16:12	11/19/18 12:53	EPA 3005A	3,200.8	AM

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-03
Client ID: NPDES-3
Sample Location: BRIGHTON, MA
Date Collected: 11/14/18 11:00
Date Received: 11/14/18
Field Prep: Refer to COC

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	11/16/18 15:30	11/19/18 11:16	EPA 3005A	3,200.8	AM
Arsenic, Total	0.00595		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 11:16	EPA 3005A	3,200.8	AM
Cadmium, Total	0.00029		mg/l	0.00020	--	1	11/16/18 15:30	11/19/18 11:16	EPA 3005A	3,200.8	AM
Chromium, Total	0.00808		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 11:16	EPA 3005A	3,200.8	AM
Copper, Total	0.02720		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 11:16	EPA 3005A	3,200.8	AM
Iron, Total	9.14		mg/l	0.050	--	1	11/16/18 15:30	11/19/18 15:28	EPA 3005A	19,200.7	AB
Lead, Total	0.05196		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 11:16	EPA 3005A	3,200.8	AM
Mercury, Total	ND		mg/l	0.00020	--	1	11/15/18 12:48	11/16/18 17:44	EPA 245.1	3,245.1	MG
Nickel, Total	0.00464		mg/l	0.00200	--	1	11/16/18 15:30	11/19/18 11:16	EPA 3005A	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	11/16/18 15:30	11/19/18 11:16	EPA 3005A	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	11/16/18 15:30	11/19/18 11:16	EPA 3005A	3,200.8	AM
Zinc, Total	0.1207		mg/l	0.01000	--	1	11/16/18 15:30	11/19/18 11:16	EPA 3005A	3,200.8	AM
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	183		mg/l	0.660	NA	1	11/16/18 15:30	11/19/18 15:28	EPA 3005A	19,200.7	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	--	1		11/19/18 11:16	NA	107,-	
Dissolved Metals - Mansfield Lab											
Antimony, Dissolved	ND		mg/l	0.0040	--	1	11/16/18 16:12	11/19/18 12:57	EPA 3005A	3,200.8	AM
Arsenic, Dissolved	0.0023		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 12:57	EPA 3005A	3,200.8	AM
Cadmium, Dissolved	0.0003		mg/l	0.0002	--	1	11/16/18 16:12	11/19/18 12:57	EPA 3005A	3,200.8	AM
Chromium, Dissolved	ND		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 12:57	EPA 3005A	3,200.8	AM
Copper, Dissolved	0.0032		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 12:57	EPA 3005A	3,200.8	AM
Iron, Dissolved	2.42		mg/l	0.050	--	1	11/16/18 16:12	11/19/18 20:26	EPA 3005A	19,200.7	AB
Lead, Dissolved	ND		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 12:57	EPA 3005A	3,200.8	AM
Mercury, Dissolved	ND		mg/l	0.00020	--	1	11/16/18 12:14	11/16/18 21:39	EPA 245.1	3,245.1	MG

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-03
Client ID: NPDES-3
Sample Location: BRIGHTON, MA
Sample Depth:
Matrix: Water

Date Collected: 11/14/18 11:00
Date Received: 11/14/18
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Nickel, Dissolved	0.0030		mg/l	0.0020	--	1	11/16/18 16:12	11/19/18 12:57	EPA 3005A	3,200.8	AM
Selenium, Dissolved	ND		mg/l	0.0050	--	1	11/16/18 16:12	11/19/18 12:57	EPA 3005A	3,200.8	AM
Silver, Dissolved	ND		mg/l	0.0004	--	1	11/16/18 16:12	11/19/18 12:57	EPA 3005A	3,200.8	AM
Zinc, Dissolved	0.0575		mg/l	0.0100	--	1	11/16/18 16:12	11/19/18 12:57	EPA 3005A	3,200.8	AM

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1179831-1										
Mercury, Total	ND		mg/l	0.00020	--	1	11/15/18 12:48	11/16/18 17:15	3,245.1	MG

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1180220-1										
Mercury, Dissolved	ND		mg/l	0.00020	--	1	11/16/18 12:14	11/16/18 21:29	3,245.1	MG

Prep Information

Digestion Method: EPA 245.1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1180231-1										
Antimony, Total	ND		mg/l	0.00400	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Chromium, Total	ND		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Selenium, Total	ND		mg/l	0.00500	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Silver, Total	ND		mg/l	0.00040	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	11/16/18 15:30	11/19/18 09:12	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1180260-1										
Iron, Total	ND		mg/l	0.050	--	1	11/16/18 15:30	11/16/18 18:53	19,200.7	AB

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): 01-03 Batch: WG1180260-1										
Hardness	ND		mg/l	0.660	NA	1	11/16/18 15:30	11/16/18 18:53	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1180268-1										
Antimony, Dissolved	ND		mg/l	0.0040	--	1	11/16/18 16:12	11/19/18 11:46	3,200.8	AM
Arsenic, Dissolved	ND		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 11:46	3,200.8	AM
Cadmium, Dissolved	ND		mg/l	0.0002	--	1	11/16/18 16:12	11/19/18 11:46	3,200.8	AM
Chromium, Dissolved	ND		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 11:46	3,200.8	AM
Copper, Dissolved	ND		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 11:46	3,200.8	AM
Lead, Dissolved	ND		mg/l	0.0010	--	1	11/16/18 16:12	11/19/18 11:46	3,200.8	AM
Nickel, Dissolved	ND		mg/l	0.0020	--	1	11/16/18 16:12	11/19/18 11:46	3,200.8	AM
Selenium, Dissolved	ND		mg/l	0.0050	--	1	11/16/18 16:12	11/19/18 11:46	3,200.8	AM
Silver, Dissolved	ND		mg/l	0.0004	--	1	11/16/18 16:12	11/19/18 11:46	3,200.8	AM
Zinc, Dissolved	ND		mg/l	0.0100	--	1	11/16/18 16:12	11/19/18 11:46	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1180270-1										
Iron, Dissolved	ND		mg/l	0.050	--	1	11/16/18 16:12	11/19/18 18:43	19,200.7	AB

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846754

Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1179831-2								
Mercury, Total	113		-		85-115	-		
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1180220-2								
Mercury, Dissolved	101		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1180231-2								
Antimony, Total	90		-		85-115	-		
Arsenic, Total	100		-		85-115	-		
Cadmium, Total	110		-		85-115	-		
Chromium, Total	103		-		85-115	-		
Copper, Total	102		-		85-115	-		
Lead, Total	101		-		85-115	-		
Nickel, Total	100		-		85-115	-		
Selenium, Total	100		-		85-115	-		
Silver, Total	104		-		85-115	-		
Zinc, Total	100		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1180260-2								
Iron, Total	102		-		85-115	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846754

Report Date: 11/21/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01-03 Batch: WG1180260-2					
Hardness	108	-	85-115	-	
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1180268-2					
Antimony, Dissolved	90	-	85-115	-	
Arsenic, Dissolved	101	-	85-115	-	
Cadmium, Dissolved	105	-	85-115	-	
Chromium, Dissolved	103	-	85-115	-	
Copper, Dissolved	102	-	85-115	-	
Lead, Dissolved	101	-	85-115	-	
Nickel, Dissolved	105	-	85-115	-	
Selenium, Dissolved	105	-	85-115	-	
Silver, Dissolved	105	-	85-115	-	
Zinc, Dissolved	100	-	85-115	-	
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1180270-2					
Iron, Dissolved	95	-	85-115	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1179831-3 QC Sample: L1846522-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00469	94		-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1179831-5 QC Sample: L1846522-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00481	96		-	-		70-130	-		20
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180220-3 QC Sample: L1846754-01 Client ID: NPDES-1												
Mercury, Dissolved	ND	0.005	0.00436	87		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180231-3 QC Sample: L1846522-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.5562	111		-	-		70-130	-		20
Arsenic, Total	0.01128	0.12	0.1376	105		-	-		70-130	-		20
Cadmium, Total	0.00020	0.051	0.05614	110		-	-		70-130	-		20
Chromium, Total	0.00997	0.2	0.2391	114		-	-		70-130	-		20
Copper, Total	0.03814	0.25	0.3132	110		-	-		70-130	-		20
Lead, Total	0.05189	0.51	0.5890	105		-	-		70-130	-		20
Nickel, Total	0.01093	0.5	0.5673	111		-	-		70-130	-		20
Selenium, Total	ND	0.12	0.1242	104		-	-		70-130	-		20
Silver, Total	ND	0.05	0.05718	114		-	-		70-130	-		20
Zinc, Total	0.05880	0.5	0.6239	113		-	-		70-130	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180231-7 QC Sample: L1846537-03 Client ID: MS Sample										
Antimony, Total	ND	0.5	0.4688	94		-	-	70-130	-	20
Arsenic, Total	ND	0.12	0.1211	101		-	-	70-130	-	20
Cadmium, Total	ND	0.051	0.05619	110		-	-	70-130	-	20
Chromium, Total	ND	0.2	0.2070	104		-	-	70-130	-	20
Copper, Total	0.00580	0.25	0.2598	102		-	-	70-130	-	20
Lead, Total	0.0020	0.51	0.5234	102		-	-	70-130	-	20
Nickel, Total	ND	0.5	0.5266	105		-	-	70-130	-	20
Selenium, Total	ND	0.12	0.1228	102		-	-	70-130	-	20
Silver, Total	ND	0.05	0.05135	103		-	-	70-130	-	20
Zinc, Total	0.0315	0.5	0.5461	103		-	-	70-130	-	20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180260-3 QC Sample: L1846522-01 Client ID: MS Sample										
Iron, Total	5.89	1	15.8	**991**	Q	-	-	75-125	-	20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180260-3 QC Sample: L1846522-01 Client ID: MS Sample										
Hardness	131	66.2	211	121		-	-	75-125	-	20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180260-7 QC Sample: L1846537-03 Client ID: MS Sample										
Iron, Total	0.259	1	1.24	98		-	-	75-125	-	20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180260-7 QC Sample: L1846537-03 Client ID: MS Sample										
Hardness	29.1	66.2	96.8	102		-	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180268-3 QC Sample: L1846754-01 Client ID: NPDES-1									
Antimony, Dissolved	ND	0.5	0.5907	118	-	-	70-130	-	20
Arsenic, Dissolved	ND	0.12	0.1185	99	-	-	70-130	-	20
Cadmium, Dissolved	0.0010	0.051	0.0580	112	-	-	70-130	-	20
Chromium, Dissolved	ND	0.2	0.2099	105	-	-	70-130	-	20
Copper, Dissolved	0.002	0.25	0.2628	104	-	-	70-130	-	20
Lead, Dissolved	ND	0.51	0.5282	104	-	-	70-130	-	20
Nickel, Dissolved	0.0160	0.5	0.5301	103	-	-	70-130	-	20
Selenium, Dissolved	ND	0.12	0.1135	94	-	-	70-130	-	20
Silver, Dissolved	ND	0.05	0.0566	113	-	-	70-130	-	20
Zinc, Dissolved	0.0101	0.5	0.5071	99	-	-	70-130	-	20
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180270-3 QC Sample: L1846754-01 Client ID: NPDES-1									
Iron, Dissolved	0.338	1	1.27	93	-	-	75-125	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1179831-4 QC Sample: L1846522-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1179831-6 QC Sample: L1846522-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180220-4 QC Sample: L1846754-01 Client ID: NPDES-1						
Mercury, Dissolved	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180231-4 QC Sample: L1846522-01 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.01128	0.01377	mg/l	20		20
Cadmium, Total	0.00020	ND	mg/l	NC		20
Chromium, Total	0.00997	0.02152	mg/l	**73**	Q	20
Copper, Total	0.03814	0.04178	mg/l	9		20
Lead, Total	0.05189	0.05205	mg/l	0		20
Nickel, Total	0.01093	0.01618	mg/l	**39**	Q	20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	0.00042	mg/l	NC		20
Zinc, Total	0.05880	0.07047	mg/l	18		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180231-8 QC Sample: L1846537-03 Client ID: DUP Sample						
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.00580	0.00617	mg/l	6		20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180260-4 QC Sample: L1846522-01 Client ID: DUP Sample						
Iron, Total	5.89	11.8	mg/l	**67**	Q	20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180260-8 QC Sample: L1846537-03 Client ID: DUP Sample						
Iron, Total	0.259	0.293	mg/l	12		20
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180268-4 QC Sample: L1846754-01 Client ID: NPDES-1						
Antimony, Dissolved	ND	ND	mg/l	NC		20
Arsenic, Dissolved	ND	ND	mg/l	NC		20
Cadmium, Dissolved	0.0010	0.0010	mg/l	5		20
Chromium, Dissolved	ND	ND	mg/l	NC		20
Copper, Dissolved	0.002	0.002	mg/l	0		20
Lead, Dissolved	ND	ND	mg/l	NC		20
Nickel, Dissolved	0.0160	0.0167	mg/l	4		20
Selenium, Dissolved	ND	ND	mg/l	NC		20
Silver, Dissolved	ND	ND	mg/l	NC		20
Zinc, Dissolved	0.0101	0.0110	mg/l	8		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846754

Report Date: 11/21/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1180270-4 QC Sample: L1846754-01 Client ID: NPDES-1					
Iron, Dissolved	0.338	0.346	mg/l	2	20

INORGANICS
&
MISCELLANEOUS

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-01
Client ID: NPDES-1
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 07:30
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	110		mg/l	5.0	NA	1	-	11/15/18 07:05	121,2540D	JT
Cyanide, Total	ND		mg/l	0.005	--	1	11/15/18 12:05	11/15/18 15:20	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	11/14/18 23:42	121,4500CL-D	AS
pH (H)	5.9		SU	-	NA	1	-	11/14/18 22:34	121,4500H+-B	AS
Nitrogen, Ammonia	0.104		mg/l	0.075	--	1	11/15/18 16:00	11/16/18 23:35	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	11/16/18 16:30	11/16/18 21:30	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	11/15/18 04:30	11/16/18 05:39	4,420.1	GD
Chromium, Hexavalent	ND		mg/l	0.010	--	1	11/15/18 00:15	11/15/18 00:54	1,7196A	JW
Anions by Ion Chromatography - Westborough Lab										
Chloride	1560		mg/l	25.0	--	50	-	11/16/18 18:09	44,300.0	AU

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-02
Client ID: NPDES-2
Sample Location: BRIGHTON, MA
Sample Depth:
Matrix: Water

Date Collected: 11/14/18 09:30
Date Received: 11/14/18
Field Prep: Refer to COC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	2300		mg/l	50	NA	10	-	11/15/18 07:05	121,2540D	JT
Cyanide, Total	ND		mg/l	0.005	--	1	11/15/18 12:05	11/15/18 15:44	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	11/14/18 23:42	121,4500CL-D	AS
pH (H)	6.2		SU	-	NA	1	-	11/14/18 22:34	121,4500H+-B	AS
Nitrogen, Ammonia	8.37		mg/l	0.150	--	2	11/15/18 16:00	11/16/18 23:39	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	11/16/18 16:30	11/16/18 21:30	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	11/15/18 04:30	11/16/18 05:44	4,420.1	GD
Chromium, Hexavalent	ND		mg/l	0.010	--	1	11/15/18 00:15	11/15/18 00:54	1,7196A	JW
Anions by Ion Chromatography - Westborough Lab										
Chloride	2570		mg/l	50.0	--	100	-	11/17/18 00:21	44,300.0	AU

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

SAMPLE RESULTS

Lab ID: L1846754-03
Client ID: NPDES-3
Sample Location: BRIGHTON, MA

Date Collected: 11/14/18 11:00
Date Received: 11/14/18
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total Suspended	530		mg/l	25	NA	5	-	11/15/18 07:05	121,2540D	JT
Cyanide, Total	0.021		mg/l	0.005	--	1	11/15/18 12:05	11/15/18 15:24	121,4500CN-CE	LH
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	11/14/18 23:42	121,4500CL-D	AS
pH (H)	6.3		SU	-	NA	1	-	11/14/18 22:34	121,4500H+-B	AS
Nitrogen, Ammonia	1.45		mg/l	0.150	--	2	11/15/18 16:00	11/16/18 23:40	121,4500NH3-BH	AT
TPH, SGT-HEM	ND		mg/l	4.00	--	1	11/16/18 16:30	11/16/18 21:30	74,1664A	ML
Phenolics, Total	ND		mg/l	0.030	--	1	11/15/18 04:30	11/16/18 05:45	4,420.1	GD
Chromium, Hexavalent	ND		mg/l	0.010	--	1	11/15/18 00:15	11/15/18 00:55	1,7196A	JW
Anions by Ion Chromatography - Westborough Lab										
Chloride	545.		mg/l	25.0	--	50	-	11/16/18 18:33	44,300.0	AU

Project Name: NBL BLOCK B
Project Number: 3410.15
Lab Number: L1846754
Report Date: 11/21/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1179566-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	11/14/18 23:42	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1179584-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	11/15/18 00:15	11/15/18 00:53	1,7196A	JW
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1179642-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	11/15/18 07:05	121,2540D	JT
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1179724-1										
Phenolics, Total	ND		mg/l	0.030	--	1	11/15/18 04:30	11/16/18 05:38	4,420.1	GD
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1179756-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	11/15/18 16:00	11/16/18 23:16	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1179791-1										
Cyanide, Total	ND		mg/l	0.005	--	1	11/15/18 12:05	11/15/18 14:47	121,4500CN-CE	LH
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1180342-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	11/16/18 16:30	11/16/18 21:30	74,1664A	ML
Anions by Ion Chromatography - Westborough Lab for sample(s): 01-03 Batch: WG1181087-1										
Chloride	ND		mg/l	0.500	--	1	-	11/16/18 17:21	44,300.0	AU

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846754

Report Date: 11/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1179561-1								
pH	100		-		99-101	-		5
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1179566-2								
Chlorine, Total Residual	105		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1179584-2								
Chromium, Hexavalent	97		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1179724-2								
Phenolics, Total	92		-		70-130	-		
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1179756-2								
Nitrogen, Ammonia	96		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1179791-2								
Cyanide, Total	110		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1180342-2								
TPH	85		-		64-132	-		34

Lab Control Sample Analysis

Batch Quality Control

Project Name: NBL BLOCK B

Project Number: 3410.15

Lab Number: L1846754

Report Date: 11/21/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-03 Batch: WG1181087-2					
Chloride	96	-	90-110	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1179566-4 QC Sample: L1846754-03 Client ID: NPDES-3												
Chlorine, Total Residual	ND	0.248	0.27	109		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1179584-4 QC Sample: L1846754-02 Client ID: NPDES-2												
Chromium, Hexavalent	ND	0.1	0.101	101		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1179724-4 QC Sample: L1846754-01 Client ID: NPDES-1												
Phenolics, Total	ND	0.4	0.37	92		-	-		70-130	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1179756-4 QC Sample: L1845991-03 Client ID: MS Sample												
Nitrogen, Ammonia	0.117	4	3.53	85		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1179791-4 QC Sample: L1846754-02 Client ID: NPDES-2												
Cyanide, Total	ND	0.2	0.192	96		-	-		90-110	-		30
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1180342-4 QC Sample: L1846401-01 Client ID: MS Sample												
TPH	9.20	20	25.1	80		-	-		64-132	-		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1181087-3 QC Sample: L1846790-01 Client ID: MS Sample												
Chloride	1000	200	1180	**88**	Q	-	-		90-110	-		18

Lab Duplicate Analysis
Batch Quality Control

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1179561-2 QC Sample: L1846754-03 Client ID: NPDES-3						
pH (H)	6.3	6.3	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1179566-3 QC Sample: L1846754-01 Client ID: NPDES-1						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1179584-3 QC Sample: L1846754-01 Client ID: NPDES-1						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1179642-2 QC Sample: L1846565-02 Client ID: DUP Sample						
Solids, Total Suspended	1200	1200	mg/l	0		29
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1179724-3 QC Sample: L1846754-01 Client ID: NPDES-1						
Phenolics, Total	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1179756-3 QC Sample: L1845991-03 Client ID: DUP Sample						
Nitrogen, Ammonia	0.117	0.116	mg/l	1		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1179791-3 QC Sample: L1846754-01 Client ID: NPDES-1						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1180342-3 QC Sample: L1846401-01 Client ID: DUP Sample						
TPH	9.20	8.90	mg/l	3		34
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1181087-4 QC Sample: L1846790-01 Client ID: DUP Sample						
Chloride	1000	1010	mg/l	1		18

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1846754-01A	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-01A1	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-01B	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-01B1	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-01C	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-01C1	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-01D	Vial HCl preserved	A	NA		3.5	Y	Absent		ARCHIVE()
L1846754-01E	Vial HCl preserved	A	NA		3.5	Y	Absent		ARCHIVE()
L1846754-01F	Vial HCl preserved	A	NA		3.5	Y	Absent		ARCHIVE()
L1846754-01G	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		504(14)
L1846754-01H	Vial Na2S2O3 preserved	A	NA		3.5	Y	Absent		504(14)
L1846754-01J	Plastic 250ml HNO3 preserved	A	<2	<2	3.5	Y	Absent		AG-2008S(180),CR-2008S(180),FE-RI(180),AS-2008S(180),PB-2008S(180),ZN-2008S(180),NI-2008S(180),SE-2008S(180),CD-2008S(180),CU-2008S(180),SB-2008S(180),HG-R(28)
L1846754-01K	Plastic 500ml HNO3 preserved	A	<2	<2	3.5	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),HARDU(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1846754-01L	Plastic 250ml NaOH preserved	A	>12	>12	3.5	Y	Absent		TCN-4500(14)
L1846754-01M	Plastic 500ml H2SO4 preserved	A	<2	<2	3.5	Y	Absent		NH3-4500(28)
L1846754-01N	Plastic 950ml unpreserved	A	7	7	3.5	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1),PH-4500(.01)
L1846754-01P	Plastic 950ml unpreserved	A	7	7	3.5	Y	Absent		TSS-2540(7)

*Values in parentheses indicate holding time in days

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1846754-01Q	Amber 950ml H2SO4 preserved	A	<2	<2	3.5	Y	Absent		TPHENOL-420(28)
L1846754-01R	Amber 1000ml Na2S2O3	A	7	7	3.5	Y	Absent		PCB-608.3(7)
L1846754-01S	Amber 1000ml Na2S2O3	A	7	7	3.5	Y	Absent		PCB-608.3(7)
L1846754-01T	Amber 1000ml Na2S2O3	A	7	7	3.5	Y	Absent		625.1-RGP(7)
L1846754-01U	Amber 1000ml Na2S2O3	A	7	7	3.5	Y	Absent		625.1-RGP(7)
L1846754-01V	Amber 1000ml Na2S2O3	A	7	7	3.5	Y	Absent		625.1-SIM-RGP(7)
L1846754-01W	Amber 1000ml Na2S2O3	A	7	7	3.5	Y	Absent		625.1-SIM-RGP(7)
L1846754-01X	Amber 1000ml HCl preserved	A	NA		3.5	Y	Absent		TPH-1664(28)
L1846754-01Y	Amber 1000ml HCl preserved	A	NA		3.5	Y	Absent		TPH-1664(28)
L1846754-02A	Vial Na2S2O3 preserved	B	NA		3.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-02A1	Vial Na2S2O3 preserved	B	NA		3.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-02B	Vial Na2S2O3 preserved	B	NA		3.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-02B1	Vial Na2S2O3 preserved	B	NA		3.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-02C	Vial Na2S2O3 preserved	B	NA		3.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-02C1	Vial Na2S2O3 preserved	B	NA		3.0	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-02D	Vial Na2S2O3 preserved	B	NA		3.0	Y	Absent		ARCHIVE()
L1846754-02E	Vial Na2S2O3 preserved	B	NA		3.0	Y	Absent		ARCHIVE()
L1846754-02F	Vial Na2S2O3 preserved	B	NA		3.0	Y	Absent		ARCHIVE()
L1846754-02G	Vial Na2S2O3 preserved	B	NA		3.0	Y	Absent		504(14)
L1846754-02H	Vial Na2S2O3 preserved	B	NA		3.0	Y	Absent		504(14)
L1846754-02J	Plastic 250ml HNO3 preserved	B	<2	<2	3.0	Y	Absent		AG-2008S(180),CR-2008S(180),FE-RI(180),AS-2008S(180),PB-2008S(180),ZN-2008S(180),NI-2008S(180),SE-2008S(180),CD-2008S(180),CU-2008S(180),SB-2008S(180),HG-R(28)
L1846754-02K	Plastic 500ml HNO3 preserved	B	<2	<2	3.0	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),HARDU(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)
L1846754-02L	Plastic 250ml NaOH preserved	B	>12	>12	3.0	Y	Absent		TCN-4500(14)
L1846754-02M	Plastic 500ml H2SO4 preserved	B	<2	<2	3.0	Y	Absent		NH3-4500(28)

*Values in parentheses indicate holding time in days

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1846754-02N	Plastic 950ml unpreserved	B	7	7	3.0	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1),PH-4500(.01)
L1846754-02P	Plastic 950ml unpreserved	B	7	7	3.0	Y	Absent		TSS-2540(7)
L1846754-02Q	Amber 950ml H2SO4 preserved	B	<2	<2	3.0	Y	Absent		TPHENOL-420(28)
L1846754-02R	Amber 1000ml Na2S2O3	B	7	7	3.0	Y	Absent		PCB-608.3(7)
L1846754-02S	Amber 1000ml Na2S2O3	B	7	7	3.0	Y	Absent		PCB-608.3(7)
L1846754-02T	Amber 1000ml Na2S2O3	B	7	7	3.0	Y	Absent		625.1-RGP(7)
L1846754-02U	Amber 1000ml Na2S2O3	B	7	7	3.0	Y	Absent		625.1-RGP(7)
L1846754-02V	Amber 1000ml Na2S2O3	B	7	7	3.0	Y	Absent		625.1-SIM-RGP(7)
L1846754-02W	Amber 1000ml Na2S2O3	B	7	7	3.0	Y	Absent		625.1-SIM-RGP(7)
L1846754-02X	Amber 1000ml HCl preserved	B	NA		3.0	Y	Absent		TPH-1664(28)
L1846754-02Y	Amber 1000ml HCl preserved	B	NA		3.0	Y	Absent		TPH-1664(28)
L1846754-03A	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-03A1	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-03B	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-03B1	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-03C	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-03C1	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		624.1-RGP(7),624.1-SIM-RGP(7)
L1846754-03D	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		ARCHIVE()
L1846754-03E	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		ARCHIVE()
L1846754-03F	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		ARCHIVE()
L1846754-03G	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		504(14)
L1846754-03H	Vial Na2S2O3 preserved	C	NA		3.2	Y	Absent		504(14)
L1846754-03J	Plastic 250ml HNO3 preserved	C	<2	<2	3.2	Y	Absent		AG-2008S(180),CR-2008S(180),FE-RI(180),AS-2008S(180),PB-2008S(180),ZN-2008S(180),NI-2008S(180),SE-2008S(180),CD-2008S(180),CU-2008S(180),SB-2008S(180),HG-R(28)
L1846754-03K	Plastic 500ml HNO3 preserved	C	<2	<2	3.2	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),HARDU(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180)

*Values in parentheses indicate holding time in days

Project Name: NBL BLOCK B
Project Number: 3410.15

Lab Number: L1846754
Report Date: 11/21/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1846754-03L	Plastic 250ml NaOH preserved	C	>12	>12	3.2	Y	Absent		TCN-4500(14)
L1846754-03M	Plastic 500ml H2SO4 preserved	C	<2	<2	3.2	Y	Absent		NH3-4500(28)
L1846754-03N	Plastic 950ml unpreserved	C	7	7	3.2	Y	Absent		CL-300(28),HEXCR-7196(1),TRC-4500(1),PH-4500(.01)
L1846754-03P	Plastic 950ml unpreserved	C	7	7	3.2	Y	Absent		TSS-2540(7)
L1846754-03Q	Amber 950ml H2SO4 preserved	C	<2	<2	3.2	Y	Absent		TPHENOL-420(28)
L1846754-03R	Amber 1000ml Na2S2O3	C	7	7	3.2	Y	Absent		PCB-608.3(7)
L1846754-03S	Amber 1000ml Na2S2O3	C	7	7	3.2	Y	Absent		PCB-608.3(7)
L1846754-03T	Amber 1000ml Na2S2O3	C	7	7	3.2	Y	Absent		625.1-RGP(7)
L1846754-03U	Amber 1000ml Na2S2O3	C	7	7	3.2	Y	Absent		625.1-RGP(7)
L1846754-03V	Amber 1000ml Na2S2O3	C	7	7	3.2	Y	Absent		625.1-SIM-RGP(7)
L1846754-03W	Amber 1000ml Na2S2O3	C	7	7	3.2	Y	Absent		625.1-SIM-RGP(7)
L1846754-03X	Amber 1000ml HCl preserved	C	NA		3.2	Y	Absent		TPH-1664(28)
L1846754-03Y	Amber 1000ml HCl preserved	C	NA		3.2	Y	Absent		TPH-1664(28)

*Values in parentheses indicate holding time in days

Project Name:	NBL BLOCK B	**Lab Number:**	L1846754
Project Number:	3410.15	**Report Date:**	11/21/18

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

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

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

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

Report Format: Data Usability Report

Project Name:	NBL BLOCK B	**Lab Number:**	L1846754
Project Number:	3410.15	**Report Date:**	11/21/18

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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

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

Report Format: Data Usability Report

Project Name:	NBL BLOCK B	**Lab Number:**	L1846754
Project Number:	3410.15	**Report Date:**	11/21/18

REFERENCES

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

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

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

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

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

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

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

107 Alpha Analytical - In-house calculation method.

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

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

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

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

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

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

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

Westborough Facility:

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

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

Mansfield Facility:

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

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

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
World Class Chemistry

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

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

Date Rec'd in Lab: 11/14/18

ALPHA Job #: L1846754

Project Information

Project Name: NBL Block B

Project Location: Brighton, MA

Project #: 3410.15

Project Manager: A. Blomeke

ALPHA Quote #:

Client Information

Client: Sanborn, Head & Associates, Inc.

Address: 1 Technology Park Drive

Westford, MA 01886

Phone: 978-932-0900

Fax:

Email: ABlomeke@sanbornhead.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NPDES RGP	NPDES Reporting Limits

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

☐ Yes ☒ No Are MCP Analytical Methods Required?

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

Other Project Specific Requirements/Comments/Detection Limits:

Do NOT run ethanol
Total and Dissloved Metals of Ag, As, Cd, Cr, Cu, Ni, Pb, Sb, Se, Zn, Fe, Hg
HexCr, TriCr (lab calc)
NPDES RGP minimum Levels (detection limits) must be met

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

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	NPDES RGP Package	Total and Dissolved Metals	Ethanol	pH	Hardness								Sample Specific Comments	TOTAL # BOTTLES
46754-01	NPDES-1	11/14/18	7:30	GW	DMP	☒	☒	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐	See Notes	
02	NPDES-2	↓	9:30	↓	↓	☒	☒	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐		
03	NPDES-3	↓	11:00	↓	↓	☒	☒	☐	☒	☒	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-		
					Preservative	-	-	-	-	-	-	-	-	-	-	-	-		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

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

Relinquished By:	Date/Time	Received By:	Date/Time
[illegible] 11/14/18	15:12	[illegible] AAL	11/14/18 15:18
[illegible]	11-14-18 1645	[illegible]	11/14/18 1645

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

APPENDIX E

MUNICIPAL CORRESPONDENCE

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

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: John Moriarty & Associates Address: 3 Church Street Suite #2, Winchester, MA 01890

Phone Number: 781-729-3900 Fax number: 781-729-8456

Contact person name: Jamie Noon Title: Project Manager

Cell number: _____ Email address: jnoon@jm-a.com

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

Owner's Information (if different from above):

Owner of property being dewatered: NB Development Group LLC (Contact: Kieth Craig)

Owner's mailing address: 221 North Beacon Street, Brighton, MA Phone number: 617-987-2500

Location of Discharge & Proposed Treatment System(s):

Street number and name: 77 Guest Street Neighborhood Brighton

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

Describe Proposed Pre-Treatment System(s): Settling tank, bag filter, other optional treatment components

BWSC Outfall No. 25E037 Receiving Waters Charles River

Temporary Discharges (Provide Anticipated Dates of Discharge): From February 2019 To March 2020

- ☐ Groundwater Remediation
- ☐ Utility/Manhole Pumping
- ☐ Accumulated Surface Water
- ☐ Tank Removal/Installation
- ☐ Test Pipe
- ☐ Hydrogeologic Testing
- ☒ Foundation Excavation
- ☐ Trench Excavation
- ☒ Other excavation dewatering during construction for various subsurface structures

Permanent Discharges

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

---

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

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

Signature of Authorized Representative for Property Owner: _____ Date: 1/18/19

Table 1-1. BWSC Stormwater Outfalls

OUTFALL NUMBER		LOCATION	NEIGHBORHOOD	SIZE (INCHES)	RECEIVING WATER
23H042	MAJOR	DEERFIELD ST	BOSTON PROPER	116X120	CHARLES RIVER
23L015	NON MAJOR	NORTHERN AVE	SOUTH BOSTON	24	BOSTON INNER HARBOR
23L074	NON MAJOR	SUMMER ST BRIDGE	SOUTH BOSTON	15	FORT POINT CHANNEL
23L075	MAJOR	CONGRESS ST BRIDGE	SOUTH BOSTON	54	FORT POINT CHANNEL
23L164	MAJOR	CONGRESS ST BRIDGE	BOSTON PROPER	48	FORT POINT CHANNEL
23L195	MAJOR	NORTHERN AVE	SOUTH BOSTON	36	BOSTON INNER HARBOR
23L196	MAJOR	NEW NORTHERN AVE BRIDGE	SOUTH BOSTON	36	FORT POINT CHANNEL
23L202	MAJOR	NORTHERN AVE	SOUTH BOSTON	36	BOSTON INNER HARBOR
24C039	NON MAJOR	NEWTON ST	ALLSTON/BRIGHTON	21	CHARLES RIVER
24C174	NON MAJOR	EASEMENT/NEWTON STREET	ALLSTON/BRIGHTON	24	CHARLES RIVER
24D032	MAJOR	N OF BEACON ST, ABOUT 800' E OF PARSONS ST	ALLSTON/BRIGHTON	119X130	CHARLES RIVER
24D150	MAJOR	SOLDIERS FIELD PLACE	ALLSTON/BRIGHTON	36	CHARLES RIVER
24G034	MAJOR	SOLDIERS FIELD ROAD, S OF CAMBRDIGE ST	ALLSTON/BRIGHTON	36	CHARLES RIVER
24G035	MAJOR	SOLDIERS FIELD ROAD/BABCOCK ST	ALLSTON/BRIGHTON	90X84	CHARLES RIVER
24L022	MAJOR	COURTHOUSE WAY	SOUTH BOSTON	48	BOSTON HARBOR
24L233	MAJOR	ROWE'S WHARF/ATLANTIC AVE	BOSTON PROPER	42	BOSTON HARBOR
25D040	MAJOR	ABOUT 390' N OF INTERSECTION OF SOLDIERS FIELD & WESTERN AVE	ALLSTON/BRIGHTON	36	CHARLES RIVER
25E037	MAJOR	EASEMENT/TELFORD ST	ALLSTON/BRIGHTON	66	CHARLES RIVER
25G041	NON MAJOR	SOLDIERS FIELD RD/NORTH OF WESTERN AVE BRIDGE	ALLSTON/BRIGHTON	24	CHARLES RIVER
25L058	MAJOR	CHRISTOPHER COLUMBUS PARK-WATERFRONT	BOSTON PROPER	84	BOSTON INNER HARBOR
25L144	NON MAJOR	CLARK STREET	BOSTON PROPER	12	BOSTON INNER HARBOR
25M006	MAJOR	MARGINAL ST EXT	EAST BOSTON	36	BOSTON INNER HARBOR
25M007	MAJOR	MARGINAL ST EXT (NEAR ORLEANS ST)	EAST BOSTON	42	BOSTON INNER HARBOR
26F038	MAJOR	HARVARD ST EXT	ALLSTON/BRIGHTON	36	CHARLES RIVER
26G001	MAJOR	SOLDIERS FIELD ROAD/EAST OF HARVARD UNIVERSITY	ALLSTON/BRIGHTON	36	CHARLES RIVER
26J049	MAJOR	NASHUA STREET	BOSTON PROPER	60	CHARLES RIVER
26J052	NON MAJOR	MONSIGNOR O'BRIEN HWY	BOSTON PROPER	12	CHARLES RIVER
26J101 (replaced 26J055)	MAJOR	LEVERETT CIRCLE	BOSTON PROPER	36	BOSTON INNER HARBOR
26K035	MAJOR	BEVERLY STREET NEAR WARREN BRIDGE	BOSTON PROPER	48x72	CHARLES RIVER
26K050	MAJOR	NASHUA STREET	BOSTON PROPER	36	CHARLES RIVER
26K052	NON MAJOR	COMMERCIAL STREET AT CHARTER ST.	BOSTON PROPER	16x24	CHARLES RIVER
26K099	MAJOR	WARREN ST EXT (FORMERLY CHELSEA ST/JOINER EXT)	CHARLESTOWN	84	CHARLES RIVER
26K254	MAJOR	NORTH WASHINGTON ST BRIDGE	CHARLESTOWN	36	BOSTON HARBOR
26L106	MAJOR	NEAR BATTERY WHARF	BOSTON PROPER	24X24	BOSTON INNER HARBOR
26L070	MAJOR	HANOVER ST EXT	BOSTON PROPER	36	BOSTON INNER HARBOR
26L084	MAJOR	LEWIS STREET	EAST BOSTON	18	BOSTON INNER HARBOR
27J001	MAJOR	EASEMENT/INTERSTATE 93	CHARLESTOWN	72	MILLERS RIVER
27J044	MAJOR	PRISON POINT BRIDGE	CHARLESTOWN	15	MILLERS RIVER
27J096	MAJOR	EASEMENT/INTERSTATE 93	CHARLESTOWN	54	MILLERS RIVER
27L020/22	MAJOR	PIER 4 EASEMENT - NAVY YARD	CHARLESTOWN	2-20&24	BOSTON INNER HARBOR
28K010	MAJOR	OLD LANDING WAY EXT	CHARLESTOWN	42	LITTLE MYSTIC CHANNEL
28K061	MAJOR	EASEMENT/MEDFORD ST/OLD IRONSIDE	CHARLESTOWN	42	LITTLE MYSTIC CHANNEL
28K386	MAJOR	EASEMENT/TERMINAL ST	CHARLESTOWN	30	LITTLE MYSTIC CHANNEL
28L073	NON MAJOR	EASEMENT/5TH AVE - NAVY YARD	CHARLESTOWN	6	LITTLE MYSTIC CHANNEL
28L074/075/076	MAJOR	16TH ST/5TH AVE - NAVY YARD	CHARLESTOWN	3-30	LITTLE MYSTIC CHANNEL
28L077	NON MAJOR	EASEMENT/16TH ST - NAVY YARD	CHARLESTOWN	10	LITTLE MYSTIC CHANNEL
28N156	NON MAJOR	COLERIDGE ST EXT	EAST BOSTON	12	BOSTON HARBOR
28N207	MAJOR	MOORE ST	EAST BOSTON	54X57	BOSTON HARBOR
28O025	NON MAJOR	COLERIDGE/WADSWORTH ST. EXT	EAST BOSTON	30	BOSTON HARBOR
28P001	NON MAJOR	EASEMENT/NANCIA STREET	EAST BOSTON	12	BOSTON HARBOR
29J029	NON MAJOR	ALFORD STREET/RYAN PLGD	CHARLESTOWN	15	MYSTIC RIVER
29J129	MAJOR	ALFORD STREET SOUTH	CHARLESTOWN	15	MYSTIC RIVER
29J212	MAJOR	EASEMENT/MEDFORD ST(NEXT TO CSO 017)	CHARLESTOWN	72	MYSTIC RIVER
29M049	MAJOR	CONDOR STREET	EAST BOSTON	48	CHELSEA RIVER
29N015	MAJOR	CHELSEA STREET	EAST BOSTON	42X44.5	CHELSEA RIVER
29N135	MAJOR	ADDISON ST	EAST BOSTON	30X30	CHELSEA RIVER
29O001	MAJOR	BENNINGTON ST (CONSTITUTION BEACH)	EAST BOSTON	66	BOSTON HARBOR NEAR CONSTITUTION BEACH
29P005	NON MAJOR	SARATOGA STREET	EAST BOSTON	12	BOSTON HARBOR
29P044	NON MAJOR	SHAWSHEEN ST	EAST BOSTON	12	BOSTON HARBOR
30J006	MAJOR	EASEMENT/ALFORD ST/EVERETT	CHARLESTOWN	18	MYSTIC RIVER
30J019	MAJOR	ALFORD ST/NORTH	CHARLESTOWN	15	MYSTIC RIVER
30J030	MAJOR	EASEMENT/ARLINGTON AVE	CHARLESTOWN	42	MYSTIC RIVER
30P062	NON MAJOR	PALERMO AVE EXT	EAST BOSTON	12	WETLANDS
30P107	NON MAJOR	WALDEMAR AVENUE	EAST BOSTON	15	WETLANDS
31O004	NON MAJOR	EASEMENT/WALDEMAR AVE	EAST BOSTON	15	CHELSEA RIVER
31P084	NON MAJOR	EASEMENT/BENNINGTON ST	EAST BOSTON	30	BELLE ISLE INLET, REVERE

APPENDIX F

FEDERAL CORRESPONDENCE

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:
Consultation Code: 05E1NE00-2019-SLI-0415
Event Code: 05E1NE00-2019-E-00953
Project Name: NBL Block B

November 30, 2018

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2019-SLI-0415

Event Code: 05E1NE00-2019-E-00953

Project Name: NBL Block B

Project Type: DEVELOPMENT

Project Description: 77 Guest Street, Brighton, MA

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.35647368233218N71.14459632818057W

Counties: Suffolk, MA

Endangered Species Act Species

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

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

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

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

---

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

Critical habitats

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

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:
Consultation Code: 05E1NE00-2019-SLI-0416
Event Code: 05E1NE00-2019-E-00955
Project Name: NBL Block B Discharge Point

November 30, 2018

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

To Whom It May Concern:

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

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

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

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

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

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

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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

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This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2019-SLI-0416

Event Code: 05E1NE00-2019-E-00955

Project Name: NBL Block B Discharge Point

Project Type: DEVELOPMENT

Project Description: Discharge Point to the Charles River for dewatering during construction activities at 77 Guest Street, Brighton, MA.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.36485230058605N71.13807171188608W

Counties: Middlesex, MA | Suffolk, MA

Endangered Species Act Species

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

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

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

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

---

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

Critical habitats

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

MassDEP - Bureau of Waste Site Cleanup

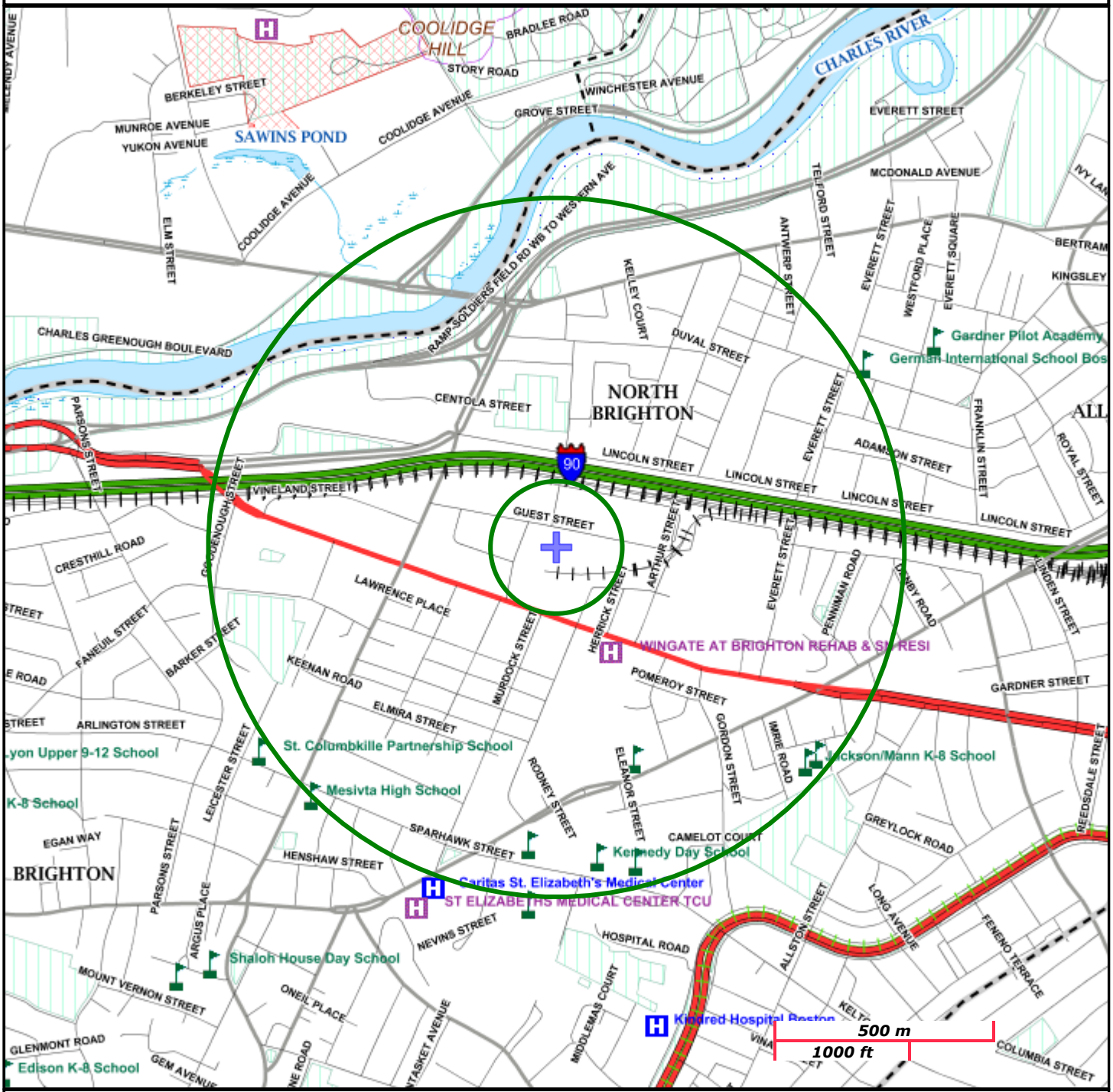
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
NBL BLOCK B
77 GUEST STREET BOSTON, MA

NAD83 UTM Meters:
4691588mN , 323368mE (Zone: 19)
November 28, 2018

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



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

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

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

Aquifers: Medium Yield, High Yield, EPA Sole Source

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

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

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

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

From: Christine Vaccaro - NOAA Federal
To: Sara Knowles
Subject: Re: NBL Block B RGP
Date: Friday, November 30, 2018 11:01:44 AM

Hi Sara,
Discharges at this location will not overlap with any of our listed species, thus no pathways for effects exist.

Cheers,
Chris

Chris Vaccaro
Fisheries Biologist
Protected Resources Division
NOAA Fisheries, Greater Atlantic Region
Gloucester, MA
Phone: 978-281-9167
Email: christine.vaccaro@noaa.gov

For additional ESA Section 7 information and Critical Habitat guidance, please see:
www.greateratlantic.fisheries.noaa.gov/protected/section7

On Fri, Nov 30, 2018 at 10:56 AM Sara Knowles <sknowles@sanbornhead.com> wrote:

> Good morning Christine,
>
> I am requesting information to be included as part of a Notice of Intent (NOI) for a Remediation General Permit (RGP). The NOI is for construction dewatering during excavation activities at 77 Guest Street in Brighton, Massachusetts. Effluent will be discharged to the Charles River in Boston, MA, by means of the Everett Street drainage line.
>
> As part of the application to the USEPA for the RGP, we need to look into whether this proposed temporary discharge has the potential to adversely affect any federally listed species in the reach of the Charles River downstream of the discharge point.
>
> Approximate discharge latitude/longitude: 42.365548, -71.137436
>
> Please let me know if you have any questions or require further information.

Thank you,

- Sara

--
Sara Knowles
Environmental Engineer
_____

SANBORN, HEAD & ASSOCIATES, INC.
1 Technology Park Drive, Westford, MA 01886
T 978.392.0900 D 978.577.1022 C 978.609.3600
www.sanbornhead.com

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APPENDIX G

NATIONAL REGISTER OF HISTORICAL PLACES, BRIGHTON, MASSACHUSETTS

Appendix G
National Register of Historic Places
Research Documentation
Brighton, Massachusetts

Site Name	Address	Date Listed
Brighton Center Historic District	Academy Hill Rd., Chestnut Hill Ave., Dighton, Elko, Henshaw, Leicester, Market, Washington, and Winship Sts.	2/20/2001
Brighton Evangelical Congregational Church	404-410 Washington St.	8/21/1997
Chestnut Hill Reservoir Historic District	Beacon St. and Commonwealth Ave.	1/18/1990
Evergreen Cemetery	2060 Commonwealth Ave.	8/14/2009
Oak Square School	35 Nonantum St.	11/10/1980
Charles River Reservation (Speedway)-Upper Basin Headquarters	1420-1440 Soldiers Field Rd.	7/19/2010
Engine House No. 34	444 Western Ave.	10/24/1985

Notes:
Sanborn, Head & Associates, Inc. (Sanborn Head) conducted a review of the National Register of Historic Places within Brighton, Massachusetts. The search returned 7 results, none of which are located at or abutting the site.

Enter number values in green boxes below

Enter values in the units specified

↓

15.71	Q_R = Enter upstream flow in **MGD**
0.072	Q_P = Enter discharge flow in **MGD**
0	Downstream 7Q10

Enter a dilution factor, if other than zero

↓

219.2

Enter values in the units specified

↓

1010	C_d = Enter influent hardness in **mg/L** $CaCO_3$
73.6	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$

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

↓

7	pH in **Standard Units**
25	Temperature in **^oC**
0.271	Ammonia in **mg/L**
73.6	Hardness in **mg/L** $CaCO_3$
29	Salinity in **ppt**
0	Antimony in **µg/L**
0	Arsenic in **µg/L**
0	Cadmium in **µg/L**
1	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
2.96	Copper in **µg/L**
1180	Iron in **µg/L**
2.19	Lead in **µg/L**
0	Mercury in **µg/L**
0	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
0	Zinc in **µg/L**

Enter **influent** concentrations in the units specified

↓

0	TRC in **µg/L**
8.37	Ammonia in **mg/L**
0	Antimony in **µg/L**
5.95	Arsenic in **µg/L**
1.15	Cadmium in **µg/L**
22.19	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
39.67	Copper in **µg/L**
94300	Iron in **µg/L**
51.96	Lead in **µg/L**
0	Mercury in **µg/L**
16.95	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
120.7	Zinc in **µg/L**
21	Cyanide in **µg/L**
0	Phenol in **µg/L**
0	Carbon Tetrachloride in **µg/L**
1	Tetrachloroethylene in **µg/L**
2.2	Total Phthalates in **µg/L**
2.2	Diethylhexylphthalate in **µg/L**
0.2	Benzo(a)anthracene in **µg/L**
0.4	Benzo(a)pyrene in **µg/L**
0.67	Benzo(b)fluoranthene in **µg/L**
0.28	Benzo(k)fluoranthene in **µg/L**
0.32	Chrysene in **µg/L**
0.11	Dibenzo(a,h)anthracene in **µg/L**
0.38	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

Notes:

Freshwater: Q_R equal to the 7Q10; enter alternate Q_R if approved by the State; enter 0 if no dilution factor
Saltwater (estuarine and marine): enter Q_R if approved by the State; enter 0 if no entry
Discharge flow is equal to the design flow or 1 MGD, whichever is less
Only if approved by State as the entry for Q_R; leave 0 if no entry

Saltwater (estuarine and marine): only if approved by the State
Leave 0 if no entry

Freshwater only

pH, temperature, and ammonia required for all discharges
Hardness required for freshwater
Salinity required for saltwater (estuarine and marine)
Metals required for all discharges if present and if dilution factor is > 1
Enter 0 if non-detect or testing not required

if >1 sample, enter maximum
if >10 samples, may enter 95th percentile
Enter 0 if non-detect or testing not required

I. Dilution Factor Calculation Method

A. 7Q10

Refer to Appendix V for determining critical low flow; must be approved by State before use in calculations.

B. Dilution Factor

Calculated as follows: $$Df = \frac{Q_R + Q_P}{Q_P}$$

Q_R = 7Q10 in MGD

Q_P = Discharge flow, in MGD

II. Effluent Limitation Calculation Method

A. Calculate Water Quality Criterion:

Step 1. Downstream hardness, calculated as follows:

$$C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$$

C_r = Downstream hardness in mg/L

Q_d = Discharge flow in MGD

C_d = Discharge hardness in mg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Upstream (receiving water) hardness in mg/L

Q_r = Downstream receiving water flow in MGD

Step 2. Total recoverable water quality criteria for hardness-dependent metals, calculated as follows:

Total Recoverable Criteria = $\exp\{m_c [\ln(h)] + b_c\}$

m_c = Pollutant-specific coefficient (m_a for silver)

b_c = Pollutant-specific coefficient (b_a for silver)

ln = Natural logarithm

h = Hardness calculated in Step 1

Step 3. Total recoverable water quality criteria for non-hardness-dependent metals, calculated as follows:

$$\text{WQC in µg/L} = \frac{\text{dissolved WQC in µg/L}}{\text{dissolved to total recoverable factor}}$$

B. Calculate WQBEL:

Step 1. WQBEL calculated as follows for parameter sampled in and detected in the receiving water:

$$C_d = \frac{Q_r C_r - Q_s C_s}{Q_d}$$

C_r = Water quality criterion in µg/L

Q_d = Discharge flow in MGD

C_d = WQBEL in µg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Ustream (receiving water) concentration in µg/L

Q_r = Downstream receiving water flow in MGD

Step 2. WQBEL calculated as follows for parameter not sampled in or not detected in receiving water:

$$C_d = (Q_r/Q_d) \times C_r$$

C_r = Water quality criterion in µg/L

Q_d = Discharge flow in MGD

Q_r = Downstream receiving water flow in MGD

C. Determine if a WQBEL applies:

Step 1. For parameter sampled in and detected in receiving water, downstream concentrations calculated as fo

$$C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$$

C_r = Downstream concentration in µg/L

Q_d = Discharge flow in MGD

C_d = Influent concentration in µg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Upstream (receiving water) concentration in µg/L

Q_r = Downstream receiving water flow in MGD

The WQBEL applies if:

1) the projected downstream concentration calculated in accordance with St
and the discharge concentration of a parameter are greater than the WQC ca
that parameter in accordance with II.A, above

AND

2) the WQBEL determined for that parameter in accordance with II.B, abov
the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL
of the RGP for that parameter applies.

Step 2. For a parameter not sampled in or not detected in receiving water, the WQBEL applies if:

1) the discharge concentration of a parameter is greater than the WQBEL de
that parameter in accordance with II.A or II.B, above;

AND

2) the WQBEL determined for that parameter in accordance with II.A or II.
less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, t

Part 2.1.1 of the RGP for that parameter applies.

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he TBEL in

Dilution Factor	219.2			
	TBEL applies if bolded		WQBEL applies if bolded	
A. Inorganics				
Ammonia	**Report**	mg/L	---	
Chloride	**Report**	µg/L	---	
Total Residual Chlorine	**0.2**	mg/L	2411	µg/L
Total Suspended Solids	**30**	mg/L	---	
Antimony	**206**	µg/L	140284	µg/L
Arsenic	**104**	µg/L	2192	µg/L
Cadmium	**10.2**	µg/L	49.2854	µg/L
Chromium III	**323**	µg/L	15173.1	µg/L
Chromium VI	**323**	µg/L	2506.4	µg/L
Copper	**242**	µg/L	1005.5	µg/L
Iron	5000	µg/L	**1000**	µg/L
Lead	160	µg/L	**29.38**	µg/L
Mercury	**0.739**	µg/L	198.56	µg/L
Nickel	**1450**	µg/L	9253.4	µg/L
Selenium	**235.8**	µg/L	1096.0	µg/L
Silver	**35.1**	µg/L	539.5	µg/L
Zinc	**420**	µg/L	21247.8	µg/L
Cyanide	**178**	mg/L	1139.8	µg/L
B. Non-Halogenated VOCs				
Total BTEX	**100**	µg/L	---	
Benzene	**5.0**	µg/L	---	
1,4 Dioxane	**200**	µg/L	---	
Acetone	**7970**	µg/L	---	
Phenol	**1,080**	µg/L	65758	µg/L
C. Halogenated VOCs				
Carbon Tetrachloride	**4.4**	µg/L	350.7	µg/L
1,2 Dichlorobenzene	**600**	µg/L	---	
1,3 Dichlorobenzene	**320**	µg/L	---	
1,4 Dichlorobenzene	**5.0**	µg/L	---	
Total dichlorobenzene	**---**	µg/L	---	
1,1 Dichloroethane	**70**	µg/L	---	
1,2 Dichloroethane	**5.0**	µg/L	---	
1,1 Dichloroethylene	**3.2**	µg/L	---	
Ethylene Dibromide	**0.05**	µg/L	---	
Methylene Chloride	**4.6**	µg/L	---	
1,1,1 Trichloroethane	**200**	µg/L	---	
1,1,2 Trichloroethane	**5.0**	µg/L	---	
Trichloroethylene	**5.0**	µg/L	---	
Tetrachloroethylene	**5.0**	µg/L	723.3	µg/L

cis-1,2 Dichloroethylene	**70**	µg/L	---	
Vinyl Chloride	**2.0**	µg/L	---	
D. Non-Halogenated SVOCs				
Total Phthalates	**190**	µg/L	---	µg/L
Diethylhexyl phthalate	**101**	µg/L	482.2	µg/L
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---	
Benzo(a)anthracene	**1.0**	µg/L	0.8329	µg/L
Benzo(a)pyrene	**1.0**	µg/L	0.8329	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.8329	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.8329	µg/L
Chrysene	**1.0**	µg/L	0.8329	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.8329	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.8329	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---	
Naphthalene	**20**	µg/L	---	
E. Halogenated SVOCs				
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---	
Pentachlorophenol	**1.0**	µg/L	---	
F. Fuels Parameters				
Total Petroleum Hydrocarbons	**5.0**	mg/L	---	
Ethanol	**Report**	mg/L	---	
Methyl-tert-Butyl Ether	**70**	µg/L	4384	µg/L
tert-Butyl Alcohol	**120**	µg/L	---	
tert-Amyl Methyl Ether	**90**	µg/L	---	

Compliance Level applies if shown		
	---	µg/L
	---	µg/L

---	µg/L
---	µg/L
---	µg/L
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---	µg/L

0.5	µg/L

I. Dilution Factor Calculation Method

A. 7Q10

No flow assumed at critical low flow for saltwater unless otherwise approved by the State

B. Dilution Factor

No dilution assumed for saltwater, unless otherwise approved by the State

II. Effluent Limitation Calculation Method

A. Calculate Water Quality Criterion:

Step 1. Not applicable to saltwater

Step 2. Not applicable to saltwater

Step 3. Total recoverable water quality criteria for dissolved metals, calculated as follows:

$$\text{WQC in } \mu g/L = \frac{\text{dissolved WQC in } \mu g/L}{\text{dissolved to total recoverable factor}}$$

B. Calculate WQBEL:

Step 1. WQBEL calculated as follows for parameter sampled in and detected in the receiving water:

$$C_d = \frac{Q_r C_r - Q_s C_s}{Q_d}$$

C_r = Water quality criterion in µg/L

Q_d = Discharge flow in MGD

C_d = WQBEL in µg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Ustream (receiving water) concentration in µg/L

Q_r = Downstream receiving water flow in MGD

Step 2. WQBEL calculated as follows for parameter not sampled in or not detected in receiving water:

$$C_d = (Q_r/Q_d) \times C_r$$

C_r = Water quality criterion in µg/L

Q_d = Discharge flow in MGD

Q_r = Downstream receiving water flow in MGD

C. Determine if a WQBEL applies:

Step 1. For parameter sampled in and detected in receiving water, downstream concentrations calculated as fo

$$C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$$

C_r = Downstream concentration in µg/L

Q_d = Discharge flow in MGD

C_d = Influent concentration in µg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Upstream (receiving water) concentration in µg/L

Q_r = Downstream receiving water flow in MGD

The WQBEL applies if:

1) the projected downstream concentration calculated in accordance with St
and the discharge concentration of a parameter is greater than the WQC calc
that parameter in accordance with II.A, above

AND

2) the WQBEL determined for that parameter in accordance with II.B, abov
the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL
of the RGP for that parameter applies.

Step 2. For a parameter not detected in or not sampled in receiving water, the WQBEL applies if:

1) the discharge concentration of a parameter is greater than the WQBEL de
that parameter in accordance with II.A or II.B, above;

AND

2) the WQBEL determined for that parameter in accordance with II.A or II.I
less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, t
Part 2.1.1 of the RGP for that parameter applies.

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Dilution Factor	219.2			
	TBEL applies if bolded		WQBEL applies if bolded	
A. Inorganics				
Ammonia	**Report**	mg/L	---	
Chloride	**Report**	µg/L	---	
Total Residual Chlorine	**0.2**	mg/L	1644.0	µg/L
Total Suspended Solids	**30**	mg/L	---	
Antimony	**206**	µg/L	140284	µg/L
Arsenic	**104**	µg/L	7891	µg/L
Cadmium	**10.2**	µg/L	1940.6	µg/L
Chromium III	**323**	µg/L	21701.3	µg/L
Chromium VI	**323**	µg/L	11037	µg/L
Copper	**242**	µg/L	172.8	µg/L
Iron	**5000**	µg/L	---	µg/L
Lead	**160**	µg/L	1389.1	µg/L
Mercury	**0.739**	µg/L	242.40	µg/L
Nickel	**1450**	µg/L	1815.5	µg/L
Selenium	**235.8**	µg/L	15594	µg/L
Silver	**35.1**	µg/L	490.0	µg/L
Zinc	**420**	µg/L	18768	µg/L
Cyanide	**178**	mg/L	219.2	µg/L
B. Non-Halogenated VOCs				
Total BTEX	**100**	µg/L	---	
Benzene	**5.0**	µg/L	---	
1,4 Dioxane	**200**	µg/L	---	
Acetone	**7.97**	mg/L	---	
Phenol	**1,080**	µg/L	65758	µg/L
C. Halogenated VOCs				
Carbon Tetrachloride	**4.4**		350.7	µg/L
1,2 Dichlorobenzene	**600**	µg/L	---	
1,3 Dichlorobenzene	**320**	µg/L	---	
1,4 Dichlorobenzene	**5.0**	µg/L	---	
Total dichlorobenzene	**---**	µg/L	---	
1,1 Dichloroethane	**70**	µg/L	---	
1,2 Dichloroethane	**5.0**	µg/L	---	
1,1 Dichloroethylene	**3.2**	µg/L	---	
Ethylene Dibromide	**0.05**	µg/L	---	
Methylene Chloride	**4.6**	µg/L	---	
1,1,1 Trichloroethane	**200**	µg/L	---	
1,1,2 Trichloroethane	**5.0**	µg/L	---	
Trichloroethylene	**5.0**	µg/L	---	
Tetrachloroethylene	**5.0**	µg/L	723.3	µg/L

cis-1,2 Dichloroethylene	**70**	µg/L	---	
Vinyl Chloride	**2.0**	µg/L	---	
D. Non-Halogenated SVOCs				
Total Phthalates	**190**	µg/L	---	µg/L
Diethylhexyl phthalate	**101**	µg/L	482.2	µg/L
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---	
Benzo(a)anthracene	**1.0**	µg/L	0.8329	µg/L
Benzo(a)pyrene	**1.0**	µg/L	0.8329	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.8329	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.8329	µg/L
Chrysene	**1.0**	µg/L	0.8329	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.8329	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.8329	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---	
Naphthalene	**20**	µg/L	---	
E. Halogenated SVOCs				
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---	
Pentachlorophenol	**1.0**	µg/L	---	
F. Fuels Parameters				
Total Petroleum Hydrocarbons	**5.0**	mg/L	---	
Ethanol	**Report**	mg/L	---	
Methyl-tert-Butyl Ether	**70**	µg/L	4384	µg/L
tert-Butyl Alcohol	**120**	µg/L	---	
tert-Amyl Methyl Ether	**90**	µg/L	---	

Compliance Level applies if shown		
---	---	µg/L
---	---	µg/L

---	µg/L
---	µg/L
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0.5	µg/L