UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

AUG 06 2015

Chris Wesche, Project Manager
Northern Construction Service, LLC
1516 Park Street - P.O. Box 900
Palmer, MA 01069

Re: Authorization to discharge under the Remediation General Permit (RGP) – for the Liberty Street Bridge site located in Danvers, MA; Authorization # MAG910694

Dear Mr. Wesche:

Based on the review of a Notice of Intent (NOI) submitted on your behalf by Philip Peterson of EBI Consulting, Inc. for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Operator, to discharge in accordance with the provisions of the RGP at this site. Your authorization number is listed above.

The checklist enclosed with this RGP authorization indicates the pollutants which you are required to monitor. Also indicated on the checklist are the effluent limits, test methods and minimum levels (MLs) for each pollutant. Please note that the checklist does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of this permit, including influent and effluent monitoring, narrative water quality standards, record keeping, and reporting requirements, found in Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete RGP and other information at: http://www.epa.gov/region1/npdes/mass.html#dgp.

Please note the enclosed checklist includes parameters that exceeded or had a reasonable potential to exceed the Appendix III limits. Pursuant to Part I. Section C.7., of the RGP, dilution factors may be available for discharges to saline waters but only with approval of the flow modeling information from the State prior to the submission of the NOI. Since the receiving water is tidally influenced and there was no flow modeling information available, a dilution factor may not be applied to establish limits for this RGP.

Therefore, the following limits will apply to the effluent of this treatment system:

Total Suspended Solids (TSS) - 30 mg/l, Benzene - 5 ug/l, Total Group I Polycyclic Aromatic Hydrocarbons - 10 ug/l, Total Group II Polycyclic Aromatic Hydrocarbons - 100 ug/l, Copper - 3.7 ug/l, Lead – 8.5 ug/l, Nickel – 8.2 ug/l, Iron - 1,000 ug/L, Zinc – 85.6 ug/l, and pH range of 6.5 – 8.5 standard units (s.u.). Monitoring for chloride shall be conducted with no effluent limit.

This EPA general permit and authorization to discharge will expire on September 9, 2015. You have reported that a discharge from this treatment system will occur for about a month. Please be aware that you may be required to reapply for coverage after the EPA expired permit has been reissued. The reissuance date as well as the reapplication submittal date will be posted on the EPA web site at that time. Regardless of your project termination date, you are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within thirty (30) days of the termination of the discharge.

Thank you in advance for your cooperation in this matter. Please contact George Papadopoulos at (617) 918-1579 or Papadopoulos.George@epa.gov, if you have any questions.

Sincerely,

Thelma Murphy

Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Jessica Kenny, MassDOT
Edward F. Giordano, EBI Consulting, Inc.
Robert Kubit, MassDEP

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910694**
Authorization Issued:	**August 6, 2015**
Facility/Site Name:	Liberty Street Bridge
Facility/Site Address:	Liberty Street, Danvers, MA 01923
	Email address of owner: jessica.kenny@state.ma.us
Legal Name of Operator:	Northern Construction Service, LLC
Operator contact name, title, and Address:	Chris Wesche, Project Manager
	Email: cwesche@northernconstruction.com
Estimated date of The Project Completion:	August 17, 2015
Category and Sub-Category:	Contaminated Construction Dewatering Category– General Urban Fill and Known Contaminated Sites Subcategories
RGP Termination Date:	September 2015
Receiving Water:	Parker River

Monitoring & Limits are applicable if checked. All samples are to be collected as grab samples

	Parameter	**Effluent Limit/Method#/ML** (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
√	**1. Total Suspended Solids (TSS)**	30 milligrams/liter (mg/L) **, Me#160.2/ML5ug/L
	2. Total Residual Chlorine (TRC) [1]	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
	4. Cyanide (CN) [2, 3]	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/L
√	**5. Benzene (B)**	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) [4]	100 ug/L/ Me#8260C/ ML 2ug/L

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether	70.0 ug/l/Me#8260C/ML 10ug/L
	12.tert-Butyl Alcohol (TBA) (Tertiary Butanol)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	13. tert-Amyl Methyl Ether (TAME)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	14. Naphthalene [5]	20 ug/L /Me#8260C/ML 2ug/L
	15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML 5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
	20. 1,2 Dichloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
	22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
	23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
	24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
	28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
	29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L,Me#604 &625/ML 10ug/L
	33. Total Phthalates (Phthalate esters) [6]	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L
√	**35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)**	10.0 ug/L
√	**a. Benzo(a) Anthracene [7]**	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
√	**b. Benzo(a) Pyrene [7]**	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	**c. Benzo(b)Fluoranthene [7]**	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	**d. Benzo(k)Fluoranthene [7]**	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	**e. Chrysene [7]**	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	**f. Dibenzo(a,h)anthracene [7]**	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
√	**g. Indeno(1,2,3-cd) Pyrene[7]**	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L
√	**36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)**	100 ug/L
√	**h. Acenaphthene**	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	**i. Acenaphthylene**	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	**j. Anthracene**	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	**k. Benzo(ghi) Perylene**	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	**l. Fluoranthene**	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	**m. Fluorene**	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	**n. Naphthalene [5]**	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	**o. Phenanthrene**	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	**p. Pyrene**	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) [8, 9]	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
√	**38. Chloride**	Monitor only/Me# 300.0/ ML 100 ug/L

	Metal Parameters	Total Recoverable Metal Limit H [10] = 50 mg/l CaCO3, Units = ug/l Saltwater Limits	Minimum level=ML[11]
	39. Antimony	5.6	10
	40. Arsenic **	36	20
	41. Cadmium **	8.9	10
	42. Chromium III (trivalent) **	100	15
	43. Chromium VI (hexavalent) **	50.3	10
√	**44. Copper ** **	**3.7**	15
√	**45. Lead ** **	**8.5**	20
	46. Mercury **	1.1	0.2
√	**47. Nickel ** **	**8.2**	20
	48. Selenium **	71	20
	49. Silver	2.2	10
√	**50. Zinc ** **	**85.6**	15
√	**51. Iron**	**1,000**	20

	Other Parameters	Limit
√	**52. Instantaneous Flow**	Site specific in CFS
√	**53. Total Flow**	Site specific in CFS
	54. pH Range for Class A & Class B Waters in MA	6.5-8.3; 1/Month/Grab[12]
√	**55. pH Range for Class SA & Class SB Waters in MA**	6.5-8.5; 1/Month/Grab[12]
	56. pH Range for Class B Waters in NH	6.5-8; 1/Month/Grab[12]
	57. Daily maximum temperature - Warm water fisheries	83°F; 1/Month/Grab[13]
	58. Daily maximum temperature - Cold water fisheries	68°F; 1/Month/Grab[13]
	59. Maximum Change in Temperature in MA - Any Class A water body	1.5°F; 1/Month/Grab[13]
	60. Maximum Change in Temperature in MA - Any Class B water body- Warm Water	5°F; 1/Month/Grab[13]
	61. Maximum Change in Temperature in MA – Any Class B water body - Cold water and Lakes/Ponds	3°F; 1/Month/Grab[13]
	62. Maximum Change in Temperature in MA – Any Class SA water body - Coastal	1.5°F; 1/Month/Grab[13]
	63. Maximum Change in Temperature in MA – Any Class SB water body - July to September	1.5°F; 1/Month/Grab[13]
	64. Maximum Change in Temperature in MA –Any Class SB water body - October to June	4°F; 1/Month/Grab[13]

Footnotes:

[1] Although the maximum values for TRC are 11 ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).

[2] Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.

[3] Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).

[4] BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.

[5] Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.

[6] The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

[7] Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

[8] In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Oroclor analyses."Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

[9]Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).

[10] Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.

[11] Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).

[12] pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.

[13] Temperature sampling per Method 170.1

EBI Consulting
environmental | engineering | due diligence

21 B Street
Burlington, MA 01803
Tel: (781) 273-2500
Fax: (781) 273-3311
www.ebiconsulting.com

NPDES REMEDIATION GENERAL PERMIT MAG910000
NOTICE OF INTENT

PROJECT NAME:
Liberty Street Crossing Over Porter River Project
Massachusetts Department of Transportation
MassDOT Contract No. 78958
Federal Aid Project STP-002S(541)X
Liberty Street
Danvers, Massachusetts

PREPARED FOR PARTY CONDUCTING RESPONSE ACTIONS:
Massachusetts Department of Transportation
10 Park Plaza
Boston, Massachusetts 02116-3933

PREPARED BY:
EBI Consulting, Inc.
21 B Street
Burlington, MA 01803

July 27, 2015

EBI Consulting
environmental | engineering | due diligence

21 B Street
Burlington, MA 01803
Tel: (781) 273-2500
Fax: (781) 273-3311
www.ebiconsulting.com

July 27, 2015

U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, MA 02109-3912
Attn: Remediation General Permit NOI Processing

email: NPDES.Generalpermits@epa.gov

Project: MassDOT Contract # 78958
Liberty Street Bridge over the Porter River
Liberty Street
Danvers, MA

Re: Notice of Intent of Remediation General Permit (RGP) No. MAG 910000

On behalf of Northern Construction Services, LLC (Northern) and Massachusetts Department of Transportation (MassDOT), EBI Consulting has prepared this Remediation General Permit (RGP) Notice of Intent (NOI) for authorization to temporarily discharge dewatered groundwater to surface water. This authorization is being requested to support temporary construction-dewatering activities occurring at the Liberty Street Bridge project located in Danvers MA. The dewatered groundwater will be treated to meet requirements of NPDES-RGP and will be discharged to the Porter River. Refer to Figure 1 for the general Site Locus.

The Liberty Street Bridge project encompasses a 3-acre Site located in Danvers MA, see Figures 1 and 2 provided in Attachment 1. According to information included in Contract Documents from previous site investigation reports and current / on-going assessment, soils within portions of the Site may contain certain pesticides, polychlorinated biphenyls (PCBs), and metals. Recently, groundwater samples were collected from an area of the Site where a deep excavation will be conducted. Samples were collected and analyzed in accordance with Remediation General Permit (RGP) contaminants of concern. Analytical results have indicated levels that exceed RGP allowable discharge limits without proper treatment. Based on groundwater conditions, a groundwater treatment system was designed and included as part of this RGP-NOI. All dewatered groundwater from the project will be treated prior to discharge in accordance with the EPA issued RGP, specific for this project. The RGP will be used for the installation of the northern culvert portion of the project. Due to the fluctuating groundwater table at the Site the amount of dewatering/treatment is estimated based upon the combined flow capacity of each pump used; estimated flow is 2.000 gallons per minute.

EBI Consulting is the Environmental Consultant/LSP/Subcontractor to Northern, who is the Construction Manager for MassDOT. MassDOT is considered the owner of the project. Below is the contact information for each of the entities listed above. All correspondence related to this submittal should be forwarded to the parties below. Attachments to this RGP-NOI request include the RGP Plan (Attachment 1), NPDES-RGP Notice of Intent (Attachment 2) and Laboratory Report (Attachment 3).

Preparer of NOI/Designer/Operator/Compliance Monitoring:

EBI Consulting, Inc.
21 B Street
Burlington, MA 01803
Edward F. Giordano, LSP
Tel: 781-418-2316
email: egiordano@ebiconsulting.com

General Contractor/Operator:

Northern Construction Service, LLC
1516 Park Street
P.O. Box 900
Palmer, Massachusetts 01069
Mr. Chris Wesche, Project Manager
Telephone: 413-289-1230
email: cwesche@northernconstruction.com

Owner:

Massachusetts Department of Transportation – Construction Division
10 Park Plaza, Room 7360
Boston, Massachusetts 02116-3933
Ms. Jessica Kenny, Manager of Environmental Compliance for Construction
Telephone: 857-368-9581
email: Jessica.Kenny@state.ma.us

If you have any questions or require additional information, please do not hesitate to contact me via email at ppeterson@ebiconsulting.com or by telephone at 617-715-1839.

Respectfully submitted,
EBI CONSULTING

Philip M. Peterson
Director of Remediation Services

cc: Chris Wesche, Northern Construction Service, LLC
Jessica Kenny, MassDOT
Edward Giordano, LSP (EBI Consulting)

Attachments:

Attachment 1 - Remediation General Permit (RGP) Plan
Attachment 2 - RGP Notice of Intent (NOI)
Attachment 3 - Laboratory Analytical
Attachment 4 - EPA NPDES RGP Authorization to Discharge

Attachment 1
Remediation General Permit (RGP) Plan

1.0 Project Description

The Project Site is part of the MassDOT roadway/bridge reconstruction of a section of Liberty Street in Danvers, MA), see Figure 1 (Site Locus). Planned improvements include the replacement of two (2) culverts, roadway replacement, removal of existing utilities, and the installation of new utilities in Liberty Street.

The proposed work will be performed by Northern Construction Service, LLC for MassDOT in accordance with the MassDOT Contract # 78958. This NPDES Remediation General Permit (RGP) Notice of Intent (NOI) has been prepared to address activities associated with dewatering of groundwater to support the installation of the northern replacement culvert. RGP discharges will be conveyed to the Porter River.

The Site is the Liberty St Bridge in Danvers crossing the Porter River. This RGP-NOI covers the proposed construction activities including, but not limited to, the following items and associated scope of work requiring dewatering of groundwater:

- Demolition of existing earthen bridge proximal to existing culvert
- Removal of existing North culvert
- Installation of new culvert

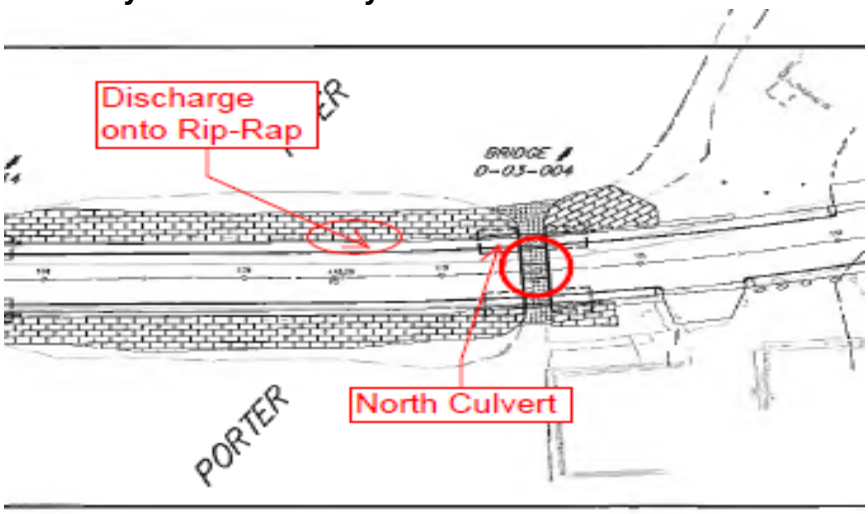
If groundwater is dewatered during the installation of the culvert and requires discharge to the Porter River, treatment will be employed as detailed in this NOI and RGP Plan. Determination of groundwater conditions will be based on location of area to be dewatered, field observations and screening of both soil and groundwater conditions. Also, monitoring of dewatered groundwater will be performed in accordance with monitoring requirements of NPDES permits, including the RGP Authorization prior to discharge. The groundwater is not anticipated to be contaminated across the entire Site however, at a minimum, two (2) 21,000-gallon fractionization tanks (frac tank) and two (2) 1,000-gpm high pressure bag filters will be used to reduce total suspended solids prior to discharge.

The northern culvert is situated on a thickness of clay, not penetrated and therefore exact thickness is unknown, which is not allowing groundwater to percolate into the coffer dam. Surface water from the Porter River that is seeping through the seams of the coffer dam is currently being removed per the CGP.

Figure 1 - Site Locus

Figure 2 – Topographic Map

Figure 3 –Liberty Street Causeway



2.0 Site History

The Site consists of the Liberty Street Bridge culverts and north /south land connections. Based on the history of the site and/or subsurface investigations by the MassDOT and its contractors, fill material within the majority of the project area is generally anticipated to contain contaminant levels that are either non-detected or below the most stringent MCP soil and groundwater standards. However, impacted soil conditions may exist at some locations as described below. There are three historic MCP-release sites, within the vicinity of roadway.

- RTN 3-19966, Closed with a B-1 Response Action Outcome (RAO) in October 2000
- RTN 3-20049, closed with a A-2 RAO in December 2000
- RTN 320476, closed with a A-2 RAO in February 2002

During the characterization of soil conditions to support culvert installation, Chromium III was identified in soil samples collected in the area of the South culvert at a concentration 1,700 ppm compared to MassDEP standards of 1,000 ppm. Additional anthropogenic compounds were reported in the soil but not above reportable concentrations due to the presence of coal and coal ash. The excavation of impacted soil is being undertaken under a Utility Release Abatement Measure, RTN 3-32886.

Based on the above activities and the variable groundwater conditions, the RGP must be in place in the event that contaminated groundwater is encountered and requires treatment prior to discharge to surface water. This NOI applies to the entire Project Site and includes, at a minimum, the use of fractionization tanks and bag filters to reduce total suspended solids (TSS) prior to discharge to the Porter River. Additional treatment will be implemented if contaminated groundwater is encountered and will include the use of additional bag filters to enhance TSS removal and flocculent.

3.0 Active NPDES Permits for this Project Area

3.1 NPDES Stormwater CGP Permit No. MAR12AT39

The Liberty Street Construction Project has obtained coverage under the NPDES Stormwater Construction General Permit (Permit Tracking No. MAR12AT39). A Storm Water Pollution Prevention Plan (SWPPP) has been prepared to address site work activities associated with the Construction Project. The Construction General Permit allows the discharge of water from uncontaminated excavation dewatering.

3.2 Current Groundwater Data

The previous subsurface investigations and pre-characterization of soil for the Construction Project detected contaminants that included total petroleum hydrocarbons (TPH), polychlorinated biphenyls (PCBs), semi-volatile organic compounds (SVOCs), herbicides, metals and volatile organic compounds (VOCs). The potential contaminants of concern in groundwater are identified in the Notice of Intent form (Attachment 2) and are based on available data. In addition, a groundwater sample was obtained on June 3, 2015 from a temporary monitoring well, set at 25-feet below grade, installed proximal to the southern culvert replacement. A sample was collected via low-flow methodology and analytical data for this sample (identified as EB-01) is presented in Table 1 along with the RGP effluent limits for dewatering within Sub-Category A – General Urban Fill Sites. Attachment 3 includes the Laboratory Report. A second well was installed in proximal to the northern culvert, also to a depth of 25-feet below grade, but due to the tightness of the soil and prevalent clay layer, no water was obtained.

TABLE 1 - Groundwater Data Summary Table

WELL ID **SAMPLING DATE** **LAB SAMPLE ID**	Remediation General Permit - Appendix III Effluent Limits and Monitoring Requirements by Sub-category Category III-Contaminated Construction Dewatering Sub-Category A - General Urban Fill Sites (ug/l)	EB-01 (ug/l)
General Chemistry		
Solids, Total Suspended	30 mg/l	**975 mg/l**
Cyanide, Total	1*	<0.010 mg/l
Chlorine, Total Residual	7.5*	*<0.050* mg/l
Chloride	Monitor Only	22,000 mg/l
TPH	5.0 mg/l	<5.0 mg/l
Phenolics, Total	300	*<0.050* mg/l
Chromium, Hexavalent	50.3*	<0.010 mg/l
Total Metals		
Antimony, Total	5.6	0.5
Arsenic, Total	36*	12.4
Cadmium, Total	8.9*	0.14
Chromium, Total	150.3*	33.0
Copper, Total	3.7*	**14.2**
Iron, Total	1,000	**21,000**
Lead, Total	8.5*	**28.1**
Mercury, Total	1.1*	0.096
Nickel, Total	8.2*	**15.2**
Selenium, Total	71*	1.6
Silver, Total	2.2*	0.069
Zinc, Total	85.6*	36.1
Pesticides by GC		
1,2-Dibromoethane	0.05	<1
Volatile Organics by GC/MS		
Benzene	100 ug/l (BTEX)	0.52
Ethylbenzene		<1
Toluene		<1
Xylene (Total)		<1
Total BTEX		<1
1,1,1-Trichloroethane	200	<1
1,1,2-Trichloroethane	5	<1
1,1-Dichloroethane	70	<1
1,1-Dichloroethene	3.2	<1
1,2-Dichlorobenzene	600	<1
1,2-Dichloroethane	5	<1
1,3-Dichlorobenzene	320	<1
1,4-Dichlorobenzene	5	<1
1,4-Dioxane	Monitor Only	
Acetone	Monitor Only	<10
Carbon tetrachloride	4.4	<1
cis-1,2-Dichloroethene	70	<1
Dibromomethane	0.05	<0.014
Methyl tert butyl ether	70	<1
Methylene chloride	4.6	**<**2
Tert-Butyl Alcohol	Monitor Only	

WELL ID **SAMPLING DATE** **LAB SAMPLE ID**	Remediation General Permit - Appendix III Effluent Limits and Monitoring Requirements by Sub-category Category III-Contaminated Construction Dewatering Sub-Category A - General Urban Fill Sites (ug/l)	EB-01 (ug/l)
Volatile Organics by GC/MS		
Tertiary-Amyl Methyl Ether	Monitor Only	
Tetrachloroethene	5	<1
Trichloroethene	5	<1
Vinyl chloride	2	<1
Semivolatile Organics by GC/MS-SIM		
Naphthalene	20	0.082
Acenaphthene	100 ug/l (Group II PAHs)	0.016
Acenaphthylene		0.11
Anthracene		0.078
Benzo(ghi)perylene		0.32
Fluoranthene		0.29
Fluorene		0.019
Phenanthrene		0.14
Pyrene		0.32
Benzo(a)anthracene	10.0 ug/l (Group I PAHs)	0.27
Benzo(a)pyrene		0.42
Benzo(b)fluoranthene		0.36
Benzo(k)fluoranthene		0.27
Chrysene		0.26
Dibenzo(a,h)anthracene		0.16
Indeno(1,2,3-cd)Pyrene		0.31
Polychlorinated Biphenyls by GC		
Aroclor 1016	0.000064 ug/l (Total PCBs)	*<0.25*
Aroclor 1221		*<0.25*
Aroclor 1232		*<0.25*
Aroclor 1242		*<0.25*
Aroclor 1248		*<0.25*
Aroclor 1254		*<0.25*
Aroclor 1260		*<0.25*
Total PCBs		*<0.25*

4.0 Management of Dewatered Groundwater

Dewatering of the northern culvert area may be necessary for installation of the pre-cast river culvert.

4.1 General Discharge Monitoring and Compliance

Determination of groundwater conditions will be based on location of area to be dewatered, field observations and screening of both soil and groundwater conditions. Dewatered groundwater will be sampled for the parameters included in the NPDES Permit. Areas of known contamination will be managed in accordance with the NPDES RGP. Section 4.1.1 describes RGP discharge monitoring and compliance.

4.1.1 RGP Discharge Monitoring and Compliance

Discharge monitoring and compliance will include regular sampling and testing of influent to the system and the treated effluent. This includes chemical testing required within days 1and 3 of initial discharge and the monthly testing to be conducted through the end of the scheduled discharge. Monitoring will include checking the condition of the treatment system, assessing the need for treatment system adjustments based on monitoring data, observing and recording daily flow rates and discharge quantities, and verifying the flow path of the discharged effluent. Flow will be maintained by monitoring flow and adjusting the amount of construction dewatering, as needed. Monthly monitoring and compliance reports will be compiled and maintained at the Site.

4.2 Dewatered Groundwater Treatment System

Construction dewatering effluent is anticipated to be pumped into at a minimum, two (2) 21,000-gallon fractionization tanks (frac tank) and two (2) 1,000-gpm high pressure bag filters will be used to reduce total suspended solids prior to discharge. Discharge will be onto rip-rap located within a separate cofferdam on-site and ultimately to the Porter River. At a minimum, dewatered effluent treatment will consist of using frac tanks and high pressure bag filters. Treatment scenarios will be determined in the field based on discharge monitoring that includes the discharge limits contained in the EPA's Authorization Letter to discharge under NPDES-RGP.

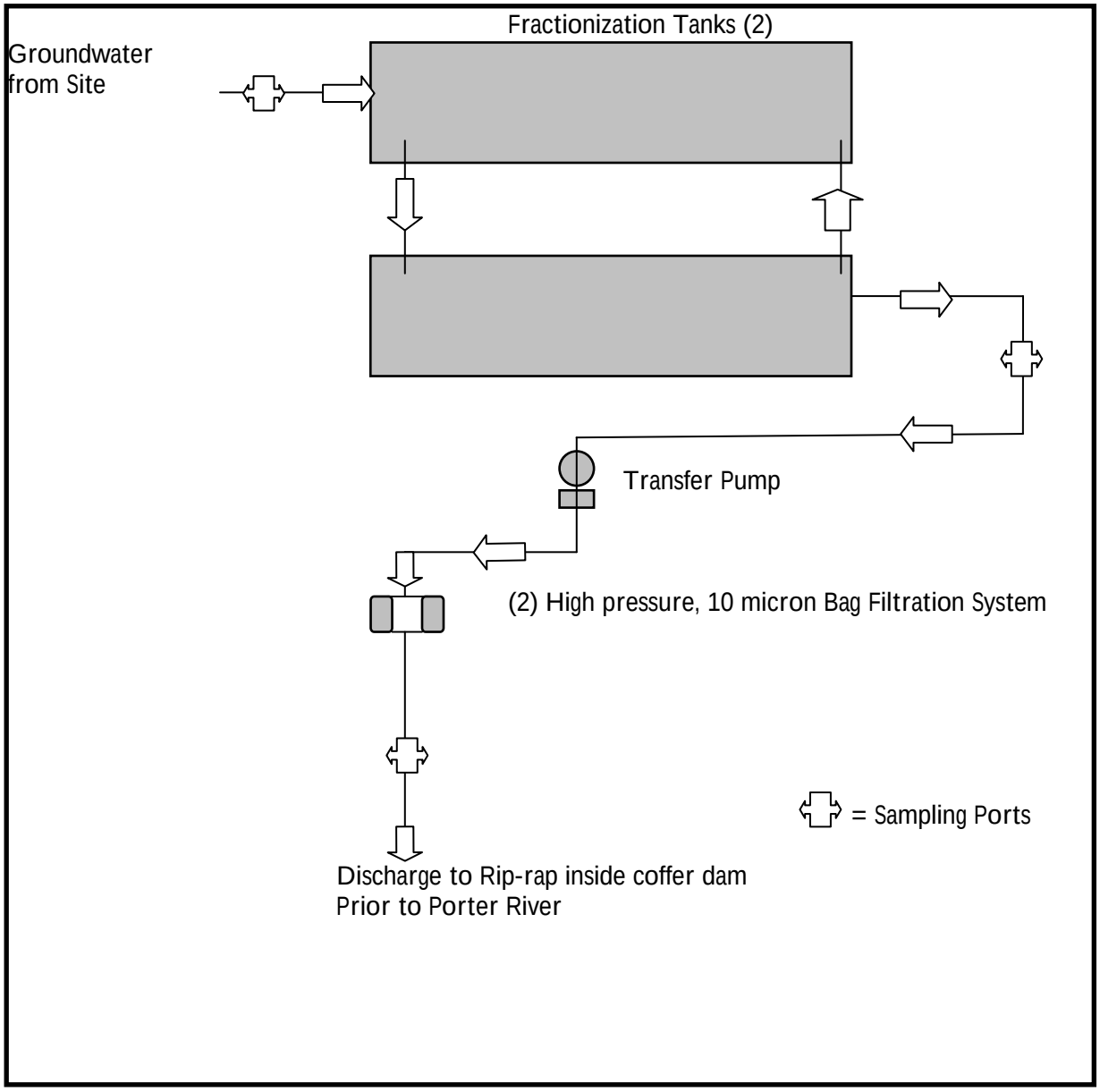
4.2.1 System Design

The construction dewatering and treatment system has been designed for a continuous throughput of up to 2,000-gallons per minute. The excavation will have vertical sheeting to minimize groundwater inflow. The system is designed to treat water contaminated with metals and total suspended solids. At a minimum, the treatment system will include frac tanks to collect groundwater and high pressure bag filters with 10-micron bag filters. Additional treatment components shall be added if discharge standards are exceeded in the tanks. These components may include coagulant and or anionic dry polymer.

The first pump will transfer water from the excavation to the first frac tank. The second pump will transfer water into a second frac tank and than the bag filters equipped with 10-micron filters. Three sampling ports will be utilized to collect samples from the influent (before frac tank), mid-point (before the bag filter units) and effluent (post-treatment, prior to discharge). The effluent from the groundwater treatment system will be discharged to a rip-rap installed within a spate cofferdam prior to the Porter River thus removing scouring as a concern. Both the influent and effluent monitoring will be carried out to ensure that there will be no breakthrough of various contaminants. A mid-point sampling port may

be utilized to determine if the treatment system components are required to be removed or added. Below is Figure 4, which includes the schematic of the proposed treatment system process.

Figure 4 - Groundwater Treatment System Layout



Attachment 2
RGP Notice of Intent (NOI)

Remediation General Permit
Appendix V

Notice of Intent (NOI)
Suggested Forms & Instructions

I. Notice of Intent (NOI) Suggested Form and Instructions

In order to be covered by the remediation general permit (RGP), applicants must submit a completed Notice of Intent (NOI) to EPA Region I and the appropriate state agency. The owner or operator, as defined by 40 CFR § 122.2, means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

The following are three general "**operator"** scenarios (variations on any of these three are possible, especially as the number of owners and contractors increases):

▸ **"***Owner" as "Operator" - sole permittee.* The property owner designs the structures and control systems for the site, develops and implements the BMPP, and serves as general contractor (or has an on-site representative with full authority to direct day-to-day operations). Under the definition of operator, in this case, the "Owner" would be considered the "operator" and therefore the only party that needs permit coverage. Everyone else working on the site may be considered subcontractors and do not need to apply for permit coverage.

▸ *"Contractor" as "Operator" - sole permittee.* The property owner hires a company (e.g., a contractor) to design the project and oversee all aspects, including preparation and implementation of the BMPP and compliance with the permit (e.g., a "turnkey" project). Here, the contractor would likely be the only party needing a permit. Similarly, EPA expects that property owners hiring a contractor or consultant to perform groundwater remediation work (e.g., due to a leaking fuel oil tank) would come under this type of scenario. EPA believes that the contractor, being a professional in the industry, should be the responsible entity rather than the individual. The contractor is better equipped to meet the requirements of both applying for permit coverage and developing and properly implementing the plans needed to comply with the permit. However, property owners would also meet the definition of "operator" and require permit coverage in instances where they perform any of the required tasks on their personal properties.

▸ "*Owner" and "Contractor" as "Operators" - co-permittees.* The owner retains control over any changes to site plans, BMPPs, or wastewater conveyance or control designs, but the contractor is responsible for conducting and overseeing the actual activities (e.g., excavation, installation and operation of treatment train, etc.) and daily implementation of BMPP and other permit conditions. In this case, both parties need to apply for coverage.

Generally, a person would not be considered an "operator," and subsequently would not need permit coverage, if: 1) that person is a subcontractor hired by, and under the supervision of, the owner or a general contractor (e.g., if the contractor directs the

subcontractor's activities on-site, it is probably not an operator); or 2) the person's activities would otherwise result in the need for coverage under the RGP but another operator has legally assumed responsibility for the impacts of project activities.

A. Instructions for the Suggested Notice of Intent (NOI) - At a minimum, the Notice of Intent must include the following for each individual facility or site. Additional information may be attached as needed.

1. General facility/site information.

a) Provide the facility/site name, mailing address, and telephone and fax numbers. Provide the facility Standard Industrial Classification (SIC) code(s), which can be found online at http://www.osha.gov/pls/imis/sic_manual.html. Provide the site location, including longitude and latitude.

b) Provide the facility/site owner's name, address, email address, telephone and fax numbers, if different from the site information. Indicate whether the owner is a Federal, State/Tribal, private, or other entity.

c) Provide the site operator's (e.g., contractor's) name, mailing address, telephone and fax numbers, and email address if different from the owner's information.

d) For the site for which the application is being submitted, indicate whether:

1) a prior NPDES permit exclusion has been granted for the discharge (if so, provide the tracking number of the exclusion letter);

2) a prior NPDES application (Form 1 & 2C – for reference, please visit http://www.epa.gov/region1/npdes/epa_attach.html) has ever been filed for the discharge (if so, provide the tracking number and date that the application was submitted to EPA);

3) the discharge is a "new discharge" as defined by 40 CFR 122.2; and

4) for sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) 310 CMR 40.0000 and exempt from state permitting.

e) Indicate whether there is any ongoing state permitting, licensing, or other action regarding the facility or site which is generating the discharge. If "yes," provide any site identification number assigned by the state of NH or MA, any permit or license number assigned, and the state agency contact information (e.g. name, location, telephone no.).

f) Indicate whether or not the facility is covered by other EPA permits including:

1) the Multi-Sector General Permit (MSGP) http://cfpub.epa.gov/npdes/stormwater/msgp.cfm;
2) the Final NPDES General Permit for Dewatering Activity Discharges in Massachusetts and New Hampshire http://www.epa.gov/region1/npdes/dewatering.html;
3) the EPA Construction General Permit http://cfpub.epa.gov/npdes/stormwater/cgp.cfm;
4) an individual NPDES permit; or
5) any other water quality-related individual or general permit.

If so, provide permit tracking number(s).

g) Indicate if the site/facility discharge(s) to an Area of Critical Environmental Concern (ACEC), as shown on the tables and maps in Appendix I.

h) Based on the nature of the facility/site and any historical sampling data, the applicant must indicate which of the sub-categories within which the potential discharge falls.

2. Discharge information.

a) Describe the discharge activities to be covered by the permit. Attach additional sheets as needed.

b) Provide the following information about each discharge:

1) the number of discharge points;
2) the maximum and average flow rate of the discharge in cubic feet per second. For the average flow magnitude, include the units and appropriate notation if this value is a calculated design value or estimate if technical/design information is not available;
3) the latitude and longitude of each discharge with an accuracy of 100 feet (see EPA's siting tool at: http://www.epa.gov/tri/report/siting_tool);
4) the total volume of potential discharge (gal), only if hydrostatic testing;
5) whether the discharge(s) is intermittent or seasonal and if ongoing.

c) Provide the expected start and end dates of discharge (month/day/year).

d) Attach a line drawing or flow schematic showing water flow through the facility including:

1) sources of intake water;
2) contributing flow from the operation;
3) treatment units; and
4) discharge points and receiving waters(s).

3. Contaminant information.

In order to complete the NOI, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for the parameters applicable to the sub-category into which the discharge falls, as listed in Appendix III of the permit and selected in Part 1 of the NOI form, except as noted below.

Permittees shall provide additional sampling results with the NOI if such sampling already exists, or if the permittee has reason to believe the site contains additional contaminants not listed in Appendix III for that sub-category or contains additional contaminants not included in Appendix III.

The applicant may use historical data as a substitute for the new sample if the data was collected no more than 2 years prior to the "Submittal of the NOI" and if collected pursuant to:

i. for sites in Massachusetts, 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E");

ii. for sites in New Hampshire, New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act;

a) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is believed present or believed absent in the potential discharge.

Based on the required sampling and analysis, the applicant must fill in the table, or provide a narrative description, with the following additional information for each chemical that is believed present (chemical that violate EPA's criteria limitations):

1) the number of samples taken (minimum of one sample for applicable parameters per Appendix III);
2) the type of sample (e.g. grab, composite, etc.);
3) the analytical method used, including the method number;
4) the minimum level (ML) of the method used (based on Appendix VI);
5) the maximum daily amount (concentration (ug/l) and mass (kg)) of each pollutant, based on the sampling data

lb/day (pounds per day) equals flow (in million gallons per day, MGD) times concentration in milligrams per liter (mg/l) times 8.34.
Example: 2.5 MGD x 30 mg/l TSS x 8.34 = 625.5 lb TSS/day
MGD = gallons per minute (gpm) x 0.00144
1 kg = 2.2 lbs

And;
6) the average daily amount (concentration and mass) of each pollutant, based on the sampling data.

If the results of any sampling indicate that pollutants exist in addition to those listed in Appendix III of the RGP of the permit, the applicant must also describe those contaminants on the NOI in boxes in section I.3.c.)on the line marked "Other," or use additional sheets as needed. Subsequently, EPA may require monitoring for such parameters or will decide if an individual permit is necessary.

c) Determination of Reasonable Potential and Allowable Dilution for Discharges of Metals:

If any *metals* are believed present in the potential discharge to freshwater[1], the applicant must follow the procedures below to determine the dilution factor for each metal.

Step 1: Initial Evaluation

1) The applicant must evaluate all metals believed present in the discharge subject to this permit, including "naturally occurring" metals such as dissolved and/or total Iron. Applicants must enter the highest detected concentration of the metal at zero dilution in the "Maximum value" column of the NOI.

2) Based on the maximum concentration of each metal, the applicant must perform an initial evaluation assuming zero dilution in the receiving water. The applicant must compare the metals concentrations in the untreated (intake) waters to the effluent limits contained in Appendix III.

[1]Dilution factors may be available for discharges to saline waters but only with approval of the flow modeling information from the State prior to the submission of the NOI.

i. If potential discharges (untreated influent) with metals contain concentrations above the concentration limits listed in Appendix III, applicant must proceed to step 2.
ii. If potential discharges (untreated influent) with metals contain concentrations below the concentrations listed in Appendix III, the applicant may skip step 2 and those metals will **not** be subject to permit limitations or monitoring requirements.

Step 2: Calculation of Dilution Factor

1) **For applicants in NH**: If a metal concentration in a potential discharge (untreated influent) to **freshwater** exceeds the limits in Appendix III with zero dilution, the applicant shall evaluate the potential concentration considering a dilution factor (DF) using the formula below. **For sites in New Hampshire, the applicant must contact NH DES to determine the 7Q10 and dilution factor.**

DF = [(Qd + Qs)/Qd] x 0.9

Where:

DF	**=**	**Dilution Factor**
Qd	**=**	**Maximum flow rate of the discharge in cubic feet per second (cfs) (1.0 gpm = .00223 cfs)**
Qs	**=**	**Receiving water 7Q10 flow, in cfs, where 7Q10 is the annual minimum flow for 7 consecutive days with a recurrence interval of 10 years**
0.9	=	**Allowance for reserving 10% of the assets in the receiving stream as per Chapter ENV-Wq 1700, Surface Water Quality Regulations**

i. Using the DF calculated from the formula above, the applicant must refer to the corresponding dilution range column in Appendix IV. The applicant then compares the maximum concentration of the metal entered on the NOI to the corresponding total recoverable metals limits listed in Appendix IV. Please note that for this reissuance the applicant will be permitted to determine a limit using any fraction within the 1-5 dilution factor range times the metal limit (for all regulated metals). For example: if the DF is 1.5, the Iron limit is 1,500 ug/L; if the DF is 1.5, the antimony limit is 8.4, etc. All limits above a dilution factor of 5 are maintained.

1. If a metal concentration in the potential discharge (untreated influent) is less than the corresponding limit in Appendix IV, the metal will **not** be subject to permit limitations or monitoring requirements.
2. If a metal concentration in the potential discharge (untreated influent) is equal to or exceeds the corresponding limit in Appendix IV, the applicant must reduce it in the effluent to a concentration below the applicable total recoverable metals limit in Appendix IV prior to discharge.

ii. In either case, the applicant must submit the results of this calculation as part of the NOI. EPA and NH DES will review the proposed effluent limitations for each metal and approve or disapprove the limits in the notification of coverage letter to the applicant.

2) **For applicants in MA**: If a metal concentration in a potential discharge (untreated influent) to **freshwater** exceeds the limits in Appendix III with zero dilution, the applicant must evaluate the potential concentration considering a dilution factor (DF) using the formula below.

DF = (Qd + Qs)/Qd

Where:
DF = Dilution Factor
Qd = Maximum flow rate of the discharge in cubic feet per second (cfs) (1.0 gpm = .00223 cfs)
Qs = Receiving water 7Q10 flow (cfs) where 7Q10 is the minimum flow (cfs) for 7 consecutive days with a recurrence interval of 10 years

i. The applicant may estimate the 7Q10 for receiving water by using available information such as nearby USGS stream gauging stations directly or by application of certain "flow factors," using historic streamflow publication information, calculations based on drainage area, information from state water quality offices, or other means. In many cases Massachusetts has calculated 7Q10 information using "flow factors" for a number of streams in the state. The source of the low flow value(s) used by the applicant must be included on NOI application form. Flow data can also be obtained from web applications such as the one located at: http://ma.water.usgs.gov/streamstats/.

ii. Using the DF calculated from the formula above, the applicant must refer to the corresponding dilution range column in Appendix IV. The applicant then shall compare the maximum concentration of each metal entered on the NOI to the corresponding total recoverable metals limit listed in Appendix IV. Please note that for this reissuance the applicant will be permitted to determine a limit using any fraction of the 0-5 of DF times the metal limit (for all regulated metals). For example: if the DF is 1.5, the Iron limit is 1,500 ug/L; if the DF is 1.5, the antimony limit is 8.4, etc. Not to exceed DF of 5.

1. If a metal concentration in the potential discharge (untreated influent) is less than the corresponding limit in Appendix IV, the metal will **not** be subject to permit limitations or monitoring requirements.
2. If a metal concentration in a potential discharge (untreated influent) is equal to or exceeds the corresponding limit in Appendix IV, the applicant must reduce it in the effluent to a concentration below the applicable total recoverable metals limit in Appendix IV prior to discharge.

iii. The applicant must submit the results of this calculation as part of the NOI. EPA (and MassDEP where the discharge is not covered by 310 CMR 40.0000) will review the proposed effluent limitations for each metal and approve or disapprove the limits in the notification of coverage letter to the applicant.

4. Treatment system information.

a) Provide a written description of the treatment train and how the system will be set up for each discharge and attach a schematic of the proposed or existing treatment system(s).
b) Identify each major treatment unit (e.g. frac tanks, filters, air stripper, liquid phase/vapor phase activated carbon, oil/water separators, etc.) by checking all that apply and describing any additional equipment not listed. Attach additional sheets as needed.
c) Provide the proposed average and maximum flow rates (in gallons per minute, gpm) for the discharge and the design flow rates (in gpm) of the treatment system. Clearly identify the component of the treatment with the most limited flow, i.e., the part of the treatment train that establishes the design flow.
d) Describe any chemical additives being used, or planned to be used, and attach MSDS sheets for each. EPA may request further information regarding the chemical composition of the additive, potential toxic effects, or other information to insure that approval of the use of the additive will not cause or contribute to a violation of State water quality standards. Approval of coverage under the RGP will constitute approval of the use of the chemical additive(s). If coverage of the discharge under the RGP has already been granted and the use of a chemical additive becomes necessary, the permittee must submit a Notice of Change (NOC).

5. Receiving surface water(s) information.

a) Identify the discharge pathway by checking whether it is discharged: directly to the receiving water (river, stream, or brook), within the facility (e.g., through a sewer drain), to a storm drain, to a wetland, or other receiving body.
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters into which discharge will occur.
c) Provide a detailed map(s) indicating the location of the site and outfall(s) to the receiving water(s):

1) For multiple discharges, the discharges should be numbered sequentially.
2) In the case of indirect dischargers (to municipal storm sewer, etc) the map(s) must be sufficient to indicate the location of the discharge to the indirect conveyance and the discharge to the state classified surface water. The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water and the basin (for Massachusetts, the Surface Water Quality Standards (314 CMR 4.00) are available at http://www.mass.gov/dep/water/laws/regulati.htm#wqual) (for New Hampshire, contact the NH DES at (603) 271-2984).
e) Specify the reported seven day-ten year low flow (7Q10) of the receiving water (see Section I.A.3) c. above). In New Hampshire, the 7Q10 must be provided by to the applicant by the New Hampshire Department of Environmental Services**.**

f) Indicate whether the receiving water is a listed 303(d) water quality impaired or limited water and if so, for which pollutants (see Section IX of the Fact Sheet for additional information).
For MA, the most updated integrated list of waters (CWA 303(d) and 305(b)) is available at http://www.mass.gov/dep/water/resources/tmdls.htm#info.
For NH, the most updated integrated list of waters (CWA 303(d) and 305(b)) is available at http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm.
Also, indicate if there is a final TMDL for any of the listed pollutants. For MA, final TMDLs can be found at: http://www.mass.gov/dep/water/resources/tmdls.htm and for NH, final TMDLs can be found at http://des.nh.gov/organization/divisions/water/wmb/tmdl/index.htm. For more information, contact the states at: New Hampshire Department of Environmental Services, Watershed Management Bureau at 603-271-3503 or the Massachusetts Department of Environmental Protection at 508-767-2796 or 508-767-2873.

6. ESA and NHPA Eligibility.
As required in Parts I.A.4 and Appendix VII the operator of a site/facility must ensure that the potential discharge will not adversely affect endangered species, designated critical habitat, or national historic places that are in proximity to the potential discharge. If the potential discharge is to certain water bodies, the applicant must also submit a formal certification with the NOI that indicates the consultation, with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (the Services), resulted in either a no jeopardy opinion or a written concurrence on a finding that the discharge is not likely to adversely affect any endangered species or critical habitat. Facilities should begin the consultation as early in the process as possible.
a) Using the instructions in Appendix VII and information in Appendix II, indicate under which criterion listed you are eligible for coverage under this general permit.
b) If you selected criterion D or F, indicate if consultation with the federal services has been completed or if it is underway.
c) If consultation with the U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, indicate if a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat was received.
d) Attach documentation of ESA eligibility as described below and required in Appendix VII, Part I.C, Step 4.

Criterion A - No federally-listed threatened or endangered species or federally-designated critical habitat are present: A copy of the most current county species list pages for the county(ies) where your site or facility and discharges are located. You must also include a statement on how you determined that no listed species or critical habitat are in proximity to your site or facility or discharge locations.

Criterion B – Section 7 consultation completed with the Service(s) on a prior project: A copy of the USFWS and/or NOAA Fisheries, as appropriate, biological opinion or concurrence on a finding of "unlikely to adversely effect" regarding the ESA Section 7 consultation.

Criterion C – Activities are covered by a Section 10 Permit: A copy of the USFWS and/or the NOAA Fisheries, as appropriate, letter transmitting the ESA Section 10 authorization.

Criterion D - Concurrence from the Service(s) that the discharge is "not likely to adversely affect" federally-listed species or federally-designated critical habitat (not including the four species of concern identified in Section I of Appendix I): A copy of the USFWS and/or the NOAA Fisheries, as appropriate, letter or memorandum concluding that the discharge is consistent with the general permit's "not likely to adversely affect" determination.

Criterion E – Activities are covered by certification of eligibility: A copy of the documents originally used by the other operator of your site or facility (or area including your site) to satisfy the documentation requirement of Criteria A, B, C or D.

Criterion F - Concurrence from the Service(s) that the discharge is "not likely to adversely affect" species of concern, as identified in Section I of Appendix I: A copy of the USFWS and/or the NOAA Fisheries, as appropriate, concurrence with the applicant's determination that the discharge is "not likely to adversely affect" listed species.

e) Using the instructions in Appendix VII, identify which criterion listed in Part C makes you eligible for coverage under this general permit.

f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

7. Supplemental information. Applicants should provide any supplemental information needed to meet the requirements of the permit, including any analytical data used to support the application, and any certification(s) required.

8. Signature Requirements - The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

> *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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General facility/site information. Please provide the following information about the site:

a) Name of **facility/site**: LIberty St Bridge		**Facility/site** mailing address:			
Location of **facility/site**: longitude: 70.922958 latitude: 42.558056	Facility SIC code(s): 1622	Street: Liberty Street			
b) Name of **facility/site owner:**		Town: Danvers			
Email address of facility/site owner: jessica.kenny@state.ma.us		State: MA	Zip: 01923	County: Essex County	
Telephone no. of facility/site **owner**: 857-368-9581					
Fax no. of facility/site **owner**:		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ◉ 3. Private ○ 4. Other ○ if so, describe:			
Address of **owner** (if different from site):		MassDOT			
Street: 10 Park Plaza, Room 7360					
Town: Boston	State: MA	Zip: 02116-3933	County: Suffolk		
c) Legal name of **operator**:		**Operator** telephone no: 413-289-1230			
Northern Construction Service, LLC		**Operator** fax no.:	**Operator** email: cwesche@northernconstruction		
Operator contact name and title: Chris Wesche, Project Manager, cwesche@northernconstruction.com					
Address of **operator** (if different from owner):	Street: 1516 Park St, PO Box 900				
Town: Palmer	State: MA	Zip: 01069	County: Hampden		

d) Check Y for "yes" or N for "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Y ○ N ◉, if Y, number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
Y ○ N ◉, if Y, date and tracking #:
3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y ◉ N ○
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y ◉ N ○

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y ◉ N ○
If Y, please list:
1. site identification # assigned by the state of NH or MA: RTN 3-32886
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:
MassDEP-NERO, 205B Lowell St, Wilmington, MA 01887, 978-694-3200

f) Is the site/facility covered by any other EPA permit, including:
1. Multi-Sector General Permit? Y ○ N ◉,
if Y, number:
2. Final Dewatering General Permit? Y ○ N ◉,
if Y, number:
3. EPA Construction General Permit? Y ◉ N ○,
if Y, number: MAR12AT39
4. Individual NPDES permit? Y ○ N ◉,
if Y, number:
5. any other water quality related individual or general permit? Y ○
N ◉, if Y, number:

g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y ○ N ◉

h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.

Activity Category	**Activity Sub-Category**
I - Petroleum Related Site Remediation	A. Gasoline Only Sites ☐ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ☐ C. Petroleum Sites with Additional Contamination ☐
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites ☐ B. VOC Sites with Additional Contamination ☐ C. Primarily Heavy Metal Sites ☐
III - Contaminated Construction Dewatering	A. General Urban Fill Sites ☒ B. Known Contaminated Sites ☒

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ☐ B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ☐ C. Hydrostatic Testing of Pipelines and Tanks ☐ D. Long-Term Remediation of Contaminated Sumps and Dikes ☐ E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ☐

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

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

This NOI will support construction dewatering activities associated with the MassDOT Liberty Street Bridge replacement project. Dewatered groundwater will be treated to meet the requirements of NPDES-RGP and will be discharged to the Porter River via overland flow.

b) Provide the following information about each discharge:

1) Number of discharge points: 1

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)?
Max. flow 4.46 ft3/s Is maximum flow a **design value**? Y ◉ N ○
Average flow (include units) 2,000 gals/min Is average flow a design value or estimate? estimate

3) Latitude and longitude of each discharge within 100 feet:

pt.1: lat	42.558056	long	70.922958	pt.2: lat.		long.	;
pt.3: lat		long		pt.4: lat.		long.	;
pt.5: lat		long		pt.6: lat.		long.	;
pt.7: lat		long		pt.8: lat.		long.	; etc.

4) If hydrostatic testing, total volume of the discharge (gals): N/A

5) Is the discharge intermittent ◉ or seasonal ○ ?
Is discharge ongoing? Y ◉ N ○

c) Expected dates of discharge (mm/dd/yy): start Jul 15, 2015 end Aug 17, 2015

d) Please attach a line drawing or flow schematic showing water flow through the facility including:
1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s). This NOI is part of a RGP Plan for this project and includes requested information. Monitoring will be performed in accordance with EPA's Authorization letter

3. Contaminant information.

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids (TSS)		☐	☒	1	grab	2540D-11	4000	975000		975000	
2. Total Residual Chlorine (TRC)		☒	☐	1	grab	4500CL	50	<50		<50	
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	1	grab	1664A	5000	<5000		<5000	
4. Cyanide (CN)	57125	☒	☐	1	grab	335.4	10	<10		<10	
5. Benzene (B)	71432	☐	☒	1	grab	8260C	0.27	0.52		0.52	
6. Toluene (T)	108883	☒	☐	1	grab	8260C	0.29	ND		ND	
7. Ethylbenzene (E)	100414	☒	☐	1	grab	8260C	0.24	ND		ND	
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	1	grab	8260C	0.22	ND		ND	
9. Total BTEX [2]	n/a	☐	☒	1	grab	8260C		0.52		0.52	
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐	1	grab	8260C	0.33	ND		ND	
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	1	grab	8260C	0.35	ND		ND	
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☐	☐					Monitor Only			

***** Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

[2] BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

[3] EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☐	☐					Monitor Only			
14. Naphthalene	91203	☐	☒	1	grab	8270D	0.0082	0.082		0.082	
15. Carbon Tetrachloride	56235	☒	☐	1	grab	8260C	0.34	ND		ND	
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	1	grab	8260C	0.24	ND		ND	
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	1	grab	8260C	0.24	ND		ND	
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	1	grab	8260C	0.37	ND		ND	
18a. Total dichlorobenzene		☒	☐	1	grab	8260C		ND		ND	
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	1	grab	8260C	0.28	ND		ND	
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	1	grab	8260C	0.31	ND		ND	
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	1	grab	8260C	0.28	ND		ND	
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	1	grab	8260C	0.31	ND		ND	
23. Methylene Chloride	75092	☒	☐	1	grab	8260C	0.27	ND		ND	
24. Tetrachloroethene (PCE)	127184	☒	☐	1	grab	8260C	0.21	ND		ND	
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	1	grab	8260C	0.42	ND		ND	
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	1	grab	8260C	0.32	ND		ND	
27. Trichloroethene (TCE)	79016	☒	☐	1	grab	8260C	0.25	ND		ND	

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	grab	8260C	0.45	ND		ND	
29. Acetone	67641	☒	☐	1	grab	8260C	2	ND		ND	
30. 1,4 Dioxane	123911	☐	☐					Monitor Only			
31. Total Phenols	108952	☒	☐	1	grab	8270D	0.32	ND		ND	
32. Pentachlorophenol (PCP)	87865	☒	☐	1	grab	8270D	0.35	ND		ND	
33. Total Phthalates (Phthalate esters) [4]		☒	☐	1	grab	8270D		ND		ND	
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐	1	grab	8270D	0.32	ND		ND	
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☐	☒	1	grab	8270D		2.05		2.05	
a. Benzo(a) Anthracene	56553	☐	☒	1	grab	8270D	0.024	0.27		0.27	
b. Benzo(a) Pyrene	50328	☐	☒	1	grab	8270D	0.015	0.42		0.42	
c. Benzo(b)Fluoranthene	205992	☐	☒	1	grab	8270D	0.019	0.36		0.36	
d. Benzo(k)Fluoranthene	207089	☐	☒	1	grab	8270D	0.010	0.27		0.27	
e. Chrysene	21801	☐	☒	1	grab	8270D	0.013	0.26		0.26	
f. Dibenzo(a,h)anthracene	53703	☐	☒	1	grab	8270D	0.015	0.16		0.16	
g. Indeno(1,2,3-cd) Pyrene	193395	☐	☒	1	grab	8270D	0.021	0.31		0.31	
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☐	☒	1	grab	8270D		1.30		1.29	

[4] The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	☐	☒	1	grab	8270D	0.0076	0.016		0.016	
i. Acenaphthylene	208968	☐	☒	1	grab	8270D	0.0085	0.11		0.11	
j. Anthracene	120127	☐	☒	1	grab	8270D	0.0099	0.078		0.078	
k. Benzo(ghi) Perylene	191242	☐	☒	1	grab	8270D	0.013	0.32		0.32	
l. Fluoranthene	206440	☐	☒	1	grab	8270D	0.0075	0.29		0.29	
m. Fluorene	86737	☐	☒	1	grab	8270D	0.015	0.019		0.019	
n. Naphthalene	91203	☐	☒	1	grab	8270D	0.0082	0.082		0.082	
o. Phenanthrene	85018	☐	☒	1	grab	8270D	0.011	0.14		0.14	
p. Pyrene	129000	☐	☒	1	grab	8270D	0.0086	0.32		0.32	
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	1	grab	608		ND		ND	
38. Chloride	16887006	☐	☒	1	grab	4500	1000000	22000000		22000000	
39. Antimony	7440360	☐	☒	1	grab	6020A	0.15	0.50		0.50	
40. Arsenic	7440382	☐	☒	1	grab	6020A	0.42	12.4		12.4	
41. Cadmium	7440439	☐	☒	1	grab	6020A	0.065	0.14		0.14	
42. Chromium III (trivalent)	16065831	☐	☒	1	grab	7196A	12	29		29	
43. Chromium VI (hexavalent)	18540299	☒	☐	1	grab	7196A	10	<10		<10	
44. Copper	7440508	☐	☒	1	grab	6020A	1.0	14.2		14.2	
45. Lead	7439921	☐	☒	1	grab	6020A	0.090	28.1		28.1	
46. Mercury	7439976	☒	☐	1	grab	7470A	0.096	<0.096		<0.096	
47. Nickel	7440020	☐	☒	1	grab	6020A	0.14	15.2		15.2	
48. Selenium	7782492	☐	☒	1	grab	6020A	0.30	1.6		1.6	
49. Silver	7440224	☐	☒	1	grab	6020A	0.055	0.069		0.069	
50. Zinc	7440666	☐	☒	1	grab	6020A	2.0	36.1		36.1	
51. Iron	7439896	☐	☒	1	grab	6020A	3.4	21000		21000	
Other (describe):		☐	☐								

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
		☐	☐								
		☐	☐								

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y ◉ N ○	If yes, which metals? Copper, Iron, Lead, Nickel
Step 2: For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: NA - discharge to salt water DF: NA Metal: DF: Metal: DF: Metal: DF: Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y ○ N ○ If Y, list which metals:

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:

At a minimum, the system will include a sedimentation or frac tank and additional treatment components will be incorporated if discharge standards are exceeded. These additional items include additional frac or sedimentation tanks, pumps, up to two (2) canister filtration units with 50-micron bag filters. The effluent from GW treatment system will be a 50' x 50' gravel/stone anti-scouring basin that will allow for treated effluent to gently free-flow into the Porter River.

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☒	Air stripper ☐	Oil/water separator ☐	Equalization tanks ☐	Bag filter ☒	GAC filter ☐
	Chlorination ☐	De-chlorination ☐	Other (please describe):			

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system:
Average flow rate of discharge 100 gpm Maximum flow rate of treatment system 200 gpm
Design flow rate of treatment system 200 gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

None

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct to receiving water ☒	Within facility (sewer) ☐	Storm drain ☐	Wetlands ☐	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

Effluent discharges to anti-scouring basin then direct to Parker River

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water SB

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water NA cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y ○ N ◉ If yes, for which pollutant(s)?

Is there a final TMDL? Y ○ N ◉ If yes, for which pollutant(s)?

6. ESA and NHPA Eligibility.

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.

a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?

A ◉ B ○ C ○ D ○ E ○ F ○

b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ○ N ○ Underway ○

c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received? Y ○ N ○

d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.

e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?

1 ○ 2 ○ 3 ○

f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

7. Supplemental information.

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

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name:	Liberty Street Bridge
Operator signature:	
Printed Name &Title:	Shawn Clark - Sr. Proj. Mgr.
Date:	7/24/15

B. Submission of NOI to EPA - All operators applying for coverage under this General Permit must submit a completed Notice of Intent (NOI) to EPA. Signed and completed NOI forms and attachments must be submitted to EPA-NE at:

U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, MA 02109-3912
ATTN: Remediation General Permit NOI Processing

or electronically mailed to NPDES.Generalpermits@epa.gov

or faxed to the EPA Office at 617-918-0505

If filling out the suggested NOI form electronically on EPA's website, the signature page must be signed and faxed or mailed to EPA at the fax number and/or address listed above.

1. Filing with the states - A copy of any NOI form filed with EPA-NE must also be filed with state agencies. The state agency may elect to develop a state specific form or other information requirements.

a) Discharges in Massachusetts - In addition to the NOI, permit applicants must submit copies of the State Application Form BRPWM 12, Request for General Permit coverage for the RGP. The application form and the Transmittal Form for Permit Application and Payment may be obtained from the Massachusetts Department of Environmental Protection (MassDEP) website at www.state.ma.us/dep. Municipalities are fee-exempt, but should send a copy of the transmittal form to that address for project tracking purposes. All applicants should keep a copy of the transmittal form and a copy of the application package for their records.

1) A copy of the NOI, the transmittal form, a copy of the check, and Form BRPWM 12 should be sent to:

Massachusetts Department of Environmental Protection
Division of Watershed Management
627 Main Street, 2nd floor
Worcester, MA 01608

2) A copy of the transmittal form and the appropriate fee should be sent to:

Massachusetts Department of Environmental Protection
P.O. Box 4062
Boston, MA 02111

Please note: Applicants for discharges in Massachusetts should note that under 310 CMR 40.000, *as a matter of state law*, the general permit only applies to discharges that are **not** subject to the

Massachusetts Contingency Plan (MCP) and 310 CMR 40.000. Therefore, discharges subject to the MCP are **not** required to fill out and submit the State Application Form BRPWM 12 or pay the state fees. However, they must submit a NOI to EPA.

b) Discharges in New Hampshire - applicants must provide a copy of the Notice of Intent to:

New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
P.O. Box 95
Concord, New Hampshire 03302-0095.

2. Filing with Municipalities - A copy of the NOI must be submitted to the municipality in which the proposed discharge would be located.

Attachment 3
Laboratory Analytical

New England ACCUTEST LABORATORIES

06/10/15

Technical Report for

EBI Consulting

Liberty Street Bridge, Danvers, MA

5115000019

Accutest Job Number: MC39104

Sampling Date: 06/03/15

Report to:

EBI Consulting
21 B Street
Burlington, MA
egiordano@ebiconsulting.com

ATTN: Ed Giordano

Total number of pages in report: **71**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

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Sample Summary

EBI Consulting

Job No: MC39104

Liberty Street Bridge, Danvers, MA
Project No: 5115000019

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC39104-1	06/03/15	15:30	LEB	06/04/15	AQ	Ground Water	EB-01

Summary of Hits

Job Number: MC39104
Account: EBI Consulting
Project: Liberty Street Bridge, Danvers, MA
Collected: 06/03/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC39104-1	**EB-01**					
Benzene		0.52	0.50	0.27	ug/l	SW846 8260C
Acenaphthene		0.016 J	0.10	0.0076	ug/l	SW846 8270D BY SIM
Acenaphthylene		0.11	0.10	0.0085	ug/l	SW846 8270D BY SIM
Anthracene		0.078 J	0.10	0.0099	ug/l	SW846 8270D BY SIM
Benzo(a)anthracene		0.27	0.051	0.024	ug/l	SW846 8270D BY SIM
Benzo(a)pyrene		0.42	0.10	0.015	ug/l	SW846 8270D BY SIM
Benzo(b)fluoranthene		0.36	0.051	0.019	ug/l	SW846 8270D BY SIM
Benzo(g,h,i)perylene		0.32	0.10	0.013	ug/l	SW846 8270D BY SIM
Benzo(k)fluoranthene		0.27	0.10	0.010	ug/l	SW846 8270D BY SIM
Chrysene		0.26	0.10	0.013	ug/l	SW846 8270D BY SIM
Dibenzo(a,h)anthracene		0.16	0.10	0.015	ug/l	SW846 8270D BY SIM
Fluoranthene		0.29	0.10	0.0075	ug/l	SW846 8270D BY SIM
Fluorene		0.019 J	0.10	0.015	ug/l	SW846 8270D BY SIM
Indeno(1,2,3-cd)pyrene		0.31	0.10	0.021	ug/l	SW846 8270D BY SIM
2-Methylnaphthalene		0.038 J	2.0	0.011	ug/l	SW846 8270D BY SIM
Naphthalene		0.082 J	2.0	0.0082	ug/l	SW846 8270D BY SIM
Phenanthrene		0.14	0.051	0.011	ug/l	SW846 8270D BY SIM
Pyrene		0.32	0.10	0.0086	ug/l	SW846 8270D BY SIM
Antimony [a]		0.50 B	2.5	0.15	ug/l	SW846 6020A
Arsenic		12.4	1.0	0.42	ug/l	SW846 6020A
Cadmium [a]		0.14 B	2.5	0.065	ug/l	SW846 6020A
Chromium		33.0	2.0	0.42	ug/l	SW846 6020A
Copper		14.2	2.0	1.0	ug/l	SW846 6020A
Iron		21000	50	3.4	ug/l	SW846 6020A
Lead [a]		28.1	2.5	0.090	ug/l	SW846 6020A
Nickel		15.2	2.0	0.14	ug/l	SW846 6020A
Selenium		1.6 B	2.0	0.30	ug/l	SW846 6020A
Silver [a]		0.069 B	2.5	0.055	ug/l	SW846 6020A
Zinc		36.1	8.0	2.0	ug/l	SW846 6020A
Chloride		22000	1000		mg/l	SM 4500 CL C-11
Chromium, Trivalent [b]		0.029	0.012		mg/l	6010/7196A M/200.7
Solids, Total Suspended		975	4.0		mg/l	SM 2540D-11
Total Residual Chlorine [c]		< 0.050	0.050		mg/l	SM21 4500CL F

(a) Elevated RL due to dilution required for matrix interference.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)
(c) Analysis performed past the required 15 minutes of collection time/holding time.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	EB-01		
Lab Sample ID:	MC39104-1	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/04/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Liberty Street Bridge, Danvers, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V39878.D	1	06/09/15	JB	n/a	n/a	MSV1437
Run #2	V39901.D	1	06/10/15	JB	n/a	n/a	MSV1438

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	0.52	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: EB-01
Lab Sample ID: MC39104-1
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Liberty Street Bridge, Danvers, MA

Date Sampled: 06/03/15
Date Received: 06/04/15
Percent Solids: n/a

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND [a]	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%	115%	72-133%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EB-01		
Lab Sample ID:	MC39104-1	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/04/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Liberty Street Bridge, Danvers, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	98%	99%	85-114%
460-00-4	4-Bromofluorobenzene	103%	101%	70-134%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: EB-01
Lab Sample ID: MC39104-1
Matrix: AQ - Ground Water
Method: SW846 8270D SW846 3510C
Project: Liberty Street Bridge, Danvers, MA

Date Sampled: 06/03/15
Date Received: 06/04/15
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F81107.D	1	06/08/15	KD	06/07/15	OP43306	MSF3517
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

ABN Full List w/o PAHs

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	2.5	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	0.29	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.51	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.47	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	0.34	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	0.60	ug/l	
95-48-7	2-Methylphenol	ND	10	0.30	ug/l	
	3&4-Methylphenol	ND	10	0.45	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	1.3	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.35	ug/l	
108-95-2	Phenol	ND	5.1	0.32	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.46	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.45	ug/l	
62-53-3	Aniline	ND	10	0.46	ug/l	
92-87-5	Benzidine	ND	5.1	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.25	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.24	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.33	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.35	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.36	ug/l	
86-74-8	Carbazole	ND	2.0	0.16	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.50	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.42	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.42	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.26	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.1	0.24	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.30	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.1	0.21	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.1	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.37	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EB-01		
Lab Sample ID:	MC39104-1	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/04/15
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Liberty Street Bridge, Danvers, MA		

ABN Full List w/o PAHs

CAS No.	Compound	Result	RL	MDL	Units	Q
606-20-2	2,6-Dinitrotoluene	ND	10	0.38	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.54	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.25	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	0.27	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	0.29	ug/l	
84-66-2	Diethyl phthalate	ND	5.1	0.27	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	0.24	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.32	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	0.25	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.1	0.30	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.1	0.29	ug/l	
78-59-1	Isophorone	ND	5.1	0.47	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.36	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.41	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.52	ug/l	
98-95-3	Nitrobenzene	ND	5.1	0.49	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.25	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	0.26	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	0.25	ug/l	
110-86-1	Pyridine	ND	10	0.36	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.1	0.28	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	36%		10-79%
4165-62-2	Phenol-d5	28%		10-72%
118-79-6	2,4,6-Tribromophenol	58%		35-138%
4165-60-0	Nitrobenzene-d5	71%		30-116%
321-60-8	2-Fluorobiphenyl	61%		35-107%
1718-51-0	Terphenyl-d14	84%		43-135%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EB-01		
Lab Sample ID:	MC39104-1	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/04/15
Method:	SW846 8270D BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	Liberty Street Bridge, Danvers, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I96037.D	1	06/09/15	MR	06/07/15	OP43307	MSI3596
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.016	0.10	0.0076	ug/l	J
208-96-8	Acenaphthylene	0.11	0.10	0.0085	ug/l	
120-12-7	Anthracene	0.078	0.10	0.0099	ug/l	J
56-55-3	Benzo(a)anthracene	0.27	0.051	0.024	ug/l	
50-32-8	Benzo(a)pyrene	0.42	0.10	0.015	ug/l	
205-99-2	Benzo(b)fluoranthene	0.36	0.051	0.019	ug/l	
191-24-2	Benzo(g,h,i)perylene	0.32	0.10	0.013	ug/l	
207-08-9	Benzo(k)fluoranthene	0.27	0.10	0.010	ug/l	
218-01-9	Chrysene	0.26	0.10	0.013	ug/l	
53-70-3	Dibenzo(a,h)anthracene	0.16	0.10	0.015	ug/l	
206-44-0	Fluoranthene	0.29	0.10	0.0075	ug/l	
86-73-7	Fluorene	0.019	0.10	0.015	ug/l	J
193-39-5	Indeno(1,2,3-cd)pyrene	0.31	0.10	0.021	ug/l	
91-57-6	2-Methylnaphthalene	0.038	2.0	0.011	ug/l	J
91-20-3	Naphthalene	0.082	2.0	0.0082	ug/l	J
85-01-8	Phenanthrene	0.14	0.051	0.011	ug/l	
129-00-0	Pyrene	0.32	0.10	0.0086	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		26-121%
321-60-8	2-Fluorobiphenyl	56%		28-107%
1718-51-0	Terphenyl-d14	80%		29-129%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: EB-01
Lab Sample ID: MC39104-1
Matrix: AQ - Ground Water
Method: EPA 504.1 EPA 504.1
Project: Liberty Street Bridge, Danvers, MA

Date Sampled: 06/03/15
Date Received: 06/04/15
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB63347.D	1	06/06/15	NK	06/05/15	OP43320	GBB3440
Run #2							

	Initial Volume	Final Volume
Run #1	37.0 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.0058	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0058	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	85%		59-170%
460-00-4	Bromofluorobenzene (S)	88%		59-170%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EB-01		
Lab Sample ID:	MC39104-1	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/04/15
Method:	EPA 608 EPA 608	**Percent Solids:**	n/a
Project:	Liberty Street Bridge, Danvers, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK48712.D	1	06/08/15	NK	06/05/15	OP43308	GBK1522
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	5.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	0.17	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	0.17	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	0.18	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	0.19	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	0.13	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	0.17	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	0.19	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	104%		10-155%
877-09-8	Tetrachloro-m-xylene	97%		10-155%
2051-24-3	Decachlorobiphenyl	109%		10-125%
2051-24-3	Decachlorobiphenyl	107%		10-125%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EB-01		
Lab Sample ID:	MC39104-1	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/04/15
		Percent Solids:	n/a
Project:	Liberty Street Bridge, Danvers, MA		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony [a]	0.50 B	2.5	0.15	ug/l	5	06/05/15	06/08/15	VY	SW846 6020A [3]	SW846 3010A [4]
Arsenic	12.4	1.0	0.42	ug/l	2	06/05/15	06/05/15	VY	SW846 6020A [1]	SW846 3010A [4]
Cadmium [a]	0.14 B	2.5	0.065	ug/l	5	06/05/15	06/08/15	VY	SW846 6020A [3]	SW846 3010A [4]
Chromium	33.0	2.0	0.42	ug/l	2	06/05/15	06/08/15	VY	SW846 6020A [3]	SW846 3010A [4]
Copper	14.2	2.0	1.0	ug/l	2	06/05/15	06/05/15	VY	SW846 6020A [1]	SW846 3010A [4]
Iron	21000	50	3.4	ug/l	2	06/05/15	06/05/15	VY	SW846 6020A [1]	SW846 3010A [4]
Lead [a]	28.1	2.5	0.090	ug/l	5	06/05/15	06/08/15	VY	SW846 6020A [3]	SW846 3010A [4]
Mercury	0.096 U	0.20	0.096	ug/l	1	06/06/15	06/08/15	EAL	SW846 7470A [2]	SW846 7470A [5]
Nickel	15.2	2.0	0.14	ug/l	2	06/05/15	06/05/15	VY	SW846 6020A [1]	SW846 3010A [4]
Selenium	1.6 B	2.0	0.30	ug/l	2	06/05/15	06/08/15	VY	SW846 6020A [3]	SW846 3010A [4]
Silver [a]	0.069 B	2.5	0.055	ug/l	5	06/05/15	06/08/15	VY	SW846 6020A [3]	SW846 3010A [4]
Zinc	36.1	8.0	2.0	ug/l	2	06/05/15	06/05/15	VY	SW846 6020A [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA18185
(2) Instrument QC Batch: MA18187
(3) Instrument QC Batch: MA18190
(4) Prep QC Batch: MP24691
(5) Prep QC Batch: MP24697

(a) Elevated RL due to dilution required for matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	EB-01		
Lab Sample ID:	MC39104-1	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/04/15
		Percent Solids:	n/a
Project:	Liberty Street Bridge, Danvers, MA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	22000	1000	mg/l	1000	06/08/15	CF	SM 4500 CL C-11
Chromium, Hexavalent [a]	< 0.010	0.010	mg/l	1	06/04/15 18:45	MA	SW846 7196A
Chromium, Trivalent [b]	0.029	0.012	mg/l	1	06/08/15 15:16	VY	6010/7196A M/200.7
Cyanide	< 0.010	0.010	mg/l	1	06/09/15 11:02	MA	EPA 335.4
HEM Petroleum Hydrocarbo [c]	< 5.0	5.0	mg/l	1	06/09/15 16:00	AFL	EPA 1664A
Phenols	< 0.050	0.050	mg/l	1	06/08/15 14:15	BF	EPA 420.1
Solids, Total Suspended	975	4.0	mg/l	1	06/05/15	BF	SM 2540D-11
Total Residual Chlorine [d]	< 0.050	0.050	mg/l	1	06/05/15 09:56	MA	SM21 4500CL F

(a) Analysis performed past the recommended holding time.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)
(c) Analysis performed at Accutest Laboratories, Orlando FL. The Laboratory is not certified for this parameter in MA.
(d) Analysis performed past the required 15 minutes of collection time/holding time.

RL = Reporting Limit

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Parameter Certifications (MA)
- Chain of Custody

Parameter Certifications

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

The following parameters included in this report are certified by the state of MA.

Parameter	CAS#	Method	Mat	Certification Status
1,2-Dibromo-3-chloropropane	96-12-8	**EPA 504.1**	AQ	Accutest is certified for this parameter.
1,2-Dibromoethane	106-93-4	**EPA 504.1**	AQ	Accutest is certified for this parameter.
Aroclor 1016	12674-11-2	**EPA 608**	AQ	Accutest is certified for this parameter.
Aroclor 1221	11104-28-2	**EPA 608**	AQ	Accutest is certified for this parameter.
Aroclor 1232	11141-16-5	**EPA 608**	AQ	Accutest is certified for this parameter.
Aroclor 1242	53469-21-9	**EPA 608**	AQ	Accutest is certified for this parameter.
Aroclor 1248	12672-29-6	**EPA 608**	AQ	Accutest is certified for this parameter.
Aroclor 1254	11097-69-1	**EPA 608**	AQ	Accutest is certified for this parameter.
Aroclor 1260	11096-82-5	**EPA 608**	AQ	Accutest is certified for this parameter.
Chloride	16887-00-6	**SM 4500 CL C-11**	AQ	Accutest is certified for this parameter.
Cyanide	57-12-5	**EPA 335.4**	AQ	Accutest is certified for this parameter.
Phenols		**EPA 420.1**	AQ	Accutest is certified for this parameter.
Solids, Total Suspended		**SM 2540D-11**	AQ	Accutest is certified for this parameter.
Total Residual Chlorine		**SM21 4500CL F**	AQ	Accutest is certified for this parameter.

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: MC39104

Client / Reporting Information

Company Name: EBI Consulting
Street Address: 21 B Street
City: Burlington State: MA Zip: 01803
Project Contact: Ed Giordano E-mail:
Phone #: (339)234-8739 Fax #:
Sampler(s) Name(s): Lauren Bell Phone #: (781)572-2488

Project Information

Project Name: Liberty Street Bridge
Street: Liberty Street
City: Danvers
Project#: 5115000019
Client PO#:
Project Manager: Ed Giordano

Billing Information (If different from Report to)

Company Name:
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet)

Please See Attached

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB- Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	LAB USE ONLY
-1	EB-01		6/3/15	1530	LEB	GW	14										
	~~EB-02~~		~~6/3/15~~		~~LEB~~	~~GW~~	~~14~~										
																	2c
																	18C, 3Z2,

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day *RUSH*
- [x] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Jeremy RUSH!

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 6/3/15	18:00	1 6/4/15 1543	2	6/4/15 1815	2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice	Cooler Temp.
5		5					1.1°C

MC39104: Chain of Custody
Page 1 of 3

MC39104

Liberty St Bridge
Accutest Laboratories

EBI #: 5115000019
Field / Lab - Task: 14
Attach to COC

Analysis	Matrix	Quantity
504.1 EDB & DBCP	Aqueous	2
608 PCBs	Aqueous	2
8260 Full List	Aqueous	2
8270 Full List + PAH (5mm)	Aqueous	2
Ag Total ICP 6010	Aqueous	2
As Total ICP 6010	Aqueous	2
Cd Total ICP 6010	Aqueous	2
Chloride	Aqueous	2
Cr Trivalent Total	Aqueous	2
Cu Total ICP 6010	Aqueous	2
Cyanide, Total	Aqueous	2
Fe Total ICP 6010	Aqueous	2
Hexavalent Chromium	Aqueous	2
Hg Total CVAA	Aqueous	2
Ni Total ICP 6010	Aqueous	2
Pb Total ICP 6010	Aqueous	2
Phenolics	Aqueous	2
Sb Total ICP 6010	Aqueous	2
Se Total ICP 6010	Aqueous	2
Total Residual Chlorine	Aqueous	2
Total Suspended Solids (TSS)	Aqueous	2
TPH-1664	Aqueous	2
Zn Total ICP 6010	Aqueous	2

J:\Ongoing Jobs\2013\35130033 Water Street Bridge\Treatment system and RGP\Lab data Sample RGP Analysis

MC39104: Chain of Custody
Page 2 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39104 **Client:** EBI **Project:**

Date / Time Received: 6/4/2015 6:15:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1.1/1.1);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	G1;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:(508) 481-6200

495 Technology Center West, Bldg One
F: (508) 481-7753

Marlborough, MA 01752
www/accutest.com

MC39104: Chain of Custody
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New England ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1437-MB	V39870.D	1	06/09/15	JB	n/a	n/a	MSV1437

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39104-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1437-MB	V39870.D	1	06/09/15	JB	n/a	n/a	MSV1437

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39104-1

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	107%	72-133%

Method Blank Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1437-MB	V39870.D	1	06/09/15	JB	n/a	n/a	MSV1437

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39104-1

CAS No.	Surrogate Recoveries		Limits
2037-26-5	Toluene-D8	97%	85-114%
460-00-4	4-Bromofluorobenzene	102%	70-134%

Method Blank Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1438-MB	V39898.D	1	06/10/15	JB	n/a	n/a	MSV1438

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39104-1

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	108%	72-133%
2037-26-5	Toluene-D8	97%	85-114%
460-00-4	4-Bromofluorobenzene	102%	70-134%

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1437-BS	V39867.D	1	06/09/15	JB	n/a	n/a	MSV1437
MSV1437-BSD	V39868.D	1	06/09/15	JB	n/a	n/a	MSV1437

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39104-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	59.5	119	58.1	116	2	14-172/25
71-43-2	Benzene	50	49.3	99	49.7	99	1	68-127/25
108-86-1	Bromobenzene	50	50.8	102	50.8	102	0	74-124/25
74-97-5	Bromochloromethane	50	53.2	106	52.4	105	2	68-135/25
75-27-4	Bromodichloromethane	50	52.5	105	50.7	101	3	72-144/25
75-25-2	Bromoform	50	60.9	122	57.0	114	7	59-147/25
74-83-9	Bromomethane	50	60.2	120	60.0	120	0	34-175/25
78-93-3	2-Butanone (MEK)	50	63.3	127	62.2	124	2	43-147/25
104-51-8	n-Butylbenzene	50	54.8	110	57.1	114	4	77-136/25
135-98-8	sec-Butylbenzene	50	54.0	108	55.9	112	3	75-134/25
98-06-6	tert-Butylbenzene	50	51.4	103	54.9	110	7	74-132/25
75-15-0	Carbon disulfide	50	66.1	132	59.0	118	11	34-171/25
56-23-5	Carbon tetrachloride	50	53.1	106	51.7	103	3	55-153/25
108-90-7	Chlorobenzene	50	50.2	100	50.2	100	0	71-123/25
75-00-3	Chloroethane	50	59.7	119	59.8	120	0	58-175/25
67-66-3	Chloroform	50	51.9	104	52.2	104	1	67-136/25
74-87-3	Chloromethane	50	59.6	119	57.9	116	3	25-182/25
95-49-8	o-Chlorotoluene	50	49.2	98	50.6	101	3	72-130/25
106-43-4	p-Chlorotoluene	50	50.2	100	51.6	103	3	73-127/25
96-12-8	1,2-Dibromo-3-chloropropane	50	53.8	108	48.7	97	10	50-159/25
124-48-1	Dibromochloromethane	50	52.4	105	50.3	101	4	73-139/25
106-93-4	1,2-Dibromoethane	50	50.7	101	47.8	96	6	69-132/25
95-50-1	1,2-Dichlorobenzene	50	50.7	101	50.3	101	1	77-125/25
541-73-1	1,3-Dichlorobenzene	50	49.1	98	49.8	100	1	77-124/25
106-46-7	1,4-Dichlorobenzene	50	49.1	98	49.1	98	0	73-128/25
75-71-8	Dichlorodifluoromethane	50	70.8	142	66.1	132	7	23-157/25
75-34-3	1,1-Dichloroethane	50	50.5	101	49.8	100	1	63-145/25
107-06-2	1,2-Dichloroethane	50	52.1	104	50.2	100	4	58-145/25
75-35-4	1,1-Dichloroethene	50	65.6	131	58.0	116	12	56-158/25
156-59-2	cis-1,2-Dichloroethene	50	52.8	106	53.8	108	2	67-133/25
156-60-5	trans-1,2-Dichloroethene	50	48.1	96	47.7	95	1	66-136/25
78-87-5	1,2-Dichloropropane	50	51.4	103	50.1	100	3	75-133/25
142-28-9	1,3-Dichloropropane	50	54.5	109	52.0	104	5	70-127/25
594-20-7	2,2-Dichloropropane	50	53.8	108	52.4	105	3	52-163/25
563-58-6	1,1-Dichloropropene	50	48.9	98	49.6	99	1	77-140/25
10061-01-5	cis-1,3-Dichloropropene	50	56.3	113	53.2	106	6	74-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1437-BS	V39867.D	1	06/09/15	JB	n/a	n/a	MSV1437
MSV1437-BSD	V39868.D	1	06/09/15	JB	n/a	n/a	MSV1437

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39104-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	57.4	115	52.5	105	9	77-143/25
100-41-4	Ethylbenzene	50	49.8	100	50.7	101	2	71-129/25
87-68-3	Hexachlorobutadiene	50	54.7	109	55.2	110	1	64-146/25
591-78-6	2-Hexanone	50	53.9	108	54.4	109	1	22-163/25
74-88-4	Iodomethane	50	60.8	122	54.7	109	11	30-166/25
98-82-8	Isopropylbenzene	50	51.2	102	53.6	107	5	72-133/25
99-87-6	p-Isopropyltoluene	50	52.7	105	55.0	110	4	77-134/25
1634-04-4	Methyl Tert Butyl Ether	50	53.8	108	47.4	95	13	46-151/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	51.7	103	47.3	95	9	47-145/25
74-95-3	Methylene bromide	50	54.7	109	50.9	102	7	70-132/25
75-09-2	Methylene chloride	50	55.7	111	49.8	100	11	55-146/25
103-65-1	n-Propylbenzene	50	51.7	103	53.6	107	4	74-134/25
100-42-5	Styrene	50	49.9	100	49.8	100	0	71-134/25
630-20-6	1,1,1,2-Tetrachloroethane	50	50.6	101	50.8	102	0	70-137/25
79-34-5	1,1,2,2-Tetrachloroethane	50	55.7	111	52.5	105	6	58-145/25
127-18-4	Tetrachloroethene	50	50.1	100	51.2	102	2	63-137/25
108-88-3	Toluene	50	52.0	104	51.6	103	1	75-126/25
87-61-6	1,2,3-Trichlorobenzene	50	60.1	120	52.1	104	14	27-181/25
120-82-1	1,2,4-Trichlorobenzene	50	54.2	108	50.3	101	7	40-176/25
71-55-6	1,1,1-Trichloroethane	50	58.4	117	57.5	115	2	68-144/25
79-00-5	1,1,2-Trichloroethane	50	54.6	109	50.7	101	7	72-133/25
79-01-6	Trichloroethene	50	50.8	102	51.0	102	0	73-126/25
75-69-4	Trichlorofluoromethane	50	67.3	135	63.7	127	5	43-152/25
96-18-4	1,2,3-Trichloropropane	50	65.8	132	62.4	125	5	58-141/25
95-63-6	1,2,4-Trimethylbenzene	50	49.4	99	51.2	102	4	76-129/25
108-67-8	1,3,5-Trimethylbenzene	50	51.1	102	53.5	107	5	71-127/25
108-05-4	Vinyl Acetate	50	65.8	132	62.0	124	6	10-170/25
75-01-4	Vinyl chloride	50	63.8	128	61.6	123	4	36-167/25
	m,p-Xylene	100	97.8	98	101	101	3	68-130/25
95-47-6	o-Xylene	50	46.9	94	48.3	97	3	69-126/25
1330-20-7	Xylene (total)	150	145	97	149	99	3	67-129/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	109%	109%	72-133%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1437-BS	V39867.D	1	06/09/15	JB	n/a	n/a	MSV1437
MSV1437-BSD	V39868.D	1	06/09/15	JB	n/a	n/a	MSV1437

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39104-1

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
2037-26-5	Toluene-D8	104%	102%	85-114%
460-00-4	4-Bromofluorobenzene	102%	101%	70-134%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1438-BS	V39895.D	1	06/09/15	JB	n/a	n/a	MSV1438
MSV1438-BSD	V39896.D	1	06/09/15	JB	n/a	n/a	MSV1438

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39104-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
91-20-3	Naphthalene	50	48.9	98	47.6	95	3	39-176/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	109%	108%	72-133%
2037-26-5	Toluene-D8	103%	103%	85-114%
460-00-4	4-Bromofluorobenzene	103%	102%	70-134%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC39104-1	V39878.D	112	98	103
MC39104-1	V39901.D	115	99	101
MSV1437-BS	V39867.D	109	104	102
MSV1437-BSD	V39868.D	109	102	101
MSV1437-MB	V39870.D	107	97	102
MSV1438-BS	V39895.D	109	103	103
MSV1438-BSD	V39896.D	108	103	102
MSV1438-MB	V39898.D	108	97	102

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	72-133%
S2 = Toluene-D8	85-114%
S3 = 4-Bromofluorobenzene	70-134%

New England ACCUTEST LABORATORIES

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP43306-MB	F81104.D	1	06/08/15	KD	06/07/15	OP43306	MSF3517

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC39104-1

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	2.5	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.29	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.51	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.47	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	0.34	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	0.59	ug/l	
95-48-7	2-Methylphenol	ND	10	0.30	ug/l	
	3&4-Methylphenol	ND	10	0.44	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	1.3	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.35	ug/l	
108-95-2	Phenol	ND	5.0	0.32	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.45	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.45	ug/l	
62-53-3	Aniline	ND	10	0.46	ug/l	
92-87-5	Benzidine	ND	5.0	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.25	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.24	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.32	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.34	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.36	ug/l	
86-74-8	Carbazole	ND	2.0	0.16	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.49	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.42	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.42	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.26	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	0.24	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.30	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	0.21	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.37	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.38	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.53	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.25	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.27	ug/l	

Method Blank Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP43306-MB	F81104.D	1	06/08/15	KD	06/07/15	OP43306	MSF3517

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC39104-1

CAS No.	Compound	Result	RL	MDL	Units	Q
117-84-0	Di-n-octyl phthalate	ND	5.0	0.29	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.27	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.24	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.32	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.29	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.47	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.36	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.40	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.51	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.48	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.25	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.26	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.25	ug/l	
110-86-1	Pyridine	ND	10	0.36	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.28	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	45%	10-79%
4165-62-2	Phenol-d5	32%	10-72%
118-79-6	2,4,6-Tribromophenol	81%	35-138%
4165-60-0	Nitrobenzene-d5	82%	30-116%
321-60-8	2-Fluorobiphenyl	78%	35-107%
1718-51-0	Terphenyl-d14	95%	43-135%

Method Blank Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP43307-MB	I96020.D	1	06/08/15	MR	06/07/15	OP43307	MSI3595

The QC reported here applies to the following samples: **Method:** SW846 8270D BY SIM

MC39104-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.0075	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.0084	ug/l	
120-12-7	Anthracene	ND	0.10	0.0098	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.024	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.015	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.019	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.013	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.010	ug/l	
218-01-9	Chrysene	ND	0.10	0.013	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.015	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.0074	ug/l	
86-73-7	Fluorene	ND	0.10	0.015	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.020	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.011	ug/l	
91-20-3	Naphthalene	ND	2.0	0.0081	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.011	ug/l	
129-00-0	Pyrene	ND	0.10	0.0085	ug/l	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	75%	26-121%
321-60-8	2-Fluorobiphenyl	70%	28-107%
1718-51-0	Terphenyl-d14	86%	29-129%

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP43306-BS	F81105.D	1	06/08/15	KD	06/07/15	OP43306	MSF3517
OP43306-BSD	F81106.D	1	06/08/15	KD	06/07/15	OP43306	MSF3517

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC39104-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	50	21.9	44	21.5	43	2	10-73/20
95-57-8	2-Chlorophenol	50	36.6	73	36.3	73	1	47-106/20
59-50-7	4-Chloro-3-methyl phenol	50	41.3	83	40.0	80	3	50-111/20
120-83-2	2,4-Dichlorophenol	50	42.0	84	39.9	80	5	53-114/20
105-67-9	2,4-Dimethylphenol	50	31.8	64	24.4	49	26* [a]	23-110/20
51-28-5	2,4-Dinitrophenol	50	41.9	84	43.4	87	4	10-156/20
534-52-1	4,6-Dinitro-o-cresol	50	44.0	88	44.8	90	2	17-159/20
95-48-7	2-Methylphenol	50	32.8	66	33.0	66	1	40-92/20
	3&4-Methylphenol	100	64.0	64	63.4	63	1	38-86/20
88-75-5	2-Nitrophenol	50	43.0	86	41.7	83	3	53-115/20
100-02-7	4-Nitrophenol	50	19.5	39	19.6	39	1	10-83/20
87-86-5	Pentachlorophenol	50	41.6	83	40.7	81	2	41-122/20
108-95-2	Phenol	50	18.9	38	18.4	37	3	15-55/20
95-95-4	2,4,5-Trichlorophenol	50	44.4	89	44.2	88	0	52-120/20
88-06-2	2,4,6-Trichlorophenol	50	43.8	88	43.4	87	1	53-119/20
62-53-3	Aniline	50	33.1	66	31.9	64	4	26-87/20
92-87-5	Benzidine	50	30.5	61	38.4	77	23* [a]	10-177/20
101-55-3	4-Bromophenyl phenyl ether	50	45.5	91	44.7	89	2	65-127/20
85-68-7	Butyl benzyl phthalate	50	49.8	100	48.0	96	4	68-128/20
100-51-6	Benzyl Alcohol	50	37.9	76	35.8	72	6	13-108/20
91-58-7	2-Chloronaphthalene	50	42.3	85	40.0	80	6	58-120/20
106-47-8	4-Chloroaniline	50	40.9	82	39.0	78	5	48-106/20
86-74-8	Carbazole	50	48.3	97	47.3	95	2	70-113/20
111-91-1	bis(2-Chloroethoxy)methane	50	46.2	92	42.6	85	8	42-118/20
111-44-4	bis(2-Chloroethyl)ether	50	44.1	88	41.6	83	6	35-123/20
108-60-1	bis(2-Chloroisopropyl)ether	50	51.9	104	50.0	100	4	37-160/20
7005-72-3	4-Chlorophenyl phenyl ether	50	45.1	90	43.3	87	4	57-121/20
95-50-1	1,2-Dichlorobenzene	50	30.2	60	29.2	58	3	29-107/20
122-66-7	1,2-Diphenylhydrazine	50	49.5	99	45.7	91	8	54-128/20
541-73-1	1,3-Dichlorobenzene	50	28.2	56	27.2	54	4	24-106/20
106-46-7	1,4-Dichlorobenzene	50	28.8	58	27.0	54	6	26-105/20
121-14-2	2,4-Dinitrotoluene	50	45.9	92	44.9	90	2	64-127/20
606-20-2	2,6-Dinitrotoluene	50	46.8	94	44.6	89	5	55-135/20
91-94-1	3,3'-Dichlorobenzidine	50	38.8	78	40.0	80	3	49-141/20
132-64-9	Dibenzofuran	50	43.0	86	40.3	81	6	60-107/20
84-74-2	Di-n-butyl phthalate	50	49.0	98	47.9	96	2	68-117/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP43306-BS	F81105.D	1	06/08/15	KD	06/07/15	OP43306	MSF3517
OP43306-BSD	F81106.D	1	06/08/15	KD	06/07/15	OP43306	MSF3517

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC39104-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
117-84-0	Di-n-octyl phthalate	50	50.8	102	47.6	95	7	60-139/20
84-66-2	Diethyl phthalate	50	46.2	92	44.9	90	3	51-127/20
131-11-3	Dimethyl phthalate	50	46.0	92	43.9	88	5	22-147/20
117-81-7	bis(2-Ethylhexyl)phthalate	50	50.4	101	48.9	98	3	69-133/20
118-74-1	Hexachlorobenzene	50	45.9	92	44.5	89	3	62-131/20
87-68-3	Hexachlorobutadiene	50	28.5	57	26.9	54	6	14-120/20
77-47-4	Hexachlorocyclopentadiene	50	12.1	24	12.3	25	2	10-74/20
67-72-1	Hexachloroethane	50	27.8	56	26.5	53	5	15-104/20
78-59-1	Isophorone	50	40.9	82	38.3	77	7	44-110/20
88-74-4	2-Nitroaniline	50	49.2	98	46.5	93	6	63-123/20
99-09-2	3-Nitroaniline	50	45.2	90	44.1	88	2	63-112/20
100-01-6	4-Nitroaniline	50	46.5	93	43.8	88	6	58-114/20
98-95-3	Nitrobenzene	50	43.2	86	40.6	81	6	37-130/20
62-75-9	n-Nitrosodimethylamine	50	32.1	64	29.7	59	8	18-80/20
621-64-7	N-Nitroso-di-n-propylamine	50	49.9	100	48.2	96	3	44-128/20
86-30-6	N-Nitrosodiphenylamine	50	40.5	81	40.0	80	1	62-107/20
110-86-1	Pyridine	50	19.6	39	20.4	41	4	10-77/20
120-82-1	1,2,4-Trichlorobenzene	50	30.4	61	28.9	58	5	33-111/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	45%	44%	10-79%
4165-62-2	Phenol-d5	34%	32%	10-72%
118-79-6	2,4,6-Tribromophenol	86%	85%	35-138%
4165-60-0	Nitrobenzene-d5	85%	80%	30-116%
321-60-8	2-Fluorobiphenyl	85%	80%	35-107%
1718-51-0	Terphenyl-d14	96%	93%	43-135%

(a) Outside control limits. Individual spike recoveries within acceptance limits.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP43307-BS	I96021.D	1	06/08/15	MR	06/07/15	OP43307	MSI3595
OP43307-BSD	I96022.D	1	06/08/15	MR	06/07/15	OP43307	MSI3595

The QC reported here applies to the following samples: **Method:** SW846 8270D BY SIM

MC39104-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	50	38.8	78	38.8	78	0	45-116/30
208-96-8	Acenaphthylene	50	35.0	70	34.8	70	1	34-110/30
120-12-7	Anthracene	50	42.2	84	42.4	85	0	50-117/30
56-55-3	Benzo(a)anthracene	50	45.4	91	44.7	89	2	55-139/30
50-32-8	Benzo(a)pyrene	50	48.3	97	47.6	95	1	48-131/30
205-99-2	Benzo(b)fluoranthene	50	45.3	91	42.2	84	7	49-141/30
191-24-2	Benzo(g,h,i)perylene	50	52.4	105	52.9	106	1	60-130/30
207-08-9	Benzo(k)fluoranthene	50	40.1	80	40.4	81	1	49-133/30
218-01-9	Chrysene	50	43.0	86	42.9	86	0	52-128/30
53-70-3	Dibenzo(a,h)anthracene	50	49.2	98	49.4	99	0	60-136/30
206-44-0	Fluoranthene	50	41.6	83	39.0	78	6	46-132/30
86-73-7	Fluorene	50	43.2	86	45.3	91	5	53-120/30
193-39-5	Indeno(1,2,3-cd)pyrene	50	50.7	101	50.9	102	0	57-134/30
91-57-6	2-Methylnaphthalene	50	38.5	77	38.4	77	0	36-111/30
91-20-3	Naphthalene	50	34.3	69	33.1	66	4	32-116/30
85-01-8	Phenanthrene	50	42.4	85	42.5	85	0	50-120/30
129-00-0	Pyrene	50	41.2	82	39.0	78	5	48-127/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	78%	74%	26-121%
321-60-8	2-Fluorobiphenyl	77%	71%	28-107%
1718-51-0	Terphenyl-d14	88%	81%	29-129%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Method: SW846 8270D **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC39104-1	F81107.D	36	28	58	71	61	84
OP43306-BS	F81105.D	45	34	86	85	85	96
OP43306-BSD	F81106.D	44	32	85	80	80	93
OP43306-MB	F81104.D	45	32	81	82	78	95

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	10-79%
S2 = Phenol-d5	10-72%
S3 = 2,4,6-Tribromophenol	35-138%
S4 = Nitrobenzene-d5	30-116%
S5 = 2-Fluorobiphenyl	35-107%
S6 = Terphenyl-d14	43-135%

Semivolatile Surrogate Recovery Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Method: SW846 8270D BY SIM **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC39104-1	I96037.D	66	56	80
OP43307-BS	I96021.D	78	77	88
OP43307-BSD	I96022.D	74	71	81
OP43307-MB	I96020.D	75	70	86

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	26-121%
S2 = 2-Fluorobiphenyl	28-107%
S3 = Terphenyl-d14	29-129%

New England ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP43320-MB	BB63342.D	1	06/06/15	NK	06/05/15	OP43320	GBB3440

The QC reported here applies to the following samples: **Method:** EPA 504.1

MC39104-1

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.0061	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0061	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	84%	59-170%
460-00-4	Bromofluorobenzene (S)	94%	59-170%

Blank Spike Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP43320-BS	BB63343.D	1	06/06/15	NK	06/05/15	OP43320	GBB3440

The QC reported here applies to the following samples: **Method:** EPA 504.1

MC39104-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.063	89	70-130
106-93-4	1,2-Dibromoethane	0.071	0.072	101	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	86%	59-170%
460-00-4	Bromofluorobenzene (S)	100%	59-170%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP43320-MS	BB63344.D	1	06/06/15	NK	06/05/15	OP43320	GBB3440
OP43320-MSD	BB63345.D	1	06/06/15	NK	06/05/15	OP43320	GBB3440
MC38600-8	BB63346.D	1	06/06/15	NK	06/05/15	OP43320	GBB3440

The QC reported here applies to the following samples: **Method:** EPA 504.1

MC39104-1

CAS No.	Compound	MC38600-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.071	0.063	89	0.071	0.070	99	11	65-135/30
106-93-4	1,2-Dibromoethane	ND		0.071	0.071	100	0.071	0.076	107	7	65-135/30

CAS No.	Surrogate Recoveries	MS	MSD	MC38600-8	Limits
460-00-4	Bromofluorobenzene (S)	94%	96%	96%	59-170%
460-00-4	Bromofluorobenzene (S)	106%	106%	111%	59-170%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Method: EPA 504.1 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC39104-1	BB63347.D	85	88
OP43320-BS	BB63343.D	86	100
OP43320-MB	BB63342.D	84	94
OP43320-MS	BB63344.D	94	106
OP43320-MSD	BB63345.D	96	106

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	59-170%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

New England ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP43308-MB	BK48708.D	1	06/08/15	NK	06/05/15	OP43308	GBK1522

The QC reported here applies to the following samples: **Method:** EPA 608

MC39104-1

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.25	0.16	ug/l	
11104-28-2	Aroclor 1221	ND	0.25	0.16	ug/l	
11141-16-5	Aroclor 1232	ND	0.25	0.18	ug/l	
53469-21-9	Aroclor 1242	ND	0.25	0.19	ug/l	
12672-29-6	Aroclor 1248	ND	0.25	0.12	ug/l	
11097-69-1	Aroclor 1254	ND	0.25	0.16	ug/l	
11096-82-5	Aroclor 1260	ND	0.25	0.19	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	87%	10-155%
877-09-8	Tetrachloro-m-xylene	84%	10-155%
2051-24-3	Decachlorobiphenyl	63%	10-125%
2051-24-3	Decachlorobiphenyl	62%	10-125%

Blank Spike Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP43308-BS	BK48709.D	1	06/08/15	NK	06/05/15	OP43308	GBK1522

The QC reported here applies to the following samples: **Method:** EPA 608

MC39104-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	2	1.9	95	50-114
11096-82-5	Aroclor 1260	2	2.0	100	8-127

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	89%	10-155%
877-09-8	Tetrachloro-m-xylene	87%	10-155%
2051-24-3	Decachlorobiphenyl	60%	10-125%
2051-24-3	Decachlorobiphenyl	60%	10-125%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP43308-MS	BK48710.D	1	06/08/15	NK	06/05/15	OP43308	GBK1522
OP43308-MSD	BK48711.D	1	06/08/15	NK	06/05/15	OP43308	GBK1522
MC38600-5	BK48713.D	1	06/08/15	NK	06/05/15	OP43308	GBK1522

The QC reported here applies to the following samples: **Method:** EPA 608

MC39104-1

CAS No.	Compound	MC38600-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		2	2.0	100	2	2.1	105	5	50-114/30
11096-82-5	Aroclor 1260	ND		2	2.2	110	2	2.3	115	4	8-127/30

CAS No.	Surrogate Recoveries	MS	MSD	MC38600-5	Limits
877-09-8	Tetrachloro-m-xylene	81%	89%	87%	10-155%
877-09-8	Tetrachloro-m-xylene	74%	86%	83%	10-155%
2051-24-3	Decachlorobiphenyl	62%	67%	64%	10-125%
2051-24-3	Decachlorobiphenyl	62%	67%	64%	10-125%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: MC39104
Account: EBIMAB EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Method: EPA 608 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
MC39104-1	BK48712.D	104	97	109	107
OP43308-BS	BK48709.D	89	87	60	60
OP43308-MB	BK48708.D	87	84	63	62
OP43308-MS	BK48710.D	81	74	62	62
OP43308-MSD	BK48711.D	89	86	67	67

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	10-155%
S2 = Decachlorobiphenyl	10-125%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

New England ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

QC Batch ID: MP24691
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/05/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	1.3	4.4		
Antimony	1.0	.022	.058	0.054	<1.0
Arsenic	1.0	.046	.42	0.42	<1.0
Barium	2.0	.016	.076		
Beryllium	1.0	.015	.042		
Boron	10	.24	.34		
Cadmium	1.0	.012	.026	-0.00095	<1.0
Calcium	500	4.2	30		
Chromium	2.0	.032	.42	-0.39	<2.0
Cobalt	1.0	.0064	.028		
Copper	2.0	.017	1	0.092	<2.0
Iron	50	.72	3.4	3.1	<50
Lead	1.0	.013	.036	0.0045	<1.0
Magnesium	500	1.4	2		
Manganese	4.0	.0096	1.2		
Molybdenum	2.0	.028	.24		
Nickel	2.0	.015	.14	-0.0030	<2.0
Potassium	500	3.4	5.2		
Selenium	2.0	.15	.3	0.12	<2.0
Silver	1.0	.0088	.022	0.0073	<1.0
Sodium	500	2	8.8		
Strontium	10	.01	.026		
Thallium	1.0	.042	.068		
Tin	10	.015	.048		
Titanium	2.0	.2	.26		
Vanadium	8.0	.2	1.4		
Zinc	8.0	.066	2	-0.29	<8.0

Associated samples MP24691: MC39104-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

QC Batch ID: MP24691
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/05/15

Metal	MC39093-1 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony	0.94	539	500	107.6	75-125
Arsenic	12.4	573	500	112.1	75-125
Barium					
Beryllium	anr				
Boron					
Cadmium	0.013	502	500	100.4	75-125
Calcium					
Chromium	0.0	517	500	103.4	75-125
Cobalt					
Copper	9.1	490	500	96.2	75-125
Iron	16.8	11000	10000	109.8	75-125
Lead	1.3	1030	1000	102.9	75-125
Magnesium					
Manganese					
Molybdenum					
Nickel	11.7	500	500	97.7	75-125
Potassium					
Selenium	0.22	549	500	109.8	75-125
Silver	0.0	197	200	98.5	75-125
Sodium					
Strontium					
Thallium	anr				
Tin					
Titanium					
Vanadium					
Zinc	18.9	555	500	107.2	75-125

Associated samples MP24691: MC39104-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

QC Batch ID: MP24691
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/05/15

Metal	MC39093-1 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	0.94	530	500	105.8	1.7	20
Arsenic	12.4	556	500	108.7	3.0	20
Barium						
Beryllium	anr					
Boron						
Cadmium	0.013	497	500	99.4	1.0	20
Calcium						
Chromium	0.0	507	500	101.4	2.0	20
Cobalt						
Copper	9.1	476	500	93.4	2.9	20
Iron	16.8	10800	10000	107.8	1.8	20
Lead	1.3	1000	1000	99.9	3.0	20
Magnesium						
Manganese						
Molybdenum						
Nickel	11.7	485	500	94.7	3.0	20
Potassium						
Selenium	0.22	542	500	108.4	1.3	20
Silver	0.0	193	200	96.5	2.1	20
Sodium						
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium						
Zinc	18.9	541	500	104.4	2.6	20

Associated samples MP24691: MC39104-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

QC Batch ID: MP24691
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/05/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony	534	500	106.8	80-120
Arsenic	532	500	106.4	80-120
Barium				
Beryllium	anr			
Boron				
Cadmium	493	500	98.6	80-120
Calcium				
Chromium	512	500	102.4	80-120
Cobalt				
Copper	463	500	92.6	80-120
Iron	10500	10000	105.0	80-120
Lead	973	1000	97.3	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel	466	500	93.2	80-120
Potassium				
Selenium	548	500	109.6	80-120
Silver	191	200	95.5	80-120
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium				
Zinc	519	500	103.8	80-120

Associated samples MP24691: MC39104-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

QC Batch ID: MP24691
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/05/15

Metal	MC39093-1 Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony	0.938	1.04	11.2 (a)	0-10
Arsenic	12.4	9.12	26.3 (b)	0-10
Barium				
Beryllium	anr			
Boron				
Cadmium	0.0127	0.00	100.0(a)	0-10
Calcium				
Chromium	0.00	0.00	NC	0-10
Cobalt				
Copper	9.06	9.56	5.6	0-10
Iron	16.8	13.8	18.0 (a)	0-10
Lead	1.30	1.34	3.5	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel	11.7	12.3	5.2	0-10
Potassium				
Selenium	0.00	0.00	NC (a)	0-10
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium				
Zinc	18.9	20.9	10.6 (b)	0-10

Associated samples MP24691: MC39104-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

QC Batch ID: MP24697 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 06/06/15

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.038	.096	-0.010	<0.20

Associated samples MP24697: MC39104-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

QC Batch ID: MP24697
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/06/15

Metal	MC39093-1 Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.2	3	106.7	75-125

Associated samples MP24697: MC39104-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

QC Batch ID: MP24697 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 06/06/15

Metal	MC39093-1 Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.4	3	113.3	6.1	20

Associated samples MP24697: MC39104-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

QC Batch ID: MP24697
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/06/15

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits
Mercury	3.1	3	103.3	80-120

Associated samples MP24697: MC39104-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GN50843	1.0	0.0	mg/l	10	10.0	100.0	80-120%
Chromium, Hexavalent	GN50828	0.010	0.0	mg/l	.1	0.10	100.0	85-115%
Cyanide	GP19228/GN50854	0.010	0.0	mg/l	0.1	0.0979	97.9	90-110%
Cyanide	GP19228/GN50854			mg/l	0.2	0.215	107.5	90-110%
Phenols	GP19227/GN50840	0.050	0.0	mg/l	0.20	0.19	95.0	80-120%
Solids, Total Suspended	GN50829	4.0	0.0	mg/l				
Total Residual Chlorine	GN50834	0.050	0.0	mg/l	1	0.98	98.0	80-120%

Associated Samples:
Batch GN50828: MC39104-1
Batch GN50829: MC39104-1
Batch GN50834: MC39104-1
Batch GN50843: MC39104-1
Batch GP19227: MC39104-1
Batch GP19228: MC39104-1
(*) Outside of QC limits

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Chromium, Hexavalent	GN50828	mg/l	.1	0.10	0.0	20%

Associated Samples:
Batch GN50828: MC39104-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GN50843	MC39136-1A	mg/l	34.0	34.0	0.0	0-20%
Chromium, Hexavalent	GN50828	MC39104-1	mg/l	0.0039	0.0058	39.2(a)	0-20%
Cyanide	GP19228/GN50854	MC39097-1	mg/l	0.0033	0.0052	44.7(a)	0-20%
Phenols	GP19227/GN50840	MC39062-1	mg/l	0.026	0.019	31.1(a)	0-20%
Solids, Total Suspended	GN50829	MC39067-3	mg/l	10.0	10.0	0.0	0-5%
Total Residual Chlorine	GN50834	MC39104-1	mg/l	0.0	0.0	0.0	0-20%

Associated Samples:
Batch GN50828: MC39104-1
Batch GN50829: MC39104-1
Batch GN50834: MC39104-1
Batch GN50843: MC39104-1
Batch GP19227: MC39104-1
Batch GP19228: MC39104-1
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39104
Account: EBIMAB - EBI Consulting
Project: Liberty Street Bridge, Danvers, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GN50843	MC39136-1A	mg/l	34.0	10	44.0	100.0	75-125%
Chromium, Hexavalent	GN50828	MC39104-1	mg/l	0.0039	.1	0.10	96.1	85-115%
Cyanide	GP19228/GN50854	MC39097-1	mg/l	0.0033	0.1	0.11	106.7	90-110%
Phenols	GP19227/GN50840	MC39062-1	mg/l	0.026	0.20	0.17	85.0	75-125%
Total Residual Chlorine	GN50834	MC39104-1	mg/l	0.0	1	0.10	10.0(a)	75-125%

Associated Samples:
Batch GN50828: MC39104-1
Batch GN50834: MC39104-1
Batch GN50843: MC39104-1
Batch GP19227: MC39104-1
Batch GP19228: MC39104-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)481-7753

Accutest Job #:	MC39104
Accutest Quote #:	Page 1 of 1
AMS P.O. #:	
Project No.:	

Client Information			Subcontract Laboratory Information			Analytical Information
Name: Accutest New England			Name: Accutest - Southeast			
Address: 50 D'Angelo Drive			Address: 4405 Vineland Rd Suite C-15			
City: Marlborough	State: MA	Zip: 01752	City: Orlando	State: FL	Zip: 32811	
Send Report to: JeremyV@accutest.com			Contact: Sample Management			
Any questions contact: Jeremy Vienneau						
Phone/Fax #: (508)481-6200 / (508)481-7753			Phone: (407) 425-6700			

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	Preservation HCL	NaOH	HNO3	H2SO4	None	PHC1664					Comments
MC39104 -1	6/3/15	3:30 PM		AQ	1	X					X					

Data Deliverable Information

- [X] RUSH TAT — 6/9/15
- [ ] Other _____ (Days) — *Please notify Accutest if surcharges are applied.

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

- [ ] Commercial "A"
- [X] Commercial "B"
- [ ] Commercial "BN"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] PDF
- [ ] Compact Disk Deliverable
- [ ] Electronic Delivery:
- [ ] State Forms
- [ ] Other (Specify)

Comments / Remarks: **All DW samples are subject to MCL compliance reporting**

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date & Time:	Received By:	Date & Time:
1		6/9/15	1 FEDEX	1
2	FP 060515 915		2	2
3		Date & Time:	3	3

Seal #: Headspace: Yes [ ] No [ ] NA [ ]
Preserved where applicable: [ ]
Temperature °C 3.0 On Ice [ ]

sm022-01 (10/30/14)

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MC39104: Chain of Custody
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Accutest Laboratories Southeast, Inc.

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: MC39104 CLIENT: ALNE PROJECT: MC 39104

DATE/TIME RECEIVED: 06-05-15 915 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: ~~FEDEX~~ UPS ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 6406 1312 2048

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.2
- [ ] OBSERVED TEMPS: 3.2
- [ ] CORRECTED TEMPS: 3.0

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#_____

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

pH PAPER LOT#s WIDE RANGE A036122 NARROW RANGE HC421754 OTHER (specify) 405-230010

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE: 060515 REVIEWER SIGNATURE/DATE: JC 6-5-15

NF 10/14

receipt confirmation 102914.xls

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MC39104: Chain of Custody
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MC39104: Chain of Custody

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New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39104
Account: ALNE - Accutest Labs of New England, Inc.
Project: EBIMAB: Liberty Street Bridge, Danvers, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
HEM Petroleum Hydrocarbons	GP26134/GN66646	5.0	0.0	mg/l	20.0	16.3	81.5	70-130%

Associated Samples:
Batch GP26134: MC39104-1
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39104
Account: ALNE - Accutest Labs of New England, Inc.
Project: EBIMAB: Liberty Street Bridge, Danvers, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
HEM Petroleum Hydrocarbons	GP26134/GN66646	MC39104-1	mg/l	2.2	20.0	18.5	81.5	70-130%

Associated Samples:
Batch GP26134: MC39104-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Attachment 4
EPA NPDES RGP Authorization to Discharge
(Date of Issue:)