



HALEY & ALDRICH, INC.
465 Medford Street, Suite 2200
Boston, MA 02129
(617) 886.7400

20 September 2017
File No. 129168-007

US Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square – Suite 100 (OEP06-01)
Boston, MA 02109-3912

Attention: EPA/OEP RGP Applications Coordinator

Subject: Notice of Intent (NOI)
Temporary Construction Dewatering
Harrison Albany Block Development
89 East Dedham Street
Boston, Massachusetts

Dear Ms. Little:

On behalf of our client, MEPT/LMP Harrison/Albany Block LLC, and in accordance with the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) in Massachusetts, MAG910000, this letter submits a Notice of Intent (NOI) and the applicable documentation as required by the US Environmental Protection Agency (EPA) for temporary construction site dewatering under the RGP. Haley & Aldrich, Inc. (Haley & Aldrich) has prepared this submission to facilitate off-site discharge of temporary dewatering during construction activities at the Harrison Albany Block Development Site, located in Boston, Massachusetts.

Site Location

The subject Site is an approximately 3-acre block bounded by Harrison Avenue to the north, East Dedham Street to the east, East Canton Street to the west, and Thorn Street/rear of 575 Albany Street to the south. The alley formerly known as Thorn Street forms the southern Site boundary behind the three 1- to 3-story brick buildings at 587, 591 and 595 Albany Street (which are not part of the Site). Andrews Street also bisects the site in an approximate east-to-west direction with a connection to East Dedham Street and East Canton Street. The general Site locus and layout are shown on Figures 1 and 2, respectively.

Five buildings exist on the Site – four of the buildings are vacant including 75 East Dedham Street, the loading dock addition to 575 Albany Street, 100 East Canton Street and 123 East Dedham Street. The Gambro building at 660 Harrison Avenue is utilized for medical office and laboratory. The remainder of the Site is a paved surface parking lot. Expansion of the Gambro medical building at 660 Harrison

Avenue is planned for a future phase of the project, the current project Site includes the Gambro parking lot extending to Andrews Street. Renovation of the 575 Albany Street building is planned for a future phase of the project but the building footprint is not included within the current project limits. Existing grades generally range from El. 15 to El. 16 BCB north of Andrews Street; and El. 16 to El. 19 BCB south of Andrews Street.¹

Historical Site Usage

General progression of landfilling occurred between 1795 and 1895 in the South End neighborhood where the Site is located. The original (circa 1630) shoreline crossed the site in the general area of Andrews Street, remaining relatively unchanged until about 1850. Between about 1850 and 1895, a period of major filling occurred that included that area of the site extending from Andrews Street to Albany Street and beyond towards the Fort Point Channel.

The earliest structure believed to be on the site is Urann's Wharf on which City stable buildings were built. In the late 1800's and early 1900's the site was mainly occupied by a combination of numerous lumber yards, tenement houses, a braid factory, paint shop, a wagon shed and vacant buildings.

In 1938, the lumber yard and stores no longer exist and have been replaced with a sheet metal fabricating building and a private garage building. In 1951, the major changes identified from the Sanborn maps are that the private garage along East Dedham Street was converted into a motor freight station. In 1964, a portion of the motor freight station was converted into a metal window manufacturing facility; storage buildings for plumbing and oil supplies and tires existed on East Dedham Street. The former filling station and most of the buildings north of Andrews Street were demolished and used for parking, scrap metal and junk storage.

In 1988, a building identified as the New England Nuclear (NEN) Corporation had been constructed along the southern portion of East Canton Street and East Dedham Street and integrated with the 575 Albany Street building. Surface parking areas extended north of the NEN facility to Harrison Avenue and a one-story building was constructed at the north end of East Canton Street. The 75 East Dedham Street residence was the only other building on the site at that time.

Sanborn Maps dated 1990, 1992, 1993, 1994, 1995, 1998, and 2002 indicate little change at the site between 1988 and 2002.

Proposed Activities

The proposed development currently involves demolition of four buildings (75 and 123 East Dedham Street, the loading dock addition to 575 Albany Street and 100 East Canton Street), and the construction of two new 11-story residential buildings within the middle of the 3-acre block – (referred to herein as Building 1 and Building 2). Other components to the development include numerous site improvements

¹ Elevations reported herein reference Boston City Base (BCB) Datum, wherein El. 0.0 BCB is 5.65 ft below the National Geodetic Vertical Datum (NGVD) 1929 and 6.46 ft below North American Vertical Datum (NAVD) 1988.

surrounding the buildings, including a courtyard between Buildings 1 and 2 connecting East Dedham Street to East Canton Street, relocation of Andrews Street and various new utilities.

Buildings 1 and 2 along with the ground level courtyard area will be sited over a single below grade parking garage of approximate dimensions 460 ft by 185 ft (85,100 sf), and which will include two (2) below grade parking levels. The garage will extend beneath the entirety of the new buildings and ground level courtyard area, as illustrated on Figure 2.

Construction of the underground parking garage and building foundations will require an excavation from current ground surface (avg. El. 17 BCB) down to approximately El. -15 to El. -17 BCB (about 32 to 34 ft below existing site grades); locally deeper excavations will be required at some interior column locations and other areas to achieve foundation bearing elevation in the natural, inorganic clay soils and remove unsuitable bearing soils (organics) beneath the planned lowest level garage slab.

MassDEP Regulatory Background

MassDEP Release Tracking Numbers (RTNs) 3-4734, 3-29425 and 3-2197 under the Massachusetts Contingency Plan, 310 CMR 40.0000, (MCP) currently apply to the Site. These RTNs previously achieved MCP compliance with the filing of Response Action Outcome Statements (RAOs) as described below.

- RTN 3-4734 is associated with the 660 Harrison Avenue parcel which extends south to the existing Andrews Street. A Class A-3 RAO which relies on an AUL was filed for RTN 3-4734 in March 1999. The AUL addressed metals in soils.
- RTN 3-2197 applies to a former underground storage tank (UST) in the loading dock at the rear of 575 Albany Street. A Class A-2 RAO which does not rely on an AUL was filed in 1996 for RTN 3-2197.
- RTN 3-29425 covers the overall Parcel B (Andrews Street to Albany Street). A Class B-1 RAO was filed for the overall Parcel B (RTN 3-29425) on 25 August 2010, which indicates a condition of no significant risk existed without the need for remediation, but that contamination was not consistent with background. Chemical constituents detected at Parcel B included PAHs and metals attributed to urban fill and petroleum due to historic releases from former USTs.

Analytical data developed from preliminary site characterization in February 2016 indicated a new 120-day MCP reporting obligation for levels of lead and various polycyclic hydrocarbons (PAHs) detected in urban fill. A BWSC103 Release Notification Form (RNF) was submitted to MassDEP on 30 August 2016. MassDEP assigned RTN 3-33789 for these soil constituents.

A soil precharacterization program was performed in 2017 to support off-site transport of excavated soils during planned Site development. Results published in the Haley & Aldrich letter report entitled "Summary of Soil Precharacterization Program," dated 18 April 2017, indicated additional metals, SVOCs and total petroleum hydrocarbons (TPH) in soils at levels exceeding the RCS-1 Reportable Concentrations. The submission of the data contained in this report to MEPT/LMP Harrison/Albany

Block LLC on 18 April 2017 is considered to constitute the date “knowledge” was obtained of the release. A revised BWSC 103 RNF was submitted to MassDEP on 8 August 2017 under RTN 3-33789, satisfying these additional 120-day reporting obligations. An MCP Tier Classification was submitted to MassDEP on 18 August 2017, prior to the 1-year anniversary of the original RTN 3-33789 notification. An MCP Release Abatement Measure (RAM) Plan was also submitted to MassDEP on 18 August 2017 to cover soil and groundwater management during proposed construction under RTNs 3-33789 and 3-4734.

Massachusetts Department of Public Health (MassDPH)

Perkin Elmer previously occupied the buildings at 100 East Canton Street, 123 East Dedham Street and 575 Albany Street (abutting the southeast Site boundary) and held License No. 00-3200 for possession of radiological materials issued by Massachusetts Department of Public Health Radiation Control Program (MassDPH RCP). A fire occurred at the 575 Albany Street building in March 2005 that apparently dispersed tritium within the building and into the subsurface geologic profile as a result of firefighting activities.

Philotechnics, on behalf of Perkin Elmer, subsequently performed radiological surveys, remedial actions and radiological decommissioning within the 575 Albany Street building footprint during May 2005 to January 2009. Upon Perkin Elmer ceasing work at the property, license termination activities were performed which included Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) surveys of interior building surfaces and soil beneath the 575 Albany Street building.

Decommissioning activities at 575 Albany Street included excavation of 100 tons of soil from beneath the ground floor slab and off-site disposal as radioactive waste, and radiologic analyses of approximately 130 confirmatory soil samples. License termination activities for Buildings 100, 123, and 575 under RCP License No. 00-3200 were documented in Philotechnics Radiological Decontamination and Decommissioning Reports, dated 2007 and 2008, which were submitted to the MassDPH. The Perkin Elmer buildings were released from RCP License No. 00-3200 in April 2007 (100 East Canton Street and 123 East Dedham Street) and July 2009 (575 Albany Street).

Haley & Aldrich reviewed available radiological investigations that were performed on behalf of Perkin Elmer and others for the historical release at 575 Albany Street and prepared a report, dated 1 September 2016, which was submitted to MassDPH in connection with planned Site development. In summary, Haley & Aldrich concluded that residual radionuclides at the Project Site were below MassDPH limits and met the RCP regulations.

MassDPH reviewed the Haley & Aldrich report and issued a letter, dated 4 November 2016, which outlined requirements for further assessment of the Site under RCP regulations to increase spatial and vertical data coverage within the area of the proposed underground parking structure, and the footprint of 575 Albany Street. A meeting was also held with MassDPH, MassDEP, EPA, Haley & Aldrich and Radiation Safety & Control Services (RSCS) on 22 November 2016 to discuss site assessment requirements.

Work Plans, dated 5 January 2017 and 20 April 2017, were prepared by RSCS in conjunction with Haley & Aldrich to conduct the required radiological assessment of the underground parking structure site (designated Area 1) and the 575 Albany Street footprint and connecting loading dock (designated Area 2, Phases 1 and 2), respectively. These Work Plans were submitted to, and approved by, MassDPH. RSCS radiological test boring locations within the project Site are shown of Figure 2.

Results of these investigations were presented in the RCSC Reports entitled "Final Status Survey Release Report for Area 1 at the Harrison/Albany Block Development, Technical Support Document No. 17-011 Rev 00," dated 28 March 2017, and Final Status Survey Release Report for Area 2 at the Harrison/Albany Block Development, Technical Support Document No. 17-061 Rev 01," dated 25 July 2017. Reports discussed above were provided to Mr. Anthony Honnellio of the US EPA.

In summary, conclusions for the area of proposed construction activities, which excludes the 575 Albany Street footprint, were as follows:

- Tritium was not detected in soil above natural background.
- Tritium was not considered a contaminant of concern by MassDEP relative to in-state soil disposal
- Tritium concentrations detected in groundwater were significantly less than the EPA Maximum Contaminant Level (MCL) for drinking water, and
- Construction dewatering discharge could be permitted in accordance with the EPA NPDES Remediation General Permit (RGP) process.

Based on discussions in a 21 April 2017 meeting and subsequent communications, MassDPH, MassDEP and EPA verbally acknowledged concurrence with these findings. Written agreement with RSCS findings was issued in a letter from MassDPH dated 8 August 2017. In summary, MassDPH agreed that radiological controls were not required for "Area 1" corresponding to the proposed boundaries of RAM activities for the underground parking structure. It is understood that MassDEP will issue a companion letter concluding that radiological materials were not a contaminant of concern in soils and groundwater.

We understand from the above discussions and communications, Mr. Anthony Honnellio of the EPA concluded the following regarding application for a NPDES RGP permit:

- Groundwater tritium levels (ranging from 718 pCi/L to 1,020 pCi/L) are well below the EPA MCL for tritium in drinking water of 20,000 pCi/L within Area 1 and below the 105 CMR 120.296.
- Discharge of dewatering effluent to the storm drain system under the 105 CMR 120.296, is acceptable.
- EPA concurs that the tritium levels are below the referenced applicable criteria for discharge, and the project should submit a Notice of Intent (NOI) for discharge under the normal process for the EPA's NPDES RGP.

We also understand that Mr. Honnellio will discuss tritium discharge levels with the NOI technical reviewer and that, pending site water quality meeting other RGP discharge criteria, Mr. Honnellio did not expect the tritium to be an issue with obtaining NOI approval.

GROUNDWATER QUALITY DATA

Previous Groundwater Quality Data

Groundwater analytical data was obtained by Haley & Aldrich, Inc. during two sampling events in February and March 2016. Observation well B106(MW) was sampled in February 2016 for VOCs and gasoline range organics, as part of one of the tritium studies conducted at the Site. Observation well HA-2 (OW) was sampled in March 2016 for EPA 2010 NPDES Remediation General Permit (RGP) permit parameters. The analyses did not detect concentrations above applicable MCP concentrations. The data are included in the attached Table I, and the sampling locations are shown on Figure 2. Results of groundwater analysis conducted as part of the tritium studies completed at the site are summarized above. Full reports have been provided to Mr. Honnellio.

Recent Groundwater Quality Data

One groundwater sample was obtained from observation wells R-C6(OW) in June 2017. The collected sample was submitted to Alpha Analytical Laboratory (Alpha) of Westborough, MA, for chemical analysis of 2017 NPDES Remediation General Permit parameters including VOCs, SVOCs, PAHs, total metals, TPH, pesticides, PCBs, total suspended solids (TSS), chloride, total cyanide, total phenolics, and total residual chlorine.

Refer to Table I for a summary of groundwater analytical data. The recent groundwater analyses did not detect concentrations of chemical constituents above applicable MCP reportable concentrations. The construction dewatering effluent at the Site will be managed under a Remediation General Permit. The locations of the observation well R-C6(OW) is shown on Figure 2.

Ethanol Discussion

Ethanol sampling was conducted on the groundwater sample collected in October 2016 and analyzed via Method 8015D. The site history does not suggest that ethanol was stored at the property, or that a petroleum product containing ethanol was released at the site. Ethanol has been increasingly used in fuels since 2006 (according to the 2016 NOI Fact Sheet), and according to site history, the site has been used for commercial purposes and as a parking lot since the late 1980's, with no known fuel-related storage or handling activities conducted onsite.

Receiving Water Quality Information and Dilution Factor

On 9 June 2017, Haley & Aldrich collected a receiving water sample from the Fort Point Channel area using a disposable polyethylene bailer. The surface water sample was collected and submitted to Alpha for chemical analysis of pH, ammonia and salinity. Field parameters, including pH and temperature were

collected from surface water sample at the time of sampling. The results of water quality testing are summarized in Table I.

The pH and temperature readings collected in the field were used to calculate the site Water Quality Based Effluent Limitations (WQBELs). It is our understanding that since the receiving water is a saltwater body, hardness does not need to be analyzed on either the effluent water or receiving water. We have additionally confirmed with the MassDEP that the dilution factor for the receiving waters is 1.

Effluent Criteria Determination

The EPA suggested WQBEL Calculation spreadsheet was used to calculate the effluent criteria for the site. Groundwater and Receiving Water data were input and the resulting criteria was tabulated in the attached Table I. As requested by EPA, the Microsoft Excel spreadsheet for the WQBEL calculation will be submitted to the EPA via email, for their review upon submission of this NOI.

Dewatering System and Off-site Discharge

During the remedial activities, it will be necessary to perform temporary dewatering to control surface water runoff from precipitation, groundwater seepage and construction-generated water to enable remedial excavations in-the-dry. Dewatering activities are anticipated to start in September 2017 and is anticipated to be required for up to 18 months. On average, we estimate effluent discharge rates of about 50 gallons per minute (gpm), with occasional peak flows of approximately 100 gpm during significant precipitation events. Temporary dewatering will be conducted from sumps located in excavations or from dewatering wells installed at the site.

Construction dewatering includes piping and discharging to storm drains located on or near the site that discharge to the Boston Inner Harbor at the Fort Point Channel. An effluent treatment system has been designed by the Contractor to meet the 2017 NPDES RGP Discharge Effluent Criteria. Prior to discharge, collected water is routed through a sedimentation tank and a bag filter and other necessary treatment components, to remove suspended solids and undissolved chemical constituents, as shown on Figure 3.

NMFS Eligibility

Based on our review of the NMFS criterion, it is the opinion of Haley & Aldrich that related activities under the NPDES RGP are not likely to adversely affect federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and should not result in a take of listed species.

According to Appendix I: Endangered Species Act (ESA) Guidance and Eligibility Criteria in the NPDES RGP, and reference footnoted below², the Atlantic Sturgeon and the Shortnose Sturgeon are the only ESA-listed species under the NMFS jurisdiction that may have a critical habitat in Massachusetts Bay. The Shortnose Sturgeon mainly occupy deep channel sections of large coastal rivers and nearshore marine waters.

² <https://www3.epa.gov/region1/npdes/remediation/RGPNMFSletter.pdf>

The outfall to be used for the Harrison Albany Block Development discharge is not situated adjacent to large coastal rivers and is not expected to affect the Shortnose Sturgeon population. The closest river to the outfall is the Charles River, which is approximately 1.25 miles from the site. Similarly, the Atlantic Sturgeon is more commonly found in large rivers and brackish waters; adults who live in coastal waters are typically found in shallow areas with sand and gravel substrates. The outfall proposed for discharge is not located in an area where Atlantic Sturgeon may be found, and the discharge is similarly not expected to affect its population. Furthermore, according to the CRWA and NRWA references below³, resident populations of Sturgeon no longer exist in the Charles River.

Owner and Operator Information

Owner:

MEPT/LMP Harrison/Albany Block LLC
c/o Leggat McCall Properties LLC
10 Post Office Square, Suite 1300
Boston, MA 02109
Contact: Sam Reiche

Operator:

Suffolk Construction Company
65 Allerton Street
Boston, MA 02119
Contact: Douglas Kimble

Appendices

The completed "Suggested Notice of Intent" (NOI) form as provided in the RGP is enclosed in Appendix A. The site owner is the MEPT/LMP Harrison/Albany Block LLC. MEPT/LMP Harrison/Albany Block LLC has hired Suffolk Construction Company as the Contractor conducting the site work, including dewatering activities. The excavation subcontractor will operate the dewatering system. Haley & Aldrich is monitoring the Contractor's dewatering activities on behalf of MEPT/LMP Harrison/Albany Block LLC in accordance with the requirements for this NOI submission.

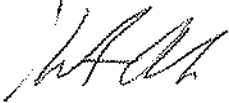
Appendices B and C include the National Register of Historic Places and Endangered Species Act Documentation, respectively. Appendix D provides a copy of the Boston Water and Sewer Dewatering Permit provided by the BWSC as part of the previous RGP submission. Copies of the groundwater testing laboratory data reports are provided in Appendix E. Appendix F provides the Site Contractor's dewatering submittal which includes details of the dewatering system. A Best Management Practices Plan (BMPP), which outlines the proposed discharge operations covered under the RGP, will be available at the site and is not being submitted with this NOI as requested by EPA.

³ <http://blog.crwa.org/blog/5-migratory-fish-found-in-the-charles-river-ecosystem>
<https://www.neponset.org/your-watershed/natural-history/aquatic-habitat/aquatic-life/migratory-fish/>

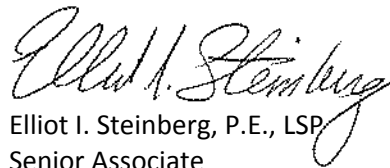
Closing

Thank you very much for your consideration. Please feel free to contact us should you wish to discuss the information contained herein or if you need additional information.

Sincerely yours,
HALEY & ALDRICH, INC.



Kenneth N. Alepidis
Senior Technical Specialist - Geology



Elliot I. Steinberg, P.E., LSP
Senior Associate

Attachments:

Table I – Summary of Groundwater Quality Data

Figure 1 – Site Locus

Figure 2 – Site and Groundwater Monitoring Well Location Plan

Figure 3 – Proposed Treatment System Schematic

Figure 4 – Receiving Water Outfall

Appendix A – Notice of Intent (NOI) for Remediation General Permit (RGP)

Appendix B – National Register of Historic Places and Massachusetts
Historical Commission Documentation

Appendix C – Endangered Species Act Documentation

Appendix D – BWSC Permit Application

Appendix E – Laboratory Data Reports

Appendix F – Contractor Dewatering Submittal

c: MEPT/LMP Harrison/Albany Block LLC; Attn: Sam Reiche, Harold Nash
US Environmental Protection Agency; Anthony Honnellio

TABLE I
SUMMARY OF WATER QUALITY DATA
ALBANY-HARRISON
BOSTON, MA
FILE NO. 41737-017

| LOCATION SAMPLING DATE LAB SAMPLE ID | 2017 NPDES RGP Project- Specific Effluent Limits (mg/l) | MCP RCGW-2 Reportable Criteria mg/l | B106 (MW) 2/1/2016 391208002 | HA-2 (OW) 3/21/2016 L1608112-01 | R-C6 (OW) 09-JUN-17 L1719410-01 | RECEIVING WATER-060917 09-JUN-17 L1719411-01 |
|--|---|--|------------------------------------|---------------------------------------|---------------------------------------|---|
| VOCs by GC/MS | | | | | | |
| Total VOCs by GC/MS | NA | NA | ND | ND | ND | - |
| Total BTEX | 0.1 | NA | ND | ND | ND | - |
| VOCs by GC/MS-SIM (mg/l) | | | | | | |
| 1,4-Dioxane | 0.2 | 6 | - | ND(0.0015) | ND(0.0015) | - |
| SVOCs by GC/MS | | | | | | |
| Total SVOCs by GC/MS | NA | NA | - | ND | ND | - |
| Total Phthalates | 0.19 | NA | - | ND | ND | - |
| SVOCs by GC/MS-SIM | | | | | | |
| Total Group I PAHs | 0.001 | NA | - | ND | ND | - |
| Acenaphthene | NA | 10 | - | ND(0.00005) | ND(0.00005) | - |
| Acenaphthylene | NA | 0.04 | - | ND(0.0001) | ND(0.00005) | - |
| Anthracene | NA | 0.03 | - | ND(0.0001) | ND(0.00005) | - |
| Benzo(ghi)perylene | NA | 0.02 | - | ND(0.0001) | ND(0.00005) | - |
| Fluoranthene | NA | 0.2 | - | ND(0.0001) | ND(0.00005) | - |
| Fluorene | NA | 0.04 | - | ND(0.0001) | ND(0.00005) | - |
| Naphthalene | 0.02 | 0.7 | - | ND(0.0001) | ND(0.00005) | - |
| Phenanthrene | NA | 10 | - | ND(0.0001) | ND(0.00005) | - |
| Pyrene | NA | 0.02 | - | ND(0.0001) | ND(0.00005) | - |
| Total Group II PAHs | 0.1 | NA | - | ND | ND | - |
| Pentachlorophenol | 0.001 | 0.2 | - | ND(0.0004) | ND(0.0004) | - |
| Other SVOCs by GC/MS-SIM | NA | NA | - | ND | ND | - |
| Total Metals (mg/l) | | | | | | |
| Antimony, Total | 0.206 | NA | - | 0.00215 | ND(0.002) | - |
| Arsenic, Total | 0.104 | NA | - | 0.00327 | 0.00575 | - |
| Cadmium, Total | 0.0102 | NA | - | ND(0.0001) | ND(0.0001) | - |
| Chromium, Total | 0.323 | NA | - | 0.00396 | 0.00695 | - |
| Chromium, Hexavalent | 0.323 | NA | - | ND(0.005) | ND(0.005) | - |
| Copper, Total | 0.0037 | NA | - | 0.00607 | ND(0.0005) | - |
| Iron, Total | 5 | NA | - | ND(0.025) | 1.91 | - |
| Lead, Total | 0.16 | NA | - | ND(0.00025) | ND(0.00025) | - |
| Mercury, Total | 0.000739 | NA | - | ND(0.0001) | ND(0.0001) | - |
| Nickel, Total | 1.45 | NA | - | ND(0.002) | 0.00438 | - |
| Selenium, Total | 0.2358 | NA | - | 0.00663 | ND(0.0025) | - |
| Silver, Total | 0.0351 | NA | - | ND(0.0002) | ND(0.0002) | - |
| Zinc, Total | 0.42 | NA | - | ND(0.005) | ND(0.005) | - |
| Dissolved Metals (mg/l) | | | | | | |
| Antimony, Dissolved | NA | 8 | - | 0.00225 | - | - |
| Arsenic, Dissolved | NA | 0.9 | - | 0.00339 | - | - |
| Cadmium, Dissolved | NA | 0.004 | - | ND(0.0001) | - | - |
| Chromium, Dissolved | NA | 0.3 | - | 0.00389 | - | - |
| Copper, Dissolved | NA | 100 | - | 0.0058 | - | - |
| Iron, Dissolved | NA | NA | - | ND(0.025) | - | - |
| Lead, Dissolved | NA | 0.01 | - | ND(0.00025) | - | - |
| Mercury, Dissolved | NA | 0.02 | - | ND(0.0001) | - | - |
| Nickel, Dissolved | NA | 0.2 | - | ND(0.002) | - | - |
| Selenium, Dissolved | NA | 0.1 | - | 0.0067 | - | - |
| Silver, Dissolved | NA | 0.007 | - | ND(0.0002) | - | - |
| Zinc, Dissolved | NA | 0.9 | - | ND(0.005) | - | - |

TABLE I
SUMMARY OF WATER QUALITY DATA
ALBANY-HARRISON
BOSTON, MA
FILE NO. 41737-017

| LOCATION SAMPLING DATE LAB SAMPLE ID | 2017 NPDES RGP Project- Specific Effluent Limits (mg/l) | MCP RCGW-2 Reportable Criteria mg/l | B106 (MW) 2/1/2016 391208002 | HA-2 (OW) 3/21/2016 L1608112-01 | R-C6 (OW) 09-JUN-17 L1719410-01 | RECEIVING WATER-060917 09-JUN-17 L1719411-01 |
|--|---|--|------------------------------------|---------------------------------------|---------------------------------------|---|
| EPH (mg/l) | | | | | | |
| C11-C22 Aromatics, Adjusted | NA | 5 | - | ND(0.05) | - | - |
| C19-C36 Aliphatics | NA | 50 | - | ND(0.05) | - | - |
| C9-C18 Aliphatics | NA | 5 | - | ND(0.05) | - | - |
| VPH (mg/l) | | | | | | |
| C5-C8 Aliphatics, Adjusted | NA | 3 | - | ND(0.025) | - | - |
| C9-C10 Aromatics | NA | 4 | - | ND(0.025) | - | - |
| C9-C12 Aliphatics, Adjusted | NA | 5 | - | ND(0.025) | - | - |
| Microextractables by GC (mg/l) | | | | | | |
| 1,2-Dibromo-3-chloropropane | NA | 1 | - | ND(0.000005) | ND(0.000005) | - |
| 1,2-Dibromoethane | NA | 0.002 | - | ND(0.000005) | ND(0.000005) | - |
| PCBs by GC (mg/l) | | | | | | |
| Total PCBs | 0.0005+ | NA | - | ND | ND | - |
| General Chemistry (MG/L) | | | | | | |
| Chlorine, Total Residual | 0.05+ | NA | - | ND(0.01) | ND(0.01) | - |
| Cyanide, Amenable | NA | NA | - | ND(0.005) | - | - |
| Cyanide, Physiologically Available | NA | 0.03 | - | ND(0.0025) | - | - |
| Cyanide, Total | 0.005+ | 0.03 | - | 0.005 | ND(0.0025) | - |
| Phenolics, Total | NA | NA | - | ND(0.015) | ND(0.015) | - |
| Chloride | Report Only | NA | - | 1650 | 642 | - |
| Solids, Total Suspended | 30 | NA | - | ND(2.5) | 6.1 | - |
| Gasoline Ranges Organics | NA | NA | 22.1 | - | - | - |
| Salinity | NA | NA | - | - | ND | 8.1 |
| Hardness | NA | NA | - | - | 135 | - |
| pH (H) | NA | NA | - | - | 7.1 | 7.4 |
| Nitrogen, Ammonia | Report Only | NA | - | - | 0.466 | 0.198 |
| TPH | 5 | 5 | - | ND(2) | ND(2) | - |

ABBREVIATIONS:

-: Not Analyzed

NA: Not applicable.

ND(2.5): Not detected; number in parenthesis is one-half the laboratory detection limit.

VOCs: Volatile Organic Compounds

SVOCs: Semivolatile Organic Compounds

EPH: Extractable Petroleum Hydrocarbons

VPH: Volatile Petroleum Hydrocarbons

PCBs: Polychlorinated Biphenyls

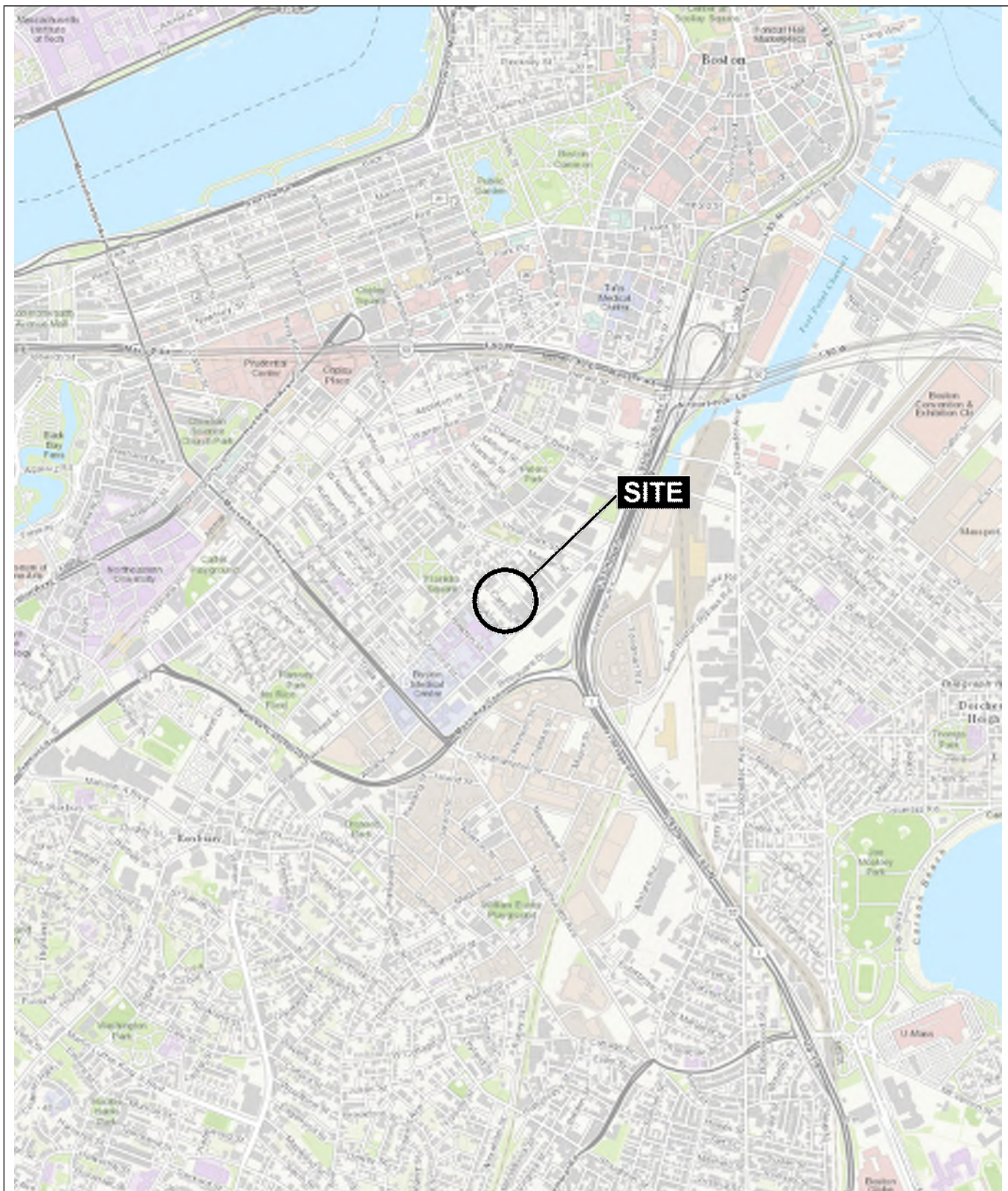
TPH: Total Petroleum Hydrocarbons

NOTES:

1. This table includes only those compounds detected on the dates indicated.

2. Gray shaded values indicate an exceedance of 2017 Project-Specific NPDES RGP effluent criteria.

3. +: Indicates compliance limits are equal to the minimum level (ML) of the test method



MAP SOURCE: ESRI

SITE COORDINATES: 42°20'17"N, 71°4'9"W

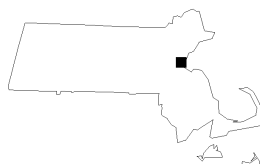
**HALEY
ALDRICH**

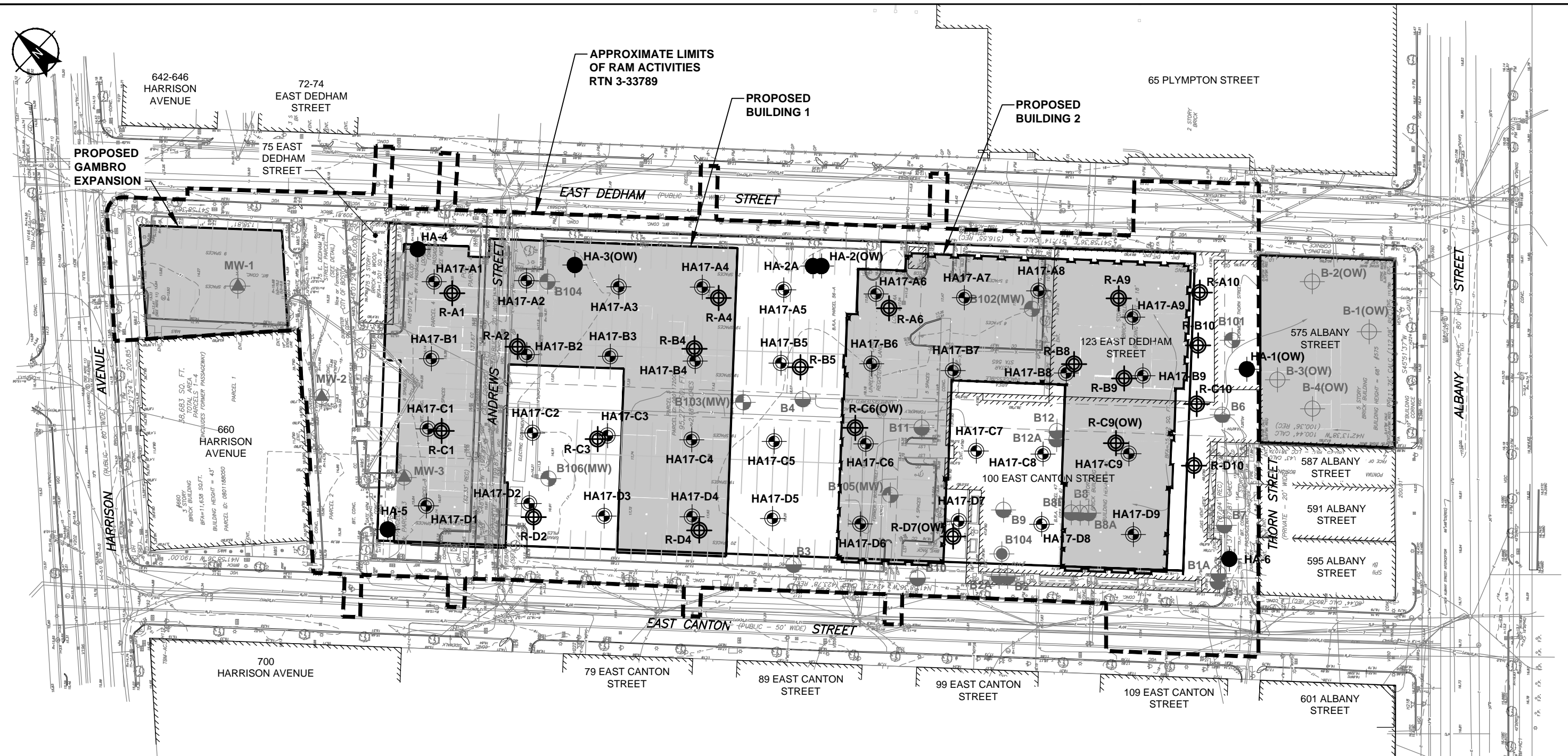
HARRISON/ ALBANY BLOCK DEVELOPMENT
BOSTON, MASSACHUSETTS

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
JULY 2017

FIGURE 1





LEGEND

HA17-A1

APPROXIMATE LOCATION OF PRECHARACTERIZATION TEST BORING CONDUCTED BY NORTHERN DRILL SERVICE OR GEOLOGIC EARTH EXPLORATION AND MONITORED BY HALEY & ALDRICH IN JANUARY AND FEBRUARY 2017

R-A1

APPROXIMATE LOCATION OF RADIONUCLIDE TEST BORING CONDUCTED BY NORTHERN DRILL SERVICE OR GEOLOGIC EARTH EXPLORATION AND MONITORED BY RSCS IN JANUARY AND FEBRUARY 2017

HA-1

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY GEOLOGIC EARTH EXPLORATIONS IN FEBRUARY 2016 AND MONITORED BY HALEY & ALDRICH, INC.

B104

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY GEOLOGIC EARTH EXPLORATION DURING FEBRUARY 2010 AND MONITORED BY GEI

B-1

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW HAMPSHIRE BORING IN OCTOBER 2008 AND MONITORED BY HALEY & ALDRICH, INC.

MW-1

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY AMERICAN DRILLING SERVICES DURING JUNE 1998 AND MONITORED BY GALE ASSOCIATES

B104

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY CARR-DEE TEST BORING & CONSTRUCTION IN MARCH 1977

B7

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY CARR-DEE TEST BORING & CONSTRUCTION IN APRIL 1966 AND MAY 1967

(MW)
(OW)

INDICATES MONITORING WELL (OBSERVATION WELL) INSTALLED IN COMPLETED BOREHOLE

NOTES

1. BASE PLAN TAKEN FROM AN ELECTRONIC FILE TITLED "14776-EC(SENT2015-11-09).dwg", PROVIDED BY LEGGAT McCALL PROPERTIES.
2. PROPOSED ABOVE AND BELOW-GRADE BUILDING LIMITS TAKEN FROM DRAWING TITLED "PROPOSED SITE PLAN" PREPARED BY CBT ARCHITECTS AND DATED 20 JANUARY 2017.
3. DEPICTED LOCATION OF PREVIOUS EXPLORATIONS ESTIMATED BY SCALING FROM DRAWINGS BY OTHERS AND SHOULD BE CONSIDERED APPROXIMATE.
4. ELEVATIONS REFERENCE BOSTON CITY BASE (BCB) DATUM AND SHOULD BE CONSIDERED APPROXIMATE.

0 60 120
SCALE IN FEET

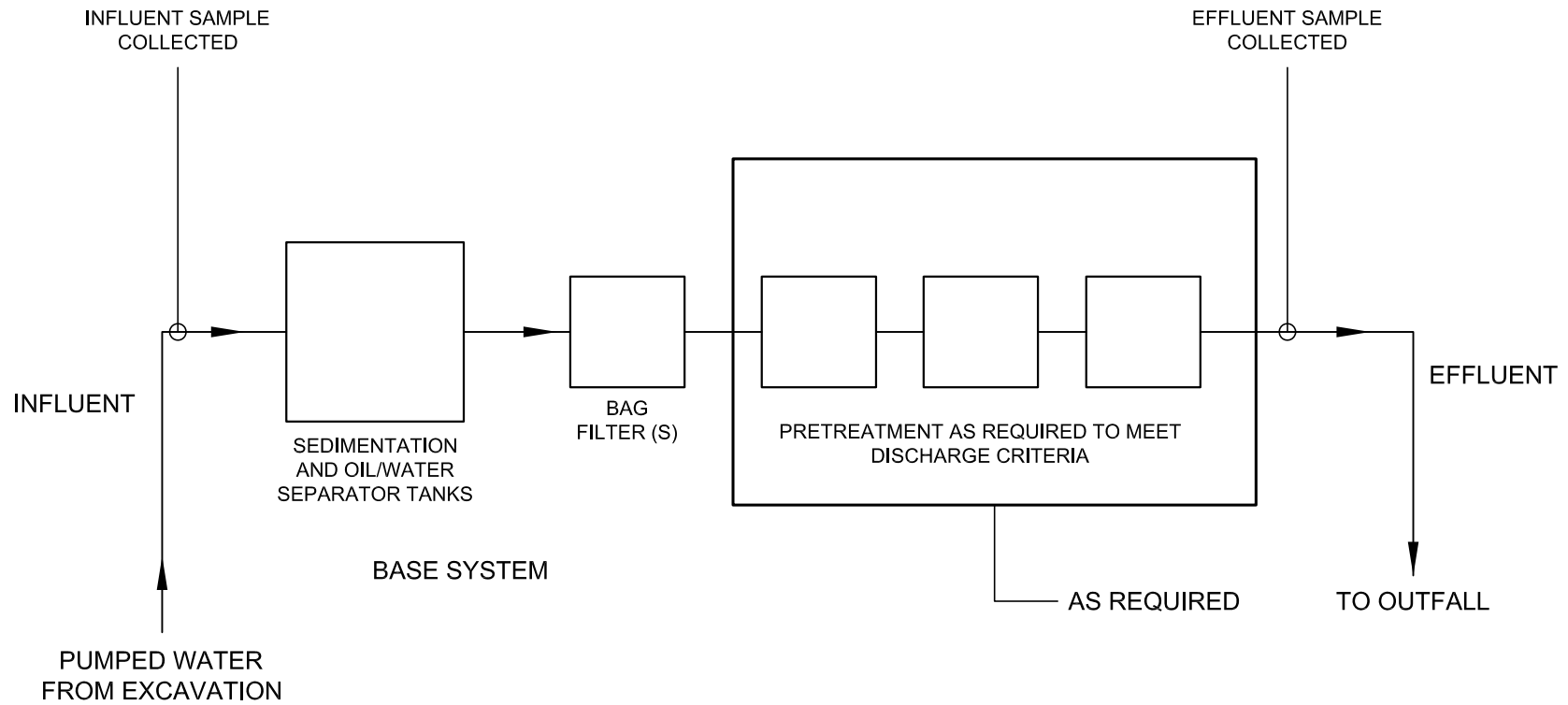
**HALEY
ALDRICH**

HARRISON ALBANY BLOCK DEVELOPMENT
BOSTON, MASSACHUSETTS

SITE AND SUBSURFACE EXPLORATION LOCATION PLAN

SCALE: AS SHOWN
JUNE 2017

FIGURE 2



LEGEND:

 DIRECTION OF FLOW

NOTE:

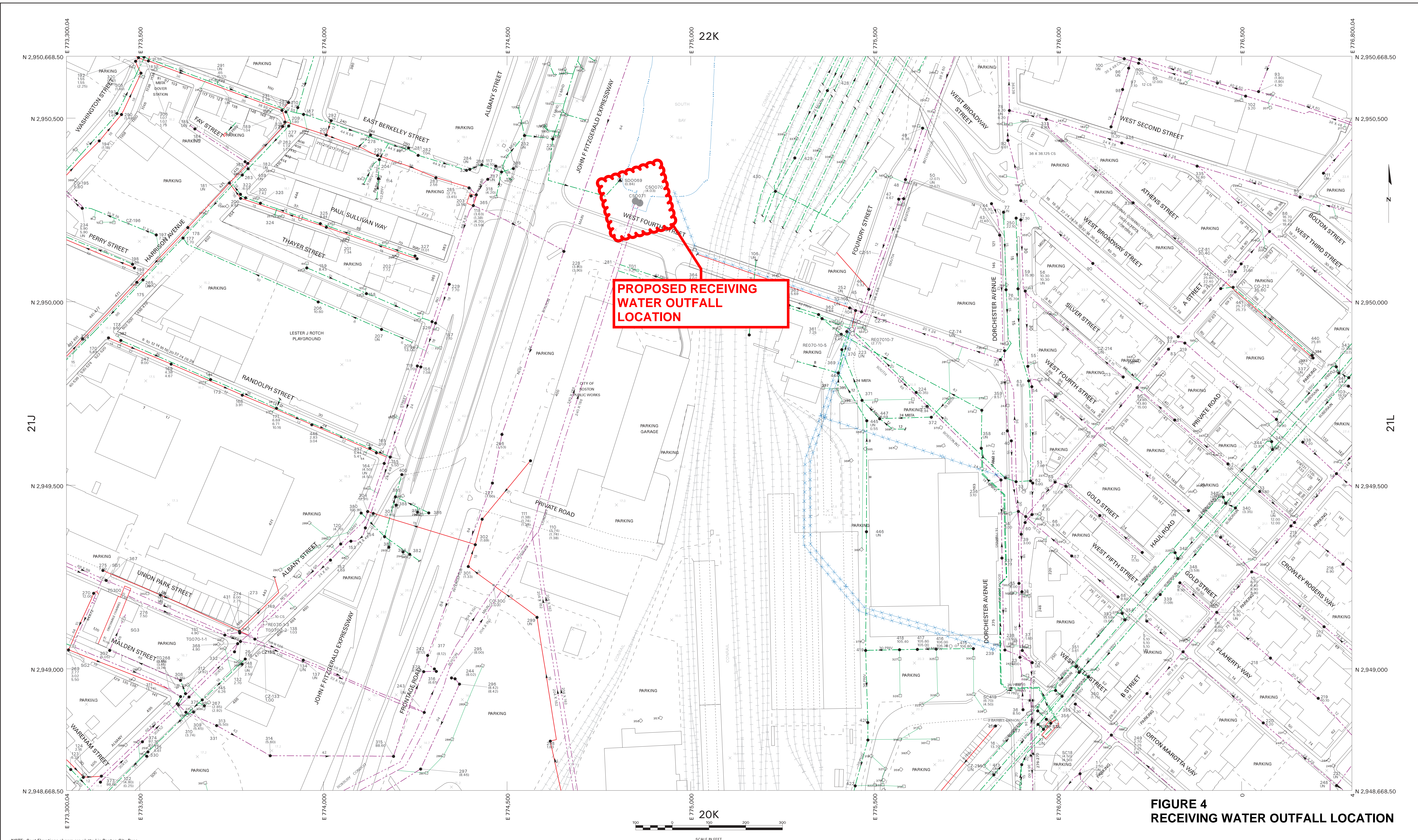
1. DETAILS OF TREATMENT SYSTEM MAY VARY FROM SYSTEM INDICATED ABOVE. SPECIFIC MEANS AND METHODS OF TREATMENT TO BE SELECTED BY CONTRACTOR. WATER WILL BE TREATED TO MEET REQUIRED EFFLUENT STANDARDS.

HALEY
ALDRICHHARRISON ALBANY BLOCK DEVELOPMENT
BOSTON, MASSACHUSETTS

PROPOSED TREATMENT SYSTEM SCHEMATIC

SCALE: NONE
JULY 2017

FIGURE 3



**FIGURE 4
RECEIVING WATER OUTFALL LOCATION**

APPENDIX A

**Notice of Intent (NOI)
for Remediation General Permit (RGP)**

A. General site information:

| | | | | |
|--|--|--|----------------------------------|-------------------|
| 1. Name of site: Harrison Albany Block Development | Site address: | | | |
| | Street: 89 East Dedham Street | | | |
| 2. Site owner MEPT/LMP Harrison/Albany Block LLC Owner is (check one): <input type="checkbox"/> Federal <input type="checkbox"/> State/Tribal <input checked="" type="checkbox"/> Private <input type="checkbox"/> Other; if so, specify: | City: Boston | | State: MA | Zip: 02118 |
| | Contact Person: Sam Reiche | | | |
| | Telephone: 617-422-7051 | | Email: sam.reiche@lmp.com | |
| | Mailing address: Street: 10 Post Office Square, Suite 1300 | | | |
| | City: Boston | | State: MA | Zip: 02109 |
| 3. Site operator, if different than owner Suffolk Construction Company | Contact Person: Douglas Kimble | | | |
| | Telephone: 617-517-5277 | | Email: | |
| | Mailing address: Street: 65 Allerton Street | | | |
| | City: Boston | | State: MA | Zip: 02119 |
| 4. NPDES permit number assigned by EPA: N/A NPDES permit is (check all that apply): <input type="checkbox"/> RGP <input type="checkbox"/> DGP <input type="checkbox"/> CGP <input type="checkbox"/> MSGP <input type="checkbox"/> Individual NPDES permit <input type="checkbox"/> Other; if so, specify: | 5. Other regulatory program(s) that apply to the site (check all that apply): | | | |
| | <input checked="" type="checkbox"/> MA Chapter 21e; list RTN(s): 3-33789, 3-4734 <input type="checkbox"/> NH Groundwater Management Permit or Groundwater Release Detection Permit: <input type="checkbox"/> CERCLA <input type="checkbox"/> UIC Program <input type="checkbox"/> POTW Pretreatment <input type="checkbox"/> CWA Section 404 | | | |

B. Receiving water information:

| | | |
|--|---|--|
| 1. Name of receiving water(s): Boston Inner Harbor/Fort Point Channel | Waterbody identification of receiving water(s): MA70-02 | Classification of receiving water(s): SB |
| Receiving water is (check any that apply): <input type="checkbox"/> Outstanding Resource Water <input type="checkbox"/> Ocean Sanctuary <input type="checkbox"/> territorial sea <input type="checkbox"/> Wild and Scenic River | | |
| 2. Has the operator attached a location map in accordance with the instructions in B, above? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Are sensitive receptors present near the site? (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, specify: | | |
| 3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. No | | |
| 4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire. | | N/A - Receiving water is an ocean |
| 5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire. | | 1 - Receiving water is an ocean |
| 6. Has the operator received confirmation from the appropriate State for the 7Q10 and dilution factor indicated? (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, indicate date confirmation received: | | |
| 7. Has the operator attached a summary of receiving water sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |

C. Source water information:

| | | | |
|--|--|---|--|
| 1. Source water(s) is (check any that apply): | | | |
| <input checked="" type="checkbox"/> Contaminated groundwater Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> The receiving water | <input type="checkbox"/> Potable water; if so, indicate municipality or origin: <input type="checkbox"/> Other; if so, specify: |
| | | <input type="checkbox"/> A surface water other than the receiving water; if so, indicate waterbody: | |

pH, Temperature and Ammonia will be sampled for in subsequent monthly monitoring reports.

| | |
|--|--|
| 2. Source water contaminants: Copper, total Cyanide | |
| a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII. | b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |

D. Discharge information

| | |
|--|--|
| 1.The discharge(s) is a(n) (check any that apply): <input checked="" type="checkbox"/> Existing discharge <input type="checkbox"/> New discharge <input type="checkbox"/> New source | |
| Outfall(s): CSO071 | Outfall location(s): (Latitude, Longitude) 42 20 35 71 03 39 |
| <p>Discharges enter the receiving water(s) via (check any that apply): <input type="checkbox"/> Direct discharge to the receiving water <input checked="" type="checkbox"/> Indirect discharge, if so, specify:</p> <p><input type="checkbox"/> A private storm sewer system <input checked="" type="checkbox"/> A municipal storm sewer system</p> <p>If the discharge enters the receiving water via a private or municipal storm sewer system:</p> <p>Has notification been provided to the owner of this system? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Has the operator has received permission from the owner to use such system for discharges? (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, if so, explain, with an estimated timeframe for obtaining permission: BWSC permit application being submitted concurrently with this NOI</p> <p>Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> | |
| <p>Provide the expected start and end dates of discharge(s) (month/year): August 2017- December 2018</p> <p>Indicate if the discharge is expected to occur over a duration of: <input type="checkbox"/> less than 12 months <input checked="" type="checkbox"/> 12 months or more <input type="checkbox"/> is an emergency discharge</p> | |
| Has the operator attached a site plan in accordance with the instructions in D, above? (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |

| | | |
|--|--|---|
| 2. Activity Category: (check all that apply) | 3. Contamination Type Category: (check all that apply) | |
| <input type="checkbox"/> I – Petroleum-Related Site Remediation <input type="checkbox"/> II – Non-Petroleum-Related Site Remediation <input checked="" type="checkbox"/> III – Contaminated Site Dewatering <input type="checkbox"/> IV – Dewatering of Pipelines and Tanks <input type="checkbox"/> V – Aquifer Pump Testing <input type="checkbox"/> VI – Well Development/Rehabilitation <input type="checkbox"/> VII – Collection Structure Dewatering/Remediation <input type="checkbox"/> VIII – Dredge-Related Dewatering | <p>a. If Activity Category I or II: (check all that apply)</p> <p><input type="checkbox"/> A. Inorganics</p> <p><input type="checkbox"/> B. Non-Halogenated Volatile Organic Compounds</p> <p><input type="checkbox"/> C. Halogenated Volatile Organic Compounds</p> <p><input type="checkbox"/> D. Non-Halogenated Semi-Volatile Organic Compounds</p> <p><input type="checkbox"/> E. Halogenated Semi-Volatile Organic Compounds</p> <p><input type="checkbox"/> F. Fuels Parameters</p> | |
| | <p>b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)</p> | |
| | <table border="1"> <tr> <td data-bbox="970 799 1419 873"><input checked="" type="checkbox"/> G. Sites with Known Contamination</td><td data-bbox="1419 799 2003 873"><input type="checkbox"/> H. Sites with Unknown Contamination</td></tr> </table> | <input checked="" type="checkbox"/> G. Sites with Known Contamination |
| <input checked="" type="checkbox"/> G. Sites with Known Contamination | <input type="checkbox"/> H. Sites with Unknown Contamination | |
| <table border="1"> <tr> <td data-bbox="970 873 1419 1409"> <p>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)</p> <p><input checked="" type="checkbox"/> A. Inorganics</p> <p><input type="checkbox"/> B. Non-Halogenated Volatile Organic Compounds</p> <p><input type="checkbox"/> C. Halogenated Volatile Organic Compounds</p> <p><input type="checkbox"/> D. Non-Halogenated Semi-Volatile Organic Compounds</p> <p><input type="checkbox"/> E. Halogenated Semi-Volatile Organic Compounds</p> <p><input type="checkbox"/> F. Fuels Parameters</p> </td><td data-bbox="1419 873 2003 1409"> <p>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</p> </td></tr> </table> | <p>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)</p> <p><input checked="" type="checkbox"/> A. Inorganics</p> <p><input type="checkbox"/> B. Non-Halogenated Volatile Organic Compounds</p> <p><input type="checkbox"/> C. Halogenated Volatile Organic Compounds</p> <p><input type="checkbox"/> D. Non-Halogenated Semi-Volatile Organic Compounds</p> <p><input type="checkbox"/> E. Halogenated Semi-Volatile Organic Compounds</p> <p><input type="checkbox"/> F. Fuels Parameters</p> | <p>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</p> |
| <p>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)</p> <p><input checked="" type="checkbox"/> A. Inorganics</p> <p><input type="checkbox"/> B. Non-Halogenated Volatile Organic Compounds</p> <p><input type="checkbox"/> C. Halogenated Volatile Organic Compounds</p> <p><input type="checkbox"/> D. Non-Halogenated Semi-Volatile Organic Compounds</p> <p><input type="checkbox"/> E. Halogenated Semi-Volatile Organic Compounds</p> <p><input type="checkbox"/> F. Fuels Parameters</p> | <p>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</p> | |

4. Influent and Effluent Characteristics

| Influent and Effluent Characteristics | | | | | | | | | |
|---------------------------------------|--------------------------|---------------------------|--------------|-----------------|------------------------|----------------------|----------------------|----------------------|----------|
| Parameter | Known or believed absent | Known or believed present | # of samples | Test method (#) | Detection limit (µg/l) | Influent | | Effluent Limitations | |
| | | | | | | Daily maximum (µg/l) | Daily average (µg/l) | TBEL | WQBEL |
| A. Inorganics | | | | | | | | | |
| Ammonia | | X | 1 | 4500NH3-BH | 75 | 466 | 466 | Report mg/L | --- |
| Chloride | | X | 2 | 300.0 | 25000 | 1650000 | 1146000 | Report µg/l | --- |
| Total Residual Chlorine | X | | 2 | 4500CL | 20 | ND | ND | 0.2 mg/L | 7.5 ug/L |
| Total Suspended Solids | | X | 2 | 2540D | 5000 | 6100 | 6100 | 30 mg/L | — |
| Antimony Total | | X | 2 | 6020A | 2 | 2.15 | 2.15 | 206 µg/L | 640 |
| Arsenic Total | | X | 2 | 6020A | 0.5 | 5.75 | 5.75 | 104 µg/L | 36 |
| Cadmium Total | X | | 2 | 6020A | 0.2 | ND | ND | 10.2 µg/L | 8.9 |
| Chromium III | | X | 2 | 6020A | 3 | 6.95 | 6.95 | 323 µg/L | 100 |
| Chromium VI | X | | 2 | 3500CR | 5 | ND | ND | 323 µg/L | 50 |
| Copper Total | | X | 2 | 6020A | 1 | 6.07 | 6.07 | 242 µg/L | 3.7 |
| Iron Total | | X | 2 | 200.7 | 50 | 1.91 | 1.91 | 5,000 µg/L | |
| Lead Total | X | | 2 | 6020A | 0.5 | ND | ND | 160 µg/L | 8.5 |
| Mercury Total | X | | 2 | 245.1 | 0.2 | ND | ND | 0.739 µg/L | 1.11 |
| Nickel Total | X | | 2 | 6020A | 2 | 4.38 | 4.38 | 1,450 µg/L | 8.3 |
| Selenium Total | | X | 2 | 6020A | 5 | 6.63 | 6.63 | 235.8 µg/L | 71 |
| Silver Total | X | | 2 | 6020A | 0.4 | ND | ND | 35.1 µg/L | 2.2 |
| Zinc Total | X | | 2 | 6020A | 10 | ND | ND | 420 µg/L | 86 |
| Cyanide Total | | X | 2 | 4500CN | 5 | 5 | 5 | 178 mg/L | 1.0 |
| B. Non-Halogenated VOCs | | | | | | | | | |
| Total BTEX | X | | 2 | 8260C | NA | ND | ND | 100 µg/L | --- |
| Benzene | X | | 2 | 8260C | 0.5 | ND | ND | 5.0 µg/L | --- |
| 1,4 Dioxane | X | | 2 | 8260C-SIM | 3.0 | ND | ND | 200 µg/L | --- |
| Acetone | X | | 2 | 8260C | 5.0 | ND | ND | 7.97 mg/L | --- |
| Phenol | X | | 2 | 8270D | 5.0 | ND | ND | 1,080 µg/L | 300 |

| Parameter | Known or believed absent | Known or believed present | # of samples | Test method (#) | Detection limit (µg/l) | Influent | | Effluent Limitations | |
|--------------------------|-----------------------------------|------------------------------------|-----------------|-----------------------|------------------------------|----------------------------|----------------------------|----------------------|--------|
| | | | | | | Daily maximum (µg/l) | Daily average (µg/l) | TBEL | WQBEL |
| C. Halogenated VOCs | | | | | | | | | |
| Carbon Tetrachloride | X | | 2 | 8260C | 0.5 | ND | ND | 4.4 µg/L | 1.6 |
| 1,2 Dichlorobenzene | X | | 2 | 8260C | 2.5 | ND | ND | 600 µg/L | --- |
| 1,3 Dichlorobenzene | X | | 2 | 8260C | 2.5 | ND | ND | 320 µg/L | --- |
| 1,4 Dichlorobenzene | X | | 2 | 8260C | 2.5 | ND | ND | 5.0 µg/L | --- |
| Total dichlorobenzene | X | | 2 | 8260C | NA | NA | NA | 763 µg/L in NH | --- |
| 1,1 Dichloroethane | X | | 2 | 8260C | 0.75 | ND | ND | 70 µg/L | --- |
| 1,2 Dichloroethane | X | | 2 | 8260C | 0.5 | ND | ND | 5.0 µg/L | --- |
| 1,1 Dichloroethylene | X | | 2 | 8260C | 0.5 | ND | ND | 3.2 µg/L | --- |
| Ethylene Dibromide | X | | 2 | 8260C | 2.0 | ND | ND | 0.05 µg/L | --- |
| Methylene Chloride | X | | 2 | 8260C | 3.0 | ND | ND | 4.6 µg/L | --- |
| 1,1,1 Trichloroethane | X | | 2 | 8260C | 0.5 | ND | ND | 200 µg/L | --- |
| 1,1,2 Trichloroethane | X | | 2 | 8260C | 0.75 | ND | ND | 5.0 µg/L | --- |
| Trichloroethylene | X | | 2 | 8260C | 0.5 | ND | ND | 5.0 µg/L | --- |
| Tetrachloroethylene | X | | 2 | 8260C | 0.5 | ND | ND | 5.0 µg/L | 3.3 |
| cis-1,2 Dichloroethylene | X | | 2 | 8260C | 0.5 | ND | ND | 70 µg/L | --- |
| Vinyl Chloride | X | | 2 | 8260C | 1.0 | ND | ND | 2.0 µg/L | --- |
| D. Non-Halogenated SVOCs | | | | | | | | | |
| Total Phthalates | X | | 2 | 8270D | NA | ND | ND | 190 µg/L | |
| Diethylhexyl phthalate | X | | 2 | 8270D | 3.0 | ND | ND | 101 µg/L | 2.2 |
| Total Group I PAHs | X | | 2 | 8270D | NA | ND | ND | 1.0 µg/L | --- |
| Benzo(a)anthracene | X | | 2 | 8270D | 0.1 | ND | ND | As Total PAHs | 0.0038 |
| Benzo(a)pyrene | X | | 2 | 8270D | 0.1 | ND | ND | | 0.0038 |
| Benzo(b)fluoranthene | X | | 2 | 8270D | 0.1 | ND | ND | | 0.0038 |
| Benzo(k)fluoranthene | X | | 2 | 8270D | 0.1 | ND | ND | | 0.0038 |
| Chrysene | X | | 2 | 8270D | 0.1 | ND | ND | | 0.0038 |
| Dibenzo(a,h)anthracene | X | | 2 | 8270D | 0.1 | ND | ND | | 0.0038 |
| Indeno(1,2,3-cd)pyrene | X | | 2 | 8270D | 0.1 | ND | ND | | 0.0038 |

[illegible]

E. Treatment system information

| | |
|---|--|
| <p>1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)</p> <p><input type="checkbox"/> Adsorption/Absorption <input type="checkbox"/> Advanced Oxidation Processes <input type="checkbox"/> Air Stripping <input checked="" type="checkbox"/> Granulated Activated Carbon (“GAC”)/Liquid Phase Carbon Adsorption <input checked="" type="checkbox"/> Ion Exchange <input checked="" type="checkbox"/> Precipitation/Coagulation/Flocculation <input checked="" type="checkbox"/> Separation/Filtration <input type="checkbox"/> Other; if so, specify:</p> | |
| <p>2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge. Prior to discharge, collected water will be routed through a sedimentation tank and a bag filter and other necessary treatment components (potentially: Ion exchange, GAC, oil/water separator), to remove suspended solids and undissolved chemical constituents, as shown on Figure 3 of the NPDES permit application. Identify each major treatment component (check any that apply): <input checked="" type="checkbox"/> Fractionation tanks <input type="checkbox"/> Equalization tank <input checked="" type="checkbox"/> Oil/water separator <input type="checkbox"/> Mechanical filter <input checked="" type="checkbox"/> Media filter <input type="checkbox"/> Chemical feed tank <input type="checkbox"/> Air stripping unit <input checked="" type="checkbox"/> Bag filter <input type="checkbox"/> Other; if so, specify: Indicate if either of the following will occur (check any that apply): <input type="checkbox"/> Chlorination <input type="checkbox"/> De-chlorination</p> | |
| <p>3. Provide the design flow capacity in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: 150 gpm Is use of a flow meter feasible? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No, if so, provide justification:</p> | |
| <p>Provide the proposed maximum effluent flow in gpm. 150 gpm</p> | |
| <p>Provide the average effluent flow in gpm. 50 gpm</p> | |
| <p>If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:</p> | |
| <p>4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> | |

F. Chemical and additive information

| | |
|--|--|
| 1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply) | |
| <input type="checkbox"/> Algaecides/biocides <input type="checkbox"/> Antifoams <input type="checkbox"/> Coagulants <input type="checkbox"/> Corrosion/scale inhibitors <input type="checkbox"/> Disinfectants <input checked="" type="checkbox"/> Flocculants <input type="checkbox"/> Neutralizing agents <input type="checkbox"/> Oxidants <input type="checkbox"/> Oxygen <input type="checkbox"/> scavengers <input checked="" type="checkbox"/> pH conditioners <input type="checkbox"/> Bioremedial agents, including microbes <input type="checkbox"/> Chlorine or chemicals containing chlorine <input type="checkbox"/> Other; if so, specify: | |
| 2. Provide the following information for each chemical/additive, using attachments, if necessary: | |
| a. Product name, chemical formula, and manufacturer of the chemical/additive; | See attached manufacturers cut sheets and SDSs |
| b. Purpose or use of the chemical/additive or remedial agent; | |
| c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive; | |
| d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive; | |
| e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and | |
| f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)). | |
| 3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance with the instructions in F, above? (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive? (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No | |

G. Endangered Species Act eligibility determination

| | |
|--|--|
| 1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit: | |
| <input type="checkbox"/> FWS Criterion A: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area". | |
| <input checked="" type="checkbox"/> FWS Criterion B: Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat (informal consultation). Has the operator completed consultation with FWS? (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No; if no, is consultation underway? (check one): <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| <input type="checkbox"/> FWS Criterion C: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS. This determination was made by: (check one) <input type="checkbox"/> the operator <input type="checkbox"/> EPA <input type="checkbox"/> Other; if so, specify: | |

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

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

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

H. National Historic Preservation Act eligibility determination

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

- ☒ **Criterion A:** No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.
- ☐ **Criterion B:** Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.
- ☐ **Criterion C:** Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.

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

Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): ☐ Yes ☒ N/A

I. Supplemental information

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

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

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

J. Certification requirement

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

BMPP certification statement: A BMPP meeting the requirements of this general permit will be implemented upon initiation of discharge.

Notification provided to the appropriate State, including a copy of this NOI, if required.

Check one: Yes ☐ No ☐ N/A

Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.

Check one: Yes ☒ No ☐

Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.

Check one: Yes ☒ No ☐ NA ☐

Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.

Check one: Yes ☒ No ☐ NA ☐

Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:

Check one: Yes ☐ No ☐ NA ☒

Signature:



Date:

9-7-17

Print Name and Title: Suffolk Construction Company

DOUGLAS KIMBLE - PROJECT EXECUTIVE

APPENDIX B

National Register of Historic Places and Massachusetts Historical Commission Documentation

Massachusetts Historical Commission

William Francis Galvin, Secretary of the Commonwealth

[Home](#) | [Feedback](#) | [Contact Us](#)

[MHC Home](#)

Massachusetts Cultural Resource Information System **MACRIS**

Scanned forms and photos now available for selected towns!

The Massachusetts Cultural Resource Information System (MACRIS) allows you to search the Massachusetts Historical Commission database for information on historic properties and areas in the Commonwealth.

Users of the database should keep in mind that it does not include information on all historic properties and areas in Massachusetts, nor does it reflect all the information on file on historic properties and areas at the Massachusetts Historical Commission.

[Click here to begin your search of the MACRIS database.](#)




[Home](#) | [Search](#) | [Index](#) | [Feedback](#) | [Contact](#)

Massachusetts Cultural Resource Information System

MACRIS

[MHC Home](#) | [MACRIS Home](#)

For more information about this page and how to use it, [click here](#).

Inventory No: BOS.1455 

Historic Name: Green, Samuel Building

Common Name:

Address: 575 Albany St
Albany and East Dedham Sts

City/Town: Boston

Village/Neighborhood: South End

Local No:

Year Constructed: R 1904

Architect(s): Goldstone, L. A.

Architectural Style(s): Classical Revival

Use(s): Other Industrial

Significance: Architecture; Industry

Area(s): [BOS.AD: South End Landmark District Protection Area](#)

Designation(s):

Building Material(s): Wall: Brick; Stone, Cut

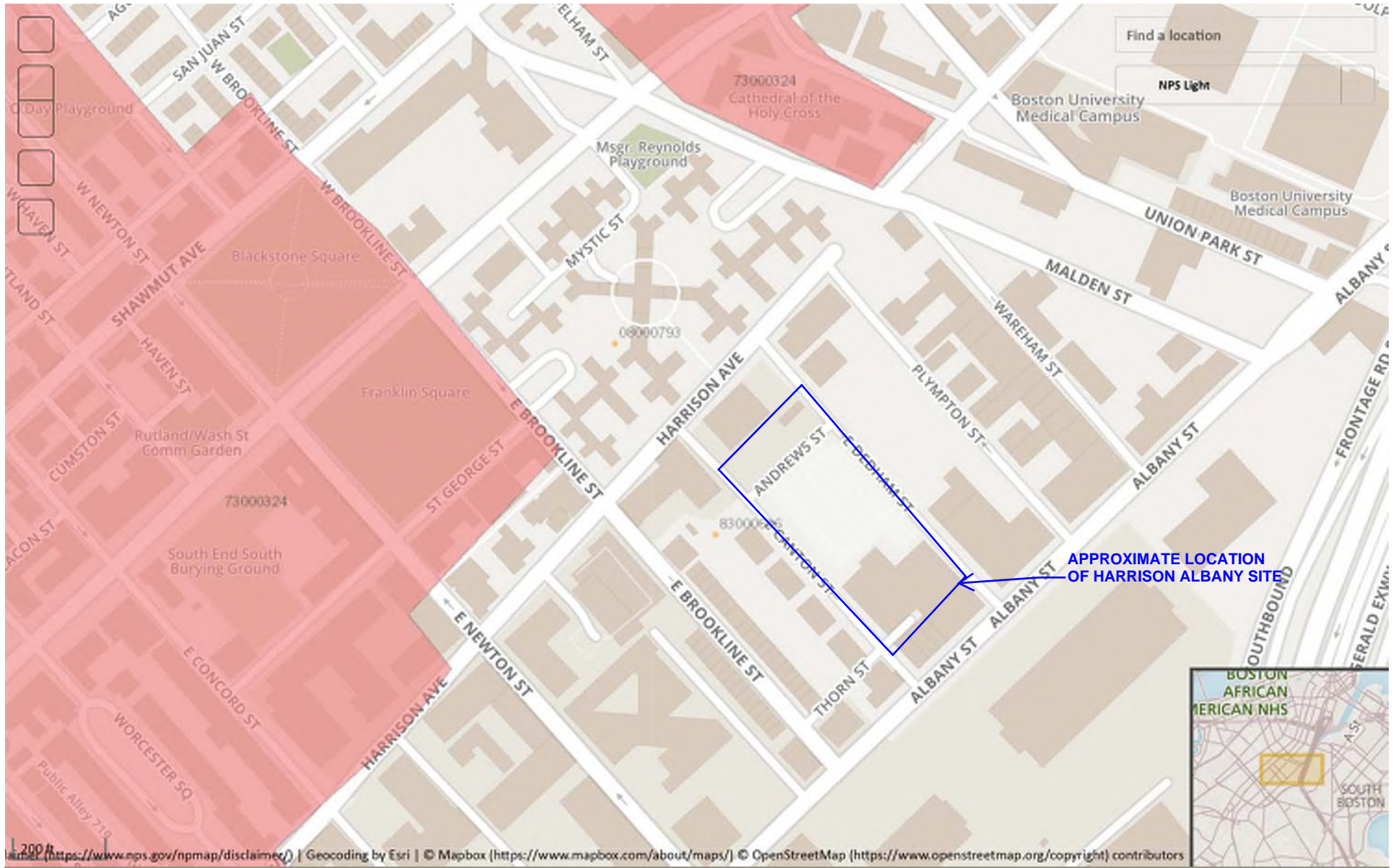
Digital Photo
Not Yet
Available

[New Search](#)[Previous](#)[MHC Home](#) | [MACRIS Home](#)

National Register of Historic Places

National Park Service
U.S. Department of the Interior

Public, non-restricted data depicting National Register spatial data processed by the Cultural Resources GIS facility. Data last updated...



National Register of Historic Places: Listed Properties
As of July 2015

Note: Not all properties are digitized

| Reference Number | State | County | City | Resource Name | Address | Listed Date | Text Click me | Photos Click me |
|------------------|---------------|---------|--------|---|---------------------------------------|-------------|----------------------|------------------------|
| 83000601 | MASSACHUSETTS | Suffolk | Boston | Charles Street African Methodist Episcopal Church | 551 Warren St. | 19830901 | Text | Photos |
| 83000602 | MASSACHUSETTS | Suffolk | Boston | Codman Square District | Norfolk, Talbot, Epping, Lithgow, Cer | 19830623 | Text | Photos |
| 83000603 | MASSACHUSETTS | Suffolk | Boston | Gardner, Isabella Stewart, Museum | 280 The Fenway | 19830127 | Text | Photos |
| 83000605 | MASSACHUSETTS | Suffolk | Boston | Harvard Avenue Fire Station | 16 Harvard Ave. | 19830331 | Text | Photos |
| 83000606 | MASSACHUSETTS | Suffolk | Boston | Lawrence Model Lodging Houses | 79, 89, 99 and 109 E. Canton St. | 19830922 | Text | Photos |
| 83000607 | MASSACHUSETTS | Suffolk | Boston | Newspaper Row | 322-328 Washington St., 5-23 Milk St | 19830707 | Text | Photos |
| 82000486 | MASSACHUSETTS | Suffolk | Boston | Wigglesworth Building | 89-83 Franklin St. | 19821021 | Text | Photos |
| 83004098 | MASSACHUSETTS | Suffolk | Boston | Leather District | Roughly bounded by Atlantic Ave., K | 19831221 | Text | Photos |
| 83004285 | MASSACHUSETTS | Suffolk | Boston | Baker, Sarah J., School | 33 Perrin St. | 19830707 | Text | Photos |
| 79000370 | MASSACHUSETTS | Suffolk | Boston | Washington Street Theatre District | 511-559 Washington St. | 19790319 | Text | Photos |
| 85000318 | MASSACHUSETTS | Suffolk | Boston | Dorchester Pottery Works | 101-105 Victory Rd. | 19850221 | Text | Photos |
| 79000368 | MASSACHUSETTS | Suffolk | Boston | Bedford Building | 89-103 Bedford St. | 19790821 | Text | Photos |
| 80000442 | MASSACHUSETTS | Suffolk | Boston | Wirth, Jacob, Buildings | 31-39 Stuart St. | 19801209 | Text | Photos |
| 80000445 | MASSACHUSETTS | Suffolk | Boston | Metropolitan Theatre | 252-272 Tremont St. | 19801209 | Text | Photos |
| 80000446 | MASSACHUSETTS | Suffolk | Boston | Hayden Building | 681-683 Washington St. | 19801209 | Text | Photos |
| 80000448 | MASSACHUSETTS | Suffolk | Boston | Dill Building | 11-25 Stuart St. | 19801209 | Text | Photos |
| 80000450 | MASSACHUSETTS | Suffolk | Boston | Boylston Building | 2-22 Boylston St. | 19801209 | Text | Photos |
| 80000451 | MASSACHUSETTS | Suffolk | Boston | Boston Young Men's Christian Union | 48 Boylston St. | 19801209 | Text | Photos |
| 80000453 | MASSACHUSETTS | Suffolk | Boston | Boston Edison Electric Illuminating Company | 25-39 Boylston St. | 19801209 | Text | Photos |
| 80000455 | MASSACHUSETTS | Suffolk | Boston | West Street District | West St. | 19801209 | Text | Photos |
| 80000460 | MASSACHUSETTS | Suffolk | Boston | Liberty Tree District | Roughly bounded by Harrison Ave., \ | 19801209 | Text | Photos |
| 80000462 | MASSACHUSETTS | Suffolk | Boston | Beach-Knapp District | Roughly bounded by Harrison Ave., \ | 19801209 | Text | Photos |
| 80000465 | MASSACHUSETTS | Suffolk | Boston | Oak Square School | 35 Nonantum St. | 19801110 | Text | Photos |
| 66000127 | MASSACHUSETTS | Suffolk | Boston | Arnold Arboretum | 22 Divinity Ave. | 19661015 | Text | Photos |
| 73000313 | MASSACHUSETTS | Suffolk | Boston | Arlington Street Church | Arlington and Boylston Sts. | 19730504 | Text | Photos |
| 73000322 | MASSACHUSETTS | Suffolk | Boston | Old Corner Bookstore | NW corner of Washington and Scho | 19730411 | Text | Photos |
| 75000299 | MASSACHUSETTS | Suffolk | Boston | South Station Headhouse | Atlantic Ave. and Summer St. | 19750213 | Text | Photos |
| 74000392 | MASSACHUSETTS | Suffolk | Boston | Winthrop Building | 7 Water St. | 19740418 | Text | Photos |
| 80000668 | MASSACHUSETTS | Suffolk | Boston | United Shoe Machinery Corporation Building | 138-164 Federal St. | 19800819 | Text | Photos |
| 75000300 | MASSACHUSETTS | Suffolk | Boston | St. Stephen's Church | Hanover St. between Clark and Harri | 19750414 | Text | Photos |
| 80000669 | MASSACHUSETTS | Suffolk | Boston | Union Wharf | 295-353 Commercial St. | 19800622 | Text | Photos |
| 80000670 | MASSACHUSETTS | Suffolk | Boston | Suffolk County Jail | 215 Charles St. | 19800423 | Text | Photos |
| 80000674 | MASSACHUSETTS | Suffolk | Boston | Garrison, William Lloyd, School | 20 Hutchings St. | 19800416 | Text | Photos |
| 80001683 | MASSACHUSETTS | Suffolk | Boston | Dillaway School | 16-20 Kenilworth St. | 19800409 | Text | Photos |
| 66000366 | MASSACHUSETTS | Suffolk | Boston | Ether Dome, Massachusetts General Hospital | Fruit St. | 19661015 | Text | Photos |
| 70000539 | MASSACHUSETTS | Suffolk | Boston | Otis, (First) Harrison Gray, House | 141 Cambridge St. | 19701230 | Text | Photos |
| 73000314 | MASSACHUSETTS | Suffolk | Boston | Armory of the First Corps of Cadets | 97-105 Arlington St. and 130 Columb | 19730522 | Text | Photos |
| 73000315 | MASSACHUSETTS | Suffolk | Boston | Blackstone Block Historic District | Area bound by Union, Hanover, Blac | 19730526 | Text | Photos |
| 72000145 | MASSACHUSETTS | Suffolk | Boston | Crowninshield House | 164 Marlborough St. | 19720223 | Text | Photos |
| 72000146 | MASSACHUSETTS | Suffolk | Boston | First Baptist Church | Commonwealth Ave. and Clarendon | 19720223 | Text | Photos |
| 74000391 | MASSACHUSETTS | Suffolk | Boston | John Adams Courthouse | Pemberton Sq. | 19740508 | Text | Photos |
| 72000150 | MASSACHUSETTS | Suffolk | Boston | Trinity Rectory | Clarendon and Newbury Sts. | 19720223 | Text | Photos |
| 74000385 | MASSACHUSETTS | Suffolk | Boston | Copp's Hill Burial Ground | Charter, Snowhill, and Hull Sts. | 19740418 | Text | Photos |
| 74000393 | MASSACHUSETTS | Suffolk | Boston | Youth's Companion Building | 209 Columbus Ave. | 19740502 | Text | Photos |
| 66000764 | MASSACHUSETTS | Suffolk | Boston | Harding, Chester, House | 16 Beacon St. | 19661015 | Text | Photos |
| 74002044 | MASSACHUSETTS | Suffolk | Boston | Howe, Samuel Gridley and Julia Ward, House | 13 Chestnut St. | 19740913 | Text | Photos |
| 74002045 | MASSACHUSETTS | Suffolk | Boston | King's Chapel | Tremont and School Sts. | 19740502 | Text | Photos |
| 70000682 | MASSACHUSETTS | Suffolk | Boston | Massachusetts General Hospital | Fruit Street | 19701230 | Text | Photos |
| 80000678 | MASSACHUSETTS | Suffolk | Boston | All Saints' Church | 211 Ashmont St. | 19800616 | Text | Photos |
| 81000620 | MASSACHUSETTS | Suffolk | Boston | Fields Corner Municipal Building | 1 Arcadia St., 195 Adams St. | 19811112 | Text | Photos |
| 66000770 | MASSACHUSETTS | Suffolk | Boston | Massachusetts Historical Society Building | 1154 Boylston St. | 19661015 | Text | Photos |
| 66000771 | MASSACHUSETTS | Suffolk | Boston | Massachusetts Statehouse | Beacon Hill | 19661015 | Text | Photos |
| 76001979 | MASSACHUSETTS | Suffolk | Boston | Nell, William C., House | 3 Smith Ct. | 19760511 | Text | Photos |
| 70000687 | MASSACHUSETTS | Suffolk | Boston | Old City Hall | School and Providence Sts. | 19701230 | Text | Photos |
| 70000690 | MASSACHUSETTS | Suffolk | Boston | Old South Church in Boston | 645 Boylston St. | 19701230 | Text | Photos |
| 70000691 | MASSACHUSETTS | Suffolk | Boston | Old West Church | 131 Cambridge St. | 19701230 | Text | Photos |
| 66000782 | MASSACHUSETTS | Suffolk | Boston | Parkman, Francis, House | 50 Chestnut St. | 19661015 | Text | Photos |
| 80000444 | MASSACHUSETTS | Suffolk | Boston | Shubert, Sam S., Theatre | 263-265 Tremont St. | 19801209 | Text | Photos |
| 80000458 | MASSACHUSETTS | Suffolk | Boston | Piano Row District | Boston Common, Park Sq., Boylston | 19801209 | Text | Photos |
| 80000443 | MASSACHUSETTS | Suffolk | Boston | Wilbur Theatre | 244-250 Tremont St. | 19801209 | Text | Photos |
| 66000765 | MASSACHUSETTS | Suffolk | Boston | Headquarters House | 55 Beacon St. | 19661015 | Text | Photos |
| 68000042 | MASSACHUSETTS | Suffolk | Boston | Pierce-Hichborn House | 29 North Sq. | 19681124 | Text | Photos |
| 66000784 | MASSACHUSETTS | Suffolk | Boston | Quincy Market | S. Market St. | 19661113 | Text | Photos |

| | | | | | | | | |
|----------|---------------|---------|--------|---|---------------------------------------|----------|----------------------|------------------------|
| 70000730 | MASSACHUSETTS | Suffolk | Boston | St. Paul's Church | 136 Tremont St. | 19701230 | Text | Photos |
| 70000731 | MASSACHUSETTS | Suffolk | Boston | Sears, David, House | 42 Beacon St. | 19701230 | Text | Photos |
| 73001953 | MASSACHUSETTS | Suffolk | Boston | Sumner, Charles, House | 20 Hancock St. | 19731107 | Text | Photos |
| 66000130 | MASSACHUSETTS | Suffolk | Boston | Beacon Hill Historic District | Bounded by Beacon St., the Charles I | 19661015 | Text | Photos |
| 73001955 | MASSACHUSETTS | Suffolk | Boston | Otis, (Second) Harrison Gray, House | 85 Mt. Vernon St. | 19730727 | Text | Photos |
| 66000768 | MASSACHUSETTS | Suffolk | Boston | Long Wharf and Customhouse Block | Foot of State St. | 19661113 | Text | Photos |
| 66000132 | MASSACHUSETTS | Suffolk | Boston | Boston Athenaeum | 10 1/2 Beacon St. | 19661015 | Text | Photos |
| 66000788 | MASSACHUSETTS | Suffolk | Boston | Tremont Street Subway | Beneath Tremont, Boylston, and Wa | 19661015 | Text | Photos |
| 70000733 | MASSACHUSETTS | Suffolk | Boston | Trinity Church | Copley Sq. | 19700701 | Text | Photos |
| 82004456 | MASSACHUSETTS | Suffolk | Boston | Adams-Nervine Asylum | 990-1020 Centre St. | 19820601 | Text | Photos |
| 79000369 | MASSACHUSETTS | Suffolk | Boston | International Trust Company Building | 39-47 Milk St. | 19790910 | Text | Photos |
| 74000388 | MASSACHUSETTS | Suffolk | Boston | Eliot Burying Ground | Eustis and Washington Sts. | 19740625 | Text | Photos |
| 80000463 | MASSACHUSETTS | Suffolk | Boston | Russia Wharf Buildings | 518-540 Atlantic Ave., 270 Congress : | 19801202 | Text | Photos |
| 71000087 | MASSACHUSETTS | Suffolk | Boston | African Meetinghouse | 8 Smith St. | 19711007 | Text | Photos |
| 85002015 | MASSACHUSETTS | Suffolk | Boston | Building at 138--142 Portland Street | 138--142 Portland St. | 19850905 | Text | Photos |
| 84000421 | MASSACHUSETTS | Suffolk | Boston | Vermont Building | 6-12 Thacher St. | 19841113 | Text | Photos |
| 75000301 | MASSACHUSETTS | Suffolk | Boston | Symphony and Horticultural Halls | Massachusetts and Huntington Aves | 19750530 | Text | Photos |
| 73000324 | MASSACHUSETTS | Suffolk | Boston | South End District | South Bay area between Huntington | 19730508 | Text | Photos |
| 74000390 | MASSACHUSETTS | Suffolk | Boston | Park Street District | Tremont, Park, and Beacon Sts. | 19740501 | Text | Photos |
| 73000319 | MASSACHUSETTS | Suffolk | Boston | Fulton-Commercial Streets District | Fulton, Commercial, Mercantile, Lew | 19730321 | Text | Photos |
| 84002875 | MASSACHUSETTS | Suffolk | Boston | Fenway-Boylston Street District | Fenway, Boylston, Westland, and He | 19840904 | Text | Photos |
| 78000473 | MASSACHUSETTS | Suffolk | Boston | Fenway Studios | 30 Ipswich St. | 19780913 | Text | Photos |
| 73000318 | MASSACHUSETTS | Suffolk | Boston | Cyclorama Building | 543-547 Tremont St. | 19730413 | Text | Photos |
| 83004097 | MASSACHUSETTS | Suffolk | Boston | Codman Building | 55 Kilby St. | 19831019 | Text | Photos |
| 80000676 | MASSACHUSETTS | Suffolk | Boston | Charles Playhouse | 74-78 Warenton St. | 19800616 | Text | Photos |
| 74000382 | MASSACHUSETTS | Suffolk | Boston | Ames Building | 1 Court St. | 19740426 | Text | Photos |
| 77001541 | MASSACHUSETTS | Suffolk | Boston | Appleton, Nathan, Residence | 39-40 Beacon St. | 19771222 | Text | Photos |
| 66000134 | MASSACHUSETTS | Suffolk | Boston | Boston Naval Shipyard | E of Chelsea St., Charlestown | 19661115 | Text | Photos |
| 66000050 | MASSACHUSETTS | Suffolk | Boston | Dorchester Heights National Historic Site | South Boston | 19661015 | Text | Photos |
| 74002222 | MASSACHUSETTS | Suffolk | Boston | Boston National Historical Park | Inner harbor at mouth of Charles Riv | 19741026 | Text | Photos |
| 66000785 | MASSACHUSETTS | Suffolk | Boston | Revere, Paul, House | 19 North Sq. | 19661015 | Text | Photos |
| 66000776 | MASSACHUSETTS | Suffolk | Boston | Old North Church | 193 Salem St. | 19661015 | Text | Photos |
| 66000778 | MASSACHUSETTS | Suffolk | Boston | Old South Meetinghouse | Milk and Washington Sts. | 19661015 | Text | Photos |
| 66000368 | MASSACHUSETTS | Suffolk | Boston | Faneuil Hall | Dock Sq. | 19661015 | Text | Photos |
| 66000779 | MASSACHUSETTS | Suffolk | Boston | Old State House | Washington and State Sts. | 19661015 | Text | Photos |
| 85003074 | MASSACHUSETTS | Suffolk | Boston | Dudley Station Historic District | Washington, Warren, and Dudley Sts | 19851205 | Text | Photos |
| 86000140 | MASSACHUSETTS | Suffolk | Boston | Christ Church | 1220 River Rd. | 19860130 | Text | Photos |
| 73000317 | MASSACHUSETTS | Suffolk | Boston | Boston Public Library | Copley Sq. | 19730506 | Text | Photos |
| 86001909 | MASSACHUSETTS | Suffolk | Boston | Filene's Department Store | 426 Washington St. | 19860724 | Text | Photos |
| 86001913 | MASSACHUSETTS | Suffolk | Boston | Second Brazer Building | 25--29 State St. | 19860724 | Text | Photos |
| 86001486 | MASSACHUSETTS | Suffolk | Boston | Sears' Crescent and Sears' Block | 38--68 and 70--72 Cornhill | 19860809 | Text | Photos |
| 86001504 | MASSACHUSETTS | Suffolk | Boston | Richardson Block | 113--151 Pearl and 109--119 High Sts | 19860809 | Text | Photos |
| 85003375 | MASSACHUSETTS | Suffolk | Boston | Engine House No. 34 | 444 Western Ave. | 19851024 | Text | Photos |
| 80000671 | MASSACHUSETTS | Suffolk | Boston | Stearns, R. H., House | 140 Tremont St. | 19800616 | Text | Photos |
| 86001911 | MASSACHUSETTS | Suffolk | Boston | Locke--Ober Restaurant | 3--4 Winter Pl. | 19860724 | Text | Photos |
| 80000677 | MASSACHUSETTS | Suffolk | Boston | Berger Factory | 37 Williams St. | 19800409 | Text | Photos |
| 85000316 | MASSACHUSETTS | Suffolk | Boston | Bigelow School | 350 W. 4th St. | 19850221 | Text | Photos |
| 84002890 | MASSACHUSETTS | Suffolk | Boston | Moreland Street Historic District | Roughly bounded by Kearsarge, Blue | 19840329 | Text | Photos |
| 70000921 | MASSACHUSETTS | Suffolk | Boston | Fort Independence | Castle Island | 19701015 | Text | Photos |
| 86000375 | MASSACHUSETTS | Suffolk | Boston | Harriswood Crescent | 60--88 Harold St. | 19860313 | Text | Photos |
| 66000789 | MASSACHUSETTS | Suffolk | Boston | U.S.S. CONSTITUTION | Boston Naval Shipyard | 19661015 | Text | Photos |
| 87000757 | MASSACHUSETTS | Suffolk | Boston | Harvard Stadium | 60 N. Harvard St. | 19870227 | Text | Photos |
| 72000144 | MASSACHUSETTS | Suffolk | Boston | Boston Common and Public Garden | Beacon, Park, Tremont, Boylston, an | 19720712 | Text | Photos |
| 87000760 | MASSACHUSETTS | Suffolk | Boston | Boston Common | Beacon, Park, Tremont, Boylston, an | 19870227 | Text | Photos |
| 87000761 | MASSACHUSETTS | Suffolk | Boston | Boston Public Garden | Beacon, Charles, Boylston, and Arling | 19870227 | Text | Photos |
| 87001128 | MASSACHUSETTS | Suffolk | Boston | Monument Square Historic District | Monument Sq. | 19870602 | Text | Photos |
| 66000138 | MASSACHUSETTS | Suffolk | Boston | Bunker Hill Monument | Breed's Hill | 19661015 | Text | Photos |
| 86000274 | MASSACHUSETTS | Suffolk | Boston | Bulfinch Triangle Historic District | Roughly bounded by Canal, Market, | 19860227 | Text | Photos |
| 80000675 | MASSACHUSETTS | Suffolk | Boston | Dorchester-Milton Lower Mills Industrial District | Both sides of Neponset River | 19800402 | Text | Photos |
| 86000084 | MASSACHUSETTS | Suffolk | Boston | USS CASSIN YOUNG (destroyer) | Charlestown Navy Yard | 19860114 | Text | Photos |
| 66000133 | MASSACHUSETTS | Suffolk | Boston | Boston Light | Little Brewster Island, Boston Harbo | 19661015 | Text | Photos |
| 87001481 | MASSACHUSETTS | Suffolk | Boston | Long Island Head Light | Long Island | 19870615 | Text | Photos |
| 87001394 | MASSACHUSETTS | Suffolk | Boston | New Riding Club | 52 Hemenway St. | 19870820 | Text | Photos |
| 87001396 | MASSACHUSETTS | Suffolk | Boston | Congress Street Fire Station | 344 Congress St. | 19870903 | Text | Photos |
| 87000885 | MASSACHUSETTS | Suffolk | Boston | Abbotsford | 300 Walnut Ave. | 19870916 | Text | Photos |
| 87001889 | MASSACHUSETTS | Suffolk | Boston | Sumner Hill Historic District | Roughly bounded by Seaverns Ave., | 19871022 | Text | Photos |
| 87001771 | MASSACHUSETTS | Suffolk | Boston | Bunker Hill School | 65 Baldwin St. | 19871015 | Text | Photos |
| 87001398 | MASSACHUSETTS | Suffolk | Boston | House at 17 Cranston Street | 17 Cranston St. | 19871120 | Text | Photos |
| 87001399 | MASSACHUSETTS | Suffolk | Boston | Hoxie, Timothy, House | 135 Hillside St. | 19871120 | Text | Photos |
| 87001495 | MASSACHUSETTS | Suffolk | Boston | Saint Augustine Chapel and Cemetery | Dorchester St. between W. Sixth and | 19870918 | Text | Photos |

| | | | | | | | | |
|----------|---------------|---------|--------|--|---|----------|----------------------|------------------------|
| 87002549 | MASSACHUSETTS | Suffolk | Boston | District 13 Police Station | 28 Seaverns Ave. | 19880210 | Text | Photos |
| 85003323 | MASSACHUSETTS | Suffolk | Boston | Boston Harbor Islands Archeological District | Address Restricted | 19851221 | Text | Photos |
| 82004448 | MASSACHUSETTS | Suffolk | Boston | Roughan Hall | 15-18 City Sq. | 19820415 | Text | Photos |
| 82004450 | MASSACHUSETTS | Suffolk | Boston | McKay, Donald, House | 78-80 White St. | 19820602 | Text | Photos |
| 82004453 | MASSACHUSETTS | Suffolk | Boston | Haffenreffer Brewery | Germania St. | 19820502 | Text | Photos |
| 73000850 | MASSACHUSETTS | Suffolk | Boston | Town Hill District | Bounded roughly by Rutherford Ave. | 19730511 | Text | Photos |
| 74000907 | MASSACHUSETTS | Suffolk | Boston | Phipps Street Burying Ground | Phipps St. | 19740514 | Text | Photos |
| 74000911 | MASSACHUSETTS | Suffolk | Boston | Clapp Houses | 199 and 195 Boston St. | 19740502 | Text | Photos |
| 74000915 | MASSACHUSETTS | Suffolk | Boston | Dorchester North Burying Ground | Stroughton St. and Columbia Rd. | 19740418 | Text | Photos |
| 80004396 | MASSACHUSETTS | Suffolk | Boston | Boston African American National Historic Site | Museum of Afro American History, C | 19801010 | Text | Photos |
| 66000141 | MASSACHUSETTS | Suffolk | Boston | Brook Farm | 670 Baker St. | 19661015 | Text | Photos |
| 73000856 | MASSACHUSETTS | Suffolk | Boston | Roxbury High Fort | Beech Glen St. at Fort Ave. | 19730423 | Text | Photos |
| 73000855 | MASSACHUSETTS | Suffolk | Boston | Kittredge, Alvah, House | 12 Linwood St. | 19730508 | Text | Photos |
| 73000854 | MASSACHUSETTS | Suffolk | Boston | John Eliot Square District | John Eliot Sq. | 19730423 | Text | Photos |
| 66000653 | MASSACHUSETTS | Suffolk | Boston | Garrison, William Lloyd, House | 125 Highland St. | 19661015 | Text | Photos |
| 72000544 | MASSACHUSETTS | Suffolk | Boston | Loring-Greenough House | 12 South St. | 19720426 | Text | Photos |
| 74000917 | MASSACHUSETTS | Suffolk | Boston | Pierce House | 24 Oakton Ave. | 19740426 | Text | Photos |
| 70000540 | MASSACHUSETTS | Suffolk | Boston | Fort Warren | Georges Island, Boston Harbor | 19700829 | Text | Photos |
| 74002350 | MASSACHUSETTS | Suffolk | Boston | Blake, James, House | 735 Columbia Rd. | 19740501 | Text | Photos |
| 83000604 | MASSACHUSETTS | Suffolk | Boston | Loring, Harrison, House | 789 E. Broadway St. | 19830901 | Text | Photos |
| 88000908 | MASSACHUSETTS | Suffolk | Boston | Goodwin, Ozias, House | 7 Jackson Ave. | 19880623 | Text | Photos |
| 88000957 | MASSACHUSETTS | Suffolk | Boston | Greek Orthodox Cathedral of New England | 520 Parker St. | 19880630 | Text | Photos |
| 88000427 | MASSACHUSETTS | Suffolk | Boston | Temple Place Historic District | 11--55, 26--58 Temple Pl. | 19880726 | Text | Photos |
| 88000959 | MASSACHUSETTS | Suffolk | Boston | Eliot Hall | 7A Eliot St. | 19880715 | Text | Photos |
| 87001478 | MASSACHUSETTS | Suffolk | Boston | Austin, Francis B., House | 58 High St. | 19881021 | Text | Photos |
| 89000004 | MASSACHUSETTS | Suffolk | Boston | Mount Pleasant Historic District | Roughly bounded by Forest St. and M | 19890209 | Text | Photos |
| 89000147 | MASSACHUSETTS | Suffolk | Boston | Roxbury Highlands Historic District | Roughly bounded by Dudley St., Was | 19890222 | Text | Photos |
| 73000325 | MASSACHUSETTS | Suffolk | Boston | Hale, Edward Everett, House | 12 Morley St. | 19790321 | Text | Photos |
| 83004099 | MASSACHUSETTS | Suffolk | Boston | LUNA (tugboat) | NDC Pier, Charles River | 19831006 | Text | Photos |
| 89000974 | MASSACHUSETTS | Suffolk | Boston | Massachusetts School of Art | 364 Brookline Ave. | 19890803 | Text | Photos |
| 89001747 | MASSACHUSETTS | Suffolk | Boston | Mission Hill Triangle Historic District | Roughly bounded by Smith St., Wort | 19891106 | Text | Photos |
| 89002169 | MASSACHUSETTS | Suffolk | Boston | St. Joseph's Roman Catholic Church Complex | Bounded by Circuit, Regent, Hulbert, | 19891228 | Text | Photos |
| 89002251 | MASSACHUSETTS | Suffolk | Boston | Bellevue Standpipe | On Bellevue Hill at Washington St. ar | 19900118 | Text | Photos |
| 88000955 | MASSACHUSETTS | Suffolk | Boston | First Church of Jamaica Plain | 6 Eliot St. | 19880715 | Text | Photos |
| 90000631 | MASSACHUSETTS | Suffolk | Boston | Copp's Hill Terrace | Between Commercial and Charter St | 19900419 | Text | Photos |
| 89002271 | MASSACHUSETTS | Suffolk | Boston | Chestnut Hill Reservoir Historic District | Beacon St. and Commonwealth Ave. | 19900118 | Text | Photos |
| 90001095 | MASSACHUSETTS | Suffolk | Boston | Calf Pasture Pumping Station Complex | 435 Mount Vernon St. | 19900802 | Text | Photos |
| 90001145 | MASSACHUSETTS | Suffolk | Boston | Bowditch School | 80--82 Greene St. | 19900803 | Text | Photos |
| 90001536 | MASSACHUSETTS | Suffolk | Boston | Monument Square Historic District | Roughly bounded by Jamaicaaway, Pc | 19901011 | Text | Photos |
| 90001537 | MASSACHUSETTS | Suffolk | Boston | Upham's Corner Market | 600 Columbia Rd. | 19901011 | Text | Photos |
| 89002125 | MASSACHUSETTS | Suffolk | Boston | Roxbury Presbyterian Church | 328 Warren St. | 19910315 | Text | Photos |
| 90001992 | MASSACHUSETTS | Suffolk | Boston | Sears Roebuck and Company Mail Order Store | 309 Park Dr. and 201 Brookline Ave. | 19910115 | Text | Photos |
| 92000356 | MASSACHUSETTS | Suffolk | Boston | Trinity Neighborhood House | 406 Meridian St. | 19920414 | Text | Photos |
| 73001948 | MASSACHUSETTS | Suffolk | Boston | Back Bay Historic District | Roughly bounded by the Charles Riv | 19730814 | Text | Photos |
| 90001757 | MASSACHUSETTS | Suffolk | Boston | Textile District | Roughly, Essex St. from Phillips Sq. to | 19901129 | Text | Photos |
| 93001489 | MASSACHUSETTS | Suffolk | Boston | Massachusetts Mental Health Center | 74 Fenwood Rd. | 19940121 | Text | Photos |
| 93001573 | MASSACHUSETTS | Suffolk | Boston | House at 1 Bay Street | 1 Bay St. | 19940209 | Text | Photos |
| 93001587 | MASSACHUSETTS | Suffolk | Boston | Eliot Congregational Church | 56 Dale St., corner 118--120 Walnut S | 19940209 | Text | Photos |
| 85000317 | MASSACHUSETTS | Suffolk | Boston | Dimock Community Health Center Complex | 41 and 55 Dimock St. | 19850221 | Text | Photos |
| 80000672 | MASSACHUSETTS | Suffolk | Boston | New England Conservatory of Music | 290 Huntington Ave. | 19800514 | Text | Photos |
| 94001494 | MASSACHUSETTS | Suffolk | Boston | Lower Roxbury Historic District | Roughly, area surrounding Coventry, | 19941209 | Text | Photos |
| 94001492 | MASSACHUSETTS | Suffolk | Boston | Faneuil, Peter, School | 60 Joy St. | 19941216 | Text | Photos |
| 95001450 | MASSACHUSETTS | Suffolk | Boston | Riviera, The | 270 Huntington Ave. | 19951207 | Text | Photos |
| 73000321 | MASSACHUSETTS | Suffolk | Boston | Custom House District | Between J.F.K. Expwy. and Kirby St. a | 19730511 | Text | Photos |
| 96001063 | MASSACHUSETTS | Suffolk | Boston | Douglass, Frederick, Square Historic District | Roughly bounded by Hammond St., C | 19961003 | Text | Photos |
| 97000969 | MASSACHUSETTS | Suffolk | Boston | Charlestown Heights | Roughly bounded by St. Martin, Bun | 19980108 | Text | Photos |
| 97000920 | MASSACHUSETTS | Suffolk | Boston | Brighton Evangelical Congregational Church | 404-410 Washington St. | 19970821 | Text | Photos |
| 97000970 | MASSACHUSETTS | Suffolk | Boston | Students House | 96 The Fenway | 19970911 | Text | Photos |
| 97000971 | MASSACHUSETTS | Suffolk | Boston | North Terminal Garage | 600 Commercial St. | 19970911 | Text | Photos |
| 97001239 | MASSACHUSETTS | Suffolk | Boston | Dorchester Temple Baptist Church | 670 Washington St. | 19980116 | Text | Photos |
| 97001377 | MASSACHUSETTS | Suffolk | Boston | Allston Congregational Church | 31-41 Quint Ave. | 19971107 | Text | Photos |
| 97001472 | MASSACHUSETTS | Suffolk | Boston | St. Luke's and St. Margaret's Church | 5-7 St. Luke's Rd. | 19971112 | Text | Photos |
| 98000149 | MASSACHUSETTS | Suffolk | Boston | Eagle Hill Historic District | Roughly bounded by Border, Lexingt | 19980226 | Text | Photos |
| 98001082 | MASSACHUSETTS | Suffolk | Boston | Boston Young Men's Christian Association | 312-320 Huntington Ave. | 19980820 | Text | Photos |
| 97001278 | MASSACHUSETTS | Suffolk | Boston | ROSEWAY (schooner) | Boston Harbor | 19970925 | Text | Photos |
| 98001292 | MASSACHUSETTS | Suffolk | Boston | St. Mary's Episcopal Church | 14-16 Cushing Ave. | 19981030 | Text | Photos |
| 98001330 | MASSACHUSETTS | Suffolk | Boston | Roslindale Baptist Church | 52 Cummins Hwy. | 19981105 | Text | Photos |
| 98001361 | MASSACHUSETTS | Suffolk | Boston | Cathedral of St. George Historic District | 517-523-525 E. Broadway | 19981125 | Text | Photos |
| 98001381 | MASSACHUSETTS | Suffolk | Boston | Baker Congregational Church | 760 Saratoga St. | 19981119 | Text | Photos |
| 99000593 | MASSACHUSETTS | Suffolk | Boston | Woodbourne Historic District | Roughly bounded by Walk Hill, Good | 19990604 | Text | Photos |

| | | | | | | | | |
|----------|---------------|---------|--------|---|--|----------|----------------------|------------------------|
| 99000633 | MASSACHUSETTS | Suffolk | Boston | Symphony Hall | 301 Massachusetts Avenue | 19990120 | Text | Photos |
| 99001302 | MASSACHUSETTS | Suffolk | Boston | Mariner's House | 11 North Square | 19991112 | Text | Photos |
| 99001304 | MASSACHUSETTS | Suffolk | Boston | Congregation Adath Jeshurun | 397 Blue Hill Ave. | 19991112 | Text | Photos |
| 99001308 | MASSACHUSETTS | Suffolk | Boston | First Congregational Church of Hyde Park | 6 Webster St. | 19991112 | Text | Photos |
| 99001614 | MASSACHUSETTS | Suffolk | Boston | Church Green Buildings Historic District | 101-113 Summer St. | 19991230 | Text | Photos |
| 00000160 | MASSACHUSETTS | Suffolk | Boston | Fulton-Commercial Streets Historic District (Boundary Incre | 81-95 Richmond St. | 20000303 | Text | Photos |
| 00000415 | MASSACHUSETTS | Suffolk | Boston | Harvard Avenue Historic District | Roughly bounded by Linden St., Com | 20000428 | Text | Photos |
| 00000871 | MASSACHUSETTS | Suffolk | Boston | Dearborn School | 25 Ambrose St. | 20000802 | Text | Photos |
| 01000088 | MASSACHUSETTS | Suffolk | Boston | Brighton Center Historic District | Academy Hill R., Chestnut Hill Ave., L | 20010220 | Text | Photos |
| 01000872 | MASSACHUSETTS | Suffolk | Boston | Peabody, The | 195-197 Ashmont St. | 20010808 | Text | Photos |
| 01001048 | MASSACHUSETTS | Suffolk | Boston | Gibson House | 137 Beacon St. | 20010807 | Text | Photos |
| 01001557 | MASSACHUSETTS | Suffolk | Boston | Boston Consumptives Hospital | 249 River St. | 20020207 | Text | Photos |
| 02000081 | MASSACHUSETTS | Suffolk | Boston | Frances and Isabella Apartments | 430-432 and 434-436 Dudley St. | 20020222 | Text | Photos |
| 02000154 | MASSACHUSETTS | Suffolk | Boston | Greenwood Memorial United Methodist Church | 378A-380 Washington St. | 20020308 | Text | Photos |
| 02000548 | MASSACHUSETTS | Suffolk | Boston | Bennington Street Burying Ground | Bennington St., bet. Swift and harmc | 20020522 | Text | Photos |
| 02001039 | MASSACHUSETTS | Suffolk | Boston | Paine Furniture Building | 75-81 Arlington St. | 20020912 | Text | Photos |
| 02001190 | MASSACHUSETTS | Suffolk | Boston | Harrison Square Historic District | Bounded by MBTA Braintree line em | 20021022 | Text | Photos |
| 03000385 | MASSACHUSETTS | Suffolk | Boston | Savin Hill Historic District | Roughly bounded by Savin Hill Ave., | 20030509 | Text | Photos |
| 03000645 | MASSACHUSETTS | Suffolk | Boston | Union Oyster House | 41-43 Union Street | 20030527 | Text | Photos |
| 03000781 | MASSACHUSETTS | Suffolk | Boston | Publicity Building | 40-44 Bromfield St. | 20030820 | Text | Photos |
| 04000023 | MASSACHUSETTS | Suffolk | Boston | Benedict Fenwick School | 150 Magnolia St. | 20040211 | Text | Photos |
| 04000085 | MASSACHUSETTS | Suffolk | Boston | Haskell, Edward H., Home for Nurses | 220 Fisther Ave., 63 Parker Hill Ave. | 20040226 | Text | Photos |
| 04000119 | MASSACHUSETTS | Suffolk | Boston | YWCA Boston | 140 Clarendon St. | 20040303 | Text | Photos |
| 04000189 | MASSACHUSETTS | Suffolk | Boston | Nix's Mate Daybeacon | Nubble Channel, The Narrows, Bostc | 20040318 | Text | Photos |
| 04000426 | MASSACHUSETTS | Suffolk | Boston | Nazing Court Apartments | 224-236 Seaver St. and 1-8 Nazing Cc | 20040512 | Text | Photos |
| 04000534 | MASSACHUSETTS | Suffolk | Boston | Hibernian Hall | 182-186 Dudley St. | 20040602 | Text | Photos |
| 04000959 | MASSACHUSETTS | Suffolk | Boston | Fort Point Channel Historic District | Necco Court, Thomson Place, A, Binf | 20040910 | Text | Photos |
| 04001219 | MASSACHUSETTS | Suffolk | Boston | Forest Hills Cemetery | 95 Forest Hills Ave. | 20041117 | Text | Photos |
| 04001430 | MASSACHUSETTS | Suffolk | Boston | Truman Parkway--Metropolitan Park System of Greater Bo | Truman Parkway | 20050105 | Text | Photos |
| 04001432 | MASSACHUSETTS | Suffolk | Boston | VFW Parkway, Metropolitan Park System of Greater Bostor | VFW Parkway, bet. Spring And Centr | 20050105 | Text | Photos |
| 04001572 | MASSACHUSETTS | Suffolk | Boston | Morton Street, Metropolitan Park System of Greater Bosto | Morton St. | 20050124 | Text | Photos |
| 04001573 | MASSACHUSETTS | Suffolk | Boston | Neponset Valley Parkway, Metorpolitan Park System of Gre | Neponset Valley Parkway | 20050124 | Text | Photos |
| 05000459 | MASSACHUSETTS | Suffolk | Boston | Ayer, Frederick, Mansion | 395 Commonwealth Avenue | 20050405 | Text | Photos |
| 05000559 | MASSACHUSETTS | Suffolk | Boston | Collins Building | 213-217 Washington St. | 20050608 | Text | Photos |
| 05000879 | MASSACHUSETTS | Suffolk | Boston | Home for Aged Couples | 409, 419 Walnut Ave. and 2055 Colu | 20050811 | Text | Photos |
| 05000936 | MASSACHUSETTS | Suffolk | Boston | South Boston Boat Clubs Historic District | 1793-1849 William J. Day Blvd. | 20050901 | Text | Photos |
| 05001509 | MASSACHUSETTS | Suffolk | Boston | Stony Brook Reservation Parkways, Metropolitan Park Syst | Dedham, Enneking, Turtle Pond Park | 20060103 | Text | Photos |
| 06000127 | MASSACHUSETTS | Suffolk | Boston | East Boston High School, Old | 127 Marion St. | 20060315 | Text | Photos |
| 01000304 | MASSACHUSETTS | Suffolk | Boston | Dorchester--Milton Lower Mills Industrial District (Boundar | Roughly: Adams, River, Medway Sts., | 20010406 | Text | Photos |
| 07000510 | MASSACHUSETTS | Suffolk | Boston | Goldsmith Block | 41 Ruggles St., 746-750 Shawmut Av | 20070605 | Text | Photos |
| 07000861 | MASSACHUSETTS | Suffolk | Boston | Boston Transit Commission Building | 15 Beacon St. | 20070831 | Text | Photos |
| 08000089 | MASSACHUSETTS | Suffolk | Boston | Dorchester Park | Bounded by Dorchester Ave., Richmc | 20080220 | Text | Photos |
| 08000693 | MASSACHUSETTS | Suffolk | Boston | Old Harbor Reservation Parkways, Metropolitan Park Syste | William J. Day Blvd., Columbia Rd. be | 20080724 | Text | Photos |
| 08000793 | MASSACHUSETTS | Suffolk | Boston | Joshua Bates School | 731 Harrison Ave. | 20080822 | Text | Photos |
| 08000795 | MASSACHUSETTS | Suffolk | Boston | Ohabei Shalom Cemetery | 147 Wordsworth St. | 20080819 | Text | Photos |
| 08001284 | MASSACHUSETTS | Suffolk | Boston | Compton Building | 159, 161-175 Devonshire St., 18-20 A | 20081231 | Text | Photos |
| 09000612 | MASSACHUSETTS | Suffolk | Boston | Evergreen Cemetery | 2060 Commonwealth Ave. | 20090814 | Text | Photos |
| 09000717 | MASSACHUSETTS | Suffolk | Boston | Fairview Cemetery | 45 Fairview Ave. | 20090916 | Text | Photos |
| 09000767 | MASSACHUSETTS | Suffolk | Boston | Mount Hope Cemetery | 355 Walk Hill St. | 20090924 | Text | Photos |
| 10000039 | MASSACHUSETTS | Suffolk | Boston | EDNA G. shipwreck (Eastern Rig dragger) | Address Restricted | 20101122 | Text | Photos |
| 10000300 | MASSACHUSETTS | Suffolk | Boston | Highland Spring Brewery Bottling and Storage Buildings | 154-166 Terrace St | 20100528 | Text | Photos |
| 10000391 | MASSACHUSETTS | Suffolk | Boston | Second Church in Boston | 874, 876, 880 Beacon St | 20100624 | Text | Photos |
| 10000506 | MASSACHUSETTS | Suffolk | Boston | Charles River Reservation (Speedway)--Upper Basin Headq | 1420-1440 Soldiers Field Rd | 20100719 | Text | Photos |
| 10001066 | MASSACHUSETTS | Suffolk | Boston | Egleston Substation | 3025 Washington St | 20101227 | Text | Photos |
| 11000160 | MASSACHUSETTS | Suffolk | Boston | United State Post Office, Courthouse, and Federal Building | 5 Post Office Square | 20110408 | Text | Photos |
| 12000069 | MASSACHUSETTS | Suffolk | Boston | Fenway Park | 24, & 2-4 Yawkey Wy., 64-76 Brookli | 20120307 | Text | Photos |
| 12000099 | MASSACHUSETTS | Suffolk | Boston | Terminal Storage Warehouse District | 267-281 Medford St., 40 & 50 Termir | 20120312 | Text | Photos |
| 12000783 | MASSACHUSETTS | Suffolk | Boston | Saint Mark's Episcopal Church | 73 Columbia Rd. | 20140703 | Text | Photos |
| 12000978 | MASSACHUSETTS | Suffolk | Boston | Sherman Apartments Historic District | 544-546 Washington, 4-6, 12-14, 18 l | 20121128 | Text | Photos |
| 12001012 | MASSACHUSETTS | Suffolk | Boston | Central Congregational Church | 67 Newbury St. | 20121016 | Text | Photos |
| 12001162 | MASSACHUSETTS | Suffolk | Boston | Commonwealth Pier Five | 165 Northern Ave. | 19791010 | Text | Photos |
| 13000621 | MASSACHUSETTS | Suffolk | Boston | Roslindale Substation | 4228 Washington St. | 20130827 | Text | Photos |
| 13000928 | MASSACHUSETTS | Suffolk | Boston | Davidson, Sarah, Apartment Block | 3 Gaylord St. | 20131218 | Text | Photos |
| 13000929 | MASSACHUSETTS | Suffolk | Boston | Pilgrim Congregational Church | 540-544 Columbia Rd. | 20131218 | Text | Photos |
| 13000930 | MASSACHUSETTS | Suffolk | Boston | Walton and Roslin Halls | 702-708 & 710-726 Washington St., 3 | 20131218 | Text | Photos |
| 14000272 | MASSACHUSETTS | Suffolk | Boston | Blake and Amory Building | 59 Temple Pl. | 20140602 | Text | Photos |
| 14000365 | MASSACHUSETTS | Suffolk | Boston | Dorchester South Burying Ground | 2095 Dorchester Ave. | 20140627 | Text | Photos |
| 14000561 | MASSACHUSETTS | Suffolk | Boston | Buildings at 825--829 Blue Hill Avenue | 825-829 Blue Hill Ave. | 20140910 | Text | Photos |
| 14000698 | MASSACHUSETTS | Suffolk | Boston | Almont Apartments | 1439-1443 & 1447-1451 Blue Hill Ave | 20140922 | Text | Photos |
| 14000974 | MASSACHUSETTS | Suffolk | Boston | Gridley Street Historic District | Bounded by Congress, High, Pearl & | 20141203 | Text | Photos |

| | | | | | | | | |
|----------|---------------|---------|-------------|--|------------------------------------|----------|----------------------|------------------------|
| 14000975 | MASSACHUSETTS | Suffolk | Boston | Lyman, Theodore, School | 30 Gove St. | 20141202 | Text | Photos |
| 14001095 | MASSACHUSETTS | Suffolk | Boston | South End District (Boundary Increase) | 200-224 Northampton St. | 20141229 | Text | Photos |
| 15000048 | MASSACHUSETTS | Suffolk | Boston | Boston Police Station Number One--Traffic Tunnel Adminis | 128, 150 North & 130 -140 Richmonc | 20150303 | Text | Photos |
| 15000195 | MASSACHUSETTS | Suffolk | Boston | Boston National Historical Park | Charlestown Navy Yard | 20150505 | Text | Photos |
| 86001378 | MASSACHUSETTS | Suffolk | South Bostc | US Post Office Garage | 135 A St. | 19860626 | Text | Photos |

APPENDIX C

Endangered Species Act Documentation

IPaC Information for Planning and Consultation U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as trust resources) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Suffolk County, Massachusetts



Local office

New England Ecological Services Field Office

☎ (603) 223-2541

📅 (603) 223-0104

70 Commercial Street, Suite 300

Concord, NH 03301-5094

<http://www.fws.gov/newengland>

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement **can only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service.

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.

The following species are potentially affected by activities in this location:

Birds

NAME

Red Knot *Calidris canutus rufa*

STATUS

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/1864>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service³. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

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

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

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

The migratory birds species listed below are species of particular conservation concern (e.g. [Birds of Conservation Concern](#)) that may be potentially affected by activities in this location. It is not a list of every bird species you may find in this location, nor a guarantee that all of the

bird species on this list will be found on or near this location. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To view available data on other bird species that may occur in your project area, please visit the [AKN Histogram Tools](#) and [Other Bird Data Resources](#). To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

| NAME | SEASON(S) |
|---|---------------------|
| American Bittern <i>Botaurus lentiginosus</i> https://ecos.fws.gov/ecp/species/6582 | On Land: Breeding |
| American Oystercatcher <i>Haematopus palliatus</i> https://ecos.fws.gov/ecp/species/8935 | On Land: Breeding |
| Bald Eagle <i>Haliaeetus leucocephalus</i> https://ecos.fws.gov/ecp/species/1626 | On Land: Year-round |
| Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> https://ecos.fws.gov/ecp/species/9399 | On Land: Breeding |
| Blue-winged Warbler <i>Vermivora pinus</i> | On Land: Breeding |
| Canada Warbler <i>Wilsonia canadensis</i> | On Land: Breeding |
| Hudsonian Godwit <i>Limosa haemastica</i> | At Sea: Migrating |
| Least Bittern <i>Ixobrychus exilis</i> https://ecos.fws.gov/ecp/species/6175 | On Land: Breeding |
| Olive-sided Flycatcher <i>Contopus cooperi</i> https://ecos.fws.gov/ecp/species/3914 | On Land: Breeding |
| Peregrine Falcon <i>Falco peregrinus</i> https://ecos.fws.gov/ecp/species/8831 | On Land: Wintering |
| Pied-billed Grebe <i>Podilymbus podiceps</i> | On Land: Breeding |
| Prairie Warbler <i>Dendroica discolor</i> | On Land: Breeding |
| Purple Sandpiper <i>Calidris maritima</i> | On Land: Wintering |

| | | |
|---------------------|--|--------------------|
| Saltmarsh Sparrow | <i>Ammodramus caudacutus</i> | On Land: Breeding |
| Seaside Sparrow | <i>Ammodramus maritimus</i> | On Land: Breeding |
| Short-eared Owl | <i>Asio flammeus</i> https://ecos.fws.gov/ecp/species/9295 | On Land: Wintering |
| Snowy Egret | <i>Egretta thula</i> | On Land: Breeding |
| Upland Sandpiper | <i>Bartramia longicauda</i> https://ecos.fws.gov/ecp/species/9294 | On Land: Breeding |
| Willow Flycatcher | <i>Empidonax traillii</i> https://ecos.fws.gov/ecp/species/3482 | On Land: Breeding |
| Wood Thrush | <i>Hylocichla mustelina</i> | On Land: Breeding |
| Worm Eating Warbler | <i>Helmitheros vermivorum</i> | On Land: Breeding |

What does IPaC use to generate the list of migratory bird species potentially occurring in my specified location?

Landbirds:

Migratory birds that are displayed on the IPaC species list are based on ranges in the latest edition of the National Geographic Guide, Birds of North America (6th Edition, 2011 by Jon L. Dunn, and Jonathan Alderfer). Although these ranges are coarse in nature, a number of U.S. Fish and Wildlife Service migratory bird biologists agree that these maps are some of the best range maps to date. These ranges were clipped to a specific Bird Conservation Region (BCR) or USFWS Region/Regions, if it was indicated in the 2008 list of Birds of Conservation Concern (BCC) that a species was a BCC species only in a particular Region/Regions. Additional modifications have been made to some ranges based on more local or refined range information and/or information provided by U.S. Fish and Wildlife Service biologists with species expertise. All migratory birds that show in areas on land in IPaC are those that appear in the 2008 Birds of Conservation Concern report.

Atlantic Seabirds:

Ranges in IPaC for birds off the Atlantic coast are derived from species distribution models developed by the National Oceanic and Atmospheric Association (NOAA) National Centers for Coastal Ocean Science (NCCOS) using the best available seabird survey data for the offshore Atlantic Coastal region to date. NOAA/NCCOS assisted USFWS in developing seasonal species ranges from their models for specific use in IPaC. Some of these birds are not BCC species but were of interest for inclusion because they may occur in high abundance off the coast at different times throughout the year, which potentially makes them more susceptible to certain types of development and activities taking place in that area. For more refined details about the abundance and richness of bird species within your project area off the Atlantic Coast, see the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other types of taxa that may be helpful

in your project review.

About the NOAANCCOS models: the models were developed as part of the NOAANCCOS project: [Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#). The models resulting from this project are being used in a number of decision-support/mapping products in order to help guide decision-making on activities off the Atlantic Coast with the goal of reducing impacts to migratory birds. One such product is the [Northeast Ocean Data Portal](#), which can be used to explore details about the relative occurrence and abundance of bird species in a particular area off the Atlantic Coast.

All migratory bird range maps within IPaC are continuously being updated as new and better information becomes available.

Can I get additional information about the levels of occurrence in my project area of specific birds or groups of birds listed in IPaC?

Landbirds:

The [Avian Knowledge Network \(AKN\)](#) provides a tool currently called the "Histogram Tool", which draws from the data within the AKN (latest, survey, point count, citizen science datasets) to create a view of relative abundance of species within a particular location over the course of the year. The results of the tool depict the frequency of detection of a species in survey events, averaged between multiple datasets within AKN in a particular week of the year. You may access the histogram tools through the [Migratory Bird Programs AKN Histogram Tools](#) webpage.

The tool is currently available for 4 regions (California, Northeast U.S., Southeast U.S. and Midwest), which encompasses the following 32 states: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

In the near future, there are plans to expand this tool nationwide within the AKN, and allow the graphs produced to appear with the list of trust resources generated by IPaC, providing you with an additional level of detail about the level of occurrence of the species of particular concern potentially occurring in your project area throughout the course of the year.

Atlantic Seabirds:

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAANCCOS [Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project](#) webpage.

Facilities

Wildlife refuges

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

**Not for
consultation**



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
<http://www.fws.gov/newengland>



January 20, 2017

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm> (accessed January 2017)

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Maria Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

| COUNTY | SPECIES | FEDERAL STATUS | GENERAL LOCATION/HABITAT | TOWNS |
|------------|---------------------------------|----------------------------|---|---|
| Barnstable | Piping Plover | Threatened | Coastal Beaches | All Towns |
| | Roseate Tern | Endangered | Coastal beaches and the Atlantic Ocean | All Towns |
| | Northeastern beach tiger beetle | Threatened | Coastal Beaches | Chatham |
| | Sandplain gerardia | Endangered | Open areas with sandy soils. | Sandwich and Falmouth. |
| | Northern Red-bellied Cooter | Endangered | Inland Ponds and Rivers | Bourne (north of the Cape Cod Canal) |
| | Red Knot ¹ | Threatened | Coastal Beaches and Rocky Shores, sand and mud flats | Coastal Towns |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |
| Berkshire | Bog Turtle | Threatened | Wetlands | Egremont and Sheffield |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |
| Bristol | Piping Plover | Threatened | Coastal Beaches | Fairhaven, Dartmouth, Westport |
| | Roseate Tern | Endangered | Coastal beaches and the Atlantic Ocean | Fairhaven, New Bedford, Dartmouth, Westport |
| | Northern Red-bellied Cooter | Endangered | Inland Ponds and Rivers | Taunton |
| | Red Knot ¹ | Threatened | Coastal Beaches and Rocky Shores, sand and mud flats | Coastal Towns |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |
| Dukes | Roseate Tern | Endangered | Coastal beaches and the Atlantic Ocean | All Towns |
| | Piping Plover | Threatened | Coastal Beaches | All Towns |
| | Northeastern beach tiger beetle | Threatened | Coastal Beaches | Aquinnah and Chilmark |
| | Sandplain gerardia | Endangered | Open areas with sandy soils. | West Tisbury |
| | Red Knot ¹ | Threatened | Coastal Beaches and Rocky Shores, sand and mud flats | Coastal Towns |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |

Updated 02/05/2016

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
IN MASSACHUSETTS**

| COUNTY | SPECIES | FEDERAL STATUS | GENERAL LOCATION/HABITAT | TOWNS |
|-----------|-------------------------|----------------------------|---|--|
| Essex | Small whorled Pogonia | Threatened | Forests with somewhat poorly drained soils and/or a seasonally high water table | Gloucester, Essex and Manchester |
| | Piping Plover | Threatened | Coastal Beaches | Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury |
| | Red Knot ¹ | Threatened | Coastal Beaches and Rocky Shores, sand and mud flats | Coastal Towns |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |
| Franklin | Northeastern bulrush | Endangered | Wetlands | Montague, Warwick |
| | Dwarf wedgemussel | Endangered | Mill River | Whately |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |
| Hampshire | Small whorled Pogonia | Threatened | Forests with somewhat poorly drained soils and/or a seasonally high water table | Hadley |
| | Puritan tiger beetle | Threatened | Sandy beaches along the Connecticut River | Northampton and Hadley |
| | Dwarf wedgemussel | Endangered | Rivers and Streams. | Hatfield, Amherst and Northampton |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |
| Hampden | Small whorled Pogonia | Threatened | Forests with somewhat poorly drained soils and/or a seasonally high water table | Southwick |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |
| Middlesex | Small whorled Pogonia | Threatened | Forests with somewhat poorly drained soils and/or a seasonally high water table | Groton |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |
| Nantucket | Piping Plover | Threatened | Coastal Beaches | Nantucket |
| | Roseate Tern | Endangered | Coastal beaches and the Atlantic Ocean | Nantucket |
| | American burying beetle | Endangered | Upland grassy meadows | Nantucket |
| | Red Knot ¹ | Threatened | Coastal Beaches and Rocky Shores, sand and mud flats | Coastal Towns |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
IN MASSACHUSETTS**

| COUNTY | SPECIES | FEDERAL STATUS | GENERAL LOCATION/HABITAT | TOWNS |
|-----------|-----------------------------|----------------------------|---|---|
| Plymouth | Piping Plover | Threatened | Coastal Beaches | Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett |
| | Northern Red-bellied Cooter | Endangered | Inland Ponds and Rivers | Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke |
| | Roseate Tern | Endangered | Coastal beaches and the Atlantic Ocean | Plymouth, Marion, Wareham, and Mattapoisett. |
| | Red Knot ¹ | Threatened | Coastal Beaches and Rocky Shores, sand and mud flats | Coastal Towns |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |
| Suffolk | Piping Plover | Threatened | Coastal Beaches | Revere, Winthrop |
| | Red Knot ¹ | Threatened | Coastal Beaches and Rocky Shores, sand and mud flats | Coastal Towns |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |
| Worcester | Small whorled Pogonia | Threatened | Forests with somewhat poorly drained soils and/or a seasonally high water table | Leominster |
| | Northern Long-eared Bat | Threatened Final 4(d) Rule | Winter- mines and caves, Summer – wide variety of forested habitats | Statewide |

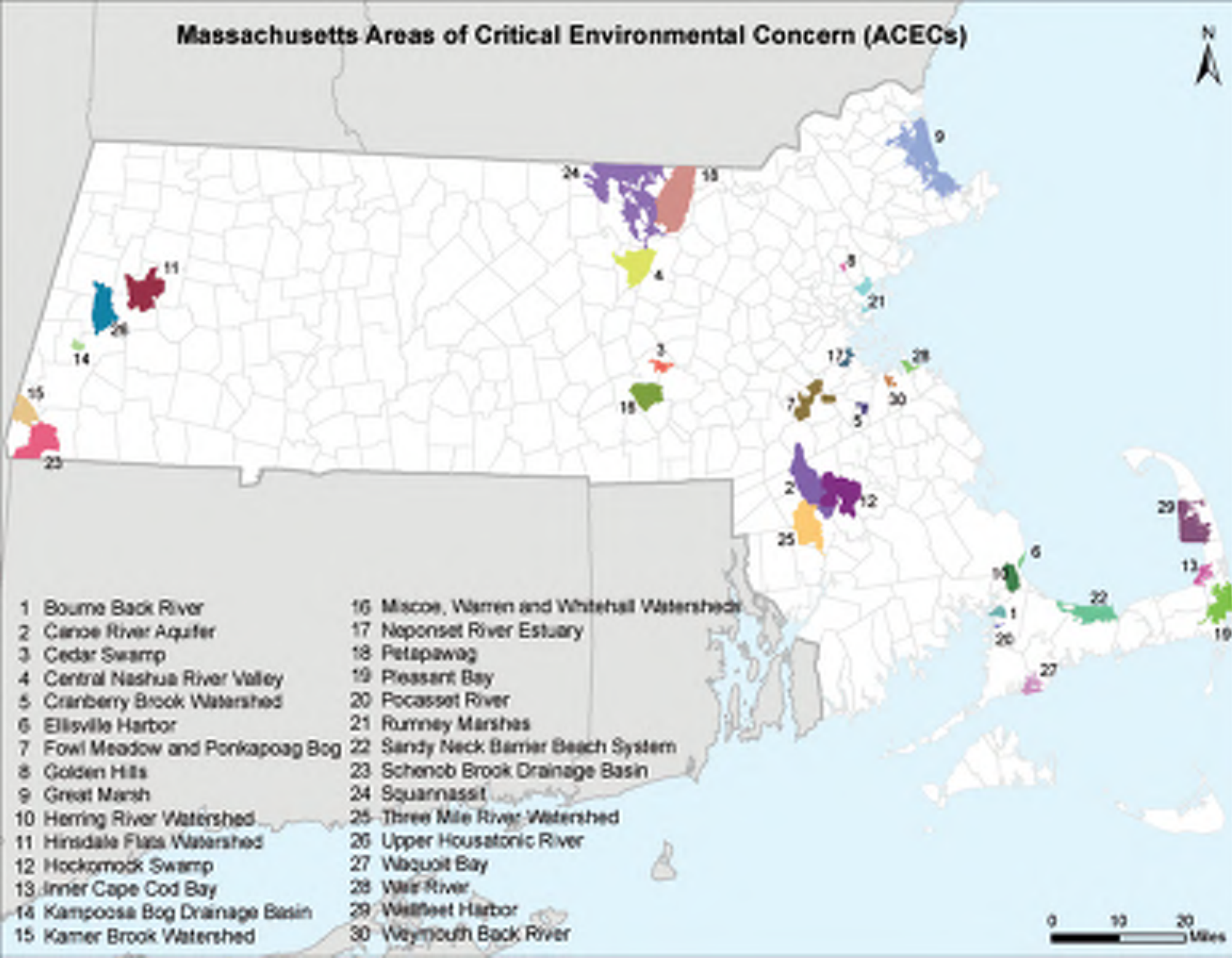
¹Migratory only, scattered along the coast in small numbers

-Eastern cougar and gray wolf are considered extirpated in Massachusetts.

-Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.

-Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

Massachusetts Areas of Critical Environmental Concern (ACECs)



MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN

November 2010

Total Approximate Acreage: 268,000 acres

Approximate acreage and designation date follow ACEC names below.

Bourne Back River

(1,850 acres, 1989) Bourne

Canoe River Aquifer and Associated Areas (17,200 acres, 1991) Easton, Foxborough, Mansfield, Norton, Sharon, and Taunton

Cedar Swamp

(1,650 acres, 1975) Hopkinton and Westborough

Central Nashua River Valley

(12,900 acres, 1996) Bolton, Harvard, Lancaster, and Leominster

Cranberry Brook Watershed

(1,050 acres, 1983) Braintree and Holbrook

Ellisville Harbor

(600 acres, 1980) Plymouth

Fowl Meadow and Ponkapoag Bog

(8,350 acres, 1992) Boston, Canton, Dedham, Milton, Norwood, Randolph, Sharon, and Westwood

Golden Hills

(500 acres, 1987) Melrose, Saugus, and Wakefield

Great Marsh (originally designated as Parker River/Essex Bay)

(25,500 acres, 1979) Essex, Gloucester, Ipswich, Newbury, and Rowley

Herring River Watershed

(4,450 acres, 1991) Bourne and Plymouth

Hinsdale Flats Watershed

(14,500 acres, 1992) Dalton, Hinsdale, Peru, and Washington

Hockomock Swamp

(16,950 acres, 1990) Bridgewater, Easton, Norton, Raynham, Taunton, and West Bridgewater

Inner Cape Cod Bay

(2,600 acres, 1985) Brewster, Eastham, and Orleans

Kampoosa Bog Drainage Basin

(1,350 acres, 1995) Lee and Stockbridge

Karner Brook Watershed

(7,000 acres, 1992) Egremont and Mount Washington

Miscoe, Warren, and Whitehall Watersheds

(8,700 acres, 2000) Grafton, Hopkinton, and Upton

Neponset River Estuary

(1,300 acres, 1995) Boston, Milton, and Quincy

Petapawag

(25,680 acres, 2002) Ayer, Dunstable, Groton, Pepperell, and Tyngsborough

Pleasant Bay

(9,240 acres, 1987) Brewster, Chatham, Harwich, and Orleans

Pocasset River

(160 acres, 1980) Bourne

Rumney Marshes

(2,800 acres, 1988) Boston, Lynn, Revere, Saugus, and Winthrop

Sandy Neck Barrier Beach System

(9,130 acres, 1978) Barnstable and Sandwich

Schenob Brook Drainage Basin

(13,750 acres, 1990) Mount Washington and Sheffield

Squannassit

(37,420 acres, 2002) Ashby, Ayer, Groton, Harvard, Lancaster, Lunenburg, Pepperell, Shirley, and Townsend

Three Mile River Watershed

(14,280 acres, 2008) Dighton, Norton, Taunton

Upper Housatonic River

(12,280 acres, 2009) Lee, Lenox, Pittsfield, Washington

Waquoit Bay

(2,580 acres, 1979) Falmouth and Mashpee

Weir River

(950 acres, 1986) Cohasset, Hingham, and Hull

Wellfleet Harbor

(12,480 acres, 1989) Eastham, Truro, and Wellfleet

Weymouth Back River

(800 acres, 1982) Hingham and Weymouth

Towns with ACECs within their Boundaries**November 2010**

| TOWN | ACEC | TOWN | ACEC |
|-------------|------------------------------------|----------------|------------------------------------|
| Ashby | Squannassit | Mt. Washington | Karner Brook Watershed |
| Ayer | Petapawag | | Schenob Brook |
| | Squannassit | Newbury | Great Marsh |
| Barnstable | Sandy Neck Barrier Beach System | Norton | Hockomock Swamp |
| Bolton | Central Nashua River Valley | | Canoe River Aquifer |
| Boston | Rumney Marshes | | Three Mile River Watershed |
| | Fowl Meadow and Ponkapoag Bog | Norwood | Fowl Meadow and Ponkapoag Bog |
| | Neponset River Estuary | Orleans | Inner Cape Cod Bay |
| Bourne | Pocasset River | | Pleasant Bay |
| | Bourne Back River | Pepperell | Petapawag |
| | Herring River Watershed | | Squannassit |
| Braintree | Cranberry Brook Watershed | Peru | Hinsdale Flats Watershed |
| Brewster | Pleasant Bay | Pittsfield | Upper Housatonic River |
| | Inner Cape Cod Bay | Plymouth | Herring River Watershed |
| Bridgewater | Hockomock Swamp | | Ellisville Harbor |
| Canton | Fowl Meadow and Ponkapoag Bog | Quincy | Neponset River Estuary |
| Chatham | Pleasant Bay | Randolph | Fowl Meadow and Ponkapoag Bog |
| Cohasset | Weir River | Raynham | Hockomock Swamp |
| Dalton | Hinsdale Flats Watershed | Revere | Rumney Marshes |
| Dedham | Fowl Meadow and Ponkapoag Bog | Rowley | Great Marsh |
| Dighton | Three Mile River Watershed | Sandwich | Sandy Neck Barrier Beach System |
| Dunstable | Petapawag | Saugus | Rumney Marshes |
| Eastham | Inner Cape Cod Bay | | Golden Hills |
| | Wellfleet Harbor | Sharon | Canoe River Aquifer |
| Easton | Canoe River Aquifer | | Fowl Meadow and Ponkapoag Bog |
| | Hockomock Swamp | Sheffield | Schenob Brook |
| Egremont | Karner Brook Watershed | Shirley | Squannassit |
| Essex | Great Marsh | Stockbridge | Kampoosa Bog Drainage Basin |
| Falmouth | Waquoit Bay | Taunton | Hockomock Swamp |
| Foxborough | Canoe River Aquifer | | Canoe River Aquifer |
| Gloucester | Great Marsh | | Three Mile River Watershed |
| Grafton | Miscoe-Warren-Whitehall Watersheds | Truro | Wellfleet Harbor |
| | | Townsend | Squannassit |
| Groton | Petapawag | Tyngsborough | Petapawag |
| | Squannassit | Upton | Miscoe-Warren-Whitehall Watersheds |
| Harvard | Central Nashua River Valley | | |
| | Squannassit | Wakefield | Golden Hills |
| Harwich | Pleasant Bay | Washington | Hinsdale Flats Watershed |
| Hingham | Weir River | | Upper Housatonic River |
| | Weymouth Back River | Wellfleet | Wellfleet Harbor |
| Hinsdale | Hinsdale Flats Watershed | W Bridgewater | Hockomock Swamp |
| Holbrook | Cranberry Brook Watershed | Westborough | Cedar Swamp |
| Hopkinton | Miscoe-Warren-Whitehall Watersheds | Westwood | Fowl Meadow and Ponkapoag Bog |
| | | Weymouth | Weymouth Back River |
| | Cedar Swamp | Winthrop | Rumney Marshes |
| Hull | Weir River | | |
| Ipswich | Great Marsh | | |
| Lancaster | Central Nashua River Valley | | |
| | Squannassit | | |
| Lee | Kampoosa Bog Drainage Basin | | |
| | Upper Housatonic River | | |
| Lenox | Upper Housatonic River | | |
| Leominster | Central Nashua River Valley | | |
| Lunenburg | Squannassit | | |
| Lynn | Rumney Marshes | | |
| Mansfield | Canoe River Aquifer | | |
| Mashpee | Waquoit Bay | | |
| Melrose | Golden Hills | | |
| Milton | Fowl Meadow and Ponkapoag Bog | | |
| | Neponset River Estuary | | |

MassDEP - Bureau of Waste Site Cleanup

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

Site Information:

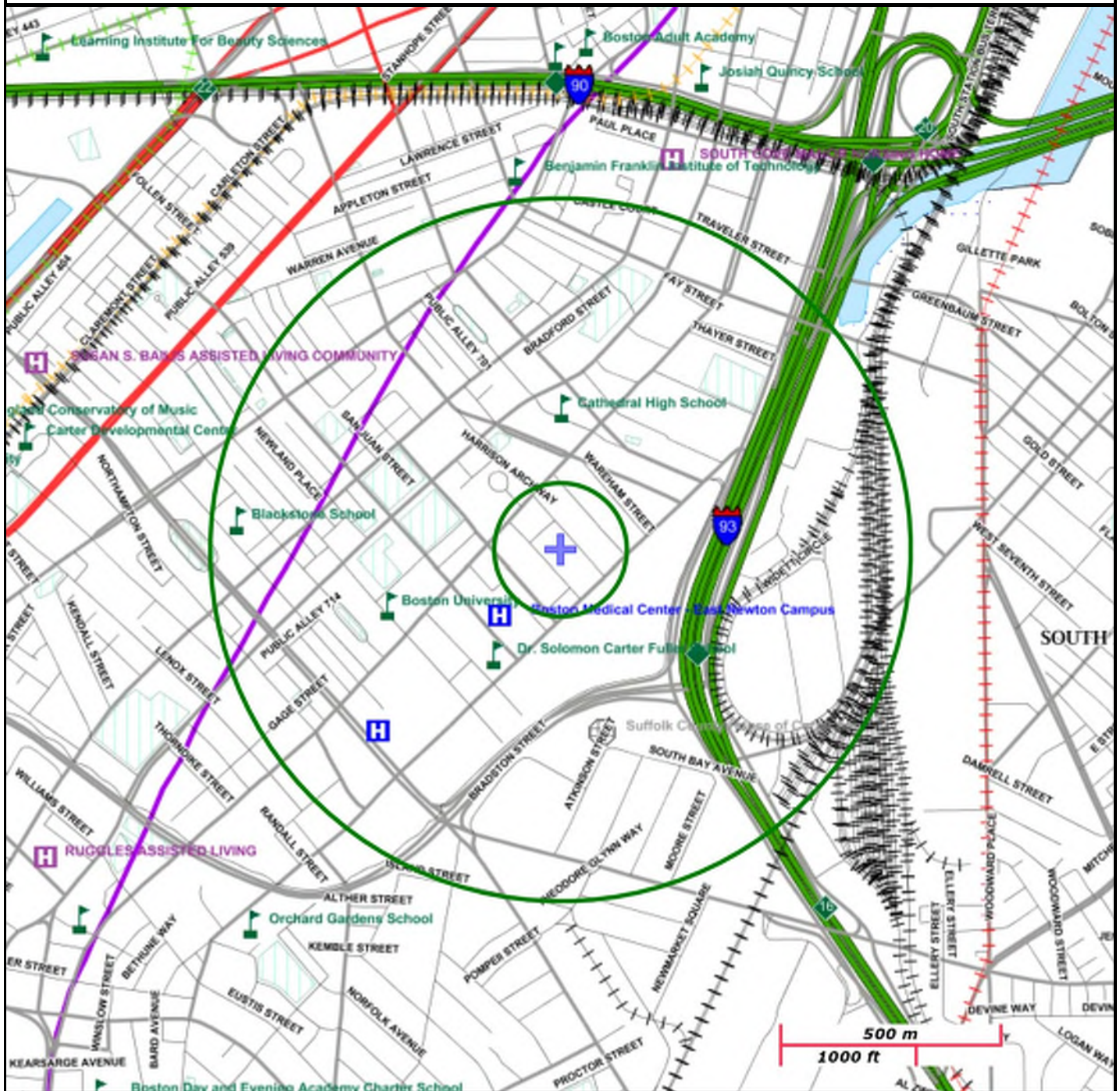
HARRISON ALBANY BLOCK DEVELOPMENT
89 EAST DEDHAM STREET BOSTON, MA
3-000033789

NAD83 UTM Meters:
4689400mN, 329564mE (Zone: 19)
June 21, 2017

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



MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection

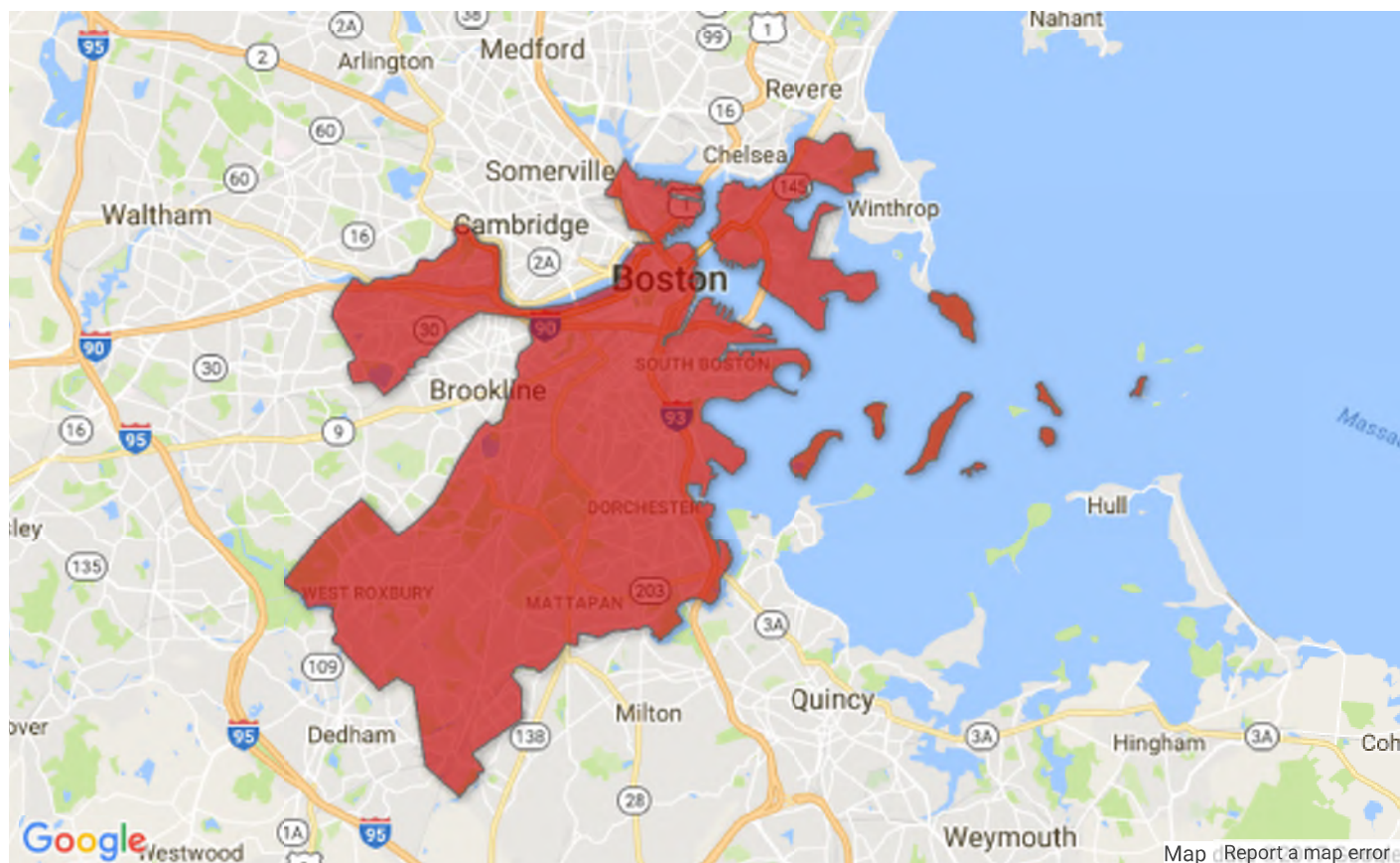


| | | |
|---|--|--|
| Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail | PWS Protection Areas: Zone II, IWPA, Zone A | |
| Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct | Hydrography: Open Water, PWS Reservoir, Tidal Flat | |
| Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam | Wetlands: Freshwater, Saltwater, Cranberry Bog | |
| Aquifers: Medium Yield, High Yield, EPA Sole Source | FEMA 100yr Floodplain; Protected Open Space; ACEC | |
| Non Potential Drinking Water Source Area: Medium, High (Yield) | Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert, Potential | |
| | Solid Waste Landfill; PWS: Com.GW,SW, Emerg, Non-Com. | |

The Natural Heritage & Endangered Species Program maintains a list of all documented MESA-listed species observations in the Commonwealth. Please select a town if you would like to see a table showing which listed species have been observed in that town. The selected town will also be highlighted on the map. Alternatively you can specify either the Common Name or Scientific Name of a species to see it's distribution on the map and table showing the towns it has been observed in. Clicking on a column header in the table will sort the column. Clicking again on the same column heading will reverse the sort order.

The Town List and Species Viewer will be updated at regular intervals as new data is accepted and entered into the NHESP database.

Town: or Species (Common Name): or Species (Scientific Name):



Showing 1 to 46 of 46 entries

Search:

First Previous 1 Next Last

| Town | Taxonomic Group | Scientific Name | Common Name | MESA Status | Most Recent Obs |
|--------|-----------------|----------------------------|---------------------------|-------------|-----------------|
| BOSTON | Butterfly/Moth | Abagrotis nefascia | Coastal Heathland Cutworm | SC | 2001 |
| BOSTON | Vascular Plant | Ageratina aromatica | Lesser Snakeroot | E | 1896 |
| BOSTON | Amphibian | Ambystoma laterale | Blue-spotted Salamander | SC | 2015 |
| BOSTON | Bird | Ammodramus savannarum | Grasshopper Sparrow | T | 1993 |
| BOSTON | Butterfly/Moth | Apodrepanulatrix liberaria | New Jersey Tea Inchworm | E | Historic |
| BOSTON | Vascular Plant | Aristida purpurascens | Purple Needlegrass | T | Historic |
| BOSTON | Vascular Plant | Aristida tuberculosa | Seabeach Needlegrass | T | 1877 |

| Town | Taxonomic Group | Scientific Name | Common Name | MESA Status | Most Recent Obs |
|--------|---------------------|---|----------------------------------|-------------|-----------------|
| BOSTON | Vascular Plant | <i>Asclepias verticillata</i> | Linear-leaved Milkweed | T | 1878 |
| BOSTON | Bird | <i>Bartramia longicauda</i> | Upland Sandpiper | E | 1993 |
| BOSTON | Vascular Plant | <i>Boechera missouriensis</i> | Green Rock-cress | T | 1930 |
| BOSTON | Vascular Plant | <i>Carex striata</i> | Walter's Sedge | E | Historic |
| BOSTON | Bird | <i>Charadrius melodus</i> | Piping Plover | T | 2016 |
| BOSTON | Beetle | <i>Cicindela duodecimguttata</i> | Twelve-spotted Tiger Beetle | SC | 1910 |
| BOSTON | Beetle | <i>Cicindela purpurea</i> | Cow Path Tiger Beetle | SC | 1928 |
| BOSTON | Beetle | <i>Cicindela rufiventris hentzii</i> | Eastern Red-bellied Tiger Beetle | T | 1927 |
| BOSTON | Vascular Plant | <i>Desmodium cuspidatum</i> | Large-bracted Tick-trefoil | T | 1896 |
| BOSTON | Vascular Plant | <i>Eriophorum gracile</i> | Slender Cottongrass | T | 1885 |
| BOSTON | Bird | <i>Falco peregrinus</i> | Peregrine Falcon | T | 2014 |
| BOSTON | Fish | <i>Gasterosteus aculeatus</i> | Threespine Stickleback | T | 2014 |
| BOSTON | Bird | <i>Gavia immer</i> | Common Loon | SC | 1824 |
| BOSTON | Vascular Plant | <i>Houstonia longifolia</i> | Long-leaved Bluet | E | 1918 |
| BOSTON | Vascular Plant | <i>Liatris scariosa</i> var. <i>novae-angliae</i> | New England Blazing Star | SC | 1933 |
| BOSTON | Mussel | <i>Ligumia nasuta</i> | Eastern Pondmussel | SC | 1841 |
| BOSTON | Vascular Plant | <i>Linum medium</i> var. <i>texanum</i> | Rigid Flax | T | 1909 |
| BOSTON | Vascular Plant | <i>Lycopus rubellus</i> | Gypsywort | E | 1896 |
| BOSTON | Vascular Plant | <i>Malaxis unifolia</i> | Green Adder's Mouth | T | 1883 |
| BOSTON | Butterfly/Moth | <i>Metarranthis apiciaria</i> | Barrens Metarranthis | E | 1934 |
| BOSTON | Vascular Plant | <i>Myriophyllum alterniflorum</i> | Alternate-flowered Water-milfoil | E | Historic |
| BOSTON | Vascular Plant | <i>Ophioglossum pusillum</i> | Adder's-tongue Fern | T | 1884 |
| BOSTON | Vascular Plant | <i>Platanthera flava</i> var. <i>herbiola</i> | Pale Green Orchis | T | 1908 |
| BOSTON | Bird | <i>Poocetes gramineus</i> | Vesper Sparrow | T | 1985 |
| BOSTON | Butterfly/Moth | <i>Pyrrhia aurantiago</i> | Orange Sallow Moth | SC | 1988 |
| BOSTON | Vascular Plant | <i>Ranunculus micranthus</i> | Tiny-flowered Buttercup | E | 1891 |
| BOSTON | Vascular Plant | <i>Rumex pallidus</i> | Seabeach Dock | T | 1984 |
| BOSTON | Vascular Plant | <i>Sanicula odorata</i> | Long-styled Sanicle | T | Historic |
| BOSTON | Amphibian | <i>Scaphiopus holbrookii</i> | Eastern Spadefoot | T | 1932 |
| BOSTON | Vascular Plant | <i>Scirpus longii</i> | Long's Bulrush | T | 1907 |
| BOSTON | Vascular Plant | <i>Setaria parviflora</i> | Bristly Foxtail | SC | 2001 |
| BOSTON | Dragonfly/Damselfly | <i>Somatochlora linearis</i> | Mocha Emerald | SC | 2009 |
| BOSTON | Bird | <i>Sterna hirundo</i> | Common Tern | SC | 2013 |
| BOSTON | Bird | <i>Sternula antillarum</i> | Least Tern | SC | 2014 |
| BOSTON | Vascular Plant | <i>Suaeda calceoliformis</i> | American Sea-blite | SC | 1909 |
| BOSTON | Reptile | <i>Terrapene carolina</i> | Eastern Box Turtle | SC | 1939 |
| BOSTON | Bird | <i>Tyto alba</i> | Barn Owl | SC | 1989 |
| BOSTON | Bird | <i>Vermivora chrysoptera</i> | Golden-winged Warbler | E | Historic |
| BOSTON | Vascular Plant | <i>Viola brittoniana</i> | Britton's Violet | T | 1909 |

Show 100 ▼ entries

Show Additional Info



United States Department of the Interior

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



In Reply Refer To:

July 12, 2017

Consultation Code: 05E1NE00-2017-SLI-2128

Event Code: 05E1NE00-2017-E-04638

Project Name: Harrison/Albany

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

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

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

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

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

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

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

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

Attachment(s):

- Official Species List
-

Official Species List

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

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2017-SLI-2128

Event Code: 05E1NE00-2017-E-04638

Project Name: Harrison/Albany

Project Type: DEVELOPMENT

Project Description: Construction dewatering

Project Location:

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/42.33797928420401N71.06870317443122W>



Counties: Suffolk, MA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Birds

| NAME | STATUS |
|--|------------|
| Red Knot (<i>Calidris canutus rufa</i>) | Threatened |
| No critical habitat has been designated for this species. | |
| Species profile: https://ecos.fws.gov/ecp/species/1864 | |

Critical habitats

There are no critical habitats within your project area.

APPENDIX D

BWSC PERMIT



Haley & Aldrich, Inc.
465 Medford St.
Suite 2200
Boston, MA 02129
617.886.7400

20 September 2017
File No. 129168-007

Boston Water and Sewer Commission
Engineering Customer Services
900 Harrison Avenue
Boston, MA 02119

Attention: Matthew Tuttle

Subject: Request for Approval of Temporary Construction Dewatering
Harrison Albany Block Development
89 East Dedham Street
Boston, Massachusetts

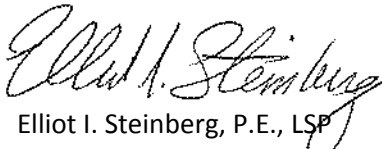
Dear Mr. Tuttle:

On behalf of our client, MEPT/LMP Harrison/Albany Block LLC, this letter submits the Dewatering Discharge Permit Application in support of the proposed Harrison Albany Block Development Site located in Boston, Massachusetts.

Dewatering is necessary to enable construction excavations in-the-dry, and is anticipated to begin in September 2017 and continue for up to 18 months. Prior to discharge, collected water will be routed through a sedimentation tank and bag filter at minimum to remove suspended solids and undissolved chemical constituents. The proposed dewatering discharge route and BWSC outfall locations are shown on Figure 1.

A submittal was provided to USEPA for discharge of the dewatering effluent under the Remediation General Permit (RGP). A copy of the submitted RGP application is attached. If you have any questions, please feel free to contact the undersigned at 617-886-7400.

Sincerely yours,
HALEY & ALDRICH, INC.


Elliot I. Steinberg, P.E., LSP
Senior Associate

Boston Water and Sewer Commission

20 September 2017

Page 2

Attachments:

Dewatering Discharge Permit Application

Figure 1 – Proposed Discharge Route

Copy of NPDES RGP Permit Application

\\\\haleyaldrich.com\share\bos_common\129168 - Harrison-Albany\007 - Construction-Related Permit Support\NPDES RGP\Appendix D - BWSC Permit\2017-0920-HAI-Harrison Albany
NPDES BWSC Letter-F.docx



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

DEWATERING DISCHARGE PERMIT APPLICATION

OWNER / AUTHORIZED APPLICANT PROVIDE INFORMATION HERE:

Company Name: MEPT/LMP Harrison/Albany Block LLC Address: 10 Post Office Square, Suite 1300, Boston, MA

Phone Number: 617-422-7000 Fax number: _____

Contact person name: Sam Reiche Title: Project Manager

Cell number: 207-939-6308 Email address: sam.reiche@lmp.com

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

Owner's Information (if different from above):

Owner of property being dewatered: _____

Owner's mailing address: _____ Phone number: _____

Location of Discharge & Proposed Treatment System(s):

Street number and name: 89 East Dedham Street Neighborhood South End, Boston

Discharge is to a: ☐ Sanitary Sewer ☐ Combined Sewer ☒ Storm Drain ☐ Other (specify): _____
Sedimentation Tank, Bag Filter, and any other components as necessary

Describe Proposed Pre-Treatment System(s): (refer to attached RGP Application)

BWSC Outfall No. CSO071 Receiving Waters Boston Inner Harbor/Fort Point Channel

Temporary Discharges (Provide Anticipated Dates of Discharge): From September 2017 To December 2018

| | | |
|---|--|---|
| <input type="checkbox"/> Groundwater Remediation | <input type="checkbox"/> Tank Removal/Installation | <input checked="" type="checkbox"/> Foundation Excavation |
| <input type="checkbox"/> Utility/Manhole Pumping | <input type="checkbox"/> Test Pipe | <input checked="" type="checkbox"/> Trench Excavation |
| <input checked="" type="checkbox"/> Accumulated Surface Water | <input type="checkbox"/> Hydrogeologic Testing | <input type="checkbox"/> Other _____ |

Permanent Discharges

| | |
|---|---|
| <input type="checkbox"/> Foundation Drainage | <input type="checkbox"/> Crawl Space/Footing Drain |
| <input type="checkbox"/> Accumulated Surface Water | <input type="checkbox"/> Non-contact/Uncontaminated Cooling |
| <input type="checkbox"/> Non-contact/Uncontaminated Process | <input type="checkbox"/> Other; _____ |

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

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

Signature of Authorized Representative for Property Owner: _____

Date: _____

APPENDIX E

Laboratory Data Reports

February 24, 2016

Mr. Lee Vanzler
Haley & Aldrich, Inc.
465 Medford Street, Suite 2200
Charlestown, Massachusetts 02129

Re: Harrison Albany Block
Work Order: 391208

Dear Mr. Vanzler:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 11, 2016. This revised data report has been prepared and reviewed in accordance with GEL's standard operating procedures. The client requested a revision to the data package to remove information concerning another laboratory that was in an e-mail stream. The information is not applicable to the data package.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4453.

Sincerely,



Edith Kent
Project Manager

Purchase Order: 41737-014-015
Chain of Custody: 259800
Enclosures



Table of Contents

| | |
|--|----|
| Case Narrative..... | 1 |
| Chain of Custody and Supporting Documentation..... | 4 |
| Laboratory Certifications..... | 9 |
| Radiological Analysis..... | 11 |
| Case Narrative..... | 12 |
| Sample Data Summary..... | 16 |
| Quality Control Summary..... | 26 |

Case Narrative

The client requested a revision to the data package to remove information concerning another laboratory that was in an e-mail stream. The information is not applicable to the data package.

**Receipt Narrative
for
Haley & Aldrich, Inc. (Contract#)
SDG: 391208**

February 24, 2016

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary:

Sample receipt: The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on February 11, 2016 for analysis. The samples were delivered with proper chain of custody documentation and signatures. The client was notified that sample 391208004(HA-5-0-5) was received broken but contained inside the bubble bag. The lab transferred the sample to another container. Sample 391208004(HA-5-0-5) was incorrectly noted on the chain as a water sample. Please refer to the attached e-mail for further details. The e-mail dated February 11, 2016 and addressed to Elliot Steinberg had an e-mail stream that contained information about another lab being used by the client. That information was not applicable to this data package so the client requested that part of the e-mail not be included in the data package.

Sample Identification: The laboratory received the following samples:

| <u>Laboratory ID</u> | <u>Client ID</u> |
|-----------------------------|-------------------------|
| 391208001 | HA-1-0-5 |
| 391208002 | B106 (MW) |
| 391208003 | B4 |
| 391208004 | HA-5-0-5 |
| 391208005 | HA-3-0-5 |
| 391208006 | HA-1-5-8.8 |
| 391208007 | HA-2-5-10 |
| 391208008 | HA-6-0-5 |
| 391208009 | HA-2-0-5 |

Case Narrative:

Sample analyses were conducted using methodology as outlined in GEL's Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Radiochemistry.

Edith M. Kent

Edith Kent
Project Manager

Chain of Custody and Supporting Documentation

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt

Drinking Water? Yes ☐ No ☐

391208

TAL-4124 (1007)

Chain of Custody Record

| | | | | | |
|-----------------------------------|-------|---|--|-------------|-------------------------|
| Client | | Project Manager | | Date | Chain of Custody Number |
| Address | | Telephone Number (Area Code)/Fax Number | | Lab Number | 259800 |
| City | State | Zip Code | Site Contact | Lab Contact | Page of |
| Project Name and Location (State) | | | Analysis (Attach list if more space is needed) | | |
| Contract/Purchase Order/Quote No. | | | Special Instructions/ Conditions of Receipt | | |

| Sample I.D. No. and Description (Containers for each sample may be combined on one line) | Date | Time | Matrix | | | | | Containers & Preservatives | | | | |
|---|--------|------|--------|---------|-----|------|--------|----------------------------|------|-----|------|-----------|
| | | | Air | Aqueous | Sed | Soil | Urnies | H2SO4 | HNO3 | HCl | NaOH | H2O2/NaOH |
| HA-1-0-5 | 2-1-16 | 930 | | | | ✓ | ✓ | | | | | |
| B106 (MW) | 2-1-16 | 927 | | ✓ | | | ✓ | | | | | |
| B4 | 2-1-16 | 1450 | | ✓ | | | ✓ | | | | | |
| HA-5-0-5 | 2-2-16 | 1420 | | ✓ | | | ✓ | | | | | |
| HA-3-0-5 | 2-1-16 | 1430 | | | ✓ | | ✓ | | | | | |
| HA-1-5-8-8 | 2-3-16 | 1000 | | | ✓ | | ✓ | | | | | |
| HA-2-5-10 | 2-2-16 | 1030 | | | ✓ | | ✓ | | | | | |
| HA-6-0-5 | 2-2-16 | 1250 | | | ✓ | | ✓ | | | | | |
| HA-2-0-5 | 2-1-16 | 1245 | | | ✓ | | ✓ | | | | | |

| | | | | | | | | | |
|-------------------------------------|------------------------------------|--|-----------------------------------|----------------------------------|---|---------------------------------|---------------------------------|---|---------------------------------|
| Possible Hazard Identification | | Sample Disposal | | Disposal By Lab | | Archive For | | (A fee may be assessed if samples are retained longer than 1 month) | |
| <input type="checkbox"/> Non-Hazard | <input type="checkbox"/> Flammable | <input type="checkbox"/> Skin Irritant | <input type="checkbox"/> Poison B | <input type="checkbox"/> Unknown | <input type="checkbox"/> Return To Client | <input type="checkbox"/> Months | <input type="checkbox"/> Months | <input type="checkbox"/> Months | <input type="checkbox"/> Months |
| Turn Around Time Required | | GC Requirements (Specify) | | | | | | | |
| <input type="checkbox"/> 24 Hours | <input type="checkbox"/> 48 Hours | <input type="checkbox"/> 7 Days | <input type="checkbox"/> 14 Days | <input type="checkbox"/> 21 Days | <input type="checkbox"/> Other | | | | |
| 1. Relinquished By | | Date | | Time | | 1. Received By | | Date | |
| Test America, Elan Wild | | 2/10/16 | | 17:15 | | John Kilders | | 2-11-16 | |
| 2. Relinquished By | | Date | | Time | | 2. Received By | | Date | |
| | | | | | | | | | |
| 3. Relinquished By | | Date | | Time | | 3. Received By | | Date | |
| | | | | | | | | | |
| Comments | | | | | | | | | |

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy



Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

| | | | |
|--|--|--------------------------------------|----|
| Client: <u>HAAL</u> | | SDG/AR/COC/Work Order: <u>291208</u> | |
| Received By: <u>ML</u> | | Date Received: <u>2-11-16</u> | |
| Suspected Hazard Information | | Yes | No |
| COC/Samples marked as radioactive? | | | |
| Classified Radioactive II or III by RSO? | | | |
| COC/Samples marked containing PCBs? | | | |
| Package, COC, and/or Samples marked as beryllium or asbestos containing? | | | |
| Shipped as a DOT Hazardous? | | | |
| Samples identified as Foreign Soil? | | | |

| Sample Receipt Criteria | | Yes | NA | No | Comments/Qualifiers (Required for Non-Conforming Items) |
|-------------------------|--|-------------------------------------|----|----|---|
| 1 | Shipping containers received intact and sealed? | <input checked="" type="checkbox"/> | | | Circle Applicable: Seals broken Damaged container Leaking container Other (describe) |
| 2 | Samples requiring cold preservation within (0 ≤ 6 deg. C)?* | <input checked="" type="checkbox"/> | | | Preservation Method: Ice bags Blue ice Dry ice <u>None</u> Other (describe) *all temperatures are recorded in Celsius <u>13C</u> |
| 2a | Daily check performed and passed on IR temperature gun? | <input checked="" type="checkbox"/> | | | Temperature Device Serial #: <u>130462961</u> Secondary Temperature Device Serial # (if Applicable): |
| 3 | Chain of custody documents included with shipment? | <input checked="" type="checkbox"/> | | | |
| 4 | Sample containers intact and sealed? | | | | Circle Applicable: Seals broken Damaged container Leaking container Other (describe) <u>* See Below</u> |
| 5 | Samples requiring chemical preservation at proper pH? | <input checked="" type="checkbox"/> | | | Sample ID's, containers affected and observed pH: If Preservation added, Log it: |
| 6 | Do Low Level Perchlorate samples have headspace as required? | <input checked="" type="checkbox"/> | | | Sample ID's and containers affected: |
| 7 | VOA vials contain acid preservation? | <input checked="" type="checkbox"/> | | | (If unknown, select No) |
| 8 | VOA vials free of headspace (defined as < 6mm bubble)? | <input checked="" type="checkbox"/> | | | Sample ID's and containers affected: |
| 9 | Are Encore containers present? | <input checked="" type="checkbox"/> | | | (If yes, immediately deliver to Volatiles laboratory) |
| 10 | Samples received within holding time? | <input checked="" type="checkbox"/> | | | ID's and tests affected: |
| 11 | Sample ID's on COC match ID's on bottles? | <input checked="" type="checkbox"/> | | | Sample ID's and containers affected: |
| 12 | Date & time on COC match date & time on bottles? | <input checked="" type="checkbox"/> | | | Sample ID's affected: |
| 13 | Number of containers received match number indicated on COC? | <input checked="" type="checkbox"/> | | | Sample ID's affected: <u>1 per ID</u> |
| 14 | Are sample containers identifiable as GEL provided? | <input checked="" type="checkbox"/> | | | |
| 15 | COC form is properly signed in relinquished/received sections? | <input checked="" type="checkbox"/> | | | |
| 16 | Carrier and tracking number. | <input checked="" type="checkbox"/> | | | Circle Applicable: <input checked="" type="checkbox"/> FedEx Air <input type="checkbox"/> FedEx Ground <input type="checkbox"/> UPS <input type="checkbox"/> Field Services <input type="checkbox"/> Courier <input type="checkbox"/> Other <u>7756 2323 7913</u> |

Comments (Use Continuation Form if needed):

* Sample HA-5-0-5 Received Broken - Soil Confined to BUBBLE BAG, Bottle Came in.

PM (or PMA) review: Initials EM Date 2/11/16 Page 1 of 1 GL-CHL-SR-001 Rev 2

Subject: RE: pick up for tomorrow has been scheduled

From: "Steinberg, Elliot" <ESteinberg@haleyaldrich.com>

Date: 2/11/2016 10:18 AM

To: Edie Kent <emk@gel.com>

CC: team.kent <team.kent@gel.com>, Joanne Harley <joanne.harley@gel.com>, "Atwood, Mike" <MAatwood@haleyaldrich.com>, "Penwell, Lee" <LPenwell@haleyaldrich.com>

The chain has an error: HA5-05 should be soil. In summary B106 and B4 are water samples. The other 7 samples are soil. All for tritium analyses. As we discussed, what is the quickest turnaround time for the tritium.

Elliot I. Steinberg, P.E., LSP
Brownfields Program Manager | Vice President

Haley & Aldrich, Inc.
465 Medford Street, Suite 2200
Boston, MA 02129-1400
T: (617) 886.7454
C: (617) 908.0354
www.haleyaldrich.com

-----Original Message-----

From: Edie Kent [<mailto:emk@gel.com>]
Sent: Thursday, February 11, 2016 10:03 AM
To: Steinberg, Elliot
Cc: team.kent; Joanne Harley; Atwood, Mike; Penwell, Lee
Subject: Re: pick up for tomorrow has been scheduled

Elliot:
The chain is attached for the samples received today from Test America.

Edie

On 2/11/2016 9:44 AM, Edie Kent wrote:

Elliot:
We received the soils from TA. If you can get back to me as soon as possible on data package and EDD type, I would appreciate it. I need that info before I can log the samples.

Thanks, Edie

On 2/11/2016 8:02 AM, Steinberg, Elliot wrote:

Thanks. Will get back to you later this morning with specifics on analyses and deliverables.

Sent from my iPhone

On Feb 11, 2016, at 7:59 AM, Edie Kent
<emk@gel.com<<mailto:emk@gel.com>>> wrote:

Elliot:
I'll have our marketing put together a quote as soon as you send me the information on the other tests. What type of data package and EDD do you need for this work?

Edie

Subject: Samples Received Today, 02/11/16 - Condition on Receipt

From: Edie Kent <emk@gel.com>

Date: 2/11/2016 3:13 PM

To: "Steinberg, Elliot" <ESteinberg@haleyaldrich.com>

CC: "team.kent" <team.kent@gel.com>, Angela Johnson <aea@gel.com>

Elliot:

One of the samples, HA-5-0-5, was received broken but contained in the bubble bag. We have transferred the sample to another container.

Edie

--

Edith M. Kent
Project Manager
GEL Laboratories, LLC
2040 Savage Road
Charleston, SC (USA) 29407
Direct: 843.769.7385
Main: 843.556.8171 x4453
Fax: 843.766.1178
E-mail: emk@gel.com
Team E-mail: team.kent@gel.com
Web: www.gel.com

Laboratory Certifications

List of current GEL Certifications as of 17 February 2016

| State | Certification |
|--------------------------|------------------------------|
| Alaska | UST-110 |
| Arkansas | 88-0651 |
| CLIA | 42D0904046 |
| California | 2940 Interim |
| Colorado | SC00012 |
| Connecticut | PH-0169 |
| Delaware | SC000122013-10 |
| DoD ELAP/ ISO17025 A2LA | 2567.01 |
| Florida NELAP | E87156 |
| Foreign Soils Permit | P330-15-00283, P330-15-00253 |
| Georgia | SC00012 |
| Georgia SDWA | 967 |
| Hawaii | SC000122013-10 |
| Idaho Chemistry | SC00012 |
| Idaho Radiochemistry | SC00012 |
| Illinois NELAP | 200029 |
| Indiana | C-SC-01 |
| Kansas NELAP | E-10332 |
| Kentucky SDWA | 90129 |
| Kentucky Wastewater | 90129 |
| Louisiana NELAP | 03046 (AI33904) |
| Louisiana SDWA | LA150001 |
| Maryland | 270 |
| Massachusetts | M-SC012 |
| Michigan | 9976 |
| Mississippi | SC000122013-10 |
| Nebraska | NE-OS-26-13 |
| Nevada | SC000122016-1 |
| New Hampshire NELAP | 2054 |
| New Jersey NELAP | SC002 |
| New Mexico | SC00012 |
| New York NELAP | 11501 |
| North Carolina | 233 |
| North Carolina SDWA | 45709 |
| North Dakota | R-158 |
| Oklahoma | 9904 |
| Pennsylvania NELAP | 68-00485 |
| S.Carolina Radchem | 10120002 |
| South Carolina Chemistry | 10120001 |
| Tennessee | TN 02934 |
| Texas NELAP | T104704235-16-11 |
| Utah NELAP | SC000122016-20 |
| Vermont | VT87156 |
| Virginia NELAP | 460202 |
| Washington | C780 |
| West Virginia | 997404 |

Radiological Analysis

Case Narrative

**Radiochemistry
Technical Case Narrative
Haley & Aldrich, Inc. (HAAL)
SDG #: 391208**

Product: LSC, Tritium Dist, Liquid

Analytical Method: EPA 906.0 Modified

Analytical Procedure: GL-RAD-A-002 REV# 21

Analytical Batch: 1544344

The following samples were analyzed using the above methods and analytical procedure(s).

| <u>GEL Sample ID#</u> | <u>Client Sample Identification</u> |
|------------------------------|---|
| 391208002 | B106 (MW) |
| 391208003 | B4 |
| 1203487870 | Method Blank (MB) |
| 1203487871 | 391208002(B106 (MW)) Sample Duplicate (DUP) |
| 1203487872 | 391208002(B106 (MW)) Matrix Spike (MS) |
| 1203487873 | Laboratory Control Sample (LCS) |

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts

Samples 1203487871 (B106 (MW)DUP), 391208002 (B106 (MW)) and 391208003 (B4) were recounted to verify sample results. The recount results are similar to the original results. Original results are reported.

Product: LSC, Tritium Dist, Solid

Analytical Method: EPA 906.0 Modified

Analytical Procedure: GL-RAD-A-002 REV# 21

Analytical Batch: 1544362

The following samples were analyzed using the above methods and analytical procedure(s).

| <u>GEL Sample ID#</u> | <u>Client Sample Identification</u> |
|------------------------------|--|
| 391208001 | HA-1-0-5 |
| 391208004 | HA-5-0-5 |
| 391208005 | HA-3-0-5 |
| 391208006 | HA-1-5-8.8 |
| 391208007 | HA-2-5-10 |
| 391208008 | HA-6-0-5 |

| | |
|------------|--|
| 391208009 | HA-2-0-5 |
| 1203487918 | Method Blank (MB) |
| 1203487919 | 391208001(HA-1-0-5) Sample Duplicate (DUP) |
| 1203487920 | 391208001(HA-1-0-5) Matrix Spike (MS) |
| 1203487921 | Laboratory Control Sample (LCS) |

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts

Samples 1203487919 (HA-1-0-5DUP) and 391208001 (HA-1-0-5) were recounted due to high relative percent difference/relative error ratio. The recounts are reported.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report for

HAAL001 Haley & Aldrich, Inc. (Contract#)

Client SDG: 391208 GEL Work Order: 391208

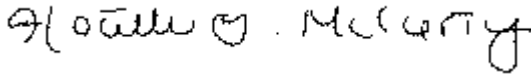
The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Heather McCarty

Date: 17 FEB 2016

Title: Analyst II

Sample Data Summary

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 17, 2016

Company : Haley & Aldrich, Inc.
Address : 465 Medford Street, Suite 2200

Charlestown, Massachusetts 02129

Contact: Mr. Lee Vanzler
Project: Harrison Albany Block

| | | | |
|-------------------|-----------------|------------|-----------|
| Client Sample ID: | HA-1-0-5 | Project: | HAAL00116 |
| Sample ID: | 391208001 | Client ID: | HAAL001 |
| Matrix: | Soil | | |
| Collect Date: | 01-FEB-16 09:30 | | |
| Receive Date: | 11-FEB-16 | | |
| Collector: | Client | | |

| Parameter | Qualifier | Result | Uncertainty | MDC | RL | Units | DF | Analyst | Date | Time | Batch | Method |
|--|-----------|--------|-------------|------|------|-------|----|---------|----------|------|---------|--------|
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| LSC, Tritium Dist, Solid "As Received" | | | | | | | | | | | | |
| Tritium | U | 0.754 | +/-2.39 | 4.46 | 6.00 | pCi/g | | TXJ1 | 02/17/16 | 0817 | 1544362 | 1 |

The following Analytical Methods were performed:

| Method | Description | Analyst Comments |
|--------|--------------------|------------------|
| 1 | EPA 906.0 Modified | |

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 17, 2016

Company : Haley & Aldrich, Inc.
Address : 465 Medford Street, Suite 2200

Charlestown, Massachusetts 02129

Contact: Mr. Lee Vanzler
Project: Harrison Albany Block

Client Sample ID: B106 (MW)
Sample ID: 391208002
Matrix: Water
Collect Date: 01-FEB-16 09:27
Receive Date: 11-FEB-16
Collector: Client

Project: HAAL00116
Client ID: HAAL001

| Parameter | Qualifier | Result | Uncertainty | MDC | RL | Units | DF | Analyst | Date | Time | Batch | Method |
|---|-----------|--------|-------------|-----|-----|-------|----|---------|----------|------|---------|--------|
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| LSC, Tritium Dist, Liquid "As Received" | | | | | | | | | | | | |
| Tritium | | 718 | +/-408 | 636 | 700 | pCi/L | | TXJ1 | 02/15/16 | 1619 | 1544344 | 1 |

The following Analytical Methods were performed:

| Method | Description | Analyst Comments |
|--------|--------------------|------------------|
| 1 | EPA 906.0 Modified | |

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 17, 2016

Company : Haley & Aldrich, Inc.
Address : 465 Medford Street, Suite 2200

Charlestown, Massachusetts 02129

Contact: Mr. Lee Vanzler
Project: Harrison Albany Block

| | | | |
|-------------------|-----------------|------------|-----------|
| Client Sample ID: | B4 | Project: | HAAL00116 |
| Sample ID: | 391208003 | Client ID: | HAAL001 |
| Matrix: | Water | | |
| Collect Date: | 01-FEB-16 14:50 | | |
| Receive Date: | 11-FEB-16 | | |
| Collector: | Client | | |

| Parameter | Qualifier | Result | Uncertainty | MDC | RL | Units | DF | Analyst | Date | Time | Batch | Method |
|---|-----------|----------|-------------|-----|-----|-------|----|---------|----------|------|---------|--------|
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| LSC, Tritium Dist, Liquid "As Received" | | | | | | | | | | | | |
| Tritium | | 1.06E+05 | +/-2560 | 631 | 700 | pCi/L | | TXJ1 | 02/15/16 | 1635 | 1544344 | 1 |

The following Analytical Methods were performed:

| Method | Description | Analyst Comments |
|--------|--------------------|------------------|
| 1 | EPA 906.0 Modified | |

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 17, 2016

Company : Haley & Aldrich, Inc.
Address : 465 Medford Street, Suite 2200

Charlestown, Massachusetts 02129

Contact: Mr. Lee Vanzler
Project: Harrison Albany Block

| | | | |
|-------------------|-----------------|------------|-----------|
| Client Sample ID: | HA-5-0-5 | Project: | HAAL00116 |
| Sample ID: | 391208004 | Client ID: | HAAL001 |
| Matrix: | Soil | | |
| Collect Date: | 02-FEB-16 14:20 | | |
| Receive Date: | 11-FEB-16 | | |
| Collector: | Client | | |

| Parameter | Qualifier | Result | Uncertainty | MDC | RL | Units | DF | Analyst | Date | Time | Batch | Method |
|--|-----------|--------|-------------|------|------|-------|----|---------|----------|------|---------|--------|
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| LSC, Tritium Dist, Solid "As Received" | | | | | | | | | | | | |
| Tritium | U | 1.60 | +/-1.86 | 3.13 | 6.00 | pCi/g | | TXJ1 | 02/16/16 | 1326 | 1544362 | 1 |

The following Analytical Methods were performed:

| Method | Description | Analyst Comments |
|--------|--------------------|------------------|
| 1 | EPA 906.0 Modified | |

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 17, 2016

Company : Haley & Aldrich, Inc.
Address : 465 Medford Street, Suite 2200

Charlestown, Massachusetts 02129

Contact: Mr. Lee Vanzler
Project: Harrison Albany Block

| | | | |
|-------------------|-----------------|------------|-----------|
| Client Sample ID: | HA-3-0-5 | Project: | HAAL00116 |
| Sample ID: | 391208005 | Client ID: | HAAL001 |
| Matrix: | Soil | | |
| Collect Date: | 01-FEB-16 14:30 | | |
| Receive Date: | 11-FEB-16 | | |
| Collector: | Client | | |

| Parameter | Qualifier | Result | Uncertainty | MDC | RL | Units | DF | Analyst | Date | Time | Batch | Method |
|--|-----------|--------|-------------|------|------|-------|----|---------|----------|------|---------|--------|
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| LSC, Tritium Dist, Solid "As Received" | | | | | | | | | | | | |
| Tritium | U | 1.51 | +/-1.89 | 3.21 | 6.00 | pCi/g | | TXJ1 | 02/16/16 | 1348 | 1544362 | 1 |

The following Analytical Methods were performed:

| Method | Description | Analyst Comments |
|--------|--------------------|------------------|
| 1 | EPA 906.0 Modified | |

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 17, 2016

Company : Haley & Aldrich, Inc.
Address : 465 Medford Street, Suite 2200

Charlestown, Massachusetts 02129

Contact: Mr. Lee Vanzler
Project: Harrison Albany Block

Client Sample ID: HA-1-5-8.8
Sample ID: 391208006
Matrix: Soil
Collect Date: 03-FEB-16 10:00
Receive Date: 11-FEB-16
Collector: Client

Project: HAAL00116
Client ID: HAAL001

| Parameter | Qualifier | Result | Uncertainty | MDC | RL | Units | DF | Analyst | Date | Time | Batch | Method |
|--|-----------|--------|-------------|------|------|-------|----|---------|----------|------|---------|--------|
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| LSC, Tritium Dist, Solid "As Received" | | | | | | | | | | | | |
| Tritium | U | 0.259 | +/-1.67 | 3.15 | 6.00 | pCi/g | | TXJ1 | 02/16/16 | 1411 | 1544362 | 1 |

The following Analytical Methods were performed:

| Method | Description | Analyst Comments |
|--------|--------------------|------------------|
| 1 | EPA 906.0 Modified | |

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 17, 2016

Company : Haley & Aldrich, Inc.
Address : 465 Medford Street, Suite 2200

Charlestown, Massachusetts 02129

Contact: Mr. Lee Vanzler
Project: Harrison Albany Block

| | | | |
|-------------------|-----------------|------------|-----------|
| Client Sample ID: | HA-2-5-10 | Project: | HAAL00116 |
| Sample ID: | 391208007 | Client ID: | HAAL001 |
| Matrix: | Soil | | |
| Collect Date: | 02-FEB-16 10:30 | | |
| Receive Date: | 11-FEB-16 | | |
| Collector: | Client | | |

| Parameter | Qualifier | Result | Uncertainty | MDC | RL | Units | DF | Analyst | Date | Time | Batch | Method |
|--|-----------|--------|-------------|------|------|-------|----|---------|----------|------|---------|--------|
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| LSC, Tritium Dist, Solid "As Received" | | | | | | | | | | | | |
| Tritium | U | 0.538 | +/-1.67 | 3.07 | 6.00 | pCi/g | | TXJ1 | 02/16/16 | 1434 | 1544362 | 1 |

The following Analytical Methods were performed:

| Method | Description | Analyst Comments |
|--------|--------------------|------------------|
| 1 | EPA 906.0 Modified | |

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 17, 2016

Company : Haley & Aldrich, Inc.
Address : 465 Medford Street, Suite 2200

Charlestown, Massachusetts 02129

Contact: Mr. Lee Vanzler
Project: Harrison Albany Block

| | | | |
|-------------------|-----------------|------------|-----------|
| Client Sample ID: | HA-6-0-5 | Project: | HAAL00116 |
| Sample ID: | 391208008 | Client ID: | HAAL001 |
| Matrix: | Soil | | |
| Collect Date: | 02-FEB-16 12:50 | | |
| Receive Date: | 11-FEB-16 | | |
| Collector: | Client | | |

| Parameter | Qualifier | Result | Uncertainty | MDC | RL | Units | DF | Analyst | Date | Time | Batch | Method |
|--|-----------|--------|-------------|------|------|-------|----|---------|----------|------|---------|--------|
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| LSC, Tritium Dist, Solid "As Received" | | | | | | | | | | | | |
| Tritium | U | -0.309 | +/-1.54 | 3.08 | 6.00 | pCi/g | | TXJ1 | 02/16/16 | 1456 | 1544362 | 1 |

The following Analytical Methods were performed:

| Method | Description | Analyst Comments |
|--------|--------------------|------------------|
| 1 | EPA 906.0 Modified | |

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 17, 2016

Company : Haley & Aldrich, Inc.
Address : 465 Medford Street, Suite 2200

Charlestown, Massachusetts 02129

Contact: Mr. Lee Vanzler
Project: Harrison Albany Block

| | | | |
|-------------------|-----------------|------------|-----------|
| Client Sample ID: | HA-2-0-5 | Project: | HAAL00116 |
| Sample ID: | 391208009 | Client ID: | HAAL001 |
| Matrix: | Soil | | |
| Collect Date: | 01-FEB-16 12:45 | | |
| Receive Date: | 11-FEB-16 | | |
| Collector: | Client | | |

| Parameter | Qualifier | Result | Uncertainty | MDC | RL | Units | DF | Analyst | Date | Time | Batch | Method |
|--|-----------|--------|-------------|------|------|-------|----|---------|----------|------|---------|--------|
| Rad Liquid Scintillation Analysis | | | | | | | | | | | | |
| LSC, Tritium Dist, Solid "As Received" | | | | | | | | | | | | |
| Tritium | U | 1.06 | +/-1.82 | 3.21 | 6.00 | pCi/g | | TXJ1 | 02/16/16 | 1519 | 1544362 | 1 |

The following Analytical Methods were performed:

| Method | Description | Analyst Comments |
|--------|--------------------|------------------|
| 1 | EPA 906.0 Modified | |

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Quality Control Summary

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: February 17, 2016

Page 1 of 2

Haley & Aldrich, Inc.

465 Medford Street, Suite 2200

Charlestown, Massachusetts

Contact: Mr. Lee Vanzler

Workorder: 391208

| Parmname | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|---------------------------------|-----------|-------------|---------|---------|-------|------|------|-------------|-------|----------|----------------|
| Rad Liquid Scintillation | | | | | | | | | | | |
| Batch | 1544344 | | | | | | | | | | |
| QC1203487871 | 391208002 | DUP | | | | | | | | | |
| Tritium | | 718 | | 831 | pCi/L | 14.6 | | (0% - 100%) | TXJ1 | 02/15/16 | 17:08 |
| | | Uncertainty | +/-408 | +/-417 | | | | | | | |
| QC1203487873 | LCS | | | | | | | | | | |
| Tritium | | 2380 | | 2940 | pCi/L | | 124 | (75%-125%) | | 02/15/16 | 17:40 |
| | | Uncertainty | | +/-551 | | | | | | | |
| QC1203487870 | MB | | | | | | | | | | |
| Tritium | | | U | -65 | pCi/L | | | | | 02/15/16 | 16:51 |
| | | Uncertainty | | +/-344 | | | | | | | |
| QC1203487872 | 391208002 | MS | | | | | | | | | |
| Tritium | | 718 | | 3110 | pCi/L | | 101 | (75%-125%) | | 02/15/16 | 17:24 |
| | | Uncertainty | +/-408 | +/-561 | | | | | | | |
| Batch | 1544362 | | | | | | | | | | |
| QC1203487919 | 391208001 | DUP | | | | | | | | | |
| Tritium | | | U | 1.86 | pCi/g | N/A | | | N/A | TXJ1 | 02/17/16 08:40 |
| | | Uncertainty | +/-2.39 | +/-2.68 | | | | | | | |
| QC1203487921 | LCS | | | | | | | | | | |
| Tritium | | 35.5 | | 35.3 | pCi/g | | 99.4 | (75%-125%) | | 02/16/16 | 16:49 |
| | | Uncertainty | | +/-4.57 | | | | | | | |
| QC1203487918 | MB | | | | | | | | | | |
| Tritium | | | U | 0.533 | pCi/g | | | | | 02/16/16 | 15:41 |
| | | Uncertainty | | +/-1.67 | | | | | | | |
| QC1203487920 | 391208001 | MS | | | | | | | | | |
| Tritium | | 0.754 | | 35.4 | pCi/g | | 99.1 | (75%-125%) | | 02/16/16 | 16:26 |
| | | Uncertainty | +/-2.39 | +/-4.57 | | | | | | | |

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 391208

Page 2 of 2

| Parmname | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range | Anlst | Date | Time |
|----------|--|--------|------|----|-------|------|------|-------|-------|------|------|
| N/A | RPD or %Recovery limits do not apply. | | | | | | | | | | |
| N1 | See case narrative | | | | | | | | | | |
| ND | Analyte concentration is not detected above the detection limit | | | | | | | | | | |
| NJ | Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier | | | | | | | | | | |
| Q | One or more quality control criteria have not been met. Refer to the applicable narrative or DER. | | | | | | | | | | |
| R | Sample results are rejected | | | | | | | | | | |
| U | Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD. | | | | | | | | | | |
| UI | Gamma Spectroscopy--Uncertain identification | | | | | | | | | | |
| UJ | Gamma Spectroscopy--Uncertain identification | | | | | | | | | | |
| UL | Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias. | | | | | | | | | | |
| X | Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier | | | | | | | | | | |
| Y | Other specific qualifiers were required to properly define the results. Consult case narrative. | | | | | | | | | | |
| ^ | RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry. | | | | | | | | | | |
| h | Preparation or preservation holding time was exceeded | | | | | | | | | | |

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.



ANALYTICAL REPORT

| | |
|-----------------|---|
| Lab Number: | L1608112 |
| Client: | Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400 |
| ATTN: | Mike Atwood |
| Phone: | (617) 886-7400 |
| Project Name: | HARRISON AVE./ALBANY ST. |
| Project Number: | 41737-014 |
| Report Date: | 03/27/16 |

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

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

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



Project Name: HARRISON AVE./ALBANY ST.
Project Number: 41737-014

Lab Number: L1608112
Report Date: 03/27/16

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|----------------------------|------------------|---------------|----------------------------|---------------------------------|---------------------|
| L1608112-01 | HA-2 (OW) | WATER | Not Specified | 03/21/16 11:10 | 03/21/16 |
| L1608112-02 | TRIP BLANK | WATER | Not Specified | 03/21/16 00:00 | 03/21/16 |

Project Name: HARRISON AVE./ALBANY ST.
Project Number: 41737-014

Lab Number: L1608112
Report Date: 03/27/16

Case Narrative

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

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

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

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

HOLD POLICY

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

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

Project Name: HARRISON AVE./ALBANY ST.
Project Number: 41737-014

Lab Number: L1608112
Report Date: 03/27/16

Case Narrative (continued)

Semivolatile Organics

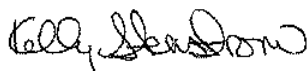
The WG876437-2/-3 LCS/LCSD recoveries, associated with L1608112-01 (HA-2 (OW)), are below the acceptance criteria for benzidine (2%/1%); however, it has been identified as a "difficult" analyte. The results of the associated sample are reported.

PCBs

WG876852: An LCS/LCSD was performed in lieu of a Matrix Spike and Laboratory Duplicate due to insufficient sample volume available for analysis.

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

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 03/27/16

ORGANICS

VOLATILES

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS**

Lab ID: L1608112-01

Date Collected: 03/21/16 11:10

Client ID: HA-2 (OW)

Date Received: 03/21/16

Sample Location: Not Specified

Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 03/24/16 15:06

Analyst: MM

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

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS****Lab ID:** L1608112-01**Date Collected:** 03/21/16 11:10**Client ID:** HA-2 (OW)**Date Received:** 03/21/16**Sample Location:** Not Specified**Field Prep:** Field Filtered (Dissolved Metals)

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



Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS****Lab ID:** L1608112-01**Date Collected:** 03/21/16 11:10**Client ID:** HA-2 (OW)**Date Received:** 03/21/16**Sample Location:** Not Specified**Field Prep:** Field Filtered (Dissolved Metals)

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|--|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab | | | | | | |
| n-Propylbenzene | ND | | ug/l | 0.50 | -- | 1 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.5 | -- | 1 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.5 | -- | 1 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.5 | -- | 1 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.5 | -- | 1 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | -- | 1 |
| Ethyl ether | ND | | ug/l | 2.5 | -- | 1 |
| Tert-Butyl Alcohol | ND | | ug/l | 10 | -- | 1 |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 114 | | 70-130 |
| Toluene-d8 | 106 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 107 | | 70-130 |

Project Name: HARRISON AVE./ALBANY ST.**Project Number:** 41737-014**Lab Number:** L1608112**Report Date:** 03/27/16**SAMPLE RESULTS**

Lab ID: L1608112-01

Client ID: HA-2 (OW)

Sample Location: Not Specified

Date Collected: 03/21/16 11:10

Date Received: 03/21/16

Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water

Analytical Method: 1,8260C-SIM(M)

Analytical Date: 03/24/16 07:36

Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

Volatile Organics by GC/MS-SIM - Westborough Lab

| | | | | | | |
|-------------|----|--|------|-----|----|---|
| 1,4-Dioxane | ND | | ug/l | 3.0 | -- | 1 |
|-------------|----|--|------|-----|----|---|

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS**

Lab ID: L1608112-01

Client ID: HA-2 (OW)

Sample Location: Not Specified

Matrix: Water

Analytical Method: 14,504.1

Analytical Date: 03/25/16 13:52

Analyst: AM

Date Collected: 03/21/16 11:10

Date Received: 03/21/16

Field Prep: Field Filtered (Dissolved Metals)

Extraction Method: EPA 8011

Extraction Date: 03/25/16 11:59

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|--------|-----------|-------|-------|-----|-----------------|--------|
| Microextractables by GC - Westborough Lab | | | | | | | |
| 1,2-Dibromoethane | ND | | ug/l | 0.010 | -- | 1 | A |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 0.010 | -- | 1 | A |

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS**

Lab ID: L1608112-02
Client ID: TRIP BLANK
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 03/24/16 14:41
Analyst: MM

Date Collected: 03/21/16 00:00
Date Received: 03/21/16
Field Prep: Not Specified

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



Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS****Lab ID:** L1608112-02**Date Collected:** 03/21/16 00:00**Client ID:** TRIP BLANK**Date Received:** 03/21/16**Sample Location:** Not Specified**Field Prep:** Not Specified

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



Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS****Lab ID:** L1608112-02**Date Collected:** 03/21/16 00:00**Client ID:** TRIP BLANK**Date Received:** 03/21/16**Sample Location:** Not Specified**Field Prep:** Not Specified

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

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 111 | | 70-130 |
| Toluene-d8 | 106 | | 70-130 |
| 4-Bromofluorobenzene | 119 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS**

Lab ID: L1608112-02
Client ID: TRIP BLANK
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 03/24/16 07:03
Analyst: MM

Date Collected: 03/21/16 00:00
Date Received: 03/21/16
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

Volatile Organics by GC/MS-SIM - Westborough Lab

| | | | | | | |
|-------------|----|--|------|-----|----|---|
| 1,4-Dioxane | ND | | ug/l | 3.0 | -- | 1 |
|-------------|----|--|------|-----|----|---|

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS**

Lab ID: L1608112-02
Client ID: TRIP BLANK
Sample Location: Not Specified
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 03/25/16 14:07
Analyst: AM

Date Collected: 03/21/16 00:00
Date Received: 03/21/16
Field Prep: Not Specified
Extraction Method: EPA 8011
Extraction Date: 03/25/16 11:59

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|--------|-----------|-------|-------|-----|-----------------|--------|
| Microextractables by GC - Westborough Lab | | | | | | | |
| 1,2-Dibromoethane | ND | | ug/l | 0.010 | -- | 1 | A |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 0.010 | -- | 1 | A |

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**Method Blank Analysis**
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 03/25/16 13:05
Analyst: AM

Extraction Method: EPA 8011
Extraction Date: 03/25/16 11:59

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|-------|------|
| Microextractables by GC - Westborough Lab for sample(s): 01-02 Batch: WG877021-1 | | | | | |
| 1,2-Dibromoethane | ND | | ug/l | 0.010 | -- A |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 0.010 | -- A |

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**Method Blank Analysis**
Batch Quality Control

Analytical Method: 1,8260C-SIM(M)

Analytical Date: 03/24/16 06:31

Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|-----|-----|
| Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-02 Batch: WG877133-3 | | | | | |
| 1,4-Dioxane | ND | | ug/l | 3.0 | -- |

Project Name: HARRISON AVE./ALBANY ST.

Lab Number: L1608112

Project Number: 41737-014

Report Date: 03/27/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 03/24/16 08:48
 Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|------|-----|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG877206-3 | | | | | |
| Methylene chloride | ND | | ug/l | 3.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 0.75 | -- |
| Chloroform | ND | | ug/l | 0.75 | -- |
| Carbon tetrachloride | ND | | ug/l | 0.50 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.8 | -- |
| Dibromochloromethane | ND | | ug/l | 0.50 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 0.75 | -- |
| Tetrachloroethene | ND | | ug/l | 0.50 | -- |
| Chlorobenzene | ND | | ug/l | 0.50 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.5 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 0.50 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 0.50 | -- |
| Bromodichloromethane | ND | | ug/l | 0.50 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 0.50 | -- |
| Benzene | ND | | ug/l | 0.50 | -- |
| Toluene | ND | | ug/l | 0.75 | -- |
| Ethylbenzene | ND | | ug/l | 0.50 | -- |
| Chloromethane | ND | | ug/l | 2.5 | -- |
| Bromomethane | ND | | ug/l | 1.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 1.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 0.50 | -- |
| 1,2-Dichloroethene, Total | ND | | ug/l | 0.50 | -- |
| Trichloroethene | ND | | ug/l | 0.50 | -- |

Project Name: HARRISON AVE./ALBANY ST.

Lab Number: L1608112

Project Number: 41737-014

Report Date: 03/27/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 03/24/16 08:48
 Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|------|-----|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG877206-3 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.5 | -- |
| Methyl tert butyl ether | ND | | ug/l | 1.0 | -- |
| p/m-Xylene | ND | | ug/l | 1.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| Xylenes, Total | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 0.50 | -- |
| Dibromomethane | ND | | ug/l | 5.0 | -- |
| 1,4-Dichlorobutane | ND | | ug/l | 5.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 5.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 5.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 5.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| Vinyl acetate | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Ethyl methacrylate | ND | | ug/l | 5.0 | -- |
| Acrylonitrile | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.5 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 0.50 | -- |
| Bromobenzene | ND | | ug/l | 2.5 | -- |
| n-Butylbenzene | ND | | ug/l | 0.50 | -- |

Project Name: HARRISON AVE./ALBANY ST.

Lab Number: L1608112

Project Number: 41737-014

Report Date: 03/27/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 03/24/16 08:48
 Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|------|-----|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG877206-3 | | | | | |
| sec-Butylbenzene | ND | | ug/l | 0.50 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.5 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.5 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.5 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.50 | -- |
| Isopropylbenzene | ND | | ug/l | 0.50 | -- |
| p-Isopropyltoluene | ND | | ug/l | 0.50 | -- |
| Naphthalene | ND | | ug/l | 2.5 | -- |
| n-Propylbenzene | ND | | ug/l | 0.50 | -- |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.5 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.5 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.5 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.5 | -- |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | -- |
| Ethyl ether | ND | | ug/l | 2.5 | -- |
| Tert-Butyl Alcohol | ND | | ug/l | 10 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 125 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 82 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON AVE./ALBANY ST.**Project Number:** 41737-014**Lab Number:** L1608112**Report Date:** 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|---------------|
| Microextractables by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG877021-2 | | | | | | | | | |
| 1,2-Dibromoethane | 114 | | - | | 70-130 | - | | 20 | A |
| 1,2-Dibromo-3-chloropropane | 102 | | - | | 70-130 | - | | 20 | A |

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG877133-1 WG877133-2 | | | | | | | | |
| 1,4-Dioxane | 120 | | 124 | | 70-130 | 3 | | 25 |

Lab Control Sample Analysis **Batch Quality Control**

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG877206-1 WG877206-2 | | | | | | | | |
| Methylene chloride | 102 | | 105 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 113 | | 114 | | 70-130 | 1 | | 20 |
| Chloroform | 108 | | 111 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 108 | | 110 | | 63-132 | 2 | | 20 |
| 1,2-Dichloropropane | 112 | | 117 | | 70-130 | 4 | | 20 |
| Dibromochloromethane | 103 | | 106 | | 63-130 | 3 | | 20 |
| 1,1,2-Trichloroethane | 112 | | 109 | | 70-130 | 3 | | 20 |
| Tetrachloroethene | 90 | | 94 | | 70-130 | 4 | | 20 |
| Chlorobenzene | 102 | | 100 | | 75-130 | 2 | | 25 |
| Trichlorofluoromethane | 110 | | 113 | | 62-150 | 3 | | 20 |
| 1,2-Dichloroethane | 111 | | 115 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 108 | | 112 | | 67-130 | 4 | | 20 |
| Bromodichloromethane | 104 | | 112 | | 67-130 | 7 | | 20 |
| trans-1,3-Dichloropropene | 109 | | 123 | | 70-130 | 12 | | 20 |
| cis-1,3-Dichloropropene | 82 | | 82 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 99 | | 101 | | 70-130 | 2 | | 20 |
| Bromoform | 85 | | 71 | | 54-136 | 18 | | 20 |
| 1,1,2,2-Tetrachloroethane | 90 | | 78 | | 67-130 | 14 | | 20 |
| Benzene | 106 | | 106 | | 70-130 | 0 | | 25 |
| Toluene | 93 | | 95 | | 70-130 | 2 | | 25 |
| Ethylbenzene | 110 | | 112 | | 70-130 | 2 | | 20 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG877206-1 WG877206-2 | | | | | | | | |
| Chloromethane | 119 | | 123 | | 64-130 | 3 | | 20 |
| Bromomethane | 70 | | 72 | | 39-139 | 3 | | 20 |
| Vinyl chloride | 74 | | 77 | | 55-140 | 4 | | 20 |
| Chloroethane | 86 | | 88 | | 55-138 | 2 | | 20 |
| 1,1-Dichloroethene | 107 | | 103 | | 61-145 | 4 | | 25 |
| trans-1,2-Dichloroethene | 103 | | 107 | | 70-130 | 4 | | 20 |
| Trichloroethene | 100 | | 108 | | 70-130 | 8 | | 25 |
| 1,2-Dichlorobenzene | 92 | | 97 | | 70-130 | 5 | | 20 |
| 1,3-Dichlorobenzene | 98 | | 99 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 103 | | 106 | | 63-130 | 3 | | 20 |
| p/m-Xylene | 109 | | 108 | | 70-130 | 1 | | 20 |
| o-Xylene | 124 | | 100 | | 70-130 | 21 | Q | 20 |
| cis-1,2-Dichloroethene | 105 | | 106 | | 70-130 | 1 | | 20 |
| Dibromomethane | 98 | | 109 | | 70-130 | 11 | | 20 |
| 1,2,3-Trichloropropane | 88 | | 84 | | 64-130 | 5 | | 20 |
| Styrene | 114 | | 98 | | 70-130 | 15 | | 20 |
| Dichlorodifluoromethane | 110 | | 104 | | 36-147 | 6 | | 20 |
| Acetone | 104 | | 98 | | 58-148 | 6 | | 20 |
| Carbon disulfide | 107 | | 109 | | 51-130 | 2 | | 20 |
| 2-Butanone | 100 | | 102 | | 63-138 | 2 | | 20 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG877206-1 WG877206-2 | | | | | | | | |
| 4-Methyl-2-pentanone | 82 | | 80 | | 59-130 | 2 | | 20 |
| 2-Hexanone | 105 | | 114 | | 57-130 | 8 | | 20 |
| Bromochloromethane | 109 | | 107 | | 70-130 | 2 | | 20 |
| Tetrahydrofuran | 109 | | 102 | | 58-130 | 7 | | 20 |
| 2,2-Dichloropropane | 120 | | 121 | | 63-133 | 1 | | 20 |
| 1,2-Dibromoethane | 107 | | 104 | | 70-130 | 3 | | 20 |
| 1,3-Dichloropropane | 118 | | 120 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 103 | | 108 | | 64-130 | 5 | | 20 |
| Bromobenzene | 93 | | 69 | Q | 70-130 | 30 | Q | 20 |
| n-Butylbenzene | 93 | | 98 | | 53-136 | 5 | | 20 |
| sec-Butylbenzene | 92 | | 92 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 89 | | 83 | | 70-130 | 7 | | 20 |
| o-Chlorotoluene | 99 | | 85 | | 70-130 | 15 | | 20 |
| p-Chlorotoluene | 96 | | 89 | | 70-130 | 8 | | 20 |
| 1,2-Dibromo-3-chloropropane | 86 | | 89 | | 41-144 | 3 | | 20 |
| Hexachlorobutadiene | 93 | | 96 | | 63-130 | 3 | | 20 |
| Isopropylbenzene | 86 | | 96 | | 70-130 | 11 | | 20 |
| p-Isopropyltoluene | 93 | | 94 | | 70-130 | 1 | | 20 |
| Naphthalene | 79 | | 85 | | 70-130 | 7 | | 20 |
| n-Propylbenzene | 97 | | 79 | | 69-130 | 20 | | 20 |
| 1,2,3-Trichlorobenzene | 82 | | 88 | | 70-130 | 7 | | 20 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG877206-1 WG877206-2 | | | | | | | | |
| 1,2,4-Trichlorobenzene | 82 | | 92 | | 70-130 | 11 | | 20 |
| 1,3,5-Trimethylbenzene | 92 | | 82 | | 64-130 | 11 | | 20 |
| 1,2,4-Trimethylbenzene | 92 | | 90 | | 70-130 | 2 | | 20 |
| Ethyl ether | 105 | | 107 | | 59-134 | 2 | | 20 |
| Isopropyl Ether | 113 | | 116 | | 70-130 | 3 | | 20 |
| Ethyl-Tert-Butyl-Ether | 107 | | 110 | | 70-130 | 3 | | 20 |
| Tertiary-Amyl Methyl Ether | 102 | | 105 | | 66-130 | 3 | | 20 |
| 1,4-Dioxane | 91 | | 81 | | 56-162 | 12 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 107 | | 108 | | 70-130 |
| Toluene-d8 | 111 | | 112 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 76 | | 70-130 |
| Dibromofluoromethane | 103 | | 104 | | 70-130 |

Matrix Spike Analysis

Batch Quality Control

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

| <i>Parameter</i> | <i>Native Sample</i> | <i>MS Added</i> | <i>MS Found</i> | <i>MS %Recovery</i> | <i>Qual</i> | <i>MSD Found</i> | <i>MSD %Recovery</i> | <i>Qual</i> | <i>Recovery Limits</i> | <i>RPD</i> | <i>Qual</i> | <i>RPD Limits</i> | <i>Column</i> |
|---|----------------------|-----------------|-----------------|---------------------|-------------|------------------|----------------------|-------------|------------------------|------------|-------------|-------------------|---------------|
| Microextractables by GC - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG877021-3 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ND | 0.256 | 0.303 | 118 | | - | - | | 70-130 | - | | 20 | A |
| 1,2-Dibromo-3-chloropropane | ND | 0.256 | 0.271 | 106 | | - | - | | 70-130 | - | | 20 | A |

SEMIVOLATILES

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS****Lab ID:** L1608112-01**Date Collected:** 03/21/16 11:10**Client ID:** HA-2 (OW)**Date Received:** 03/21/16**Sample Location:** Not Specified**Field Prep:** Field Filtered (Dissolved Metals)**Matrix:** Water**Extraction Method:** EPA 3510C**Analytical Method:** 1,8270D**Extraction Date:** 03/23/16 03:31**Analytical Date:** 03/25/16 06:07**Analyst:** PS

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



Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS****Lab ID:** L1608112-01**Date Collected:** 03/21/16 11:10**Client ID:** HA-2 (OW)**Date Received:** 03/21/16**Sample Location:** Not Specified**Field Prep:** Field Filtered (Dissolved Metals)

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

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol | 57 | | 21-120 |
| Phenol-d6 | 39 | | 10-120 |
| Nitrobenzene-d5 | 86 | | 23-120 |
| 2-Fluorobiphenyl | 82 | | 15-120 |
| 2,4,6-Tribromophenol | 85 | | 10-120 |
| 4-Terphenyl-d14 | 95 | | 41-149 |

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS**

Lab ID: L1608112-01

Client ID: HA-2 (OW)

Sample Location: Not Specified

Matrix: Water

Analytical Method: 1,8270D-SIM

Analytical Date: 03/24/16 11:59

Analyst: KV

Date Collected: 03/21/16 11:10

Date Received: 03/21/16

Field Prep: Field Filtered (Dissolved Metals)

Extraction Method: EPA 3510C

Extraction Date: 03/23/16 03:31

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

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS**

Lab ID: L1608112-01

Date Collected: 03/21/16 11:10

Client ID: HA-2 (OW)

Date Received: 03/21/16

Sample Location: Not Specified

Field Prep: Field Filtered (Dissolved Metals)

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

Semivolatile Organics by GC/MS-SIM - Westborough Lab

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol | 57 | | 21-120 |
| Phenol-d6 | 35 | | 10-120 |
| Nitrobenzene-d5 | 74 | | 23-120 |
| 2-Fluorobiphenyl | 91 | | 15-120 |
| 2,4,6-Tribromophenol | 99 | | 10-120 |
| 4-Terphenyl-d14 | 93 | | 41-149 |

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 03/25/16 01:00
 Analyst: PS

Extraction Method: EPA 3510C
 Extraction Date: 03/23/16 03:31

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|-----|-----|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG876437-1 | | | | | |
| Benzidine | ND | | ug/l | 20 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | -- |
| Bis(2-chloroethyl)ether | ND | | ug/l | 2.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.0 | -- |
| 3,3'-Dichlorobenzidine | ND | | ug/l | 5.0 | -- |
| 2,4-Dinitrotoluene | ND | | ug/l | 5.0 | -- |
| 2,6-Dinitrotoluene | ND | | ug/l | 5.0 | -- |
| Azobenzene | ND | | ug/l | 2.0 | -- |
| 4-Chlorophenyl phenyl ether | ND | | ug/l | 2.0 | -- |
| 4-Bromophenyl phenyl ether | ND | | ug/l | 2.0 | -- |
| Bis(2-chloroisopropyl)ether | ND | | ug/l | 2.0 | -- |
| Bis(2-chloroethoxy)methane | ND | | ug/l | 5.0 | -- |
| Hexachlorocyclopentadiene | ND | | ug/l | 20 | -- |
| Isophorone | ND | | ug/l | 5.0 | -- |
| Nitrobenzene | ND | | ug/l | 2.0 | -- |
| NDPA/DPA | ND | | ug/l | 2.0 | -- |
| Bis(2-ethylhexyl)phthalate | ND | | ug/l | 3.0 | -- |
| Butyl benzyl phthalate | ND | | ug/l | 5.0 | -- |
| Di-n-butylphthalate | ND | | ug/l | 5.0 | -- |
| Di-n-octylphthalate | ND | | ug/l | 5.0 | -- |
| Diethyl phthalate | ND | | ug/l | 5.0 | -- |
| Dimethyl phthalate | ND | | ug/l | 5.0 | -- |
| Aniline | ND | | ug/l | 2.0 | -- |
| 4-Chloroaniline | ND | | ug/l | 5.0 | -- |
| 2-Nitroaniline | ND | | ug/l | 5.0 | -- |
| 3-Nitroaniline | ND | | ug/l | 5.0 | -- |
| 4-Nitroaniline | ND | | ug/l | 5.0 | -- |

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 03/25/16 01:00
 Analyst: PS

Extraction Method: EPA 3510C
 Extraction Date: 03/23/16 03:31

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|-----|-----|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG876437-1 | | | | | |
| Dibenzofuran | ND | | ug/l | 2.0 | -- |
| n-Nitrosodimethylamine | ND | | ug/l | 2.0 | -- |
| 2,4,6-Trichlorophenol | ND | | ug/l | 5.0 | -- |
| p-Chloro-m-cresol | ND | | ug/l | 2.0 | -- |
| 2-Chlorophenol | ND | | ug/l | 2.0 | -- |
| 2,4-Dichlorophenol | ND | | ug/l | 5.0 | -- |
| 2,4-Dimethylphenol | ND | | ug/l | 5.0 | -- |
| 2-Nitrophenol | ND | | ug/l | 10 | -- |
| 4-Nitrophenol | ND | | ug/l | 10 | -- |
| 2,4-Dinitrophenol | ND | | ug/l | 20 | -- |
| 4,6-Dinitro-o-cresol | ND | | ug/l | 10 | -- |
| Phenol | ND | | ug/l | 5.0 | -- |
| 2-Methylphenol | ND | | ug/l | 5.0 | -- |
| 3-Methylphenol/4-Methylphenol | ND | | ug/l | 5.0 | -- |
| 2,4,5-Trichlorophenol | ND | | ug/l | 5.0 | -- |
| Benzoic Acid | ND | | ug/l | 50 | -- |
| Benzyl Alcohol | ND | | ug/l | 2.0 | -- |
| Carbazole | ND | | ug/l | 2.0 | -- |
| Pyridine | ND | | ug/l | 5.0 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|----------------------|-----------|-----------|---------------------|
| 2-Fluorophenol | 57 | | 21-120 |
| Phenol-d6 | 41 | | 10-120 |
| Nitrobenzene-d5 | 81 | | 23-120 |
| 2-Fluorobiphenyl | 74 | | 15-120 |
| 2,4,6-Tribromophenol | 78 | | 10-120 |
| 4-Terphenyl-d14 | 95 | | 41-149 |



Project Name: HARRISON AVE./ALBANY ST.

Lab Number: L1608112

Project Number: 41737-014

Report Date: 03/27/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM
 Analytical Date: 03/24/16 08:43
 Analyst: KV

Extraction Method: EPA 3510C
 Extraction Date: 03/23/16 03:31

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|------|-----|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG876438-1 | | | | | |
| Acenaphthene | ND | | ug/l | 0.10 | -- |
| 2-Chloronaphthalene | ND | | ug/l | 0.20 | -- |
| Fluoranthene | ND | | ug/l | 0.20 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.50 | -- |
| Naphthalene | ND | | ug/l | 0.20 | -- |
| Benzo(a)anthracene | ND | | ug/l | 0.20 | -- |
| Benzo(a)pyrene | ND | | ug/l | 0.20 | -- |
| Benzo(b)fluoranthene | ND | | ug/l | 0.20 | -- |
| Benzo(k)fluoranthene | ND | | ug/l | 0.20 | -- |
| Chrysene | ND | | ug/l | 0.20 | -- |
| Acenaphthylene | ND | | ug/l | 0.20 | -- |
| Anthracene | ND | | ug/l | 0.20 | -- |
| Benzo(ghi)perylene | ND | | ug/l | 0.20 | -- |
| Fluorene | ND | | ug/l | 0.20 | -- |
| Phenanthrene | ND | | ug/l | 0.20 | -- |
| Dibenzo(a,h)anthracene | ND | | ug/l | 0.20 | -- |
| Indeno(1,2,3-cd)Pyrene | ND | | ug/l | 0.20 | -- |
| Pyrene | ND | | ug/l | 0.20 | -- |
| 1-Methylnaphthalene | ND | | ug/l | 0.20 | -- |
| 2-Methylnaphthalene | ND | | ug/l | 0.20 | -- |
| Pentachlorophenol | ND | | ug/l | 0.80 | -- |
| Hexachlorobenzene | ND | | ug/l | 0.80 | -- |
| Hexachloroethane | ND | | ug/l | 0.80 | -- |

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM
 Analytical Date: 03/24/16 08:43
 Analyst: KV

Extraction Method: EPA 3510C
 Extraction Date: 03/23/16 03:31

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|----|-----|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG876438-1 | | | | | |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|----------------------|-----------|-----------|------------------------|
| 2-Fluorophenol | 57 | | 21-120 |
| Phenol-d6 | 36 | | 10-120 |
| Nitrobenzene-d5 | 72 | | 23-120 |
| 2-Fluorobiphenyl | 80 | | 15-120 |
| 2,4,6-Tribromophenol | 92 | | 10-120 |
| 4-Terphenyl-d14 | 89 | | 41-149 |

Lab Control Sample Analysis **Batch Quality Control**

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG876437-2 WG876437-3 | | | | | | | | |
| Benzidine | 2 | Q | 1 | Q | 10-75 | 106 | Q | 30 |
| 1,2,4-Trichlorobenzene | 54 | | 64 | | 39-98 | 17 | | 30 |
| Bis(2-chloroethyl)ether | 69 | | 72 | | 40-140 | 4 | | 30 |
| 1,2-Dichlorobenzene | 53 | | 61 | | 40-140 | 14 | | 30 |
| 1,3-Dichlorobenzene | 50 | | 59 | | 40-140 | 17 | | 30 |
| 1,4-Dichlorobenzene | 52 | | 60 | | 36-97 | 14 | | 30 |
| 3,3'-Dichlorobenzidine | 46 | | 56 | | 40-140 | 20 | | 30 |
| 2,4-Dinitrotoluene | 89 | | 91 | | 24-96 | 2 | | 30 |
| 2,6-Dinitrotoluene | 90 | | 94 | | 40-140 | 4 | | 30 |
| Azobenzene | 77 | | 80 | | 40-140 | 4 | | 30 |
| 4-Chlorophenyl phenyl ether | 77 | | 81 | | 40-140 | 5 | | 30 |
| 4-Bromophenyl phenyl ether | 83 | | 86 | | 40-140 | 4 | | 30 |
| Bis(2-chloroisopropyl)ether | 70 | | 75 | | 40-140 | 7 | | 30 |
| Bis(2-chloroethoxy)methane | 74 | | 78 | | 40-140 | 5 | | 30 |
| Hexachlorocyclopentadiene | 55 | | 66 | | 40-140 | 18 | | 30 |
| Isophorone | 72 | | 77 | | 40-140 | 7 | | 30 |
| Nitrobenzene | 71 | | 75 | | 40-140 | 5 | | 30 |
| NDPA/DPA | 82 | | 83 | | 40-140 | 1 | | 30 |
| Bis(2-ethylhexyl)phthalate | 75 | | 79 | | 40-140 | 5 | | 30 |
| Butyl benzyl phthalate | 82 | | 85 | | 40-140 | 4 | | 30 |
| Di-n-butylphthalate | 83 | | 85 | | 40-140 | 2 | | 30 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG876437-2 WG876437-3 | | | | | | | | |
| Di-n-octylphthalate | 79 | | 80 | | 40-140 | 1 | | 30 |
| Diethyl phthalate | 85 | | 87 | | 40-140 | 2 | | 30 |
| Dimethyl phthalate | 84 | | 86 | | 40-140 | 2 | | 30 |
| Aniline | 26 | Q | 37 | Q | 40-140 | 35 | Q | 30 |
| 4-Chloroaniline | 55 | | 67 | | 40-140 | 20 | | 30 |
| 2-Nitroaniline | 90 | | 95 | | 52-143 | 5 | | 30 |
| 3-Nitroaniline | 63 | | 80 | | 25-145 | 24 | | 30 |
| 4-Nitroaniline | 84 | | 88 | | 51-143 | 5 | | 30 |
| Dibenzofuran | 76 | | 79 | | 40-140 | 4 | | 30 |
| n-Nitrosodimethylamine | 45 | | 46 | | 22-74 | 2 | | 30 |
| 2,4,6-Trichlorophenol | 76 | | 78 | | 30-130 | 3 | | 30 |
| p-Chloro-m-cresol | 85 | | 87 | | 23-97 | 2 | | 30 |
| 2-Chlorophenol | 77 | | 81 | | 27-123 | 5 | | 30 |
| 2,4-Dichlorophenol | 84 | | 86 | | 30-130 | 2 | | 30 |
| 2,4-Dimethylphenol | 49 | | 43 | | 30-130 | 13 | | 30 |
| 2-Nitrophenol | 91 | | 98 | | 30-130 | 7 | | 30 |
| 4-Nitrophenol | 63 | | 62 | | 10-80 | 2 | | 30 |
| 2,4-Dinitrophenol | 117 | | 120 | | 20-130 | 3 | | 30 |
| 4,6-Dinitro-o-cresol | 115 | | 115 | | 20-164 | 0 | | 30 |
| Phenol | 39 | | 40 | | 12-110 | 3 | | 30 |
| 2-Methylphenol | 66 | | 69 | | 30-130 | 4 | | 30 |

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG876437-2 WG876437-3 | | | | | | | | |
| 3-Methylphenol/4-Methylphenol | 67 | | 71 | | 30-130 | 6 | | 30 |
| 2,4,5-Trichlorophenol | 83 | | 84 | | 30-130 | 1 | | 30 |
| Benzoic Acid | 65 | | 67 | | 10-164 | 3 | | 30 |
| Benzyl Alcohol | 63 | | 67 | | 26-116 | 6 | | 30 |
| Carbazole | 84 | | 85 | | 55-144 | 1 | | 30 |
| Pyridine | 14 | | 11 | | 10-66 | 24 | | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|----------------------|--------------------------|-------------|---------------------------|-------------|--------------------------------|
| 2-Fluorophenol | 58 | | 61 | | 21-120 |
| Phenol-d6 | 42 | | 45 | | 10-120 |
| Nitrobenzene-d5 | 82 | | 87 | | 23-120 |
| 2-Fluorobiphenyl | 72 | | 77 | | 15-120 |
| 2,4,6-Tribromophenol | 81 | | 83 | | 10-120 |
| 4-Terphenyl-d14 | 90 | | 91 | | 41-149 |

Lab Control Sample Analysis **Batch Quality Control**

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG876438-2 WG876438-3 | | | | | | | | |
| Acenaphthene | 78 | | 78 | | 37-111 | 0 | | 40 |
| 2-Chloronaphthalene | 76 | | 77 | | 40-140 | 1 | | 40 |
| Fluoranthene | 78 | | 79 | | 40-140 | 1 | | 40 |
| Hexachlorobutadiene | 67 | | 63 | | 40-140 | 6 | | 40 |
| Naphthalene | 77 | | 73 | | 40-140 | 5 | | 40 |
| Benzo(a)anthracene | 84 | | 87 | | 40-140 | 4 | | 40 |
| Benzo(a)pyrene | 94 | | 94 | | 40-140 | 0 | | 40 |
| Benzo(b)fluoranthene | 91 | | 94 | | 40-140 | 3 | | 40 |
| Benzo(k)fluoranthene | 82 | | 84 | | 40-140 | 2 | | 40 |
| Chrysene | 79 | | 81 | | 40-140 | 3 | | 40 |
| Acenaphthylene | 79 | | 80 | | 40-140 | 1 | | 40 |
| Anthracene | 80 | | 80 | | 40-140 | 0 | | 40 |
| Benzo(ghi)perylene | 88 | | 89 | | 40-140 | 1 | | 40 |
| Fluorene | 85 | | 84 | | 40-140 | 1 | | 40 |
| Phenanthrene | 78 | | 81 | | 40-140 | 4 | | 40 |
| Dibenzo(a,h)anthracene | 94 | | 94 | | 40-140 | 0 | | 40 |
| Indeno(1,2,3-cd)pyrene | 93 | | 93 | | 40-140 | 0 | | 40 |
| Pyrene | 74 | | 74 | | 26-127 | 0 | | 40 |
| 1-Methylnaphthalene | 80 | | 76 | | 40-140 | 5 | | 40 |
| 2-Methylnaphthalene | 77 | | 72 | | 40-140 | 7 | | 40 |
| Pentachlorophenol | 90 | | 93 | | 9-103 | 3 | | 40 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG876438-2 WG876438-3 | | | | | | | | |
| Hexachlorobenzene | 78 | | 80 | | 40-140 | 3 | | 40 |
| Hexachloroethane | 78 | | 71 | | 40-140 | 9 | | 40 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|----------------------|------------------|------|-------------------|------|------------------------|
| 2-Fluorophenol | 66 | | 59 | | 21-120 |
| Phenol-d6 | 41 | | 38 | | 10-120 |
| Nitrobenzene-d5 | 80 | | 71 | | 23-120 |
| 2-Fluorobiphenyl | 94 | | 91 | | 15-120 |
| 2,4,6-Tribromophenol | 107 | | 108 | | 10-120 |
| 4-Terphenyl-d14 | 95 | | 94 | | 41-149 |

PETROLEUM HYDROCARBONS

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS**

Lab ID: L1608112-01

Client ID: HA-2 (OW)

Sample Location:

Date Collected: 03/21/16 11:10

Date Received: 03/21/16

Field Prep: Field Filtered
(Dissolved
Metals)

Matrix: Water

Analytical Method: 100, VPH-04-1.1

Analytical Date: 03/24/16 21:14

Analyst: KD

Quality Control Information

Condition of sample received:

Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt:

Received on Ice

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

Volatile Petroleum Hydrocarbons - Westborough Lab

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

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|------------------------|------------|-----------|---------------------|
| 2,5-Dibromotoluene-PID | 93 | | 70-130 |
| 2,5-Dibromotoluene-FID | 105 | | 70-130 |



Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS**

Lab ID: L1608112-01

Client ID: HA-2 (OW)

Sample Location:

Date Collected: 03/21/16 11:10

Date Received: 03/21/16

Field Prep: Field Filtered
(Dissolved
Metals)

Matrix: Water

Extraction Method: EPA 3510C

Analytical Method: 98,EPH-04-1.1

Extraction Date: 03/22/16 17:26

Analytical Date: 03/25/16 11:00

Cleanup Method1: EPH-04-1

Analyst: DV

Cleanup Date1: 03/24/16

Quality Control Information

Condition of sample received:

Satisfactory

Aqueous Preservative:

Laboratory Provided Preserved
Container

Sample Temperature upon receipt:

Received on Ice

Sample Extraction method:

Extracted Per the Method

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

Extractable Petroleum Hydrocarbons - Westborough Lab

| | | | | | | |
|-----------------------------|----|--|------|-----|----|---|
| C9-C18 Aliphatics | ND | | ug/l | 100 | -- | 1 |
| C19-C36 Aliphatics | ND | | ug/l | 100 | -- | 1 |
| C11-C22 Aromatics | ND | | ug/l | 100 | -- | 1 |
| C11-C22 Aromatics, Adjusted | ND | | ug/l | 100 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|--------------------|------------|-----------|------------------------|
| Chloro-Octadecane | 82 | | 40-140 |
| o-Terphenyl | 59 | | 40-140 |
| 2-Fluorobiphenyl | 66 | | 40-140 |
| 2-Bromonaphthalene | 66 | | 40-140 |



Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16

Method Blank Analysis Batch Quality Control

Analytical Method: 98,EPH-04-1.1

Analytical Date: 03/24/16 11:33

Analyst: SR

Extraction Method: EPA 3510C

Extraction Date: 03/22/16 17:26

Cleanup Method: EPH-04-1

Cleanup Date: 03/23/16

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|-----|-----|
| Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG876329-1 | | | | | |
| C9-C18 Aliphatics | ND | | ug/l | 100 | -- |
| C19-C36 Aliphatics | ND | | ug/l | 100 | -- |
| C11-C22 Aromatics | ND | | ug/l | 100 | -- |
| C11-C22 Aromatics, Adjusted | ND | | ug/l | 100 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|--------------------|-----------|-----------|------------------------|
| Chloro-Octadecane | 68 | | 40-140 |
| o-Terphenyl | 58 | | 40-140 |
| 2-Fluorobiphenyl | 67 | | 40-140 |
| 2-Bromonaphthalene | 69 | | 40-140 |

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16

Method Blank Analysis Batch Quality Control

Analytical Method: 100, VPH-04-1.1

Analytical Date: 03/24/16 15:57

Analyst: KD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|------|-----|
| Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG877389-3 | | | | | |
| C5-C8 Aliphatics | ND | | ug/l | 50.0 | -- |
| C9-C12 Aliphatics | ND | | ug/l | 50.0 | -- |
| C9-C10 Aromatics | ND | | ug/l | 50.0 | -- |
| C5-C8 Aliphatics, Adjusted | ND | | ug/l | 50.0 | -- |
| C9-C12 Aliphatics, Adjusted | ND | | ug/l | 50.0 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|------------------------|-----------|-----------|------------------------|
| 2,5-Dibromotoluene-PID | 90 | | 70-130 |
| 2,5-Dibromotoluene-FID | 102 | | 70-130 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON AVE./ALBANY ST.

Lab Number: L1608112

Project Number: 41737-014

Report Date: 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG876329-2 WG876329-3 | | | | | | | | |
| C9-C18 Aliphatics | 61 | | 58 | | 40-140 | 5 | | 25 |
| C19-C36 Aliphatics | 72 | | 64 | | 40-140 | 12 | | 25 |
| C11-C22 Aromatics | 83 | | 74 | | 40-140 | 11 | | 25 |
| Naphthalene | 75 | | 68 | | 40-140 | 10 | | 25 |
| 2-Methylnaphthalene | 80 | | 73 | | 40-140 | 9 | | 25 |
| Acenaphthylene | 72 | | 67 | | 40-140 | 7 | | 25 |
| Acenaphthene | 81 | | 75 | | 40-140 | 8 | | 25 |
| Fluorene | 79 | | 73 | | 40-140 | 8 | | 25 |
| Phenanthrene | 85 | | 75 | | 40-140 | 13 | | 25 |
| Anthracene | 89 | | 78 | | 40-140 | 13 | | 25 |
| Fluoranthene | 83 | | 72 | | 40-140 | 14 | | 25 |
| Pyrene | 86 | | 74 | | 40-140 | 15 | | 25 |
| Benzo(a)anthracene | 79 | | 69 | | 40-140 | 14 | | 25 |
| Chrysene | 66 | | 57 | | 40-140 | 15 | | 25 |
| Benzo(b)fluoranthene | 83 | | 72 | | 40-140 | 14 | | 25 |
| Benzo(k)fluoranthene | 79 | | 70 | | 40-140 | 12 | | 25 |
| Benzo(a)pyrene | 79 | | 69 | | 40-140 | 14 | | 25 |
| Indeno(1,2,3-cd)Pyrene | 77 | | 68 | | 40-140 | 12 | | 25 |
| Dibenzo(a,h)anthracene | 48 | | 41 | | 40-140 | 16 | | 25 |
| Benzo(ghi)perylene | 58 | | 51 | | 40-140 | 13 | | 25 |
| Nonane (C9) | 43 | | 42 | | 30-140 | 2 | | 25 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON AVE./ALBANY ST.

Lab Number: L1608112

Project Number: 41737-014

Report Date: 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG876329-2 WG876329-3 | | | | | | | | |
| Decane (C10) | 51 | | 50 | | 40-140 | 2 | | 25 |
| Dodecane (C12) | 55 | | 54 | | 40-140 | 2 | | 25 |
| Tetradecane (C14) | 56 | | 56 | | 40-140 | 0 | | 25 |
| Hexadecane (C16) | 59 | | 57 | | 40-140 | 3 | | 25 |
| Octadecane (C18) | 63 | | 58 | | 40-140 | 8 | | 25 |
| Nonadecane (C19) | 64 | | 58 | | 40-140 | 10 | | 25 |
| Eicosane (C20) | 66 | | 59 | | 40-140 | 11 | | 25 |
| Docosane (C22) | 65 | | 58 | | 40-140 | 11 | | 25 |
| Tetracosane (C24) | 67 | | 59 | | 40-140 | 13 | | 25 |
| Hexacosane (C26) | 67 | | 59 | | 40-140 | 13 | | 25 |
| Octacosane (C28) | 69 | | 61 | | 40-140 | 12 | | 25 |
| Triacontane (C30) | 70 | | 62 | | 40-140 | 12 | | 25 |
| Hexatriacontane (C36) | 74 | | 66 | | 40-140 | 11 | | 25 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|------------------------------------|------------------|------|-------------------|------|------------------------|
| Chloro-Octadecane | 92 | | 61 | | 40-140 |
| o-Terphenyl | 103 | | 72 | | 40-140 |
| 2-Fluorobiphenyl | 91 | | 78 | | 40-140 |
| 2-Bromonaphthalene | 91 | | 77 | | 40-140 |
| % Naphthalene Breakthrough | 0 | | 0 | | |
| % 2-Methylnaphthalene Breakthrough | 0 | | 0 | | |

Lab Control Sample Analysis **Batch Quality Control**

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG877389-1 WG877389-2 | | | | | | | | |
| C5-C8 Aliphatics | 94 | | 95 | | 70-130 | 1 | | 25 |
| C9-C12 Aliphatics | 102 | | 102 | | 70-130 | 0 | | 25 |
| C9-C10 Aromatics | 105 | | 105 | | 70-130 | 0 | | 25 |
| Benzene | 96 | | 97 | | 70-130 | 1 | | 25 |
| Toluene | 98 | | 98 | | 70-130 | 1 | | 25 |
| Ethylbenzene | 99 | | 99 | | 70-130 | 0 | | 25 |
| p/m-Xylene | 99 | | 99 | | 70-130 | 0 | | 25 |
| o-Xylene | 101 | | 101 | | 70-130 | 0 | | 25 |
| Methyl tert butyl ether | 96 | | 96 | | 70-130 | 0 | | 25 |
| Naphthalene | 92 | | 92 | | 70-130 | 0 | | 25 |
| 1,2,4-Trimethylbenzene | 105 | | 105 | | 70-130 | 0 | | 25 |
| Pentane | 91 | | 91 | | 70-130 | 1 | | 25 |
| 2-Methylpentane | 96 | | 96 | | 70-130 | 0 | | 25 |
| 2,2,4-Trimethylpentane | 96 | | 95 | | 70-130 | 0 | | 25 |
| n-Nonane | 97 | | 97 | | 30-130 | 0 | | 25 |
| n-Decane | 108 | | 108 | | 70-130 | 0 | | 25 |
| n-Butylcyclohexane | 106 | | 106 | | 70-130 | 0 | | 25 |

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16

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

Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG877389-1 WG877389-2

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|------------------------|--------------------------|-------------|---------------------------|-------------|--------------------------------|
| 2,5-Dibromotoluene-PID | 80 | | 80 | | 70-130 |
| 2,5-Dibromotoluene-FID | 90 | | 90 | | 70-130 |

PCBS

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16**SAMPLE RESULTS**

Lab ID: L1608112-01

Client ID: HA-2 (OW)

Sample Location: Not Specified

Matrix: Water

Analytical Method: 5,608

Analytical Date: 03/25/16 10:47

Analyst: JW

Date Collected: 03/21/16 11:10

Date Received: 03/21/16

Field Prep: Field Filtered (Dissolved Metals)

Extraction Method: EPA 608

Extraction Date: 03/24/16 05:07

Cleanup Method: EPA 3665A

Cleanup Date: 03/24/16

Cleanup Method: EPA 3660B

Cleanup Date: 03/24/16

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

| Surrogate | % Recovery | Qualifier | Acceptance Criteria | Column |
|------------------------------|------------|-----------|---------------------|--------|
| 2,4,5,6-Tetrachloro-m-xylene | 60 | | 30-150 | A |
| Decachlorobiphenyl | 69 | | 30-150 | A |

Project Name: HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,608
 Analytical Date: 03/25/16 10:10
 Analyst: JW

Extraction Method: EPA 608
 Extraction Date: 03/24/16 05:07
 Cleanup Method: EPA 3665A
 Cleanup Date: 03/24/16
 Cleanup Method: EPA 3660B
 Cleanup Date: 03/24/16

| Parameter | Result | Qualifier | Units | RL | MDL | Column |
|---|--------|-----------|-------|-------|-----|--------|
| Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG876852-1 | | | | | | |
| Aroclor 1016 | ND | | ug/l | 0.250 | -- | A |
| Aroclor 1221 | ND | | ug/l | 0.250 | -- | A |
| Aroclor 1232 | ND | | ug/l | 0.250 | -- | A |
| Aroclor 1242 | ND | | ug/l | 0.250 | -- | A |
| Aroclor 1248 | ND | | ug/l | 0.250 | -- | A |
| Aroclor 1254 | ND | | ug/l | 0.250 | -- | A |
| Aroclor 1260 | ND | | ug/l | 0.200 | -- | A |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria | Column |
|------------------------------|-----------|-----------|------------------------|--------|
| 2,4,5,6-Tetrachloro-m-xylene | 63 | | 30-150 | A |
| Decachlorobiphenyl | 72 | | 30-150 | A |

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON AVE./ALBANY ST.**Project Number:** 41737-014**Lab Number:** L1608112**Report Date:** 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|---------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG876852-2 WG876852-3 | | | | | | | | | |
| Aroclor 1016 | 79 | | 81 | | 40-140 | 2 | | 50 | A |
| Aroclor 1260 | 71 | | 71 | | 40-140 | 1 | | 50 | A |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria | Column |
|------------------------------|--------------------------|-------------|---------------------------|-------------|--------------------------------|---------------|
| 2,4,5,6-Tetrachloro-m-xylene | 67 | | 69 | | 30-150 | A |
| Decachlorobiphenyl | 77 | | 72 | | 30-150 | A |

METALS

Project Name: HARRISON AVE./ALBANY ST.
Project Number: 41737-014

Lab Number: L1608112
Report Date: 03/27/16

SAMPLE RESULTS

Lab ID: L1608112-01
Client ID: HA-2 (OW)
Sample Location: Not Specified
Matrix: Water

Date Collected: 03/21/16 11:10
Date Received: 03/21/16
Field Prep: Field Filtered
 (Dissolved
 Metals)

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---------|-----------|-------|---------|-----|-----------------|----------------|----------------|-------------|-------------------|---------|
| Total Metals - Westborough Lab | | | | | | | | | | | |
| Antimony, Total | 0.00215 | | mg/l | 0.00200 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:17 | EPA 3005A | 1,6020A | KL |
| Arsenic, Total | 0.00327 | | mg/l | 0.00050 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:17 | EPA 3005A | 1,6020A | KL |
| Cadmium, Total | ND | | mg/l | 0.00020 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:17 | EPA 3005A | 1,6020A | KL |
| Chromium, Total | 0.00396 | | mg/l | 0.00300 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:17 | EPA 3005A | 1,6020A | KL |
| Copper, Total | 0.00607 | | mg/l | 0.00100 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:17 | EPA 3005A | 1,6020A | KL |
| Iron, Total | ND | | mg/l | 0.05 | -- | 1 | 03/24/16 09:20 | 03/25/16 02:05 | EPA 3005A | 19,200.7 | FB |
| Lead, Total | ND | | mg/l | 0.00050 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:17 | EPA 3005A | 1,6020A | KL |
| Mercury, Total | ND | | mg/l | 0.00020 | -- | 1 | 03/25/16 05:21 | 03/25/16 08:25 | EPA 245.1 | 3,245.1 | JH |
| Nickel, Total | ND | | mg/l | 0.00400 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:17 | EPA 3005A | 1,6020A | KL |
| Selenium, Total | 0.00663 | | mg/l | 0.00500 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:17 | EPA 3005A | 1,6020A | KL |
| Silver, Total | ND | | mg/l | 0.00040 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:17 | EPA 3005A | 1,6020A | KL |
| Zinc, Total | ND | | mg/l | 0.01000 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:17 | EPA 3005A | 1,6020A | KL |
| Dissolved Metals - Westborough Lab | | | | | | | | | | | |
| Antimony, Dissolved | 0.00225 | | mg/l | 0.00200 | -- | 1 | 03/24/16 12:20 | 03/25/16 14:00 | EPA 3005A | 1,6020A | KL |
| Arsenic, Dissolved | 0.00339 | | mg/l | 0.00050 | -- | 1 | 03/24/16 12:20 | 03/25/16 14:00 | EPA 3005A | 1,6020A | KL |
| Cadmium, Dissolved | ND | | mg/l | 0.00020 | -- | 1 | 03/24/16 12:20 | 03/25/16 14:00 | EPA 3005A | 1,6020A | KL |
| Chromium, Dissolved | 0.00389 | | mg/l | 0.00300 | -- | 1 | 03/24/16 12:20 | 03/25/16 14:00 | EPA 3005A | 1,6020A | KL |
| Copper, Dissolved | 0.00580 | | mg/l | 0.00100 | -- | 1 | 03/24/16 12:20 | 03/25/16 14:00 | EPA 3005A | 1,6020A | KL |
| Iron, Dissolved | ND | | mg/l | 0.05 | -- | 1 | 03/24/16 12:20 | 03/25/16 02:42 | EPA 3005A | 19,200.7 | FB |
| Lead, Dissolved | ND | | mg/l | 0.00050 | -- | 1 | 03/24/16 12:20 | 03/25/16 14:00 | EPA 3005A | 1,6020A | KL |
| Mercury, Dissolved | ND | | mg/l | 0.00020 | -- | 1 | 03/25/16 04:54 | 03/25/16 08:43 | EPA 245.1 | 3,245.1 | JH |
| Nickel, Dissolved | ND | | mg/l | 0.00400 | -- | 1 | 03/24/16 12:20 | 03/25/16 14:00 | EPA 3005A | 1,6020A | KL |
| Selenium, Dissolved | 0.00670 | | mg/l | 0.00300 | -- | 1 | 03/24/16 12:20 | 03/25/16 14:00 | EPA 3005A | 1,6020A | KL |
| Silver, Dissolved | ND | | mg/l | 0.00040 | -- | 1 | 03/24/16 12:20 | 03/25/16 14:00 | EPA 3005A | 1,6020A | KL |
| Zinc, Dissolved | ND | | mg/l | 0.01000 | -- | 1 | 03/24/16 12:20 | 03/25/16 14:00 | EPA 3005A | 1,6020A | KL |



Project Name: HARRISON AVE./ALBANY ST.

Lab Number: L1608112

Project Number: 41737-014

Report Date: 03/27/16

Method Blank Analysis Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|--|--------|-----------|-------|---------|-----|--------------------|------------------|------------------|----------------------|---------|
| Total Metals - Westborough Lab for sample(s): 01 Batch: WG876912-1 | | | | | | | | | | |
| Antimony, Total | ND | | mg/l | 0.00200 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:10 | 1,6020A | KL |
| Arsenic, Total | ND | | mg/l | 0.00050 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:10 | 1,6020A | KL |
| Cadmium, Total | ND | | mg/l | 0.00020 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:10 | 1,6020A | KL |
| Chromium, Total | ND | | mg/l | 0.00300 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:10 | 1,6020A | KL |
| Copper, Total | ND | | mg/l | 0.00100 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:10 | 1,6020A | KL |
| Lead, Total | ND | | mg/l | 0.00050 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:10 | 1,6020A | KL |
| Nickel, Total | ND | | mg/l | 0.00400 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:10 | 1,6020A | KL |
| Selenium, Total | ND | | mg/l | 0.00500 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:10 | 1,6020A | KL |
| Silver, Total | ND | | mg/l | 0.00040 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:10 | 1,6020A | KL |
| Zinc, Total | ND | | mg/l | 0.01000 | -- | 1 | 03/24/16 09:20 | 03/25/16 12:10 | 1,6020A | KL |

Prep Information

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|--|--------|-----------|-------|------|-----|--------------------|------------------|------------------|----------------------|---------|
| Total Metals - Westborough Lab for sample(s): 01 Batch: WG876914-1 | | | | | | | | | | |
| Iron, Total | ND | | mg/l | 0.05 | -- | 1 | 03/24/16 09:20 | 03/25/16 01:38 | 19,200.7 | FB |

Prep Information

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|--|--------|-----------|-------|---------|-----|--------------------|------------------|------------------|----------------------|---------|
| Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG876988-1 | | | | | | | | | | |
| Antimony, Dissolved | ND | | mg/l | 0.00200 | -- | 1 | 03/24/16 12:20 | 03/25/16 13:52 | 1,6020A | KL |
| Arsenic, Dissolved | ND | | mg/l | 0.00050 | -- | 1 | 03/24/16 12:20 | 03/25/16 13:52 | 1,6020A | KL |
| Cadmium, Dissolved | ND | | mg/l | 0.00020 | -- | 1 | 03/24/16 12:20 | 03/25/16 13:52 | 1,6020A | KL |
| Chromium, Dissolved | ND | | mg/l | 0.00300 | -- | 1 | 03/24/16 12:20 | 03/25/16 13:52 | 1,6020A | KL |
| Copper, Dissolved | ND | | mg/l | 0.00100 | -- | 1 | 03/24/16 12:20 | 03/25/16 13:52 | 1,6020A | KL |
| Lead, Dissolved | ND | | mg/l | 0.00050 | -- | 1 | 03/24/16 12:20 | 03/25/16 13:52 | 1,6020A | KL |
| Nickel, Dissolved | ND | | mg/l | 0.00400 | -- | 1 | 03/24/16 12:20 | 03/25/16 13:52 | 1,6020A | KL |



Project Name: HARRISON AVE./ALBANY ST.

Lab Number: L1608112

Project Number: 41737-014

Report Date: 03/27/16

Method Blank Analysis Batch Quality Control

| | | | | | | | | | |
|---------------------|----|------|---------|----|---|----------------|----------------|---------|----|
| Selenium, Dissolved | ND | mg/l | 0.00500 | -- | 1 | 03/24/16 12:20 | 03/25/16 13:52 | 1,6020A | KL |
| Silver, Dissolved | ND | mg/l | 0.00040 | -- | 1 | 03/24/16 12:20 | 03/25/16 13:52 | 1,6020A | KL |
| Zinc, Dissolved | ND | mg/l | 0.01000 | -- | 1 | 03/24/16 12:20 | 03/25/16 13:52 | 1,6020A | KL |

Prep Information

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|--|--------|-----------|-------|------|-----|--------------------|------------------|------------------|----------------------|---------|
| Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG876990-1 | | | | | | | | | | |
| Iron, Dissolved | ND | | mg/l | 0.05 | -- | 1 | 03/24/16 12:20 | 03/25/16 02:33 | 19,200.7 | FB |

Prep Information

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|--|--------|-----------|-------|---------|-----|--------------------|------------------|------------------|----------------------|---------|
| Dissolved Metals - Westborough Lab for sample(s): 01 Batch: WG877259-1 | | | | | | | | | | |
| Mercury, Dissolved | ND | | mg/l | 0.00020 | -- | 1 | 03/25/16 04:54 | 03/25/16 08:40 | 3,245.1 | JH |

Prep Information

Digestion Method: EPA 245.1

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|--|--------|-----------|-------|---------|-----|--------------------|------------------|------------------|----------------------|---------|
| Total Metals - Westborough Lab for sample(s): 01 Batch: WG877260-1 | | | | | | | | | | |
| Mercury, Total | ND | | mg/l | 0.00020 | -- | 1 | 03/25/16 05:21 | 03/25/16 08:22 | 3,245.1 | JH |

Prep Information

Digestion Method: EPA 245.1



Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG876912-2 | | | | | | | | |
| Antimony, Total | 81 | | - | | 80-120 | - | | |
| Arsenic, Total | 100 | | - | | 80-120 | - | | |
| Cadmium, Total | 106 | | - | | 80-120 | - | | |
| Chromium, Total | 96 | | - | | 80-120 | - | | |
| Copper, Total | 99 | | - | | 80-120 | - | | |
| Lead, Total | 106 | | - | | 80-120 | - | | |
| Nickel, Total | 100 | | - | | 80-120 | - | | |
| Selenium, Total | 112 | | - | | 80-120 | - | | |
| Silver, Total | 95 | | - | | 80-120 | - | | |
| Zinc, Total | 102 | | - | | 80-120 | - | | |
| Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG876914-2 | | | | | | | | |
| Iron, Total | 89 | | - | | 85-115 | - | | |

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16

| Parameter | LCS %Recovery | LCSD %Recovery | %Recovery Limits | RPD | RPD Limits |
|---|------------------|-------------------|---------------------|-----|------------|
| Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG876988-2 | | | | | |
| Antimony, Dissolved | 96 | - | 80-120 | - | |
| Arsenic, Dissolved | 98 | - | 80-120 | - | |
| Cadmium, Dissolved | 102 | - | 80-120 | - | |
| Chromium, Dissolved | 95 | - | 80-120 | - | |
| Copper, Dissolved | 95 | - | 80-120 | - | |
| Lead, Dissolved | 100 | - | 80-120 | - | |
| Nickel, Dissolved | 98 | - | 80-120 | - | |
| Selenium, Dissolved | 111 | - | 80-120 | - | |
| Silver, Dissolved | 92 | - | 80-120 | - | |
| Zinc, Dissolved | 96 | - | 80-120 | - | |
| Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG876990-2 | | | | | |
| Iron, Dissolved | 90 | - | 85-115 | - | |
| Dissolved Metals - Westborough Lab Associated sample(s): 01 Batch: WG877259-2 | | | | | |
| Mercury, Dissolved | 113 | - | 85-115 | - | |
| Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG877260-2 | | | | | |
| Mercury, Total | 113 | - | 85-115 | - | |

Matrix Spike Analysis **Batch Quality Control**

Project Name: HARRISON AVE./ALBANY ST.
Project Number: 41737-014

Lab Number: L1608112
Report Date: 03/27/16

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876912-4 QC Sample: L1607676-13 Client ID: MS Sample | | | | | | | | | | | | |
| Antimony, Total | ND | 0.5 | 0.5376 | 108 | | - | - | | 75-125 | - | | 20 |
| Arsenic, Total | ND | 0.12 | 0.1239 | 103 | | - | - | | 75-125 | - | | 20 |
| Cadmium, Total | ND | 0.051 | 0.05525 | 108 | | - | - | | 75-125 | - | | 20 |
| Chromium, Total | ND | 0.2 | 0.1881 | 94 | | - | - | | 75-125 | - | | 20 |
| Copper, Total | ND | 0.25 | 0.2387 | 95 | | - | - | | 75-125 | - | | 20 |
| Lead, Total | ND | 0.51 | 0.5469 | 107 | | - | - | | 75-125 | - | | 20 |
| Nickel, Total | ND | 0.5 | 0.4908 | 98 | | - | - | | 75-125 | - | | 20 |
| Selenium, Total | ND | 0.12 | 0.121 | 101 | | - | - | | 75-125 | - | | 20 |
| Silver, Total | ND | 0.05 | 0.04853 | 97 | | - | - | | 75-125 | - | | 20 |
| Zinc, Total | ND | 0.5 | 0.4836 | 97 | | - | - | | 75-125 | - | | 20 |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876914-4 QC Sample: L1600003-118 Client ID: MS Sample | | | | | | | | | | | | |
| Iron, Total | ND | 1 | 0.88 | 88 | | - | - | | 75-125 | - | | 20 |

Matrix Spike Analysis **Batch Quality Control**

Project Name: HARRISON AVE./ALBANY ST.
Project Number: 41737-014

Lab Number: L1608112
Report Date: 03/27/16

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | MSD Found | MSD %Recovery | Recovery Limits | RPD | RPD Limits |
|---|---------------|----------|----------|--------------|-----------|---------------|-----------------|-----|------------|
| Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876988-4 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | | | | |
| Antimony, Dissolved | 0.00225 | 0.5 | 0.5852 | 116 | - | - | 75-125 | - | 20 |
| Arsenic, Dissolved | 0.00339 | 0.12 | 0.1358 | 110 | - | - | 75-125 | - | 20 |
| Cadmium, Dissolved | ND | 0.051 | 0.05642 | 111 | - | - | 75-125 | - | 20 |
| Chromium, Dissolved | 0.00389 | 0.2 | 0.2100 | 103 | - | - | 75-125 | - | 20 |
| Copper, Dissolved | 0.00580 | 0.25 | 0.2718 | 106 | - | - | 75-125 | - | 20 |
| Lead, Dissolved | ND | 0.51 | 0.5832 | 114 | - | - | 75-125 | - | 20 |
| Nickel, Dissolved | ND | 0.5 | 0.5154 | 103 | - | - | 75-125 | - | 20 |
| Selenium, Dissolved | 0.00670 | 0.12 | 0.148 | 118 | - | - | 75-125 | - | 20 |
| Silver, Dissolved | ND | 0.05 | 0.05140 | 103 | - | - | 75-125 | - | 20 |
| Zinc, Dissolved | ND | 0.5 | 0.5308 | 106 | - | - | 75-125 | - | 20 |
| Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876990-4 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | | | | |
| Iron, Dissolved | ND | 1 | 0.87 | 87 | - | - | 75-125 | - | 20 |
| Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG877259-4 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | | | | |
| Mercury, Dissolved | ND | 0.005 | 0.00516 | 103 | - | - | 75-125 | - | 20 |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG877260-4 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | | | | |
| Mercury, Total | ND | 0.005 | 0.00511 | 102 | - | - | 70-130 | - | 20 |

Lab Duplicate Analysis Batch Quality Control

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876912-3 QC Sample: L1607676-13 Client ID: DUP Sample | | | | | | |
| Antimony, Total | ND | ND | mg/l | NC | | 20 |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876914-3 QC Sample: L1600003-118 Client ID: DUP Sample | | | | | | |
| Iron, Total | ND | ND | mg/l | NC | | 20 |
| Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876988-3 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | |
| Antimony, Dissolved | 0.00225 | 0.00206 | mg/l | 9 | | 20 |
| Arsenic, Dissolved | 0.00339 | 0.00336 | mg/l | 1 | | 20 |
| Cadmium, Dissolved | ND | ND | mg/l | NC | | 20 |
| Chromium, Dissolved | 0.00389 | 0.00360 | mg/l | 8 | | 20 |
| Copper, Dissolved | 0.00580 | 0.00577 | mg/l | 0 | | 20 |
| Lead, Dissolved | ND | ND | mg/l | NC | | 20 |
| Nickel, Dissolved | ND | ND | mg/l | NC | | 20 |
| Selenium, Dissolved | 0.00670 | 0.00664 | mg/l | 1 | | 20 |
| Silver, Dissolved | ND | ND | mg/l | NC | | 20 |
| Zinc, Dissolved | ND | ND | mg/l | NC | | 20 |
| Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876990-3 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | |
| Iron, Dissolved | ND | ND | mg/l | NC | | 20 |
| Dissolved Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG877259-3 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | |
| Mercury, Dissolved | ND | ND | mg/l | NC | | 20 |

Lab Duplicate Analysis
Batch Quality Control**Project Name:** HARRISON AVE./ALBANY ST.**Project Number:** 41737-014**Lab Number:** L1608112**Report Date:** 03/27/16

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits |
|---|---------------|------------------|-------|-----|------------|
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG877260-3 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | |
| Mercury, Total | ND | ND | mg/l | NC | 20 |

INORGANICS & MISCELLANEOUS

Project Name: HARRISON AVE./ALBANY ST.

Lab Number: L1608112

Project Number: 41737-014

Report Date: 03/27/16

SAMPLE RESULTS

Lab ID: L1608112-01

Date Collected: 03/21/16 11:10

Client ID: HA-2 (OW)

Date Received: 03/21/16

Sample Location: Not Specified

Field Prep: Field Filtered

Matrix: Water

(Dissolved Metals)

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|--|--------|-----------|-------|-------|-----|-----------------|----------------|----------------|-------------------|---------|
| General Chemistry - Westborough Lab | | | | | | | | | | |
| Solids, Total Suspended | ND | | mg/l | 5.0 | NA | 1 | - | 03/24/16 13:50 | 121,2540D | SG |
| Cyanide, Total | 0.005 | | mg/l | 0.005 | -- | 1 | 03/22/16 12:34 | 03/22/16 16:34 | 30,4500CN-CE | JO |
| Cyanide, Amenable | ND | | mg/l | 0.010 | -- | 2 | 03/23/16 09:10 | 03/23/16 13:53 | 121,4500CN-G | JO |
| Cyanide, Physiologically Available | ND | | mg/l | 0.005 | -- | 1 | 03/24/16 09:13 | 03/24/16 12:47 | 64,9014(M) | JO |
| Chlorine, Total Residual | ND | | mg/l | 0.02 | -- | 1 | - | 03/22/16 02:20 | 30,4500CL-D | LH |
| TPH, SGT-HEM | ND | | mg/l | 4.00 | -- | 1 | 03/22/16 17:30 | 03/22/16 22:00 | 74,1664A | ML |
| Phenolics, Total | ND | | mg/l | 0.030 | -- | 1 | 03/24/16 10:00 | 03/24/16 14:49 | 4,420.1 | MP |
| Chromium, Hexavalent | ND | | mg/l | 0.010 | -- | 1 | 03/21/16 23:12 | 03/21/16 23:26 | 119,3500CR-B | LH |
| Anions by Ion Chromatography - Westborough Lab | | | | | | | | | | |
| Chloride | 1650 | | mg/l | 25.0 | -- | 50 | - | 03/23/16 18:17 | 44,300.0 | AU |



Project Name: HARRISON AVE./ALBANY ST.

Lab Number: L1608112

Project Number: 41737-014

Report Date: 03/27/16

Method Blank Analysis Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|--|--------|-----------|-------|-------|-----|--------------------|------------------|------------------|----------------------|---------|
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG876002-1 | | | | | | | | | | |
| Chromium, Hexavalent | ND | | mg/l | 0.010 | -- | 1 | 03/21/16 23:12 | 03/21/16 23:25 | 119,3500CR-B | LH |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG876027-1 | | | | | | | | | | |
| Chlorine, Total Residual | ND | | mg/l | 0.02 | -- | 1 | - | 03/22/16 02:20 | 30,4500CL-D | LH |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG876152-1 | | | | | | | | | | |
| Cyanide, Total | ND | | mg/l | 0.005 | -- | 1 | 03/22/16 12:34 | 03/22/16 15:50 | 30,4500CN-CE | JO |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG876322-1 | | | | | | | | | | |
| TPH, SGT-HEM | ND | | mg/l | 4.00 | -- | 1 | 03/22/16 17:30 | 03/22/16 22:00 | 74,1664A | ML |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG876512-1 | | | | | | | | | | |
| Cyanide, Amenable | ND | | mg/l | 0.010 | -- | 2 | 03/23/16 09:10 | 03/23/16 13:53 | 121,4500CN-G | JO |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG876891-1 | | | | | | | | | | |
| Cyanide, Physiologically Available | ND | | mg/l | 0.005 | -- | 1 | 03/24/16 09:13 | 03/24/16 12:23 | 64,9014(M) | JO |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG876897-1 | | | | | | | | | | |
| Phenolics, Total | ND | | mg/l | 0.030 | -- | 1 | 03/24/16 10:00 | 03/24/16 14:45 | 4,420.1 | MP |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG876925-1 | | | | | | | | | | |
| Solids, Total Suspended | ND | | mg/l | 5.0 | NA | 1 | - | 03/24/16 13:50 | 121,2540D | SG |
| Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG877170-1 | | | | | | | | | | |
| Chloride | ND | | mg/l | 0.500 | -- | 1 | - | 03/23/16 16:53 | 44,300.0 | AU |



Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG876002-2 | | | | | | | | |
| Chromium, Hexavalent | 99 | | - | | 85-115 | - | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG876027-2 | | | | | | | | |
| Chlorine, Total Residual | 105 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG876152-2 | | | | | | | | |
| Cyanide, Total | 100 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG876322-2 | | | | | | | | |
| TPH | 90 | | - | | 64-132 | - | | 34 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG876512-2 | | | | | | | | |
| Cyanide, Amenable | 100 | | - | | 85-115 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG876891-2 | | | | | | | | |
| Cyanide, Physiologically Available | 99 | | - | | 80-120 | - | | |
| General Chemistry - Westborough Lab NEGATIVE LCS Associated sample(s): 01 Batch: WG876891-3 | | | | | | | | |
| Cyanide, Physiologically Available | 2 | | - | | 0-10 | - | | |

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON AVE./ALBANY ST.**Lab Number:** L1608112**Project Number:** 41737-014**Report Date:** 03/27/16

| Parameter | LCS %Recovery | LCSD %Recovery | %Recovery Limits | RPD | RPD Limits |
|---|------------------|-------------------|---------------------|-----|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG876897-2 | | | | | |
| Phenolics, Total | 92 | - | 70-130 | - | |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG877170-2 | | | | | |
| Chloride | 103 | - | 90-110 | - | |

Matrix Spike Analysis

Batch Quality Control

Project Name: HARRISON AVE./ALBANY ST.
Project Number: 41737-014

Lab Number: L1608112
Report Date: 03/27/16

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876002-4 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | | | | | | | |
| Chromium, Hexavalent | ND | 0.1 | 0.106 | 106 | | - | - | | 85-115 | - | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876152-4 QC Sample: L1607614-02 Client ID: MS Sample | | | | | | | | | | | | |
| Cyanide, Total | 0.023 | 0.4 | 0.423 | 100 | | - | - | | 90-110 | - | | 30 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876322-4 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | | | | | | | |
| TPH | ND | 20.4 | 17.2 | 84 | | - | - | | 64-132 | - | | 34 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876891-5 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | | | | | | | |
| Cyanide, Physiologically Available | ND | 0.2 | 0.168 | 84 | | - | - | | 75-125 | - | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876897-4 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | | | | | | | |
| Phenolics, Total | ND | 0.4 | 0.38 | 95 | | - | - | | 70-130 | - | | 20 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG877170-3 QC Sample: L1608204-03 Client ID: MS Sample | | | | | | | | | | | | |
| Chloride | 22.4 | 4 | 25.6 | 80 | | - | - | | 40-151 | - | | 18 |

Lab Duplicate Analysis

Batch Quality Control

Project Name: HARRISON AVE./ALBANY ST.
Project Number: 41737-014

Lab Number: L1608112
Report Date: 03/27/16

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876002-3 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | |
| Chromium, Hexavalent | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876027-3 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | |
| Chlorine, Total Residual | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876152-3 QC Sample: L1607614-01 Client ID: DUP Sample | | | | | | |
| Cyanide, Total | 0.024 | 0.023 | mg/l | 3 | | 30 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876322-3 QC Sample: L1607914-02 Client ID: DUP Sample | | | | | | |
| TPH | ND | ND | mg/l | NC | | 34 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876512-3 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | |
| Cyanide, Amenable | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876891-4 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | |
| Cyanide, Physiologically Available | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876897-3 QC Sample: L1608112-01 Client ID: HA-2 (OW) | | | | | | |
| Phenolics, Total | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG876925-2 QC Sample: L1607708-02 Client ID: DUP Sample | | | | | | |
| Solids, Total Suspended | 630 | 700 | mg/l | 11 | | 29 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG877170-4 QC Sample: L1608204-03 Client ID: DUP Sample | | | | | | |
| Chloride | 22.4 | 22.5 | mg/l | 0 | | 18 |

Project Name: HARRISON AVE./ALBANY ST.

Project Number: 41737-014

Lab Number: L1608112

Report Date: 03/27/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler

A Absent

Container Information

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|---------------|------------------------------|--------|-----|------------|------|--------|---|
| L1608112-01A | Vial HCl preserved | A | N/A | 4.4 | Y | Absent | 8260-SIM(14),8260(14) |
| L1608112-01B | Vial HCl preserved | A | N/A | 4.4 | Y | Absent | 8260-SIM(14),8260(14) |
| L1608112-01C | Vial HCl preserved | A | N/A | 4.4 | Y | Absent | 8260-SIM(14),8260(14) |
| L1608112-01D | Vial HCl preserved | A | N/A | 4.4 | Y | Absent | VPH-10(14) |
| L1608112-01E | Vial HCl preserved | A | N/A | 4.4 | Y | Absent | VPH-10(14) |
| L1608112-01F | Vial HCl preserved | A | N/A | 4.4 | Y | Absent | VPH-10(14) |
| L1608112-01G | Vial Na2S2O3 preserved | A | N/A | 4.4 | Y | Absent | 504(14) |
| L1608112-01H | Vial Na2S2O3 preserved | A | N/A | 4.4 | Y | Absent | 504(14) |
| L1608112-01I | Plastic 500ml HNO3 preserved | A | <2 | 4.4 | Y | Absent | SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-UI(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180) |
| L1608112-01J | Plastic 500ml HNO3 preserved | A | <2 | 4.4 | Y | Absent | CU-6020S(180),FE-RI(180),SE-6020S(180),ZN-6020S(180),CR-6020S(180),NI-6020S(180),PB-6020S(180),AG-6020S(180),AS-6020S(180),HG-R(28),SB-6020S(180),CD-6020S(180) |
| L1608112-01K | Plastic 250ml NaOH preserved | A | >12 | 4.4 | Y | Absent | TCN-4500(14),ACN-4500(14),PACN(14) |
| L1608112-01K1 | Plastic 250ml NaOH preserved | A | >12 | 4.4 | Y | Absent | TCN-4500(14),PACN(14) |
| L1608112-01L | Plastic 950ml unpreserved | A | 7 | 4.4 | Y | Absent | CL-300(28),HEXCR-3500(1),TRC-4500(1) |
| L1608112-01M | Plastic 950ml unpreserved | A | 7 | 4.4 | Y | Absent | TSS-2540(7) |
| L1608112-01N | Amber 950ml H2SO4 preserved | A | <2 | 4.4 | Y | Absent | TPHENOL-420(28) |
| L1608112-01O | Amber 1000ml HCl preserved | A | <2 | 4.4 | Y | Absent | TPH-1664(28) |
| L1608112-01P | Amber 1000ml HCl preserved | A | <2 | 4.4 | Y | Absent | TPH-1664(28) |
| L1608112-01Q | Amber 1000ml HCl preserved | A | <2 | 4.4 | Y | Absent | EPH-10(14) |
| L1608112-01R | Amber 1000ml HCl preserved | A | <2 | 4.4 | Y | Absent | EPH-10(14) |
| L1608112-01S | Amber 1000ml Na2S2O3 | A | 7 | 4.4 | Y | Absent | PCB-608(7) |
| L1608112-01T | Amber 1000ml Na2S2O3 | A | 7 | 4.4 | Y | Absent | PCB-608(7) |
| L1608112-01U | Amber 1000ml unpreserved | A | 7 | 4.4 | Y | Absent | 8270TCL(7),8270TCL-SIM(7) |
| L1608112-01V | Amber 1000ml unpreserved | A | 7 | 4.4 | Y | Absent | 8270TCL(7),8270TCL-SIM(7) |

*Values in parentheses indicate holding time in days



Project Name: HARRISON AVE./ALBANY ST.**Project Number:** 41737-014**Lab Number:** L1608112**Report Date:** 03/27/16**Container Information**

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|--------------|------------------------|--------|-----|---------------|------|--------|-----------------------|
| L1608112-02A | Vial HCl preserved | A | N/A | 4.4 | Y | Absent | 8260-SIM(14),8260(14) |
| L1608112-02B | Vial HCl preserved | A | N/A | 4.4 | Y | Absent | 8260-SIM(14),8260(14) |
| L1608112-02C | Vial Na2S2O3 preserved | A | N/A | 4.4 | Y | Absent | 504(14) |
| L1608112-02D | Vial Na2S2O3 preserved | A | N/A | 4.4 | Y | Absent | 504(14) |

Container Comments

L1608112-01T

*Values in parentheses indicate holding time in days



Project Name: HARRISON AVE./ALBANY ST.
Project Number: 41737-014

Lab Number: L1608112
Report Date: 03/27/16

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

Data Qualifiers

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

Report Format: Data Usability Report



Project Name: HARRISON AVE./ALBANY ST.
Project Number: 41737-014

Lab Number: L1608112
Report Date: 03/27/16

Data Qualifiers

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: HARRISON AVE./ALBANY ST.
Project Number: 41737-014

Lab Number: L1608112
Report Date: 03/27/16

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.
- 4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.
- 5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).
- 14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.
- 19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 64 Quality Assurance and Quality Control Requirements and Performance Standards for SW-846 Methods. MADEP BWSC. WSC-CAM-IIA (Revision 4), WSC-CAM-V C (Revision 2), WSC-CAM-IIIA (Revision 5). August 2004.
- 74 Method 1664, Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.
- 98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.
- 100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

LIMITATION OF LIABILITIES

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

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



- 119 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 21st Edition.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene

EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene

EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.

EPA 1010A: NPW: Ignitability

EPA 6010C: NPW: Strontium; SCM: Strontium

EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation

EPA 9038: NPW: Sulfate

EPA 9050A: NPW: Specific Conductance

EPA 9056: NPW: Chloride, Nitrate, Sulfate

EPA 9065: NPW: Phenols

EPA 9251: NPW: Chloride

SM3500: NPW: Ferrous Iron

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

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam

EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane

SM 2540D: TSS

SM2540G: SCM: Percent Solids

EPA 1631E: SCM: Mercury

EPA 7474: SCM: Mercury

EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA 8270-SIM: NPW and SCM: Alkylated PAHs.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.

Biological Tissue Matrix: **8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:** Lead; **8270D:** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

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

Drinking Water

EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Ti; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1,**

SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Ti, Zn;

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, Ti, Tl, V, Zn;

EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA

350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F,**

EPA 353.2: Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D,**

EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

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

| HALEY ALDRICH | | Haley & Aldrich, Inc. 465 Medford St., Suite 2200, Boston, MA 02129-1402 | | CHAIN OF CUSTODY RECORD | | L1608112 | | Phone (617) 886-7400 Fax (617) 886-7600 | | | | | | | | | | | |
|---|--------|---|-------|---------------------------------------|--------------------|-------------|---|--|---|---|---|---|---|----|----|-------------------|----------------------|---|--|
| H&A FILE NO. 41737-014 | | LABORATORY Alpha | | DELIVERY DATE 3/2/16 | | Page 1 of 1 | | | | | | | | | | | | | |
| PROJECT NAME Harrison Ave. / Albany St | | ADDRESS Waltham | | TURNAROUND TIME STD | | | | | | | | | | | | | | | |
| H&A CONTACT L Vanzler | | CONTACT Gina | | PROJECT MANAGER M. Atwood / L Vanzler | | | | | | | | | | | | | | | |
| Sample No. | Date | Time | Depth | Type | Analysis Requested | | | | | | | | | | | | Number of Containers | Comments (special instructions, precautions, additional method numbers, etc.) | |
| HA-2 (ow) trip blank | 3/2/16 | 1110 | - | AQ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 23 | Laboratory to use applicable DEP CAM methods, unless otherwise directed. | |
| | | | | | X | X | X | X | X | X | X | X | X | X | X | X | 4 | ① Cr ^{VI} -350 TRC, chloride, TSS ② Total CN ③ SO ₄ ④ TPIT EPH ⑤ 8260 / 8260 SEM ⑥ T Phenol 420 ⑦ PCB GOS ⑧ Total NP14 Metals ⑨ Dissolved NP14 Metals (F) | |
| Metals are Total and Dissolved NPDES RGP Metals | | | | | | | | | | | | | | | | | | | |
| EPH and VPH are ranges only | | | | | | | | | | | | | | | | | | | |
| Sampled and Relinquished by | | Received by | | LIQUID | | | | | | | | | | | | Sampling Comments | | | |
| Sign S. Promencal | | Sign M. Atwood | | | | | | | | | | | | | | | | | |
| Print S. Promencal | | Print M. Atwood | | | | | | | | | | | | | | | | | |
| Firm H&A | | Firm H&A | | | | | | | | | | | | | | | | | |
| Date 3/2/16 Time | | Date 3/2/16 Time 1630 | | | | | | | | | | | | | | | | | |
| Relinquished by | | Received by | | SOLID | | | | | | | | | | | | | | | |
| Sign M. Atwood | | Sign J. M. Atwood | | | | | | | | | | | | | | | | | |
| Print M. Atwood | | Print J. M. Atwood | | | | | | | | | | | | | | | | | |
| Firm H&A | | Firm H&A | | | | | | | | | | | | | | | | | |
| Date 3/2/16 Time 1630 | | Date 3/2/16 Time 1630 | | | | | | | | | | | | | | | | | |
| Relinquished by | | Received by | | PRESERVATION KEY | | | | | | | | | | | | | | | |
| Sign J. M. Atwood | | Sign M. Atwood | | | | | | | | | | | | | | | | | |
| Print J. M. Atwood | | Print M. Atwood | | | | | | | | | | | | | | | | | |
| Firm H&A | | Firm H&A | | | | | | | | | | | | | | | | | |
| Date 3/2/16 Time 1725 | | Date 3/2/16 Time 1725 | | | | | | | | | | | | | | | | | |
| Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods) | | | | | | | | | | | | | | | | | | | |
| If Presumptive Certainty Data Package is needed, initial all sections: | | | | | | | | | | | | | | | | | | | |
| The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, as appropriate, to meet the requirements of Presumptive Certainty. | | | | | | | | | | | | | | | | | | | |
| Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein. | | | | | | | | | | | | | | | | | | | |
| This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples. | | | | | | | | | | | | | | | | | | | |
| If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) _____ analyze | | | | | | | | | | | | | | | | | | | |
| Required Reporting Limits and Data Quality Objectives | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> RC-S1 <input type="checkbox"/> S1 <input type="checkbox"/> GW1 <input type="checkbox"/> RC-S2 <input type="checkbox"/> S2 <input type="checkbox"/> GW2 <input type="checkbox"/> RC-GW1 <input type="checkbox"/> S3 <input type="checkbox"/> GW3 <input type="checkbox"/> RC-GW2 | | | | | | | | | | | | | | | | | | | |

| HALEY ALDRICH | | Haley & Aldrich, Inc. 465 Medford St., Suite 2200, Boston, MA 02129-1402 | | CHAIN OF CUSTODY RECORD | | L1608112 | | Phone (617) 886-7400 Fax (617) 886-7600 | | | | | | | | | | |
|---|--------|---|-------|--|--------------------|-------------|---|--|---|---|---|---|---|----|----|---|----------------------|--|
| H&A FILE NO. 41737-014 | | LABORATORY Alpha | | DELIVERY DATE 3/2/16 | | Page 1 of 1 | | | | | | | | | | | | |
| PROJECT NAME Harrison Ave. / Albany St | | ADDRESS Waltham | | TURNAROUND TIME STD | | | | | | | | | | | | | | |
| H&A CONTACT L. Vanzler | | CONTACT G. A. | | PROJECT MANAGER M. Atwood / L. Vanzler | | | | | | | | | | | | | | |
| Sample No. | Date | Time | Depth | Type | Analysis Requested | | | | | | | | | | | | Number of Containers | Comments (special instructions, precautions, additional method numbers, etc.) |
| HA-2 (ow) trip blank | 3/2/16 | 1110 | - | AQ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 23 | Laboratory to use applicable DEP CAM methods, unless otherwise directed. |
| | | | | | X | X | X | X | X | X | X | X | X | X | X | X | 4 | ① Cr ^{VI} -350 TRC, chloride, TSS ② Total CN ③ SO ₄ ④ TPIT EPH ⑤ 8260 / 8260 SEM ⑥ T Phenol 420 ⑦ PCB GOS ⑧ Total MCP14 Metals ⑨ Dissolved MCP14 Metals (F) ⑩ 8210/8210 SEM ⑪ UPIT ⑫ ACN PACN |
| Sampled and Relinquished by | | Received by | | LIQUID | | | | | | | | | | | | Sampling Comments | | |
| Sign S. Promecal | | Sign M. Atwood | | VOA Vial | | | | | | | | | | | | | | |
| Print S. Promecal | | Print M. Atwood | | Amber Glass | | | | | | | | | | | | | | |
| Firm H&A | | Firm H&A | | Plastic Bottle | | | | | | | | | | | | | | |
| Date 3/2/16 Time | | Date 3/2/16 Time 1630 | | Preservative | | | | | | | | | | | | | | |
| Relinquished by | | Received by | | Volume | | | | | | | | | | | | | | |
| Sign M. Atwood | | Sign J. M. Atwood | | SOLID | | | | | | | | | | | | | | |
| Print M. Atwood | | Print J. M. Atwood | | VOA Vial | | | | | | | | | | | | | | |
| Firm H&A | | Firm H&A | | Amber Glass | | | | | | | | | | | | | | |
| Date 3/2/16 Time 1630 | | Date 3/2/16 Time 1630 | | Clear Glass | | | | | | | | | | | | | | |
| Relinquished by | | Received by | | Preservative | | | | | | | | | | | | Evidence samples were tampered with? YES NO | | |
| Sign J. M. Atwood | | Sign M. Atwood | | Volume | | | | | | | | | | | | If YES, please explain in section below. | | |
| Print J. M. Atwood | | Print M. Atwood | | | | | | | | | | | | | | | | |
| Firm H&A | | Firm H&A | | | | | | | | | | | | | | | | |
| Date 3/2/16 Time 1725 | | Date 3/2/16 Time 1725 | | | | | | | | | | | | | | | | |
| PRESERVATION KEY | | | | | | | | | | | | | | | | | | |
| A Sample chilled C NaOH E H ₂ SO ₄ G Methanol I NASE ₂ | | | | | | | | | | | | | | | | | | |
| B Sample filtered D HNO ₃ F HCL H Water/NaHSO ₄ (circle) | | | | | | | | | | | | | | | | | | |
| Presumptive Certainty Data Package (Laboratory to use applicable DEP CAM methods) | | | | | | | | | | | | | | | | | | |
| If Presumptive Certainty Data Package is needed, initial all sections: | | | | | | | | | | | | | | | | | | |
| The required minimum field QC samples, as designated in BWSC CAM-VII have been or will be collected, to meet the requirements of Presumptive Certainty. | | | | | | | | | | | | | | | | | | |
| Matrix Spike (MS) samples for MCP Metals and/or Cyanide are included and identified herein. | | | | | | | | | | | | | | | | | | |
| This Chain of Custody Record (specify) _____ includes _____ does not include samples defined as Drinking Water Samples. | | | | | | | | | | | | | | | | | | |
| If this Chain of Custody Record identifies samples defined as Drinking Water Samples, Trip Blanks and Field Duplicates are included and identified and analysis of TICs are required, as appropriate. Laboratory should (specify if applicable) _____ analyze | | | | | | | | | | | | | | | | | | |
| Required Reporting Limits and Data Quality Objectives | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> RC-S1 <input type="checkbox"/> S1 <input type="checkbox"/> GW1 <input type="checkbox"/> RC-S2 <input type="checkbox"/> S2 <input type="checkbox"/> GW2 <input type="checkbox"/> RC-GW1 <input type="checkbox"/> S3 <input type="checkbox"/> GW3 <input type="checkbox"/> RC-GW2 | | | | | | | | | | | | | | | | | | |



ANALYTICAL REPORT

| | |
|-----------------|---|
| Lab Number: | L1719410 |
| Client: | Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400 |
| ATTN: | Lee Vanzler |
| Phone: | (617) 886-7561 |
| Project Name: | HARRISON/ALBANY BLOCK |
| Project Number: | 129168-007 |
| Report Date: | 06/15/17 |

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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



Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719410
Report Date: 06/15/17

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|----------------------------|------------------|---------------|--------------------------------------|---------------------------------|---------------------|
| L1719410-01 | R-C6 (OW) | WATER | 89 EAST DEDHAM STREET, BOSTON, MA | 06/09/17 13:35 | 06/09/17 |
| L1719410-02 | TRIP BLANK | WATER | 89 EAST DEDHAM STREET, BOSTON, MA | 06/09/17 00:00 | 06/09/17 |

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719410
Report Date: 06/15/17

Case Narrative

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

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

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

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

HOLD POLICY

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

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

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719410
Report Date: 06/15/17

Case Narrative (continued)

Sample Receipt

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice and delivered directly from the sampling site.

Semivolatile Organics

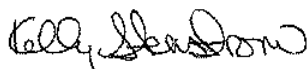
The WG1013173-3 LCSD recovery, associated with L1719410-01 (R-C6 (OW)), is below the acceptance criteria for benzidine (4%); however, it has been identified as a "difficult" analyte. The results of the associated sample are reported.

TPH, SGT-HEM

WG1011837: A laboratory duplicate could not be performed due to insufficient sample volume available for analysis.

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

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 06/15/17

ORGANICS

VOLATILES

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**SAMPLE RESULTS**

Lab ID: L1719410-01
 Client ID: R-C6 (OW)
 Sample Location: 89 EAST DEDHAM STREET, BOSTON, MA

Date Collected: 06/09/17 13:35
 Date Received: 06/09/17
 Field Prep: Not Specified

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 06/12/17 14:01
 Analyst: MM

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



Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**SAMPLE RESULTS****Lab ID:** L1719410-01**Date Collected:** 06/09/17 13:35**Client ID:** R-C6 (OW)**Date Received:** 06/09/17**Sample Location:** 89 EAST DEDHAM STREET, BOSTON, MA**Field Prep:** Not Specified

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



Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**SAMPLE RESULTS****Lab ID:** L1719410-01**Date Collected:** 06/09/17 13:35**Client ID:** R-C6 (OW)**Date Received:** 06/09/17**Sample Location:** 89 EAST DEDHAM STREET, BOSTON, MA**Field Prep:** Not Specified

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

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 91 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**SAMPLE RESULTS**

Lab ID: L1719410-01
Client ID: R-C6 (OW)
Sample Location: 89 EAST DEDHAM STREET, BOSTON, MA

Date Collected: 06/09/17 13:35
Date Received: 06/09/17
Field Prep: Not Specified

Matrix: Water
Analytical Method: 1,8260C-SIM(M)
Analytical Date: 06/12/17 14:01
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

Volatile Organics by GC/MS-SIM - Westborough Lab

| | | | | | | |
|-------------|----|--|------|-----|----|---|
| 1,4-Dioxane | ND | | ug/l | 3.0 | -- | 1 |
|-------------|----|--|------|-----|----|---|

Project Name: HARRISON/ALBANY BLOCK**Project Number:** 129168-007**Lab Number:** L1719410**Report Date:** 06/15/17**SAMPLE RESULTS**

Lab ID: L1719410-01
Client ID: R-C6 (OW)
Sample Location: 89 EAST DEDHAM STREET, BOSTON, MA

Date Collected: 06/09/17 13:35
Date Received: 06/09/17
Field Prep: Not Specified
Extraction Method: EPA 504.1
Extraction Date: 06/12/17 15:03

Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 06/12/17 17:53
Analyst: NS

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|--------|-----------|-------|-------|-----|-----------------|--------|
| Microextractables by GC - Westborough Lab | | | | | | | |
| 1,2-Dibromoethane | ND | | ug/l | 0.010 | -- | 1 | A |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 0.010 | -- | 1 | A |

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**Method Blank Analysis**
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 06/12/17 16:49
Analyst: NS

Extraction Method: EPA 504.1
Extraction Date: 06/12/17 15:03

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|-------|------|
| Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG1012290-1 | | | | | |
| 1,2-Dibromoethane | ND | | ug/l | 0.010 | -- A |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 0.010 | -- A |

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**Method Blank Analysis**
Batch Quality Control

Analytical Method: 1,8260C-SIM(M)

Analytical Date: 06/12/17 08:24

Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|-----|-----|
| Volatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1012451-5 | | | | | |
| 1,4-Dioxane | ND | | ug/l | 3.0 | -- |

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 06/12/17 08:24
 Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|------|-----|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1012459-5 | | | | | |
| Methylene chloride | ND | | ug/l | 3.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 0.75 | -- |
| Chloroform | ND | | ug/l | 0.75 | -- |
| Carbon tetrachloride | ND | | ug/l | 0.50 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.8 | -- |
| Dibromochloromethane | ND | | ug/l | 0.50 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 0.75 | -- |
| Tetrachloroethene | ND | | ug/l | 0.50 | -- |
| Chlorobenzene | ND | | ug/l | 0.50 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.5 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 0.50 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 0.50 | -- |
| Bromodichloromethane | ND | | ug/l | 0.50 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 0.50 | -- |
| Benzene | ND | | ug/l | 0.50 | -- |
| Toluene | ND | | ug/l | 0.75 | -- |
| Ethylbenzene | ND | | ug/l | 0.50 | -- |
| Chloromethane | ND | | ug/l | 2.5 | -- |
| Bromomethane | ND | | ug/l | 1.0 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 1.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 0.50 | -- |
| 1,2-Dichloroethene, Total | ND | | ug/l | 0.50 | -- |
| Trichloroethene | ND | | ug/l | 0.50 | -- |

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 06/12/17 08:24
 Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|------|-----|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1012459-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.5 | -- |
| Methyl tert butyl ether | ND | | ug/l | 1.0 | -- |
| p/m-Xylene | ND | | ug/l | 1.0 | -- |
| o-Xylene | ND | | ug/l | 1.0 | -- |
| Xylenes, Total | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 0.50 | -- |
| Dibromomethane | ND | | ug/l | 5.0 | -- |
| 1,4-Dichlorobutane | ND | | ug/l | 5.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 5.0 | -- |
| Styrene | ND | | ug/l | 1.0 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 5.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 5.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| Vinyl acetate | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Ethyl methacrylate | ND | | ug/l | 5.0 | -- |
| Acrylonitrile | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.5 | -- |
| Tetrahydrofuran | ND | | ug/l | 5.0 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 0.50 | -- |
| Bromobenzene | ND | | ug/l | 2.5 | -- |
| n-Butylbenzene | ND | | ug/l | 0.50 | -- |

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 06/12/17 08:24
 Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|------|-----|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1012459-5 | | | | | |
| sec-Butylbenzene | ND | | ug/l | 0.50 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.5 | -- |
| o-Chlorotoluene | ND | | ug/l | 2.5 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.5 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.50 | -- |
| Isopropylbenzene | ND | | ug/l | 0.50 | -- |
| p-Isopropyltoluene | ND | | ug/l | 0.50 | -- |
| Naphthalene | ND | | ug/l | 2.5 | -- |
| n-Propylbenzene | ND | | ug/l | 0.50 | -- |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.5 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.5 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.5 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.5 | -- |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | -- |
| Ethyl ether | ND | | ug/l | 2.5 | -- |
| Tert-Butyl Alcohol | ND | | ug/l | 10 | -- |
| Tertiary-Amyl Methyl Ether | ND | | ug/l | 2.0 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 93 | | 70-130 |
| Toluene-d8 | 106 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 91 | | 70-130 |



Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|---------------|
| Microextractables by GC - Westborough Lab Associated sample(s): 01 Batch: WG1012290-2 | | | | | | | | | |
| 1,2-Dibromoethane | 75 | | - | | 70-130 | - | | | A |
| 1,2-Dibromo-3-chloropropane | 74 | | - | | 70-130 | - | | | A |

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|
| Volatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1012451-3 WG1012451-4 | | | | | | | | |
| 1,4-Dioxane | 97 | | 92 | | 70-130 | 5 | | 25 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1012459-3 WG1012459-4 | | | | | | | | |
| Methylene chloride | 94 | | 78 | | 70-130 | 19 | | 20 |
| 1,1-Dichloroethane | 90 | | 85 | | 70-130 | 6 | | 20 |
| Chloroform | 85 | | 84 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 83 | | 85 | | 63-132 | 2 | | 20 |
| 1,2-Dichloropropane | 93 | | 92 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 89 | | 87 | | 63-130 | 2 | | 20 |
| 1,1,2-Trichloroethane | 89 | | 89 | | 70-130 | 0 | | 20 |
| Tetrachloroethene | 89 | | 88 | | 70-130 | 1 | | 20 |
| Chlorobenzene | 93 | | 88 | | 75-130 | 6 | | 25 |
| Trichlorofluoromethane | 86 | | 87 | | 62-150 | 1 | | 20 |
| 1,2-Dichloroethane | 86 | | 92 | | 70-130 | 7 | | 20 |
| 1,1,1-Trichloroethane | 86 | | 88 | | 67-130 | 2 | | 20 |
| Bromodichloromethane | 90 | | 93 | | 67-130 | 3 | | 20 |
| trans-1,3-Dichloropropene | 90 | | 87 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 92 | | 93 | | 70-130 | 1 | | 20 |
| Bromoform | 84 | | 82 | | 54-136 | 2 | | 20 |
| 1,1,2,2-Tetrachloroethane | 79 | | 83 | | 67-130 | 5 | | 20 |
| Benzene | 88 | | 86 | | 70-130 | 2 | | 25 |
| Toluene | 91 | | 90 | | 70-130 | 1 | | 25 |
| Ethylbenzene | 92 | | 91 | | 70-130 | 1 | | 20 |
| Chloromethane | 69 | | 71 | | 64-130 | 3 | | 20 |
| Bromomethane | 58 | | 63 | | 39-139 | 8 | | 20 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1012459-3 WG1012459-4 | | | | | | | | |
| Vinyl chloride | 82 | | 79 | | 55-140 | 4 | | 20 |
| Chloroethane | 83 | | 80 | | 55-138 | 4 | | 20 |
| 1,1-Dichloroethene | 87 | | 89 | | 61-145 | 2 | | 25 |
| Trichloroethene | 84 | | 86 | | 70-130 | 2 | | 25 |
| 1,2-Dichlorobenzene | 96 | | 98 | | 70-130 | 2 | | 20 |
| 1,3-Dichlorobenzene | 84 | | 87 | | 70-130 | 4 | | 20 |
| 1,4-Dichlorobenzene | 89 | | 94 | | 70-130 | 5 | | 20 |
| Methyl tert butyl ether | 95 | | 95 | | 63-130 | 0 | | 20 |
| p/m-Xylene | 110 | | 105 | | 70-130 | 5 | | 20 |
| o-Xylene | 95 | | 90 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 85 | | 88 | | 70-130 | 3 | | 20 |
| Dibromomethane | 86 | | 89 | | 70-130 | 3 | | 20 |
| 1,4-Dichlorobutane | 83 | | 82 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 80 | | 84 | | 64-130 | 5 | | 20 |
| Styrene | 100 | | 95 | | 70-130 | 5 | | 20 |
| Dichlorodifluoromethane | 65 | | 65 | | 36-147 | 0 | | 20 |
| Acetone | 100 | | 98 | | 58-148 | 2 | | 20 |
| Carbon disulfide | 74 | | 78 | | 51-130 | 5 | | 20 |
| 2-Butanone | 100 | | 100 | | 63-138 | 0 | | 20 |
| Vinyl acetate | 96 | | 98 | | 70-130 | 2 | | 20 |
| 4-Methyl-2-pentanone | 99 | | 94 | | 59-130 | 5 | | 20 |
| 2-Hexanone | 98 | | 92 | | 57-130 | 6 | | 20 |
| Ethyl methacrylate | 100 | | 98 | | 70-130 | 2 | | 20 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1012459-3 WG1012459-4 | | | | | | | | |
| Acrylonitrile | 100 | | 100 | | 70-130 | 0 | | 20 |
| Bromochloromethane | 85 | | 82 | | 70-130 | 4 | | 20 |
| Tetrahydrofuran | 100 | | 110 | | 58-130 | 10 | | 20 |
| 2,2-Dichloropropane | 90 | | 87 | | 63-133 | 3 | | 20 |
| 1,2-Dibromoethane | 84 | | 84 | | 70-130 | 0 | | 20 |
| 1,3-Dichloropropane | 90 | | 86 | | 70-130 | 5 | | 20 |
| 1,1,1,2-Tetrachloroethane | 86 | | 83 | | 64-130 | 4 | | 20 |
| Bromobenzene | 84 | | 83 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 97 | | 98 | | 53-136 | 1 | | 20 |
| sec-Butylbenzene | 84 | | 91 | | 70-130 | 8 | | 20 |
| tert-Butylbenzene | 88 | | 93 | | 70-130 | 6 | | 20 |
| o-Chlorotoluene | 95 | | 95 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 77 | | 83 | | 41-144 | 8 | | 20 |
| Hexachlorobutadiene | 78 | | 77 | | 63-130 | 1 | | 20 |
| Isopropylbenzene | 88 | | 93 | | 70-130 | 6 | | 20 |
| p-Isopropyltoluene | 95 | | 97 | | 70-130 | 2 | | 20 |
| Naphthalene | 88 | | 96 | | 70-130 | 9 | | 20 |
| n-Propylbenzene | 90 | | 94 | | 69-130 | 4 | | 20 |
| 1,2,3-Trichlorobenzene | 90 | | 98 | | 70-130 | 9 | | 20 |
| 1,2,4-Trichlorobenzene | 97 | | 91 | | 70-130 | 6 | | 20 |
| 1,3,5-Trimethylbenzene | 96 | | 97 | | 64-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 97 | | 100 | | 70-130 | 3 | | 20 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1012459-3 WG1012459-4 | | | | | | | | |
| trans-1,4-Dichloro-2-butene | 77 | | 77 | | 70-130 | 0 | | 20 |
| Ethyl ether | 96 | | 93 | | 59-134 | 3 | | 20 |
| Tert-Butyl Alcohol | 112 | | 106 | | 70-130 | 6 | | 20 |
| Tertiary-Amyl Methyl Ether | 100 | | 100 | | 66-130 | 0 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 88 | | 93 | | 70-130 |
| Toluene-d8 | 103 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 98 | | 70-130 |
| Dibromofluoromethane | 93 | | 94 | | 70-130 |

Matrix Spike Analysis

Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|--------|
| Microextractables by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1012290-3 QC Sample: L1718671-01 Client ID: MS Sample | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ND | 0.262 | 0.244 | 93 | | - | - | | 65-135 | - | | 20 | A |
| 1,2-Dibromo-3-chloropropane | ND | 0.262 | 0.234 | 89 | | - | - | | 65-135 | - | | 20 | A |

SEMIVOLATILES

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**SAMPLE RESULTS**

Lab ID: L1719410-01
 Client ID: R-C6 (OW)
 Sample Location: 89 EAST DEDHAM STREET, BOSTON, MA

Date Collected: 06/09/17 13:35
 Date Received: 06/09/17
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/14/17 18:18

Matrix: Water
 Analytical Method: 1,8270D
 Analytical Date: 06/15/17 07:47
 Analyst: KV

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



Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**SAMPLE RESULTS****Lab ID:** L1719410-01**Date Collected:** 06/09/17 13:35**Client ID:** R-C6 (OW)**Date Received:** 06/09/17**Sample Location:** 89 EAST DEDHAM STREET, BOSTON, MA**Field Prep:** Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|--|--------|-----------|-------|-----|-----|-----------------|
| Semivolatile Organics by GC/MS - Westborough Lab | | | | | | |
| 4-Nitroaniline | ND | | ug/l | 5.0 | -- | 1 |
| Dibenzofuran | ND | | ug/l | 2.0 | -- | 1 |
| n-Nitrosodimethylamine | ND | | ug/l | 2.0 | -- | 1 |
| 2,4,6-Trichlorophenol | ND | | ug/l | 5.0 | -- | 1 |
| p-Chloro-m-cresol | ND | | ug/l | 2.0 | -- | 1 |
| 2-Chlorophenol | ND | | ug/l | 2.0 | -- | 1 |
| 2,4-Dichlorophenol | ND | | ug/l | 5.0 | -- | 1 |
| 2,4-Dimethylphenol | ND | | ug/l | 5.0 | -- | 1 |
| 2-Nitrophenol | ND | | ug/l | 10 | -- | 1 |
| 4-Nitrophenol | ND | | ug/l | 10 | -- | 1 |
| 2,4-Dinitrophenol | ND | | ug/l | 20 | -- | 1 |
| 4,6-Dinitro-o-cresol | ND | | ug/l | 10 | -- | 1 |
| Phenol | ND | | ug/l | 5.0 | -- | 1 |
| 2-Methylphenol | ND | | ug/l | 5.0 | -- | 1 |
| 3-Methylphenol/4-Methylphenol | ND | | ug/l | 5.0 | -- | 1 |
| 2,4,5-Trichlorophenol | ND | | ug/l | 5.0 | -- | 1 |
| Benzoic Acid | ND | | ug/l | 50 | -- | 1 |
| Benzyl Alcohol | ND | | ug/l | 2.0 | -- | 1 |
| Carbazole | ND | | ug/l | 2.0 | -- | 1 |
| Pyridine | ND | | ug/l | 3.5 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol | 29 | | 21-120 |
| Phenol-d6 | 21 | | 10-120 |
| Nitrobenzene-d5 | 61 | | 23-120 |
| 2-Fluorobiphenyl | 63 | | 15-120 |
| 2,4,6-Tribromophenol | 85 | | 10-120 |
| 4-Terphenyl-d14 | 72 | | 41-149 |

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**SAMPLE RESULTS**

Lab ID: L1719410-01
 Client ID: R-C6 (OW)
 Sample Location: 89 EAST DEDHAM STREET, BOSTON, MA

Date Collected: 06/09/17 13:35
 Date Received: 06/09/17
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/12/17 04:27

Matrix: Water
 Analytical Method: 1,8270D-SIM
 Analytical Date: 06/14/17 19:25
 Analyst: KL

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

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**SAMPLE RESULTS****Lab ID:** L1719410-01**Date Collected:** 06/09/17 13:35**Client ID:** R-C6 (OW)**Date Received:** 06/09/17**Sample Location:** 89 EAST DEDHAM STREET, BOSTON, MA**Field Prep:** Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|-----------|--------|-----------|-------|----|-----|-----------------|
|-----------|--------|-----------|-------|----|-----|-----------------|

Semivolatile Organics by GC/MS-SIM - Westborough Lab

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol | 39 | | 21-120 |
| Phenol-d6 | 26 | | 10-120 |
| Nitrobenzene-d5 | 68 | | 23-120 |
| 2-Fluorobiphenyl | 68 | | 15-120 |
| 2,4,6-Tribromophenol | 76 | | 10-120 |
| 4-Terphenyl-d14 | 70 | | 41-149 |

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM
 Analytical Date: 06/14/17 13:32
 Analyst: KL

Extraction Method: EPA 3510C
 Extraction Date: 06/12/17 04:27

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|------|-----|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1012058-1 | | | | | |
| Acenaphthene | ND | | ug/l | 0.10 | -- |
| 2-Chloronaphthalene | ND | | ug/l | 0.20 | -- |
| Fluoranthene | ND | | ug/l | 0.10 | -- |
| Hexachlorobutadiene | ND | | ug/l | 0.50 | -- |
| Naphthalene | ND | | ug/l | 0.10 | -- |
| Benzo(a)anthracene | ND | | ug/l | 0.10 | -- |
| Benzo(a)pyrene | ND | | ug/l | 0.10 | -- |
| Benzo(b)fluoranthene | ND | | ug/l | 0.10 | -- |
| Benzo(k)fluoranthene | ND | | ug/l | 0.10 | -- |
| Chrysene | ND | | ug/l | 0.10 | -- |
| Acenaphthylene | ND | | ug/l | 0.10 | -- |
| Anthracene | ND | | ug/l | 0.10 | -- |
| Benzo(ghi)perylene | ND | | ug/l | 0.10 | -- |
| Fluorene | ND | | ug/l | 0.10 | -- |
| Phenanthrene | ND | | ug/l | 0.10 | -- |
| Dibenzo(a,h)anthracene | ND | | ug/l | 0.10 | -- |
| Indeno(1,2,3-cd)pyrene | ND | | ug/l | 0.10 | -- |
| Pyrene | ND | | ug/l | 0.10 | -- |
| 1-Methylnaphthalene | ND | | ug/l | 0.10 | -- |
| 2-Methylnaphthalene | ND | | ug/l | 0.10 | -- |
| Pentachlorophenol | ND | | ug/l | 0.80 | -- |
| Hexachlorobenzene | ND | | ug/l | 0.80 | -- |
| Hexachloroethane | ND | | ug/l | 0.80 | -- |

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**Method Blank Analysis**
Batch Quality ControlAnalytical Method: 1,8270D-SIM
Analytical Date: 06/14/17 13:32
Analyst: KLExtraction Method: EPA 3510C
Extraction Date: 06/12/17 04:27

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|----|-----|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1012058-1 | | | | | |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|----------------------|-----------|-----------|---------------------|
| 2-Fluorophenol | 38 | | 21-120 |
| Phenol-d6 | 26 | | 10-120 |
| Nitrobenzene-d5 | 71 | | 23-120 |
| 2-Fluorobiphenyl | 69 | | 15-120 |
| 2,4,6-Tribromophenol | 84 | | 10-120 |
| 4-Terphenyl-d14 | 81 | | 41-149 |

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 06/15/17 02:43
 Analyst: KV

Extraction Method: EPA 3510C
 Extraction Date: 06/14/17 18:18

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|-----|-----|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1013173-1 | | | | | |
| Acenaphthene | ND | | ug/l | 2.0 | -- |
| Benzidine | ND | | ug/l | 20 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | -- |
| Hexachlorobenzene | ND | | ug/l | 2.0 | -- |
| Bis(2-chloroethyl)ether | ND | | ug/l | 2.0 | -- |
| 2-Chloronaphthalene | ND | | ug/l | 2.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.0 | -- |
| 3,3'-Dichlorobenzidine | ND | | ug/l | 5.0 | -- |
| 2,4-Dinitrotoluene | ND | | ug/l | 5.0 | -- |
| 2,6-Dinitrotoluene | ND | | ug/l | 5.0 | -- |
| Azobenzene | ND | | ug/l | 2.0 | -- |
| Fluoranthene | ND | | ug/l | 2.0 | -- |
| 4-Chlorophenyl phenyl ether | ND | | ug/l | 2.0 | -- |
| 4-Bromophenyl phenyl ether | ND | | ug/l | 2.0 | -- |
| Bis(2-chloroisopropyl)ether | ND | | ug/l | 2.0 | -- |
| Bis(2-chloroethoxy)methane | ND | | ug/l | 5.0 | -- |
| Hexachlorobutadiene | ND | | ug/l | 2.0 | -- |
| Hexachlorocyclopentadiene | ND | | ug/l | 20 | -- |
| Hexachloroethane | ND | | ug/l | 2.0 | -- |
| Isophorone | ND | | ug/l | 5.0 | -- |
| Naphthalene | ND | | ug/l | 2.0 | -- |
| Nitrobenzene | ND | | ug/l | 2.0 | -- |
| NDPA/DPA | ND | | ug/l | 2.0 | -- |
| n-Nitrosodi-n-propylamine | ND | | ug/l | 5.0 | -- |
| Bis(2-ethylhexyl)phthalate | ND | | ug/l | 3.0 | -- |
| Butyl benzyl phthalate | ND | | ug/l | 5.0 | -- |
| Di-n-butylphthalate | ND | | ug/l | 5.0 | -- |

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 06/15/17 02:43
 Analyst: KV

Extraction Method: EPA 3510C
 Extraction Date: 06/14/17 18:18

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|-----|-----|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1013173-1 | | | | | |
| Di-n-octylphthalate | ND | | ug/l | 5.0 | -- |
| Diethyl phthalate | ND | | ug/l | 5.0 | -- |
| Dimethyl phthalate | ND | | ug/l | 5.0 | -- |
| Benzo(a)anthracene | ND | | ug/l | 2.0 | -- |
| Benzo(a)pyrene | ND | | ug/l | 2.0 | -- |
| Benzo(b)fluoranthene | ND | | ug/l | 2.0 | -- |
| Benzo(k)fluoranthene | ND | | ug/l | 2.0 | -- |
| Chrysene | ND | | ug/l | 2.0 | -- |
| Acenaphthylene | ND | | ug/l | 2.0 | -- |
| Anthracene | ND | | ug/l | 2.0 | -- |
| Benzo(ghi)perylene | ND | | ug/l | 2.0 | -- |
| Fluorene | ND | | ug/l | 2.0 | -- |
| Phenanthrene | ND | | ug/l | 2.0 | -- |
| Dibenzo(a,h)anthracene | ND | | ug/l | 2.0 | -- |
| Indeno(1,2,3-cd)pyrene | ND | | ug/l | 2.0 | -- |
| Pyrene | ND | | ug/l | 2.0 | -- |
| Biphenyl | ND | | ug/l | 2.0 | -- |
| Aniline | ND | | ug/l | 2.0 | -- |
| 4-Chloroaniline | ND | | ug/l | 5.0 | -- |
| 1-Methylnaphthalene | ND | | ug/l | 2.0 | -- |
| 2-Nitroaniline | ND | | ug/l | 5.0 | -- |
| 3-Nitroaniline | ND | | ug/l | 5.0 | -- |
| 4-Nitroaniline | ND | | ug/l | 5.0 | -- |
| Dibenzofuran | ND | | ug/l | 2.0 | -- |
| 2-Methylnaphthalene | ND | | ug/l | 2.0 | -- |
| n-Nitrosodimethylamine | ND | | ug/l | 2.0 | -- |
| 2,4,6-Trichlorophenol | ND | | ug/l | 5.0 | -- |
| p-Chloro-m-cresol | ND | | ug/l | 2.0 | -- |
| 2-Chlorophenol | ND | | ug/l | 2.0 | -- |

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 06/15/17 02:43
 Analyst: KV

Extraction Method: EPA 3510C
 Extraction Date: 06/14/17 18:18

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|-----|-----|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1013173-1 | | | | | |
| 2,4-Dichlorophenol | ND | | ug/l | 5.0 | -- |
| 2,4-Dimethylphenol | ND | | ug/l | 5.0 | -- |
| 2-Nitrophenol | ND | | ug/l | 10 | -- |
| 4-Nitrophenol | ND | | ug/l | 10 | -- |
| 2,4-Dinitrophenol | ND | | ug/l | 20 | -- |
| 4,6-Dinitro-o-cresol | ND | | ug/l | 10 | -- |
| Pentachlorophenol | ND | | ug/l | 10 | -- |
| Phenol | ND | | ug/l | 5.0 | -- |
| 2-Methylphenol | ND | | ug/l | 5.0 | -- |
| 3-Methylphenol/4-Methylphenol | ND | | ug/l | 5.0 | -- |
| 2,4,5-Trichlorophenol | ND | | ug/l | 5.0 | -- |
| Benzoic Acid | ND | | ug/l | 50 | -- |
| Benzyl Alcohol | ND | | ug/l | 2.0 | -- |
| Carbazole | ND | | ug/l | 2.0 | -- |
| Pyridine | ND | | ug/l | 3.5 | -- |

Tentatively Identified Compounds

No Tentatively Identified Compounds ND ug/l

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**Method Blank Analysis**
Batch Quality ControlAnalytical Method: 1,8270D
Analytical Date: 06/15/17 02:43
Analyst: KVExtraction Method: EPA 3510C
Extraction Date: 06/14/17 18:18

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|----|-----|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1013173-1 | | | | | |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|----------------------|-----------|-----------|------------------------|
| 2-Fluorophenol | 25 | | 21-120 |
| Phenol-d6 | 19 | | 10-120 |
| Nitrobenzene-d5 | 48 | | 23-120 |
| 2-Fluorobiphenyl | 49 | | 15-120 |
| 2,4,6-Tribromophenol | 76 | | 10-120 |
| 4-Terphenyl-d14 | 78 | | 41-149 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1012058-2 WG1012058-3 | | | | | | | | |
| Acenaphthene | 66 | | 62 | | 37-111 | 6 | | 40 |
| 2-Chloronaphthalene | 68 | | 63 | | 40-140 | 8 | | 40 |
| Fluoranthene | 73 | | 71 | | 40-140 | 3 | | 40 |
| Hexachlorobutadiene | 62 | | 54 | | 40-140 | 14 | | 40 |
| Naphthalene | 66 | | 58 | | 40-140 | 13 | | 40 |
| Benzo(a)anthracene | 72 | | 71 | | 40-140 | 1 | | 40 |
| Benzo(a)pyrene | 73 | | 71 | | 40-140 | 3 | | 40 |
| Benzo(b)fluoranthene | 75 | | 75 | | 40-140 | 0 | | 40 |
| Benzo(k)fluoranthene | 70 | | 71 | | 40-140 | 1 | | 40 |
| Chrysene | 69 | | 67 | | 40-140 | 3 | | 40 |
| Acenaphthylene | 75 | | 69 | | 40-140 | 8 | | 40 |
| Anthracene | 70 | | 66 | | 40-140 | 6 | | 40 |
| Benzo(ghi)perylene | 75 | | 75 | | 40-140 | 0 | | 40 |
| Fluorene | 70 | | 66 | | 40-140 | 6 | | 40 |
| Phenanthrene | 67 | | 65 | | 40-140 | 3 | | 40 |
| Dibenzo(a,h)anthracene | 73 | | 74 | | 40-140 | 1 | | 40 |
| Indeno(1,2,3-cd)pyrene | 79 | | 79 | | 40-140 | 0 | | 40 |
| Pyrene | 72 | | 70 | | 26-127 | 3 | | 40 |
| 1-Methylnaphthalene | 68 | | 62 | | 40-140 | 9 | | 40 |
| 2-Methylnaphthalene | 69 | | 63 | | 40-140 | 9 | | 40 |
| Pentachlorophenol | 64 | | 65 | | 9-103 | 2 | | 40 |
| Hexachlorobenzene | 71 | | 68 | | 40-140 | 4 | | 40 |
| Hexachloroethane | 64 | | 53 | | 40-140 | 19 | | 40 |

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17

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

Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1012058-2 WG1012058-3

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|----------------------|--------------------------|-------------|---------------------------|-------------|--------------------------------|
| 2-Fluorophenol | 43 | | 38 | | 21-120 |
| Phenol-d6 | 29 | | 28 | | 10-120 |
| Nitrobenzene-d5 | 71 | | 63 | | 23-120 |
| 2-Fluorobiphenyl | 71 | | 65 | | 15-120 |
| 2,4,6-Tribromophenol | 84 | | 80 | | 10-120 |
| 4-Terphenyl-d14 | 72 | | 72 | | 41-149 |

Lab Control Sample Analysis Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1013173-2 WG1013173-3 | | | | | | | | |
| Acenaphthene | 62 | | 63 | | 37-111 | 2 | | 30 |
| Benzidine | 21 | | 4 | Q | 10-75 | 143 | Q | 30 |
| 1,2,4-Trichlorobenzene | 49 | | 54 | | 39-98 | 10 | | 30 |
| Hexachlorobenzene | 72 | | 78 | | 40-140 | 8 | | 30 |
| Bis(2-chloroethyl)ether | 61 | | 70 | | 40-140 | 14 | | 30 |
| 2-Chloronaphthalene | 63 | | 66 | | 40-140 | 5 | | 30 |
| 1,2-Dichlorobenzene | 43 | | 50 | | 40-140 | 15 | | 30 |
| 1,3-Dichlorobenzene | 42 | | 48 | | 40-140 | 13 | | 30 |
| 1,4-Dichlorobenzene | 42 | | 49 | | 36-97 | 15 | | 30 |
| 3,3'-Dichlorobenzidine | 64 | | 56 | | 40-140 | 13 | | 30 |
| 2,4-Dinitrotoluene | 70 | | 78 | | 48-143 | 11 | | 30 |
| 2,6-Dinitrotoluene | 73 | | 80 | | 40-140 | 9 | | 30 |
| Azobenzene | 74 | | 79 | | 40-140 | 7 | | 30 |
| Fluoranthene | 67 | | 73 | | 40-140 | 9 | | 30 |
| 4-Chlorophenyl phenyl ether | 67 | | 70 | | 40-140 | 4 | | 30 |
| 4-Bromophenyl phenyl ether | 76 | | 78 | | 40-140 | 3 | | 30 |
| Bis(2-chloroisopropyl)ether | 54 | | 61 | | 40-140 | 12 | | 30 |
| Bis(2-chloroethoxy)methane | 68 | | 77 | | 40-140 | 12 | | 30 |
| Hexachlorobutadiene | 44 | | 49 | | 40-140 | 11 | | 30 |
| Hexachlorocyclopentadiene | 39 | Q | 42 | | 40-140 | 7 | | 30 |
| Hexachloroethane | 41 | | 50 | | 40-140 | 20 | | 30 |
| Isophorone | 71 | | 80 | | 40-140 | 12 | | 30 |
| Naphthalene | 55 | | 60 | | 40-140 | 9 | | 30 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1013173-2 WG1013173-3 | | | | | | | | |
| Nitrobenzene | 70 | | 81 | | 40-140 | 15 | | 30 |
| NDPA/DPA | 66 | | 71 | | 40-140 | 7 | | 30 |
| n-Nitrosodi-n-propylamine | 65 | | 77 | | 29-132 | 17 | | 30 |
| Bis(2-ethylhexyl)phthalate | 66 | | 72 | | 40-140 | 9 | | 30 |
| Butyl benzyl phthalate | 68 | | 74 | | 40-140 | 8 | | 30 |
| Di-n-butylphthalate | 64 | | 70 | | 40-140 | 9 | | 30 |
| Di-n-octylphthalate | 69 | | 74 | | 40-140 | 7 | | 30 |
| Diethyl phthalate | 65 | | 71 | | 40-140 | 9 | | 30 |
| Dimethyl phthalate | 72 | | 77 | | 40-140 | 7 | | 30 |
| Benzo(a)anthracene | 67 | | 71 | | 40-140 | 6 | | 30 |
| Benzo(a)pyrene | 70 | | 74 | | 40-140 | 6 | | 30 |
| Benzo(b)fluoranthene | 70 | | 73 | | 40-140 | 4 | | 30 |
| Benzo(k)fluoranthene | 68 | | 74 | | 40-140 | 8 | | 30 |
| Chrysene | 65 | | 70 | | 40-140 | 7 | | 30 |
| Acenaphthylene | 67 | | 70 | | 45-123 | 4 | | 30 |
| Anthracene | 64 | | 70 | | 40-140 | 9 | | 30 |
| Benzo(ghi)perylene | 67 | | 71 | | 40-140 | 6 | | 30 |
| Fluorene | 65 | | 70 | | 40-140 | 7 | | 30 |
| Phenanthrene | 65 | | 70 | | 40-140 | 7 | | 30 |
| Dibenzo(a,h)anthracene | 66 | | 72 | | 40-140 | 9 | | 30 |
| Indeno(1,2,3-cd)pyrene | 68 | | 72 | | 40-140 | 6 | | 30 |
| Pyrene | 67 | | 71 | | 26-127 | 6 | | 30 |
| Biphenyl | 65 | | 69 | | 40-140 | 6 | | 30 |

Lab Control Sample Analysis Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1013173-2 WG1013173-3 | | | | | | | | |
| Aniline | 41 | | 27 | Q | 40-140 | 41 | Q | 30 |
| 4-Chloroaniline | 62 | | 56 | | 40-140 | 10 | | 30 |
| 1-Methylnaphthalene | 61 | | 64 | | 41-103 | 5 | | 30 |
| 2-Nitroaniline | 84 | | 90 | | 52-143 | 7 | | 30 |
| 3-Nitroaniline | 67 | | 59 | | 25-145 | 13 | | 30 |
| 4-Nitroaniline | 72 | | 82 | | 51-143 | 13 | | 30 |
| Dibenzofuran | 63 | | 68 | | 40-140 | 8 | | 30 |
| 2-Methylnaphthalene | 58 | | 60 | | 40-140 | 3 | | 30 |
| n-Nitrosodimethylamine | 36 | | 41 | | 22-74 | 13 | | 30 |
| 2,4,6-Trichlorophenol | 80 | | 88 | | 30-130 | 10 | | 30 |
| p-Chloro-m-cresol | 76 | | 82 | | 23-97 | 8 | | 30 |
| 2-Chlorophenol | 62 | | 71 | | 27-123 | 14 | | 30 |
| 2,4-Dichlorophenol | 71 | | 80 | | 30-130 | 12 | | 30 |
| 2,4-Dimethylphenol | 75 | | 81 | | 30-130 | 8 | | 30 |
| 2-Nitrophenol | 74 | | 87 | | 30-130 | 16 | | 30 |
| 4-Nitrophenol | 42 | | 48 | | 10-80 | 13 | | 30 |
| 2,4-Dinitrophenol | 86 | | 94 | | 20-130 | 9 | | 30 |
| 4,6-Dinitro-o-cresol | 89 | | 95 | | 20-164 | 7 | | 30 |
| Pentachlorophenol | 67 | | 75 | | 9-103 | 11 | | 30 |
| Phenol | 30 | | 34 | | 12-110 | 13 | | 30 |
| 2-Methylphenol | 61 | | 70 | | 30-130 | 14 | | 30 |
| 3-Methylphenol/4-Methylphenol | 63 | | 70 | | 30-130 | 11 | | 30 |
| 2,4,5-Trichlorophenol | 80 | | 86 | | 30-130 | 7 | | 30 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|---------------|
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1013173-2 WG1013173-3 | | | | | | | | |
| Benzoic Acid | 37 | | 43 | | 10-164 | 15 | | 30 |
| Benzyl Alcohol | 60 | | 66 | | 26-116 | 10 | | 30 |
| Carbazole | 65 | | 69 | | 55-144 | 6 | | 30 |
| Pyridine | 20 | | 12 | | 10-66 | 50 | Q | 30 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|----------------------|------------------|------|-------------------|------|------------------------|
| 2-Fluorophenol | 39 | | 43 | | 21-120 |
| Phenol-d6 | 29 | | 34 | | 10-120 |
| Nitrobenzene-d5 | 71 | | 83 | | 23-120 |
| 2-Fluorobiphenyl | 69 | | 72 | | 15-120 |
| 2,4,6-Tribromophenol | 80 | | 85 | | 10-120 |
| 4-Terphenyl-d14 | 67 | | 72 | | 41-149 |

PCBS

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719410
Report Date: 06/15/17

SAMPLE RESULTS

Lab ID: L1719410-01
Client ID: R-C6 (OW)
Sample Location: 89 EAST DEDHAM STREET, BOSTON, MA

Matrix: Water
Analytical Method: 5,608
Analytical Date: 06/12/17 17:06
Analyst: JW

Date Collected: 06/09/17 13:35
Date Received: 06/09/17
Field Prep: Not Specified
Extraction Method: EPA 608
Extraction Date: 06/10/17 00:03
Cleanup Method: EPA 3665A
Cleanup Date: 06/10/17
Cleanup Method: EPA 3660B
Cleanup Date: 06/10/17

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|-----------|--------|-----------|-------|----|-----|-----------------|--------|
|-----------|--------|-----------|-------|----|-----|-----------------|--------|

Polychlorinated Biphenyls by GC - Westborough Lab

| | | | | | | | |
|--------------|----|--|------|-------|----|---|---|
| Aroclor 1016 | ND | | ug/l | 0.250 | -- | 1 | A |
| Aroclor 1221 | ND | | ug/l | 0.250 | -- | 1 | A |
| Aroclor 1232 | ND | | ug/l | 0.250 | -- | 1 | A |
| Aroclor 1242 | ND | | ug/l | 0.250 | -- | 1 | A |
| Aroclor 1248 | ND | | ug/l | 0.250 | -- | 1 | A |
| Aroclor 1254 | ND | | ug/l | 0.250 | -- | 1 | A |
| Aroclor 1260 | ND | | ug/l | 0.200 | -- | 1 | A |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria | Column |
|------------------------------|------------|-----------|---------------------|--------|
| 2,4,5,6-Tetrachloro-m-xylene | 70 | | 30-150 | A |
| Decachlorobiphenyl | 76 | | 30-150 | A |

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**Method Blank Analysis
Batch Quality Control**

Analytical Method: 5,608
 Analytical Date: 06/12/17 17:18
 Analyst: JW

Extraction Method: EPA 608
 Extraction Date: 06/10/17 00:03
 Cleanup Method: EPA 3665A
 Cleanup Date: 06/10/17
 Cleanup Method: EPA 3660B
 Cleanup Date: 06/10/17

| Parameter | Result | Qualifier | Units | RL | MDL | Column |
|--|--------|-----------|-------|-------|-----|--------|
| Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1011776-1 | | | | | | |
| Aroclor 1016 | ND | | ug/l | 0.250 | -- | A |
| Aroclor 1221 | ND | | ug/l | 0.250 | -- | A |
| Aroclor 1232 | ND | | ug/l | 0.250 | -- | A |
| Aroclor 1242 | ND | | ug/l | 0.250 | -- | A |
| Aroclor 1248 | ND | | ug/l | 0.250 | -- | A |
| Aroclor 1254 | ND | | ug/l | 0.250 | -- | A |
| Aroclor 1260 | ND | | ug/l | 0.200 | -- | A |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria | Column |
|------------------------------|-----------|-----------|---------------------|--------|
| 2,4,5,6-Tetrachloro-m-xylene | 65 | | 30-150 | A |
| Decachlorobiphenyl | 73 | | 30-150 | A |

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|--------------------------|-------------|---------------------------|-------------|-----------------------------|------------|-------------|-----------------------|---------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG1011776-2 | | | | | | | | | |
| Aroclor 1016 | 67 | | - | | 30-150 | - | | 30 | A |
| Aroclor 1260 | 69 | | - | | 30-150 | - | | 30 | A |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria | Column |
|------------------------------|--------------------------|-------------|---------------------------|-------------|--------------------------------|---------------|
| 2,4,5,6-Tetrachloro-m-xylene | 67 | | | | 30-150 | A |
| Decachlorobiphenyl | 75 | | | | 30-150 | A |

Matrix Spike Analysis*Batch Quality Control***Project Name:** HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|----------------------|-----------------|-----------------|---------------------|-------------|------------------|----------------------|-------------|------------------------|------------|-------------|-------------------|---------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1011776-3 QC Sample: L1718625-01 Client ID: MS Sample | | | | | | | | | | | | | |
| Aroclor 1016 | ND | 3.12 | 2.14 | 68 | | - | - | | 40-126 | - | | 30 | A |
| Aroclor 1260 | ND | 3.12 | 2.00 | 64 | | - | - | | 40-127 | - | | 30 | A |

| Surrogate | MS % Recovery | Qualifier | MSD % Recovery | Qualifier | Acceptance Criteria | Column |
|------------------------------|----------------------|------------------|-----------------------|------------------|----------------------------|---------------|
| 2,4,5,6-Tetrachloro-m-xylene | 68 | | | | 30-150 | A |
| Decachlorobiphenyl | 63 | | | | 30-150 | A |

Lab Duplicate Analysis **Batch Quality Control**

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1011776-4 QC Sample: L1718625-04 Client ID: DUP Sample | | | | | | |
| Aroclor 1016 | ND | ND | ug/l | NC | | 30 A |
| Aroclor 1221 | ND | ND | ug/l | NC | | 30 A |
| Aroclor 1232 | ND | ND | ug/l | NC | | 30 A |
| Aroclor 1242 | ND | ND | ug/l | NC | | 30 A |
| Aroclor 1248 | ND | ND | ug/l | NC | | 30 A |
| Aroclor 1254 | ND | ND | ug/l | NC | | 30 A |
| Aroclor 1260 | ND | ND | ug/l | NC | | 30 A |

| Surrogate | %Recovery | Qualifier | %Recovery | Qualifier | Acceptance Criteria | Column |
|------------------------------|-----------|-----------|-----------|-----------|---------------------|--------|
| 2,4,5,6-Tetrachloro-m-xylene | 74 | | 76 | | 30-150 | A |
| Decachlorobiphenyl | 67 | | 68 | | 30-150 | A |

METALS

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**SAMPLE RESULTS****Lab ID:** L1719410-01**Date Collected:** 06/09/17 13:35**Client ID:** R-C6 (OW)**Date Received:** 06/09/17**Sample Location:** 89 EAST DEDHAM STREET, BOSTON,**Field Prep:** Not Specified**Matrix:** Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---------|-----------|-------|---------|-----|-----------------|----------------|----------------|-------------|-------------------|---------|
| Total Metals - Mansfield Lab | | | | | | | | | | | |
| Antimony, Total | ND | | mg/l | 0.00400 | -- | 1 | 06/12/17 14:40 | 06/13/17 15:10 | EPA 3005A | 3,200.8 | AM |
| Arsenic, Total | 0.00575 | | mg/l | 0.00100 | -- | 1 | 06/12/17 14:40 | 06/13/17 15:10 | EPA 3005A | 3,200.8 | AM |
| Cadmium, Total | ND | | mg/l | 0.00020 | -- | 1 | 06/12/17 14:40 | 06/13/17 15:10 | EPA 3005A | 3,200.8 | AM |
| Chromium, Total | 0.00695 | | mg/l | 0.00100 | -- | 1 | 06/12/17 14:40 | 06/13/17 15:10 | EPA 3005A | 3,200.8 | AM |
| Copper, Total | ND | | mg/l | 0.00100 | -- | 1 | 06/12/17 14:40 | 06/13/17 15:10 | EPA 3005A | 3,200.8 | AM |
| Iron, Total | 1.91 | | mg/l | 0.050 | -- | 1 | 06/12/17 14:40 | 06/13/17 22:39 | EPA 3005A | 19,200.7 | AB |
| Lead, Total | ND | | mg/l | 0.00050 | -- | 1 | 06/12/17 14:40 | 06/13/17 15:10 | EPA 3005A | 3,200.8 | AM |
| Mercury, Total | ND | | mg/l | 0.00020 | -- | 1 | 06/12/17 14:44 | 06/12/17 21:25 | EPA 245.1 | 3,245.1 | EA |
| Nickel, Total | 0.00438 | | mg/l | 0.00200 | -- | 1 | 06/12/17 14:40 | 06/13/17 15:10 | EPA 3005A | 3,200.8 | AM |
| Selenium, Total | ND | | mg/l | 0.00500 | -- | 1 | 06/12/17 14:40 | 06/13/17 15:10 | EPA 3005A | 3,200.8 | AM |
| Silver, Total | ND | | mg/l | 0.00040 | -- | 1 | 06/12/17 14:40 | 06/13/17 15:10 | EPA 3005A | 3,200.8 | AM |
| Zinc, Total | ND | | mg/l | 0.01000 | -- | 1 | 06/12/17 14:40 | 06/13/17 15:10 | EPA 3005A | 3,200.8 | AM |
| Total Hardness by SM 2340B - Mansfield Lab | | | | | | | | | | | |
| Hardness | 135 | | mg/l | 0.660 | NA | 1 | 06/12/17 14:40 | 06/13/17 22:39 | EPA 3005A | 19,200.7 | AB |
| General Chemistry - Mansfield Lab | | | | | | | | | | | |
| Chromium, Trivalent | ND | | mg/l | 0.010 | -- | 1 | | 06/13/17 15:10 | NA | 107,- | |



Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

Method Blank Analysis Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|--------|-----------|-------|---------|-----|--------------------|------------------|------------------|----------------------|---------|
| Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1012236-1 | | | | | | | | | | |
| Antimony, Total | ND | | mg/l | 0.00400 | -- | 1 | 06/12/17 14:40 | 06/13/17 13:52 | 3,200.8 | AM |
| Arsenic, Total | ND | | mg/l | 0.00100 | -- | 1 | 06/12/17 14:40 | 06/13/17 13:52 | 3,200.8 | AM |
| Cadmium, Total | ND | | mg/l | 0.00020 | -- | 1 | 06/12/17 14:40 | 06/13/17 13:52 | 3,200.8 | AM |
| Chromium, Total | ND | | mg/l | 0.00100 | -- | 1 | 06/12/17 14:40 | 06/13/17 13:52 | 3,200.8 | AM |
| Copper, Total | ND | | mg/l | 0.00100 | -- | 1 | 06/12/17 14:40 | 06/13/17 13:52 | 3,200.8 | AM |
| Lead, Total | ND | | mg/l | 0.0005 | -- | 1 | 06/12/17 14:40 | 06/13/17 13:52 | 3,200.8 | AM |
| Nickel, Total | ND | | mg/l | 0.00200 | -- | 1 | 06/12/17 14:40 | 06/13/17 13:52 | 3,200.8 | AM |
| Selenium, Total | ND | | mg/l | 0.00500 | -- | 1 | 06/12/17 14:40 | 06/13/17 13:52 | 3,200.8 | AM |
| Silver, Total | ND | | mg/l | 0.00040 | -- | 1 | 06/12/17 14:40 | 06/13/17 13:52 | 3,200.8 | AM |
| Zinc, Total | ND | | mg/l | 0.01000 | -- | 1 | 06/12/17 14:40 | 06/13/17 13:52 | 3,200.8 | AM |

Prep Information

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|--------|-----------|-------|-------|-----|--------------------|------------------|------------------|----------------------|---------|
| Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1012245-1 | | | | | | | | | | |
| Iron, Total | ND | | mg/l | 0.050 | -- | 1 | 06/12/17 14:40 | 06/13/17 20:59 | 19,200.7 | AB |

Prep Information

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|--------|-----------|-------|-------|-----|--------------------|------------------|------------------|----------------------|---------|
| Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1012245-1 | | | | | | | | | | |
| Hardness | ND | | mg/l | 0.660 | NA | 1 | 06/12/17 14:40 | 06/13/17 20:59 | 19,200.7 | AB |

Prep Information

Digestion Method: EPA 3005A



Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

Method Blank Analysis Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|--------|-----------|-------|---------|-----|--------------------|------------------|------------------|----------------------|---------|
| Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1012267-1 | | | | | | | | | | |
| Mercury, Total | ND | | mg/l | 0.00020 | -- | 1 | 06/12/17 14:44 | 06/12/17 21:04 | 3,245.1 | EA |

Prep Information

Digestion Method: EPA 245.1



Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1012236-2 | | | | | | | | |
| Antimony, Total | 100 | | - | | 85-115 | - | | |
| Arsenic, Total | 96 | | - | | 85-115 | - | | |
| Cadmium, Total | 101 | | - | | 85-115 | - | | |
| Chromium, Total | 99 | | - | | 85-115 | - | | |
| Copper, Total | 97 | | - | | 85-115 | - | | |
| Lead, Total | 100 | | - | | 85-115 | - | | |
| Nickel, Total | 98 | | - | | 85-115 | - | | |
| Selenium, Total | 94 | | - | | 85-115 | - | | |
| Silver, Total | 101 | | - | | 85-115 | - | | |
| Zinc, Total | 98 | | - | | 85-115 | - | | |
| Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1012245-2 | | | | | | | | |
| Iron, Total | 104 | | - | | 85-115 | - | | |
| Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1012245-2 | | | | | | | | |
| Hardness | 98 | | - | | 85-115 | - | | |
| Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1012267-2 | | | | | | | | |
| Mercury, Total | 94 | | - | | 85-115 | - | | |

Matrix Spike Analysis **Batch Quality Control**

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1012236-3 QC Sample: L1718967-08 Client ID: MS Sample | | | | | | | | | | | | |
| Antimony, Total | ND | 0.5 | 0.5356 | 107 | | - | - | | 70-130 | - | | 20 |
| Arsenic, Total | ND | 0.12 | 0.1154 | 96 | | - | - | | 70-130 | - | | 20 |
| Cadmium, Total | ND | 0.051 | 0.05307 | 104 | | - | - | | 70-130 | - | | 20 |
| Chromium, Total | ND | 0.2 | 0.1942 | 97 | | - | - | | 70-130 | - | | 20 |
| Copper, Total | ND | 0.25 | 0.2350 | 94 | | - | - | | 70-130 | - | | 20 |
| Lead, Total | ND | 0.51 | 0.5179 | 102 | | - | - | | 70-130 | - | | 20 |
| Nickel, Total | ND | 0.5 | 0.4825 | 96 | | - | - | | 70-130 | - | | 20 |
| Selenium, Total | ND | 0.12 | 0.1301 | 108 | | - | - | | 70-130 | - | | 20 |
| Silver, Total | ND | 0.05 | 0.04912 | 98 | | - | - | | 70-130 | - | | 20 |
| Zinc, Total | ND | 0.5 | 0.4913 | 98 | | - | - | | 70-130 | - | | 20 |
| Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1012236-5 QC Sample: L1719224-01 Client ID: MS Sample | | | | | | | | | | | | |
| Antimony, Total | ND | 0.5 | 0.5392 | 108 | | - | - | | 70-130 | - | | 20 |
| Arsenic, Total | 0.0399 | 0.12 | 0.1467 | 89 | | - | - | | 70-130 | - | | 20 |
| Cadmium, Total | ND | 0.051 | 0.05255 | 103 | | - | - | | 70-130 | - | | 20 |
| Chromium, Total | 0.0197 | 0.2 | 0.2119 | 96 | | - | - | | 70-130 | - | | 20 |
| Copper, Total | 0.0064 | 0.25 | 0.2420 | 94 | | - | - | | 70-130 | - | | 20 |
| Lead, Total | 0.0008 | 0.51 | 0.5093 | 100 | | - | - | | 70-130 | - | | 20 |
| Nickel, Total | 0.0656 | 0.5 | 0.5384 | 94 | | - | - | | 70-130 | - | | 20 |
| Selenium, Total | ND | 0.12 | 0.1171 | 98 | | - | - | | 70-130 | - | | 20 |
| Silver, Total | ND | 0.05 | 0.04846 | 97 | | - | - | | 70-130 | - | | 20 |
| Zinc, Total | 0.0269 | 0.5 | 0.5209 | 99 | | - | - | | 70-130 | - | | 20 |

Matrix Spike Analysis Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719410
Report Date: 06/15/17

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | MSD Found | MSD %Recovery | Recovery Limits | RPD | RPD Limits |
|--|---------------|----------|----------|--------------|-----------|---------------|-----------------|-----|------------|
| Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1012245-3 QC Sample: L1718967-08 Client ID: MS Sample | | | | | | | | | |
| Iron, Total | 0.056 | 1 | 1.09 | 103 | - | - | 75-125 | - | 20 |
| Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1012245-3 QC Sample: L1718967-08 Client ID: MS Sample | | | | | | | | | |
| Hardness | 368 | 66.2 | 422 | 82 | - | - | 75-125 | - | 20 |
| Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1012267-3 QC Sample: L1719279-01 Client ID: MS Sample | | | | | | | | | |
| Mercury, Total | ND | 0.005 | 0.00294 | 59 | Q | - | 70-130 | - | 20 |

Lab Duplicate Analysis Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1012236-4 QC Sample: L1718967-08 Client ID: DUP Sample | | | | | | |
| Lead, Total | ND | ND | mg/l | NC | | 20 |
| Zinc, Total | ND | ND | mg/l | NC | | 20 |
| Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1012245-4 QC Sample: L1718967-08 Client ID: DUP Sample | | | | | | |
| Iron, Total | 0.056 | ND | mg/l | NC | | 20 |
| Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1012267-4 QC Sample: L1719279-01 Client ID: DUP Sample | | | | | | |
| Mercury, Total | ND | ND | mg/l | NC | | 20 |

INORGANICS & MISCELLANEOUS

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

SAMPLE RESULTS

Lab ID: L1719410-01
 Client ID: R-C6 (OW)
 Sample Location: 89 EAST DEDHAM STREET, BOSTON,
 Matrix: Water

Date Collected: 06/09/17 13:35
 Date Received: 06/09/17
 Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|--|--------|-----------|-------|-------|-----|-----------------|----------------|----------------|-------------------|---------|
| General Chemistry - Westborough Lab | | | | | | | | | | |
| SALINITY | ND | | SU | 2.0 | -- | 1 | - | 06/14/17 19:05 | 121,2520B | AS |
| Solids, Total Suspended | 6.1 | | mg/l | 5.0 | NA | 1 | - | 06/10/17 05:10 | 121,2540D | VB |
| Cyanide, Total | ND | | mg/l | 0.005 | -- | 1 | 06/12/17 11:05 | 06/12/17 14:17 | 121,4500CN-CE | LK |
| Chlorine, Total Residual | ND | | mg/l | 0.02 | -- | 1 | - | 06/10/17 07:48 | 121,4500CL-D | KA |
| Nitrogen, Ammonia | 0.466 | | mg/l | 0.075 | -- | 1 | 06/10/17 13:58 | 06/12/17 21:47 | 121,4500NH3-BH | AT |
| TPH, SGT-HEM | ND | | mg/l | 4.00 | -- | 1 | 06/10/17 08:00 | 06/10/17 11:30 | 74,1664A | KZ |
| Phenolics, Total | ND | | mg/l | 0.030 | -- | 1 | 06/13/17 11:11 | 06/13/17 16:33 | 4,420.1 | AW |
| Chromium, Hexavalent | ND | | mg/l | 0.010 | -- | 1 | 06/10/17 01:10 | 06/10/17 01:32 | 1,7196A | VB |
| Anions by Ion Chromatography - Westborough Lab | | | | | | | | | | |
| Chloride | 642. | | mg/l | 25.0 | -- | 50 | - | 06/10/17 22:22 | 44,300.0 | JC |



Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719410

Project Number: 129168-007

Report Date: 06/15/17

Method Blank Analysis Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|--------|-----------|-------|-------|-----|--------------------|------------------|------------------|----------------------|---------|
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1011785-1 | | | | | | | | | | |
| Chromium, Hexavalent | ND | | mg/l | 0.010 | -- | 1 | 06/10/17 01:10 | 06/10/17 01:31 | 1,7196A | VB |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1011795-1 | | | | | | | | | | |
| Solids, Total Suspended | ND | | mg/l | 5.0 | NA | 1 | - | 06/10/17 05:10 | 121,2540D | VB |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1011837-1 | | | | | | | | | | |
| TPH, SGT-HEM | ND | | mg/l | 4.00 | -- | 1 | 06/10/17 08:00 | 06/10/17 11:30 | 74,1664A | KZ |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1011855-1 | | | | | | | | | | |
| Chlorine, Total Residual | ND | | mg/l | 0.02 | -- | 1 | - | 06/10/17 07:48 | 121,4500CL-D | KA |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1011885-1 | | | | | | | | | | |
| Nitrogen, Ammonia | ND | | mg/l | 0.075 | -- | 1 | 06/10/17 13:58 | 06/12/17 21:21 | 121,4500NH3-BH | AT |
| Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1012027-1 | | | | | | | | | | |
| Chloride | ND | | mg/l | 0.500 | -- | 1 | - | 06/10/17 21:10 | 44,300.0 | JC |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1012162-1 | | | | | | | | | | |
| Cyanide, Total | ND | | mg/l | 0.005 | -- | 1 | 06/12/17 11:05 | 06/12/17 14:18 | 121,4500CN-CE | LK |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1012584-1 | | | | | | | | | | |
| Phenolics, Total | ND | | mg/l | 0.030 | -- | 1 | 06/13/17 11:11 | 06/13/17 16:27 | 4,420.1 | AW |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1011785-2 | | | | | | | | |
| Chromium, Hexavalent | 98 | | - | | 85-115 | - | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1011837-2 | | | | | | | | |
| TPH | 93 | | - | | 64-132 | - | | 34 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1011855-2 | | | | | | | | |
| Chlorine, Total Residual | 101 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1011885-2 | | | | | | | | |
| Nitrogen, Ammonia | 100 | | - | | 80-120 | - | | 20 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1012027-2 | | | | | | | | |
| Chloride | 100 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1012162-2 | | | | | | | | |
| Cyanide, Total | 97 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1012584-2 | | | | | | | | |
| Phenolics, Total | 87 | | - | | 70-130 | - | | |

Lab Control Sample Analysis

Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17

| Parameter | LCS %Recovery | LCSD %Recovery | %Recovery Limits | RPD | RPD Limits |
|---|------------------|-------------------|---------------------|-----|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1013195-1 | | | | | |
| SALINITY | 103 | - | | - | |

Matrix Spike Analysis **Batch Quality Control**

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|--|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1011785-4 QC Sample: L1719410-01 Client ID: R-C6 (OW) | | | | | | | | | | | | |
| Chromium, Hexavalent | ND | 0.1 | 0.087 | 87 | | - | - | | 85-115 | - | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1011837-3 QC Sample: L1719410-01 Client ID: R-C6 (OW) | | | | | | | | | | | | |
| TPH | ND | 20 | 14.6 | 73 | | - | - | | 64-132 | - | | 34 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1011855-4 QC Sample: L1719245-01 Client ID: MS Sample | | | | | | | | | | | | |
| Chlorine, Total Residual | ND | 0.248 | ND | 0 | Q | - | - | | 80-120 | - | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1011885-4 QC Sample: L1718973-04 Client ID: MS Sample | | | | | | | | | | | | |
| Nitrogen, Ammonia | 2.09 | 4 | 5.90 | 95 | | - | - | | 80-120 | - | | 20 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1012027-3 QC Sample: L1719245-02 Client ID: MS Sample | | | | | | | | | | | | |
| Chloride | 596 | 100 | 684 | 88 | Q | - | - | | 90-110 | - | | 18 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1012162-4 QC Sample: L1718194-01 Client ID: MS Sample | | | | | | | | | | | | |
| Cyanide, Total | ND | 0.2 | 0.190 | 95 | | - | - | | 90-110 | - | | 30 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1012584-4 QC Sample: L1719245-01 Client ID: MS Sample | | | | | | | | | | | | |
| Phenolics, Total | ND | 0.4 | 0.46 | 114 | | - | - | | 70-130 | - | | 20 |

Lab Duplicate Analysis **Batch Quality Control**

Project Name: HARRISON/ALBANY BLOCK

Project Number: 129168-007

Lab Number: L1719410

Report Date: 06/15/17

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1011785-3 QC Sample: L1719410-01 Client ID: R-C6 (OW) | | | | | | |
| Chromium, Hexavalent | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1011795-2 QC Sample: L1719220-01 Client ID: DUP Sample | | | | | | |
| Solids, Total Suspended | 64 | 55 | mg/l | 15 | | 29 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1011855-3 QC Sample: L1719245-01 Client ID: DUP Sample | | | | | | |
| Chlorine, Total Residual | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1011885-3 QC Sample: L1718973-04 Client ID: DUP Sample | | | | | | |
| Nitrogen, Ammonia | 2.09 | 2.11 | mg/l | 1 | | 20 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1012027-4 QC Sample: L1719245-02 Client ID: DUP Sample | | | | | | |
| Chloride | 596 | 597 | mg/l | 0 | | 18 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1012162-3 QC Sample: L1718194-01 Client ID: DUP Sample | | | | | | |
| Cyanide, Total | ND | ND | mg/l | NC | | 30 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1012584-3 QC Sample: L1719245-01 Client ID: DUP Sample | | | | | | |
| Phenolics, Total | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1013195-2 QC Sample: L1719411-01 Client ID: DUP Sample | | | | | | |
| SALINITY | 8.1 | 8.1 | SU | 0 | | |

Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719410**Project Number:** 129168-007**Report Date:** 06/15/17**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

| | |
|---------------|---------------------|
| Cooler | Custody Seal |
| A | Absent |

Container Information

| Container ID | Container Type | Cooler | Initial pH | Final pH | Temp deg C | Pres | Seal | Frozen Date/Time | Analysis(*) |
|---------------------|-------------------------------|---------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|--|
| L1719410-01A | Vial HCl preserved | A | NA | | 8.1 | Y | Absent | | 8260(14) |
| L1719410-01B | Vial HCl preserved | A | NA | | 8.1 | Y | Absent | | 8260(14) |
| L1719410-01C | Vial HCl preserved | A | NA | | 8.1 | Y | Absent | | 8260(14) |
| L1719410-01D | Vial HCl preserved | A | NA | | 8.1 | Y | Absent | | 8260-SIM(14) |
| L1719410-01E | Vial HCl preserved | A | NA | | 8.1 | Y | Absent | | 8260-SIM(14) |
| L1719410-01F | Vial HCl preserved | A | NA | | 8.1 | Y | Absent | | 8260-SIM(14) |
| L1719410-01G | Vial Na2S2O3 preserved | A | N/A | N/A | 8.1 | Y | Absent | | 504(14) |
| L1719410-01H | Vial Na2S2O3 preserved | A | N/A | N/A | 8.1 | Y | Absent | | 504(14) |
| L1719410-01I | Plastic 250ml HNO3 preserved | A | <2 | <2 | 8.1 | Y | Absent | | CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),HARDU(180),AG-2008T(180),AS-2008T(180),HG-U(28),SE-2008T(180),CR-2008T(180),PB-2008T(180),SB-2008T(180) |
| L1719410-01J | Plastic 250ml HNO3 preserved | A | <2 | <2 | 8.1 | Y | Absent | | HOLD-METAL-DISSOLVED(180) |
| L1719410-01K | Plastic 500ml NaOH preserved | A | >12 | >12 | 8.1 | Y | Absent | | TCN-4500(14) |
| L1719410-01L | Plastic 500ml H2SO4 preserved | A | <2 | <2 | 8.1 | Y | Absent | | NH3-4500(28) |
| L1719410-01M | Plastic 950ml unpreserved | A | 7 | 7 | 8.1 | Y | Absent | | TSS-2540(7) |
| L1719410-01N | Plastic 950ml unpreserved | A | 7 | 7 | 8.1 | Y | Absent | | CL-300(28),HEXCR-7196(1),HOLD-WETCHEM(),SALINITY(28),TRC-4500(1) |
| L1719410-01O | Amber 950ml H2SO4 preserved | A | <2 | <2 | 8.1 | Y | Absent | | TPHENOL-420(28) |
| L1719410-01P | Amber 1000ml HCl preserved | A | NA | | 8.1 | Y | Absent | | TPH-1664(28) |
| L1719410-01Q | Amber 1000ml HCl preserved | A | NA | | 8.1 | Y | Absent | | TPH-1664(28) |
| L1719410-01R | Amber 1000ml unpreserved | A | 7 | 7 | 8.1 | Y | Absent | | 8270TCL(7),8270TCL-SIM(7) |
| L1719410-01S | Amber 1000ml unpreserved | A | 7 | 7 | 8.1 | Y | Absent | | 8270TCL(7),8270TCL-SIM(7) |
| L1719410-01T | Amber 1000ml Na2S2O3 | A | 7 | 7 | 8.1 | Y | Absent | | PCB-608(7) |
| L1719410-01U | Amber 1000ml Na2S2O3 | A | 7 | 7 | 8.1 | Y | Absent | | PCB-608(7) |

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Serial_No:06151719:54
Lab Number: L1719410
Report Date: 06/15/17

Container Information

| Container ID | Container Type | Cooler | Initial pH | Final pH | Temp deg C | Pres | Seal | Frozen Date/Time | Analysis(*) |
|---------------------|------------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L1719410-02A | Vial HCl preserved | A | NA | | 8.1 | Y | Absent | | HOLD-8260(14) |
| L1719410-02B | Vial HCl preserved | A | NA | | 8.1 | Y | Absent | | HOLD-8260(14) |
| L1719410-02C | Vial Na2S2O3 preserved | A | N/A | N/A | 8.1 | Y | Absent | | HOLD-504/8011(14) |
| L1719410-02D | Vial Na2S2O3 preserved | A | N/A | N/A | 8.1 | Y | Absent | | HOLD-504/8011(14) |

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719410
Report Date: 06/15/17

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719410
Report Date: 06/15/17

Data Qualifiers

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

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719410
Report Date: 06/15/17

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.
- 4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.
- 5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).
- 14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.
- 19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 74 Method 1664, Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.
- 107 Alpha Analytical - In-house calculation method.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 10

Department: **Quality Assurance**

Published Date: 1/16/2017 11:00:05 AM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

Certification Information

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


Westborough Facility**EPA 624:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 300:** DW: Bromide**EPA 6860:** NPW and SCM: Perchlorate**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation**EPA 9012B:** NPW: Total Cyanide**EPA 9050A:** NPW: Specific Conductance**SM3500:** NPW: Ferrous Iron**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO₂, NO₃.**SM5310C:** DW: Dissolved Organic Carbon**Mansfield Facility****SM 2540D:** TSS**EPA 3005A** NPW**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.****EPA 624:** Volatile Halocarbons & Aromatics,**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.****Mansfield Facility:****Drinking Water****EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

COC edits by Gina Hall AAL 6/14/17

|  CHAIN OF CUSTODY | | Service Centers Brewer, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205 Tonawanda, NY 14150 Holmes, PA 19043 | | Page 1 of 1 | | Date Rec'd in Lab 6/19/17 | | ALPHA Job # 171946 | |
|--|---|---|----------------------------|---|-------------|---|--|---|--|
| Westborough, MA 01581 8 Walkup Dr. TEL: 508-858-9226 FAX: 508-858-9193 | | Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288 | | Project Information Project Name: Harrison/Albany Block Project Location: 89 East Dedham Street, Boston MA Project #: 129168-007 (Use Project name as Project ID) | | Deliverables <input checked="" type="checkbox"/> Email <input type="checkbox"/> Fax <input type="checkbox"/> EQuS (1 File) <input checked="" type="checkbox"/> EQuS (4 File) <input type="checkbox"/> Other: | | Billing Information <input checked="" type="checkbox"/> Same as Client Info PO # | |
| H&A Information H&A Client: MEPT/LMP Harrison/Albany Block H&A Address 465 Medford St Boston, MA 02129-1400 H&A Phone: 617-885-7400 H&A Fax: H&A Email: Kalepdis, Gdaylor, Kchatterton | | Project Manager: L. Vanzler ALPHAQuote #: Turn-Around Time Standard <input checked="" type="checkbox"/> Due Date: (only if pre approved) <input type="checkbox"/> # of Days: 5 Day | | Regulatory Requirements (Program/Criteria) MA NPDES RGP Note: Select State from menu & identify criteria. | | Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: <input type="checkbox"/> NJ <input type="checkbox"/> NY Other: | | | |
| These samples have been previously analyzed by Alpha <input type="checkbox"/> Other project specific requirements/comments: **Field Filtered PLEASE RUN FOR FULL 2017 RGP SUITE, MINUS ETHANOL Analyze using the EPA 2017 RGP Approved Testing Methods Please specify Metals or TAL. | | ANALYSIS TSS-2540, TRC-4500 TCN-4500, 504 8260, 8260-SIM for Dioxane HEXCR-3000, Trivalent Chromium 8270TCL (also including Diethylenetriamine) 8270TCL-SIM Total Metals: Ag, As, Cd, Cr, Cu, Ni, Pb, Se, Sn, Zn, Fe, Hg CL-300 Ammonia Salinity, hardness TPH-1664, PCB-608, TPHENOL-420 HOLD PACN HOLD ACN **HOLD DISSOLVED METALS | | Sample Filtration <input type="checkbox"/> Done <input type="checkbox"/> Lab to do <input type="checkbox"/> Preservation <input type="checkbox"/> Lab to do (Please Specify below) | | | | | |
| ALPHA Lab ID (Lab Use Only) 1941601 | Sample ID R-C6(au) Trip Blank | Collection Date 6/14/17 Time 1335 6/9/17 00:00 | Sample Matrix AQ | Sampler's Initials DVP | HOLD | | | | |
| Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ SO ₃ K/E = Zn Ac/NaOH O = Other | | Container Code: P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encone D = BOD Bottle | | Westboro: Certification No: MA935 Mansfield: Certification No: MA015 | | Container Type P P MY P AV A P P P A A P P P | | Preservative A E B A B A C A D A H E E C | |
| Relinquished By: [Signature] Date/Time 6/14/17 17:00 | | Received By: [Signature] Date/Time 6/19/17 12:00 | | | | Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18-Alpha Analytical by and between Haley & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical. | | | |
| Document ID: 20455 Rev 1 (1/28/2016) | | | | | | | | | |

[illegible]



L17-048

June 8, 2017

Mr. Glen Breland
 Alpha Analytical Labs
 8 Walkup Drive
 Westborough, MA 01581

Subject: Tritium Characterization Results, Harrison/Albany Block Project, Boston, MA

Dear Mr. Breland:

This letter documents the evaluation of radiological analysis results for the groundwater sample from the observation well (OW) located at grid location R-C6 as depicted on the attached Figure 1. Evaluation of the analytical data for the groundwater sample obtained at this location are non-detectable for tritium (H-3). The sample location (refer to Figure 1), sample collection date and results are provided in Table 1:

Table 1

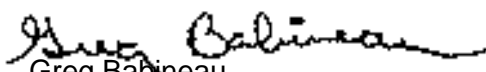
| SAMPLE RESULTS for R-C6 (OW) | | |
|------------------------------|-----------------|-----------------------|
| SAMPLE LOCATION | COLLECTION DATE | H-3 ACTIVITY |
| R-C6 | 1-Feb-17 | ND ^(*) |
| | | (*) ND=Non Detectable |

Note: The sample was analyzed for H-3 using Method EPA 906.0

Based on this radiological sample result, subsequent groundwater samples from R-C6 are acceptable for shipment to your non-licensed laboratory.

Please let me know if additional information is needed.

Sincerely,


 Greg Babineau
 Director of Radiological Services

Enclosure: Figure 1



ANALYTICAL REPORT

| | |
|-----------------|---|
| Lab Number: | L1719411 |
| Client: | Haley & Aldrich, Inc. 465 Medford Street, Suite 2200 Charlestown, MA 02129-1400 |
| ATTN: | Lee Vanzler |
| Phone: | (617) 886-7561 |
| Project Name: | HARRISON/ALBANY BLOCK |
| Project Number: | 129168-007 |
| Report Date: | 06/15/17 |

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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



Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719411
Report Date: 06/15/17

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|----------------------------|------------------------|---------------|--------------------------------------|---------------------------------|---------------------|
| L1719411-01 | RECEIVING WATER-060917 | WATER | 89 EAST DEDHAM STREET, BOSTON, MA | 06/09/17 15:30 | 06/09/17 |

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719411
Report Date: 06/15/17

Case Narrative

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

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

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

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

HOLD POLICY

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

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

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719411
Report Date: 06/15/17

Case Narrative (continued)

Sample Receipt

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice and delivered directly from the sampling site.

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

Authorized Signature:

 Cristin Walker

Title: Technical Director/Representative

Date: 06/15/17

INORGANICS & MISCELLANEOUS

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719411

Project Number: 129168-007

Report Date: 06/15/17

SAMPLE RESULTS

Lab ID: L1719411-01
 Client ID: RECEIVING WATER-060917
 Sample Location: 89 EAST DEDHAM STREET, BOSTON,
 Matrix: Water

Date Collected: 06/09/17 15:30
 Date Received: 06/09/17
 Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|-------------------------------------|--------|-----------|-------|-------|-----|--------------------|------------------|------------------|----------------------|---------|
| General Chemistry - Westborough Lab | | | | | | | | | | |
| SALINITY | 8.1 | | SU | 2.0 | -- | 1 | - | 06/14/17 19:05 | 121,2520B | AS |
| pH (H) | 7.4 | | SU | - | NA | 1 | - | 06/10/17 06:33 | 121,4500H+-B | KA |
| Nitrogen, Ammonia | 0.198 | | mg/l | 0.075 | -- | 1 | 06/10/17 13:58 | 06/12/17 21:48 | 121,4500NH3-BH | AT |



Project Name: HARRISON/ALBANY BLOCK**Lab Number:** L1719411**Project Number:** 129168-007**Report Date:** 06/15/17**Method Blank Analysis**
Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|--|--------|-----------|-------|-------|-----|--------------------|------------------|------------------|----------------------|---------|
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1011885-1 | | | | | | | | | | |
| Nitrogen, Ammonia | ND | | mg/l | 0.075 | -- | 1 | 06/10/17 13:58 | 06/12/17 21:21 | 121,4500NH3-BH | AT |

Lab Control Sample Analysis**Batch Quality Control****Project Name:** HARRISON/ALBANY BLOCK**Project Number:** 129168-007**Lab Number:** L1719411**Report Date:** 06/15/17

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|------------------|------|-------------------|------|---------------------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1011885-2 | | | | | | | | |
| Nitrogen, Ammonia | 100 | | - | | 80-120 | - | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1013146-1 | | | | | | | | |
| pH | 100 | | - | | 99-101 | - | | 5 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1013195-1 | | | | | | | | |
| SALINITY | 103 | | - | | | - | | |

Matrix Spike Analysis

Batch Quality Control

Project Name: HARRISON/ALBANY BLOCK

Lab Number: L1719411

Project Number: 129168-007

Report Date: 06/15/17

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1011885-4 QC Sample: L1718973-04 Client ID: MS Sample | | | | | | | | | | | | |
| Nitrogen, Ammonia | 2.09 | 4 | 5.90 | 95 | | - | - | | 80-120 | - | | 20 |

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L1719411
Report Date: 06/15/17

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1011885-3 QC Sample: L1718973-04 Client ID: DUP Sample | | | | | | |
| Nitrogen, Ammonia | 2.09 | 2.11 | mg/l | 1 | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1013146-2 QC Sample: L1700006-53 Client ID: DUP Sample | | | | | | |
| pH | 8.4 | 8.4 | SU | 0 | | 5 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1013195-2 QC Sample: L1719411-01 Client ID: RECEIVING WATER-060917 | | | | | | |
| SALINITY | 8.1 | 8.1 | SU | 0 | | |

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Serial_No:06151713:27
Lab Number: L1719411
Report Date: 06/15/17

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

| | |
|---------------|---------------------|
| Cooler | Custody Seal |
| A | Absent |

Container Information

| Container ID | Container Type | Cooler | Initial pH | Final pH | Temp deg C | Pres | Seal | Frozen Date/Time | Analysis(*) |
|---------------------|-------------------------------|---------------|-----------------------|---------------------|-----------------------|-------------|-------------|-----------------------------|--------------------|
| L1719411-01A | Plastic 60ml unpreserved | A | 7 | 7 | 8.1 | Y | Absent | | PH-4500(.01) |
| L1719411-01B | Amber 250ml unpreserved | A | 7 | 7 | 8.1 | Y | Absent | | SALINITY(28) |
| L1719411-01C | Plastic 500ml H2SO4 preserved | A | <2 | <2 | 8.1 | Y | Absent | | NH3-4500(28) |

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719411
Report Date: 06/15/17

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719411
Report Date: 06/15/17

Data Qualifiers

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

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: HARRISON/ALBANY BLOCK
Project Number: 129168-007

Lab Number: L1719411
Report Date: 06/15/17

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 10

Department: **Quality Assurance**

Published Date: 1/16/2017 11:00:05 AM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

Certification Information


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

Westborough Facility**EPA 624:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 300:** DW: Bromide**EPA 6860:** NPW and SCM: Perchlorate**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation**EPA 9012B:** NPW: Total Cyanide**EPA 9050A:** NPW: Specific Conductance**SM3500:** NPW: Ferrous Iron**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO₂, NO₃.**SM5310C:** DW: Dissolved Organic Carbon**Mansfield Facility****SM 2540D:** TSS**EPA 3005A** NPW**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.****EPA 624:** Volatile Halocarbons & Aromatics,**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.****Mansfield Facility:****Drinking Water****EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

| | | | | | | | | | | | | | |
|---|--|--|--|---|--|--|--|---|--|---|--|--|--|
|  CHAIN OF CUSTODY | | Service Centers Brewster, ME 04412 Portsmouth, NH 03801 Mahwah, NJ 07430 Albany, NY 12205 Tuxedo, NY 14150 Holmes, PA 19043 | | Page 1 of 1 | | Date Rec'd in Lab 6/9/17 | | ALPHA Job U79411 | | | | | |
| Westborough, MA 01581 8 Walkway Dr. TEL: 508-899-9220 FAX: 508-899-9192 | | Mansfield, MA 02548 220 Forbes Blvd. TEL: 508-822-9300 FAX: 508-822-9288 | | Project Information Project Name: Harrison/Albany Block Project Location: 89 East Dedham Street, Boston MA Project #: 129168-007 (Use Project name as Project #) Project Manager: L. Vanzler ALPHAQuote #: Turn-Around Time: Standard <input checked="" type="checkbox"/> Due Date: (only if pre approved) <input type="checkbox"/> # of Days: 5 Day | | Deliverables <input checked="" type="checkbox"/> Email <input type="checkbox"/> Fax <input type="checkbox"/> EQUIS (1 File) <input checked="" type="checkbox"/> EQUIS (4 File) <input type="checkbox"/> Other: | | Billing Information <input checked="" type="checkbox"/> Same as Client Info PO # | | | | | |
| H&A Information H&A Client: MEPT/LMP Harrison/Albany Block H&A Address: 465 Medford St Boston, MA 02129-1400 H&A Phone: 617-886-7400 H&A Fax: H&A Email: Kalepidis, Gdaylor, Kchatartan | | Regulatory Requirements (Program/Criteria) MA NPDES RGP Note: Select State from menu & identify criteria. | | Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: <input type="checkbox"/> NJ <input type="checkbox"/> NY <input type="checkbox"/> Other: | | Sample Filtration <input type="checkbox"/> Done <input type="checkbox"/> Lab to do <input type="checkbox"/> Preservation <input type="checkbox"/> Lab to do (Please Specify below) | | | | | | | |
| These samples have been previously analyzed by Alpha <input type="checkbox"/> | | Other project specific requirements/comments: Analyze using the EPA 2017 RGP Approved Testing Methods and Minimum Detection Levels. pH and Temperature readings to additionally be collected in the field | | ANALYSIS | | Sample Specific Comments | | | | | | | |
| ALPHA Lab ID (Lab Use Only) | | Sample ID | | Collection Date Time | | Sample Matrix | | Sampler's Initials | | Ammonia pH Salinity | | T C A S H O I L S | |
| U79411.0 | | Receiving Water - 06/09/17 | | 06/09/17 15:30 | | AO | | BW | | X X X | | 3 | |
| Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ KE = Zn Ac/NaOH O = Other | | Container Code: P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encase D = BOD Bottle | | Westboro: Certification No: MA035 Mansfield: Certification No: MA015 | | Container Type Preservative | | P P P D A A | | Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. Alpha Analytical's services under this Chain of Custody shall be performed in accordance with terms and conditions within Blanket Service Agreement# 2015-18 Alpha Analytical by and between Halsey & Aldrich, Inc., its subsidiaries and affiliates and Alpha Analytical. | | Relinquished By: [Signature] Date/Time: 06/09/17 17:00 Received By: [Signature] Date/Time: 6/9/17 17:00 | |
| Document ID: 20455 Rev 1 (1/28/2016) | | | | | | | | | | | | | |



L17-048

June 8, 2017

Mr. Glen Breland
 Alpha Analytical Labs
 8 Walkup Drive
 Westborough, MA 01581

Subject: Tritium Characterization Results, Harrison/Albany Block Project, Boston, MA

Dear Mr. Breland:

This letter documents the evaluation of radiological analysis results for the groundwater sample from the observation well (OW) located at grid location R-C6 as depicted on the attached Figure 1. Evaluation of the analytical data for the groundwater sample obtained at this location are non-detectable for tritium (H-3). The sample location (refer to Figure 1), sample collection date and results are provided in Table 1:

Table 1

| SAMPLE RESULTS for R-C6 (OW) | | |
|------------------------------|-----------------|-----------------------|
| SAMPLE LOCATION | COLLECTION DATE | H-3 ACTIVITY |
| R-C6 | 1-Feb-17 | ND ^(*) |
| | | (*) ND=Non Detectable |

Note: The sample was analyzed for H-3 using Method EPA 906.0

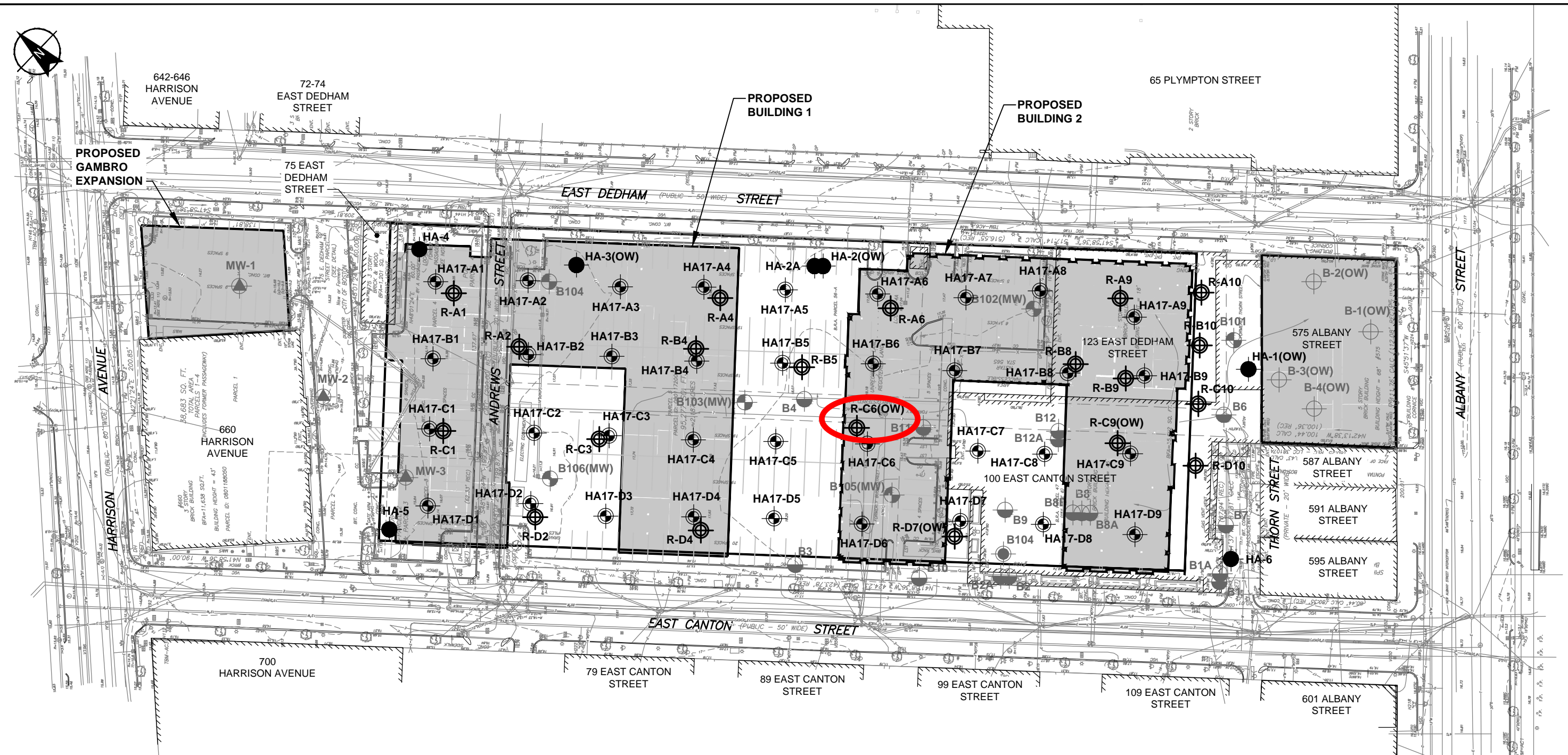
Based on this radiological sample result, subsequent groundwater samples from R-C6 are acceptable for shipment to your non-licensed laboratory.

Please let me know if additional information is needed.

Sincerely,


 Greg Babineau
 Director of Radiological Services

Enclosure: Figure 1



LEGEND

HA17-A1

APPROXIMATE LOCATION OF PRECHARACTERIZATION TEST BORING CONDUCTED BY NORTHERN DRILL SERVICE OR GEOLOGIC EARTH EXPLORATION AND MONITORED BY HALEY & ALDRICH IN JANUARY AND FEBRUARY 2017

R-A1

APPROXIMATE LOCATION OF RADIONUCLIDE TEST BORING CONDUCTED BY NORTHERN DRILL SERVICE OR GEOLOGIC EARTH EXPLORATION AND MONITORED BY RSCS IN JANUARY AND FEBRUARY 2017

HA-1

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY GEOLOGIC EARTH EXPLORATIONS IN FEBRUARY 2016 AND MONITORED BY HALEY & ALDRICH, INC.

B104

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY GEOLOGIC EARTH EXPLORATION DURING FEBRUARY 2010 AND MONITORED BY GEI

B-1

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY NEW HAMPSHIRE BORING IN OCTOBER 2008 AND MONITORED BY HALEY & ALDRICH, INC.

MW-1

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY AMERICAN DRILLING SERVICES DURING JUNE 1998 AND MONITORED BY GALE ASSOCIATES

B104

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY CARR-DEE TEST BORING & CONSTRUCTION IN MARCH 1977

B7

DESIGNATION AND APPROXIMATE LOCATION OF TEST BORING DRILLED BY CARR-DEE TEST BORING & CONSTRUCTION IN APRIL 1966 AND MAY 1967

(MW)
(OW)

INDICATES MONITORING WELL (OBSERVATION WELL) INSTALLED IN COMPLETED BOREHOLE

NOTES

1. BASE PLAN TAKEN FROM AN ELECTRONIC FILE TITLED "14776-EC(SENT2015-11-09).dwg", PROVIDED BY LEGGAT McCALL PROPERTIES.
2. PROPOSED ABOVE AND BELOW-GRADE BUILDING LIMITS TAKEN FROM DRAWING TITLED "PROPOSED SITE PLAN" PREPARED BY CBT ARCHITECTS AND DATED 20 JANUARY 2017.
3. DEPICTED LOCATION OF PREVIOUS EXPLORATIONS ESTIMATED BY SCALING FROM DRAWINGS BY OTHERS AND SHOULD BE CONSIDERED APPROXIMATE.
4. ELEVATIONS REFERENCE BOSTON CITY BASE (BCB) DATUM AND SHOULD BE CONSIDERED APPROXIMATE.

0 60 120
SCALE IN FEET

**HALEY
ALDRICH**

HARRISON ALBANY BLOCK DEVELOPMENT
BOSTON, MASSACHUSETTS

SITE AND SUBSURFACE EXPLORATION LOCATION PLAN

SCALE: AS SHOWN
APRIL 2017

FIGURE 1

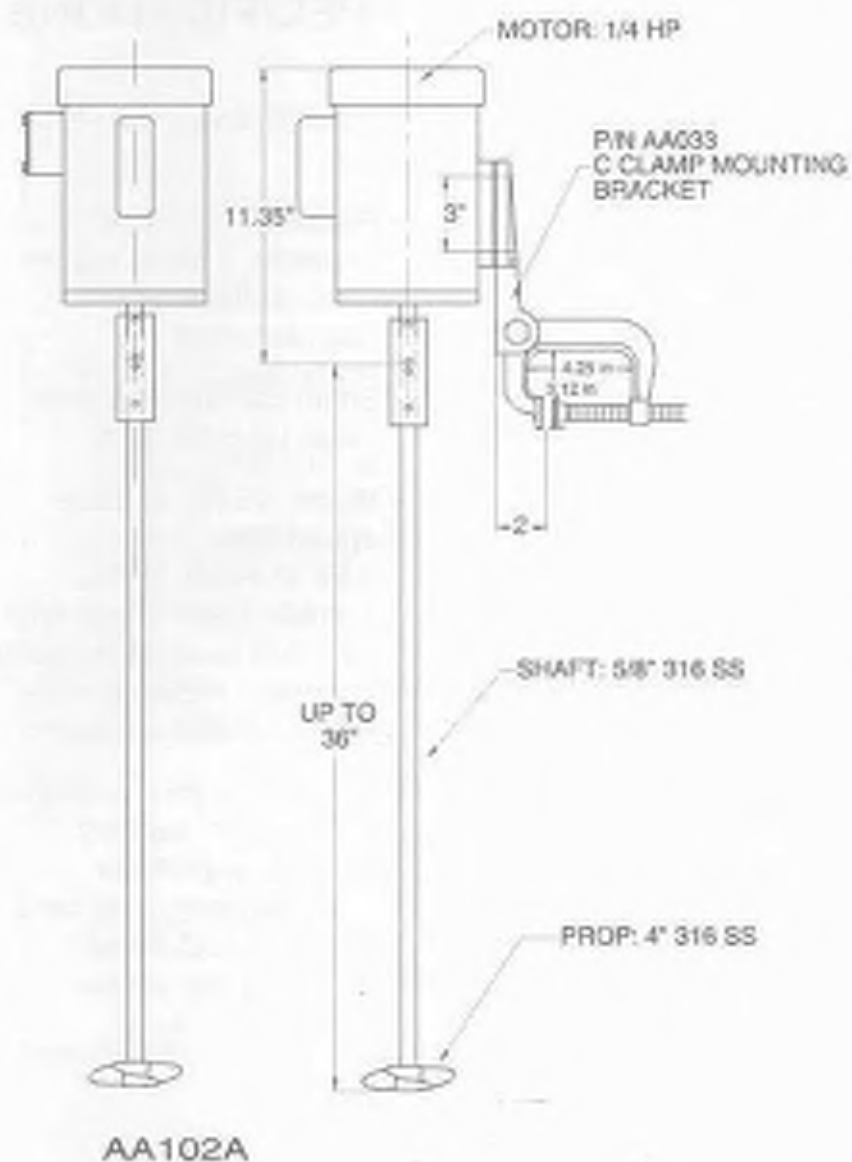
APPENDIX F

Contractor Dewatering Submittal

pH System Components

MADDEN

MIXER MODEL NO. AA102A



SPECIFICATIONS

- Speed: 1,725 rpm
- Propeller: (1 or 2)
4" diameter, 3 blade
marine type, material:
316 stainless steel
- Shaft: 5/8" 316 stainless
steel, up to 36" long
- Motor: 1/4 HP, 1,725 rpm,
1/60/115-230, capacitor
start, or 3/60/230-460,
TEFC
- Mounting: rigid mounting to
fixed mixer mounting
bracket, or portable
mounting with mixer motor
mounted to C clamp
mounting bracket no.
AA033.

The Pulsatron Series E Plus offers manual control over stroke length and stroke rate as standard with the option to choose between 4-20mA and external pace inputs for automatic control.

Twenty distinct models are available, having pressure capabilities to 300 PSIG (21 BAR) @ 3 GPD (0.5 lph), and flow capacities to 600 GPD (94.6 lph) @ 30 PSIG (2 BAR), with a turndown ratio of 100:1. Metering performance is reproducible to within $\pm 2\%$ of maximum capacity. Please refer to the reverse side for Series E PLUS specifications.

Features

- Automatic Control, available with 4-20mADC direct or external pacing, with stop function.
- Manual Control by on-line adjustable stroke rate and stroke length.
- Auto-Off-Manual switch.
- Highly Reliable timing circuit.
- Circuit Protection against voltage and current upsets.
- Panel Mounted Fuse.
- Solenoid Protection by thermal overload with auto-reset.
- Water Resistant, for outdoor and indoor applications.
- Indicator Lights, panel mounted.
- Guided Ball Check Valve Systems, to reduce back flow and enhance outstanding priming characteristics.
- Safe & Easy Priming with durable leak-free bleed valve assembly (standard).

Controls



Manual Stroke Rate

- Turn-Down Ratio 10:1

Manual Stroke Length

- Turn-Down Ratio 10:1

4-20mADC Direct or External Pacing with Stop

- Automatic Control

Operating Benefits

- Reliable metering performance.
- Rated "hot" for continuous duty.
- High viscosity capability.
- Leak-free, sealless, liquid end.



Aftermarket

- KOPkits
- Gauges
- Dampeners
- Pressure Relief Valves
- Tanks
- Pre-Engineered Systems
- Process Controllers (PULSAblue, MicroVision)



PULSAtron® Series E Plus

Specifications and Model Selection

| MODEL | | LPA2 | LPB2 | LPA2 | LPD3 | LPB3 | LPA3 | LPK3 | LPF4 | LPD4 | LPB4 | LPH4 | LPG4 | LPE4 | LPK5 | LPH5 | LPH6 | LPK7 | LPH7 | LPJ7 | LPH8 |
|-------------------------|--------|-------------------|------|------|------|------|------|------|------|------|------|-------------------------------|------|------|------|------|------|------|-------|-------|-------|
| Capacity nominal (max.) | GPH | 0.13 | 0.21 | 0.25 | 0.5 | 0.50 | 0.50 | 0.60 | 0.85 | 0.90 | 1.00 | 1.70 | 1.75 | 1.85 | 2.50 | 3.15 | 5.00 | 8.00 | 10.00 | 10.00 | 25.00 |
| | GPD | 3 | 5 | 6 | 12 | 12 | 12 | 14 | 20 | 22 | 24 | 41 | 42 | 44 | 60 | 76 | 120 | 192 | 240 | 240 | 600 |
| | (max.) | LPH | 0.5 | 0.8 | 0.9 | 1.9 | 1.9 | 2.3 | 3.2 | 3.4 | 3.8 | 6.4 | 6.6 | 7 | 9.5 | 11.9 | 18.9 | 30.3 | 37.9 | 37.9 | 94.6 |
| Pressure (max.) | PSIG | 300 | 250 | 150 | 250 | 150 | 100 | 100 | 250 | 150 | 100 | 250 | 150 | 100 | 150 | 150 | 100 | 50 | 35 | 80 | 30 |
| | BAR | 21 | 17 | 10 | 17 | 10 | 7 | 7 | 17 | 10 | 7 | 17 | 10 | 7 | 10 | 10 | 7 | 3.3 | 2.4 | 5.5 | 2 |
| Connections | Tubing | 1/4" ID X 3/8" OD | | | | | | | | | | 3/8" ID X 1/2" OD | | | | | | | | | |
| | | 3/8" ID X 1/2" OD | | | | | | | | | | 1/2" ID X 3/4" OD (LPH8 ONLY) | | | | | | | | | |
| | Piping | 1/4" FNPT | | | | | | | | | | 1/4" FNPT | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

Engineering Data

| | |
|------------------------------------|--|
| Pump Head Materials Available: | GFPPL PVC PVDF 316 SS PTFE-faced CSPE-backed |
| Diaphragm: | PTFE |
| Check Valves Materials Available: | CSPE |
| Seats/O-Rings: | Viton |
| Balls: | Ceramic PTFE 316 SS Alloy C |
| Fittings Materials Available: | GFPPL PVC PVDF |
| Bleed Valve: | Same as fitting and check valve selected, except 316SS |
| Injection Valve & Foot Valve Assy: | Same as fitting and check valve selected |
| Tubing: | Clear PVC White PE |

Important: Material Code - GFPPL=Glass-filled Polypropylene, PVC=Polyvinyl Chloride, PE=Polyethylene, PVDF=Polyvinylidene Fluoride, CSPE=Generic formulation of Hypalon, a registered trademark of E.I. DuPont Company. Viton is a registered trademark of E.I. DuPont Company. PVC wetted end recommended for sodium hypochlorite.

Engineering Data

| | |
|--|--|
| Reproducibility: | +/- 2% at maximum capacity |
| Viscosity Max CPS : | |
| For viscosity up to 3000 CPS, select connection size 3, 4, B or C with 316SS ball material. | |
| Flow rate will determine connection/ball size. Greater than 3000 CPS require spring loaded ball checks. See Selection Guide for proper connection. | |
| Stroke Frequency Max SPM: | 125 |
| Stroke Frequency Turn-Down Ratio: | 10:1 |
| Stroke Length Turn-Down Ratio: | 10:1 |
| Power Input: | 115 VAC/50-60 HZ/1 ph 230 VAC/50-60 HZ/1 ph |

| | |
|--------------------------------|-----------|
| Average Current Draw: | |
| @ 115 VAC; Amps: | 1.0 Amps |
| @ 230 VAC; Amps: | 0.5 Amps |
| Peak Input Power: | 300 Watts |
| Average Input Power @ Max SPM: | 130 Watts |

Custom Engineered Designs – Pre-Engineered Systems

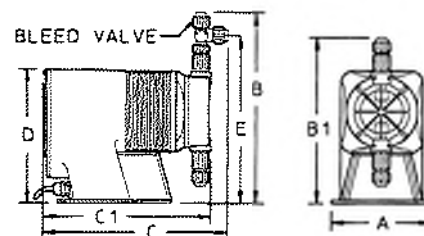


Pre-Engineered Systems
Pulsafeeder's Pre-Engineered Systems are designed to provide complete chemical feed solutions for all electronic metering applications. From stand alone simplex pH control applications to full-featured, redundant sodium hypochlorite disinfection metering, these rugged fabricated assemblies offer turn-key simplicity and industrial-grade durability. The UV-stabilized, high-grade HDPE frame offers maximum chemical compatibility and structural rigidity. Each system is factory assembled and hydrostatically tested prior to shipment.

Dimensions

| Series E Plus Dimensions (inches) | | | | | | | | | | | | | | | | | |
|-----------------------------------|-----|------|----|------|----|-----|-----|---------|-----------|-----|------|------|------|------|-----|------|---------|
| Model No. | A | B | B1 | C | C1 | D | E | Shpg Wt | Model No. | A | B | B1 | C | C1 | D | E | Shpg Wt |
| LPA2 | 5.4 | 10.3 | - | 10.8 | - | 7.5 | 8.9 | 13 | LPH4 | 6.2 | 10.9 | - | 11.2 | - | 8.2 | 9.5 | 21 |
| LPA3 | 5.4 | 10.6 | - | 10.7 | - | 7.5 | 9.2 | 13 | LPH5 | 6.2 | 11.3 | - | 11.2 | - | 8.2 | 9.9 | 21 |
| LPB2 | 5.4 | 10.3 | - | 10.8 | - | 7.5 | 8.9 | 13 | LPH6 | 6.2 | 11.3 | - | 11.9 | - | 8.2 | 9.9 | 21 |
| LPB3 | 5.4 | 10.6 | - | 10.7 | - | 7.5 | 9.2 | 13 | LPH7 | 6.1 | 11.7 | - | 11.9 | - | 8.2 | 10.3 | 21 |
| LPB4 | 5.4 | 10.6 | - | 10.7 | - | 7.5 | 9.2 | 13 | LPH8* | 6.1 | - | 10.9 | - | 11.3 | 8.2 | - | 26 |
| LPD3 | 5.4 | 10.6 | - | 11.2 | - | 7.5 | 9.2 | 15 | LPK2 | 5.4 | 10.3 | - | 10.8 | - | 7.5 | 8.9 | 13 |
| LPD4 | 5.4 | 10.6 | - | 11.2 | - | 7.5 | 9.2 | 15 | LPK3 | 5.4 | 10.6 | - | 10.7 | - | 7.5 | 9.2 | 13 |
| LPE4 | 5.4 | 10.6 | - | 11.2 | - | 7.5 | 9.2 | 15 | LPK5 | 5.4 | 10.9 | - | 11.7 | - | 7.5 | 9.5 | 18 |
| LPF4 | 5.4 | 10.6 | - | 11.7 | - | 7.5 | 9.2 | 18 | LPK7 | 6.1 | 11.7 | - | 11.2 | - | 8.2 | 10.3 | 21 |
| LPG4 | 5.4 | 10.6 | - | 11.7 | - | 7.5 | 9.2 | 18 | LPJ7 | 6.1 | 10 | - | 10.7 | - | - | - | 21 |

NOTE: Inches X 2.54 = cm /" the LPH8 is designed without a bleed valve available



+GF+® Signet pH/ORP Controllers

Versatile mounting options allow you to customize the installation for particular applications

- Large, scratch-resistant, self-healing display

+GF+ Signet controllers are designed for broad application and ease of setup and operation. Multiple mounting options allow for installation best suited to your particular application. Intuitive software and four-button keypad arrangement make it easy to access important information such as measurement values, calibration data, relay setup menus, and more.

Optional universal mounting kit allows for mounting of field-mount units on pipes, tanks, and walls. RC filter kit prevents premature wearing of the relay outputs by providing protection from electrical noise. Order separately below.

NEW

Required System Components

- 1 Controller
- 2 Pre-amplifier
- 3 Electrode



Field-mount controller 56560-20



Panel-mount controller 56560-30



DryLoc® pH and ORP electrodes

Specifications

ISO9001:2000
CERTIFIED SUPPLIER

UL US

CE

Meter only

2 year warranty
Meter only

| Model | | +GF+ Signet 8750-1 | +GF+ Signet 8750-2 | +GF+ Signet 8750-3 |
|------------------------|--------------------------|---|--|---|
| Range | pH | 0.00 to 14.00 | 0.00 to 14.00 | 0.00 to 14.00 |
| | mV | -1000 to 2000 mV | -1000 to 2000 mV | -1000 to 2000 mV |
| Resolution | Temperature | -13 to 248°F (-25 to 120°C) | -13 to 248°F (-25 to 120°C) | -13 to 248°F (-25 to 120°C) |
| | pH | 0.01 | 0.01 | 0.01 |
| Accuracy | mV | 1 mV | 1 mV | 1 mV |
| | Temperature | 0.1°C (0.1°F) | 0.1°C (0.1°F) | 0.1°C (0.1°F) |
| Accuracy | pH | ±0.03 | ±0.03 | ±0.03 |
| | mV | ±2 mV | ±2 mV | ±2 mV |
| Accuracy | Temperature | ±0.5°C (±1°F) | ±0.5°C (±1°F) | ±0.5°C (±1°F) |
| | Temperature compensation | Automatic, 3 kΩ Balco | Automatic, 3 kΩ Balco | Automatic, 3 kΩ Balco |
| Control type | | On/off (limit) or proportional | On/off (limit) or proportional | On/off (limit) or proportional |
| Number of set points | | Two (low, high) | Two (low, high) | Two (low, high) |
| Output | Relay | — | Two SPDT relays, 5 A at 30 VDC or 250 VAC resistive load maximum | — |
| | Current | One 4 to 20 mA, isolated, fully adjustable and reversible | One 4 to 20 mA, isolated, fully adjustable and reversible | Two 4 to 20 mA, isolated, fully adjustable and reversible |
| | Open collector | One open-collector, optically isolated, 50 mA max | — | Two open-collector, optically isolated, 50 mA max |
| Dead band | | User adjustable | User adjustable | User adjustable |
| Housing | | NEMA 4X (IP65) front panel | NEMA 4X (IP65) front panel | NEMA 4X (IP65) front panel |
| Display | | 2 x 16 alphanumeric LCD | 2 x 16 alphanumeric LCD | 2 x 16 alphanumeric LCD |
| Dimensions (W x H x D) | | Field-mount: 3 1/8" x 3 1/8" x 4 3/8" (96 x 96 x 106 mm) Panel-mount: 3 1/8" x 3 1/8" x 3 1/8" (96 x 96 x 97 mm) | | |
| Power | | 12 to 24 VDC | 12 to 24 VDC | 12 to 24 VDC |

1 Controllers

| Catalog number | Model | Mounting style | Price |
|----------------|---------------------|----------------------|-------|
| S-56560-18 | +GF+ Signet 8750-1 | Field mount | |
| S-56560-28 | +GF+ Signet 8750-1P | Panel mount, 1/4 DIN | |
| S-56560-20 | +GF+ Signet 8750-2 | Field mount | |
| S-56560-30 | +GF+ Signet 8750-2P | Panel mount, 1/4 DIN | |
| S-56560-22 | +GF+ Signet 8750-3 | Field mount | |
| S-56560-32 | +GF+ Signet 8750-3P | Panel mount, 1/4 DIN | |

S-05631-50 Universal mounting kit for field-mount units

S-19007-52 RC filter kit for relay use. Pack of 2

S-17106-20 NIST-traceable calibration

2 Pre-amplifiers

Pre-amplifiers protect the relatively weak output signal of the pH or ORP electrode from electrical interferences common in industrial environments and are required for initial system installation. Unique DryLoc® connectors allow you to quickly form robust assemblies for submersible and in-line applications.

| Catalog number | Thread size | Price |
|----------------|---------------|-------|
| S-56560-03 | 3/4" NPT(M) | |
| S-56560-04 | ISO 7-1 R3/4" | |

3 Electrodes

Feature-packed pH and ORP electrodes feature unique DryLoc connectors which offer resistance to intrusion from dirt and moisture. Extended reference path length extends electrode life over traditional combination electrodes. Electrode bodies are Ryton® PPS for added chemical resistance and feature a 3/4" NPT(M) or ISO 7-1 R3/4" threads for in-line installation. Flat-surface electrodes minimize abrasion and breakage problems by allowing sediment to sweep past the measurement surface. Bulb-style electrodes feature quick response and are well-suited to general-purpose applications. HF-resistant electrodes resist hydrofluoric acid in concentration less than 2%. LC-bulb electrodes are designed for ultrapure, low-conductivity water applications. All have a 3 kΩ Balco ATC element and measure 0 to 14 pH.

| Catalog number | Type | Thread size | Price |
|----------------|-----------------------|---------------|-------|
| S-56561-02 | pH, flat surface | 3/4" NPT(M) | |
| S-56561-03 | pH, flat surface | ISO 7-1 R3/4" | |
| S-56561-10 | pH, bulb style | 3/4" NPT(M) | |
| S-56561-11 | pH, bulb style | ISO 7-1 R3/4" | |
| S-56561-06 | pH, HF-resistant bulb | 3/4" NPT(M) | |
| S-56561-07 | pH, HF-resistant bulb | ISO 7-1 R3/4" | |
| S-56561-14 | pH, LC bulb | 3/4" NPT(M) | |
| S-56561-15 | pH, LC bulb | ISO 7-1 R3/4" | |
| S-56561-16 | ORP, flat surface | 3/4" NPT(M) | |
| S-56561-17 | ORP, flat surface | ISO 7-1 R3/4" | |

SECTION 1. PRODUCT IDENTIFICATION

Trade Name **77 % - 100 % Sulfuric Acid**
 Product Code None
 Manufacturers/Distributors NorFalco Inc., 6000 Lombard Center, The Genesis Bldg, suite 650 Seven Hills, OH 44131
 NorFalco Sales Inc., 6755 Mississauga Road, Suite 304, Mississauga, Ontario L5N 7Y2
 Information Contact André Auger, Administration Assistant
 Product Information 1-905-542-6901 (Mississauga)
 Phone Number (Transportation Emergency) Canada 1-877-ERP-ACID (377-2243)
 Phone Number (Transportation Emergency) U.S.A. 1-800-424-9300 CHEMTREC
 Phone Number (Medical Emergency) **1-418-656-8090**
 Phone Number (Emergency) **CANUTEC 1-613-996-6666**
 Synonyms Dihydrogen Sulfate ; Oil of Vitriol ; Vitriol Brown Oil ; Sulphuric Acid.
 Name / Chemical Formula Acide sulfurique (French)
 Chemical Family Sulfuric Acid / H₂SO₄
 Utilization Acid
 Chemical industries ; Water treatment ; Fertilizer ; Pulp and Paper.
 Manufacturers CEZinc on behalf of Noranda Income Limited Partnership, Salaberry-de-Valleyfield (Quebec) Canada J6T 6L4
 Xstrata Copper, Home Smelter, Rouyn-Noranda (Quebec) J9X 5B6
 Xstrata Zinc, Brunswick Smelting, Belledune, New Brunswick E0B 1G0
 Xstrata Copper, Kidd Metallurgical Division, Timmins, Ontario P4N 7K1
 Xstrata Nickel, Sudbury Operations, Falconbridge, Ontario P0M 1S0

SECTION 2. HAZARDS IDENTIFICATION

WHMIS (Canada) CLASS D-1A : Very toxic material causing immediate and serious effects
 CLASS E : Corrosive material
 Labeling (EEC) C Corrosive



SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Name | CAS # | Percentage (%) | # CE | R Phrases ¹ |
|-------------------|-----------|----------------|-----------|------------------------|
| Sulfuric (Acid) | 7664-93-9 | 77 % to 100 % | 231-639-5 | R35 |
| 60 Deg Technical | | 77.7 | | |
| 66 Deg Technical | | 93.2 | | |
| 1.835 Electrolyte | | 93.2 | | |
| 98 % Technical | | 98 | | |
| 99 % Technical | | 99 | | |
| 100 % Technical | | 100 | | |
| Water | 7732-18-5 | 0-22 | | |

Note 1 : See section 15 for the complete wording of risk phrases.

SECTION 4. FIRST-AID MEASURES

Eye Contact Remove contact lenses if present. Immediately flush eyes with plenty of water, holding eyelids open for at least 15 minutes. Consult a physician. Possibility of conjunctivitis, severe irritation, severe burns, permanent eye damage.

Skin Contact Remove contaminated clothing and shoes as quickly as possible protecting your hands and body. Place under a deluge shower for 15 minutes. Flush exposed skin gently and thoroughly with running water (Pay particular attention to : Folds, crevices, creases, groin). Call a physician if irritation persists. May irritate skin, cause burns (Highly corrosive) and possibility of some scarring.
 Wash contaminated clothing before reusing. While the patient is being transported to a medical facility, continue the application of cold, wet compresses. If medical treatment must be delayed, repeat the flushing with cold water or soak the affected area with cold water to help remove the last traces of sulfuric acid. *Creams or ointments **SHOULD NOT** be applied before or during the washing phase of treatment.*

Inhalation Take precautions to avoid secondary contamination by residual acids. Remove the person to fresh air. If not breathing, give artificial respiration. Difficult breathing : Give oxygen. Get immediate medical attention. Possibility of damage to the upper respiratory tract and lung tissues. Maintain observation of the patient for delayed onset of pulmonary oedema. May cause irritation to the upper respiratory tract : Coughing, sore throat, shortness of breath.

Ingestion **DO NOT INDUCE VOMITING.** Conscious and alert person : Rinse mouth with water and give ½ to 1 cup of water or milk to dilute material. **Spontaneous vomiting** : Keep head below hips to prevent aspiration ; Rinse mouth and give ½ to 1 cup of water or milk. **UNCONSCIOUS person** : **DO NOT** induce vomiting or give any liquid. **Immediately** obtain medical attention.

Notes to Physicians

Continued washing of the affected area with cold or iced water will be helpful in removing the last traces of sulfuric acid. Creams or ointments should not be applied before or during the washing phase of the treatment.

SECTION 5. FIRE-FIGHTING MEASURES

| | |
|---------------------------|---|
| Flash Point | Not available |
| Flammable Limits | Not available |
| Auto-Ignition Temperature | Not available |
| Products of Combustion | Releases of sulfur dioxide at extremely high temperatures. |
| Fire Hazard | Not flammable |
| Explosion Hazard | Reacts with most metals, especially when dilute : Hydrogen gas release (Extremely flammable, explosive). Risk of explosion if acid combined with water, organic materials or base solutions in enclosed spaces (Vacuum trucks, tanks). Mixing acids of different strengths/concentrations can also pose an explosive risk in an enclosed space/container. |
| Extinguishing media | ERG (Emergency Response Guidebook) : Guide 137 When material is not involved in fire, do not use water on material itself. Small fire : Dry chemical or CO ₂ . Move containers from fire area if you can do it without risk. Large fire : Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. Fire involving Tanks or Car/Trailer Loads : Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. |
| Protective equipment | Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Generates heat upon addition of water, with possibility of spattering. Wear full protective clothing. Runoff from fire control may cause pollution. Neutralize run-off with lime, soda ash, etc., to prevent corrosion of metals and formation of hydrogen gas. Wear self-contained breathing apparatus if fumes or mists are present. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

| | |
|----------------------|--|
| Spill | Review Fire and Explosion Hazards and Safety Precautions before proceeding with clean up. Stop flow if possible. Soak up small spills with dry sand, clay or diatomaceous earth. |
| Methods | Dike large spills, and cautiously dilute and neutralize with lime or soda ash, and transfer to waste water treatment system. Prevent liquid from entering sewers, waterways, or low areas. If this product is spilled and not recovered, or is recovered as a waste for treatment or disposal, the Reportable Quantity (U.S. DOT) is 1 000 lbs (Based on the sulfuric acid content of the solution spilled). Comply with Federal, State, and local regulations on reporting releases. |
| Protective equipment | Review Fire Fighting Measures and Handling (Personnel Protection) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up. |

SECTION 7. HANDLING AND STORAGE

| | |
|------------------------|--|
| Handling | Do not get in eyes, on skin, or on clothing. Avoid breathing vapours or mist. Wear approved respirators if adequate ventilation cannot be provided. Wash thoroughly after handling. Ingestion or inhalation : Seek medical advice immediately and provide medical personnel with a copy of this MSDS. |
| Conditions for storage | Sulfuric acid must be stored in containers or tanks that have been specially designed for use with sulfuric acid. DO NOT add water or other products to contents in containers as violent reactions will result with resulting high heat, pressure and/or generation of hazardous acid mists. Keep containers away from heat, sparks, and flame. All closed containers must be safely vented before each opening. For more information on sulfuric acid tanks, truck tanks and tank cars including safe unloading information go to www.norfalco.com . |

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| Name | # CAS | Control parameters | |
|-------------------|-----------|------------------------------|--------------------------------|
| | | ACGIH (U.S.A.) 2008 | OSHA (U.S.A.) |
| | | TLV-TWA (mg/m ³) | PEL - TWA (mg/m ³) |
| Sulfuric (Acid) | 7664-93-9 | 0.2 (thoracic fr.) | 1 |
| 60 Deg Technical | 7664-93-9 | 0.2 (thoracic fr.) | 1 |
| 66 Deg Technical | 7664-93-9 | 0.2 (thoracic fr.) | 1 |
| 1.835 Electrolyte | 7664-93-9 | 0.2 (thoracic fr.) | 1 |
| 98 % Technical | 7664-93-9 | 0.2 (thoracic fr.) | 1 |
| 99 % Technical | 7664-93-9 | 0.2 (thoracic fr.) | 1 |
| 100 % Technical | 7664-93-9 | 0.2 (thoracic fr.) | 1 |
| Water | 7732-18-5 | Not established | Not established |

ACGIH : American Conference of Governmental Industrial Hygienists. OSHA : Occupational Safety and Health Administration.

Note : Sulfuric (Acid) : Exposure limits may be different in other jurisdictions. NIOSH REL-TWA (≤ 10 hours) : 1 mg/m^3 ; IDLH : 15 mg/m^3 .

Consult local authorities for acceptable exposure limits.

Engineering Controls Good general ventilation should be provided to keep vapour and mist concentrations below the exposure limits.
Individual protection Chemical splash goggles ; Full-length face shield/chemical splash goggles combination ; Acid-proof gauntlet gloves, apron, and boots ; Long sleeve wool, acrylic, or polyester clothing ; Acid proof suit and hood ; Appropriate NIOSH respiratory protection.



In case of emergency or where there is a strong possibility of considerable exposure, wear a complete acid suit with hood, boots, and gloves. If acid vapour or mist are present and exposure limits may be exceeded, wear appropriate NIOSH respiratory protection.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|-------------------------------|---|----------------|---------------------------|
| Physical State and Appearance | Liquid (Oily ; Clear to turbid) | Odour | Odourless |
| Molecular Weight | 98.08 | Colour | Colourless to light grey |
| pH (1% soln/water) | < 1 | Volatility | < 1 (Butyl Acetate = 1.0) |
| Boiling Point | 193°C to 327 °C (379°F to 621°F) @ 760 mm Hg | Vapour Density | 3.4 |
| Melting Point | -35°C to 11°C (-31°F to 52°F) | Dispersion | Yes (Water) |
| Vapour Pressure | < 0.3 mm Hg @ 25°C (77 °F) < 0.6 mm Hg @ 38°C (100 °F) | Solubility | Yes (Water) |

| GRADE | Boiling Point | | Freezing Point | | Specific Gravity |
|-------------------|---------------|--------|----------------|--------|------------------|
| | DEG °C | DEG °F | DEG °C | DEG °F | |
| 60 DEG TECHNICAL | 193 | 380 | - 12 | 10 | 1.706 |
| 66 DEG TECHNICAL | 279 | 535 | - 35 | - 31 | 1.835 |
| 1.835 ELECTROLYTE | 279 | 535 | - 35 | - 31 | 1.835 |
| 98 % TECHNICAL | 327 | 621 | - 2 | 29 | 1.844 |
| 99 % TECHNICAL | 310 | 590 | 4 | 40 | 1.842 |
| 100 % TECHNICAL | 274 | 526 | 11 | 51 | 1.839 |

SECTION 10. STABILITY AND REACTIVITY

| | |
|---------------------|--|
| Stability | Yes (Under normal conditions of ambient temperature) |
| Reactivity | Reacts violently with water, organic substances and base solutions with evolution of heat and hazardous mists. |
| Conditions to avoid | Heat ; Possibility of decomposition. Release of dangerous gases (Sulfur oxides SO_2 , SO_3) |
| Polymerization | Polymerization will not occur. |
| Incompatibilities | Vigorous reactions with : Water; alkaline solutions ; Metals, metal powder ; Carbides ; Chlorates ; Fulminates ; nitrates ; Picrates ; Strong oxidizing, reducing, or combustible organic materials. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, and carbides. |
| Corrosivity | Yes |

SECTION 11. TOXICOLOGICAL INFORMATION

| | |
|-----------------|--|
| Routes of Entry | Ingestion. Inhalation. Skin and eye contacts. |
| Carcinogenicity | Strong inorganic acid mists containing sulfuric acid (Occupational exposures) : PROVEN (Human, Group 1, IARC) ; SUSPECTED (Human, Group A2, ACGIH) ; Group X (NTP) ; Classification not applicable to sulfuric acid and sulfuric acid solutions. |
| Mutagenicity | Not applicable. |
| Teratogenicity | Not applicable. |
| Acute toxicity | ORAL (LD50) : $2\ 140 \text{ mg/kg}$ (Rat) ; INHALATION (LC50, 2 hours) : 510 mg/m^3 (Rat) ; 320 mg/m^3 (Mouse). (RTECS). |
| Acute Effects | May be fatal if inhaled or ingested in large quantity. Liquids or acid mists : May produce tissue damage : Mucous membranes (Eyes, mouth, respiratory tract). Extremely dangerous by eyes and skin contact (Corrosive). Severe irritant for eyes : Inflammation (Redness, watering, itching). Very dangerous in case of inhalation (Mists) at high concentrations : May produce severe irritation of respiratory tract (Coughing, shortness of breath, choking). |
| Chronic Effects | Target organs for acute and chronic overexposure (NIOSH 90-117) : Respiratory system, eyes, skin, teeth. Acid mists : Overexposure to strong inorganic mists containing sulfuric acid : Possibility of laryngeal cancer (HSBD, IARC). Possibility of irritation of the nose and throat with sneezing, sore throat or runny nose. Headache, nausea and weakness. Gross overexposure : Possibility of irritation of nose, throat, and lungs with cough, difficulty breathing or shortness of breath. Pulmonary edema with cough, wheezing, abnormal lung sounds, possibly progressing to severe shortness of breath and bluish discoloration of the skin. Symptoms may be delayed. Repeated or prolonged exposure to mists may cause : Corrosion of teeth. |

| | |
|----------|--|
| Toxicity | Contact (Skin) : Possibility of corrosion, burns or ulcers. Contact with a 1 % solution : Possibility of slight irritation with itching, redness or swelling. Repeated or prolonged exposure (Mist) : Possibility of irritation with itching, burning, redness, swelling or rash. |
| | Contact (Eye) : Possibility of corrosion or ulceration (Blindness may result). Repeated or prolonged exposure (Mist) : Possibility of eye irritation with tearing, pain or blurred vision. |
| | Ingestion : Immediate effects of overexposure : Burns of the mouth, throat, esophagus and stomach, with severe pain, bleeding, vomiting, diarrhea and collapse of blood pressure. Damage may appear days after exposure. |
| | Persons with the following pre-existing conditions warrant particular attention : |
| | Sulfuric (Acid) : Laryngeal irritation. |

Eating, drinking and smoking must be prohibited in areas where this material is handled and processed. Wash hands and face before eating, drinking and smoking.

SECTION 12. ECOLOGICAL INFORMATION

| | |
|------------------------------------|--|
| Ecotoxicity | Aquatic toxicity : Slightly to moderately toxic. Bluegill Sunfish (LC50 ; 48 hours) : 49 mg/l (Tap water, 20 °C, conditions of bioassay not specified). (HSBD). Flounder (LC50 ; 48 hours) : 100-330 mg/l (Aerated water, conditions of bioassay not specified). (HSBD). |
| Toxicity to Animals | EYE : Concentrated compound is corrosive. 10 % solution : Moderate eye irritant. SKIN : Concentrated compound is corrosive. 10 % solution : Slight skin irritant. Single and repeated exposure : Irritation of the respiratory tract ; Corrosion of the respiratory tract ; Lung damage ; Labored breathing ; Altered respiratory rate ; Pulmonary oedema. Repeated exposure : Altered red blood cell count. |
| Mobility (Soil) | Easy soil seeping under rain action |
| Persistence and degradability | Sulfate ion : Ubiquitous in the environment. Metabolized by micro-organisms and plants. |
| Bioaccumulation | Sulfate ion : Ubiquitous in the environment. Metabolized by micro-organisms and plants without bioaccumulation. |
| Biodegradation Products | Not available |
| Biodegradation Products (Toxicity) | Not applicable |
| Remarks on Environment | Due to the product's composition, particular attention must be taken for transportation and storage. Protect from rain because the run-off water will become acidic and may be harmful to flora and fauna. |
| BOD5 and COD | Not available |

SECTION 13. DISPOSAL CONSIDERATIONS

| | |
|------------------|--|
| Disposal methods | Cleaned-up material may be an hazardous waste on <i>Resource Conservation and Recovery Act</i> (RCRA) on disposal due to the corrosivity characteristic. DO NOT flush to surface water or sanitary sewer system. Comply with Federal, State, and local regulations. If approved, neutralize and transfer to waste treatment system. |
|------------------|--|

SECTION 14. TRANSPORT INFORMATION

| | | |
|--------------------------------|----------------------|--------------------------------|
| TDG (Canada) | CLASS 8 Corrosives | |
| PIN | UN1830 SULFURIC ACID | PG II |
| Special Provisions (Transport) | None | |
| DOT (U.S.A.)/IMO (Maritime) | Proper Shipping Name | SULFURIC ACID |
| | Hazard Class | 8 |
| | UN N° | 1830 |
| | DOT/IMO Label | CORROSIVE |
| | Packing Group | II |
| | Reportable Quantity | 1000 lbs (454 kg) |
| | Shipping Containers | Tank Cars, Tank Trucks, Vessel |
| ERG | Guide 137 | |



SECTION 15. REGULATORY INFORMATION

| | |
|----------------------|--|
| Labelling (EEC) | EU (Directive 67/548/EEC) : Sulfuric (Acid) : C Corrosive (Pictogram) Annex I Index number : 016-020-00-8 ; EU Consolidated Inventories : EC Number 231-639-5 C ≥ 15 % C ; R35 ; S2, 26, 30, 45. |
| Risk Phrases (EEC) | R35- Causes severe burns |
| Safety Phrases (EEC) | S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice S30- Nerver add water to this product S36/37/39- Wear suitable protective clothing, gloves and eye/face protection S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). |

| | |
|----------------------|--|
| CEPA DSL (CANADA) | CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) : On the Domestic Substances List (DSL) ; Acceptable for use under the provisions of CEPA. Sulfuric Acid is a Class B Drug Precursor under <u>Health Canada's Controlled Drugs and Substances Act and Precursor Control Regulations</u> . |
| Regulations (U.S.A.) | CERCLA Section 103 Hazardous substances (40 CFR 302.4) ; SARA Section 302 Extremely Hazardous Substances (40 CFR 355) : Yes ; SARA Section 313, Toxic Chemicals (40 CFR 372.65) ; US: TSCA Inventory : Listed : Sulfuric (Acid) (Final RQ) : 1 000 pounds (454 kg) Sulfuric Acid is subject to reporting requirements of Section 313, <u>Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)</u> , 40 CFR Part 372. Certain companies must report emissions of Sulfuric Acid as required under <u>The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)</u> , 40 CFR Part 302. For more information call the <u>SARA Hotline</u> 800-424-9346. Strong Inorganic Acid Mists Containing Sulfuric Acid : Chemical listed effective March 14, 2003 to the <u>State of California, Proposal 65</u> . <u>U.S. FDA Food Bioterrorism Regulations</u> : These regulations apply to Sulfuric Acid when being distributed, stored or used for Food or Food Processing. |

Classifications HCS (U.S.A.) Corrosive liquid

NEPA (National Fire Protection Association) (U.S.A.)

Fire Hazard 0 Reactivity 2 Health 3 Special Hazard ACID

NPCA- HMIS Rating

Fire Hazard 0 Reactivity 2 Health 3

SECTION 16. OTHER INFORMATION

- References
- TLVs and BEIs (2008). Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices. ACGIH, Cincinnati, OH - <http://www.acgih.org>
 - CCOHS (2008) - Canadian Centre for Occupational Health and Safety - <http://www.ccohs.ca/>
 - CSST (2008) - Commission de la Santé et de la Sécurité du Travail (Québec). Service du répertoire toxicologique - <http://www.reptox.csst.qc.ca/>
 - ERG (2008). Emergency Response Guidebook, Developed by the U.S. Department of Transportation, Transport Canada, and the Secretariat of Communications and Transportation of Mexico
 - HSDB (2008) - Hazardous Substances Data Bank. TOXNET® Network of databases on toxicology, hazardous chemicals, and environmental health. NLM Databases & Electronic Resources, U.S. National Library of Medicine, NHI, 8600 Rockville Pike, Bethesda, MD 20894 - <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>
 - IARC - Monographs on the Evaluation of Carcinogenic Risks to Humans (collection) - <http://www-cie.iarc.fr/>
 - Merck Index (1999). Merck & Co., Inc, 12th edition
 - NIOSH U.S. (2008) - Pocket Guide to Chemical Hazards - <http://www.cdc.gov/niosh/npg/>
 - Patty's Industrial Hygiene and Toxicology, 3rd Revised Edition
 - Règlement sur les produits contrôlés (Canada)
 - RTECS (2008). Registry of Toxic Effects of Chemical Substances, NIOSH, CDC
 - Toxicologie industrielle & intoxication professionnelle, 3e édition, Lauwerys

- Glossary
- CSST : Commission de la Santé et de la Sécurité du Travail (Québec).
 - HSDB : Hazardous Substances Data Bank.
 - IARC : International Agency for Research on Cancer.
 - NIOSH : National Institute of Occupational Safety and Health.
 - NTP : U.S. National Toxicology Program.
 - RTECS : Registry of Toxic Effects of Chemical Substances

Note

For further information, see NorFalco Inc. Sulfuric Acid « Storage and Handling Bulletin ».

Because of its corrosive characteristics and inherent hazards, Sulfuric Acid should not be used in sewer or drain cleaners or any similar application; regardless of whether they are formulated for residential, commercial or industrial use. NorFalco will not knowingly sell sulfuric acid to individuals or companies who repack the product for sale as sewer or drain cleaners, or any other similar use.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

For additional information, please visit our website : www.norfalco.com

Written by : Groupe STEM Consultants / NorFalco Sales Inc.

Complete revision : 2009-01-24

Partial review : None

Previous complete revision : 2008-01-24

NorFalco Inc.
NorFalco Sales Inc.

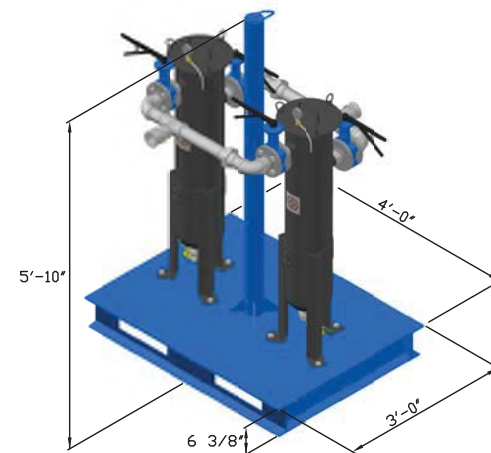
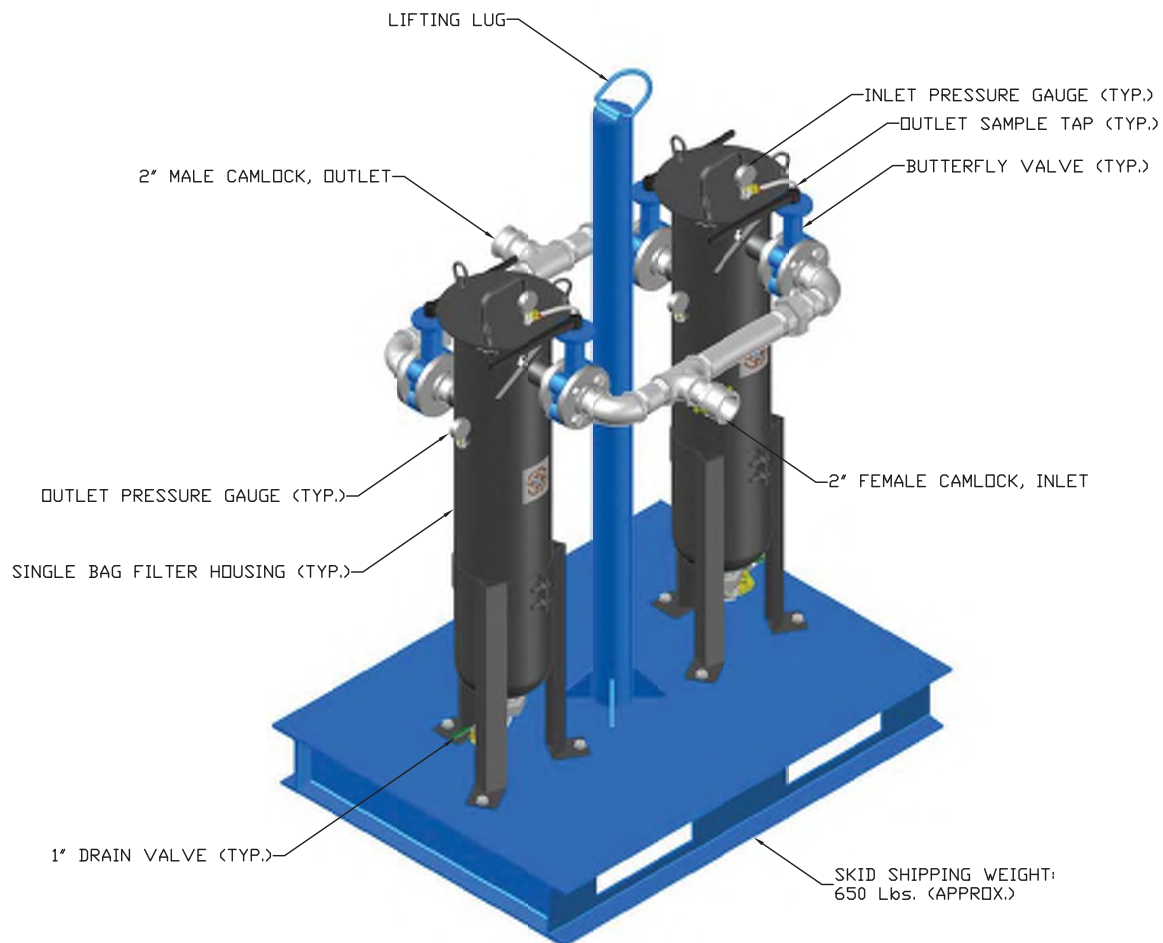
77% - 100% SULFURIC ACID

Verified by : Guy Desgagnés and Eric Kuraitis, Technical Representative - Sulfuric Acid

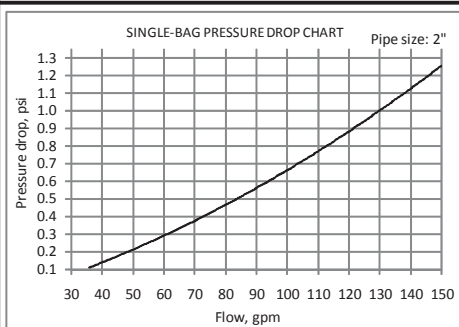
Request to : André Auger, Administration Assistant Tel. : (905) 542-6901 extension 0 Fax : (905) 542-6914 / 6924
NorFalco Sales Inc., 6755 Mississauga Road, Suite 304, Mississauga, Ontario L5N 7Y2

Notice to Reader

Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. NorFalco Sales Inc. extends no warranty and assumes no responsibility for the accuracy of the content and expressly disclaims all liability for reliance thereon. This material safety data sheet provides guidelines for the safe handling and processing of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.



NOTE: THIS DRAWING DEPICTS A "TYPICAL" SKID. ACTUAL DETAILS AND DIMENSIONS MAY VARY.

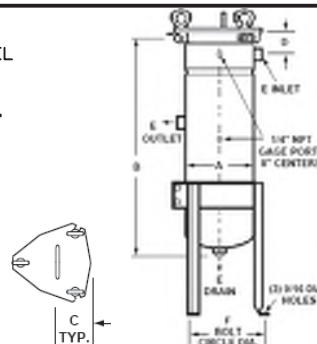



SINGLE BAG FILTER SPECIFICATIONS

- | | |
|-----------------------------|---------------|
| - CONSTRUCTION: | CARBON STEEL |
| - HOUSING STYLE: | STANDARD |
| - NUMBER OF BASKETS: | 1 |
| - STRAINING FILTERING AREA: | 26.4 SQR. FT. |
| - INLET/OUTLET SIZE: | 2" |
| - DRAIN SIZE (1x): | 2" |
| - NOMINAL FLOW RATE: | 100 GPM |
| - STANDARD PRESSURE: | 125 PSI |
| - WEIGHT (PER DRY UNIT): | 70 Lbs. |

BASIC DIMENSIONS

MODEL NUMBER & A: 8 (8.6")
 LEG BOLT CIRCLE F: $\phi 12.0"$
 B: 35.9" C: 6.0"
 D: 3.5" E: 2.0"



| | | | |
|---|-------------------|--------------|----------|
| C | ADDED SKID WEIGHT | | 02/18/09 |
| NO. | REVISIONS | | DATE |
| DUPLEX SINGLE BAG FILTER SKID STANDARD EQUIPMENT SPECIFICATION | | | |
| SCALE: | NTS | APPROVED BY: | JB |
| DATE: | 02/18/09 | DRAWN BY: | AAV |
|  GROUND/WATER TREATMENT & TECHNOLOGY P.O. BOX 1174 DENVILLE, NJ 07834 | | | |
| THIS DRAWING IS THE PROPERTY OF GROUND/WATER TREATMENT & TECHNOLOGY, INC | | | |
| DWG SIZE: | A | SHEET: | 1 OF 1 |
| DRAWING NUMBER: | ST-0002-SPC | C | |

Mirafi® 140N

Mirafi® 140N is a needlepunched nonwoven geotextile composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position. Mirafi® 140N is inert to biological degradation and resists naturally encountered chemicals, alkalis, and acids. Mirafi® 140N meets Aashto M288-06 Class 3 for elongation > 50%.

| Mechanical Properties | Test Method | Unit | Minimum Average Roll Value | |
|--|-------------|---|----------------------------|-----------|
| | | | MD | CD |
| Grab Tensile Strength | ASTM D4632 | lbs (N) | 120 (534) | 120 (534) |
| Grab Tensile Elongation | ASTM D4632 | % | 50 | 50 |
| Trapezoid Tear Strength | ASTM D4533 | lbs (N) | 50 (223) | 50 (223) |
| CBR Puncture Strength | ASTM D6241 | lbs (N) | 310 (1380) | |
| Apparent Opening Size (AOS) ¹ | ASTM D4751 | U.S. Sieve (mm) | 70 (0.212) | |
| Permittivity | ASTM D4491 | sec ⁻¹ | 1.7 | |
| Flow Rate | ASTM D4491 | gal/min/ft ² (l/min/m ²) | 135 (5500) | |
| UV Resistance (at 500 hours) | ASTM D4355 | % strength retained | 70 | |

¹ ASTM D4751: AOS is a Maximum Opening Diameter Value

| Physical Properties | Unit | Typical Value | |
|----------------------------------|-----------------------------------|------------------------|----------------------|
| Roll Dimensions (width x length) | ft (m) | 12.5 x 360 (3.8 x 110) | 15 x 360 (4.5 x 110) |
| Roll Area | yd ² (m ²) | 500 (418) | 600 (502) |
| Estimated Roll Weight | lb (kg) | 133 (60) | 160 (72) |

Disclaimer: TenCate assumes no liability for the accuracy or completeness of this information or for the ultimate use by the purchaser. TenCate disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.

© 2012 TenCate Geosynthetics Americas
Mirafi® is a registered trademark of Nicolon Corporation





700 Series Floc Logs

Polyacrylamide Sediment and Turbidity Control Applicator Logs

700 Series Floc Logs are a group of soil-specific tailored log-blocks that contain blends of water treatment components and polyacrylamide co-polymer for water clarification. They reduce and prevent fine particles and colloidal clays from suspension in stormwater. There are several types of Floc Logs designed to treat most water and soil types. Contact Applied Polymer Systems, Inc. or your local distributor for free testing and site-specific application information.

Primary Applications

- Mine tailings and waste pile ditches
- Stormwater drainage from construction and building sites
- Road and highway construction runoff ditches
- Ditch and treatment system placement for all forms of highly turbid waters (less than 4% solids)
- Dredging operations as a flocculent

Features and Benefits

- Removes solubilized soils and clay from water
- Prevents colloidal solutions in water within ditch systems
- Binds cationic metals within water, reducing solubilization
- Binds pesticides and fertilizers within runoff water
- Reduces operational and cleanup costs
- Reduces environmental risks and helps meet compliance

Specifications / Compliances

- ANSI/NSF Standard 60 Drinking water treatment chemical additives
- 48h or 96h Acute Toxicity Tests (*D. magna* or *O. mykiss*)
- 7 Day Chronic Toxicity Tests (*P. promelas* or *C. dubia*)

Packaging

700 Series Floc Logs are packaged in boxes of four (4)

Technical Information

Appearance - semi-solid block
Biodegradable internal coconut skeleton
Percent Moisture - 40% maximum
pH 0.5% Solution - 6-8
Shelf Life - up to 5 years when stored out of UV rays





Placement

Floc Logs are designed for placement within ditches averaging three feet wide by two feet deep. Floc log placement is based on gallon per minute flow rates. Note: actual GPM or dosage will vary based on site criteria and soil/water testing.

Directions for Use

(Water and Floc Log Mixing is Very Important!)

700 Series Floc Logs should be placed within the upper quarter to half of a *stabilized* ditch system or as close as possible to active earth moving activities. Floc Logs have built in ropes with attachment loops which can be looped over stakes to ensure they remain where placed. Mixing is key! If the flow rate is too slow, adding sand bags, cinder blocks, etc., can create the turbulence required for proper mixing. Floc Logs are designed to treat dirty water, not liquid mud; when the water contains heavy solids (exceeding 4%), it will be necessary to create a sediment or grit pit to let the heavy solids settle before treating the water.

Floc Logs must not be placed in areas where heavy erosion would result in the Floc Logs becoming buried. Where there is heavy sedimentation, maintenance will be required.

700 Series Floc Logs can easily be moved to different locations as site conditions change. Water quality will be improved with the addition of a dispersion field or soft armor covered ditch checks below the Floc Log(s) to collect flocculated particulate. Construction of mixing weirs may be required in areas where short ditch lines, swelling clays, heavy particle concentrations, or steep slopes may be encountered.

Cleanup:

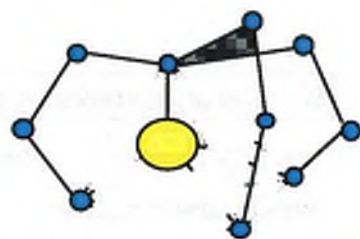
Latex or rubber gloves are recommended for handling during usage. Use soap and water to wash hands after handling.

Precautions / Limitations

- 700 Series Floc Logs are extremely slippery when wet.
- Clean up spills quickly. Do not use water unless necessary as extremely slippery conditions will result and if water is necessary, use pressure washer.
- Floc Log will remain viable for up to 5 years when stored out of UV rays.
- 700 Series Floc Logs have been specifically tailored to specific water and soil types and samples must be tested. Testing is necessary and is free.



S



URE

AL TE

HEMI(

IVITY

AL INF

AF

AE

INF





##



NT

NT

AID ME

HT

RE

RE

AND RA

RE:UL INF:RMA

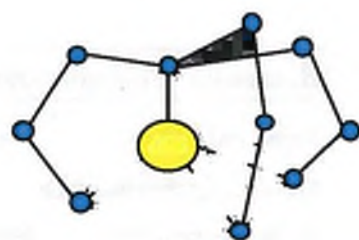
INF

HMI

III.3

HMI

TE



URE NT

1. **Ure** (Noun) - A small stream or brook.
 2. **Ure** (Verb) - To urinate or pee.
 3. **Ure** (Adjective) - Relating to urine or urination.
 4. **Ure** (Noun) - A unit of measurement for the volume of urine.
 5. **Ure** (Noun) - A unit of measurement for the concentration of urine.

HEMI

1. **Hemi** (Noun) - A half or one of two equal parts.
 2. **Hemi** (Verb) - To divide into two equal parts.
 3. **Hemi** (Adjective) - Relating to a half or one of two equal parts.
 4. **Hemi** (Noun) - A unit of measurement for the volume of a hemisphere.
 5. **Hemi** (Noun) - A unit of measurement for the concentration of a hemisphere.

RE

1. **Re** (Noun) - A unit of measurement for the volume of a re.
 2. **Re** (Verb) - To repeat or reiterate.
 3. **Re** (Adjective) - Relating to a re or a reiteration.
 4. **Re** (Noun) - A unit of measurement for the volume of a re.
 5. **Re** (Noun) - A unit of measurement for the concentration of a re.

INF RMA

1. **Inf RMA** (Noun) - A unit of measurement for the volume of an inf RMA.
 2. **Inf RMA** (Verb) - To inf RMA or to use an inf RMA.
 3. **Inf RMA** (Adjective) - Relating to an inf RMA or to the use of an inf RMA.
 4. **Inf RMA** (Noun) - A unit of measurement for the volume of an inf RMA.
 5. **Inf RMA** (Noun) - A unit of measurement for the concentration of an inf RMA.

1. **Inf RMA** (Noun) - A unit of measurement for the volume of an inf RMA.
 2. **Inf RMA** (Verb) - To inf RMA or to use an inf RMA.
 3. **Inf RMA** (Adjective) - Relating to an inf RMA or to the use of an inf RMA.
 4. **Inf RMA** (Noun) - A unit of measurement for the volume of an inf RMA.
 5. **Inf RMA** (Noun) - A unit of measurement for the concentration of an inf RMA.

1. **Inf RMA** (Noun) - A unit of measurement for the volume of an inf RMA.
 2. **Inf RMA** (Verb) - To inf RMA or to use an inf RMA.
 3. **Inf RMA** (Adjective) - Relating to an inf RMA or to the use of an inf RMA.
 4. **Inf RMA** (Noun) - A unit of measurement for the volume of an inf RMA.
 5. **Inf RMA** (Noun) - A unit of measurement for the concentration of an inf RMA.

ORM

1. **ORM** (Noun) - A unit of measurement for the volume of an ORM.
 2. **ORM** (Verb) - To ORM or to use an ORM.
 3. **ORM** (Adjective) - Relating to an ORM or to the use of an ORM.
 4. **ORM** (Noun) - A unit of measurement for the volume of an ORM.
 5. **ORM** (Noun) - A unit of measurement for the concentration of an ORM.



Agreement for the use of the system

Section 1: General

1. The purpose of this agreement is to define the terms and conditions for the use of the system.

2. The system is provided to the user for the purpose of the use of the system.

3. The user agrees to use the system in accordance with the terms and conditions of this agreement.

4. The user agrees to maintain the confidentiality of the system and its contents.

5. The user agrees to use the system for the purpose of the use of the system.

6. The user agrees to use the system in accordance with the terms and conditions of this agreement.

7. The user agrees to use the system in accordance with the terms and conditions of this agreement.

8. The user agrees to use the system in accordance with the terms and conditions of this agreement.

9. The user agrees to use the system in accordance with the terms and conditions of this agreement.

10. The user agrees to use the system in accordance with the terms and conditions of this agreement.

11. The user agrees to use the system in accordance with the terms and conditions of this agreement.

12. The user agrees to use the system in accordance with the terms and conditions of this agreement.

13. The user agrees to use the system in accordance with the terms and conditions of this agreement.

14. The user agrees to use the system in accordance with the terms and conditions of this agreement.

15. The user agrees to use the system in accordance with the terms and conditions of this agreement.

16. The user agrees to use the system in accordance with the terms and conditions of this agreement.

17. The user agrees to use the system in accordance with the terms and conditions of this agreement.

18. The user agrees to use the system in accordance with the terms and conditions of this agreement.

19. The user agrees to use the system in accordance with the terms and conditions of this agreement.

20. The user agrees to use the system in accordance with the terms and conditions of this agreement.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|-------------------------------|--|
| Engineering controls: | Use local exhaust if dusting occurs. Natural ventilation is adequate in absence of dust. |
| Personal protection equipment | |
| Respiratory Protection: | Dust safety masks are recommended where dusting may occur. |
| Hand protection: | Dry cloth, leather or rubber gloves. |
| Eye Protection: | Safety glasses with side shields or face masks. Do not wear contact lenses. |
| Skin protection: | No special protective clothing required. |
| Hygiene measures: | Wash hands before breaks and at end of work day. |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|----------------|----------------|
| Form: | Granular solid |
| Color: | White |
| Odor: | None |
| pH: | 7-8 |
| Melting point: | N/A |
| Flash point: | N/A |
| Vapor density: | N/A |

10. STABILITY AND REACTIVITY

| | |
|-----------------------------------|---|
| Stability: | Product is stable, no hazardous polymerization will occur. |
| Materials to avoid: | Oxidizing agents may cause exothermic reactions. |
| Hazardous decomposition products: | Thermal decomposition may produce nitrogen oxides (NOx), carbon oxides. |

11. TOXICOLOGICAL INFORMATION

Acute toxicity: (EPA/600/4-90/027F)

LD 50 / *Rattus norvegicus* / oral / > 5000 mg/kg
 LC 50 / *Oncorhynchus mykiss* / 96h / 530 mg/L
 LC 50 / *Daphnia magna* / 48h / >420mg/L
 EC 50 / *Selenastrum capricornutum* / 96h / >500mg/L

12. ECOLOGICAL INFORMATION

Chronic Toxicity : (EPA/600/R-98/182)

| | |
|--|--|
| IC ₂₅ (Survival) / <i>P. promelas</i> / 7 day / 358 ppm | IC ₂₅ (Survival) / <i>C. dubia</i> / 7 day / 157.5 ppm |
| NOEC (Survival) / <i>P. promelas</i> / 7 day / 840 ppm | NOEC (Survival) / <i>C. dubia</i> / 7 day / 105 ppm |
| IC ₂₅ (Growth) / <i>P. promelas</i> / 7 day / 94 ppm | IC ₂₅ (Reproduction) / <i>C. dubia</i> / 7 day / 27.7 ppm |
| NOEC (Growth) / <i>P. promelas</i> / 7 day / 105 ppm | NOEC (Reproduction) / <i>C. dubia</i> / 7 day / 26.25 ppm |

| | |
|------------------------------|--|
| Inhalation: | The product is not expected to be toxic by inhalation. |
| Dermal: | The results of testing on rabbits showed no toxicity even at high dose levels. |
| Bioaccumulation: | The product is not expected to bioaccumulate. |
| Persistence / degradability: | Not readily biodegradable: (~40% after 28 days). |
| Chronic toxicity: | A 2 yr feeding study on rats did not reveal adverse health effects. |

13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products.
 Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules).

14. TRANSPORT INFORMATION

Not regulated by DOT, RCRA status-Not a hazardous waste

15. REGULATORY INFORMATION

TSCA Chemical Substances Inventory: All components of this product are either listed on the inventory or are exempt from listing.

SARA Section 311 / 312 Hazard Class: Not concerned

RCRA Status: Not RCRA hazardous

16. TRANSPORT AND REGULATORY INFORMATION

NFPA and HMIS ratings:

| | | | | | | |
|------|---------|---|---------------|---|-------------|---|
| NFPA | Health: | 1 | Flammability: | 1 | Reactivity: | 0 |
| HMIS | Health | 1 | Flammability | 1 | Reactivity | 0 |

DATE EDITED: Oct. 29th 2015

Applied Polymer Systems, Inc.

Safety Data Sheet



1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name: APS 703d Flocc Log®

Supplied: Applied Polymer Systems, Inc.
519 Industrial Drive
Woodstock, GA 30189
Tel. 678-494-5998
Fax. 678-494-5298
www.siltstop.com

2. HAZARD IDENTIFICATION

Placement of these materials on wet walking surface will create extreme slipping hazard.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Identification of the preparation: Anionic water-soluble Co-polymer gel

4. FIRST AID MEASURES

Inhalation: None

Skin contact: Contact with wet skin could cause dryness and chapping. Wash with water and soap.

Eye contact: Rinse thoroughly with plenty of water, also under the eyelids, seek medical attention in case of persistent irritation.

Ingestion: Consult a physician

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water, water spray, foam, carbon dioxide, dry powder.

Special fire-fighting precautions: Flocc Logs that become wet render surfaces extremely slippery.

Protective equipment for firefighters: No special equipment required.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: No special precautions required.

Methods for cleaning up: Dry wipe as well as possible. Keep in suitable and closed containers for disposal.
After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin and eyes. Wash hands after handling.

Storage: Keep in a cool, dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Use dry handling areas only.

Personal protection equipment

Respiratory Protection: None
 Hand protection: Dry cloth, leather or rubber gloves.
 Eye Protection: Safety glasses with side shields. Do not wear contact lenses.
 Skin protection: No special protective clothing required.
 Hygiene measures: Wash hands before breaks and at end of work day.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Granular semi-solid gel
 Color: Blue
 Odor: None
 pH: 7.37
 Melting point: N/A
 Flash point: N/A
 Vapor density: N/A

10. STABILITY AND REACTIVITY

Stability: Product is stable, no hazardous polymerization will occur.
 Materials to avoid: Oxidizing agents may cause exothermic reactions.
 Hazardous decomposition products: Thermal decomposition may produce nitrogen oxides (NOx), carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity (EPA/600/4-90/027F)

LD 50 / *Rattus norvegicus* / oral / > 5000 mg/kg
 LC 50 / *Daphnia magna* / 48h / >383mg/L
 LC 50 / *Oncorhynchus mykiss* / 96h / 1900 mg/L

Chronic toxicity (EPA/600/4-91/002)

| | |
|---|---|
| IC 25 (Survival) / <i>P. promelas</i> / 7 day / 110 ppm | IC 25 (Survival) / <i>C. dubia</i> / 7 day / 99.8 ppm |
| NOEC (Survival) / <i>P. promelas</i> / 7 day / 105 ppm | NOEC (Survival) / <i>C. dubia</i> / 7 day / 52.5 ppm |
| IC 25 (Growth) / <i>P. promelas</i> / 7 day / 130 ppm | IC 25 (Reproduction) / <i>C. dubia</i> / 7 day / 58.2 ppm |
| NOEC (Growth) / <i>P. promelas</i> / 7 day / 105 ppm | NOEC (Reproduction) / <i>C. dubia</i> / 7 day / 105 ppm |

12. ECOLOGICAL INFORMATION

Fish: LC 50 / *Pimephales promelas* / 96h / >1000 mg/l
 Water Flea: LC 50 / *Daphnia magna* / 48h / 383mg/l
 Algae: EC 50 / *Selenastrum capricornutum* / 96h / >500mg/l

Bioaccumulation: The product is not expected to bioaccumulate.
 Persistence / degradability: Not readily biodegradable: (~85% after 180 days).

13. DISPOSAL INFORMATION

Waste from residues/unused products.
 Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules).

14. TRANSPORT INFORMATION

Not regulated by DOT, RCRA status-Not a hazardous waste

15. REGULATORY INFORMATION

TSCA Chemical Substances Inventory: All components of this product are either listed on the inventory or are exempt from listing.

SARA Section 311 / 312 Hazard Class: Not concerned
 RCRA Status: Not RCRA hazardous

16. OTHER INFORMATION

NFPA and HMIS ratings:

| | | | | | |
|--------------|---|---------------|---|-------------|---|
| NFPA Health: | 1 | Flammability: | 0 | Reactivity: | 0 |
| HMIS Health: | 1 | Flammability: | 0 | Reactivity: | 0 |

DATE EDITED: Nov 4th 2015

Technical Guidance for the Use of Polyacrylamides (PAM) and PAM Blends for Soil Erosion Control and Storm Water clarification

(Courtesy of Applied Polymer Systems, Inc.)

Practice Description

PAM is a water-soluble anionic polyacrylamide product used to minimize soil erosion caused by water and wind to decrease soil sealing by binding soil particles, especially clays, to hold them on site. In addition, these types of materials may also be used as a water treatment additive to remove suspended particles from runoff. When PAM is used on construction sites in the Southeast it is typically applied with temporary seeding and or mulching on areas where the timely establishment of temporary erosion control is so critical that seedings and mulching need additional reinforcement. It may be used alone on sites where no disturbances will occur until site work is continued and channel erosion is not a significant potential problem. Permanent grassing applications can be better established using PAM as a tackifier and soil conditioner.

PAMs are manufactured in various forms to be used on specific soil types, and are generally applied at a rate of up to 25 pounds/acre for dry products and 2 ½ gallons/acre of emulsion-liquid products. Using the wrong form of a PAM on a soil will result in some degree of performance failure, and increase the potential for this material to enter surface waters. PAM used alone may not reduce NTU values resulting in non-compliance water quality discharges or poor soil binding conditions. Site-specific soil-PAM testing must be performed. Exceeding the maximum application rates for this product does not increase the effectiveness of the product.

Block or Log forms of PAM and PAM blends are manufactured for specific use in drainage waterways to remove suspended particulates from runoff.

General Components of the Practice

Prior to the start of construction, a qualified professional should design the application of PAM and plans and specifications should be available to field personnel.

The application should conform to the design and specifications provided in the plans. Typical applications include the following components.

- Site Preparation
- Equipment Preparation
- PAM Application

Application

Site Preparation

Prepare site following design and specifications.

Equipment Preparation

If using a liquid application system, pump a surfactant through the injection system before and after injecting concentrated liquid PAM into sprinkler irrigation systems to help prevent valves and tubing from clogging.

PAM used in hydroseeding applications should be added as the last additive to the mix.

After their use, rinse all PAM mixing and application equipment thoroughly with water to avoid formation of PAM residues. Rinse residue should be applied to soil areas to create binding to the soil structure and increase erosion reduction.

PAM Application- Criteria for Land applied PAM Specifications

PAM shall be mixed and/or applied in accordance with all Occupational Safety and Health Administration (OSHA) Material Safety Data Sheet (MSDS) requirements and the manufacturer's recommendations for the specified use conforming to all federal, state and local laws, rules and regulations.

1.) Toxicity

All vendors and suppliers of PAM, PAM mix or blends shall present or supply a written toxicity report which verifies that the PAM, PAM mix or blend exhibits acceptable toxicity parameters which meet or exceed the EPA requirements for the state and federal water quality standards. Whole effluent testing does not meet this requirement as primary reactions have occurred and toxic potentials have been reduced. **Cationic forms of PAM, polymers and chitosan are not allowed for use under this guideline due to their high levels of toxicity to aquatic organisms. Emulsions shall never be applied directly to stormwater runoff or riparian waters due to surfactant toxicity.**

2.) Performance

All vendors and suppliers of PAM, PAM mix or blends shall supply written "site specific" testing results demonstrating that a performance of 95% or greater reduction of NTU or TSS from stormwater discharges.

Emulsion batches shall be mixed following recommendations of a testing laboratory that determines the proper product and rate to meet site requirements. Application method shall insure uniform coverage to the target area. **(Emulsions shall never be applied directly to stormwater runoff or riparian waters)**

Dry form (powder) may be applied by hand spreader or a mechanical spreader. Mixing with dry silica sand will aid in spreading. Pre-mixing of dry form PAM into fertilizer, seed or other soil amendments is allowed when specified in the design plan. Application method shall insure uniform coverage to the target area.

Block or Log forms shall be applied following site testing results to assure proper placement and performance and shall meet or exceed state and federal water quality requirements.

Common Problems

Consult with a registered design professional for assistance if any of the following occur:

- Problems with application equipment clogging.
- PAM alone may not meet testing requirements for NTU reduction and soil stabilization. Site specific "blends" may be needed to meet these requirements.
- Application specifications for PAM cannot be met; alternatives may be required. Unapproved application techniques could lead to failure.
- Visible erosion occurs after application.

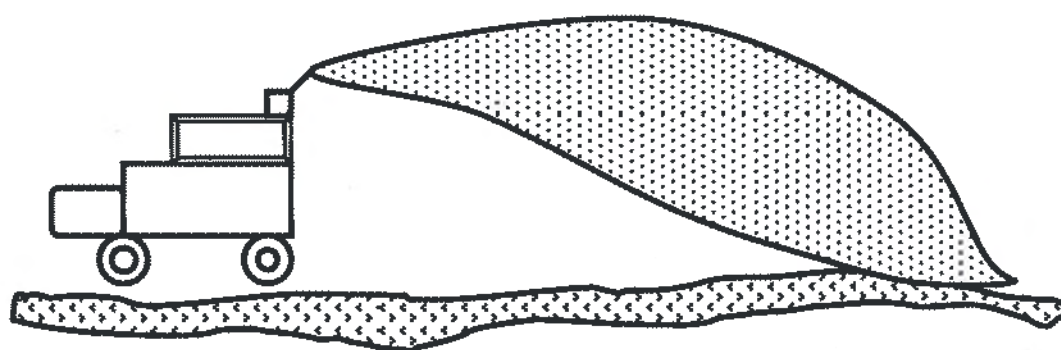
Maintenance

An operation and maintenance plan must be prepared for use by the operator responsible for PAM application. Plan items should include the following items.

- Reapply PAM to disturbed or tilled areas that require continued erosion control.
- Maintain equipment to provide uniform application rates.
- Rinse all PAM mixing and application equipment thoroughly with water to avoid formation of PAM residues and discharge rinse water to soil areas where PAM stabilization may be helpful.
- Downstream deposition from the use of PAM may require periodic sediment removal to maintain normal functions.

PM-H

(Silt Stop Application of Temporary and Permanent Grassing)



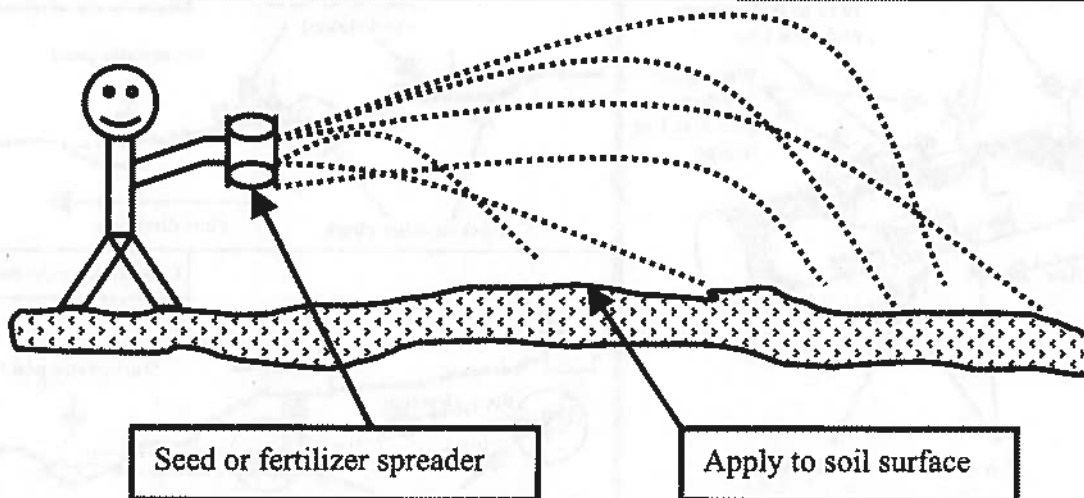
Notes:

- 1) For use on all slope conditions which are not matted.
- 2) Application rate shall be 1.5 gallons of Silt Stop emulsion/acre or 10 pounds of Silt Stop powder/acre.
- 3) Silt Stop emulsion or powder shall be added to all hydroseeding mixes at a rate of 3000 gallons of mix/acre.
- 4) Silt Stop shall be the final additive to the hydroseeding mix.
- 5) Straw cover may be applied over the hydroseeded application.

(All Silt Stop shall be site specific, soil tested achieving 95% NTU reduction or better and must have acute and chronic toxicity testing reports.)

PM-D

PM (Dry Silt Stop Form)



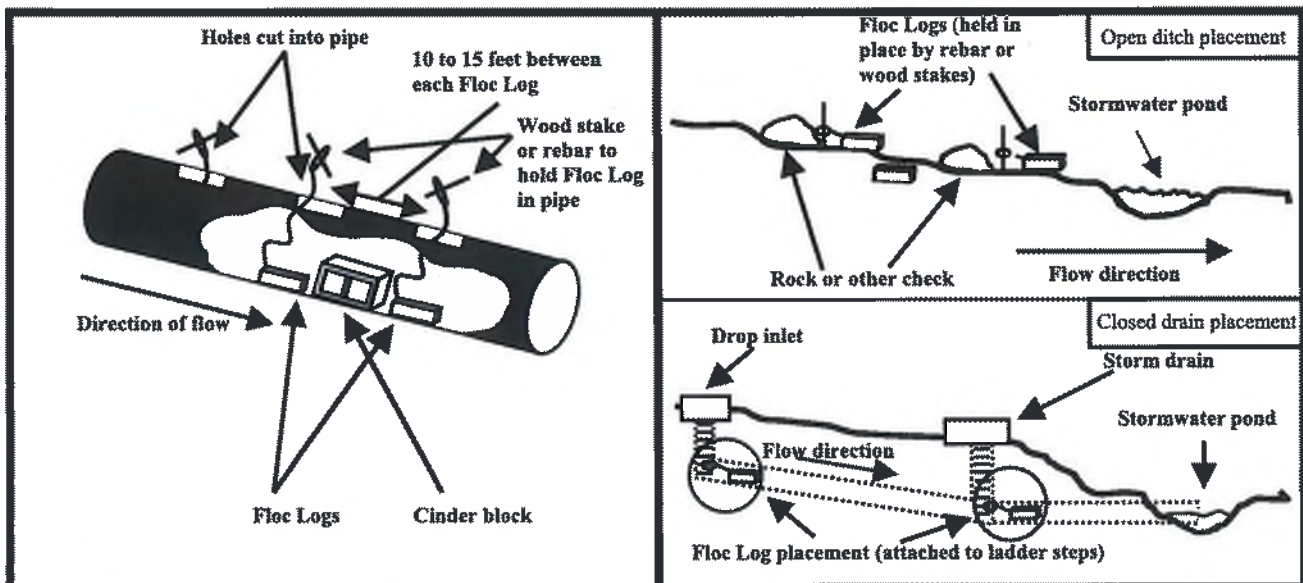
Notes:

- 1) Dry Silt Stop shall be applied using a seed or fertilizer spreader or may be mixed with other dry spread additives.
- 2) Dry Silt Stop shall be covered with straw, mulch, matting or jute.
- 3) Application rate shall be 10 pounds/acre but not greater than 25 pounds/acre.
- 4) For use on all slope conditions.

(All Silt Stop shall be site specific, soil tested achieving 95% NTU reduction or better and must have acute and chronic toxicity testing reports.)

PM-F

(Floc Log placement for pipes, ditch and storm drains)



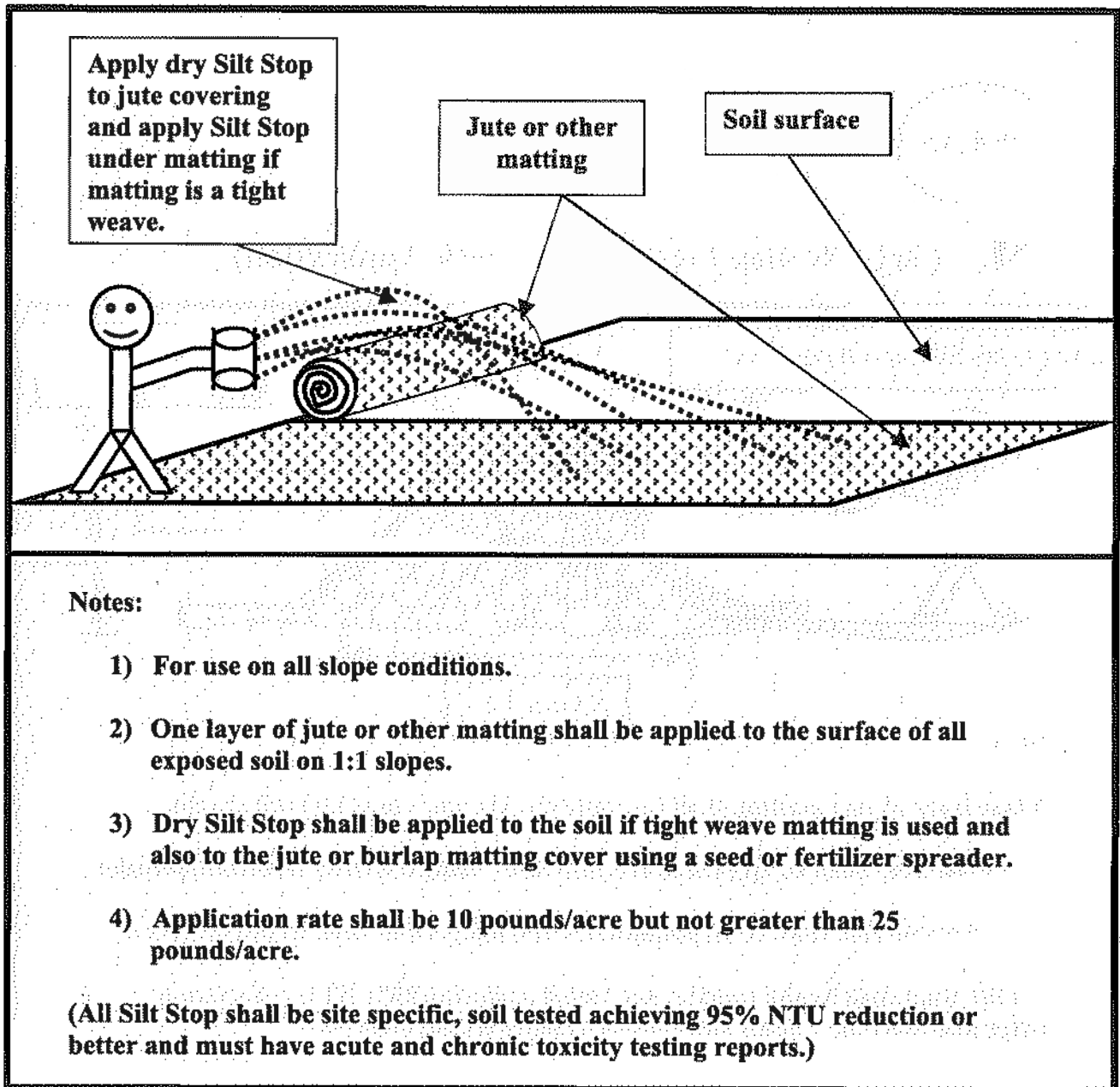
Notes:

- 1) Place Floc Logs far enough upstream in turbid flows to allow adequate mixing time. (Mixing time and Floc Log type are determined from the sample analysis.)
- 2) Floc Logs should be placed 10 to 15 feet apart in a row or at points of highest water velocity; whichever is most convenient.
- 3) The number of Floc Logs placed on the site is based on results from the sample analysis. Floc Logs shall be placed in all catch basins and after all downsides of rock checks.

(All Floc Logs shall be site specific, soil tested achieving 95% NTU reduction or better and must have acute and chronic toxicity testing reports.)

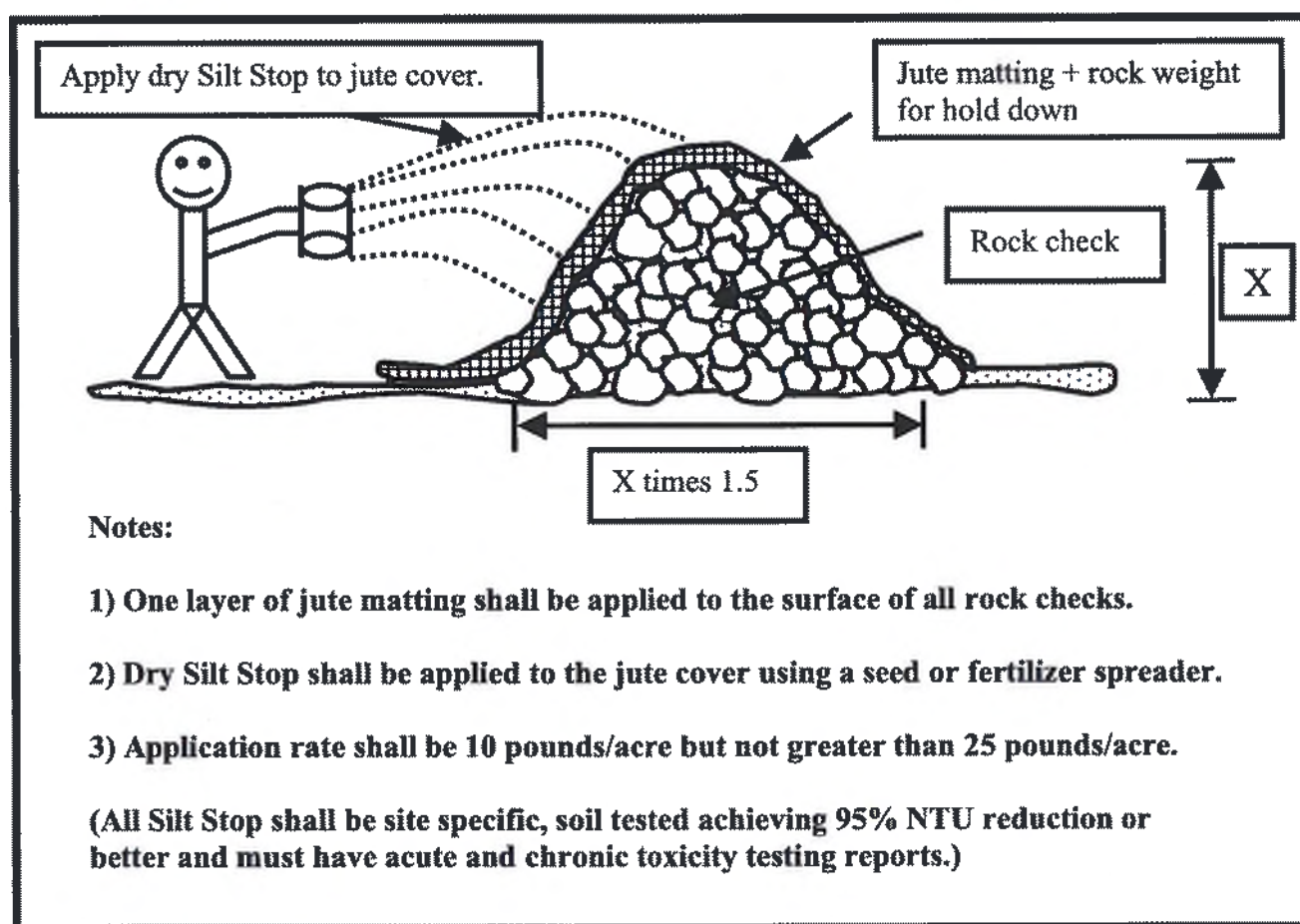
PM-M

(Dry Silt Stop Form Soft Armoring Technique for Matting)



PM-R

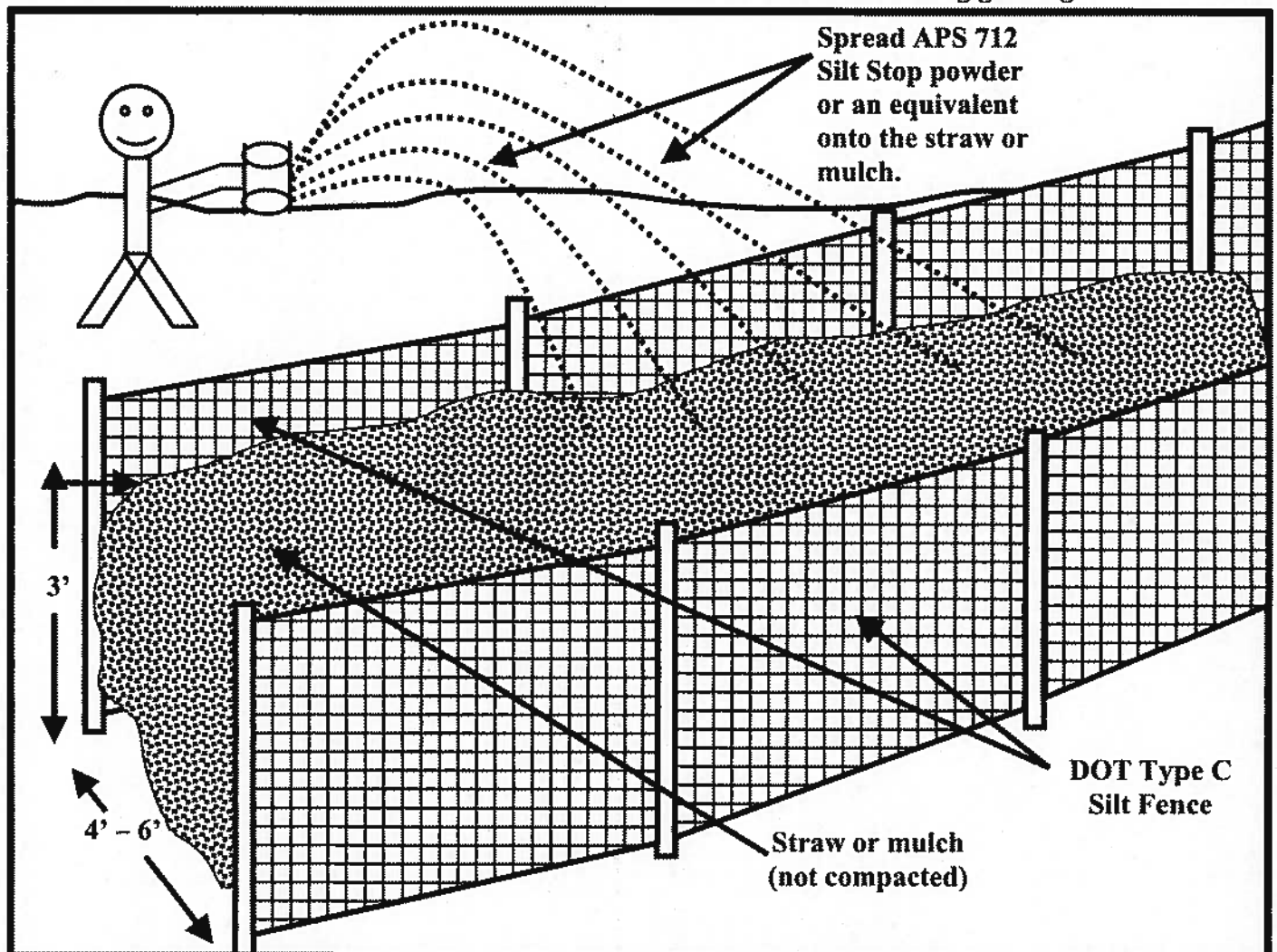
PM (Dry Silt Stop Form Rock Check Application)



SRB

(SRB) Sediment Retention Barrier

Use for fine sediment retention between silt fences. Install at low areas during grading.



- 1) Use in all low areas during the grading phase.
- 2) Place 2 rows of DOT type C silt fence 4 to 6 feet apart. Place straw or mulch 3 feet deep between the silt fences.
- 3) Dry Silt Stop powder or an equivalent should be spread throughout the straw or mulch using a seed or fertilizer spreader.

(All Silt Stop shall be site specific, soil tested achieving 95% NTU reduction or better and must have acute and chronic toxicity testing reports.)

