



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

**5 Post Office Square, Suite 100
BOSTON, MA 02109-3912**

CERTIFIED MAIL RETURN RECEIPT REQUESTED

JUL 26 2013

James Heighton,
Project Manager
Fan Pier Development LLC
1 Marina Park Drive
Boston, MA 02210

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. Fan Pier Parcel C site located at 60 Northern Avenue, Boston, MA 02210,
Suffolk County; Authorization # MAG910589

Dear Mr. Heighton:

Based on the review of a Notice of Intent (NOI) submitted by the Consulting Firm McPhail Associates, Inc, on behalf of the company you represent, Pier Development LLC, for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Owner and Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

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

Please note the enclosed checklist includes parameters that exceeded Appendix III limits. The checklist also includes other parameters for which your laboratory reports indicated there was insufficient sensitivity to detect these parameters at the minimum levels established in Appendix VI of the RGP.

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on selected dilution ranges and technology-based ceiling limitations. With the absence of dilution of freshwater into tidal water, EPA determined that the Dilution Factor Range (DFR) for each parameter for this site is in the one and five (1-5) range. (See the RGP Appendix IV for Massachusetts facilities).

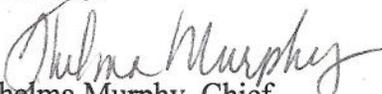
Therefore, the limits for arsenic of 36 ug/L, copper of 3.7 ug/L, nickel of 8.2 ug/L, zinc of 85.6 ug/L and iron of 1, 000 ug/L, are required to achieve permit compliance at your site.

Finally, please note the checklist of pollutants attached to this authorization is subject to a recertification if the operations at the site result in a discharge lasting longer than six months. A recertification can be submitted to EPA within six (6) to twelve (12) months of operations in accordance with the 2010 RGP regulations.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on March 1, 2015. If for any reason the discharge terminates sooner you are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

Thank you in advance for your cooperation in this matter. Please contact Victor Alvarez at 617-918-1572 or Alvarez.Victor@epa.gov, if you have any questions.

Sincerely,


Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Paul Canavan, BWSC
Benjamin E. Downing, McPhail Associates, Inc.

**2010 Remediation General Permit
Summary of Monitoring Parameters^[1]**

| | |
|--|--|
| NPDES Authorization Number: | MAG910589 |
| Authorization Issued: | July, 2012 |
| Facility/Site Name: | Fan Pier Parcel C |
| Facility/Site Address: | 60 Northen Avenue, Boston, MA 02210, Suffolk County |
| | Email address of owner: rmartini@falloncompany.com |
| Legal Name of Operator: | Fan Pier Development LLC |
| Operator contact name, title, and Address: | James Heighton, Senior Project Manager, One Marina Park Drive , Boston, MA 02210, Suffolk County |
| | Email: jheighton@falloncompany.com |
| Estimated date of Completion: | March 1, 2015 |
| Category and Sub-Category: | Category III Contaminated Construction Dewatering. Sub-category B. Known Contaminated Sites |
| RGP Termination Date: | September 10, 2015 |
| Receiving Water: | Boston Harbor |
| | |

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

| | <u>Parameter</u> | <u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit) |
|---|---|---|
| ✓ | 1. Total Suspended Solids (TSS) | 30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing ** Me#160.2/ML5ug/L |
| | 2. Total Residual Chlorine (TRC) ¹ | Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L |
| | 3. Total Petroleum Hydrocarbons (TPH) | 5.0 mg/L/ Me# 1664A/ML 5.0mg/L |
| ✓ | 4. Cyanide (CN) ^{2, 3} | Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/L |
| | 5. Benzene (B) | 5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L |
| | 6. Toluene (T) | (limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L |
| | 7. Ethylbenzene (E) | (limited as ug/L total BTEX) Me#8260C/ ML 2ug/L |
| | 8. (m,p,o) Xylenes (X) | (limited as ug/L total BTEX) Me#8260C/ ML 2ug/L |

| | Parameter | Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit) |
|---|---|---|
| | 9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) ⁴ | 100 ug/L/ Me#8260C/ ML 2ug/L |
| | 10. Ethylene Dibromide (EDB) (1,2- Dibromoethane) | 0.05 ug/l/ Me#8260C/ ML 10ug/L |
| | 11. Methyl-tert-Butyl Ether (MtBE) | 70.0 ug/l/Me#8260C/ML 10ug/L |
| | 12.tert-Butyl Alcohol (TBA) (TertiaryButanol) | Monitor Only(ug/L)/Me#8260C/ML 10ug/L |
| ✓ | 13. tert-Amyl Methyl Ether (TAME) | Monitor Only(ug/L)/Me#8260C/ML 10ug/L |
| | 14. Naphthalene ⁵ | 20 ug/L /Me#8260C/ML 2ug/L |
| | 15. Carbon Tetrachloride | 4.4 ug/L /Me#8260C/ ML 5ug/L |
| | 16. 1,2 Dichlorobenzene (o-DCB) | 600 ug/L /Me#8260C/ ML 5ug/L |
| | 17. 1,3 Dichlorobenzene (m-DCB) | 320 ug/L /Me#8260C/ ML 5ug/L |
| | 18. 1,4 Dichlorobenzene (p-DCB) | 5.0 ug/L /Me#8260C/ ML 5ug/L |
| | 18a. Total dichlorobenzene | 763 ug/L - NH only /Me#8260C/ ML 5ug/L |
| | 19. 1,1 Dichloroethane (DCA) | 70 ug/L /Me#8260C/ ML 5ug/L |
| | 20. 1,2 Dichloroethane (DCA) | 5.0 ug/L /Me#8260C/ ML 5ug/L |
| | 21. 1,1 Dichloroethene (DCE) | 3.2 ug/L/Me#8260C/ ML 5ug/L |
| | 22. cis-1,2 Dichloroethene (DCE) | 70 ug/L/Me#8260C/ ML 5ug/L |
| | 23. Methylene Chloride | 4.6 ug/L/Me#8260C/ ML 5ug/L |
| | 24. Tetrachloroethene (PCE) | 5.0 ug/L/Me#8260C/ ML 5ug/L |
| | 25. 1,1,1 Trichloro-ethane (TCA) | 200 ug/L/Me#8260C/ ML 5ug/L |
| | 26. 1,1,2 Trichloro-ethane (TCA) | 5.0 ug/L /Me#8260C/ ML 5ug/L |
| | 27. Trichloroethene (TCE) | 5.0 ug/L /Me#8260C/ ML 5ug/L |
| | 28. Vinyl Chloride (Chloroethene) | 2.0 ug/L /Me#8260C/ ML 5ug/L |
| | 29. Acetone | Monitor Only(ug/L)/Me#8260C/ML 50ug/L |
| ✓ | 30. 1,4 Dioxane | Monitor Only /Me#1624C/ML 50ug/L |
| | 31. Total Phenols | 300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L |
| | 32. Pentachlorophenol (PCP) | 1.0 ug/L /Me#8270D/ML 5ug/L, Me#604 &625/ML 10ug/L |
| | 33. Total Phthalates (Phthalate esters) ⁶ | 3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L |
| | 34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate] | 6.0 ug/L /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L & Me#625/ML 5ug/L |

| | Parameter | Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit) |
|---|---|---|
| | 35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH) | 10.0 ug/L |
| | a. Benzo(a) Anthracene ⁷ | 0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L |
| | b. Benzo(a) Pyrene ⁷ | 0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L |
| | c. Benzo(b)Fluoranthene ⁷ | 0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L |
| | d. Benzo(k)Fluoranthene ⁷ | 0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L |
| | e. Chrysene ⁷ | 0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L |
| | f. Dibenzo(a,h)anthracene ⁷ | 0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L |
| | g. Indeno(1,2,3-cd) Pyrene ⁷ | 0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L |
| ✓ | 36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH) | 100 ug/L |
| ✓ | h. Acenaphthene | X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L |
| ✓ | i. Acenaphthylene | X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L |
| ✓ | j. Anthracene | X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L |
| ✓ | k. Benzo(ghi) Perylene | X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L |
| ✓ | l. Fluoranthene | X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L |
| ✓ | m. Fluorene | X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L |
| ✓ | n. Naphthalene ⁵ | 20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L |
| ✓ | o. Phenanthrene | X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L |
| ✓ | p. Pyrene | X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L |
| | 37. Total Polychlorinated Biphenyls (PCBs) ^{8,9} | 0.000064 ug/L/Me# 608/ ML 0.5 ug/L |
| ✓ | 38. Chloride | Monitor only/Me# 300.0/ ML 100 ug/L |

| | Metal Parameters | Total Recoverable MA/Metal Limit H¹⁰ = 50 mg/l CaCO₃, Units = ug/l^(11/12) | | Minimum level=ML | |
|---|---------------------------------|---|-------------------------|-------------------------|----|
| | | | Saltwater Limits | | |
| | 39. Antimony | 5.6 | | ML | 10 |
| ✓ | 40. Arsenic ** | | 36 | ML | 20 |
| | 41. Cadmium ** | | 8.9 | ML | 10 |
| | 42. Chromium III (trivalent) ** | | 100 | ML | 15 |
| | 43. Chromium VI (hexavalent) ** | | 50.3 | ML | 10 |
| ✓ | 44. Copper ** | | 3.7 | ML | 15 |
| | 45. Lead ** | | 8.5 | ML | 20 |
| | 46. Mercury ** | | 1.1 | ML | 02 |
| ✓ | 47. Nickel ** | | 8.2 | ML | 20 |
| | 48. Selenium ** | | 71 | ML | 20 |
| | 49. Silver | | 2.2 | ML | 10 |
| ✓ | 50. Zinc ** | | 85.6 | ML | 15 |
| ✓ | 51. Iron | 1,000 | | ML | 20 |

| | Other Parameters | Limit |
|---|---|-------------------------------------|
| ✓ | 52. Instantaneous Flow | Site specific in CFS |
| ✓ | 53. Total Flow | Site specific in CFS |
| | 54. pH Range for Class A & Class B Waters in MA | 6.5-8.3; 1/Month/Grab ¹³ |
| ✓ | 55. pH Range for Class SA & Class SB Waters in MA | 6.5-8.3; 1/Month/Grab ¹³ |
| | 56. pH Range for Class B Waters in NH | 6.5-8; 1/Month/Grab ¹³ |
| | 57. Daily maximum temperature - Warm water fisheries | 83°F; 1/Month/Grab ¹⁴ |
| | 58. Daily maximum temperature - Cold water fisheries | 68°F; 1/Month/Grab ¹⁴ |
| | 59. Maximum Change in Temperature in MA - Any Class A water body | 1.5°F; 1/Month/Grab ¹⁴ |
| | 60. Maximum Change in Temperature in MA - Any Class B water body- Warm Water | 5°F; 1/Month/Grab ¹⁴ |
| | 61. Maximum Change in Temperature in MA - Any Class B water body - Cold water and Lakes/Ponds | 3°F; 1/Month/Grab ¹⁴ |
| | 62. Maximum Change in Temperature in MA - Any Class SA water body - Coastal | 1.5°F; 1/Month/Grab ¹⁴ |
| | 63. Maximum Change in Temperature in MA - Any Class SB water body - July to September | 1.5°F; 1/Month/Grab ¹⁴ |
| | 64. Maximum Change in Temperature in MA -Any Class SB water body - October to June | 4°F; 1/Month/Grab ¹⁴ |

Footnotes:

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

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

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

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

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

⁶ The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.

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

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

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

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

¹¹ For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using $DF \times 1,000\text{ug/L}$ (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit = $1,000 \times 2 = 2,000 \text{ ug/L}$, etc. not to exceed the DF=5.

¹² Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).

¹³ pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.

¹⁴ Temperature sampling per Method 170.1



**NOTICE OF INTENT FOR DISCHARGE
UNDER MASSACHUSETTS REMEDIAL
GENERAL PERMIT MAG910000**

FAN PIER - PARCEL C

BOSTON MASSACHUSETTS

to

U.S. Environmental Protection Agency

July 9, 2013

Project No. 4426.9.12



July 9, 2013

U.S Environmental Protection Agency
RGP-NOC Processing Municipal Assistance Unit (CMU)
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Attention: RGP-NOC Processing

Reference: Fan Pier Parcel C; Boston, Massachusetts
Notice of Intent for Construction Dewatering Discharge Under Massachusetts
Remedial General Permit MAG910000

Ladies and Gentlemen:

The purpose of this letter report is to provide a summary of the site and groundwater quality information in support of an application for approval from the U.S. Environmental Protection Agency (EPA) for the temporary discharge of groundwater into Boston's Inner Harbor during construction activities at the above referenced site. Refer to **Figure 1** Project Location Plan for the general site locus.

These services were performed and this report was prepared in accordance with the authorization of Fan Pier Development LLC. These services are subject to the limitations contained in **Appendix A**.

The Fan Pier development site is comprised of nine (9) individual parcels designated as A through I which occupy an approximate 21-acre site bounded by Boston Inner Harbor to the north, the John Joseph Moakley Federal Courthouse and Courthouse Way to the west, Northern Avenue to the south, and a surface parking area to the east. Fan Pier is currently occupied by a single-story structure on Parcel C, the Louis Boston retail building on Parcel D, the One Marina Park Drive building on Parcel F and a public green on Parcel G. The buildings on Parcels A and B are currently under construction.

Parcel C occupies an approximate 47,000 square-foot trapezoidal plan area which fronts onto Courthouse Way to the west and is bounded by Fan Pier Parcel B to the south, Parcel D to the east, and Boston Harbor to the north. Currently, the site is occupied by a single story structure in the center of the parcel and the remainder of the site is generally utilized as a surface parking lot. Existing ground surface across the site is relatively level, varying from about Elevation +16 to +19. Existing site conditions are shown on the attached **Subsurface Exploration Plan, Figure 2**.

It is understood that the proposed development of Parcel C includes the construction of a 15-story building with a mechanical penthouse and three levels of below-grade parking. Above-grade level 1 will occupy an approximate 21,000 square-foot plan area, levels 2 through 13 will occupy approximate 17,000 square-foot plan areas, and levels 14 and 15 will occupy approximate 16,000 square-foot plan areas. The below-grade garage will occupy the entire footprint of Parcel C corresponding to an approximate 47,000 square-foot plan area. The lowest level slab within the garage will be at about Elevation -15.5.

The ground surface across the site is underlain by fill material that extends to depths ranging from 21 to 56 feet below ground surface. In the western half of Parcel C, the fill is typically underlain by an organic deposit that was observed to range from about 2 to 5 feet in thickness.

Underlying the fill and/or organic deposits, the borings encountered a marine deposit which generally consists of a very stiff to very soft marine clay with interbedded layers of marine sand near the top of the



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deposit. The marine deposit extends to a depth of about 108.5 feet below the existing ground surface. The marine deposit is underlain by subsequent deposits of glacial till and bedrock. Observation wells installed at the site indicate that the groundwater level ranges from about Elevation +7.2 to Elevation +14.8.

Based on preliminary precharacterization completed in 1999, the entire 21-acre Fan Pier property, including Parcel C, was listed as an MCP site under Release Tracking Number (RTN) 3-19647 on June 14, 2000. Reportable conditions consisted of the presence of total petroleum hydrocarbons (TPH) and hazardous materials (lead, PCBs, and PAHs) in historical urban fill and underlying organic soils at the site at concentrations exceeding RCS-1 reportable concentrations. In addition, recent subsurface explorations have identified additional releases of PCBs, arsenic, and cadmium in the fill material at the Parcel C site.

Excavation within the proposed building footprint will extend to a depth of approximately 35 feet below the observed groundwater level. In order to permit construction of the below grade parking garage and provide an effective groundwater cut-off during construction, a continuously interlocking steel sheet pile wall will be installed just beyond the perimeter foundation walls of the structure. Hence, construction dewatering will be required within the groundwater cut-off area to allow for the construction of the below-grade portion of the concrete slab and foundations. The majority of the anticipated dewatering will occur during excavation following the installation of the groundwater cut-off. Additional minor dewatering may occur during installation of the lowest elevation concrete slab and footings.

It is estimated that intermittent groundwater discharge required during the initial stage of the excavation phase of construction will be on the order of 50 to 100 gallons per minute (GPM). The quantity of groundwater discharge is based on the relatively pervious nature of the upper portion of existing fill material and the presence of the sheet piling surrounding the excavation, which will act as a groundwater cut-off. A reduction in the rate of discharge is anticipated to occur during excavation of the less permeable silty clay dredged fill deposit. A rate of discharge of 20 to 50 GPM is anticipated during this stage of excavation. These estimates of discharge do not include surface runoff which will be removed from the excavation during a limited duration of a rain storm and shortly thereafter.

Since the footprint of the proposed construction will occupy a majority of the Parcels' area and the groundwater cut-off wall will be installed at the perimeter of the site, temporary on-site collection and recharge of groundwater is not feasible. Therefore, construction dewatering will require the discharge of groundwater directly into Boston's Inner Harbor under the requested U.S. EPA Remediation General Permit (RGP).

The location of the discharge point into Boston Harbor with relation to the project site is indicated on **Figure 2** which is based on a drawing entitled "As-Built Plan" prepared by Nitsch Engineering, dated February 12, 2010.

Based on the results of groundwater chemical analyses, it is our opinion that a settling tank, bag filter and a cyanide treatment system will be required to settle out particulate matter and lower the elevated levels of cyanide in the water to meet allowable total metals and cyanide discharge limits established by the US EPA prior to discharge. The cyanide treatment system may include but is not limited to ion exchange, precipitation, coagulation and flocculation, adsorption and absorption. One settling tank 10,000-gallons in capacity, two bag filters and a cyanide treatment system will be incorporated into the discharge system in series in order to meet allowable discharge limits for TSS, cyanide and total metals established by the RGP. It is our opinion that the removal of sediment in conjunction with the cyanide treatment will also



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result in a reduction in total metals to levels below the RGP permit limits. A schematic of the treatment system is shown on **Figure 3**.

Should the results of testing for cyanide and total metals continue to indicate an exceedance of the RGP limit concentrations, appropriate treatment will be implemented to address the exceedances. In addition, should other contaminants be detected within the discharge water during the construction dewatering phase of the project at levels that exceed the effluent limitations, mitigative measures will be implemented to meet the allowable discharge limits.

In conclusion, it is our opinion that groundwater at the site is acceptable for discharge directly into Boston Harbor under a Remedial General Permit. Sampling and analysis of the effluent will be carried out in accordance with the terms of the Remedial General Permit.

Supplemental information appended to this letter in support of the RGP includes the following;

- Notice of Intent Transmittal Form for Permit Application (**Appendix B**);
- A summary of groundwater analysis (**Appendix C, Table 1**);
- A review of Areas of Critical Concern and Endangered and Threatened Species (**Appendix D**);
- A review of National Historic Places (**Attachment E**); and
- Best Management Practice Plan (**Appendix F**).

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

Very truly yours,

McPHAIL ASSOCIATES, LLC

A handwritten signature in cursive script that reads "Benjamin Downing".

Benjamin E. Downing

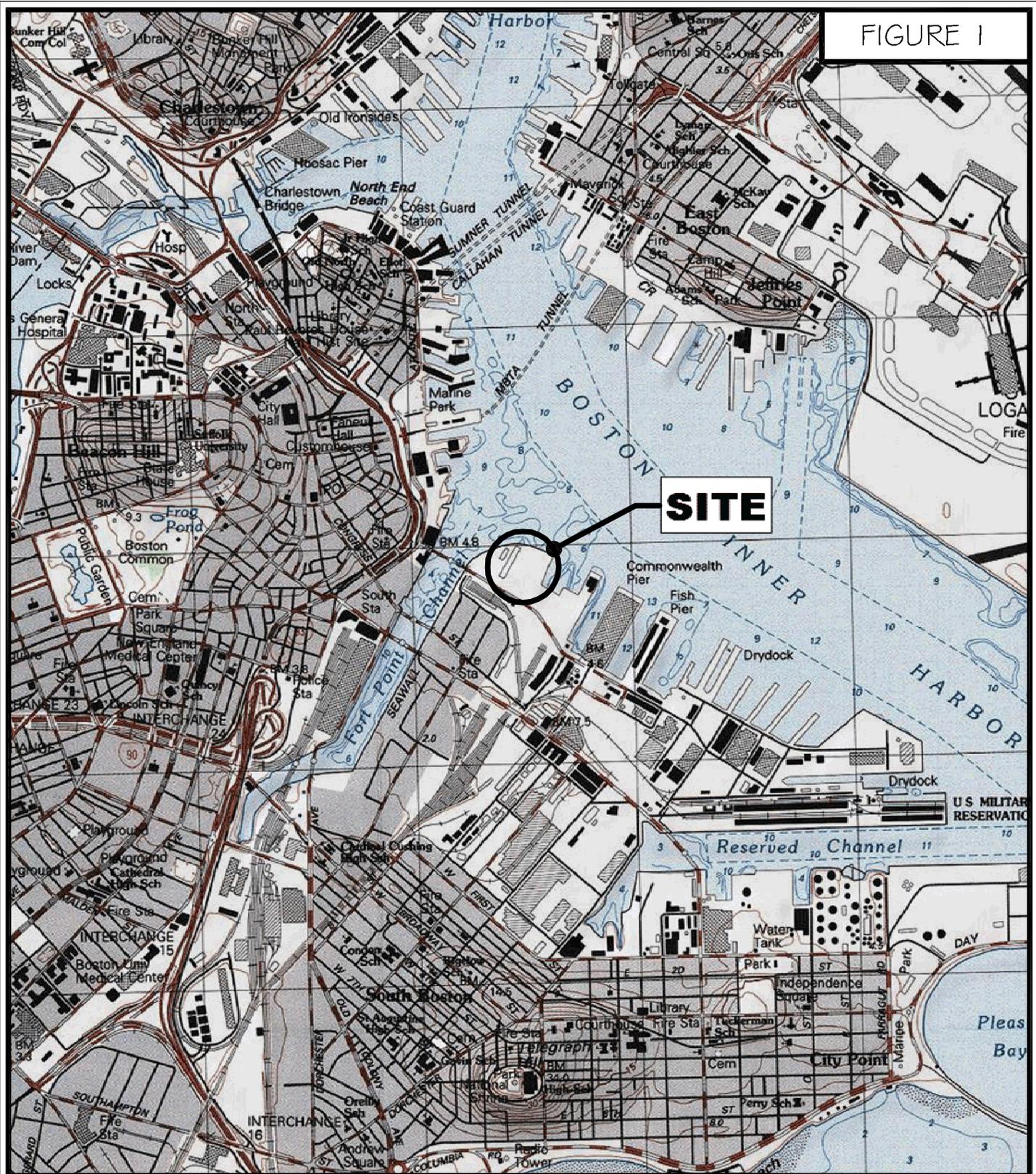
A handwritten signature in cursive script that reads "Peter J. DeChaves".
Peter J. DeChaves, L.S.P.

Enclosures

F:\WP5\REPORTS\4426 Parcel C RGP.wpd

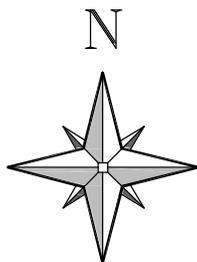
BED/pjd

FIGURE 1



McPHAIL
ASSOCIATES, LLC

Geotechnical and
Geoenvironmental Engineers
2269 Massachusetts Avenue
Cambridge, MA 02140
617/868-1420
617/868-1423 (Fax)



SCALE 1:25,000

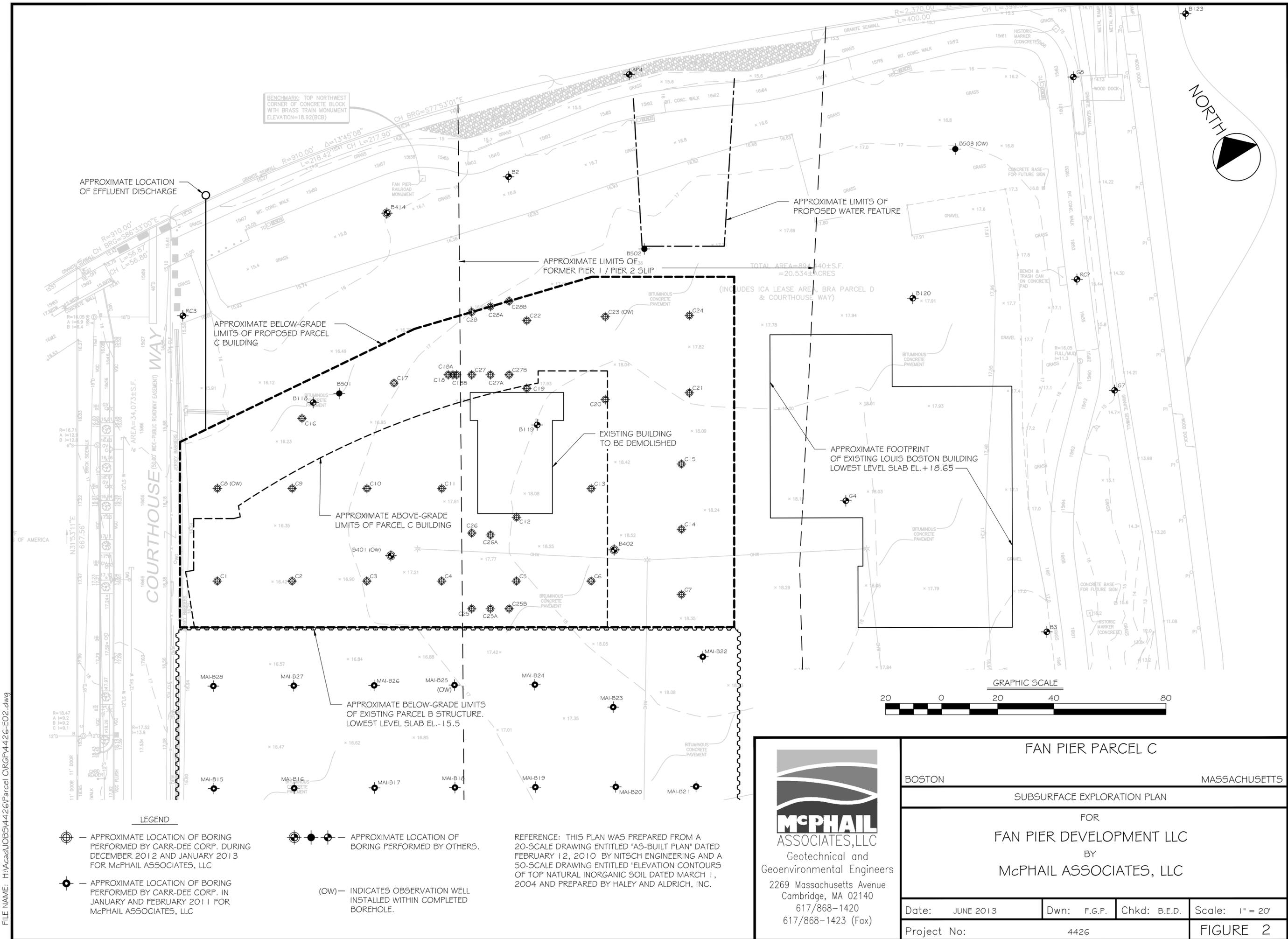
PROJECT LOCATION PLAN

FAN PIER

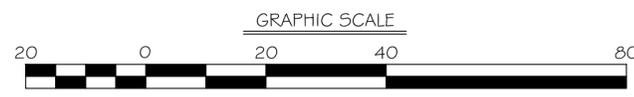
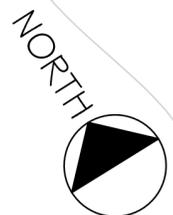
BOSTON

MASSACHUSETTS

FILE NAME: H:\acad\UOB\514426\Parcel_C\RGF\4426-EO2.dwg



BENCHMARK: TOP NORTHWEST CORNER OF CONCRETE BLOCK WITH BRASS TRAIN MONUMENT ELEVATION=18.92(BCB)



LEGEND

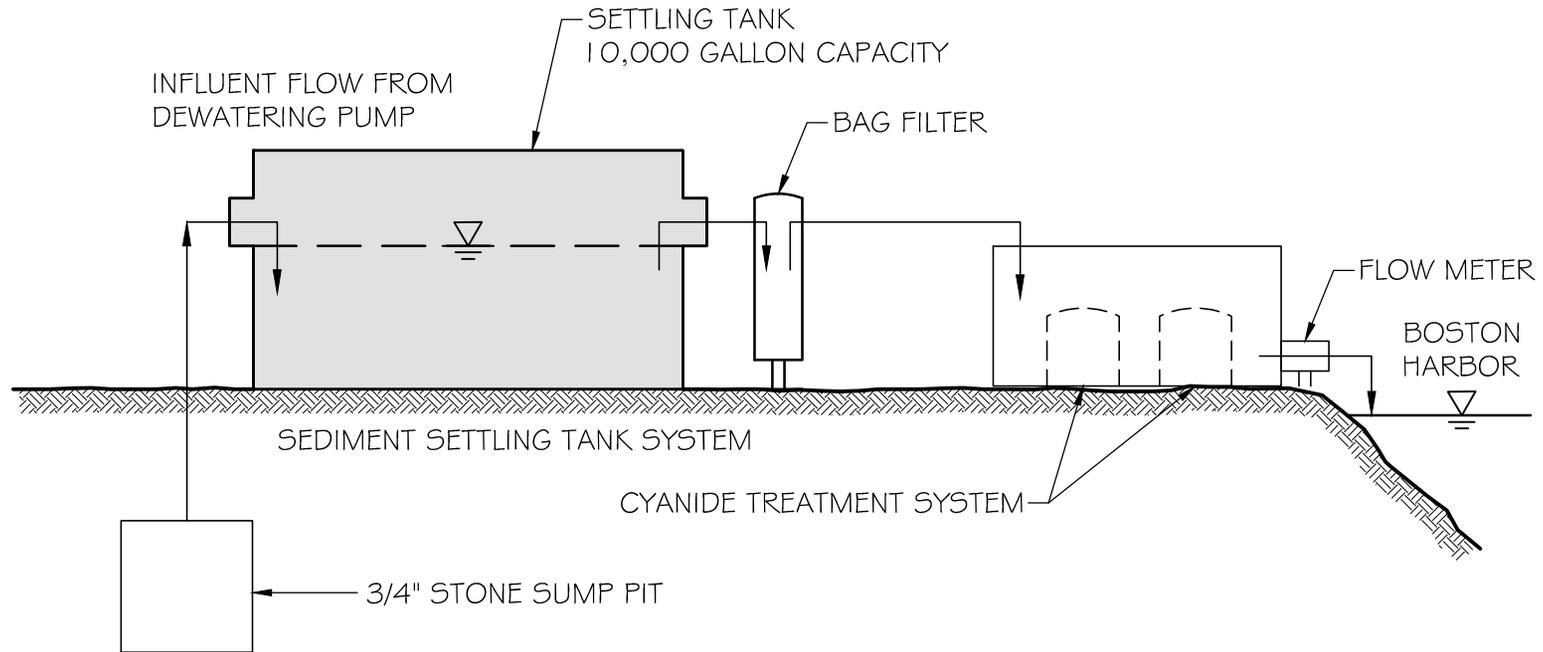
- APPROXIMATE LOCATION OF BORING PERFORMED BY CARR-DEE CORP. DURING DECEMBER 2012 AND JANUARY 2013 FOR McPHAIL ASSOCIATES, LLC
- APPROXIMATE LOCATION OF BORING PERFORMED BY CARR-DEE CORP. IN JANUARY AND FEBRUARY 2011 FOR McPHAIL ASSOCIATES, LLC
- (OW) — INDICATES OBSERVATION WELL INSTALLED WITHIN COMPLETED BOREHOLE.
- APPROXIMATE LOCATION OF BORING PERFORMED BY OTHERS.

REFERENCE: THIS PLAN WAS PREPARED FROM A 20-SCALE DRAWING ENTITLED "AS-BUILT PLAN" DATED FEBRUARY 12, 2010 BY NITSCH ENGINEERING AND A 50-SCALE DRAWING ENTITLED "ELEVATION CONTOURS OF TOP NATURAL INORGANIC SOIL DATED MARCH 1, 2004 AND PREPARED BY HALEY AND ALDRICH, INC.

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

| | | | |
|-----------------------------|-----------|-----------------|----------|
| FAN PIER PARCEL C | | | |
| BOSTON | | MASSACHUSETTS | |
| SUBSURFACE EXPLORATION PLAN | | | |
| FOR | | | |
| FAN PIER DEVELOPMENT LLC | | | |
| BY | | | |
| McPHAIL ASSOCIATES, LLC | | | |
| Date: | JUNE 2013 | Dwn: | F.G.P. |
| Chkd: | B.E.D. | Scale: | 1" = 20' |
| Project No: | 4426 | FIGURE 2 | |

FIGURE 3



| | | |
|--|--|---------------|
|  McPHAIL ASSOCIATES, LLC Geotechnical and Geoenvironmental Engineers 2269 Massachusetts Avenue Cambridge, MA 02140 617/868-1420 617/868-1423 (Fax) | FAN PIER PARCEL C | |
| | BOSTON | MASSACHUSETTS |
| | SCHEMATIC OF WATER FLOW | |
| | FOR FAN PIER DEVELOPMENT LLC BY McPHAIL ASSOCIATES, LLC | |
| Date: JUNE 2013 | Dwn: I.J.M. | Chkd: B.E.D. |
| Project No: 4426 | | Scale: N.T.S. |



APPENDIX A

LIMITATIONS

The purpose of this report is to present the results of testing of groundwater samples obtained from groundwater monitoring wells located at Fan Pier Parcel C in Boston, Massachusetts, in support of an application for approval of temporary construction site dewatering discharge into surface waters of the Commonwealth of Massachusetts under the US EPA's Massachusetts Remedial General Permit MAG910000.

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

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

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

This report and application have been prepared on behalf of and for the exclusive use of Fan Pier Development LLC. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party except relevant governmental agencies associated with the subject permit application, nor used in whole or in part by any other party, without the prior written consent of McPhail Associates, LLC.



APPENDIX B

Notice of Intent Transmittal Form

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

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

| | | | | | |
|--|-----------------------|--|-----------------|---|--|
| a) Name of facility/site: Fan Pier Parcel C | | Facility/site mailing address: | | | |
| Location of facility/site: longitude: -71.045291 latitude: 42.354623 | Facility SIC code(s): | Street: 60 Northern Avenue | | | |
| b) Name of facility/site owner: Fan Pier Development LLC | | Town: Boston | | | |
| Email address of facility/site owner: rmartini@falloncompany.com | | State: MA | Zip: 02210 | County: Suffolk | |
| Telephone no. of facility/site owner: 617-737-4100 | | Owner is (check one): 1. Federal <input type="radio"/> 2. State/Tribal <input type="radio"/> 3. Private <input checked="" type="radio"/> 4. Other <input type="radio"/> if so, describe: | | | |
| Fax no. of facility/site owner: 617-737-4101 | | | | | |
| Address of owner (if different from site): | | | | | |
| Street: One Marina Park Drive | | | | | |
| Town: Boston | State: MA | Zip: 02210 | County: Suffolk | | |
| c) Legal name of operator: Fan Pier Development LLC | | Operator telephone no.: 617-737-4100 | | | |
| | | Operator fax no.: 617-737-4101 | | Operator email: jheighton@falloncompany.com | |
| Operator contact name and title: James Heighton, Senior Project Manager | | | | | |
| Address of operator (if different from owner): | | Street: | | | |
| Town: | State: | Zip: | County: | | |

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

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y N
 If Y, please list:
 1. site identification # assigned by the state of NH or MA:
 2. permit or license # assigned:
 3. state agency contact information: name, location, and telephone number:

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

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

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

| <u>Activity Category</u> | <u>Activity Sub-Category</u> |
|--|---|
| I - Petroleum Related Site Remediation | A. Gasoline Only Sites <input type="checkbox"/> B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) <input type="checkbox"/> C. Petroleum Sites with Additional Contamination <input type="checkbox"/> |
| II - Non Petroleum Site Remediation | A. Volatile Organic Compound (VOC) Only Sites <input type="checkbox"/> B. VOC Sites with Additional Contamination <input type="checkbox"/> C. Primarily Heavy Metal Sites <input type="checkbox"/> |
| III - Contaminated Construction Dewatering | A. General Urban Fill Sites <input type="checkbox"/> B. Known Contaminated Sites <input checked="" type="checkbox"/> |

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

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

| | |
|--|---|
| a) Describe the discharge activities for which the owner/applicant is seeking coverage: | |
| Temporary Construction Dewatering | |
| b) Provide the following information about each discharge: | |
| 1) Number of discharge points: <input type="text" value="1"/> | 2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow <input type="text" value="0.2228"/> Is maximum flow a design value? Y <input type="radio"/> N <input checked="" type="radio"/> Average flow (include units) <input type="text" value="50 gpm"/> Is average flow a design value or estimate? <input type="text" value="estimate"/> |
| 3) Latitude and longitude of each discharge within 100 feet: | |
| pt.1: lat <input type="text" value="42.355086"/> long <input type="text" value="-71.045218"/> | pt.2: lat <input type="text"/> long <input type="text"/> |
| pt.3: lat <input type="text"/> long <input type="text"/> | pt.4: lat <input type="text"/> long <input type="text"/> |
| pt.5: lat <input type="text"/> long <input type="text"/> | pt.6: lat <input type="text"/> long <input type="text"/> |
| pt.7: lat <input type="text"/> long <input type="text"/> | pt.8: lat <input type="text"/> long <input type="text"/> ; etc. |
| 4) If hydrostatic testing, total volume of the discharge (gals) <input type="text"/> | 5) Is the discharge intermittent <input checked="" type="radio"/> or seasonal <input type="radio"/> ? Is discharge ongoing? Y <input type="radio"/> N <input type="radio"/> |
| c) Expected dates of discharge (mm/dd/yy): start <input type="text" value="9/1/2013"/> end <input type="text" value="3/1/2015"/> | |
| d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s) <input type="text" value="Refer to Figure 3 in the attached report"/> | |

3. Contaminant information.

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

| <u>Parameter *</u> | <u>CAS Number</u> | <u>Believed Absent</u> | <u>Believed Present</u> | <u># of Samples</u> | <u>Sample Type (e.g., grab)</u> | <u>Analytical Method Used (method #)</u> | <u>Minimum Level (ML) of Test Method</u> | <u>Maximum daily value</u> | | <u>Average daily value</u> | |
|---|---|-------------------------------------|-------------------------------------|---------------------|---------------------------------|--|--|-----------------------------|------------------|-----------------------------|------------------|
| | | | | | | | | <u>concentration (ug/l)</u> | <u>mass (kg)</u> | <u>concentration (ug/l)</u> | <u>mass (kg)</u> |
| 1. Total Suspended Solids (TSS) | | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 30,2540D | 5 | 18000 | 47.55 | 9000 | 11.89 |
| 2. Total Residual Chlorine (TRC) | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 30,4500Cl-D | 20 | ND | 0 | | |
| 3. Total Petroleum Hydrocarbons (TPH) | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 74,1664A | 4000 | ND | 0 | | |
| 4. Cyanide (CN) | 57125 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 30,4500CN-CE | 5 | 8 | 0.0211 | 4 | 0.0053 |
| 5. Benzene (B) | 71432 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1 | ND | 0 | | |
| 6. Toluene (T) | 108883 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1 | ND | 0 | | |
| 7. Ethylbenzene (E) | 100414 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1 | ND | 0 | | |
| 8. (m,p,o) Xylenes (X) | 108883; 106423; 95476; 1330207 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1 | ND | 0 | | |
| 9. Total BTEX ² | n/a | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1 | ND | 0 | | |
| 10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³ | 106934 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 14,504.1 | 0.01 | ND | 0 | | |
| 11. Methyl-tert-Butyl Ether (MtBE) | 1634044 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 10 | ND | 0 | | |
| 12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol) | 75650 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 100 | ND | 0 | | |

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

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

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

| <u>Parameter *</u> | <u>CAS Number</u> | <u>Believed Absent</u> | <u>Believed Present</u> | <u># of Samples</u> | <u>Sample Type (e.g., grab)</u> | <u>Analytical Method Used (method #)</u> | <u>Minimum Level (ML) of Test Method</u> | <u>Maximum daily value</u> | | <u>Average daily value</u> | |
|-----------------------------------|-------------------|-------------------------------------|-------------------------------------|---------------------|---------------------------------|--|--|-----------------------------|------------------|-----------------------------|------------------|
| | | | | | | | | <u>concentration (ug/l)</u> | <u>mass (kg)</u> | <u>concentration (ug/l)</u> | <u>mass (kg)</u> |
| 13. tert-Amyl Methyl Ether (TAME) | 9940508 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 20 | ND | 0 | | |
| 14. Naphthalene | 91203 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | 0.61 | 0.0016 | 0.305 | 0.0004 |
| 15. Carbon Tetrachloride | 56235 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1 | ND | 0 | | |
| 16. 1,2 Dichlorobenzene (o-DCB) | 95501 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 5 | ND | 0 | | |
| 17. 1,3 Dichlorobenzene (m-DCB) | 541731 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 5 | ND | 0 | | |
| 18. 1,4 Dichlorobenzene (p-DCB) | 106467 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 5 | ND | 0 | | |
| 18a. Total dichlorobenzene | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 5 | ND | 0 | | |
| 19. 1,1 Dichloroethane (DCA) | 75343 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1.5 | ND | 0 | | |
| 20. 1,2 Dichloroethane (DCA) | 107062 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1.5 | ND | 0 | | |
| 21. 1,1 Dichloroethene (DCE) | 75354 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1 | ND | 0 | | |
| 22. cis-1,2 Dichloroethene (DCE) | 156592 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1 | ND | 0 | | |
| 23. Methylene Chloride | 75092 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 5 | ND | 0 | | |
| 24. Tetrachloroethene (PCE) | 127184 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1.5 | ND | 0 | | |
| 25. 1,1,1 Trichloro-ethane (TCA) | 71556 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 2 | ND | 0 | | |
| 26. 1,1,2 Trichloro-ethane (TCA) | 79005 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1.5 | ND | 0 | | |
| 27. Trichloroethene (TCE) | 79016 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 1 | ND | 0 | | |

| Parameter * | CAS Number | Believed Absent | Believed Present | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Average daily value | |
|--|------------|-------------------------------------|-------------------------------------|--------------|--------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
| | | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 28. Vinyl Chloride (Chloroethene) | 75014 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 2 | ND | 0 | | |
| 29. Acetone | 67641 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 10 | 13 | 0.0343 | 6.5 | 0.0086 |
| 30. 1,4 Dioxane | 123911 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,624 | 2000 | ND | 0 | | |
| 31. Total Phenols | 108952 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 4,420.1 | 30 | ND | 0 | | |
| 32. Pentachlorophenol (PCP) | 87865 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.8 | ND | 0 | | |
| 33. Total Phthalates (Phthalate esters) ⁴ | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,8270D | 5 | ND | 0 | | |
| 34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate] | 117817 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,8270D | 3 | ND | 0 | | |
| 35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH) | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| a. Benzo(a) Anthracene | 56553 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| b. Benzo(a) Pyrene | 50328 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| c. Benzo(b)Fluoranthene | 205992 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| d. Benzo(k)Fluoranthene | 207089 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| e. Chrysene | 21801 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| f. Dibenzo(a,h)anthracene | 53703 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| g. Indeno(1,2,3-cd) Pyrene | 193395 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| 36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH) | | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | 1.74 | 0.0046 | 0.87 | 0.0011 |

⁴The sum of individual phthalate compounds.

| Parameter * | CAS Number | Believed Absent | Believed Present | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Average daily value | |
|--|---|-------------------------------------|-------------------------------------|--------------|--------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
| | | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| h. Accnaphthene | 83329 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | 0.45 | 0.0012 | 0.225 | 0.0003 |
| i. Acenaphthylene | 208968 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| j. Anthracene | 120127 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| k. Benzo(ghi) Perylene | 191242 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| l. Fluoranthene | 206440 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| m. Fluorenc | 86737 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | 0.3 | 0.0008 | 0.15 | 0.0002 |
| n. Naphthalene | 91203 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | 0.61 | 0.0016 | 0.3 | 0.0004 |
| o. Phenanthrene | 85018 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | 0.38 | 0.0010 | 0.19 | 0.0003 |
| p. Pyrene | 129000 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,8270D-SIM | 0.2 | ND | 0 | | |
| 37. Total Polychlorinated Biphenyls (PCBs) | 85687; 84742; 117840; 84662; 131113; 117817. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 5,608 | 0.25 | ND | 0 | | |
| 38. Chloride | 16887006 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 44,300.0 | | 185000 | 4888 | 171000 | 2259 |
| 39. Antimony | 7440360 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,6020A | 5 | ND | 0 | | |
| 40. Arsenic | 7440382 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,6020A | 5 | 10.57 | 0.0279 | 5.29 | 0.0070 |
| 41. Cadmium | 7440439 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,6020A | 2 | 3.05 | 0.0081 | 1.52 | 0.0020 |
| 42. Chromium III (trivalent) | 16065831 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,6020A | 10 | ND | 0 | | |
| 43. Chromium VI (hexavalent) | 18540299 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 30,3500CR-D | 10 | ND | 0 | | |
| 44. Copper | 7440508 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,6020A | 10 | 13.45 | 0.0355 | 6.73 | 0.0089 |
| 45. Lead | 7439921 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,6020A | 5 | ND | 0 | | |
| 46. Mercury | 7439976 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 3,245.1 | 0.2 | ND | 0 | | |
| 47. Nickel | 7440020 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,6020A | 5 | 15.57 | 0.0411 | 7.79 | 0.0103 |
| 48. Selenium | 7782492 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,6020A | 50 | ND | 0 | | |
| 49. Silver | 7440224 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2 | grab | 1,6020A | 4 | ND | 0 | | |
| 50. Zinc | 7440666 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 1,6020A | 100 | 241.5 | 0.6381 | 120.75 | 0.1595 |
| 51. Iron | 7439896 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 2 | grab | 19,200.7 | | 6300 | 16.64 | 3245 | 4.287 |
| Other (describe): | | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | |

| Parameter * | CAS Number | Believed Absent | Believed Present | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Average daily value | |
|-------------|------------|--------------------------|--------------------------|--------------|--------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
| | | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| | | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | |
| | | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | |

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

| | | | | | | | | | | | |
|---|---|-------|----------------|-------|-------------|-------|-------------|-------|------|--|--|
| <p><i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y <input checked="" type="radio"/> N <input type="radio"/></p> | <p>If yes, which metals? Arsenic, Cadmium, Copper, Zinc, and Iron</p> | | | | | | | | | | |
| <p><i>Step 2:</i> For any metals which exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals?</p> <table border="1"> <tr> <td>Metal: Arsenic</td> <td>DF: 0</td> </tr> <tr> <td>Metal: Cadmium</td> <td>DF: 0</td> </tr> <tr> <td>Metal: Zinc</td> <td>DF: 0</td> </tr> <tr> <td>Metal: Iron</td> <td>DF: 0</td> </tr> <tr> <td>Etc.</td> <td></td> </tr> </table> | Metal: Arsenic | DF: 0 | Metal: Cadmium | DF: 0 | Metal: Zinc | DF: 0 | Metal: Iron | DF: 0 | Etc. | | <p>Look up the limit calculated at the corresponding dilution factor in Appendix IV. Do any of the metals in the influent have the potential to exceed the corresponding effluent limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y <input checked="" type="radio"/> N <input type="radio"/> If Y, list which metals: Arsenic, Cadmium, Copper, Zinc, and Iron</p> |
| Metal: Arsenic | DF: 0 | | | | | | | | | | |
| Metal: Cadmium | DF: 0 | | | | | | | | | | |
| Metal: Zinc | DF: 0 | | | | | | | | | | |
| Metal: Iron | DF: 0 | | | | | | | | | | |
| Etc. | | | | | | | | | | | |

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

| | | | | | | |
|---|---|---|--|--|---|--|
| <p>a) A description of the treatment system, including a schematic of the proposed or existing treatment system:</p> <p>A 10,000 gallon settling tank, with bag filter(s) and an ion exchange system/cyanide treatment system in series</p> | | | | | | |
| <p>b) Identify each applicable treatment unit (check all that apply):</p> | <p>Frac. tank <input checked="" type="checkbox"/></p> | <p>Air stripper <input type="checkbox"/></p> | <p>Oil/water separator <input type="checkbox"/></p> | <p>Equalization tanks <input type="checkbox"/></p> | <p>Bag filter <input checked="" type="checkbox"/></p> | <p>GAC filter <input type="checkbox"/></p> |
| | <p>Chlorination <input type="checkbox"/></p> | <p>De-chlorination <input type="checkbox"/></p> | <p>Other (please describe): ion exchange system/cyanide treatment system</p> | | | |

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

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

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

| | | | | | |
|------------------------------------|---|--|--------------------------------------|-----------------------------------|---|
| a) Identify the discharge pathway: | Direct to receiving water <input checked="" type="checkbox"/> | Within facility (sewer) <input type="checkbox"/> | Storm drain <input type="checkbox"/> | Wetlands <input type="checkbox"/> | Other (describe): <input type="text"/> |
|------------------------------------|---|--|--------------------------------------|-----------------------------------|---|

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

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

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

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

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

6. ESA and NHPA Eligibility.

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

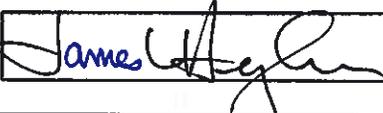
- a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?
A B C D E F
- b) If you selected Criterion D or F, has consultation with the federal services been completed? Y N Underway
- c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received? Y N
- d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.
- e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?
1 2 3
- f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

7. Supplemental information.

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

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

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

| | |
|-----------------------|--|
| Facility/Site Name: | Fan Pier Parcel C |
| Operator signature: | |
| Printed Name & Title: |  SENIOR Project Manager |
| Date: | 7/9/13 James Heighton |



APPENDIX C

RESULTS OF RECENT GROUNDWATER ANALYSIS

On June 11, 2013, McPhail Associates, LLC obtained samples of groundwater from on-site monitoring wells C8(OW) and C23(OW) and submitted the samples to a certified laboratory for analysis for the presence of parameters required under the EPA's Remediation General Permit (RGP) application, including pH, total suspended solids (TSS), total residual chlorine, total petroleum hydrocarbons (TPH), cyanide, volatile organic compounds (VOCs) including total benzene, toluene, ethylbenzene and xylenes (BTEX), polyaromatic hydrocarbons (PAHs), total phenols, PCBs, and total recoverable metals.

The results of the laboratory analysis are summarized in Table 1 included in Appendix C. The results of laboratory analysis indicate the following:

1. **pH:** The tested samples exhibited pH levels of 6.1 and 7.2 Standard Units (S.U.). The level of 6.1 is outside the recommended range of 6.5 to 8.3 S.U. for discharge into salt water.
2. **TSS:** Total suspended solids (TSS) were detected in the tested samples at concentrations below the method detection limit and 18 milligrams per liter (mg/l). The detected level of TSS is considered to be attributable to the disturbance of suspended solids in the monitoring wells during development of the wells and subsequent sampling. However, it should be noted that groundwater will be pre-treated by passing through a sediment tank and bag filters prior to discharge in order to reduce the concentration of TSS in the effluent.
3. **VOCs:** The groundwater samples indicated no detected levels of any of the target VOCs, including BTEX.
4. **TPH:** Laboratory analysis of the groundwater samples indicated no detectable levels of TPH.
5. **PAHs and Total Phenols:** The laboratory reported no detectable levels of Group 1 PAHs. Group II PAHs were detected at a concentration of 1.74 micrograms per liter (ug/l), which is below the upper limit of 10 ug/l established by the EPA. Naphthalene was detected at a concentration of 0.61 ug/l, which is below the upper limit of 20 ug/l established by the EPA. Total Phenols were not detected in either groundwater sample.
6. **PCBs:** The laboratory results indicated no detectable levels of PCBs.



7. **Cyanide:** Cyanide was detected at a concentration of 8 ug/l which exceeds the RGP effluent limit of 1 ug/l. As a result of the exceedance, a system designed to treat cyanide contaminated water which may include but is not limited to ion exchange, precipitation and flocculation, and absorption will be implemented prior to discharge.

8. **Total Metals:** The laboratory reported no detectable levels of antimony, chromium III, chromium VI, lead, mercury, selenium or silver in the submitted samples of groundwater. Levels of arsenic, cadmium, copper, nickel, zinc and iron were detected at maximum concentrations of 10.57 ug/l, 3.05 ug/l, 13.45 ug/l, 15.57 ug/l, 4.5 ug/l, 241.5 ug/l and 6,300 ug/l, respectively. The detected level of nickel is below the EPA effluent limits of 29 ug/l for discharge to a salt water body.

The detected levels of arsenic, cadmium, copper, zinc and iron exceed the EPA effluent limits of 10 ug/l, 3 ug/l, 5.2 ug/l, 66.6 ug/l and 1,000 ug/l, respectively, for discharge into a salt water body. As noted above, TSS reduction measures and cyanide treatment measures will be implemented prior to discharge to reduce the concentration of TSS and cyanide in the effluent. It is anticipated these treatment measures will also reduce the arsenic, cadmium, copper, zinc and iron concentrations in the effluent.

TABLE 1

ANALYTICAL TEST RESULTS--GROUNDWATER NOVEMBER 2012

Fan Pier Parcel C;
Boston, Massachusetts
Project Number 4426

| LOCATION | | RGP Limits (Saltwater) | Units | C8-OW | C23 (OW) |
|---------------|-------------------------------------|---------------------------|-------|-------------|-------------|
| SAMPLING DATE | | | | 6/11/2013 | 6/11/2013 |
| LAB SAMPLE ID | | | | L1310626-01 | L1310628-01 |
| 1 | Solids, Total Suspended | 30 | mg/l | ND(5) | 18 |
| | pH (H) | 6.5-8.3 | SU | 6.1 | 7.2 |
| 2 | Total Residual Chlorine | 7.5 | ug/l | ND(20) | ND(20) |
| 3 | TPH | 5000 | ug/l | ND(4000) | ND(4000) |
| 4 | Total Cyanide | 1 | ug/l | 8 | ND(5) |
| 5 | Benzene | Total BTEX | ug/l | ND(1) | ND(1) |
| 6 | Toluene | Total BTEX | ug/l | ND(1) | ND(1) |
| 7 | Ethylbenzene | Total BTEX | ug/l | ND(1) | ND(1) |
| 8 | Xylene (Total) | Total BTEX | ug/l | ND(2) | ND(2) |
| 9 | Total BTEX | 100 | ug/l | ND | ND |
| 10 | 1,2-Dibromoethane | 0.05 | ug/l | ND(0.01) | ND(0.01) |
| 11 | Methyl tert butyl ether | 70 | ug/l | ND(10) | ND(10) |
| 12 | Tert-Butyl Alcohol | Monitor Only | ug/l | ND(100) | ND(100) |
| 13 | Tertiary-Amyl Methyl Ether | Monitor Only | ug/l | ND(20) | ND(20) |
| 14 | Naphthalene | 20 | ug/l | ND(0.2) | 0.61 |
| 15 | Carbon tetrachloride | 4.44 | ug/l | ND(1) | ND(1) |
| 16 | 1,2-Dichlorobenzene | 600 | ug/l | ND(5) | ND(5) |
| 17 | 1,3-Dichlorobenzene | 320 | ug/l | ND(5) | ND(5) |
| 18 | 1,4-Dichlorobenzene | 5 | ug/l | ND(5) | ND(5) |
| 19 | 1,1-Dichloroethane | 70 | ug/l | ND(1.5) | ND(1.5) |
| 20 | 1,2-Dichloroethane | 5 | ug/l | ND(1.5) | ND(1.5) |
| 21 | 1,1-Dichloroethene | 3.2 | ug/l | ND(1) | ND(1) |
| 22 | cis-1,2-Dichloroethene | 70 | ug/l | ND(1) | ND(1) |
| 23 | Methylene chloride | 4.6 | ug/l | ND(5) | ND(5) |
| 24 | Tetrachloroethene | 5 | ug/l | ND(1.5) | ND(1.5) |
| 25 | 1,1,1-Trichloroethane | 200 | ug/l | ND(2) | ND(2) |
| 26 | 1,1,2-Trichloroethane | 5 | ug/l | ND(1.5) | ND(1.5) |
| 27 | Trichloroethene | 5 | ug/l | ND(1) | ND(1) |
| 28 | Vinyl chloride | 2 | ug/l | ND(2) | ND(2) |
| 29 | Acetone | Monitor Only | ug/l | ND(10) | 13 |
| 30 | 1,4-Dioxane | Monitor Only | ug/l | ND(2000) | ND(2000) |
| 31 | Total Phenolics | 300 | ug/l | ND(30) | ND(30) |
| 32 | Pentachlorophenol | 1 | ug/l | ND(0.8) | ND(0.8) |
| 33 | Total Phthalates (Phthalate esters) | 3 | ug/l | ND(5) | ND(5) |
| 34 | Bis(2-ethylhexyl)phthalate | 6 | ug/l | ND(3) | ND(3) |
| 35 | Total Group I PAHs | 10 | ug/l | ND | ND |
| a | Benzo(a)anthracene | 0.0038 | ug/l | ND(0.2) | ND(0.2) |
| b | Benzo(a)pyrene | 0.0038 | ug/l | ND(0.2) | ND(0.2) |
| c | Benzo(b)fluoranthene | 0.0038 | ug/l | ND(0.2) | ND(0.2) |
| d | Benzo(k)fluoranthene | 0.0038 | ug/l | ND(0.2) | ND(0.2) |
| e | Chrysene | 0.0038 | ug/l | ND(0.2) | ND(0.2) |
| f | Dibenzo(a,h)anthracene | 0.0038 | ug/l | ND(0.2) | ND(0.2) |
| g | Indeno(1,2,3-cd)Pyrene | 0.0038 | ug/l | ND(0.2) | ND(0.2) |
| 36 | Total Group II PAHs | 10 | ug/l | ND | 1.74 |

Shading indicates an exceedence of the RGP Standards
ND--not detected above laboratory detection limit

TABLE 1

ANALYTICAL TEST RESULTS--GROUNDWATER NOVEMBER 2012

Fan Pier Parcel C;
Boston, Massachusetts
Project Number 4426

| LOCATION | | RGP Limits (Saltwater) | Units | C8-OW | C23 (OW) |
|---------------------------------------|----------------------|---------------------------|-------|-------------|-------------|
| SAMPLING DATE | | | | 6/11/2013 | 6/11/2013 |
| LAB SAMPLE ID | | | | L1310626-01 | L1310628-01 |
| h | Acenaphthene | Total Group II PAH | ug/l | ND(0.2) | 0.45 |
| i | Acenaphthylene | Total Group II PAH | ug/l | ND(0.2) | ND(0.2) |
| j | Anthracene | Total Group II PAH | ug/l | ND(0.2) | ND(0.2) |
| k | Benzo(ghi)perylene | Total Group II PAH | ug/l | ND(0.2) | ND(0.2) |
| l | Fluoranthene | Total Group II PAH | ug/l | ND(0.2) | ND(0.2) |
| m | Fluorene | Total Group II PAH | ug/l | ND(0.2) | 0.3 |
| n | Naphthalene | 20 | ug/l | ND(0.2) | 0.61 |
| o | Phenanthrene | Total Group II PAH | ug/l | ND(0.2) | 0.38 |
| p | Pyrene | Total Group II PAH | ug/l | ND(0.2) | ND(0.2) |
| 37 | Total PCBs | 0.000046 | ug/l | ND | ND |
| 38 | Chloride | Monitor Only | ug/l | 1850000 | 1570000 |
| Total Recoverable Metal Limits | | | | | |
| 39 | Antimony, Total | 5.6 | ug/l | ND(5) | ND(5) |
| 40 | Arsenic, Total | 36 | ug/l | ND(5) | 10.57 |
| 41 | Cadmium, Total | 8.9 | ug/l | 3.05 | ND(2) |
| 42 | Chromium, Trivalent | 100 | ug/l | ND(10) | ND(10) |
| 43 | Chromium, Hexavalent | 50.3 | ug/l | ND(10) | ND(10) |
| 44 | Copper, Total | 3.7 | ug/l | 13.45 | ND(10) |
| 45 | Lead, Total | 8.5 | ug/l | ND(5) | ND(5) |
| 46 | Mercury, Total | 1.1 | ug/l | ND(0.2) | ND(0.2) |
| 47 | Nickel, Total | 8.2 | ug/l | 15.57 | ND(5) |
| 48 | Selenium, Total | 71 | ug/l | ND(50) | ND(50) |
| 49 | Silver, Total | 2.2 | ug/l | ND(4) | ND(4) |
| 50 | Zinc, Total | 85.6 | ug/l | 241.5 | ND(100) |
| 51 | Iron, Total | 1000 | ug/l | 190 | 6300 |

Shading indicates an exceedence of the RGP Standards
ND--not detected above laboratory detection limit



ANALYTICAL REPORT

| | |
|-----------------|--|
| Lab Number: | L1310626 |
| Client: | McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140 |
| ATTN: | Ambrose Donovan |
| Phone: | (617) 868-1420 |
| Project Name: | FAN PIER PARCEL C |
| Project Number: | 4426.9.12 |
| Report Date: | 06/17/13 |

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), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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



Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|----------------------------|------------------|----------------------------|---------------------------------|
| L1310626-01 | C8-OW | BOSTON, MA | 06/11/13 13:15 |
| L1310626-02 | TRIP BLANK | BOSTON, MA | 06/11/13 00:00 |

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for 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 free of charge for 30 days from the date the project is completed. After 30 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.

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

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

Case Narrative (continued)

Sample Receipt

A Trip Blank was received in the laboratory but not listed on the Chain of Custody. At the client's request, the Trip Blank was not analyzed.

Volatile Organics

The QC Check Standard recoveries, associated with L1310626-01, were above the acceptance criteria for Carbon tetrachloride (144%) and 1,1,1-Trichloroethane (131%); however, the associated sample was non-detect for these target compounds. The results of the original analysis are reported.

The WG614272-7 LCS recovery, associated with L1310626-01, was above the acceptance criteria for Carbon tetrachloride (144%); however, the associated sample was non-detect for this target compound. The results of the original analysis are reported.

The WG614272-7 LCS recoveries for 1,2-Dichloroethane (112%), 1,1,1-Trichloroethane (131%), Tertiary-Amyl Methyl Ether (128%) , 1,1,2-Trichloroethane (78%) and Toluene (81%), associated with L1310626-01, are outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method.

Metals

L1310626-01 has elevated detection limits for all analytes, except Iron and Mercury, due to the dilution required by matrix interferences encountered during 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:

 Michelle M. Morris

Title: Technical Director/Representative

Date: 06/17/13

ORGANICS

VOLATILES

Project Name: FAN PIER PARCEL C**Lab Number:** L1310626**Project Number:** 4426.9.12**Report Date:** 06/17/13**SAMPLE RESULTS**

Lab ID: L1310626-01
Client ID: C8-OW
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 06/12/13 23:11
Analyst: SR

Date Collected: 06/11/13 13:15
Date Received: 06/11/13
Field Prep: Not Specified
Extraction Date: 06/12/13 10:15

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

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

SAMPLE RESULTS

Lab ID: L1310626-01
 Client ID: C8-OW
 Sample Location: BOSTON, MA
 Matrix: Water
 Analytical Method: 5,624
 Analytical Date: 06/12/13 17:04
 Analyst: TR

Date Collected: 06/11/13 13:15
 Date Received: 06/11/13
 Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.5 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.5 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.5 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.5 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 2.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene ¹ | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 1 |
| p/m-Xylene ¹ | ND | | ug/l | 2.0 | -- | 1 |
| o-xylene ¹ | ND | | ug/l | 1.0 | -- | 1 |
| Acetone ¹ | ND | | ug/l | 10 | -- | 1 |
| Methyl tert butyl Ether ¹ | ND | | ug/l | 10 | -- | 1 |
| 1,4-Dioxane ¹ | ND | | ug/l | 2000 | -- | 1 |
| Tert-Butyl Alcohol ¹ | ND | | ug/l | 100 | -- | 1 |
| Tertiary-Amyl Methyl Ether ¹ | ND | | ug/l | 20 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| Pentafluorobenzene | 107 | | 80-120 |
| Fluorobenzene | 101 | | 80-120 |
| 4-Bromofluorobenzene | 111 | | 80-120 |

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,624
Analytical Date: 06/12/13 12:26
Analyst: TR

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|------|-----|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG614272-8 | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.5 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.5 | -- |
| Tetrachloroethene | ND | | ug/l | 1.5 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.5 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 2.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethylbenzene | ND | | ug/l | 1.0 | -- |
| Vinyl chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene ¹ | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 5.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 5.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 5.0 | -- |
| p/m-Xylene ¹ | ND | | ug/l | 2.0 | -- |
| o-xylene ¹ | ND | | ug/l | 1.0 | -- |
| Acetone ¹ | ND | | ug/l | 10 | -- |
| Methyl tert butyl Ether ¹ | ND | | ug/l | 10 | -- |
| 1,4-Dioxane ¹ | ND | | ug/l | 2000 | -- |
| Tert-Butyl Alcohol ¹ | ND | | ug/l | 100 | -- |
| Tertiary-Amyl Methyl Ether ¹ | ND | | ug/l | 20 | -- |

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,624

Analytical Date: 06/12/13 12:26

Analyst: TR

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

| | | | | | |
|--|--|--|--|--|--|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG614272-8 | | | | | |
|--|--|--|--|--|--|

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|----------------------|-----------|-----------|------------------------|
| Pentafluorobenzene | 105 | | 80-120 |
| Fluorobenzene | 101 | | 80-120 |
| 4-Bromofluorobenzene | 114 | | 80-120 |

Project Name: FAN PIER PARCEL C**Lab Number:** L1310626**Project Number:** 4426.9.12**Report Date:** 06/17/13**Method Blank Analysis
Batch Quality Control**

Analytical Method: 14,504.1

Analytical Date: 06/12/13 21:07

Analyst: SR

Extraction Date: 06/12/13 10:15

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|-------|-----|
| Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG614442-1 | | | | | |
| 1,2-Dibromoethane | ND | | ug/l | 0.010 | -- |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| 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: WG614272-7 | | | | | | | | |
| Methylene chloride | 100 | | - | | 70-111 | - | | 30 |
| 1,1-Dichloroethane | 87 | | - | | 78-116 | - | | 30 |
| Chloroform | 109 | | - | | 86-111 | - | | 30 |
| Carbon tetrachloride | 144 | Q | - | | 60-112 | - | | 30 |
| 1,2-Dichloropropane | 94 | | - | | 83-113 | - | | 30 |
| Dibromochloromethane | 101 | | - | | 58-129 | - | | 30 |
| 1,1,2-Trichloroethane | 78 | Q | - | | 80-118 | - | | 30 |
| 2-Chloroethylvinyl ether | 73 | | - | | 69-124 | - | | 30 |
| Tetrachloroethene | 86 | | - | | 80-126 | - | | 30 |
| Chlorobenzene | 108 | | - | | 80-126 | - | | 30 |
| Trichlorofluoromethane | 114 | | - | | 83-128 | - | | 30 |
| 1,2-Dichloroethane | 112 | Q | - | | 82-110 | - | | 30 |
| 1,1,1-Trichloroethane | 131 | Q | - | | 72-109 | - | | 30 |
| Bromodichloromethane | 115 | | - | | 71-120 | - | | 30 |
| trans-1,3-Dichloropropene | 84 | | - | | 73-106 | - | | 30 |
| cis-1,3-Dichloropropene | 88 | | - | | 78-111 | - | | 30 |
| Bromoform | 125 | | - | | 45-131 | - | | 30 |
| 1,1,1,2-Tetrachloroethane | 100 | | - | | 81-122 | - | | 30 |
| Benzene | 99 | | - | | 84-116 | - | | 30 |
| Toluene | 81 | Q | - | | 83-121 | - | | 30 |
| Ethylbenzene | 113 | | - | | 84-123 | - | | 30 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|---|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG614272-7 | | | | | | | | |
| Chloromethane | 73 | | - | | 70-144 | - | | 30 |
| Bromomethane | 92 | | - | | 63-141 | - | | 30 |
| Vinyl chloride | 90 | | - | | 56-118 | - | | 30 |
| Chloroethane | 93 | | - | | 74-130 | - | | 30 |
| 1,1-Dichloroethene | 106 | | - | | 77-116 | - | | 30 |
| trans-1,2-Dichloroethene | 110 | | - | | 81-121 | - | | 30 |
| cis-1,2-Dichloroethene ¹ | 98 | | - | | 85-110 | - | | 30 |
| Trichloroethene | 103 | | - | | 84-118 | - | | 30 |
| 1,2-Dichlorobenzene | 112 | | - | | 78-128 | - | | 30 |
| 1,3-Dichlorobenzene | 112 | | - | | 77-125 | - | | 30 |
| 1,4-Dichlorobenzene | 113 | | - | | 77-125 | - | | 30 |
| p/m-Xylene ¹ | 114 | | - | | 81-121 | - | | 30 |
| o-Xylene ¹ | 112 | | - | | 81-124 | - | | 30 |
| Xylene (Total) ¹ | 114 | | - | | 81-122 | - | | 30 |
| Styrene ¹ | 111 | | - | | 84-133 | - | | 30 |
| Acetone ¹ | 103 | | - | | 40-160 | - | | 30 |
| Carbon disulfide ¹ | 98 | | - | | 54-134 | - | | 30 |
| 2-Butanone ¹ | 90 | | - | | 57-116 | - | | 30 |
| Vinyl acetate ¹ | 85 | | - | | 40-160 | - | | 30 |
| 4-Methyl-2-pentanone ¹ | 75 | Q | - | | 79-125 | - | | 30 |
| 2-Hexanone ¹ | 69 | Q | - | | 78-120 | - | | 30 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|---|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG614272-7 | | | | | | | | |
| Acrolein ¹ | 68 | | - | | 40-160 | - | | 30 |
| Acrylonitrile ¹ | 91 | | - | | 66-123 | - | | 30 |
| Methyl tert butyl ether ¹ | 114 | | - | | 57-126 | - | | 30 |
| Dibromomethane ¹ | 98 | | - | | 65-126 | - | | 30 |
| 1,4-Dioxane ¹ | 77 | | - | | 74-121 | - | | 30 |
| tert-Butyl Alcohol ¹ | 102 | | - | | 52-114 | - | | 30 |
| Tertiary-Amyl Methyl Ether ¹ | 128 | Q | - | | 66-111 | - | | 30 |

| Surrogate | LCS | | LCSD | | Acceptance Criteria |
|----------------------|-----------|------|-----------|------|---------------------|
| | %Recovery | Qual | %Recovery | Qual | |
| Pentafluorobenzene | 107 | | | | 80-120 |
| Fluorobenzene | 102 | | | | 80-120 |
| 4-Bromofluorobenzene | 111 | | | | 80-120 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Microextractables by GC - Westborough Lab Associated sample(s): 01 Batch: WG614442-2 | | | | | | | | |
| 1,2-Dibromoethane | 102 | | - | | 70-130 | - | | 20 |

Matrix Spike Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614272-6 QC Sample: L1310510-01 Client ID: MS Sample | | | | | | | | | | | | |
| Methylene chloride | ND | 20 | 20 | 100 | | - | - | | 70-111 | - | | 30 |
| 1,1-Dichloroethane | ND | 20 | 18 | 90 | | - | - | | 78-116 | - | | 30 |
| Chloroform | ND | 20 | 23 | 116 | Q | - | - | | 86-111 | - | | 30 |
| Carbon tetrachloride | ND | 20 | 34 | 171 | Q | - | - | | 60-112 | - | | 30 |
| 1,2-Dichloropropane | ND | 20 | 20 | 99 | | - | - | | 83-113 | - | | 30 |
| Dibromochloromethane | ND | 20 | 24 | 118 | | - | - | | 58-129 | - | | 30 |
| 1,1,2-Trichloroethane | ND | 20 | 16 | 83 | | - | - | | 80-118 | - | | 30 |
| 2-Chloroethylvinyl ether | ND | 20 | 16 | 80 | | - | - | | 69-124 | - | | 30 |
| Tetrachloroethene | ND | 20 | 18 | 92 | | - | - | | 80-126 | - | | 30 |
| Chlorobenzene | ND | 20 | 23 | 116 | | - | - | | 80-126 | - | | 30 |
| Trichlorofluoromethane | ND | 20 | 25 | 124 | | - | - | | 83-128 | - | | 30 |
| 1,2-Dichloroethane | ND | 20 | 23 | 117 | Q | - | - | | 82-110 | - | | 30 |
| 1,1,1-Trichloroethane | ND | 20 | 30 | 149 | Q | - | - | | 72-109 | - | | 30 |
| Bromodichloromethane | ND | 20 | 26 | 130 | Q | - | - | | 71-120 | - | | 30 |
| trans-1,3-Dichloropropene | ND | 20 | 19 | 96 | | - | - | | 73-106 | - | | 30 |
| cis-1,3-Dichloropropene | ND | 20 | 18 | 92 | | - | - | | 78-111 | - | | 30 |
| Bromoform | ND | 20 | 30 | 149 | Q | - | - | | 45-131 | - | | 30 |
| 1,1,2,2-Tetrachloroethane | ND | 20 | 23 | 114 | | - | - | | 81-122 | - | | 30 |
| Benzene | ND | 20 | 20 | 103 | | - | - | | 84-116 | - | | 30 |
| Toluene | ND | 20 | 17 | 85 | | - | - | | 83-121 | - | | 30 |
| Ethylbenzene | ND | 20 | 24 | 122 | | - | - | | 84-123 | - | | 30 |

Matrix Spike Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614272-6 QC Sample: L1310510-01 Client ID: MS Sample | | | | | | | | | | | | |
| Chloromethane | ND | 20 | 16 | 78 | | - | - | | 70-144 | - | | 30 |
| Bromomethane | ND | 20 | 14 | 68 | | - | - | | 63-141 | - | | 30 |
| Vinyl chloride | ND | 20 | 18 | 90 | | - | - | | 56-118 | - | | 30 |
| Chloroethane | ND | 20 | 19 | 97 | | - | - | | 74-130 | - | | 30 |
| 1,1-Dichloroethene | ND | 20 | 22 | 108 | | - | - | | 77-116 | - | | 30 |
| trans-1,2-Dichloroethene | ND | 20 | 21 | 107 | | - | - | | 81-121 | - | | 30 |
| cis-1,2-Dichloroethene ¹ | ND | 20 | 20 | 100 | | - | - | | 85-110 | - | | 30 |
| Trichloroethene | ND | 20 | 22 | 109 | | - | - | | 84-118 | - | | 30 |
| 1,2-Dichlorobenzene | ND | 20 | 23 | 117 | | - | - | | 78-128 | - | | 30 |
| 1,3-Dichlorobenzene | ND | 20 | 23 | 117 | | - | - | | 77-125 | - | | 30 |
| 1,4-Dichlorobenzene | ND | 20 | 24 | 118 | | - | - | | 77-125 | - | | 30 |
| p/m-Xylene ¹ | ND | 40 | 49 | 123 | Q | - | - | | 81-121 | - | | 30 |
| o-Xylene ¹ | ND | 20 | 24 | 120 | | - | - | | 81-124 | - | | 30 |
| Xylene (Total) ¹ | ND | 60 | 73 | 122 | | - | - | | 81-122 | - | | 30 |
| Styrene ¹ | ND | 20 | 24 | 119 | | - | - | | 84-133 | - | | 30 |
| Acetone ¹ | ND | 50 | 52 | 104 | | - | - | | 40-160 | - | | 30 |
| Carbon disulfide ¹ | ND | 20 | 19 | 94 | | - | - | | 54-134 | - | | 30 |
| 2-Butanone ¹ | ND | 50 | 40 | 79 | | - | - | | 57-116 | - | | 30 |
| Vinyl acetate ¹ | ND | 40 | 29 | 74 | | - | - | | 40-160 | - | | 30 |
| 4-Methyl-2-pentanone ¹ | ND | 50 | 38 | 77 | Q | - | - | | 79-125 | - | | 30 |
| 2-Hexanone ¹ | ND | 50 | 38 | 76 | Q | - | - | | 78-120 | - | | 30 |

Matrix Spike Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614272-6 QC Sample: L1310510-01 Client ID: MS Sample | | | | | | | | | | | | |
| Acrolein ¹ | ND | 40 | 20 | 50 | | - | - | | 40-160 | - | | 30 |
| Acrylonitrile ¹ | ND | 40 | 37 | 93 | | - | - | | 66-123 | - | | 30 |
| Dibromomethane ¹ | ND | 20 | 20 | 101 | | - | - | | 65-126 | - | | 30 |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria |
|----------------------|---------------|--------------|----------------|---------------|---------------------|
| 4-Bromofluorobenzene | 108 | | | | 80-120 |
| Fluorobenzene | 97 | | | | 80-120 |
| Pentafluorobenzene | 103 | | | | 80-120 |

Microextractables by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614442-3 QC Sample: L1310247-02 Client ID: MS Sample

| | | | | | | | | | | | | |
|-------------------|----|------|-------|-----|--|---|---|--|--------|---|--|----|
| 1,2-Dibromoethane | ND | 0.27 | 0.276 | 102 | | - | - | | 70-130 | - | | 20 |
|-------------------|----|------|-------|-----|--|---|---|--|--------|---|--|----|

Lab Duplicate Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Project Number: 4426.9.12

Lab Number: L1310626

Report Date: 06/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614272-5 QC Sample: L1310510-01 Client ID: DUP Sample | | | | | | |
| Methylene chloride | ND | ND | ug/l | NC | | 30 |
| 1,1-Dichloroethane | ND | ND | ug/l | NC | | 30 |
| Chloroform | ND | ND | ug/l | NC | | 30 |
| Carbon tetrachloride | ND | ND | ug/l | NC | | 30 |
| 1,2-Dichloropropane | ND | ND | ug/l | NC | | 30 |
| Dibromochloromethane | ND | ND | ug/l | NC | | 30 |
| 1,1,2-Trichloroethane | ND | ND | ug/l | NC | | 30 |
| 2-Chloroethylvinyl ether | ND | ND | ug/l | NC | | 30 |
| Tetrachloroethene | ND | ND | ug/l | NC | | 30 |
| Chlorobenzene | ND | ND | ug/l | NC | | 30 |
| Trichlorofluoromethane | ND | ND | ug/l | NC | | 30 |
| 1,2-Dichloroethane | ND | ND | ug/l | NC | | 30 |
| 1,1,1-Trichloroethane | ND | ND | ug/l | NC | | 30 |
| Bromodichloromethane | ND | ND | ug/l | NC | | 30 |
| trans-1,3-Dichloropropene | ND | ND | ug/l | NC | | 30 |
| cis-1,3-Dichloropropene | ND | ND | ug/l | NC | | 30 |
| Bromoform | ND | ND | ug/l | NC | | 30 |
| 1,1,2,2-Tetrachloroethane | ND | ND | ug/l | NC | | 30 |
| Benzene | ND | ND | ug/l | NC | | 30 |

Lab Duplicate Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Project Number: 4426.9.12

Lab Number: L1310626

Report Date: 06/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits |
|--|---------------|------------------|-------|-----|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614272-5 QC Sample: L1310510-01 Client ID: DUP Sample | | | | | |
| Toluene | ND | ND | ug/l | NC | 30 |
| Ethylbenzene | ND | ND | ug/l | NC | 30 |
| Chloromethane | ND | ND | ug/l | NC | 30 |
| Bromomethane | ND | ND | ug/l | NC | 30 |
| Vinyl chloride | ND | ND | ug/l | NC | 30 |
| Chloroethane | ND | ND | ug/l | NC | 30 |
| 1,1-Dichloroethene | ND | ND | ug/l | NC | 30 |
| trans-1,2-Dichloroethene | ND | ND | ug/l | NC | 30 |
| cis-1,2-Dichloroethene ¹ | ND | ND | ug/l | NC | 30 |
| Trichloroethene | ND | ND | ug/l | NC | 30 |
| 1,2-Dichlorobenzene | ND | ND | ug/l | NC | 30 |
| 1,3-Dichlorobenzene | ND | ND | ug/l | NC | 30 |
| 1,4-Dichlorobenzene | ND | ND | ug/l | NC | 30 |
| p/m-Xylene ¹ | ND | ND | ug/l | NC | 30 |
| o-Xylene ¹ | ND | ND | ug/l | NC | 30 |
| Xylene (Total) ¹ | ND | ND | ug/l | NC | 30 |
| Styrene ¹ | ND | ND | ug/l | NC | 30 |
| Acetone ¹ | ND | ND | ug/l | NC | 30 |
| Carbon disulfide ¹ | ND | ND | ug/l | NC | 30 |

Lab Duplicate Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Project Number: 4426.9.12

Lab Number: L1310626

Report Date: 06/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits |
|--|---------------|------------------|-------|-----|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614272-5 QC Sample: L1310510-01 Client ID: DUP Sample | | | | | |
| 2-Butanone ¹ | ND | ND | ug/l | NC | 30 |
| Vinyl acetate ¹ | ND | ND | ug/l | NC | 30 |
| 4-Methyl-2-pentanone ¹ | ND | ND | ug/l | NC | 30 |
| 2-Hexanone ¹ | ND | ND | ug/l | NC | 30 |
| Acrolein ¹ | ND | ND | ug/l | NC | 30 |
| Acrylonitrile ¹ | ND | ND | ug/l | NC | 30 |
| Dibromomethane ¹ | ND | ND | ug/l | NC | 30 |

| Surrogate | %Recovery | Qualifier | %Recovery | Qualifier | Acceptance Criteria |
|----------------------|-----------|-----------|-----------|-----------|---------------------|
| Pentafluorobenzene | 105 | | 103 | | 80-120 |
| Fluorobenzene | 101 | | 98 | | 80-120 |
| 4-Bromofluorobenzene | 114 | | 108 | | 80-120 |

SEMIVOLATILES

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

SAMPLE RESULTS

Lab ID: L1310626-01
 Client ID: C8-OW
 Sample Location: BOSTON, MA
 Matrix: Water
 Analytical Method: 1,8270D
 Analytical Date: 06/14/13 00:28
 Analyst: RC

Date Collected: 06/11/13 13:15
 Date Received: 06/11/13
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/12/13 00:43

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

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol | 38 | | 21-120 |
| Phenol-d6 | 25 | | 10-120 |
| Nitrobenzene-d5 | 59 | | 23-120 |
| 2-Fluorobiphenyl | 63 | | 15-120 |
| 2,4,6-Tribromophenol | 71 | | 10-120 |
| 4-Terphenyl-d14 | 67 | | 41-149 |

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

SAMPLE RESULTS

Lab ID: L1310626-01
 Client ID: C8-OW
 Sample Location: BOSTON, MA
 Matrix: Water
 Analytical Method: 1,8270D-SIM
 Analytical Date: 06/13/13 10:50
 Analyst: AS

Date Collected: 06/11/13 13:15
 Date Received: 06/11/13
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/12/13 00:43

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|--------|-----------|-------|------|-----|-----------------|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab | | | | | | |
| Acenaphthene | ND | | ug/l | 0.20 | -- | 1 |
| Fluoranthene | ND | | ug/l | 0.20 | -- | 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 |
| Pentachlorophenol | ND | | ug/l | 0.80 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol | 36 | | 21-120 |
| Phenol-d6 | 24 | | 10-120 |
| Nitrobenzene-d5 | 64 | | 23-120 |
| 2-Fluorobiphenyl | 70 | | 15-120 |
| 2,4,6-Tribromophenol | 80 | | 10-120 |
| 4-Terphenyl-d14 | 71 | | 41-149 |

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270D
Analytical Date: 06/13/13 23:06
Analyst: RC

Extraction Method: EPA 3510C
Extraction Date: 06/12/13 00:43

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|-----|-----|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG614344-1 | | | | | |
| 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 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|----------------------|-----------|-----------|------------------------|
| 2-Fluorophenol | 36 | | 21-120 |
| Phenol-d6 | 23 | | 10-120 |
| Nitrobenzene-d5 | 52 | | 23-120 |
| 2-Fluorobiphenyl | 52 | | 15-120 |
| 2,4,6-Tribromophenol | 64 | | 10-120 |
| 4-Terphenyl-d14 | 69 | | 41-149 |

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 06/13/13 14:13
Analyst: AS

Extraction Method: EPA 3510C
Extraction Date: 06/12/13 00:43

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|------|-----|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG614345-1 | | | | | |
| Acenaphthene | ND | | ug/l | 0.20 | -- |
| Fluoranthene | ND | | ug/l | 0.20 | -- |
| 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 | -- |
| Pentachlorophenol | ND | | ug/l | 0.80 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|----------------------|-----------|-----------|---------------------|
| 2-Fluorophenol | 39 | | 21-120 |
| Phenol-d6 | 25 | | 10-120 |
| Nitrobenzene-d5 | 67 | | 23-120 |
| 2-Fluorobiphenyl | 53 | | 15-120 |
| 2,4,6-Tribromophenol | 60 | | 10-120 |
| 4-Terphenyl-d14 | 66 | | 41-149 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| 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: WG614344-2 WG614344-3 | | | | | | | | |
| Benzidine | 34 | | 22 | | 10-75 | 43 | Q | 30 |
| 1,2,4-Trichlorobenzene | 44 | | 62 | | 39-98 | 34 | Q | 30 |
| Bis(2-chloroethyl)ether | 59 | | 73 | | 40-140 | 21 | | 30 |
| 1,2-Dichlorobenzene | 41 | | 56 | | 40-140 | 31 | Q | 30 |
| 1,3-Dichlorobenzene | 39 | Q | 54 | | 40-140 | 32 | Q | 30 |
| 1,4-Dichlorobenzene | 40 | | 57 | | 36-97 | 35 | Q | 30 |
| 3,3'-Dichlorobenzidine | 79 | | 82 | | 40-140 | 4 | | 30 |
| 2,4-Dinitrotoluene | 88 | | 93 | | 24-96 | 6 | | 30 |
| 2,6-Dinitrotoluene | 85 | | 91 | | 40-140 | 7 | | 30 |
| Azobenzene | 81 | | 89 | | 40-140 | 9 | | 30 |
| 4-Chlorophenyl phenyl ether | 74 | | 84 | | 40-140 | 13 | | 30 |
| 4-Bromophenyl phenyl ether | 79 | | 84 | | 40-140 | 6 | | 30 |
| Bis(2-chloroisopropyl)ether | 60 | | 77 | | 40-140 | 25 | | 30 |
| Bis(2-chloroethoxy)methane | 65 | | 81 | | 40-140 | 22 | | 30 |
| Hexachlorocyclopentadiene | 22 | Q | 34 | Q | 40-140 | 43 | Q | 30 |
| Isophorone | 67 | | 80 | | 40-140 | 18 | | 30 |
| Nitrobenzene | 64 | | 78 | | 40-140 | 20 | | 30 |
| NitrosoDiPhenylAmine(NDPA)/DPA | 80 | | 87 | | 40-140 | 8 | | 30 |
| Bis(2-ethylhexyl)phthalate | 90 | | 95 | | 40-140 | 5 | | 30 |
| Butyl benzyl phthalate | 94 | | 98 | | 40-140 | 4 | | 30 |
| Di-n-butylphthalate | 89 | | 93 | | 40-140 | 4 | | 30 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|--|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG614344-2 WG614344-3 | | | | | | | | |
| Di-n-octylphthalate | 96 | | 102 | | 40-140 | 6 | | 30 |
| Diethyl phthalate | 82 | | 88 | | 40-140 | 7 | | 30 |
| Dimethyl phthalate | 78 | | 86 | | 40-140 | 10 | | 30 |
| Aniline | 41 | | 48 | | 40-140 | 16 | | 30 |
| 4-Chloroaniline | 56 | | 61 | | 40-140 | 9 | | 30 |
| 2-Nitroaniline | 84 | | 92 | | 52-143 | 9 | | 30 |
| 3-Nitroaniline | 61 | | 68 | | 25-145 | 11 | | 30 |
| 4-Nitroaniline | 85 | | 92 | | 51-143 | 8 | | 30 |
| Dibenzofuran | 71 | | 83 | | 40-140 | 16 | | 30 |
| n-Nitrosodimethylamine | 37 | | 44 | | 22-74 | 17 | | 30 |
| 2,4,6-Trichlorophenol | 74 | | 86 | | 30-130 | 15 | | 30 |
| P-Chloro-M-Cresol | 76 | | 88 | | 23-97 | 15 | | 30 |
| 2-Chlorophenol | 60 | | 72 | | 27-123 | 18 | | 30 |
| 2,4-Dichlorophenol | 69 | | 84 | | 30-130 | 20 | | 30 |
| 2,4-Dimethylphenol | 71 | | 84 | | 30-130 | 17 | | 30 |
| 2-Nitrophenol | 63 | | 77 | | 30-130 | 20 | | 30 |
| 4-Nitrophenol | 57 | | 61 | | 10-80 | 7 | | 30 |
| 2,4-Dinitrophenol | 59 | | 66 | | 20-130 | 11 | | 30 |
| 4,6-Dinitro-o-cresol | 79 | | 84 | | 20-164 | 6 | | 30 |
| Phenol | 31 | | 37 | | 12-110 | 18 | | 30 |
| 2-Methylphenol | 57 | | 71 | | 30-130 | 22 | | 30 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|--|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG614344-2 WG614344-3 | | | | | | | | |
| 3-Methylphenol/4-Methylphenol | 55 | | 66 | | 30-130 | 18 | | 30 |
| 2,4,5-Trichlorophenol | 82 | | 93 | | 30-130 | 13 | | 30 |
| Benzoic Acid | 25 | | 29 | | 10-164 | 15 | | 30 |
| Benzyl Alcohol | 54 | | 67 | | 26-116 | 21 | | 30 |
| Carbazole | 88 | | 93 | | 55-144 | 6 | | 30 |
| Pyridine | 32 | | 33 | | 10-66 | 3 | | 30 |

| Surrogate | LCS | | LCSD | | Acceptance Criteria |
|----------------------|-----------|------|-----------|------|---------------------|
| | %Recovery | Qual | %Recovery | Qual | |
| 2-Fluorophenol | 40 | | 47 | | 21-120 |
| Phenol-d6 | 29 | | 35 | | 10-120 |
| Nitrobenzene-d5 | 63 | | 74 | | 23-120 |
| 2-Fluorobiphenyl | 67 | | 82 | | 15-120 |
| 2,4,6-Tribromophenol | 84 | | 87 | | 10-120 |
| 4-Terphenyl-d14 | 84 | | 86 | | 41-149 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|--|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG614345-2 WG614345-3 | | | | | | | | |
| Acenaphthene | 69 | | 69 | | 37-111 | 0 | | 40 |
| 2-Chloronaphthalene | 66 | | 65 | | 40-140 | 2 | | 40 |
| Fluoranthene | 82 | | 85 | | 40-140 | 4 | | 40 |
| Hexachlorobutadiene | 50 | | 56 | | 40-140 | 11 | | 40 |
| Naphthalene | 61 | | 62 | | 40-140 | 2 | | 40 |
| Benzo(a)anthracene | 88 | | 78 | | 40-140 | 12 | | 40 |
| Benzo(a)pyrene | 73 | | 71 | | 40-140 | 3 | | 40 |
| Benzo(b)fluoranthene | 88 | | 89 | | 40-140 | 1 | | 40 |
| Benzo(k)fluoranthene | 86 | | 79 | | 40-140 | 8 | | 40 |
| Chrysene | 80 | | 73 | | 40-140 | 9 | | 40 |
| Acenaphthylene | 69 | | 73 | | 40-140 | 6 | | 40 |
| Anthracene | 71 | | 68 | | 40-140 | 4 | | 40 |
| Benzo(ghi)perylene | 83 | | 74 | | 40-140 | 11 | | 40 |
| Fluorene | 79 | | 83 | | 40-140 | 5 | | 40 |
| Phenanthrene | 79 | | 71 | | 40-140 | 11 | | 40 |
| Dibenzo(a,h)anthracene | 76 | | 78 | | 40-140 | 3 | | 40 |
| Indeno(1,2,3-cd)pyrene | 78 | | 76 | | 40-140 | 3 | | 40 |
| Pyrene | 78 | | 79 | | 26-127 | 1 | | 40 |
| 1-Methylnaphthalene | 67 | | 73 | | 40-140 | 9 | | 40 |
| 2-Methylnaphthalene | 63 | | 62 | | 40-140 | 2 | | 40 |
| Pentachlorophenol | 100 | | 94 | | 9-103 | 6 | | 40 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|--|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG614345-2 WG614345-3 | | | | | | | | |
| Hexachlorobenzene | 65 | | 77 | | 40-140 | 17 | | 40 |
| Hexachloroethane | 57 | | 52 | | 40-140 | 9 | | 40 |

| Surrogate | LCS | | LCSD | | Acceptance Criteria |
|----------------------|-----------|------|-----------|------|---------------------|
| | %Recovery | Qual | %Recovery | Qual | |
| 2-Fluorophenol | 44 | | 43 | | 21-120 |
| Phenol-d6 | 31 | | 29 | | 10-120 |
| Nitrobenzene-d5 | 77 | | 65 | | 23-120 |
| 2-Fluorobiphenyl | 65 | | 74 | | 15-120 |
| 2,4,6-Tribromophenol | 73 | | 84 | | 10-120 |
| 4-Terphenyl-d14 | 66 | | 80 | | 41-149 |

PCBS

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

SAMPLE RESULTS

Lab ID: L1310626-01
 Client ID: C8-OW
 Sample Location: BOSTON, MA
 Matrix: Water
 Analytical Method: 5,608
 Analytical Date: 06/13/13 16:19
 Analyst: KB

Date Collected: 06/11/13 13:15
 Date Received: 06/11/13
 Field Prep: Not Specified
 Extraction Method: EPA 608
 Extraction Date: 06/12/13 04:26
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 06/13/13
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 06/13/13

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

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|------------------------------|------------|-----------|---------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 41 | | 30-150 |
| Decachlorobiphenyl | 52 | | 30-150 |

Project Name: FAN PIER PARCEL C**Lab Number:** L1310626**Project Number:** 4426.9.12**Report Date:** 06/17/13

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 5,608
 Analytical Date: 06/13/13 15:06
 Analyst: KB

Extraction Method: EPA 608
 Extraction Date: 06/12/13 04:26
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 06/13/13
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 06/13/13

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|-------|-----|
| Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG614369-1 | | | | | |
| Aroclor 1016 | ND | | ug/l | 0.250 | -- |
| Aroclor 1221 | ND | | ug/l | 0.250 | -- |
| Aroclor 1232 | ND | | ug/l | 0.250 | -- |
| Aroclor 1242 | ND | | ug/l | 0.250 | -- |
| Aroclor 1248 | ND | | ug/l | 0.250 | -- |
| Aroclor 1254 | ND | | ug/l | 0.250 | -- |
| Aroclor 1260 | ND | | ug/l | 0.250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|------------------------------|-----------|-----------|------------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 45 | | 30-150 |
| Decachlorobiphenyl | 70 | | 30-150 |

Matrix Spike Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|--|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614369-3 QC Sample: L1310628-01 Client ID: MS Sample | | | | | | | | | | | | |
| Aroclor 1016 | ND | 1 | 0.680 | 68 | | - | - | | 40-140 | - | | 50 |
| Aroclor 1260 | ND | 1 | 0.586 | 59 | | - | - | | 40-140 | - | | 50 |

| Surrogate | MS | | MSD | | Acceptance Criteria |
|------------------------------|------------|-----------|------------|-----------|---------------------|
| | % Recovery | Qualifier | % Recovery | Qualifier | |
| 2,4,5,6-Tetrachloro-m-xylene | 55 | | | | 30-150 |
| Decachlorobiphenyl | 40 | | | | 30-150 |

Lab Control Sample Analysis Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG614369-2 | | | | | | | | |
| Aroclor 1016 | 64 | | - | | 40-140 | - | | 50 |
| Aroclor 1260 | 69 | | - | | 40-140 | - | | 50 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|------------------------------|------------------|------|-------------------|------|------------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 45 | | | | 30-150 |
| Decachlorobiphenyl | 69 | | | | 30-150 |

Lab Duplicate Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Project Number: 4426.9.12

Lab Number: L1310626

Report Date: 06/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614369-4 QC Sample: L1310626-01 Client ID: C8-OW | | | | | | |
| Aroclor 1016 | ND | ND | ug/l | NC | | 50 |
| Aroclor 1221 | ND | ND | ug/l | NC | | 50 |
| Aroclor 1232 | ND | ND | ug/l | NC | | 50 |
| Aroclor 1242 | ND | ND | ug/l | NC | | 50 |
| Aroclor 1248 | ND | ND | ug/l | NC | | 50 |
| Aroclor 1254 | ND | ND | ug/l | NC | | 50 |
| Aroclor 1260 | ND | ND | ug/l | NC | | 50 |

| Surrogate | %Recovery | Qualifier | %Recovery | Qualifier | Acceptance Criteria |
|------------------------------|-----------|-----------|-----------|-----------|---------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 41 | | 50 | | 30-150 |
| Decachlorobiphenyl | 52 | | 69 | | 30-150 |

METALS

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

SAMPLE RESULTS

Lab ID: L1310626-01
 Client ID: C8-OW
 Sample Location: BOSTON, MA
 Matrix: Water

Date Collected: 06/11/13 13:15
 Date Received: 06/11/13
 Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---------------------------------------|---------|-----------|-------|---------|-----|-----------------|----------------|----------------|-------------|-------------------|---------|
| Total Metals - Westborough Lab | | | | | | | | | | | |
| Antimony, Total | ND | | mg/l | 0.00500 | -- | 10 | 06/12/13 07:28 | 06/14/13 18:49 | EPA 3005A | 1,6020A | AK |
| Arsenic, Total | ND | | mg/l | 0.00500 | -- | 10 | 06/12/13 07:28 | 06/14/13 18:49 | EPA 3005A | 1,6020A | AK |
| Cadmium, Total | 0.00305 | | mg/l | 0.00200 | -- | 10 | 06/12/13 07:28 | 06/14/13 18:49 | EPA 3005A | 1,6020A | AK |
| Chromium, Total | ND | | mg/l | 0.01000 | -- | 10 | 06/12/13 07:28 | 06/14/13 18:49 | EPA 3005A | 1,6020A | AK |
| Copper, Total | 0.01345 | | mg/l | 0.01000 | -- | 10 | 06/12/13 07:28 | 06/14/13 18:49 | EPA 3005A | 1,6020A | AK |
| Iron, Total | 0.19 | | mg/l | 0.05 | -- | 1 | 06/12/13 07:28 | 06/12/13 13:35 | EPA 3005A | 19,200.7 | BM |
| Lead, Total | ND | | mg/l | 0.00500 | -- | 10 | 06/12/13 07:28 | 06/14/13 18:49 | EPA 3005A | 1,6020A | AK |
| Mercury, Total | ND | | mg/l | 0.0002 | -- | 1 | 06/13/13 16:22 | 06/14/13 10:13 | EPA 245.1 | 3,245.1 | JH |
| Nickel, Total | 0.01557 | | mg/l | 0.00500 | -- | 10 | 06/12/13 07:28 | 06/14/13 18:49 | EPA 3005A | 1,6020A | AK |
| Selenium, Total | ND | | mg/l | 0.0500 | -- | 10 | 06/12/13 07:28 | 06/14/13 18:49 | EPA 3005A | 1,6020A | AK |
| Silver, Total | ND | | mg/l | 0.00400 | -- | 10 | 06/12/13 07:28 | 06/14/13 18:49 | EPA 3005A | 1,6020A | AK |
| Zinc, Total | 0.2415 | | mg/l | 0.1000 | -- | 10 | 06/12/13 07:28 | 06/14/13 18:49 | EPA 3005A | 1,6020A | AK |



Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

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: WG614376-1 | | | | | | | | | |
| Iron, Total | ND | mg/l | 0.05 | -- | 1 | 06/12/13 07:28 | 06/12/13 13:28 | 19,200.7 | BM |

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: WG614378-1 | | | | | | | | | |
| Antimony, Total | ND | mg/l | 0.00050 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Arsenic, Total | ND | mg/l | 0.00050 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Cadmium, Total | ND | mg/l | 0.00020 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Chromium, Total | ND | mg/l | 0.00100 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Copper, Total | ND | mg/l | 0.00100 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Lead, Total | ND | mg/l | 0.00050 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Nickel, Total | ND | mg/l | 0.00050 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Selenium, Total | ND | mg/l | 0.00500 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Silver, Total | ND | mg/l | 0.00040 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Zinc, Total | ND | mg/l | 0.01000 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |

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: WG614710-1 | | | | | | | | | |
| Mercury, Total | ND | mg/l | 0.0002 | -- | 1 | 06/13/13 16:22 | 06/14/13 09:56 | 3,245.1 | JH |

Prep Information

Digestion Method: EPA 245.1



Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|---|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG614376-2 | | | | | | | | |
| Iron, Total | 99 | | - | | 85-115 | - | | |
| Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG614378-2 | | | | | | | | |
| Antimony, Total | 90 | | - | | 80-120 | - | | |
| Arsenic, Total | 102 | | - | | 80-120 | - | | |
| Cadmium, Total | 117 | | - | | 80-120 | - | | |
| Chromium, Total | 97 | | - | | 80-120 | - | | |
| Copper, Total | 105 | | - | | 80-120 | - | | |
| Lead, Total | 106 | | - | | 80-120 | - | | |
| Nickel, Total | 103 | | - | | 80-120 | - | | |
| Selenium, Total | 108 | | - | | 80-120 | - | | |
| Silver, Total | 98 | | - | | 80-120 | - | | |
| Zinc, Total | 105 | | - | | 80-120 | - | | |
| Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG614710-2 | | | | | | | | |
| Mercury, Total | 90 | | - | | 85-115 | - | | |

Matrix Spike Analysis Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

| 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: WG614376-4 QC Sample: L1310626-01 Client ID: C8-OW | | | | | | | | | | | | |
| Iron, Total | 0.19 | 1 | 1.2 | 101 | | - | - | | 75-125 | - | | 20 |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614378-4 QC Sample: L1310626-01 Client ID: C8-OW | | | | | | | | | | | | |
| Antimony, Total | ND | 0.5 | 0.4917 | 98 | | - | - | | 80-120 | - | | 20 |
| Arsenic, Total | ND | 0.12 | 0.1257 | 105 | | - | - | | 80-120 | - | | 20 |
| Cadmium, Total | 0.00305 | 0.051 | 0.05746 | 107 | | - | - | | 80-120 | - | | 20 |
| Chromium, Total | ND | 0.2 | 0.1898 | 95 | | - | - | | 80-120 | - | | 20 |
| Copper, Total | 0.01345 | 0.25 | 0.2622 | 100 | | - | - | | 80-120 | - | | 20 |
| Lead, Total | ND | 0.51 | 0.5423 | 106 | | - | - | | 80-120 | - | | 20 |
| Nickel, Total | 0.01557 | 0.5 | 0.4951 | 96 | | - | - | | 80-120 | - | | 20 |
| Selenium, Total | ND | 0.12 | 0.117 | 98 | | - | - | | 80-120 | - | | 20 |
| Silver, Total | ND | 0.05 | 0.04796 | 96 | | - | - | | 80-120 | - | | 20 |
| Zinc, Total | 0.2415 | 0.5 | 0.7107 | 94 | | - | - | | 80-120 | - | | 20 |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614710-4 QC Sample: L1310167-08 Client ID: MS Sample | | | | | | | | | | | | |
| Mercury, Total | ND | 0.005 | 0.0062 | 123 | | - | - | | 70-130 | - | | 20 |

Lab Duplicate Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614376-3 QC Sample: L1310626-01 Client ID: C8-OW | | | | | | |
| Iron, Total | 0.19 | 0.18 | mg/l | 5 | | 20 |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614378-3 QC Sample: L1310626-01 Client ID: C8-OW | | | | | | |
| Antimony, Total | ND | ND | mg/l | NC | | 20 |
| Arsenic, Total | ND | ND | mg/l | NC | | 20 |
| Cadmium, Total | 0.00305 | 0.00303 | mg/l | 1 | | 20 |
| Chromium, Total | ND | ND | mg/l | NC | | 20 |
| Copper, Total | 0.01345 | 0.01242 | mg/l | 8 | | 20 |
| Lead, Total | ND | ND | mg/l | NC | | 20 |
| Nickel, Total | 0.01557 | 0.01365 | mg/l | 13 | | 20 |
| Selenium, Total | ND | ND | mg/l | NC | | 20 |
| Silver, Total | ND | ND | mg/l | NC | | 20 |
| Zinc, Total | 0.2415 | 0.2281 | mg/l | 6 | | 20 |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614710-3 QC Sample: L1310167-08 Client ID: DUP Sample | | | | | | |
| Mercury, Total | ND | ND | mg/l | NC | | 20 |

INORGANICS & MISCELLANEOUS

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

SAMPLE RESULTS

Lab ID: L1310626-01
Client ID: C8-OW
Sample Location: BOSTON, MA
Matrix: Water

Date Collected: 06/11/13 13:15
Date Received: 06/11/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|--------|-----------|-------|-------|-----|-----------------|----------------|----------------|-------------------|---------|
| General Chemistry - Westborough Lab | | | | | | | | | | |
| Chromium, Trivalent | ND | | mg/l | 0.010 | -- | 1 | - | 06/17/13 13:05 | 107,- | JO |
| Solids, Total Suspended | ND | | mg/l | 5.0 | NA | 1 | - | 06/12/13 08:00 | 30,2540D | DW |
| Cyanide, Total | 0.008 | | mg/l | 0.005 | -- | 1 | 06/12/13 14:30 | 06/12/13 17:20 | 30,4500CN-CE | JO |
| Chlorine, Total Residual | ND | | mg/l | 0.02 | -- | 1 | - | 06/11/13 20:23 | 30,4500CL-D | EL |
| pH (H) | 6.1 | | SU | - | NA | 1 | - | 06/11/13 22:25 | 30,4500H+-B | EL |
| TPH | ND | | mg/l | 4.00 | -- | 1 | 06/12/13 07:30 | 06/12/13 09:30 | 74,1664A | ML |
| Phenolics, Total | ND | | mg/l | 0.03 | -- | 1 | 06/13/13 15:15 | 06/13/13 17:13 | 4,420.1 | TE |
| Chromium, Hexavalent | ND | | mg/l | 0.010 | -- | 1 | 06/11/13 21:30 | 06/11/13 21:43 | 30,3500CR-D | EL |
| Anions by Ion Chromatography - Westborough Lab | | | | | | | | | | |
| Chloride | 1850 | | mg/l | 50.0 | -- | 100 | - | 06/12/13 18:32 | 44,300.0 | AU |



Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

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: WG614317-1 | | | | | | | | | | |
| Chlorine, Total Residual | ND | | mg/l | 0.02 | -- | 1 | - | 06/11/13 20:23 | 30,4500CL-D | EL |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG614322-1 | | | | | | | | | | |
| Chromium, Hexavalent | ND | | mg/l | 0.010 | -- | 1 | 06/11/13 21:30 | 06/11/13 21:41 | 30,3500CR-D | EL |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG614384-1 | | | | | | | | | | |
| Solids, Total Suspended | ND | | mg/l | 5.0 | NA | 1 | - | 06/12/13 08:00 | 30,2540D | DW |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG614434-1 | | | | | | | | | | |
| TPH | ND | | mg/l | 4.00 | -- | 1 | 06/12/13 07:30 | 06/12/13 09:30 | 74,1664A | ML |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG614463-1 | | | | | | | | | | |
| Phenolics, Total | ND | | mg/l | 0.03 | -- | 1 | 06/13/13 15:15 | 06/13/13 17:09 | 4,420.1 | TE |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG614479-1 | | | | | | | | | | |
| Cyanide, Total | ND | | mg/l | 0.005 | -- | 1 | 06/12/13 14:30 | 06/12/13 17:06 | 30,4500CN-CE | JO |
| Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG614651-1 | | | | | | | | | | |
| Chloride | ND | | mg/l | 0.500 | -- | 1 | - | 06/12/13 17:20 | 44,300.0 | AU |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|---|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG614317-2 | | | | | | | | |
| Chlorine, Total Residual | 93 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG614321-1 | | | | | | | | |
| pH | 100 | | - | | 99-101 | - | | 5 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG614322-2 | | | | | | | | |
| Chromium, Hexavalent | 96 | | - | | 85-115 | - | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG614434-2 | | | | | | | | |
| TPH | 85 | | - | | 64-132 | - | | 34 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG614463-2 | | | | | | | | |
| Phenolics, Total | 117 | | - | | 70-130 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG614479-2 | | | | | | | | |
| Cyanide, Total | 99 | | - | | 90-110 | - | | |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG614651-2 | | | | | | | | |
| Chloride | 98 | | - | | 90-110 | - | | |



Matrix Spike Analysis Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | MSD Qual | MSD Found | MSD %Recovery | MSD Qual | Recovery Limits | RPD | RPD Qual | RPD Limits |
|---|---------------|----------|----------|--------------|----------|-----------|---------------|----------|-----------------|-----|----------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614322-4 QC Sample: L1310626-01 Client ID: C8-OW | | | | | | | | | | | | |
| Chromium, Hexavalent | ND | 0.1 | 0.090 | 90 | - | - | - | - | 85-115 | - | - | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614434-4 QC Sample: L1310628-01 Client ID: MS Sample | | | | | | | | | | | | |
| TPH | ND | 20.4 | 17.3 | 85 | - | - | - | - | 64-132 | - | - | 34 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614463-4 QC Sample: L1310628-01 Client ID: MS Sample | | | | | | | | | | | | |
| Phenolics, Total | ND | 0.4 | 0.42 | 105 | - | - | - | - | 70-130 | - | - | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614479-4 QC Sample: L1310626-01 Client ID: C8-OW | | | | | | | | | | | | |
| Cyanide, Total | 0.008 | 0.2 | 0.187 | 90 | - | - | - | - | 90-110 | - | - | 30 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614651-3 QC Sample: L1310678-01 Client ID: MS Sample | | | | | | | | | | | | |
| Chloride | 3.50 | 4 | 7.52 | 100 | - | - | - | - | 40-151 | - | - | 18 |

Lab Duplicate Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614317-3 QC Sample: L1310626-01 Client ID: C8-OW | | | | | | |
| Chlorine, Total Residual | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614321-2 QC Sample: L1310628-01 Client ID: DUP Sample | | | | | | |
| pH | 7.2 | 7.1 | SU | 1 | | 5 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614322-3 QC Sample: L1310628-01 Client ID: DUP Sample | | | | | | |
| Chromium, Hexavalent | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614384-2 QC Sample: L1310577-01 Client ID: DUP Sample | | | | | | |
| Solids, Total Suspended | 57 | 54. | mg/l | 5 | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614434-3 QC Sample: L1310626-01 Client ID: C8-OW | | | | | | |
| TPH | ND | ND | mg/l | NC | | 34 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614463-3 QC Sample: L1310626-01 Client ID: C8-OW | | | | | | |
| Phenolics, Total | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614479-5 QC Sample: L1310577-01 Client ID: DUP Sample | | | | | | |
| Cyanide, Total | 0.088 | 0.090 | mg/l | 3 | | 30 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614651-4 QC Sample: L1310678-01 Client ID: DUP Sample | | | | | | |
| Chloride | 3.50 | 3.53 | mg/l | 1 | | 18 |

Project Name: FAN PIER PARCEL C

Lab Number: L1310626

Project Number: 4426.9.12

Report Date: 06/17/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|--------------|------------------------------|--------|-----|------------|------|--------|---|
| L1310626-01A | Vial Na2S2O3 preserved | A | N/A | 5.1 | Y | Absent | 624(3) |
| L1310626-01B | Vial Na2S2O3 preserved | A | N/A | 5.1 | Y | Absent | 624(3) |
| L1310626-01C | Vial Na2S2O3 preserved | A | N/A | 5.1 | Y | Absent | 624(3) |
| L1310626-01D | Plastic 500ml unpreserved | A | 7 | 5.1 | Y | Absent | CL-300(28),TRC-4500(1),PH-4500(.01) |
| L1310626-01E | Vial Na2S2O3 preserved | A | N/A | 5.1 | Y | Absent | 504(14) |
| L1310626-01F | Vial Na2S2O3 preserved | A | N/A | 5.1 | Y | Absent | 504(14) |
| L1310626-01G | Plastic 1000ml unpreserved | A | 7 | 5.1 | Y | Absent | TSS-2540(7) |
| L1310626-01H | Amber 1000ml unpreserved | A | 7 | 5.1 | Y | Absent | 8270TCL(7),8270TCL-SIM(7) |
| L1310626-01I | Amber 1000ml unpreserved | A | 7 | 5.1 | Y | Absent | 8270TCL(7),8270TCL-SIM(7) |
| L1310626-01J | Amber 1000ml unpreserved | A | 7 | 5.1 | Y | Absent | 8270TCL(7),8270TCL-SIM(7) |
| L1310626-01K | Amber 1000ml unpreserved | A | 7 | 5.1 | Y | Absent | 8270TCL(7),8270TCL-SIM(7) |
| L1310626-01L | Amber 1000ml HCl preserved | A | N/A | 5.1 | Y | Absent | TPH-1664(28) |
| L1310626-01M | Amber 1000ml HCl preserved | A | N/A | 5.1 | Y | Absent | TPH-1664(28) |
| L1310626-01N | Amber 500ml H2SO4 preserved | A | <2 | 5.1 | Y | Absent | TPHENOL-420(28) |
| L1310626-01O | Amber 1000ml Na2S2O3 | A | 7 | 5.1 | Y | Absent | PCB-608(7) |
| L1310626-01P | Amber 1000ml Na2S2O3 | A | 7 | 5.1 | Y | Absent | PCB-608(7) |
| L1310626-01Q | Plastic 250ml HNO3 preserved | A | <2 | 5.1 | 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),TRICR-CALC(1) |
| L1310626-01R | Plastic 500ml unpreserved | A | 7 | 5.1 | Y | Absent | HEXCR-3500(1),TRICR-CALC(1) |
| L1310626-01T | Plastic 250ml NaOH preserved | A | >12 | 5.1 | Y | Absent | TCN-4500(14) |
| L1310626-02A | Vial Na2S2O3 preserved | A | N/A | 5.1 | Y | Absent | HOLD(14) |
| L1310626-02B | Vial Na2S2O3 preserved | A | N/A | 5.1 | Y | Absent | HOLD(14) |

*Values in parentheses indicate holding time in days

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

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. |
| LCS D | - 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. |
| 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. |

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.

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 five times (5x) 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.
- 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 RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report



Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

Data Qualifiers

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.
- 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: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310626
Report Date: 06/17/13

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.
- 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.

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.



Certificate/Approval Program Summary

Last revised June 17, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. **NELAP Accredited Solid Waste/Soil.**

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

State of Illinois Certificate/Lab ID: 003155. **NELAP Accredited.**

Drinking Water (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

Hazardous and Solid Waste (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

Maine Department of Human Services Certificate/Lab ID: 2009024.

Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Non-Potable Water (Inorganic Parameters: (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: 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-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LCHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330, 8082A, EPA 3510C, 5030B, 8015C, 8011.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311,1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. **NELAP Accredited.**

Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A,3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P,BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. **NELAP Accredited via NJ-DEP.**

Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Comission on Environmental Quality Certificate/Lab ID: T104704476. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S²⁻ D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. **NELAP Accredited.**

Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm 9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether, Ethyl tert-butyl ether, Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE). **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, 1,3,5-Trimethylbenzene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnaphthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. **EPA 8015C:** TPH. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO₂ in a soil matrix, NO₃ in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.



CHAIN OF CUSTODY

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Project Information

Project Name: Fan Pier Parcel C

Project Location: Boston, MA

Project #: 4426.9.12

Project Manager: BED

ALPHA Quote #:

Turn-Around Time

Standard Rush (ONLY IF PRE-APPROVED)

Due Date:

Time:

6/17/13

Westborough, MA Mansfield, MA
 TEL: 508-898-9220 TEL: 508-822-9300
 FAX: 508-898-9193 FAX: 508-822-3288

Client Information

Client: McPhial Associates, LLC

Address: 2269 Massachusetts Avenue

Cambridge, MA 02140

Phone: 617-868-1420

Fax: 617-868-1423

Email: bdowning@mcphialgeo.com

These samples have been Previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Date Rec'd in Lab: 6/11/13

ALPHA Job #: L1310624

Report Information Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client Info PO #:

Regulatory Requirements/Report Limits

State/Fed Program: EPA NPDES RGP Criteria:

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS

Yes No Are MCP Analytical Methods Required?
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS

| | pH, Cl, TRC | 624 | 504 (EDB Only) | TSS | 8270 | 8270-SIM | PCB_608 | TPH_1664 | TPhenol | TCN | HexCr | Total HgFeAgAsCdCrCuNiPbSbSeZn |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SAMPLE HANDLING
 Filtration
 Done
 Lab to do
 Preservation
 Lab to do
 (Please specify below)

TOTAL # BOTTLES

Sample Specific Comments

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection | | Sample Matrix | Sampler's Initials |
|--------------------------------|-----------|------------|-------|---------------|--------------------|
| | | Date | Time | | |
| 10626 | 81 C8-0W | 6/11/13 | 12:30 | GW | SC |
| | | | 12:35 | | |
| | | | 12:40 | | |
| | | | 12:41 | | |
| | | | 12:43 | | |
| | | | 12:55 | | |
| | | | 1:00 | | |
| | | | 1:05 | | |
| | | | 1:10 | | |
| | | | 1:15 | | |

3
2
1
1
2
2
1
1
2
4

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP or CT RCP?

FORM NO: 01-01(1)
(rev. 5-JAN-12)

Container Type

Preservative

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | V | V | P | A | A | A | A | A | P | P | P |
| A | H | H | A | H | H | H | B | D | E | A | C |

Relinquished By:

Date/Time

Received By:

Date/Time

Stephane Cherdulle
[Signature]

6/11/13 3:00
 6/11/13 1:00

[Signature]
 Equi...

6/11/13/600
 6/11/13

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



ANALYTICAL REPORT

| | |
|-----------------|--|
| Lab Number: | L1310628 |
| Client: | McPhail Associates 2269 Massachusetts Avenue Cambridge, MA 02140 |
| ATTN: | Ambrose Donovan |
| Phone: | (617) 868-1420 |
| Project Name: | FAN PIER PARCEL C |
| Project Number: | 4426.9.12 |
| Report Date: | 06/17/13 |

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), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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



Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|----------------------------|------------------|----------------------------|---------------------------------|
| L1310628-01 | C23 (OW) | BOSTON, MA | 06/11/13 14:30 |

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. 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. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for 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 free of charge for 30 days from the date the project is completed. After 30 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.

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

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

Case Narrative (continued)

Volatile Organics

The WG614272-7 LCS recoveries for 1,1,2-Trichloroethane (78%), 1,2-Dichloroethane (112%), 1,1,1-Trichloroethane (131%), Toluene (81%), and Tertiary-Amyl Methyl Ether (128%), associated with L1310628-01, are outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method.

Metals

L1310628-01 has elevated detection limits for all elements by Method 6020 due to the dilution required by matrix interferences encountered during 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: 06/17/13

ORGANICS

VOLATILES

Project Name: FAN PIER PARCEL C**Lab Number:** L1310628**Project Number:** 4426.9.12**Report Date:** 06/17/13**SAMPLE RESULTS**

Lab ID: L1310628-01

Date Collected: 06/11/13 14:30

Client ID: C23 (OW)

Date Received: 06/11/13

Sample Location: BOSTON, MA

Field Prep: Not Specified

Matrix: Water

Analytical Method: 14,504.1

Extraction Date: 06/12/13 10:15

Analytical Date: 06/12/13 23:27

Analyst: SR

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

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

SAMPLE RESULTS

Lab ID: L1310628-01
 Client ID: C23 (OW)
 Sample Location: BOSTON, MA
 Matrix: Water
 Analytical Method: 5,624
 Analytical Date: 06/12/13 17:39
 Analyst: TR

Date Collected: 06/11/13 14:30
 Date Received: 06/11/13
 Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|--------|-----------|-------|------|-----|-----------------|
| Volatile Organics by GC/MS - Westborough Lab | | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | -- | 1 |
| 1,1-Dichloroethane | ND | | ug/l | 1.5 | -- | 1 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 1 |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.5 | -- | 1 |
| Tetrachloroethene | ND | | ug/l | 1.5 | -- | 1 |
| 1,2-Dichloroethane | ND | | ug/l | 1.5 | -- | 1 |
| 1,1,1-Trichloroethane | ND | | ug/l | 2.0 | -- | 1 |
| Benzene | ND | | ug/l | 1.0 | -- | 1 |
| Toluene | ND | | ug/l | 1.0 | -- | 1 |
| Ethylbenzene | ND | | ug/l | 1.0 | -- | 1 |
| Vinyl chloride | ND | | ug/l | 2.0 | -- | 1 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| cis-1,2-Dichloroethene ¹ | ND | | ug/l | 1.0 | -- | 1 |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 1 |
| 1,2-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 1 |
| 1,3-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 1 |
| 1,4-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 1 |
| p/m-Xylene ¹ | ND | | ug/l | 2.0 | -- | 1 |
| o-xylene ¹ | ND | | ug/l | 1.0 | -- | 1 |
| Acetone ¹ | 13 | | ug/l | 10 | -- | 1 |
| Methyl tert butyl Ether ¹ | ND | | ug/l | 10 | -- | 1 |
| 1,4-Dioxane ¹ | ND | | ug/l | 2000 | -- | 1 |
| Tert-Butyl Alcohol ¹ | ND | | ug/l | 100 | -- | 1 |
| Tertiary-Amyl Methyl Ether ¹ | ND | | ug/l | 20 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| Pentafluorobenzene | 103 | | 80-120 |
| Fluorobenzene | 97 | | 80-120 |
| 4-Bromofluorobenzene | 109 | | 80-120 |

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,624
Analytical Date: 06/12/13 12:26
Analyst: TR

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|------|-----|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG614272-8 | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 1.5 | -- |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.5 | -- |
| Tetrachloroethene | ND | | ug/l | 1.5 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 1.5 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 2.0 | -- |
| Benzene | ND | | ug/l | 1.0 | -- |
| Toluene | ND | | ug/l | 1.0 | -- |
| Ethylbenzene | ND | | ug/l | 1.0 | -- |
| Vinyl chloride | ND | | ug/l | 2.0 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- |
| cis-1,2-Dichloroethene ¹ | ND | | ug/l | 1.0 | -- |
| Trichloroethene | ND | | ug/l | 1.0 | -- |
| 1,2-Dichlorobenzene | ND | | ug/l | 5.0 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 5.0 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 5.0 | -- |
| p/m-Xylene ¹ | ND | | ug/l | 2.0 | -- |
| o-xylene ¹ | ND | | ug/l | 1.0 | -- |
| Acetone ¹ | ND | | ug/l | 10 | -- |
| Methyl tert butyl Ether ¹ | ND | | ug/l | 10 | -- |
| 1,4-Dioxane ¹ | ND | | ug/l | 2000 | -- |
| Tert-Butyl Alcohol ¹ | ND | | ug/l | 100 | -- |
| Tertiary-Amyl Methyl Ether ¹ | ND | | ug/l | 20 | -- |

Project Name: FAN PIER PARCEL C

Lab Number: L1310628

Project Number: 4426.9.12

Report Date: 06/17/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,624

Analytical Date: 06/12/13 12:26

Analyst: TR

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

| | | | | | |
|--|--|--|--|--|--|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG614272-8 | | | | | |
|--|--|--|--|--|--|

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|----------------------|-----------|-----------|------------------------|
| Pentafluorobenzene | 105 | | 80-120 |
| Fluorobenzene | 101 | | 80-120 |
| 4-Bromofluorobenzene | 114 | | 80-120 |

Project Name: FAN PIER PARCEL C**Lab Number:** L1310628**Project Number:** 4426.9.12**Report Date:** 06/17/13**Method Blank Analysis
Batch Quality Control**

Analytical Method: 14,504.1

Analytical Date: 06/12/13 21:07

Analyst: SR

Extraction Date: 06/12/13 10:15

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|-------|-----|
| Microextractables by GC - Westborough Lab for sample(s): 01 Batch: WG614442-1 | | | | | |
| 1,2-Dibromoethane | ND | | ug/l | 0.010 | -- |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310628

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|---|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG614272-7 | | | | | | | | |
| Methylene chloride | 100 | | - | | 70-111 | - | | 30 |
| 1,1-Dichloroethane | 87 | | - | | 78-116 | - | | 30 |
| Chloroform | 109 | | - | | 86-111 | - | | 30 |
| Carbon tetrachloride | 144 | Q | - | | 60-112 | - | | 30 |
| 1,2-Dichloropropane | 94 | | - | | 83-113 | - | | 30 |
| Dibromochloromethane | 101 | | - | | 58-129 | - | | 30 |
| 1,1,2-Trichloroethane | 78 | Q | - | | 80-118 | - | | 30 |
| 2-Chloroethylvinyl ether | 73 | | - | | 69-124 | - | | 30 |
| Tetrachloroethene | 86 | | - | | 80-126 | - | | 30 |
| Chlorobenzene | 108 | | - | | 80-126 | - | | 30 |
| Trichlorofluoromethane | 114 | | - | | 83-128 | - | | 30 |
| 1,2-Dichloroethane | 112 | Q | - | | 82-110 | - | | 30 |
| 1,1,1-Trichloroethane | 131 | Q | - | | 72-109 | - | | 30 |
| Bromodichloromethane | 115 | | - | | 71-120 | - | | 30 |
| trans-1,3-Dichloropropene | 84 | | - | | 73-106 | - | | 30 |
| cis-1,3-Dichloropropene | 88 | | - | | 78-111 | - | | 30 |
| Bromoform | 125 | | - | | 45-131 | - | | 30 |
| 1,1,1,2-Tetrachloroethane | 100 | | - | | 81-122 | - | | 30 |
| Benzene | 99 | | - | | 84-116 | - | | 30 |
| Toluene | 81 | Q | - | | 83-121 | - | | 30 |
| Ethylbenzene | 113 | | - | | 84-123 | - | | 30 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|---|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG614272-7 | | | | | | | | |
| Chloromethane | 73 | | - | | 70-144 | - | | 30 |
| Bromomethane | 92 | | - | | 63-141 | - | | 30 |
| Vinyl chloride | 90 | | - | | 56-118 | - | | 30 |
| Chloroethane | 93 | | - | | 74-130 | - | | 30 |
| 1,1-Dichloroethene | 106 | | - | | 77-116 | - | | 30 |
| trans-1,2-Dichloroethene | 110 | | - | | 81-121 | - | | 30 |
| cis-1,2-Dichloroethene ¹ | 98 | | - | | 85-110 | - | | 30 |
| Trichloroethene | 103 | | - | | 84-118 | - | | 30 |
| 1,2-Dichlorobenzene | 112 | | - | | 78-128 | - | | 30 |
| 1,3-Dichlorobenzene | 112 | | - | | 77-125 | - | | 30 |
| 1,4-Dichlorobenzene | 113 | | - | | 77-125 | - | | 30 |
| p/m-Xylene ¹ | 114 | | - | | 81-121 | - | | 30 |
| o-Xylene ¹ | 112 | | - | | 81-124 | - | | 30 |
| Xylene (Total) ¹ | 114 | | - | | 81-122 | - | | 30 |
| Styrene ¹ | 111 | | - | | 84-133 | - | | 30 |
| Acetone ¹ | 103 | | - | | 40-160 | - | | 30 |
| Carbon disulfide ¹ | 98 | | - | | 54-134 | - | | 30 |
| 2-Butanone ¹ | 90 | | - | | 57-116 | - | | 30 |
| Vinyl acetate ¹ | 85 | | - | | 40-160 | - | | 30 |
| 4-Methyl-2-pentanone ¹ | 75 | Q | - | | 79-125 | - | | 30 |
| 2-Hexanone ¹ | 69 | Q | - | | 78-120 | - | | 30 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310628

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|---|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG614272-7 | | | | | | | | |
| Acrolein ¹ | 68 | | - | | 40-160 | - | | 30 |
| Acrylonitrile ¹ | 91 | | - | | 66-123 | - | | 30 |
| Methyl tert butyl ether ¹ | 114 | | - | | 57-126 | - | | 30 |
| Dibromomethane ¹ | 98 | | - | | 65-126 | - | | 30 |
| 1,4-Dioxane ¹ | 77 | | - | | 74-121 | - | | 30 |
| tert-Butyl Alcohol ¹ | 102 | | - | | 52-114 | - | | 30 |
| Tertiary-Amyl Methyl Ether ¹ | 128 | Q | - | | 66-111 | - | | 30 |

| Surrogate | LCS | | LCSD | | Acceptance Criteria |
|----------------------|-----------|------|-----------|------|---------------------|
| | %Recovery | Qual | %Recovery | Qual | |
| Pentafluorobenzene | 107 | | | | 80-120 |
| Fluorobenzene | 102 | | | | 80-120 |
| 4-Bromofluorobenzene | 111 | | | | 80-120 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310628

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Microextractables by GC - Westborough Lab Associated sample(s): 01 Batch: WG614442-2 | | | | | | | | |
| 1,2-Dibromoethane | 102 | | - | | 70-130 | - | | 20 |

Matrix Spike Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310628

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614272-6 QC Sample: L1310510-01 Client ID: MS Sample | | | | | | | | | | | | |
| Methylene chloride | ND | 20 | 20 | 100 | | - | - | | 70-111 | - | | 30 |
| 1,1-Dichloroethane | ND | 20 | 18 | 90 | | - | - | | 78-116 | - | | 30 |
| Chloroform | ND | 20 | 23 | 116 | Q | - | - | | 86-111 | - | | 30 |
| Carbon tetrachloride | ND | 20 | 34 | 171 | Q | - | - | | 60-112 | - | | 30 |
| 1,2-Dichloropropane | ND | 20 | 20 | 99 | | - | - | | 83-113 | - | | 30 |
| Dibromochloromethane | ND | 20 | 24 | 118 | | - | - | | 58-129 | - | | 30 |
| 1,1,2-Trichloroethane | ND | 20 | 16 | 83 | | - | - | | 80-118 | - | | 30 |
| 2-Chloroethylvinyl ether | ND | 20 | 16 | 80 | | - | - | | 69-124 | - | | 30 |
| Tetrachloroethene | ND | 20 | 18 | 92 | | - | - | | 80-126 | - | | 30 |
| Chlorobenzene | ND | 20 | 23 | 116 | | - | - | | 80-126 | - | | 30 |
| Trichlorofluoromethane | ND | 20 | 25 | 124 | | - | - | | 83-128 | - | | 30 |
| 1,2-Dichloroethane | ND | 20 | 23 | 117 | Q | - | - | | 82-110 | - | | 30 |
| 1,1,1-Trichloroethane | ND | 20 | 30 | 149 | Q | - | - | | 72-109 | - | | 30 |
| Bromodichloromethane | ND | 20 | 26 | 130 | Q | - | - | | 71-120 | - | | 30 |
| trans-1,3-Dichloropropene | ND | 20 | 19 | 96 | | - | - | | 73-106 | - | | 30 |
| cis-1,3-Dichloropropene | ND | 20 | 18 | 92 | | - | - | | 78-111 | - | | 30 |
| Bromoform | ND | 20 | 30 | 149 | Q | - | - | | 45-131 | - | | 30 |
| 1,1,2,2-Tetrachloroethane | ND | 20 | 23 | 114 | | - | - | | 81-122 | - | | 30 |
| Benzene | ND | 20 | 20 | 103 | | - | - | | 84-116 | - | | 30 |
| Toluene | ND | 20 | 17 | 85 | | - | - | | 83-121 | - | | 30 |
| Ethylbenzene | ND | 20 | 24 | 122 | | - | - | | 84-123 | - | | 30 |

Matrix Spike Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310628

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614272-6 QC Sample: L1310510-01 Client ID: MS Sample | | | | | | | | | | | | |
| Chloromethane | ND | 20 | 16 | 78 | | - | - | | 70-144 | - | | 30 |
| Bromomethane | ND | 20 | 14 | 68 | | - | - | | 63-141 | - | | 30 |
| Vinyl chloride | ND | 20 | 18 | 90 | | - | - | | 56-118 | - | | 30 |
| Chloroethane | ND | 20 | 19 | 97 | | - | - | | 74-130 | - | | 30 |
| 1,1-Dichloroethene | ND | 20 | 22 | 108 | | - | - | | 77-116 | - | | 30 |
| trans-1,2-Dichloroethene | ND | 20 | 21 | 107 | | - | - | | 81-121 | - | | 30 |
| cis-1,2-Dichloroethene ¹ | ND | 20 | 20 | 100 | | - | - | | 85-110 | - | | 30 |
| Trichloroethene | ND | 20 | 22 | 109 | | - | - | | 84-118 | - | | 30 |
| 1,2-Dichlorobenzene | ND | 20 | 23 | 117 | | - | - | | 78-128 | - | | 30 |
| 1,3-Dichlorobenzene | ND | 20 | 23 | 117 | | - | - | | 77-125 | - | | 30 |
| 1,4-Dichlorobenzene | ND | 20 | 24 | 118 | | - | - | | 77-125 | - | | 30 |
| p/m-Xylene ¹ | ND | 40 | 49 | 123 | Q | - | - | | 81-121 | - | | 30 |
| o-Xylene ¹ | ND | 20 | 24 | 120 | | - | - | | 81-124 | - | | 30 |
| Xylene (Total) ¹ | ND | 60 | 73 | 122 | | - | - | | 81-122 | - | | 30 |
| Styrene ¹ | ND | 20 | 24 | 119 | | - | - | | 84-133 | - | | 30 |
| Acetone ¹ | ND | 50 | 52 | 104 | | - | - | | 40-160 | - | | 30 |
| Carbon disulfide ¹ | ND | 20 | 19 | 94 | | - | - | | 54-134 | - | | 30 |
| 2-Butanone ¹ | ND | 50 | 40 | 79 | | - | - | | 57-116 | - | | 30 |
| Vinyl acetate ¹ | ND | 40 | 29 | 74 | | - | - | | 40-160 | - | | 30 |
| 4-Methyl-2-pentanone ¹ | ND | 50 | 38 | 77 | Q | - | - | | 79-125 | - | | 30 |
| 2-Hexanone ¹ | ND | 50 | 38 | 76 | Q | - | - | | 78-120 | - | | 30 |

Matrix Spike Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614272-6 QC Sample: L1310510-01 Client ID: MS Sample | | | | | | | | | | | | |
| Acrolein ¹ | ND | 40 | 20 | 50 | | - | - | | 40-160 | - | | 30 |
| Acrylonitrile ¹ | ND | 40 | 37 | 93 | | - | - | | 66-123 | - | | 30 |
| Dibromomethane ¹ | ND | 20 | 20 | 101 | | - | - | | 65-126 | - | | 30 |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria |
|----------------------|---------------|--------------|----------------|---------------|---------------------|
| 4-Bromofluorobenzene | 108 | | | | 80-120 |
| Fluorobenzene | 97 | | | | 80-120 |
| Pentafluorobenzene | 103 | | | | 80-120 |

| | | | | | | | | | | | | |
|--|----|------|-------|-----|--|---|---|--|--------|---|--|----|
| Microextractables by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614442-3 QC Sample: L1310247-02 Client ID: MS Sample | | | | | | | | | | | | |
| 1,2-Dibromoethane | ND | 0.27 | 0.276 | 102 | | - | - | | 70-130 | - | | 20 |

Lab Duplicate Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614272-5 QC Sample: L1310510-01 Client ID: DUP Sample | | | | | | |
| Methylene chloride | ND | ND | ug/l | NC | | 30 |
| 1,1-Dichloroethane | ND | ND | ug/l | NC | | 30 |
| Chloroform | ND | ND | ug/l | NC | | 30 |
| Carbon tetrachloride | ND | ND | ug/l | NC | | 30 |
| 1,2-Dichloropropane | ND | ND | ug/l | NC | | 30 |
| Dibromochloromethane | ND | ND | ug/l | NC | | 30 |
| 1,1,2-Trichloroethane | ND | ND | ug/l | NC | | 30 |
| 2-Chloroethylvinyl ether | ND | ND | ug/l | NC | | 30 |
| Tetrachloroethene | ND | ND | ug/l | NC | | 30 |
| Chlorobenzene | ND | ND | ug/l | NC | | 30 |
| Trichlorofluoromethane | ND | ND | ug/l | NC | | 30 |
| 1,2-Dichloroethane | ND | ND | ug/l | NC | | 30 |
| 1,1,1-Trichloroethane | ND | ND | ug/l | NC | | 30 |
| Bromodichloromethane | ND | ND | ug/l | NC | | 30 |
| trans-1,3-Dichloropropene | ND | ND | ug/l | NC | | 30 |
| cis-1,3-Dichloropropene | ND | ND | ug/l | NC | | 30 |
| Bromoform | ND | ND | ug/l | NC | | 30 |
| 1,1,2,2-Tetrachloroethane | ND | ND | ug/l | NC | | 30 |
| Benzene | ND | ND | ug/l | NC | | 30 |

Lab Duplicate Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits |
|--|---------------|------------------|-------|-----|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614272-5 QC Sample: L1310510-01 Client ID: DUP Sample | | | | | |
| Toluene | ND | ND | ug/l | NC | 30 |
| Ethylbenzene | ND | ND | ug/l | NC | 30 |
| Chloromethane | ND | ND | ug/l | NC | 30 |
| Bromomethane | ND | ND | ug/l | NC | 30 |
| Vinyl chloride | ND | ND | ug/l | NC | 30 |
| Chloroethane | ND | ND | ug/l | NC | 30 |
| 1,1-Dichloroethene | ND | ND | ug/l | NC | 30 |
| trans-1,2-Dichloroethene | ND | ND | ug/l | NC | 30 |
| cis-1,2-Dichloroethene ¹ | ND | ND | ug/l | NC | 30 |
| Trichloroethene | ND | ND | ug/l | NC | 30 |
| 1,2-Dichlorobenzene | ND | ND | ug/l | NC | 30 |
| 1,3-Dichlorobenzene | ND | ND | ug/l | NC | 30 |
| 1,4-Dichlorobenzene | ND | ND | ug/l | NC | 30 |
| p/m-Xylene ¹ | ND | ND | ug/l | NC | 30 |
| o-Xylene ¹ | ND | ND | ug/l | NC | 30 |
| Xylene (Total) ¹ | ND | ND | ug/l | NC | 30 |
| Styrene ¹ | ND | ND | ug/l | NC | 30 |
| Acetone ¹ | ND | ND | ug/l | NC | 30 |
| Carbon disulfide ¹ | ND | ND | ug/l | NC | 30 |

Lab Duplicate Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Project Number: 4426.9.12

Lab Number: L1310628

Report Date: 06/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits |
|--|---------------|------------------|-------|-----|------------|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614272-5 QC Sample: L1310510-01 Client ID: DUP Sample | | | | | |
| 2-Butanone ¹ | ND | ND | ug/l | NC | 30 |
| Vinyl acetate ¹ | ND | ND | ug/l | NC | 30 |
| 4-Methyl-2-pentanone ¹ | ND | ND | ug/l | NC | 30 |
| 2-Hexanone ¹ | ND | ND | ug/l | NC | 30 |
| Acrolein ¹ | ND | ND | ug/l | NC | 30 |
| Acrylonitrile ¹ | ND | ND | ug/l | NC | 30 |
| Dibromomethane ¹ | ND | ND | ug/l | NC | 30 |

| Surrogate | %Recovery | Qualifier | %Recovery | Qualifier | Acceptance Criteria |
|----------------------|-----------|-----------|-----------|-----------|---------------------|
| Pentafluorobenzene | 105 | | 103 | | 80-120 |
| Fluorobenzene | 101 | | 98 | | 80-120 |
| 4-Bromofluorobenzene | 114 | | 108 | | 80-120 |

SEMIVOLATILES

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

SAMPLE RESULTS

Lab ID: L1310628-01
 Client ID: C23 (OW)
 Sample Location: BOSTON, MA
 Matrix: Water
 Analytical Method: 1,8270D
 Analytical Date: 06/14/13 00:56
 Analyst: RC

Date Collected: 06/11/13 14:30
 Date Received: 06/11/13
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/12/13 00:43

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

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol | 36 | | 21-120 |
| Phenol-d6 | 26 | | 10-120 |
| Nitrobenzene-d5 | 60 | | 23-120 |
| 2-Fluorobiphenyl | 63 | | 15-120 |
| 2,4,6-Tribromophenol | 76 | | 10-120 |
| 4-Terphenyl-d14 | 70 | | 41-149 |

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

SAMPLE RESULTS

Lab ID: L1310628-01
 Client ID: C23 (OW)
 Sample Location: BOSTON, MA
 Matrix: Water
 Analytical Method: 1,8270D-SIM
 Analytical Date: 06/13/13 11:14
 Analyst: AS

Date Collected: 06/11/13 14:30
 Date Received: 06/11/13
 Field Prep: Not Specified
 Extraction Method: EPA 3510C
 Extraction Date: 06/12/13 00:43

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|--------|-----------|-------|------|-----|-----------------|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab | | | | | | |
| Acenaphthene | 0.45 | | ug/l | 0.20 | -- | 1 |
| Fluoranthene | ND | | ug/l | 0.20 | -- | 1 |
| Naphthalene | 0.61 | | 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 | 0.30 | | ug/l | 0.20 | -- | 1 |
| Phenanthrene | 0.38 | | 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 |
| Pentachlorophenol | ND | | ug/l | 0.80 | -- | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol | 33 | | 21-120 |
| Phenol-d6 | 22 | | 10-120 |
| Nitrobenzene-d5 | 58 | | 23-120 |
| 2-Fluorobiphenyl | 70 | | 15-120 |
| 2,4,6-Tribromophenol | 85 | | 10-120 |
| 4-Terphenyl-d14 | 73 | | 41-149 |

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270D
Analytical Date: 06/13/13 23:06
Analyst: RC

Extraction Method: EPA 3510C
Extraction Date: 06/12/13 00:43

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|-----|-----|
| Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG614344-1 | | | | | |
| 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 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|----------------------|-----------|-----------|---------------------|
| 2-Fluorophenol | 36 | | 21-120 |
| Phenol-d6 | 23 | | 10-120 |
| Nitrobenzene-d5 | 52 | | 23-120 |
| 2-Fluorobiphenyl | 52 | | 15-120 |
| 2,4,6-Tribromophenol | 64 | | 10-120 |
| 4-Terphenyl-d14 | 69 | | 41-149 |

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 06/13/13 14:13
Analyst: AS

Extraction Method: EPA 3510C
Extraction Date: 06/12/13 00:43

| Parameter | Result | Qualifier | Units | RL | MDL |
|--|--------|-----------|-------|------|-----|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG614345-1 | | | | | |
| Acenaphthene | ND | | ug/l | 0.20 | -- |
| Fluoranthene | ND | | ug/l | 0.20 | -- |
| 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 | -- |
| Pentachlorophenol | ND | | ug/l | 0.80 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|----------------------|-----------|-----------|---------------------|
| 2-Fluorophenol | 39 | | 21-120 |
| Phenol-d6 | 25 | | 10-120 |
| Nitrobenzene-d5 | 67 | | 23-120 |
| 2-Fluorobiphenyl | 53 | | 15-120 |
| 2,4,6-Tribromophenol | 60 | | 10-120 |
| 4-Terphenyl-d14 | 66 | | 41-149 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| 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: WG614344-2 WG614344-3 | | | | | | | | |
| Benzidine | 34 | | 22 | | 10-75 | 43 | Q | 30 |
| 1,2,4-Trichlorobenzene | 44 | | 62 | | 39-98 | 34 | Q | 30 |
| Bis(2-chloroethyl)ether | 59 | | 73 | | 40-140 | 21 | | 30 |
| 1,2-Dichlorobenzene | 41 | | 56 | | 40-140 | 31 | Q | 30 |
| 1,3-Dichlorobenzene | 39 | Q | 54 | | 40-140 | 32 | Q | 30 |
| 1,4-Dichlorobenzene | 40 | | 57 | | 36-97 | 35 | Q | 30 |
| 3,3'-Dichlorobenzidine | 79 | | 82 | | 40-140 | 4 | | 30 |
| 2,4-Dinitrotoluene | 88 | | 93 | | 24-96 | 6 | | 30 |
| 2,6-Dinitrotoluene | 85 | | 91 | | 40-140 | 7 | | 30 |
| Azobenzene | 81 | | 89 | | 40-140 | 9 | | 30 |
| 4-Chlorophenyl phenyl ether | 74 | | 84 | | 40-140 | 13 | | 30 |
| 4-Bromophenyl phenyl ether | 79 | | 84 | | 40-140 | 6 | | 30 |
| Bis(2-chloroisopropyl)ether | 60 | | 77 | | 40-140 | 25 | | 30 |
| Bis(2-chloroethoxy)methane | 65 | | 81 | | 40-140 | 22 | | 30 |
| Hexachlorocyclopentadiene | 22 | Q | 34 | Q | 40-140 | 43 | Q | 30 |
| Isophorone | 67 | | 80 | | 40-140 | 18 | | 30 |
| Nitrobenzene | 64 | | 78 | | 40-140 | 20 | | 30 |
| NitrosoDiPhenylAmine(NDPA)/DPA | 80 | | 87 | | 40-140 | 8 | | 30 |
| Bis(2-ethylhexyl)phthalate | 90 | | 95 | | 40-140 | 5 | | 30 |
| Butyl benzyl phthalate | 94 | | 98 | | 40-140 | 4 | | 30 |
| Di-n-butylphthalate | 89 | | 93 | | 40-140 | 4 | | 30 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| 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: WG614344-2 WG614344-3 | | | | | | | | |
| Di-n-octylphthalate | 96 | | 102 | | 40-140 | 6 | | 30 |
| Diethyl phthalate | 82 | | 88 | | 40-140 | 7 | | 30 |
| Dimethyl phthalate | 78 | | 86 | | 40-140 | 10 | | 30 |
| Aniline | 41 | | 48 | | 40-140 | 16 | | 30 |
| 4-Chloroaniline | 56 | | 61 | | 40-140 | 9 | | 30 |
| 2-Nitroaniline | 84 | | 92 | | 52-143 | 9 | | 30 |
| 3-Nitroaniline | 61 | | 68 | | 25-145 | 11 | | 30 |
| 4-Nitroaniline | 85 | | 92 | | 51-143 | 8 | | 30 |
| Dibenzofuran | 71 | | 83 | | 40-140 | 16 | | 30 |
| n-Nitrosodimethylamine | 37 | | 44 | | 22-74 | 17 | | 30 |
| 2,4,6-Trichlorophenol | 74 | | 86 | | 30-130 | 15 | | 30 |
| P-Chloro-M-Cresol | 76 | | 88 | | 23-97 | 15 | | 30 |
| 2-Chlorophenol | 60 | | 72 | | 27-123 | 18 | | 30 |
| 2,4-Dichlorophenol | 69 | | 84 | | 30-130 | 20 | | 30 |
| 2,4-Dimethylphenol | 71 | | 84 | | 30-130 | 17 | | 30 |
| 2-Nitrophenol | 63 | | 77 | | 30-130 | 20 | | 30 |
| 4-Nitrophenol | 57 | | 61 | | 10-80 | 7 | | 30 |
| 2,4-Dinitrophenol | 59 | | 66 | | 20-130 | 11 | | 30 |
| 4,6-Dinitro-o-cresol | 79 | | 84 | | 20-164 | 6 | | 30 |
| Phenol | 31 | | 37 | | 12-110 | 18 | | 30 |
| 2-Methylphenol | 57 | | 71 | | 30-130 | 22 | | 30 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C

Lab Number: L1310628

Project Number: 4426.9.12

Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|--|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG614344-2 WG614344-3 | | | | | | | | |
| 3-Methylphenol/4-Methylphenol | 55 | | 66 | | 30-130 | 18 | | 30 |
| 2,4,5-Trichlorophenol | 82 | | 93 | | 30-130 | 13 | | 30 |
| Benzoic Acid | 25 | | 29 | | 10-164 | 15 | | 30 |
| Benzyl Alcohol | 54 | | 67 | | 26-116 | 21 | | 30 |
| Carbazole | 88 | | 93 | | 55-144 | 6 | | 30 |
| Pyridine | 32 | | 33 | | 10-66 | 3 | | 30 |

| Surrogate | LCS | | LCSD | | Acceptance Criteria |
|----------------------|-----------|------|-----------|------|---------------------|
| | %Recovery | Qual | %Recovery | Qual | |
| 2-Fluorophenol | 40 | | 47 | | 21-120 |
| Phenol-d6 | 29 | | 35 | | 10-120 |
| Nitrobenzene-d5 | 63 | | 74 | | 23-120 |
| 2-Fluorobiphenyl | 67 | | 82 | | 15-120 |
| 2,4,6-Tribromophenol | 84 | | 87 | | 10-120 |
| 4-Terphenyl-d14 | 84 | | 86 | | 41-149 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|--|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG614345-2 WG614345-3 | | | | | | | | |
| Acenaphthene | 69 | | 69 | | 37-111 | 0 | | 40 |
| 2-Chloronaphthalene | 66 | | 65 | | 40-140 | 2 | | 40 |
| Fluoranthene | 82 | | 85 | | 40-140 | 4 | | 40 |
| Hexachlorobutadiene | 50 | | 56 | | 40-140 | 11 | | 40 |
| Naphthalene | 61 | | 62 | | 40-140 | 2 | | 40 |
| Benzo(a)anthracene | 88 | | 78 | | 40-140 | 12 | | 40 |
| Benzo(a)pyrene | 73 | | 71 | | 40-140 | 3 | | 40 |
| Benzo(b)fluoranthene | 88 | | 89 | | 40-140 | 1 | | 40 |
| Benzo(k)fluoranthene | 86 | | 79 | | 40-140 | 8 | | 40 |
| Chrysene | 80 | | 73 | | 40-140 | 9 | | 40 |
| Acenaphthylene | 69 | | 73 | | 40-140 | 6 | | 40 |
| Anthracene | 71 | | 68 | | 40-140 | 4 | | 40 |
| Benzo(ghi)perylene | 83 | | 74 | | 40-140 | 11 | | 40 |
| Fluorene | 79 | | 83 | | 40-140 | 5 | | 40 |
| Phenanthrene | 79 | | 71 | | 40-140 | 11 | | 40 |
| Dibenzo(a,h)anthracene | 76 | | 78 | | 40-140 | 3 | | 40 |
| Indeno(1,2,3-cd)pyrene | 78 | | 76 | | 40-140 | 3 | | 40 |
| Pyrene | 78 | | 79 | | 26-127 | 1 | | 40 |
| 1-Methylnaphthalene | 67 | | 73 | | 40-140 | 9 | | 40 |
| 2-Methylnaphthalene | 63 | | 62 | | 40-140 | 2 | | 40 |
| Pentachlorophenol | 100 | | 94 | | 9-103 | 6 | | 40 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|--|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG614345-2 WG614345-3 | | | | | | | | |
| Hexachlorobenzene | 65 | | 77 | | 40-140 | 17 | | 40 |
| Hexachloroethane | 57 | | 52 | | 40-140 | 9 | | 40 |

| Surrogate | LCS | | LCSD | | Acceptance Criteria |
|----------------------|-----------|------|-----------|------|---------------------|
| | %Recovery | Qual | %Recovery | Qual | |
| 2-Fluorophenol | 44 | | 43 | | 21-120 |
| Phenol-d6 | 31 | | 29 | | 10-120 |
| Nitrobenzene-d5 | 77 | | 65 | | 23-120 |
| 2-Fluorobiphenyl | 65 | | 74 | | 15-120 |
| 2,4,6-Tribromophenol | 73 | | 84 | | 10-120 |
| 4-Terphenyl-d14 | 66 | | 80 | | 41-149 |

PCBS

Project Name: FAN PIER PARCEL C**Lab Number:** L1310628**Project Number:** 4426.9.12**Report Date:** 06/17/13**SAMPLE RESULTS**

Lab ID: L1310628-01
Client ID: C23 (OW)
Sample Location: BOSTON, MA
Matrix: Water
Analytical Method: 5,608
Analytical Date: 06/13/13 16:32
Analyst: KB

Date Collected: 06/11/13 14:30
Date Received: 06/11/13
Field Prep: Not Specified
Extraction Method: EPA 608
Extraction Date: 06/12/13 04:26
Cleanup Method1: EPA 3665A
Cleanup Date1: 06/13/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 06/13/13

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

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|------------------------------|------------|-----------|---------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 38 | | 30-150 |
| Decachlorobiphenyl | 38 | | 30-150 |

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

**Method Blank Analysis
 Batch Quality Control**

Analytical Method: 5,608
 Analytical Date: 06/13/13 15:06
 Analyst: KB

Extraction Method: EPA 608
 Extraction Date: 06/12/13 04:26
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 06/13/13
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 06/13/13

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|--------|-----------|-------|-------|-----|
| Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG614369-1 | | | | | |
| Aroclor 1016 | ND | | ug/l | 0.250 | -- |
| Aroclor 1221 | ND | | ug/l | 0.250 | -- |
| Aroclor 1232 | ND | | ug/l | 0.250 | -- |
| Aroclor 1242 | ND | | ug/l | 0.250 | -- |
| Aroclor 1248 | ND | | ug/l | 0.250 | -- |
| Aroclor 1254 | ND | | ug/l | 0.250 | -- |
| Aroclor 1260 | ND | | ug/l | 0.250 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|------------------------------|-----------|-----------|---------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 45 | | 30-150 |
| Decachlorobiphenyl | 70 | | 30-150 |



Matrix Spike Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---------------|----------|----------|--------------|------|-----------|---------------|------|-----------------|-----|------|------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614369-3 QC Sample: L1310628-01 Client ID: C23 (OW) | | | | | | | | | | | | |
| Aroclor 1016 | ND | 1 | 0.680 | 68 | | - | - | | 40-140 | - | | 50 |
| Aroclor 1260 | ND | 1 | 0.586 | 59 | | - | - | | 40-140 | - | | 50 |

| Surrogate | MS % Recovery | MS Qualifier | MSD % Recovery | MSD Qualifier | Acceptance Criteria |
|------------------------------|---------------|--------------|----------------|---------------|---------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 55 | | | | 30-150 |
| Decachlorobiphenyl | 40 | | | | 30-150 |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|--|------------------|------|-------------------|------|---------------------|-----|------|------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG614369-2 | | | | | | | | |
| Aroclor 1016 | 64 | | - | | 40-140 | - | | 50 |
| Aroclor 1260 | 69 | | - | | 40-140 | - | | 50 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|------------------------------|------------------|------|-------------------|------|------------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 45 | | | | 30-150 |
| Decachlorobiphenyl | 69 | | | | 30-150 |

Lab Duplicate Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614369-4 QC Sample: L1310626-01 Client ID: DUP Sample | | | | | | |
| Aroclor 1016 | ND | ND | ug/l | NC | | 50 |
| Aroclor 1221 | ND | ND | ug/l | NC | | 50 |
| Aroclor 1232 | ND | ND | ug/l | NC | | 50 |
| Aroclor 1242 | ND | ND | ug/l | NC | | 50 |
| Aroclor 1248 | ND | ND | ug/l | NC | | 50 |
| Aroclor 1254 | ND | ND | ug/l | NC | | 50 |
| Aroclor 1260 | ND | ND | ug/l | NC | | 50 |

| Surrogate | %Recovery | Qualifier | %Recovery | Qualifier | Acceptance Criteria |
|------------------------------|-----------|-----------|-----------|-----------|---------------------|
| 2,4,5,6-Tetrachloro-m-xylene | 41 | | 50 | | 30-150 |
| Decachlorobiphenyl | 52 | | 69 | | 30-150 |

METALS

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

SAMPLE RESULTS

Lab ID: L1310628-01
 Client ID: C23 (OW)
 Sample Location: BOSTON, MA
 Matrix: Water

Date Collected: 06/11/13 14:30
 Date Received: 06/11/13
 Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---------------------------------------|--------|-----------|-------|--------|-----|-----------------|----------------|----------------|-------------|-------------------|---------|
| Total Metals - Westborough Lab | | | | | | | | | | | |
| Iron, Total | 6.3 | | mg/l | 0.05 | -- | 1 | 06/12/13 07:28 | 06/12/13 14:44 | EPA 3005A | 19,200.7 | BM |
| Mercury, Total | ND | | mg/l | 0.0002 | -- | 1 | 06/13/13 16:22 | 06/14/13 10:19 | EPA 245.1 | 3,245.1 | JH |



Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

SAMPLE RESULTS

Lab ID: L1310628-01 D
 Client ID: C23 (OW)
 Sample Location: BOSTON, MA
 Matrix: Water

Date Collected: 06/11/13 14:30
 Date Received: 06/11/13
 Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---------------------------------------|---------|-----------|-------|---------|-----|-----------------|----------------|----------------|-------------|-------------------|---------|
| Total Metals - Westborough Lab | | | | | | | | | | | |
| Antimony, Total | ND | | mg/l | 0.00500 | -- | 10 | 06/12/13 07:28 | 06/15/13 14:23 | EPA 3005A | 1,6020A | AK |
| Arsenic, Total | 0.01057 | | mg/l | 0.00500 | -- | 10 | 06/12/13 07:28 | 06/15/13 14:23 | EPA 3005A | 1,6020A | AK |
| Cadmium, Total | ND | | mg/l | 0.00200 | -- | 10 | 06/12/13 07:28 | 06/15/13 14:23 | EPA 3005A | 1,6020A | AK |
| Chromium, Total | ND | | mg/l | 0.01000 | -- | 10 | 06/12/13 07:28 | 06/15/13 14:23 | EPA 3005A | 1,6020A | AK |
| Copper, Total | ND | | mg/l | 0.01000 | -- | 10 | 06/12/13 07:28 | 06/15/13 14:23 | EPA 3005A | 1,6020A | AK |
| Lead, Total | ND | | mg/l | 0.00500 | -- | 10 | 06/12/13 07:28 | 06/15/13 14:23 | EPA 3005A | 1,6020A | AK |
| Nickel, Total | ND | | mg/l | 0.00500 | -- | 10 | 06/12/13 07:28 | 06/15/13 14:23 | EPA 3005A | 1,6020A | AK |
| Selenium, Total | ND | | mg/l | 0.0500 | -- | 10 | 06/12/13 07:28 | 06/15/13 14:23 | EPA 3005A | 1,6020A | AK |
| Silver, Total | ND | | mg/l | 0.00400 | -- | 10 | 06/12/13 07:28 | 06/15/13 14:23 | EPA 3005A | 1,6020A | AK |
| Zinc, Total | ND | | mg/l | 0.1000 | -- | 10 | 06/12/13 07:28 | 06/15/13 14:23 | EPA 3005A | 1,6020A | AK |



Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

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: WG614376-1 | | | | | | | | | |
| Iron, Total | ND | mg/l | 0.05 | -- | 1 | 06/12/13 07:28 | 06/12/13 13:28 | 19,200.7 | BM |

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: WG614378-1 | | | | | | | | | |
| Antimony, Total | ND | mg/l | 0.00050 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Arsenic, Total | ND | mg/l | 0.00050 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Cadmium, Total | ND | mg/l | 0.00020 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Chromium, Total | ND | mg/l | 0.00100 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Copper, Total | ND | mg/l | 0.00100 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Lead, Total | ND | mg/l | 0.00050 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Nickel, Total | ND | mg/l | 0.00050 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Selenium, Total | ND | mg/l | 0.00500 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Silver, Total | ND | mg/l | 0.00040 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |
| Zinc, Total | ND | mg/l | 0.01000 | -- | 1 | 06/12/13 07:28 | 06/14/13 18:39 | 1,6020A | AK |

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: WG614710-1 | | | | | | | | | |
| Mercury, Total | ND | mg/l | 0.0002 | -- | 1 | 06/13/13 16:22 | 06/14/13 09:56 | 3,245.1 | JH |

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|---|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG614376-2 | | | | | | | | |
| Iron, Total | 99 | | - | | 85-115 | - | | |
| Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG614378-2 | | | | | | | | |
| Antimony, Total | 90 | | - | | 80-120 | - | | |
| Arsenic, Total | 102 | | - | | 80-120 | - | | |
| Cadmium, Total | 117 | | - | | 80-120 | - | | |
| Chromium, Total | 97 | | - | | 80-120 | - | | |
| Copper, Total | 105 | | - | | 80-120 | - | | |
| Lead, Total | 106 | | - | | 80-120 | - | | |
| Nickel, Total | 103 | | - | | 80-120 | - | | |
| Selenium, Total | 108 | | - | | 80-120 | - | | |
| Silver, Total | 98 | | - | | 80-120 | - | | |
| Zinc, Total | 105 | | - | | 80-120 | - | | |
| Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG614710-2 | | | | | | | | |
| Mercury, Total | 90 | | - | | 85-115 | - | | |

Matrix Spike Analysis
Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| 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: WG614376-4 QC Sample: L1310626-01 Client ID: MS Sample | | | | | | | | | | | | |
| Iron, Total | 0.19 | 1 | 1.2 | 101 | | - | - | | 75-125 | - | | 20 |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614378-4 QC Sample: L1310626-01 Client ID: MS Sample | | | | | | | | | | | | |
| Antimony, Total | ND | 0.5 | 0.4917 | 98 | | - | - | | 80-120 | - | | 20 |
| Arsenic, Total | ND | 0.12 | 0.1257 | 105 | | - | - | | 80-120 | - | | 20 |
| Cadmium, Total | 0.00305 | 0.051 | 0.05746 | 107 | | - | - | | 80-120 | - | | 20 |
| Chromium, Total | ND | 0.2 | 0.1898 | 95 | | - | - | | 80-120 | - | | 20 |
| Copper, Total | 0.01345 | 0.25 | 0.2622 | 100 | | - | - | | 80-120 | - | | 20 |
| Lead, Total | ND | 0.51 | 0.5423 | 106 | | - | - | | 80-120 | - | | 20 |
| Nickel, Total | 0.01557 | 0.5 | 0.4951 | 96 | | - | - | | 80-120 | - | | 20 |
| Selenium, Total | ND | 0.12 | 0.117 | 98 | | - | - | | 80-120 | - | | 20 |
| Silver, Total | ND | 0.05 | 0.04796 | 96 | | - | - | | 80-120 | - | | 20 |
| Zinc, Total | 0.2415 | 0.5 | 0.7107 | 94 | | - | - | | 80-120 | - | | 20 |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614710-4 QC Sample: L1310167-08 Client ID: MS Sample | | | | | | | | | | | | |
| Mercury, Total | ND | 0.005 | 0.0062 | 123 | | - | - | | 70-130 | - | | 20 |

Lab Duplicate Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---------------|------------------|-------|-----|------|------------|
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614376-3 QC Sample: L1310626-01 Client ID: DUP Sample | | | | | | |
| Iron, Total | 0.19 | 0.18 | mg/l | 5 | | 20 |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614378-3 QC Sample: L1310626-01 Client ID: DUP Sample | | | | | | |
| Antimony, Total | ND | ND | mg/l | NC | | 20 |
| Arsenic, Total | ND | ND | mg/l | NC | | 20 |
| Cadmium, Total | 0.00305 | 0.00303 | mg/l | 1 | | 20 |
| Chromium, Total | ND | ND | mg/l | NC | | 20 |
| Copper, Total | 0.01345 | 0.01242 | mg/l | 8 | | 20 |
| Lead, Total | ND | ND | mg/l | NC | | 20 |
| Nickel, Total | 0.01557 | 0.01365 | mg/l | 13 | | 20 |
| Selenium, Total | ND | ND | mg/l | NC | | 20 |
| Silver, Total | ND | ND | mg/l | NC | | 20 |
| Zinc, Total | 0.2415 | 0.2281 | mg/l | 6 | | 20 |
| Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614710-3 QC Sample: L1310167-08 Client ID: DUP Sample | | | | | | |
| Mercury, Total | ND | ND | mg/l | NC | | 20 |

INORGANICS & MISCELLANEOUS

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

SAMPLE RESULTS

Lab ID: L1310628-01
Client ID: C23 (OW)
Sample Location: BOSTON, MA
Matrix: Water

Date Collected: 06/11/13 14:30
Date Received: 06/11/13
Field Prep: Not Specified

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|--------|-----------|-------|-------|-----|-----------------|----------------|----------------|-------------------|---------|
| General Chemistry - Westborough Lab | | | | | | | | | | |
| Chromium, Trivalent | ND | | mg/l | 0.010 | -- | 1 | - | 06/17/13 13:05 | 107,- | JO |
| Solids, Total Suspended | 18. | | mg/l | 5.0 | NA | 1 | - | 06/12/13 08:00 | 30,2540D | DW |
| Cyanide, Total | ND | | mg/l | 0.005 | -- | 1 | 06/12/13 14:30 | 06/12/13 17:21 | 30,4500CN-CE | JO |
| Chlorine, Total Residual | ND | | mg/l | 0.02 | -- | 1 | - | 06/11/13 20:23 | 30,4500CL-D | EL |
| pH (H) | 7.2 | | SU | - | NA | 1 | - | 06/11/13 22:25 | 30,4500H+-B | EL |
| TPH | ND | | mg/l | 4.00 | -- | 1 | 06/12/13 07:30 | 06/12/13 09:30 | 74,1664A | ML |
| Phenolics, Total | ND | | mg/l | 0.03 | -- | 1 | 06/13/13 15:15 | 06/13/13 17:38 | 4,420.1 | TE |
| Chromium, Hexavalent | ND | | mg/l | 0.010 | -- | 1 | 06/11/13 21:30 | 06/11/13 21:43 | 30,3500CR-D | EL |
| Anions by Ion Chromatography - Westborough Lab | | | | | | | | | | |
| Chloride | 1570 | | mg/l | 50.0 | -- | 100 | - | 06/12/13 20:44 | 44,300.0 | AU |



Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

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: WG614317-1 | | | | | | | | | |
| Chlorine, Total Residual | ND | mg/l | 0.02 | -- | 1 | - | 06/11/13 20:23 | 30,4500CL-D | EL |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG614322-1 | | | | | | | | | |
| Chromium, Hexavalent | ND | mg/l | 0.010 | -- | 1 | 06/11/13 21:30 | 06/11/13 21:41 | 30,3500CR-D | EL |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG614384-1 | | | | | | | | | |
| Solids, Total Suspended | ND | mg/l | 5.0 | NA | 1 | - | 06/12/13 08:00 | 30,2540D | DW |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG614434-1 | | | | | | | | | |
| TPH | ND | mg/l | 4.00 | -- | 1 | 06/12/13 07:30 | 06/12/13 09:30 | 74,1664A | ML |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG614463-1 | | | | | | | | | |
| Phenolics, Total | ND | mg/l | 0.03 | -- | 1 | 06/13/13 15:15 | 06/13/13 17:09 | 4,420.1 | TE |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG614479-1 | | | | | | | | | |
| Cyanide, Total | ND | mg/l | 0.005 | -- | 1 | 06/12/13 14:30 | 06/12/13 17:06 | 30,4500CN-CE | JO |
| Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG614651-1 | | | | | | | | | |
| Chloride | ND | mg/l | 0.500 | -- | 1 | - | 06/12/13 17:20 | 44,300.0 | AU |

Lab Control Sample Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | LCS | | LCSD | | %Recovery Limits | RPD | Qual | RPD Limits |
|---|-----------|------|-----------|------|------------------|-----|------|------------|
| | %Recovery | Qual | %Recovery | Qual | | | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG614317-2 | | | | | | | | |
| Chlorine, Total Residual | 93 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG614321-1 | | | | | | | | |
| pH | 100 | | - | | 99-101 | - | | 5 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG614322-2 | | | | | | | | |
| Chromium, Hexavalent | 96 | | - | | 85-115 | - | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG614434-2 | | | | | | | | |
| TPH | 85 | | - | | 64-132 | - | | 34 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG614463-2 | | | | | | | | |
| Phenolics, Total | 117 | | - | | 70-130 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG614479-2 | | | | | | | | |
| Cyanide, Total | 99 | | - | | 90-110 | - | | |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG614651-2 | | | | | | | | |
| Chloride | 98 | | - | | 90-110 | - | | |

Matrix Spike Analysis Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | MSD Qual | MSD Found | MSD %Recovery | MSD Qual | Recovery Limits | RPD | RPD Qual | RPD Limits |
|---|---------------|----------|----------|--------------|----------|-----------|---------------|----------|-----------------|-----|----------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614322-4 QC Sample: L1310626-01 Client ID: MS Sample | | | | | | | | | | | | |
| Chromium, Hexavalent | ND | 0.1 | 0.090 | 90 | - | - | - | - | 85-115 | - | - | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614434-4 QC Sample: L1310628-01 Client ID: C23 (OW) | | | | | | | | | | | | |
| TPH | ND | 20.4 | 17.3 | 85 | - | - | - | - | 64-132 | - | - | 34 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614463-4 QC Sample: L1310628-01 Client ID: C23 (OW) | | | | | | | | | | | | |
| Phenolics, Total | ND | 0.4 | 0.42 | 105 | - | - | - | - | 70-130 | - | - | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614479-4 QC Sample: L1310626-01 Client ID: MS Sample | | | | | | | | | | | | |
| Cyanide, Total | 0.008 | 0.2 | 0.187 | 90 | - | - | - | - | 90-110 | - | - | 30 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614651-3 QC Sample: L1310678-01 Client ID: MS Sample | | | | | | | | | | | | |
| Chloride | 3.50 | 4 | 7.52 | 100 | - | - | - | - | 40-151 | - | - | 18 |

Lab Duplicate Analysis

Batch Quality Control

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
Report Date: 06/17/13

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|--|---------------|------------------|-------|-----|------|------------|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614317-3 QC Sample: L1310626-01 Client ID: DUP Sample | | | | | | |
| Chlorine, Total Residual | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614321-2 QC Sample: L1310628-01 Client ID: C23 (OW) | | | | | | |
| pH (H) | 7.2 | 7.1 | SU | 1 | | 5 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614322-3 QC Sample: L1310628-01 Client ID: C23 (OW) | | | | | | |
| Chromium, Hexavalent | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614384-2 QC Sample: L1310577-01 Client ID: DUP Sample | | | | | | |
| Solids, Total Suspended | 57 | 54. | mg/l | 5 | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614434-3 QC Sample: L1310626-01 Client ID: DUP Sample | | | | | | |
| TPH | ND | ND | mg/l | NC | | 34 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614463-3 QC Sample: L1310626-01 Client ID: DUP Sample | | | | | | |
| Phenolics, Total | ND | ND | mg/l | NC | | 20 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614479-5 QC Sample: L1310577-01 Client ID: DUP Sample | | | | | | |
| Cyanide, Total | 0.088 | 0.090 | mg/l | 3 | | 30 |
| Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG614651-4 QC Sample: L1310678-01 Client ID: DUP Sample | | | | | | |
| Chloride | 3.50 | 3.53 | mg/l | 1 | | 18 |

Project Name: FAN PIER PARCEL C

Lab Number: L1310628

Project Number: 4426.9.12

Report Date: 06/17/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

| Container ID | Container Type | Cooler | pH | Temp deg C | Pres | Seal | Analysis(*) |
|--------------|------------------------------|--------|-----|------------|------|--------|---|
| L1310628-01A | Vial Na2S2O3 preserved | A | N/A | 5.1 | Y | Absent | 624(3) |
| L1310628-01B | Vial Na2S2O3 preserved | A | N/A | 5.1 | Y | Absent | 624(3) |
| L1310628-01C | Vial Na2S2O3 preserved | A | N/A | 5.1 | Y | Absent | 624(3) |
| L1310628-01D | Plastic 500ml unpreserved | A | 7 | 5.1 | Y | Absent | CL-300(28),TRC-4500(1),PH-4500(.01) |
| L1310628-01E | Vial Na2S2O3 preserved | A | N/A | 5.1 | Y | Absent | 504(14) |
| L1310628-01F | Vial Na2S2O3 preserved | A | N/A | 5.1 | Y | Absent | 504(14) |
| L1310628-01G | Plastic 1000ml unpreserved | A | 7 | 5.1 | Y | Absent | TSS-2540(7) |
| L1310628-01H | Amber 1000ml unpreserved | A | 7 | 5.1 | Y | Absent | 8270TCL(7),8270TCL-SIM(7) |
| L1310628-01I | Amber 1000ml unpreserved | A | 7 | 5.1 | Y | Absent | 8270TCL(7),8270TCL-SIM(7) |
| L1310628-01J | Amber 1000ml unpreserved | A | 7 | 5.1 | Y | Absent | 8270TCL(7),8270TCL-SIM(7) |
| L1310628-01K | Amber 1000ml unpreserved | A | 7 | 5.1 | Y | Absent | 8270TCL(7),8270TCL-SIM(7) |
| L1310628-01L | Amber 1000ml HCl preserved | A | N/A | 5.1 | Y | Absent | TPH-1664(28) |
| L1310628-01M | Amber 1000ml HCl preserved | A | N/A | 5.1 | Y | Absent | TPH-1664(28) |
| L1310628-01N | Amber 500ml H2SO4 preserved | A | <2 | 5.1 | Y | Absent | TPHENOL-420(28) |
| L1310628-01O | Amber 1000ml Na2S2O3 | A | 7 | 5.1 | Y | Absent | PCB-608(7) |
| L1310628-01P | Amber 1000ml Na2S2O3 | A | 7 | 5.1 | Y | Absent | PCB-608(7) |
| L1310628-01Q | Plastic 250ml HNO3 preserved | A | <2 | 5.1 | 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),TRICR-CALC(1) |
| L1310628-01R | Plastic 500ml unpreserved | A | 7 | 5.1 | Y | Absent | HEXCR-3500(1),TRICR-CALC(1) |
| L1310628-01T | Plastic 250ml NaOH preserved | A | >12 | 5.1 | Y | Absent | TCN-4500(14) |

*Values in parentheses indicate holding time in days

Project Name: FAN PIER PARCEL C
Project Number: 4426.9.12

Lab Number: L1310628
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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. |
| LCS D | - 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. |
| 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. |

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.

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 five times (5x) 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.
- 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 RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported

Report Format: Data Usability Report



Project Name: FAN PIER PARCEL C
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Data Qualifiers

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.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

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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.
- 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.

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.



Certificate/Approval Program Summary

Last revised June 17, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. **NELAP Accredited Solid Waste/Soil.**

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

State of Illinois Certificate/Lab ID: 003155. **NELAP Accredited.**

Drinking Water (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

Hazardous and Solid Waste (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

Maine Department of Human Services Certificate/Lab ID: 2009024.

Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Non-Potable Water (Inorganic Parameters: (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: 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-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 4500SO3-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. Organic Parameters: SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. Organic Parameters: SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO3-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. Organic Parameters: SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 6010C, 6020, 6020A, 7196A, 3060A, 9030B, 1010, 1010A, 1030, 1311, 1312, 3005A, 3050B, 7471A, 7471B, 9010C, 9012B, 9014, 9038, 9040B, 9040C, 9045C, 9045D, 9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330, 8082A, EPA 3510C, 5030B, 8015C, 8011.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (Inorganic Parameters: SM2310B, 2320B, 4500Cl-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO3-F, 353.2, 4500P-E, 4500SO4-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311, 1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

Drinking Water Program Certificate/Lab ID: 25700. (Inorganic Parameters: Chloride EPA 300.0. Organic Parameters: 524.2)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. **NELAP Accredited.**

Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO3-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A, 3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P, BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500Cl-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500S-D, 4500SO3-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH3-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. **NELAP Accredited via NJ-DEP.**

Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commission on Environmental Quality Certificate/Lab ID: T104704476. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S²⁻ D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. **NELAP Accredited.**

Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO3-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500Cl-E, 4500F-B, 4500F-C, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500 SO3-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm 9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6010C, 6020, 6020A, 245.1, 245.2, 7470A, 9040B, 9010B, 180.1, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 4500CL-D, 5220D, 5310C, 2130B, 2320B, 2540C, 3005A, 3015, 9010B, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A, 8082, 8082A, 8081A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 6010C, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 9012A, 9040B, 9045C, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330A/B-prep, 8082, 8082A, 8081A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether, Ethyl tert-butyl ether, Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE). **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, 1,3,5-Trimethylbenzene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnaphthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. **EPA 8015C:** TPH. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO₂ in a soil matrix, NO₃ in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.



APPENDIX D

AREAS OF CRITICAL CONCERN, ENDANGERED AND THREATENED SPECIES

Fan Pier Parcel C is located south of Boston's Inner Harbor within the South Boston Seaport District. Based on a review of Massachusetts Geographic Information Systems DEP Priority Resources' Map, there are no drinking water supplies, no Areas of Critical Environmental Concern, no Sole Source Aquifers, no fish habitats, and no habitats of Species of Special Concern or Threatened or Endangered Species at or within 500-feet of the subject site. No Protected Open Space is indicated within 500-feet of the subject property. Wetlands and a 500-year flood zone are indicated along part of the seawall to the north of the property.

There are no surface water bodies located within the site boundaries however, Boston's Inner Harbor is located immediately to the north of the subject property. In addition, Fort Point Channel is located on the opposite side of the Federal Courthouse, approximately 500 feet to the west of the subject property.

A review of the federal listing of threatened and endangered species published by the U.S. Fish and Wildlife Service identified no threatened and/or endangered species or critical habitats at or in the vicinity of the discharge location and/or discharge outfall. In addition, a review of the Massachusetts Division of Fisheries and Wildlife on-line database identified no threatened or endangered species at the point of discharge and/or the discharge outfall.

Based upon the above, the site is considered criterion A pursuant to Appendix VII of the RGP.

MassDEP - Bureau of Waste Site Cleanup

MCP Numerical Ranking System Map: 500 feet & 0.5 Mile Radii

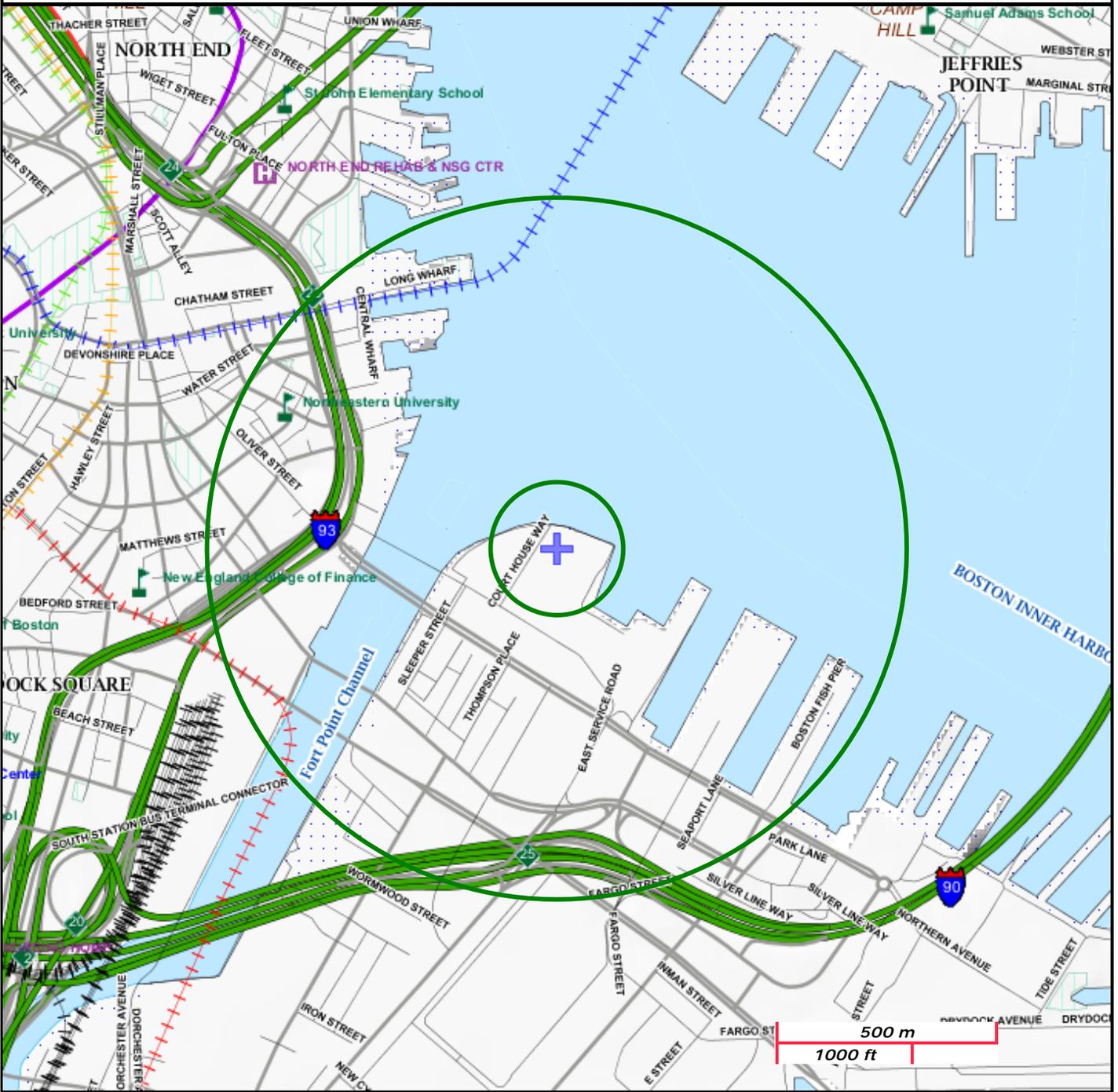
Site Information:

FAN PIER
60 NORTHERN AVENUE BOSTON, MA
3-000019647
NAD83 UTM Meters:
4691175mN, 331550mE (Zone: 19)
June 28, 2013

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. | | | |

MASSACHUSETTS AREAS OF CRITICAL ENVIRONMENTAL CONCERN

June 2009

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

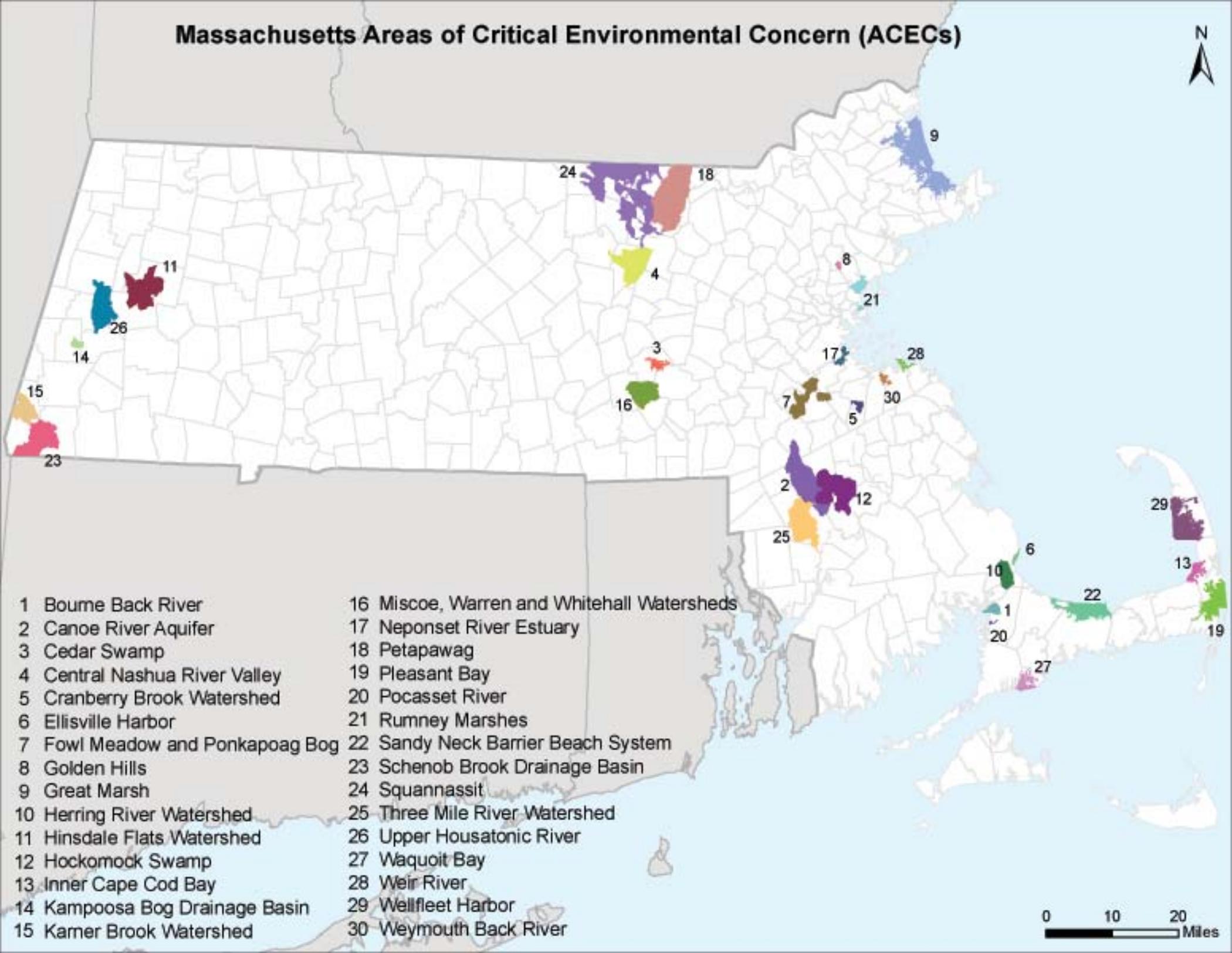
(800 acres, 1982) Hingham and Weymouth

Towns with ACECs within their Boundaries

June 2009

| 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 | | |

Massachusetts Areas of Critical Environmental Concern (ACECs)



- | | |
|---------------------------------|--|
| 1 Bourn Back River | 16 Miscoe, Warren and Whitehall Watersheds |
| 2 Canoe River Aquifer | 17 Neponset River Estuary |
| 3 Cedar Swamp | 18 Petapawag |
| 4 Central Nashua River Valley | 19 Pleasant Bay |
| 5 Cranberry Brook Watershed | 20 Pocasset River |
| 6 Ellisville Harbor | 21 Rumney Marshes |
| 7 Fowl Meadow and Ponkapoag Bog | 22 Sandy Neck Barrier Beach System |
| 8 Golden Hills | 23 Schenob Brook Drainage Basin |
| 9 Great Marsh | 24 Squannassit |
| 10 Herring River Watershed | 25 Three Mile River Watershed |
| 11 Hinsdale Flats Watershed | 26 Upper Housatonic River |
| 12 Hockomock Swamp | 27 Waquoit Bay |
| 13 Inner Cape Cod Bay | 28 Weir River |
| 14 Kamposoa Bog Drainage Basin | 29 Wellfleet Harbor |
| 15 Kamer Brook Watershed | 30 Weymouth Back River |



**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) |
| Berkshire | Bog Turtle | Threatened | Wetlands | Egremont and Sheffield |
| 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 | Raynham and Taunton |
| 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 |
| 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 |
| Franklin | Northeastern bulrush | Endangered | Wetlands | Montague |
| | Dwarf wedgemussel | Endangered | Mill River | Whately |
| 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. | Hadley, Hatfield, Amherst and Northampton |
| Hampden | Small whorled Pogonia | Threatened | Forests with somewhat poorly drained soils and/or a seasonally high water table | Southwick |
| Middlesex | Small whorled Pogonia | Threatened | Forests with somewhat poorly drained soils and/or a seasonally high water table | Groton |
| 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 |
| Plymouth | Piping Plover | Threatened | Coastal Beaches | Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoissett |
| | Northern Red-bellied cooter | Endangered | Inland Ponds and Rivers | Kingston, Middleborough, Carver, Plymouth, Bourne, and Wareham |
| | Roseate Tern | Endangered | Coastal beaches and the Atlantic Ocean | Plymouth, Marion, Wareham, and Mattapoissett. |
| Suffolk | Piping Plover | Threatened | Coastal Beaches | Winthrop |
| Worcester | Small whorled Pogonia | Threatened | Forests with somewhat poorly drained soils and/or a seasonally high water table | Leominster |

- 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.

7/31/2008



APPENDIX E

NATIONAL REGISTER OF HISTORIC PLACES

The National Register of Historic Places on-line database was reviewed for listings located within the immediate vicinity of the subject site in Boston, Massachusetts. A review of the most recent National Register of Historical Places for Suffolk County, Massachusetts did not identify records or addresses of Historic Places that exist in the immediate vicinity of the subject site and/or outfall location. The nearest National Historic Place to the subject site is the Congress Street Fire Station which is located approximately 0.25 miles to the southwest of the subject site. It is not anticipated that dewatering activities at the subject site will affect the Congress Street Fire Station National Historic Place.

Based upon the above, the site is considered criterion 2 pursuant to Appendix IV of the RGP.



APPENDIX F

Best Management Practice Plan

A Notice of Intent for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) in anticipation of temporary construction dewatering planned to occur at Fan Pier Parcel C located in Boston, Massachusetts. This Best Management Practices Plan (BMPP) has been prepared as an Appendix to the RGP and will be posted at the site during the time period that temporary construction dewatering is occurring at the site.

Water Treatment and Management

Construction dewatering effluent is anticipated to be pumped from localized sumps and trenches within the excavation and directly into a settling tank. The effluent will then flow through any necessary treatment systems and discharge through hoses directly into Boston Harbor located adjacent to the north of the subject site. Dewatering effluent treatment may consist of bag filters, ion exchange, and/or precipitation, as required.

Discharge Monitoring and Compliance

Regular sampling and testing will be conducted at the influent to the system and the treated effluent as required by the RGP. This includes analytical testing required within days 1 and 3 of initial discharge and the monthly testing to be conducted through the end of the scheduled discharge.

Monitoring will include checking the condition of the treatment system, assessing the need for treatment system adjustments based on monitoring data, and observing and recording daily flow rates and discharge quantities.

The total monthly flow will be monitored by checking and documenting the flow through the flow meter to be installed on the system. Flow will be maintained below the "system design flow" by regularly monitoring flow and adjusting the amount of construction dewatering as needed.

Monthly monitoring reports will be compiled and maintained at the site.



System Maintenance

A number of methods will be used to minimize the potential for violations for the term of this permit. Scheduled regular maintenance of the treatment system will be conducted to verify proper operation. Regular maintenance will include checking the condition of the treatment system equipment such as the settling tanks, bag filters, cyanide treatment system, filters, hoses, pumps, and flow meters. Equipment will be monitored daily for potential issues or unscheduled maintenance requirements.

Employees who have direct or indirect responsibility for ensuring compliance with the RGP will be trained by the Contractor.

Miscellaneous Items

It is anticipated that the erosion control measures and the nature of the site will minimize potential runoff to or from the site. The project specifications also include requirements for erosion control. Site security for the treatment system will be covered within the overall site security plan.

No adverse affects on designated uses of surrounding surface water bodies is anticipated. The nearest surface water body is Boston Harbor which is located adjacent to the north of the subject site. Dewatering effluent will be pumped to a settling tank. Water within the settling tank will be pumped through bag filters and a cyanide treatment system in series prior to discharge to the harbor.

Management of Treatment System Materials

Dewatering effluent will be pumped directly to the treatment system from the excavation with the use of hoses and sumps to minimize handling. The Contractor will establish staging areas for equipment or materials storage that may be possible sources of pollution that will be located away from any dewatering activities, to the extent practicable.

Sediment from the tank used in the treatment system will be characterized and removed from the site to an appropriate receiving facility, in accordance with applicable laws and regulations. Bag filters will be disposed of as necessary.