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

**CERTIFIED MAIL RETURN RECEIPT REQUESTED**

MAR 09 2015

Anthony F. Andronico
License Site Representative
Cyn Environmental Services
100 Tosca Drive
Stoughton, MA 02072

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000: Residential petroleum release site located at 18 Swan Road, Quincy, MA 02169, Norfolk County; Authorization # MAG910667

Dear Mr. Andronico:

Based on the review of a Notice of Intent (NOI) submitted by Russell W. Barton from the firm Wilcox & Barton, Inc., on behalf of Tara Realty Trust for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Operator to discharge in accordance with the provisions of the RGP at 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 which your consultant marked "Believed Present". These are, petroleum hydrocarbons, total BTX, naphthalene, arsenic, chromium, nickel and iron. In addition, monitoring for group I polycyclic aromatic hydrocarbons, for the protection of the receiving stream from oil contamination is required.

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, trivalent chromium of 100 ug/L, nickel of 8.2 ug/L, zinc of 85.6ug/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 in March, 2016. Please be advised that you need to reapply for this permit to continue discharging after the EPA RGP reissuance date. EPA will announce on the EPA website a date for reapplication submittals. Also, please note that 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

Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Quincy PWD
Russell W. Barton

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

| **NPDES Authorization Number:** | **MAG9106667** |
|---|---|
| Authorization Issued: | March, 2015 |
| Facility/Site Name: | Residential Petroleum Release |
| Facility/Site Address: | 18 Swan Road, Quincy, MA 02169, Northfolk County |
| | Email address of owner: thomashoulihan@hotmail.com |
| Legal Name of Operator: | Cyn Environmental Services |
| Operator contact name, title, and Address: | Anthony F. Andronico, 100 Tosca Drive, Stoughton, MA 02072 |
| | Email: afandronico @gmail.com |
| Estimated date of The Project Completion: | March 31, 2016 |
| Category and Sub-Category: | Category I. Petroleum Site Remediation. Subcategory B. Fuel Oil and Other oil Sites |
| RGP Termination Date: | September 2015 |
| Receiving Water: | Quincy Bay |
| | |

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

| | **Parameter** | **Effluent Limit/Method#/ML** (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit) |
|---|---|---|
| √ | 1. Total Suspended Solids (TSS) | 30 milligrams/liter (mg/L) **, 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 |
| √ | 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 |
| | 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 parameter** | **Total Recoverable Metal Limit @ H [10]= 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) [11/12]** | **Saltwater** | **Minimum level=ML** | |
|---|---|---|---|---|---|
| | 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 | 0.2 |
| | 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:

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.
[9]Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).
[10] Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.
[11] 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 x 1,000ug/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 x 2 =2,000 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

Wilcox & Barton INC.
ENVIRONMENTAL AND ENGINEERING SERVICES

February 2, 2015

U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code OEPO6-4
Boston, MA 02109-3912
Attn: Remediation General Permit NOI Processing

**RE: Notice of Intent – MAG910000**
**Sump Dewatering, Treatment, and Discharge**
**18 Swan Road, Quincy, Massachusetts, MassDEP RTN 3-32600**

To Whom It May Concern:

Wilcox & Barton, Inc. has prepared the enclosed Notice of Intent (NOI) for general coverage under Remediation General Permit MAG910000. The project proponent, Tara Realty Trust, is the Responsible Party for a release of heating oil to the ground at a residential dwelling on the subject property. Cyn Environmental Services has proposed to extract petroleum-contaminated groundwater from a basement sump as part of Immediate Response Actions performed under LSP oversight. Water will be treated and discharged to a stormwater catch basin on an adjacent property, thence to Quincy Bay at a point shown in the permit application package.

The project site is a disposal site as defined by the Massachusetts Contingency Plan (RTN 3-32600). This discharge will be classified as Category I (Petroleum Related Site Remediation), Subcategory B (Fuel Oils and Other Oil Sites in including Residential non-Business Remediation Discharges). Treatment methods and capacity will be adequate to remove petroleum-related constituents (and metals, if confirmed) that are present in groundwater at the site.

We appreciate your attention to this matter. If you have any questions or concerns regarding this project, please do not hesitate to contact the undersigned at (603) 369-4190 x502.

Very truly yours,

**WILCOX & BARTON, INC.**

Russell W. Barton
Principal Geologist

cc: City Clerk, City of Quincy, MA

Attachment: US EPA Notice of Intent (NOI) for Remediation General Permit

## 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**: 18 Swan Road | | **Facility/site** mailing address: | | |
| Location of **facility/site**:<br>longitude: 70d 58' 48.42" W<br>latitude: 42d 15' 21.87" N | Facility SIC code(s): NA | Street: 18 Swan Road | | |
| b) Name of **facility/site owner:** Residence / Tara Realty Trust | | Town: Quincy | | |
| Email address of facility/site owner: thomashoulihan@hotmail.com | | State: MA | Zip: 02169 | County: Norfolk |
| Telephone no. of facility/site **owner**: (617) 471-4734 | | | | |
| Fax no. of facility/site **owner**: | | **Owner** is (check one): 1. Federal ○ 2. State/Tribal ○ 3. Private ◉ 4. Other ○ if so, describe: | | |
| Address of **owner** (if different from site): | | | | |
| Street: 156 Stoughton Street | | | | |
| Town: Quincy | State: MA | Zip: 02169 | County: Norfolk | |
| c) Legal name of **operator**: Cyn Environmental Services | **Operator** telephone no: (617) 328-9229 | **Operator** fax no.: | **Operator** email: afandronico@gmail.com | |
| **Operator** contact name and title: Anthony F. Andronico | | | | |
| Address of **operator** (if different from owner): | Street: 100 Tosca Drive | | | |
| Town: Stoughton | State: MA | Zip: 02072 | County: Norfolk | |

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

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y ◉ N ○
If Y, please list:
1. site identification # assigned by the state of NH or MA: RTN 3-32600
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:

MassDEP Northeast Regional Office (978) 694-3200
205B Lowell Street, Wilmington, MA 01857

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.

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

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

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

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

Dewatering for extraction of contaminated groundwater resulting from fuel oil spill. Groundwater will be pumped from an existing basement sump as part of Immediate Response Actions under the MCP. Water to be treated and discharged to Quincy Bay via municipal drainage infrastructure.

b) Provide the following information about each discharge:

1) Number of discharge points: 1

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, $ft^3/s$)?
Max. flow: 0.1114 Is maximum flow a **design value**? Y ◉ N ○
Average flow (include units) .0334 Is average flow a design value or estimate? estimate

3) Latitude and longitude of each discharge within 100 feet:
pt.1: lat. 42d 15' 52.38" N long. 70d 58' 44.25" W pt.2: lat. _____ long. _____;
pt.3: lat. _____ long. _____ pt.4: lat. _____ long. _____;
pt.5: lat. _____ long. _____ pt.6: lat. _____ long. _____;
pt.7: lat. _____ long. _____ pt.8: lat. _____ long. _____; etc.

4) If hydrostatic testing, total volume of the discharge (gals): _____

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

c) Expected dates of discharge (mm/dd/yy): start February 2015 end March 2016

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). See attached Figure 1- Site Location Map, Figure 2- Site Plan, and Figure 3- Site Vicinity Plan, Figure 4 - Treatment System Diagram

**3. Contaminant information.**

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

| Parameter * | CAS Number | Believed Absent | Believed Present | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Average daily value | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 1. Total Suspended Solids (TSS) | | ☒ | ☐ | 0 | | | | | | | |
| 2. Total Residual Chlorine (TRC) | | ☒ | ☐ | 0 | | | | | | | |
| 3. Total Petroleum Hydrocarbons (TPH) | | ☐ | ☒ | 1 | grab | EPH 04.1.1 | 2,500 | 668,400 | 157.8 | 668,400 | 47.32 |
| 4. Cyanide (CN) | 57125 | ☒ | ☐ | 0 | | | | | | | |
| 5. Benzene (B) | 71432 | ☒ | ☐ | 1 | grab | VPH 04-1.1 | 25 | | | | |
| 6. Toluene (T) | 108883 | ☒ | ☐ | 1 | grab | VPH 4-1.1 | 25 | | | | |
| 7. Ethylbenzene (E) | 100414 | ☒ | ☐ | 1 | grab | VPH 04-1.1 | 25 | | | | |
| 8. (m,p,o) Xylenes (X) | 108883; 106423; 95476; 1330207 | ☐ | ☒ | 1 | grab | VPH 04-1.1 | 75 | 124 | 0.0293 | 124 | 0.0088 |
| 9. Total BTEX [2] | n/a | ☐ | ☒ | 1 | grab | VPH 04-1.1 | NA | 124 | 0.0293 | 124 | 0.0088 |
| 10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3] | 106934 | ☒ | ☐ | 0 | | | | | | | |
| 11. Methyl-tert-Butyl Ether (MtBE) | 1634044 | ☒ | ☐ | 1 | grab | VPH 04.1.1 | 25 | | | | |
| 12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol) | 75650 | ☒ | ☐ | 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.

| Parameter * | CAS Number | Believed Absent | Believed Present | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Average daily value | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 13. tert-Amyl Methyl Ether (TAME) | 9940508 | ☒ | ☐ | 0 | | | | | | | |
| 14. Naphthalene | 91203 | ☐ | ☒ | 1 | grab | VPH 04.1.1 | 120 | 150 | 0.0354 | 150 | 0.0106 |
| 15. Carbon Tetrachloride | 56235 | ☒ | ☐ | 0 | | | | | | | |
| 16. 1,2 Dichlorobenzene (o-DCB) | 95501 | ☒ | ☐ | 0 | | | | | | | |
| 17. 1,3 Dichlorobenzene (m-DCB) | 541731 | ☒ | ☐ | 0 | | | | | | | |
| 18. 1,4 Dichlorobenzene (p-DCB) | 106467 | ☒ | ☐ | 0 | | | | | | | |
| 18a. Total dichlorobenzene | | ☒ | ☐ | 0 | | | | | | | |
| 19. 1,1 Dichloroethane (DCA) | 75343 | ☒ | ☐ | 0 | | | | | | | |
| 20. 1,2 Dichloroethane (DCA) | 107062 | ☒ | ☐ | 0 | | | | | | | |
| 21. 1,1 Dichloroethene (DCE) | 75354 | ☒ | ☐ | 0 | | | | | | | |
| 22. cis-1,2 Dichloroethene (DCE) | 156592 | ☒ | ☐ | 0 | | | | | | | |
| 23. Methylene Chloride | 75092 | ☒ | ☐ | 0 | | | | | | | |
| 24. Tetrachloroethene (PCE) | 127184 | ☒ | ☐ | 0 | | | | | | | |
| 25. 1,1,1 Trichloro-ethane (TCA) | 71556 | ☒ | ☐ | 0 | | | | | | | |
| 26. 1,1,2 Trichloro-ethane (TCA) | 79005 | ☒ | ☐ | 0 | | | | | | | |
| 27. Trichloroethene (TCE) | 79016 | ☒ | ☐ | 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 | ☒ | ☐ | 0 | | | | | | | |
| 29. Acetone | 67641 | ☒ | ☐ | 0 | | | | | | | |
| 30. 1,4 Dioxane | 123911 | ☒ | ☐ | 0 | | | | | | | |
| 31. Total Phenols | 108952 | ☒ | ☐ | 0 | | | | | | | |
| 32. Pentachlorophenol (PCP) | 87865 | ☒ | ☐ | 0 | | | | | | | |
| 33. Total Phthalates (Phthalate esters) [4] | | ☒ | ☐ | 0 | | | | | | | |
| 34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate] | 117817 | ☒ | ☐ | 0 | | | | | | | |
| 35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH) | | ☒ | ☐ | 0 | | | | | | | |
| a. Benzo(a) Anthracene | 56553 | ☒ | ☐ | 0 | | | | | | | |
| b. Benzo(a) Pyrene | 50328 | ☒ | ☐ | 0 | | | | | | | |
| c. Benzo(b)Fluoranthene | 205992 | ☒ | ☐ | 0 | | | | | | | |
| d. Benzo(k)Fluoranthene | 207089 | ☒ | ☐ | 0 | | | | | | | |
| e. Chrysene | 21801 | ☒ | ☐ | 0 | | | | | | | |
| f. Dibenzo(a,h)anthracene | 53703 | ☒ | ☐ | 0 | | | | | | | |
| g. Indeno(1,2,3-cd) Pyrene | 193395 | ☒ | ☐ | 0 | | | | | | | |
| 36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH) | | ☒ | ☐ | 0 | | | | | | | |

[4] The sum of individual phthalate compounds.

| Parameter * | CAS Number | Believed Absent | Believed Present | # of Samples | Sample Type (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Average daily value | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| h. Acenaphthene | 83329 | ☒ | ☐ | 1 | grab | EPH 04.1.1 | 10 | | | | |
| i. Acenaphthylene | 208968 | ☒ | ☐ | 0 | | | | | | | |
| j. Anthracene | 120127 | ☒ | ☐ | 0 | | | | | | | |
| k. Benzo(ghi) Perylene | 191242 | ☒ | ☐ | 0 | | | | | | | |
| l. Fluoranthene | 206440 | ☒ | ☐ | 0 | | | | | | | |
| m. Fluorene | 86737 | ☒ | ☐ | 0 | | | | | | | |
| n. Naphthalene | 91203 | ☐ | ☒ | 1 | grab | EPH 04.1.1 | 10 | 95 | 0.0224 | 95 | 0.0067 |
| o. Phenanthrene | 85018 | ☐ | ☒ | 1 | grab | EPH 04.1.1 | 10 | 170 | 0.0401 | 170 | 0.0120 |
| p. Pyrene | 129000 | ☒ | ☐ | 0 | | | | | | | |
| 37. Total Polychlorinated Biphenyls (PCBs) | 85687; 84742; 117840; 84662; 131113; 117817. | ☒ | ☐ | 0 | | | | | | | |
| 38. Chloride | 16887006 | ☒ | ☐ | 0 | | | | | | | |
| 39. Antimony | 7440360 | ☒ | ☐ | 1 | grab | 6020 | 1.0 | | | | |
| 40. Arsenic | 7440382 | ☐ | ☒ | 1 | grab | 6020 | 0.40 | 11 | 0.0026 | 11 | .0008 |
| 41. Cadmium | 7440439 | ☒ | ☐ | 1 | grab | 6020 | 0.50 | | | | |
| 42. Chromium III (trivalent) | 16065831 | ☐ | ☒ | 1 | grab | 6020 | 1.0 | 1.6 | 0.0004 | 1.6 | 0.0001 |
| 43. Chromium VI (hexavalent) | 18540299 | ☒ | ☐ | 0 | | | | | | | |
| 44. Copper | 7440508 | ☒ | ☐ | 0 | | | | | | | |
| 45. Lead | 7439921 | ☐ | ☒ | 1 | grab | 6020 | 1.0 | 4.4 | 0.0010 | 4.4 | 0.0003 |
| 46. Mercury | 7439976 | ☒ | ☐ | 1 | grab | 7470 | | | | | |
| 47. Nickel | 7440020 | ☐ | ☒ | 1 | grab | 6020 | 5.0 | 6.2 | 0.0015 | 6.2 | 0.0004 |
| 48. Selenium | 7782492 | ☒ | ☐ | 1 | grab | 6020 | 5.0 | | | | |
| 49. Silver | 7440224 | ☒ | ☐ | 1 | grab | 6020 | 0.50 | | | | |
| 50. Zinc | 7440666 | ☐ | ☒ | 1 | grab | 6020 | 10 | 47 | 0.0111 | 47 | 0.0033 |
| 51. Iron | 7439896 | ☐ | ☒ | 1 | grab | 6010 | 0.050 | 16,000 | 3.778 | 16,000 | 1.132 |
| Other (describe): | | ☐ | ☐ | | | | | | | | |

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

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

| | |
|---|---|
| *Step 1:* Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y◉ N○ | If yes, which metals?<br>Iron |
| *Step 2:* For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals?<br>Metal: _____ DF: _____<br>Metal: _____ DF: _____<br>Metal: _____ DF: _____<br>Metal: _____ DF: _____<br>Etc.<br>**NA, discharge to salt water** | 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)?<br>Y◉ N○ If Y, list which metals:<br>Iron |

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

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

Water will be extracted as needed from an existing sump in the basement of the residence. Extracted water will be pumped to a temporary storage tank to buffer flow and allow solids to settle. Water will then be passed through 10-micron bag filters followed by granular activated carbon canisters plumbed in multiple parallel series depending on flow requirements to maintain drawdown and retention time needed for adequate filtration. Treated water will be discharged by overland pipe to a catch-basin located on the eastern abutting property. The catch-basin discharges to Quincy Bay via the municipal system.

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

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system:
Average flow rate of discharge 15 gpm Maximum flow rate of treatment system 50 gpm
Design flow rate of treatment system 50 gpm

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

None. If flocculant, pH adjustment, or other chemical is to effect iron removal, EPA will be notified. No chemical additives are anticipated at this time.

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

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

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

Treated water is discharged to municipal catch basin located on the eastern abutting property. The catch basin then discharges to Quincy Bay.

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: Impaired (5)

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water: Not calculated - Quincy Bay 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)?
_Residence /_____ **Enterococcus, fecal coliform, PCBs in fish tissue**
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.

Attachments

Figure 1 - Site Location Map
Figure 2 - Site Plan
Figure 3 - Site Vicinity Plan
Figure 4 - Treatment System Diagram
Table 1 - Analytical Results
Fish and Wildlife Concurrence
Historic Resources MACRIS on-line Database
Laboratory Analytical Data

**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: | Residence / Tara Realty Trust |
| Operator signature: | Anthony F. Andronico |
| Printed Name &Title: | Anthony F. Andronico, LSP |
| Date: | January 30, 2015 |


SCALE: 1:25 000

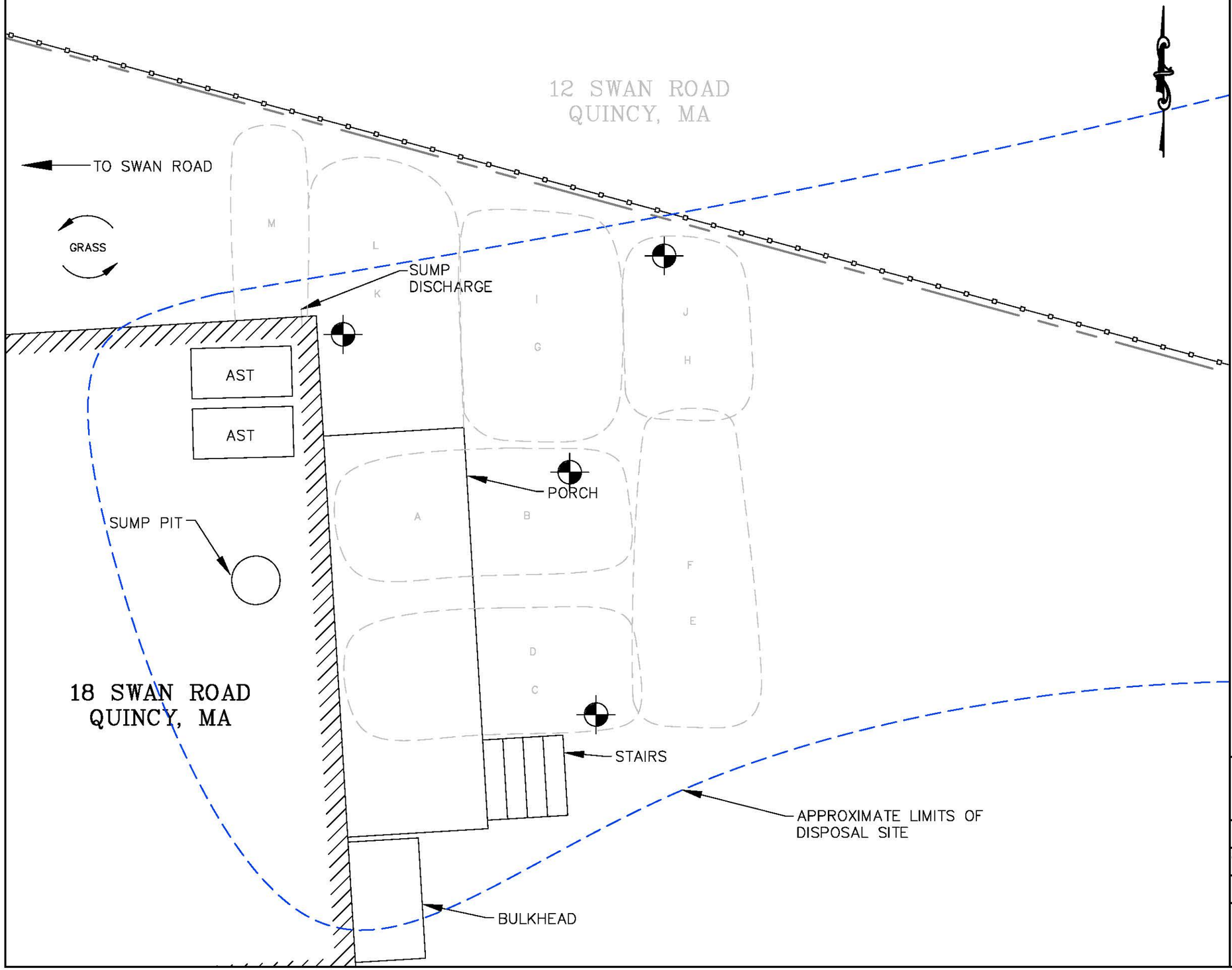
1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 3 METERS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

| | | | |
|---|---|---|---|
| DATE: November 21, 2014 | SCALE: As shown | FILE: | |
| APPROVED BY: AFA | DRAWN BY: PJP | REVISED: | |
| CLIENT: | | JOB NUMBER: | **SITE LOCATION MAP** |
| LOCATION: 18 Swan Road<br>Quincy, Massachusetts | | MAP SOURCE: Hull, Mass.<br>USGS QUAD 1999 | ***Figure 1*** |



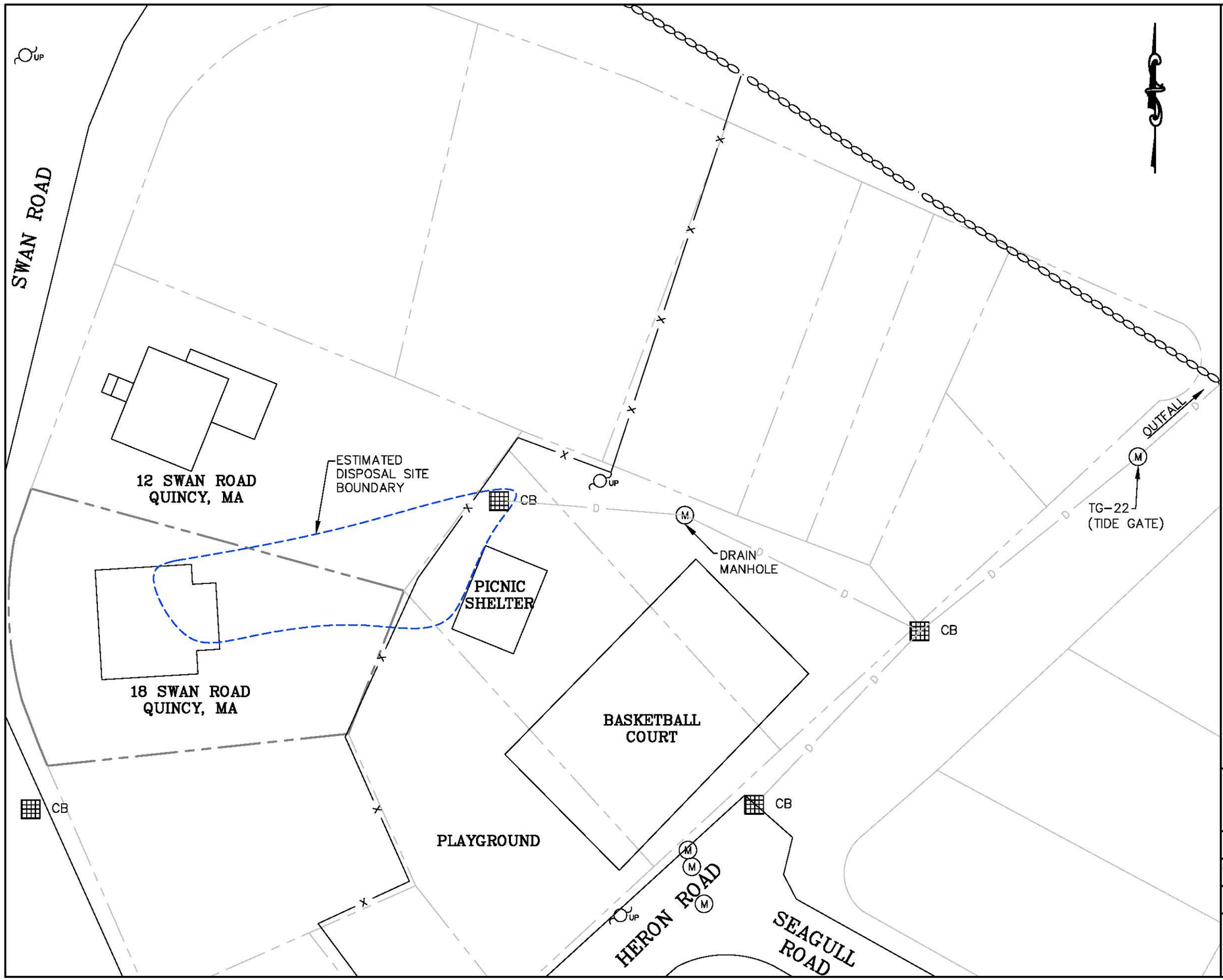

## LEGEND

- APPROXIMATE LIMITS OF DISPOSAL SITE
- FENCE
- SUBJECT PROPERTY LINE
- AST — ABOVEGROUND STORAGE TANK
- DEWATERING WELLPOINT
- APPROXIMATE LIMITS OF EXCAVATIONS
- B — LABORATORY SOIL SAMPLE LOCATION DESIGNATION

## NOTES

1. LOCATIONS AND DIMENSIONS ARE APPROXIMATE (NOT TO SCALE).
2. PLAN BASED ON SITE VISITS AND SKETCHES.

| | | |
|---|---|---|
| TITLE: *DISPOSAL SITE PLAN* | | |
| DATE: November 24, 2014 | SCALE: NOT TO SCALE | FILE: Quincy_Site Plan |
| APPROVED BY: AFA | DRAWN BY: MMN | REVISED: January 14, 2015 |
| CLIENT: | | JOB NUMBER: |
| LOCATION: 18 Swan Road<br>Quincy, Massachusetts | | DRAWING NUMBER: *FIGURE 2* |




## LEGEND

- SUBJECT PROPERTY LINE
- ADJACENT PROPERTY LINE
- FENCE
- SEA WALL
- STORMWATER LINE
- CB — CATCH BASIN
- M — MANHOLE
- UP — UTILITY POLE

## NOTES

1. LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. PLAN BASED ON SITE VISITS AND SKETCHES, AND CITY OF QUINCY GIS INFORMATION.

GRAPHIC SCALE

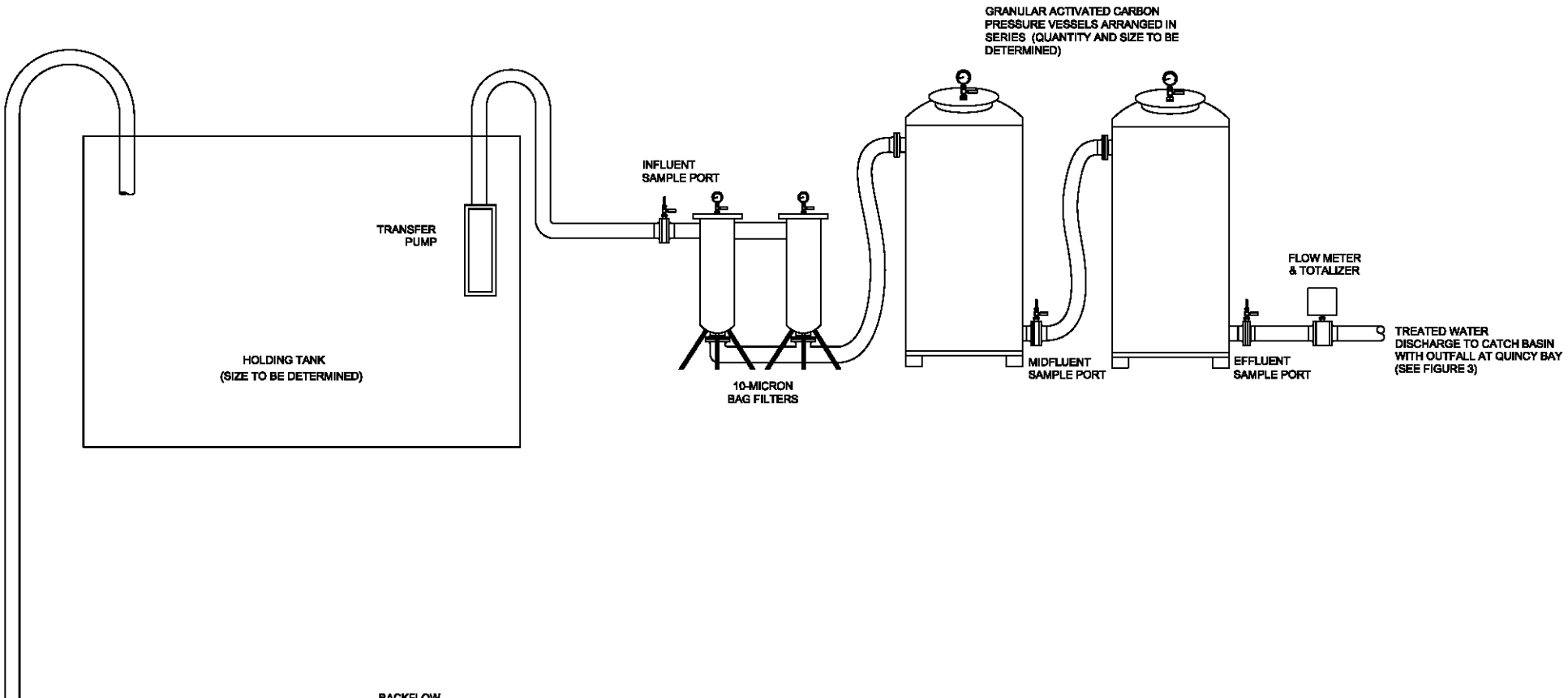
30 0 15 30 60

( IN FEET )
1 inch = 30 feet

TITLE

**VICINITY PLAN**

| | | |
|---|---|---|
| DATE: January 12, 2015 | SCALE: SEE GRAPHIC | FILE: Quincy_Site Plan |
| APPROVED BY: AFA | DRAWN BY: MMN | REVISED: |
| CLIENT: | | JOB NUMBER: |
| LOCATION: 18 Swan Road<br>Quincy, Massachusetts | | DRAWING NUMBER: **FIGURE 3** |




TITLE

# *TREATMENT SYSTEM DIAGRAM*

| | | |
|---|---|---|
| DATE: January 29, 2015 | SCALE: Not To Scale | FILE: P & I Diagram |
| APPROVED BY: AFA | DRAWN BY: MMN | REVISED: |
| CLIENT: Tara Realty Trust | | JOB NUMBER: |
| LOCATION: 18 Swan Road, Quincy, Massachusetts | | DRAWING NUMBER: *FIGURE 4* |

**TABLE 1**

**Groundwater Samples - Summary of Analytical Results**

18 Swan Road, Quincy, Massachusetts

| Sample Identification / Sample Date | MCP Reportable Concentrations* RCGW-1 | MCP Reportable Concentrations* RCGW-2 | Effluent Limits** Category I, Sub-category B | Sump 1/9/2015 | |
|---|---|---|---|---|---|
| **Extractable Petroleum Hydrocarbons (EPH) by MassDEP Method EPH-04.1.1** | | | | | |
| C9-C18 Aliphatic Hydrocarbons | 700 | 5,000 | 5,000[1] | **490,000** | |
| C19-C36 Aliphatic Hydrocarbons | 14,000 | 50,000 | 5,000[1] | **120,000** | |
| C11-C22 Aromatic Hydrocarbons | 200 | 5,000 | 5,000[1] | **49,000** | |
| Acenaphthene | 20 | 10,000 | 100[2] | 10 | U |
| 2-Methylnaphthalene | 10 | 2,000 | NS | **340** | |
| Naphthalene | 140 | 700 | 20 | **95** | |
| Phenanthrene | 40 | 10,000 | 100[2] | **170** | |
| **Volatile Petroleum Hydrocarbons (VPH) by MassDEP Method VPH-04-1.1** | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 300 | 3,000 | 5,000[1] | ***2,500*** | ***U*** |
| C9-C12 Aliphatic Hydrocarbons | 700 | 5,000 | 5,000[1] | **3,700** | |
| C9-C10 Aromatic Hydrocarbons | 200 | 4,000 | 5,000[1] | **5,700** | |
| Benzene | 5 | 1,000 | 100[3] | ***25*** | ***U*** |
| Ethylbenzene | 700 | 5,000 | 100[3] | 25 | U |
| Methyl tertiary-Butyl Ether | 70 | 5,000 | 70.0[4] | 25 | U |
| Naphthalene | 140 | 700 | 20 | **150** | |
| Toluene | 1,000 | 40,000 | 100[3] | 25 | U |
| Xylenes (total) | 3,000 | 3,000 | 100[3] | **124** | |
| **Total Metals by EPA Methods 6010, 6020, 7470** | | | | | |
| Antimony | 6 | 8,000 | 5.6[5] | 1.0 | U |
| Arsenic | 10 | 900 | 36[5] | **11** | |
| Barium | 2,000 | 50,000 | NS | 45 | |
| Beryllium | 4 | 200 | NS | 0.40 | U |
| Cadmium | 4.0 | 4.0 | 8.9[5] | 0.50 | U |
| Chromium (Total) | 100 | 300 | 50.3[6] | 1.6 | |
| Iron | NS | NS | 1,000 | **16,000** | **B** |
| Lead | 10 | 10 | 8.5[4] | 4.4 | |
| Mercury | 2.0 | 20 | 1.1[5] | 0.10 | U |
| Nickel | 100 | 200 | 8.2 | 6.2 | |
| Selenium | 50 | 100 | 71[5] | 5.0 | U |
| Silver | 7.0 | 7.0 | 2.2[5] | 0.50 | U |
| Zinc | 900 | 900 | 85.6 | 47 | |
| **Conventional Chemistry** | | | | | |
| Hardness by SM21-22 2340 (milligrams per liter) | NS | NS | NS | 160 | |

All results in micrograms per liter (µg/L) unless otherwise indicated.

Only detected and select analytes presented; all others were not detected.

| | |
|---|---|
| MCP | Massachusetts Contingency Plan |
| NS | No standard established. |
| U | Not detected above indicated laboratory reporting limit. |
| B | Detected in method blank; sample result >5x blank; result valid. |
| -- | Not analyzed. |
| **Bold shaded** | Exceeds applicable MCP Reportable Concentration (RCGW-1). |
| ***Bold italicized*** | Reporting limit exceeds applicable MCP Reportable Concentration (RCGW-1). |
| **Bold red** | Exceeds applicable NPDES Effluent (discharge) Limit. |
| * | 310 CMR 40.1600 rev. 4/25/2014. |
| ** | Remediation General Permit (RGP) MAG910000, Appendix III, 2010 (Saltwater, H = 50 mg/L) |
| [1] | Effluent Limit applies to Total Petroleum Hydrocarbons (TPH). |
| [2] | Effluent Limit applies to Total Group II Polycyclic Aromatic Hydrocarbons (PAH). |
| [3] | Effluent Limit applies to the sum of Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX). |
| [4] | RGP Category I, Sub-category B limit not established; value is Category I, Sub-category A limit. |
| [5] | RGP Category I, Sub-category B limit not established; value is Category I, Sub-category C limit. |
| [6] | RGP Category I, Sub-category B limit not established; value is Chromium VI limit. |

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 3301
PHONE: (603)223-2541 FAX: (603)223-0104
URL: www.fws.gov/newengland

Consultation Code: 05E1NE00-2015-SLI-0200 January 12, 2015
Event Code: 05E1NE00-2015-E-00332
Project Name: Water Treatment, 18 Swan Road, Quincy, MA

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

Attachment

# Official Species List

**Provided by:**

New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 3301
(603) 223-2541
http://www.fws.gov/newengland

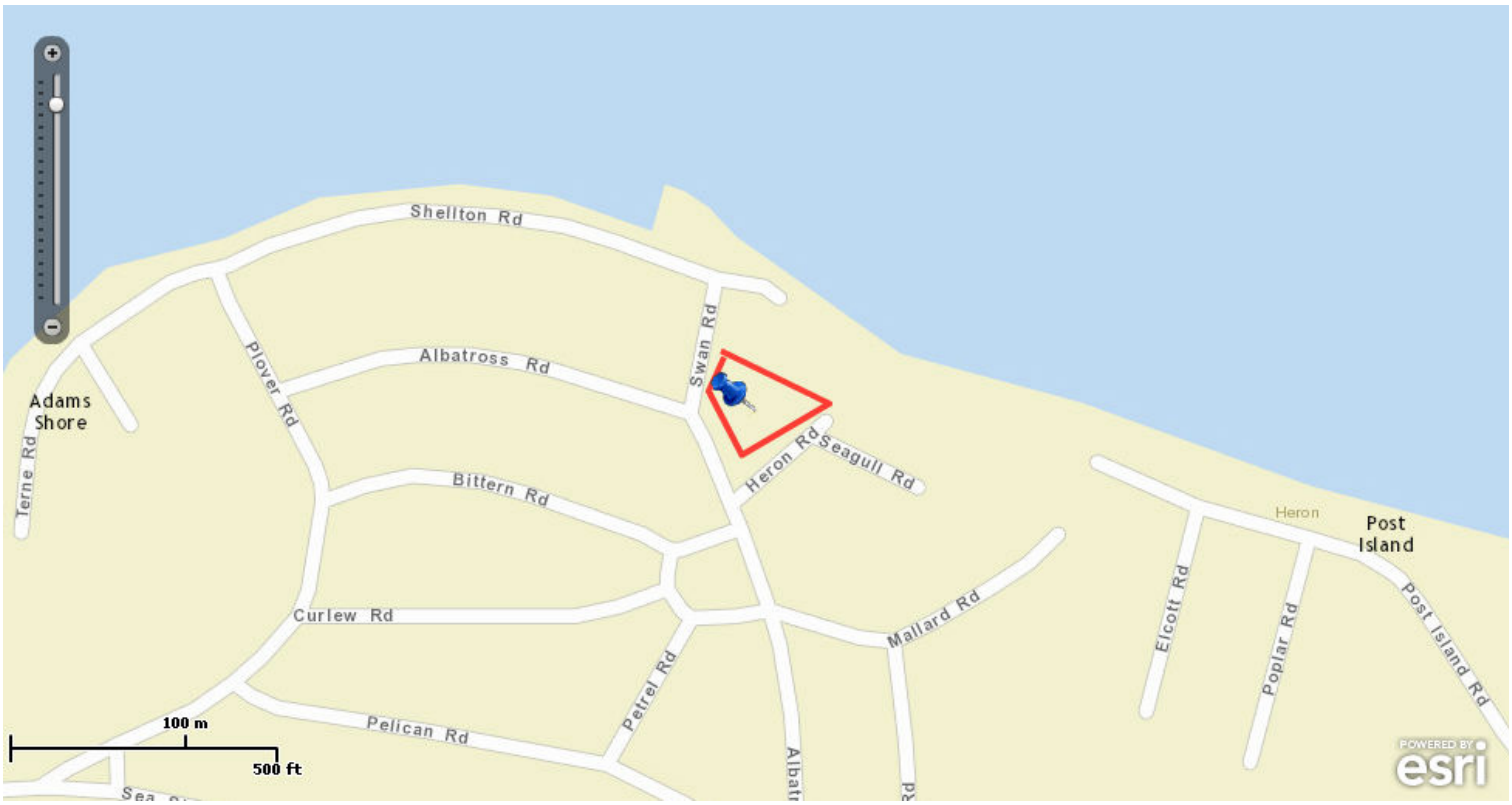
**Consultation Code:** 05E1NE00-2015-SLI-0200
**Event Code:** 05E1NE00-2015-E-00332

**Project Type:** Spill / Release

**Project Name:** Water Treatment, 18 Swan Road, Quincy, MA
**Project Description:** The Site is located in migratory paths of the Red Knot and Roseate Tern. Habitats for the Red Knot and Roseate Tern are typically situation on beaches and islands. A fuel oil release occurred at the Site in November, 2014. A carbon filtration system will treat water at the Site and discharge it to a dry well in the lawn. The system will be confined to the basement of the residence, with the exception of the discharge point. Migratory habitats of the birds should not be impacted.

**Please Note:** The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

**Project Location Map:**




**Project Coordinates:** MULTIPOLYGON (((-70.9801754 42.2645108, -70.9801846 42.2645141, -70.9801912 42.2645181, -70.9801959 42.2645244, -70.9801978 42.2645319, -70.9801966 42.2645397, -70.9801926 42.2645463, -70.9801863 42.264551, -70.9801788 42.2645529, -70.980171 42.2645517, -70.979421 42.2642825, -70.9794143 42.2642784, -70.9794096 42.2642721, -70.9794078 42.2642644, -70.9794091 42.2642566, -70.9794133 42.2642499, -70.9794198 42.2642454, -70.980025 42.2639802, -70.9800339 42.2639785, -70.9800426 42.263981, -70.9800494 42.263987, -70.98028 42.2643149, -70.9802831 42.2643219, -70.9802833 42.2643296, -70.9802807 42.2643368, -70.9801754 42.2645108), (-70.9801381 42.2644974, -70.9801403 42.2644915, -70.9802397 42.2643272, -70.980026 42.2640234, -70.9794819 42.2642619, -70.9801381 42.2644974)))

**Project Counties:** Norfolk, MA

# Endangered Species Act Species List

There are a total of 2 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

| Birds | Status | Has Critical Habitat | Condition(s) |
|---|---|---|---|
| Red Knot *(Calidris canutus rufa)* | Threatened | | |
| Roseate tern *(Sterna dougallii dougallii)*<br>Population: northeast U.S. nesting pop. | Endangered | | |

# Critical habitats that lie within your project area

There are no critical habitats within your project area.

## FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

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

Updated 01/09/2015

# FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

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

Updated 01/09/2015

# FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

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

[1]Migratory only, scattered along the coast in small numbers

-Eastern cougar and gray wolf are considered extirpated in Massachusetts.
-Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
-Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

Updated 01/09/2015

# Massachusetts Cultural Resource Information System

# MACRIS

## MACRIS Search Results

Search Criteria: Town(s): Quincy; Place: Adams Shore - Post Island; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

| Inv. No. | Property Name | Street | Town | Year |
|---|---|---|---|---|
| QUI.1 | Adams Shore Evangelical Church | 175 Albatross Rd | Quincy | 1918 |
| QUI.995 | Route 3A Bridge | Route 3A | Quincy | 1927 |
| QUI.9096 | Adams Shore World War II Monument | Sea St | Quincy | |
| QUI.2 | Sea Street Getty Gas Station | 346 Sea St | Quincy | 1931 |

**National Register of Historic Places**
National Register Documentation on Listed Properties
Note: Not all National Register properties have been digitized yet

| Reference Number | State | County | City | Resource Name | Address | Listed Date | Text Click me | Photo Click me |
|---|---|---|---|---|---|---|---|---|
| 74000379 | MASSACHUSETTS | Norfolk | Quincy | Adams Academy | 8 Adams St. | 19740906 | Text | Photo |
| 83000593 | MASSACHUSETTS | Norfolk | Quincy | Adams Building | 1342-1368 Hancock St.; 1-9 Temple St. | 20140415 | Text | Photo |
| 66000051 | MASSACHUSETTS | Norfolk | Quincy | Adams National Historic Site | 135 Adams St. | 19661015 | Text | Photo |
| 66000128 | MASSACHUSETTS | Norfolk | Quincy | Adams, John Quincy, Birthplace | 141 Franklin St. | 19661015 | Text | Photo |
| 66000129 | MASSACHUSETTS | Norfolk | Quincy | Adams, John, Birthplace | 133 Franklin St. | 19661015 | Text | Photo |
| 89001382 | MASSACHUSETTS | Norfolk | Quincy | Alden, Arthur, House | 24 Whitney Rd. | 19890920 | Text | Photo |
| 89001340 | MASSACHUSETTS | Norfolk | Quincy | Bainbridge, Randolph, House | 133 Grandview Ave. | 19890920 | Text | Photo |
| 89001345 | MASSACHUSETTS | Norfolk | Quincy | Barker, George A., House | 74 Greenleaf St. | 19890920 | Text | Photo |
| 89001346 | MASSACHUSETTS | Norfolk | Quincy | Barker, Henry F., House | 103 Greenleaf St. | 19890920 | Text | Photo |
| 89001362 | MASSACHUSETTS | Norfolk | Quincy | Barnes House | 183 Pine St. | 19890920 | Text | Photo |
| 89001325 | MASSACHUSETTS | Norfolk | Quincy | Barnicoat, S. H., Monuments | 114 Columbia St. | 19890920 | Text | Photo |
| 89001359 | MASSACHUSETTS | Norfolk | Quincy | Bateman, William R., House | 148 Monroe Rd. | 19890920 | Text | Photo |
| 89001309 | MASSACHUSETTS | Norfolk | Quincy | Baxter Street Historic District | Roughly 19--34 Baxter St. | 19890920 | Text | Photo |
| 89001953 | MASSACHUSETTS | Norfolk | Quincy | Baxter--King House | 270 Adams St. | 19891113 | Text | Photo |
| 89001374 | MASSACHUSETTS | Norfolk | Quincy | Bethany Congregational Church | 8 Spear St. | 19890920 | Text | Photo |
| 89001319 | MASSACHUSETTS | Norfolk | Quincy | Brown--Hodgkinson House | 42 Bicknell St. | 19890920 | Text | Photo |
| 89001360 | MASSACHUSETTS | Norfolk | Quincy | Building at 1--7 Moscow Street | 1--7 Moscow St. | 19890920 | Text | Photo |
| 89001355 | MASSACHUSETTS | Norfolk | Quincy | Building at 51 Hunt Street | 51 Hunt St. | 19890920 | Text | Photo |
| 89001381 | MASSACHUSETTS | Norfolk | Quincy | Burgess, Charles H., House | 17 Whitney Rd. | 19890920 | Text | Photo |
| 89001354 | MASSACHUSETTS | Norfolk | Quincy | Burgess, Frank, House | 355 Highland Ave. | 19890920 | Text | Photo |
| 89001364 | MASSACHUSETTS | Norfolk | Quincy | Burgin, Clarence, House | 95 President's Ln. | 19890920 | Text | Photo |
| 89001371 | MASSACHUSETTS | Norfolk | Quincy | Central Fire Station | 26 Quincy Ave. | 19890920 | Text | Photo |
| 80000652 | MASSACHUSETTS | Norfolk | Quincy | Chickatawbut Observation Tower | Chickatawbut Rd. | 19800925 | Text | Photo |
| 89001369 | MASSACHUSETTS | Norfolk | Quincy | Christ Church | 14 Quincy St. | 19890920 | Text | Photo |
| 89001372 | MASSACHUSETTS | Norfolk | Quincy | Christ Church Burial Ground | 54--60 School St. | 19890920 | Text | Photo |
| 89001323 | MASSACHUSETTS | Norfolk | Quincy | Coddington School | 26--44 Coddington St. | 19890920 | Text | Photo |
| 84002872 | MASSACHUSETTS | Norfolk | Quincy | Cranch School | 270 Whitwell St. | 19840705 | Text | Photo |
| 89001312 | MASSACHUSETTS | Norfolk | Quincy | Crane, Frank W., House | 11 Avon Way | 19890920 | Text | Photo |
| 72000143 | MASSACHUSETTS | Norfolk | Quincy | Crane, Thomas, Public Library | 40 Washington St. | 19721018 | Text | Photo |
| 89001335 | MASSACHUSETTS | Norfolk | Quincy | Curtis, Noah, House | 313 Franklin St. | 19890920 | Text | Photo |
| 89001334 | MASSACHUSETTS | Norfolk | Quincy | Curtis, Thomas, House | 279 Franklin St. | 19890920 | Text | Photo |
| 89001330 | MASSACHUSETTS | Norfolk | Quincy | Davis, Dr. Frank, House | 25 Elm St. | 19890920 | Text | Photo |
| 89001363 | MASSACHUSETTS | Norfolk | Quincy | Dicey, Russell M., House | 56 Pope St. | 19890920 | Text | Photo |
| 89001379 | MASSACHUSETTS | Norfolk | Quincy | Dogget, Solon, House | 50 Union St. | 19890920 | Text | Photo |
| 89001322 | MASSACHUSETTS | Norfolk | Quincy | Dorothy Q Apartments | 36 Butler Rd. | 19890920 | Text | Photo |
| 89001348 | MASSACHUSETTS | Norfolk | Quincy | Elks Building | 1218--1222 Hancock St. | 19890920 | Text | Photo |
| 89001310 | MASSACHUSETTS | Norfolk | Quincy | Faxon House | 310 Adams St. | 19890920 | Text | Photo |
| 89001380 | MASSACHUSETTS | Norfolk | Quincy | First Baptist Church of Wollaston | 187 Warren Ave. | 19890920 | Text | Photo |
| 89002252 | MASSACHUSETTS | Norfolk | Quincy | Forbes Hill Standpipe | Reservoir Rd. | 19900118 | Text | Photo |
| 89001333 | MASSACHUSETTS | Norfolk | Quincy | Fore River Club House | Follett and Beechwood Sts. | 19890920 | Text | Photo |
| 04000248 | MASSACHUSETTS | Norfolk | Quincy | Furnace Brook Parkway | Furnace Brook Parkway | 20040318 | Text | Photo |
| 89001328 | MASSACHUSETTS | Norfolk | Quincy | Glover House | 249 E. Squantum St. | 19890920 | Text | Photo |
| 89001351 | MASSACHUSETTS | Norfolk | Quincy | Granite Trust Company | 1400 Hancock St. | 19890920 | Text | Photo |
| 89001327 | MASSACHUSETTS | Norfolk | Quincy | Halloran, John, House | 99 E. Squantum St. | 19890920 | Text | Photo |
| 82004421 | MASSACHUSETTS | Norfolk | Quincy | Hancock Cemetery | Hancock St. in Quincy Sq. | 19820128 | Text | Photo |
| 89001376 | MASSACHUSETTS | Norfolk | Quincy | Hardwick House | 59--61 Spear St. | 19890920 | Text | Photo |
| 89001324 | MASSACHUSETTS | Norfolk | Quincy | Hersey, Ebenezer B., House | 57 Coddington St. | 19890920 | Text | Photo |
| 89001365 | MASSACHUSETTS | Norfolk | Quincy | House at 105 President's Lane | 105 President's Ln. | 19890920 | Text | Photo |
| 89001336 | MASSACHUSETTS | Norfolk | Quincy | House at 15 Gilmore Street | 15 Gilmore St. | 19890920 | Text | Photo |
| 89001377 | MASSACHUSETTS | Norfolk | Quincy | House at 20 Sterling Street | 20 Sterling St. | 19890920 | Text | Photo |
| 89001367 | MASSACHUSETTS | Norfolk | Quincy | House at 23--25 Prout Street | 23--25 Prout St. | 19890920 | Text | Photo |
| 89001352 | MASSACHUSETTS | Norfolk | Quincy | House at 25 High School Avenue | 25 High School Ave. | 19890920 | Text | Photo |
| 89001314 | MASSACHUSETTS | Norfolk | Quincy | House at 32 Bayview Avenue | 32 Bayview Ave. | 19890920 | Text | Photo |
| 89001383 | MASSACHUSETTS | Norfolk | Quincy | House at 92 Willard Street | 92 Willard St. | 19890920 | Text | Photo |
| 89001339 | MASSACHUSETTS | Norfolk | Quincy | House at 94 Grandview Avenue | 94 Grandview Ave. | 19890920 | Text | Photo |
| 89001338 | MASSACHUSETTS | Norfolk | Quincy | Jewell, David L., House | 48 Grandview Ave. | 19890920 | Text | Photo |
| 89001378 | MASSACHUSETTS | Norfolk | Quincy | Lennon, Edward J., House | 53 Taber St. | 19890920 | Text | Photo |
| 80000656 | MASSACHUSETTS | Norfolk | Quincy | Lyon's Turning Mill | Address Restricted | 19800925 | Text | Photo |
| 89001366 | MASSACHUSETTS | Norfolk | Quincy | Marsh, Charles, House | 248 President's Ln. | 19890920 | Text | Photo |
| 89001356 | MASSACHUSETTS | Norfolk | Quincy | Marsh, Edwin W., House | 17 Marsh St. | 19890920 | Text | Photo |
| 89001952 | MASSACHUSETTS | Norfolk | Quincy | Masonic Temple | 1156 Hancock St. | 19891113 | Text | Photo |
| 88000960 | MASSACHUSETTS | Norfolk | Quincy | Massachusetts Fields School | Rawson Rd. and Beach St. | 19901113 | Text | Photo |
| 89001326 | MASSACHUSETTS | Norfolk | Quincy | McIntire, Herman, House | 55 Dixwell Ave. | 19890920 | Text | Photo |
| 89001358 | MASSACHUSETTS | Norfolk | Quincy | Miller, Edward, House | 36 Miller Stile Rd. | 19900308 | Text | Photo |
| 70000094 | MASSACHUSETTS | Norfolk | Quincy | Moswetuset Hummock | Squantum St., near jct. with Morrissey Rd. | 19700701 | Text | Photo |
| 94000035 | MASSACHUSETTS | Norfolk | Quincy | Mount Wollaston Cemetery | 20 Sea St. | 19940218 | Text | Photo |
| 89001349 | MASSACHUSETTS | Norfolk | Quincy | Munroe Building | 1227--1259 Hancock St. | 19890920 | Text | Photo |
| 89001321 | MASSACHUSETTS | Norfolk | Quincy | Nelson, John R., House | 4 Brunswick St. | 19890920 | Text | Photo |
| 89001357 | MASSACHUSETTS | Norfolk | Quincy | New England Telephone Building | 10 Merrymount Rd. | 19890920 | Text | Photo |
| 89001368 | MASSACHUSETTS | Norfolk | Quincy | Newcomb Place | 109 Putnam St. | 19890920 | Text | Photo |
| 89001370 | MASSACHUSETTS | Norfolk | Quincy | Nightengale House | 24 Quincy St. | 19890920 | Text | Photo |
| 89001342 | MASSACHUSETTS | Norfolk | Quincy | Nightengale, Solomon, House | 429 Granite St. | 19890920 | Text | Photo |
| 89001329 | MASSACHUSETTS | Norfolk | Quincy | Nowland, J. Martin, House | 31 Edgemere Rd. | 19890920 | Text | Photo |

**National Register of Historic Places**
National Register Documentation on Listed Properties
Note: Not all National Register properties have been digitized yet

| Reference Number | State | County | City | Resource Name | Address | Listed Date | Text Click me | Photo Click me |
|---|---|---|---|---|---|---|---|---|
| 89001951 | MASSACHUSETTS | Norfolk | Quincy | Pettengill, C. F., House | 53 Revere Rd. | 19891113 | Text | Photo |
| 89001384 | MASSACHUSETTS | Norfolk | Quincy | Pinkham House | 79 Winthrop Ave. | 19890920 | Text | Photo |
| 89001331 | MASSACHUSETTS | Norfolk | Quincy | Pratt--Faxon House | 75 Faxon Ln. | 19890920 | Text | Photo |
| 89001332 | MASSACHUSETTS | Norfolk | Quincy | Quincy Electric Light and Power Compa | 76 Field St. | 19890920 | Text | Photo |
| 73000309 | MASSACHUSETTS | Norfolk | Quincy | Quincy Granite Railway | Bunker Hill Lane | 19731015 | Text | Photo |
| 73000310 | MASSACHUSETTS | Norfolk | Quincy | Quincy Granite Railway Incline | Mullin Ave. | 19730619 | Text | Photo |
| 70000095 | MASSACHUSETTS | Norfolk | Quincy | Quincy Homestead | 34 Butler Road | 19700701 | Text | Photo |
| 93000347 | MASSACHUSETTS | Norfolk | Quincy | Quincy Point Fire Station | 615 Washington St. | 19940218 | Text | Photo |
| 89001373 | MASSACHUSETTS | Norfolk | Quincy | Quincy Police Station | 442 Southern Artery | 19900308 | Text | Photo |
| 89001350 | MASSACHUSETTS | Norfolk | Quincy | Quincy Savings Bank | 1370 Hancock St. | 19890920 | Text | Photo |
| 83000599 | MASSACHUSETTS | Norfolk | Quincy | Quincy School | 94 Newbury Ave. | 20140415 | Text | Photo |
| 03000575 | MASSACHUSETTS | Norfolk | Quincy | Quincy Shore Drive | Quincy Shore Drive | 20030623 | Text | Photo |
| 80000649 | MASSACHUSETTS | Norfolk | Quincy | Quincy Town Hall | 1305 Hancock St. | 19800111 | Text | Photo |
| 89001361 | MASSACHUSETTS | Norfolk | Quincy | Quincy Water Company Pumping Stati | 106 Penn St. | 19890920 | Text | Photo |
| 76000285 | MASSACHUSETTS | Norfolk | Quincy | Quincy, Josiah, House | 20 Muirhead St. | 19760528 | Text | Photo |
| 97001274 | MASSACHUSETTS | Norfolk | Quincy | Quincy, Josiah, House | 20 Muirhead St. | 19970925 | Text | Photo |
| 89001337 | MASSACHUSETTS | Norfolk | Quincy | Record, Jonathan Dexter, House | 39--41 Grandview Ave. | 19890920 | Text | Photo |
| 89001311 | MASSACHUSETTS | Norfolk | Quincy | Reed, Timothy, House | 284 Adams St. | 19890920 | Text | Photo |
| 89001353 | MASSACHUSETTS | Norfolk | Quincy | Richards, Alfred H., House | 354 Highland Ave. | 19890920 | Text | Photo |
| 89001341 | MASSACHUSETTS | Norfolk | Quincy | Salem Lutheran Church | 199 Granite St. | 19890920 | Text | Photo |
| 89001313 | MASSACHUSETTS | Norfolk | Quincy | Sidelinger, George A., House | 19 Avon Way | 19890920 | Text | Photo |
| 94000036 | MASSACHUSETTS | Norfolk | Quincy | Smith, A. C., & Co. Gas Station | 117 Beale St. | 19940223 | Text | Photo |
| 89001343 | MASSACHUSETTS | Norfolk | Quincy | South Junior High School | 444 Granite St. | 19890920 | Text | Photo |
| 89001375 | MASSACHUSETTS | Norfolk | Quincy | Spear, Seth, Homestead | 47--49 Spear St. | 19890920 | Text | Photo |
| 70000734 | MASSACHUSETTS | Norfolk | Quincy | United First Parish Church (Unitarian) c | 1266 Hancock St. | 19701230 | Text | Photo |
| 86001217 | MASSACHUSETTS | Norfolk | Quincy | US Post Office--Quincy Main | 47 Washington St. | 19860523 | Text | Photo |
| 89001320 | MASSACHUSETTS | Norfolk | Quincy | White, Charles E., House | 101 Billings Rd. | 19890920 | Text | Photo |
| 89001347 | MASSACHUSETTS | Norfolk | Quincy | Winfield House | 853 Hancock St. | 19890920 | Text | Photo |
| 77000192 | MASSACHUSETTS | Norfolk | Quincy | Winthrop, John, Jr., Iron Furnace Site | Address Restricted | 19770920 | Text | Photo |
| 89001316 | MASSACHUSETTS | Norfolk | Quincy | Wollaston Branch, Thomas Crane Publi | 41 Beale St. | 19890920 | Text | Photo |
| 08001128 | MASSACHUSETTS | Norfolk | Quincy | Wollaston Congregational Church | 47-57 Lincoln Ave. | 20081205 | Text | Photo |
| 89001317 | MASSACHUSETTS | Norfolk | Quincy | Wollaston Fire Station | 111 Beale St. | 19890920 | Text | Photo |
| 89001315 | MASSACHUSETTS | Norfolk | Quincy | Wollaston Theatre | 14 Beale St. | 19890920 | Text | Photo |
| 89001318 | MASSACHUSETTS | Norfolk | Quincy | Wollaston Unitarian Church | 155 Beale St. | 19890920 | Text | Photo |
| 89001954 | MASSACHUSETTS | Norfolk | Quincy | Woodward Institute | 1098 Hancock St. | 19891113 | Text | Photo |

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January 20, 2015

Ben Dwelly
Cyn Environmental Services
PO BOX 119, 100 Tosca Drive
Stoughton, MA 02072

Project Location: 18 Swan Rd., Quincy, MA
Client Job Number:
Project Number: 208101-ST
Laboratory Work Order Number: 15A0201

Enclosed are results of analyses for samples received by the laboratory on January 9, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley
Project Manager

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Cyn Environmental Services
PO BOX 119, 100 Tosca Drive
Stoughton, MA 02072
ATTN: Ben Dwelly

REPORT DATE: 1/20/2015

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 208101-ST

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 15A0201

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

PROJECT LOCATION: 18 Swan Rd., Quincy, MA

| FIELD SAMPLE # | LAB ID: | MATRIX | SAMPLE DESCRIPTION | TEST | SUB LAB |
|---|---|---|---|---|---|
| Sump | 15A0201-01 | Ground Water | | MADEP-EPH-04-1.1 | |
| | | | | MADEP-VPH-04-1.1 | |
| | | | | SM21-22 2340B | |
| | | | | SW-846 6010C | |
| | | | | SW-846 6020A | |
| | | | | SW-846 7470A | |

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## CASE NARRATIVE SUMMARY

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

For MA EPH, only diesel targets were requested and reported.

### MADEP-EPH-04-1.1

**Qualifications:**

**S-15**

Surrogate recovery outside of control limits due to suspected sample matrix interference. Chromatogram(s) is attached.

**Analyte & Samples(s) Qualified:**

**Chlorooctadecane (COD)**
15A0201-01[Sump]

### MADEP-VPH-04-1.1

**Qualifications:**

**RL-08**

Elevated reporting limit due to sample matrix interference. MA CAM reporting limit not met.

**Analyte & Samples(s) Qualified:**

**Benzene**
15A0201-01[Sump]

**C5-C8 Aliphatics**
15A0201-01[Sump]

**Ethylbenzene**
15A0201-01[Sump]

**Methyl tert-Butyl Ether (MTBE)**
15A0201-01[Sump]

**Toluene**
15A0201-01[Sump]

**Unadjusted C5-C8 Aliphatics**
15A0201-01[Sump]

### SW-846 6010C

**Qualifications:**

**B**

Analyte is found in the associated blank as well as in the sample.

**Analyte & Samples(s) Qualified:**

**Iron**
15A0201-01[Sump], B113303-BS1, B113303-BSD1

**B-07**

Data is not affected by elevated level in blank since sample result is >10x level found in the blank.

**Analyte & Samples(s) Qualified:**

**Iron**
15A0201-01[Sump], B113303-BLK1

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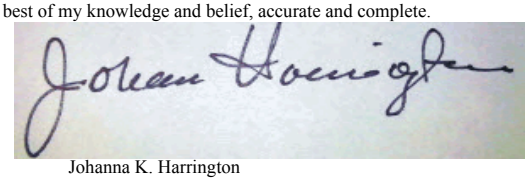
**MADEP-EPH-04-1.1**

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

**MADEP-VPH-04-1.1**

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

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



Johanna K. Harrington
Manager, Laboratory Reporting

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

Project Location: 18 Swan Rd., Quincy, MA | Sample Description: | Work Order: 15A0201

Date Received: 1/9/2015

**Field Sample #: Sump** | Sampled: 1/9/2015 12:15

**Sample ID: 15A0201-01**

Sample Matrix: Ground Water

**Petroleum Hydrocarbons Analyses - EPH**

| Analyte | Results | RL | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| C9-C18 Aliphatics | 490000 | 40000 | µg/L | 400 | | MADEP-EPH-04-1.1 | 1/10/15 | 1/14/15 11:59 | SCS |
| C19-C36 Aliphatics | 120000 | 4000 | µg/L | 40 | | MADEP-EPH-04-1.1 | 1/10/15 | 1/14/15 11:18 | SCS |
| Unadjusted C11-C22 Aromatics | 50000 | 2500 | µg/L | 25 | | MADEP-EPH-04-1.1 | 1/10/15 | 1/14/15 11:59 | SCS |
| C11-C22 Aromatics | 49000 | 2500 | µg/L | 25 | | MADEP-EPH-04-1.1 | 1/10/15 | 1/14/15 11:59 | SCS |
| Acenaphthene | ND | 10 | µg/L | 5 | | MADEP-EPH-04-1.1 | 1/10/15 | 1/13/15 22:21 | SCS |
| 2-Methylnaphthalene | 340 | 10 | µg/L | 5 | | MADEP-EPH-04-1.1 | 1/10/15 | 1/13/15 22:21 | SCS |
| Naphthalene | 95 | 10 | µg/L | 5 | | MADEP-EPH-04-1.1 | 1/10/15 | 1/13/15 22:21 | SCS |
| Phenanthrene | 170 | 10 | µg/L | 5 | | MADEP-EPH-04-1.1 | 1/10/15 | 1/13/15 22:21 | SCS |

| Surrogates | % Recovery | Recovery Limits | Flag/Qual | |
|---|---|---|---|---|
| **Chlorooctadecane (COD)** | **30.2** | 40-140 | S-15 | 1/13/15 22:21 |
| o-Terphenyl (OTP) | 77.4 | 40-140 | | 1/13/15 22:21 |
| 2-Bromonaphthalene | 89.9 | 40-140 | | 1/13/15 22:21 |
| 2-Fluorobiphenyl | 63.9 | 40-140 | | 1/13/15 22:21 |

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Project Location: 18 Swan Rd., Quincy, MA | Sample Description: | Work Order: 15A0201

Date Received: 1/9/2015

**Field Sample #: Sump** | Sampled: 1/9/2015 12:15

**Sample ID: 15A0201-01**

Sample Matrix: Ground Water

**Petroleum Hydrocarbons Analyses - VPH**

| Analyte | Results | RL | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Unadjusted C5-C8 Aliphatics | ND | 2500 | µg/L | 25 | RL-08 | MADEP-VPH-04-1.1 | 1/15/15 | 1/15/15 20:14 | EEH |
| C5-C8 Aliphatics | ND | 2500 | µg/L | 25 | RL-08 | MADEP-VPH-04-1.1 | 1/15/15 | 1/15/15 20:14 | EEH |
| Unadjusted C9-C12 Aliphatics | 9500 | 2500 | µg/L | 25 | | MADEP-VPH-04-1.1 | 1/15/15 | 1/15/15 20:14 | EEH |
| C9-C12 Aliphatics | 3700 | 2500 | µg/L | 25 | | MADEP-VPH-04-1.1 | 1/15/15 | 1/15/15 20:14 | EEH |
| C9-C10 Aromatics | 5700 | 2500 | µg/L | 25 | | MADEP-VPH-04-1.1 | 1/15/15 | 1/15/15 20:14 | EEH |
| Benzene | ND | 25 | µg/L | 25 | RL-08 | MADEP-VPH-04-1.1 | 1/15/15 | 1/15/15 20:14 | EEH |
| Ethylbenzene | ND | 25 | µg/L | 25 | RL-08 | MADEP-VPH-04-1.1 | 1/15/15 | 1/15/15 20:14 | EEH |
| Methyl tert-Butyl Ether (MTBE) | ND | 25 | µg/L | 25 | RL-08 | MADEP-VPH-04-1.1 | 1/15/15 | 1/15/15 20:14 | EEH |
| Naphthalene | 150 | 120 | µg/L | 25 | | MADEP-VPH-04-1.1 | 1/15/15 | 1/15/15 20:14 | EEH |
| Toluene | ND | 25 | µg/L | 25 | RL-08 | MADEP-VPH-04-1.1 | 1/15/15 | 1/15/15 20:14 | EEH |
| m+p Xylene | 66 | 50 | µg/L | 25 | | MADEP-VPH-04-1.1 | 1/15/15 | 1/15/15 20:14 | EEH |
| o-Xylene | 58 | 25 | µg/L | 25 | | MADEP-VPH-04-1.1 | 1/15/15 | 1/15/15 20:14 | EEH |

| Surrogates | % Recovery | Recovery Limits | Flag/Qual | |
|---|---|---|---|---|
| 2,5-Dibromotoluene (FID) | 76.0 | 70-130 | | 1/15/15 20:14 |
| 2,5-Dibromotoluene (PID) | 74.8 | 70-130 | | 1/15/15 20:14 |

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Project Location: 18 Swan Rd., Quincy, MA | Sample Description: | Work Order: 15A0201

Date Received: 1/9/2015

**Field Sample #: Sump** | Sampled: 1/9/2015 12:15

**Sample ID: 15A0201-01**

Sample Matrix: Ground Water

**Metals Analyses (Total)**

| Analyte | Results | RL | Units | Dilution | Flag/Qual | Method | Date Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 1.0 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Arsenic | 11 | 0.40 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Barium | 45 | 10 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Beryllium | ND | 0.40 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Cadmium | ND | 0.50 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Chromium | 1.6 | 1.0 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Iron | 16 | 0.050 | mg/L | 1 | B-07, B | SW-846 6010C | 1/12/15 | 1/13/15 12:48 | KSH |
| Lead | 4.4 | 1.0 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Mercury | ND | 0.00010 | mg/L | 1 | | SW-846 7470A | 1/12/15 | 1/12/15 12:12 | SCB |
| Nickel | 6.2 | 5.0 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Selenium | ND | 5.0 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Silver | ND | 0.50 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Thallium | ND | 0.20 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Vanadium | ND | 5.0 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Zinc | 47 | 10 | µg/L | 1 | | SW-846 6020A | 1/12/15 | 1/14/15 15:33 | KSH |
| Hardness | 160 | 3.0 | mg/L | 1 | | SM21-22 2340B | 1/12/15 | 1/13/15 12:48 | OP |

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## Sample Extraction Data

**Prep Method: SW-846 3510C-MADEP-EPH-04-1.1**

| Lab Number [Field ID] | Batch | Initial [mL] | Final [mL] | Date |
|---|---|---|---|---|
| 15A0201-01 Sump] | B113240 | 1000 | 2.00 | 01/10/15 |

**Prep Method: MA VPH-MADEP-VPH-04-1.1**

| Lab Number [Field ID] | Batch | Initial [mL] | Final [mL] | Date |
|---|---|---|---|---|
| 15A0201-01 Sump] | B113518 | 0.2 | 5.00 | 01/15/15 |

**Prep Method: SW-846 3005A-SM21-22 2340B**

| Lab Number [Field ID] | Batch | Initial [mL] | Final [mL] | Date |
|---|---|---|---|---|
| 15A0201-01 Sump] | B113308 | 50.0 | 50.0 | 01/12/15 |

**Prep Method: SW-846 3005A-SW-846 6010C**

| Lab Number [Field ID] | Batch | Initial [mL] | Final [mL] | Date |
|---|---|---|---|---|
| 15A0201-01 Sump] | B113303 | 50.0 | 50.0 | 01/12/15 |

**Prep Method: SW-846 3005A-SW-846 6020A**

| Lab Number [Field ID] | Batch | Initial [mL] | Final [mL] | Date |
|---|---|---|---|---|
| 15A0201-01 Sump] | B113305 | 50.0 | 50.0 | 01/12/15 |

**Prep Method: SW-846 7470A Prep-SW-846 7470A**

| Lab Number [Field ID] | Batch | Initial [mL] | Final [mL] | Date |
|---|---|---|---|---|
| 15A0201-01 Sump] | B113259 | 6.00 | 6.00 | 01/12/15 |

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**QUALITY CONTROL**

**Petroleum Hydrocarbons Analyses - EPH - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B113240 - SW-846 3510C** | | | | | | | | | | |
| **Blank (B113240-BLK1)** | | | | Prepared: 01/10/15 Analyzed: 01/13/15 | | | | | | |
| C9-C18 Aliphatics | ND | 100 | µg/L | | | | | | | |
| C19-C36 Aliphatics | ND | 100 | µg/L | | | | | | | |
| Unadjusted C11-C22 Aromatics | ND | 100 | µg/L | | | | | | | |
| C11-C22 Aromatics | ND | 100 | µg/L | | | | | | | |
| Acenaphthene | ND | 2.0 | µg/L | | | | | | | |
| Acenaphthylene | ND | 2.0 | µg/L | | | | | | | |
| Anthracene | ND | 2.0 | µg/L | | | | | | | |
| Benzo(a)anthracene | ND | 2.0 | µg/L | | | | | | | |
| Benzo(a)pyrene | ND | 2.0 | µg/L | | | | | | | |
| Benzo(b)fluoranthene | ND | 2.0 | µg/L | | | | | | | |
| Benzo(g,h,i)perylene | ND | 2.0 | µg/L | | | | | | | |
| Benzo(k)fluoranthene | ND | 2.0 | µg/L | | | | | | | |
| Chrysene | ND | 2.0 | µg/L | | | | | | | |
| Dibenz(a,h)anthracene | ND | 2.0 | µg/L | | | | | | | |
| Fluoranthene | ND | 2.0 | µg/L | | | | | | | |
| Fluorene | ND | 2.0 | µg/L | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 2.0 | µg/L | | | | | | | |
| 2-Methylnaphthalene | ND | 2.0 | µg/L | | | | | | | |
| Naphthalene | ND | 2.0 | µg/L | | | | | | | |
| Phenanthrene | ND | 2.0 | µg/L | | | | | | | |
| Pyrene | ND | 2.0 | µg/L | | | | | | | |
| n-Decane | ND | 2.0 | µg/L | | | | | | | |
| n-Docosane | ND | 2.0 | µg/L | | | | | | | |
| n-Dodecane | ND | 2.0 | µg/L | | | | | | | |
| n-Eicosane | ND | 2.0 | µg/L | | | | | | | |
| n-Hexacosane | ND | 2.0 | µg/L | | | | | | | |
| n-Hexadecane | ND | 2.0 | µg/L | | | | | | | |
| n-Hexatriacontane | ND | 2.0 | µg/L | | | | | | | |
| n-Nonadecane | ND | 2.0 | µg/L | | | | | | | |
| n-Nonane | ND | 2.0 | µg/L | | | | | | | |
| n-Octacosane | ND | 2.0 | µg/L | | | | | | | |
| n-Octadecane | ND | 2.0 | µg/L | | | | | | | |
| n-Tetracosane | ND | 2.0 | µg/L | | | | | | | |
| n-Tetradecane | ND | 2.0 | µg/L | | | | | | | |
| n-Triacontane | ND | 2.0 | µg/L | | | | | | | |
| Naphthalene-aliphatic fraction | ND | 2.0 | µg/L | | | | | | | |
| 2-Methylnaphthalene-aliphatic fraction | ND | 2.0 | µg/L | | | | | | | |
| Surrogate: Chlorooctadecane (COD) | *73.4* | | µg/L | 100 | | 73.4 | 40-140 | | | |
| Surrogate: o-Terphenyl (OTP) | *83.4* | | µg/L | 100 | | 83.4 | 40-140 | | | |
| Surrogate: 2-Bromonaphthalene | *82.3* | | µg/L | 100 | | 82.3 | 40-140 | | | |
| Surrogate: 2-Fluorobiphenyl | *97.9* | | µg/L | 100 | | 97.9 | 40-140 | | | |
| **LCS (B113240-BS1)** | | | | Prepared: 01/10/15 Analyzed: 01/13/15 | | | | | | |
| Acenaphthene | 89.7 | 2.0 | µg/L | 100 | | 89.7 | 40-140 | | | |
| Acenaphthylene | 72.9 | 2.0 | µg/L | 100 | | 72.9 | 40-140 | | | |
| Anthracene | 88.7 | 2.0 | µg/L | 100 | | 88.7 | 40-140 | | | |
| Benzo(a)anthracene | 78.8 | 2.0 | µg/L | 100 | | 78.8 | 40-140 | | | |
| Benzo(a)pyrene | 78.3 | 2.0 | µg/L | 100 | | 78.3 | 40-140 | | | |
| Benzo(b)fluoranthene | 76.1 | 2.0 | µg/L | 100 | | 76.1 | 40-140 | | | |
| Benzo(g,h,i)perylene | 80.1 | 2.0 | µg/L | 100 | | 80.1 | 40-140 | | | |
| Benzo(k)fluoranthene | 78.4 | 2.0 | µg/L | 100 | | 78.4 | 40-140 | | | |
| Chrysene | 82.2 | 2.0 | µg/L | 100 | | 82.2 | 40-140 | | | |

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**QUALITY CONTROL**

**Petroleum Hydrocarbons Analyses - EPH - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B113240 - SW-846 3510C** | | | | | | | | | | |
| **LCS (B113240-BS1)** | | | | Prepared: 01/10/15 Analyzed: 01/13/15 | | | | | | |
| Dibenz(a,h)anthracene | 81.5 | 2.0 | µg/L | 100 | | 81.5 | 40-140 | | | |
| Fluoranthene | 85.6 | 2.0 | µg/L | 100 | | 85.6 | 40-140 | | | |
| Fluorene | 80.6 | 2.0 | µg/L | 100 | | 80.6 | 40-140 | | | |
| Indeno(1,2,3-cd)pyrene | 61.3 | 2.0 | µg/L | 100 | | 61.3 | 40-140 | | | |
| 2-Methylnaphthalene | 68.0 | 2.0 | µg/L | 100 | | 68.0 | 40-140 | | | |
| Naphthalene | 61.6 | 2.0 | µg/L | 100 | | 61.6 | 40-140 | | | |
| Phenanthrene | 80.5 | 2.0 | µg/L | 100 | | 80.5 | 40-140 | | | |
| Pyrene | 80.8 | 2.0 | µg/L | 100 | | 80.8 | 40-140 | | | |
| n-Decane | 47.1 | 2.0 | µg/L | 100 | | 47.1 | 40-140 | | | |
| n-Docosane | 69.6 | 2.0 | µg/L | 100 | | 69.6 | 40-140 | | | |
| n-Dodecane | 59.7 | 2.0 | µg/L | 100 | | 59.7 | 40-140 | | | |
| n-Eicosane | 69.6 | 2.0 | µg/L | 100 | | 69.6 | 40-140 | | | |
| n-Hexacosane | 65.9 | 2.0 | µg/L | 100 | | 65.9 | 40-140 | | | |
| n-Hexadecane | 72.9 | 2.0 | µg/L | 100 | | 72.9 | 40-140 | | | |
| n-Hexatriacontane | 69.7 | 2.0 | µg/L | 100 | | 69.7 | 40-140 | | | |
| n-Nonadecane | 71.5 | 2.0 | µg/L | 100 | | 71.5 | 40-140 | | | |
| n-Nonane | 38.5 | 2.0 | µg/L | 100 | | 38.5 | 30-140 | | | |
| n-Octacosane | 65.1 | 2.0 | µg/L | 100 | | 65.1 | 40-140 | | | |
| n-Octadecane | 71.8 | 2.0 | µg/L | 100 | | 71.8 | 40-140 | | | |
| n-Tetracosane | 66.8 | 2.0 | µg/L | 100 | | 66.8 | 40-140 | | | |
| n-Tetradecane | 68.2 | 2.0 | µg/L | 100 | | 68.2 | 40-140 | | | |
| n-Triacontane | 66.8 | 2.0 | µg/L | 100 | | 66.8 | 40-140 | | | |
| Naphthalene-aliphatic fraction | ND | 2.0 | µg/L | 100 | | | 0-5 | | | |
| 2-Methylnaphthalene-aliphatic fraction | ND | 2.0 | µg/L | 100 | | | 0-5 | | | |
| Surrogate: Chlorooctadecane (COD) | *65.4* | | µg/L | 100 | | 65.4 | 40-140 | | | |
| Surrogate: o-Terphenyl (OTP) | *76.5* | | µg/L | 100 | | 76.5 | 40-140 | | | |
| Surrogate: 2-Bromonaphthalene | *69.2* | | µg/L | 100 | | 69.2 | 40-140 | | | |
| Surrogate: 2-Fluorobiphenyl | *105* | | µg/L | 100 | | 105 | 40-140 | | | |
| **LCS Dup (B113240-BSD1)** | | | | Prepared: 01/10/15 Analyzed: 01/13/15 | | | | | | |
| Acenaphthene | 100 | 2.0 | µg/L | 100 | | 100 | 40-140 | 10.8 | 25 | |
| Acenaphthylene | 83.3 | 2.0 | µg/L | 100 | | 83.3 | 40-140 | 13.3 | 25 | |
| Anthracene | 102 | 2.0 | µg/L | 100 | | 102 | 40-140 | 14.3 | 25 | |
| Benzo(a)anthracene | 91.9 | 2.0 | µg/L | 100 | | 91.9 | 40-140 | 15.4 | 25 | |
| Benzo(a)pyrene | 91.5 | 2.0 | µg/L | 100 | | 91.5 | 40-140 | 15.6 | 25 | |
| Benzo(b)fluoranthene | 89.2 | 2.0 | µg/L | 100 | | 89.2 | 40-140 | 15.9 | 25 | |
| Benzo(g,h,i)perylene | 93.3 | 2.0 | µg/L | 100 | | 93.3 | 40-140 | 15.3 | 25 | |
| Benzo(k)fluoranthene | 90.7 | 2.0 | µg/L | 100 | | 90.7 | 40-140 | 14.6 | 25 | |
| Chrysene | 95.0 | 2.0 | µg/L | 100 | | 95.0 | 40-140 | 14.5 | 25 | |
| Dibenz(a,h)anthracene | 94.2 | 2.0 | µg/L | 100 | | 94.2 | 40-140 | 14.4 | 25 | |
| Fluoranthene | 100 | 2.0 | µg/L | 100 | | 100 | 40-140 | 15.7 | 25 | |
| Fluorene | 92.8 | 2.0 | µg/L | 100 | | 92.8 | 40-140 | 14.0 | 25 | |
| Indeno(1,2,3-cd)pyrene | 71.5 | 2.0 | µg/L | 100 | | 71.5 | 40-140 | 15.4 | 25 | |
| 2-Methylnaphthalene | 77.7 | 2.0 | µg/L | 100 | | 77.7 | 40-140 | 13.4 | 25 | |
| Naphthalene | 67.7 | 2.0 | µg/L | 100 | | 67.7 | 40-140 | 9.47 | 25 | |
| Phenanthrene | 93.2 | 2.0 | µg/L | 100 | | 93.2 | 40-140 | 14.7 | 25 | |
| Pyrene | 94.5 | 2.0 | µg/L | 100 | | 94.5 | 40-140 | 15.7 | 25 | |
| n-Decane | 52.2 | 2.0 | µg/L | 100 | | 52.2 | 40-140 | 10.2 | 25 | |
| n-Docosane | 82.4 | 2.0 | µg/L | 100 | | 82.4 | 40-140 | 16.8 | 25 | |
| n-Dodecane | 68.2 | 2.0 | µg/L | 100 | | 68.2 | 40-140 | 13.3 | 25 | |
| n-Eicosane | 82.8 | 2.0 | µg/L | 100 | | 82.8 | 40-140 | 17.4 | 25 | |
| n-Hexacosane | 78.4 | 2.0 | µg/L | 100 | | 78.4 | 40-140 | 17.2 | 25 | |

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**QUALITY CONTROL**

**Petroleum Hydrocarbons Analyses - EPH - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B113240 - SW-846 3510C** | | | | | | | | | | |
| **LCS Dup (B113240-BSD1)** | | | | Prepared: 01/10/15 Analyzed: 01/13/15 | | | | | | |
| n-Hexadecane | 86.3 | 2.0 | µg/L | 100 | | 86.3 | 40-140 | 16.7 | 25 | |
| n-Hexatriacontane | 82.3 | 2.0 | µg/L | 100 | | 82.3 | 40-140 | 16.5 | 25 | |
| n-Nonadecane | 85.2 | 2.0 | µg/L | 100 | | 85.2 | 40-140 | 17.5 | 25 | |
| n-Nonane | 41.3 | 2.0 | µg/L | 100 | | 41.3 | 30-140 | 6.99 | 25 | |
| n-Octacosane | 77.4 | 2.0 | µg/L | 100 | | 77.4 | 40-140 | 17.2 | 25 | |
| n-Octadecane | 85.3 | 2.0 | µg/L | 100 | | 85.3 | 40-140 | 17.2 | 25 | |
| n-Tetracosane | 79.4 | 2.0 | µg/L | 100 | | 79.4 | 40-140 | 17.2 | 25 | |
| n-Tetradecane | 79.8 | 2.0 | µg/L | 100 | | 79.8 | 40-140 | 15.7 | 25 | |
| n-Triacontane | 79.1 | 2.0 | µg/L | 100 | | 79.1 | 40-140 | 16.8 | 25 | |
| Naphthalene-aliphatic fraction | ND | 2.0 | µg/L | 100 | | | 0-5 | | | |
| 2-Methylnaphthalene-aliphatic fraction | ND | 2.0 | µg/L | 100 | | | 0-5 | | | |
| Surrogate: Chlorooctadecane (COD) | *77.0* | | µg/L | 100 | | 77.0 | 40-140 | | | |
| Surrogate: o-Terphenyl (OTP) | *88.2* | | µg/L | 100 | | 88.2 | 40-140 | | | |
| Surrogate: 2-Bromonaphthalene | *63.5* | | µg/L | 100 | | 63.5 | 40-140 | | | |
| Surrogate: 2-Fluorobiphenyl | *99.3* | | µg/L | 100 | | 99.3 | 40-140 | | | |

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**QUALITY CONTROL**

**Petroleum Hydrocarbons Analyses - VPH - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B113518 - MA VPH** | | | | | | | | | | |
| **Blank (B113518-BLK1)** | | | | Prepared & Analyzed: 01/15/15 | | | | | | |
| Unadjusted C5-C8 Aliphatics | ND | 100 | µg/L | | | | | | | |
| C5-C8 Aliphatics | ND | 100 | µg/L | | | | | | | |
| Unadjusted C9-C12 Aliphatics | ND | 100 | µg/L | | | | | | | |
| C9-C12 Aliphatics | ND | 100 | µg/L | | | | | | | |
| C9-C10 Aromatics | ND | 100 | µg/L | | | | | | | |
| Benzene | ND | 1.0 | µg/L | | | | | | | |
| Butylcyclohexane | ND | 1.0 | µg/L | | | | | | | |
| Decane | ND | 1.0 | µg/L | | | | | | | |
| Ethylbenzene | ND | 1.0 | µg/L | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ND | 1.0 | µg/L | | | | | | | |
| 2-Methylpentane | ND | 1.0 | µg/L | | | | | | | |
| Naphthalene | ND | 5.0 | µg/L | | | | | | | |
| Nonane | ND | 1.0 | µg/L | | | | | | | |
| Pentane | ND | 1.0 | µg/L | | | | | | | |
| Toluene | ND | 1.0 | µg/L | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 1.0 | µg/L | | | | | | | |
| 2,2,4-Trimethylpentane | ND | 1.0 | µg/L | | | | | | | |
| m+p Xylene | ND | 2.0 | µg/L | | | | | | | |
| o-Xylene | ND | 1.0 | µg/L | | | | | | | |
| Surrogate: 2,5-Dibromotoluene (FID) | *35.1* | | µg/L | 40.0 | | 87.9 | 70-130 | | | |
| Surrogate: 2,5-Dibromotoluene (PID) | *34.1* | | µg/L | 40.0 | | 85.2 | 70-130 | | | |
| **LCS (B113518-BS1)** | | | | Prepared & Analyzed: 01/15/15 | | | | | | |
| Benzene | 96.0 | 1.0 | µg/L | 100 | | 96.0 | 70-130 | | | |
| Butylcyclohexane | 90.0 | 1.0 | µg/L | 100 | | 90.0 | 70-130 | | | |
| Decane | 101 | 1.0 | µg/L | 100 | | 101 | 70-130 | | | |
| Ethylbenzene | 85.4 | 1.0 | µg/L | 100 | | 85.4 | 70-130 | | | |
| Methyl tert-Butyl Ether (MTBE) | 96.3 | 1.0 | µg/L | 100 | | 96.3 | 70-130 | | | |
| 2-Methylpentane | 96.1 | 1.0 | µg/L | 100 | | 96.1 | 70-130 | | | |
| Naphthalene | 88.9 | 5.0 | µg/L | 100 | | 88.9 | 70-130 | | | |
| Nonane | 97.5 | 1.0 | µg/L | 100 | | 97.5 | 30-130 | | | |
| Pentane | 93.3 | 1.0 | µg/L | 100 | | 93.3 | 70-130 | | | |
| Toluene | 92.1 | 1.0 | µg/L | 100 | | 92.1 | 70-130 | | | |
| 1,2,4-Trimethylbenzene | 80.6 | 1.0 | µg/L | 100 | | 80.6 | 70-130 | | | |
| 2,2,4-Trimethylpentane | 114 | 1.0 | µg/L | 100 | | 114 | 70-130 | | | |
| m+p Xylene | 174 | 2.0 | µg/L | 200 | | 87.1 | 70-130 | | | |
| o-Xylene | 85.2 | 1.0 | µg/L | 100 | | 85.2 | 70-130 | | | |
| Surrogate: 2,5-Dibromotoluene (FID) | *39.4* | | µg/L | 40.0 | | 98.6 | 70-130 | | | |
| Surrogate: 2,5-Dibromotoluene (PID) | *36.9* | | µg/L | 40.0 | | 92.3 | 70-130 | | | |
| **LCS Dup (B113518-BSD1)** | | | | Prepared & Analyzed: 01/15/15 | | | | | | |
| Benzene | 91.8 | 1.0 | µg/L | 100 | | 91.8 | 70-130 | 4.41 | 25 | |
| Butylcyclohexane | 89.7 | 1.0 | µg/L | 100 | | 89.7 | 70-130 | 0.255 | 25 | |
| Decane | 101 | 1.0 | µg/L | 100 | | 101 | 70-130 | 0.368 | 25 | |
| Ethylbenzene | 83.9 | 1.0 | µg/L | 100 | | 83.9 | 70-130 | 1.76 | 25 | |
| Methyl tert-Butyl Ether (MTBE) | 96.0 | 1.0 | µg/L | 100 | | 96.0 | 70-130 | 0.309 | 25 | |
| 2-Methylpentane | 92.4 | 1.0 | µg/L | 100 | | 92.4 | 70-130 | 3.91 | 25 | |
| Naphthalene | 91.8 | 5.0 | µg/L | 100 | | 91.8 | 70-130 | 3.20 | 25 | |
| Nonane | 98.5 | 1.0 | µg/L | 100 | | 98.5 | 30-130 | 1.08 | 25 | |
| Pentane | 89.8 | 1.0 | µg/L | 100 | | 89.8 | 70-130 | 3.84 | 25 | |
| Toluene | 88.8 | 1.0 | µg/L | 100 | | 88.8 | 70-130 | 3.62 | 25 | |
| 1,2,4-Trimethylbenzene | 78.9 | 1.0 | µg/L | 100 | | 78.9 | 70-130 | 2.14 | 25 | |

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**QUALITY CONTROL**

**Petroleum Hydrocarbons Analyses - VPH - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B113518 - MA VPH** | | | | | | | | | | |
| **LCS Dup (B113518-BSD1)** | | | | Prepared & Analyzed: 01/15/15 | | | | | | |
| 2,2,4-Trimethylpentane | 109 | 1.0 | µg/L | 100 | | 109 | 70-130 | 5.01 | 25 | |
| m+p Xylene | 172 | 2.0 | µg/L | 200 | | 86.0 | 70-130 | 1.31 | 25 | |
| o-Xylene | 84.5 | 1.0 | µg/L | 100 | | 84.5 | 70-130 | 0.861 | 25 | |
| Surrogate: 2,5-Dibromotoluene (FID) | *39.1* | | µg/L | 40.0 | | 97.6 | 70-130 | | | |
| Surrogate: 2,5-Dibromotoluene (PID) | *37.1* | | µg/L | 40.0 | | 92.7 | 70-130 | | | |

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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B113259 - SW-846 7470A Prep** | | | | | | | | | | |
| **Blank (B113259-BLK1)** | | | | Prepared & Analyzed: 01/12/15 | | | | | | |
| Mercury | ND | 0.00010 | mg/L | | | | | | | |
| **LCS (B113259-BS1)** | | | | Prepared & Analyzed: 01/12/15 | | | | | | |
| Mercury | 0.00192 | 0.00010 | mg/L | 0.00200 | | 96.1 | 80-120 | | | |
| **LCS Dup (B113259-BSD1)** | | | | Prepared & Analyzed: 01/12/15 | | | | | | |
| Mercury | 0.00191 | 0.00010 | mg/L | 0.00200 | | 95.7 | 80-120 | 0.465 | 20 | |
| **Batch B113303 - SW-846 3005A** | | | | | | | | | | |
| **Blank (B113303-BLK1)** | | | | Prepared: 01/12/15 Analyzed: 01/13/15 | | | | | | |
| Iron | 0.059 | 0.050 | mg/L | | | | | | | B-07 |
| **LCS (B113303-BS1)** | | | | Prepared: 01/12/15 Analyzed: 01/13/15 | | | | | | |
| Iron | 2.06 | 0.050 | mg/L | 2.00 | | 103 | 80-120 | | | B |
| **LCS Dup (B113303-BSD1)** | | | | Prepared: 01/12/15 Analyzed: 01/13/15 | | | | | | |
| Iron | 2.00 | 0.050 | mg/L | 2.00 | | 99.8 | 80-120 | 3.09 | 20 | B |
| **Batch B113305 - SW-846 3005A** | | | | | | | | | | |
| **Blank (B113305-BLK1)** | | | | Prepared: 01/12/15 Analyzed: 01/14/15 | | | | | | |
| Antimony | ND | 1.0 | µg/L | | | | | | | |
| Arsenic | ND | 0.40 | µg/L | | | | | | | |
| Barium | ND | 10 | µg/L | | | | | | | |
| Beryllium | ND | 0.40 | µg/L | | | | | | | |
| Cadmium | ND | 0.50 | µg/L | | | | | | | |
| Chromium | ND | 1.0 | µg/L | | | | | | | |
| Lead | ND | 1.0 | µg/L | | | | | | | |
| Nickel | ND | 5.0 | µg/L | | | | | | | |
| Selenium | ND | 5.0 | µg/L | | | | | | | |
| Silver | ND | 0.50 | µg/L | | | | | | | |
| Thallium | ND | 0.20 | µg/L | | | | | | | |
| Vanadium | ND | 5.0 | µg/L | | | | | | | |
| Zinc | ND | 10 | µg/L | | | | | | | |
| **LCS (B113305-BS1)** | | | | Prepared: 01/12/15 Analyzed: 01/14/15 | | | | | | |
| Antimony | 252 | 5.0 | µg/L | 250 | | 101 | 80-120 | | | |
| Arsenic | 253 | 2.0 | µg/L | 250 | | 101 | 80-120 | | | |
| Barium | 252 | 50 | µg/L | 250 | | 101 | 80-120 | | | |
| Beryllium | 260 | 2.0 | µg/L | 250 | | 104 | 80-120 | | | |
| Cadmium | 249 | 2.5 | µg/L | 250 | | 99.7 | 80-120 | | | |
| Chromium | 258 | 5.0 | µg/L | 250 | | 103 | 80-120 | | | |
| Lead | 252 | 5.0 | µg/L | 250 | | 101 | 80-120 | | | |
| Nickel | 253 | 25 | µg/L | 250 | | 101 | 80-120 | | | |
| Selenium | 255 | 25 | µg/L | 250 | | 102 | 80-120 | | | |
| Silver | 263 | 2.5 | µg/L | 250 | | 105 | 80-120 | | | |
| Thallium | 239 | 1.0 | µg/L | 250 | | 95.6 | 80-120 | | | |
| Vanadium | 234 | 25 | µg/L | 250 | | 93.6 | 80-120 | | | |
| Zinc | 255 | 50 | µg/L | 250 | | 102 | 80-120 | | | |

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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch B113305 - SW-846 3005A** | | | | | | | | | | |
| **LCS Dup (B113305-BSD1)** | | | | Prepared: 01/12/15 Analyzed: 01/14/15 | | | | | | |
| Antimony | 262 | 5.0 | µg/L | 250 | | 105 | 80-120 | 3.87 | 20 | |
| Arsenic | 261 | 2.0 | µg/L | 250 | | 105 | 80-120 | 3.24 | 20 | |
| Barium | 270 | 50 | µg/L | 250 | | 108 | 80-120 | 6.76 | 20 | |
| Beryllium | 272 | 2.0 | µg/L | 250 | | 109 | 80-120 | 4.34 | 20 | |
| Cadmium | 265 | 2.5 | µg/L | 250 | | 106 | 80-120 | 6.06 | 20 | |
| Chromium | 270 | 5.0 | µg/L | 250 | | 108 | 80-120 | 4.41 | 20 | |
| Lead | 265 | 5.0 | µg/L | 250 | | 106 | 80-120 | 5.07 | 20 | |
| Nickel | 267 | 25 | µg/L | 250 | | 107 | 80-120 | 5.63 | 20 | |
| Selenium | 264 | 25 | µg/L | 250 | | 106 | 80-120 | 3.60 | 20 | |
| Silver | 275 | 2.5 | µg/L | 250 | | 110 | 80-120 | 4.11 | 20 | |
| Thallium | 252 | 1.0 | µg/L | 250 | | 101 | 80-120 | 5.27 | 20 | |
| Vanadium | 243 | 25 | µg/L | 250 | | 97.4 | 80-120 | 3.91 | 20 | |
| Zinc | 264 | 50 | µg/L | 250 | | 106 | 80-120 | 3.58 | 20 | |
| **Batch B113308 - SW-846 3005A** | | | | | | | | | | |
| **Blank (B113308-BLK1)** | | | | Prepared: 01/12/15 Analyzed: 01/13/15 | | | | | | |
| Hardness | ND | 3.0 | mg/L | | | | | | | |

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**FLAG/QUALIFIER SUMMARY**

| | |
|---|---|
| | QC result is outside of established limits. |
| | Wide recovery limits established for difficult compound. |
| | Wide RPD limits established for difficult compound. |
| # | Data exceeded client recommended or regulatory level |
| | Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded. |
| | No results have been blank subtracted unless specified in the case narrative section. |
| B | Analyte is found in the associated blank as well as in the sample. |
| B-07 | Data is not affected by elevated level in blank since sample result is >10x level found in the blank. |
| RL-08 | Elevated reporting limit due to sample matrix interference. MA CAM reporting limit not met. |
| S-15 | Surrogate recovery outside of control limits due to suspected sample matrix interference. Chromatogram(s) is attached. |

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**CERTIFICATIONS**

**Certified Analyses included in this Report**

| Analyte | Certifications |
|---|---|
| ***MADEP-EPH-04-1.1 in Water*** | |
| C9-C18 Aliphatics | CT,NC,WA,ME,NH-P |
| C19-C36 Aliphatics | CT,NC,WA,ME,NH-P |
| Unadjusted C11-C22 Aromatics | CT,NC,WA,ME,NH-P |
| C11-C22 Aromatics | CT,NC,WA,ME,NH-P |
| Acenaphthene | CT,NC,WA,ME,NH-P |
| 2-Methylnaphthalene | CT,NC,WA,ME |
| Naphthalene | CT,NC,WA,ME,NH-P |
| Phenanthrene | CT,NC,WA,ME,NH-P |
| ***MADEP-VPH-04-1.1 in Water*** | |
| Unadjusted C5-C8 Aliphatics | CT,NC,WA,ME,NH-P |
| C5-C8 Aliphatics | CT,NC,WA,ME,NH-P |
| Unadjusted C9-C12 Aliphatics | CT,NC,WA,ME,NH-P |
| C9-C12 Aliphatics | CT,NC,WA,ME,NH-P |
| C9-C10 Aromatics | CT,NC,WA,ME,NH-P |
| Benzene | CT,NC,WA,ME,NH-P |
| Ethylbenzene | CT,NC,WA,ME,NH-P |
| Methyl tert-Butyl Ether (MTBE) | CT,NC,WA,ME,NH-P |
| Naphthalene | CT,NC,WA,ME,NH-P |
| Toluene | CT,NC,WA,ME,NH-P |
| m+p Xylene | CT,NC,WA,ME,NH-P |
| o-Xylene | CT,NC,WA,ME,NH-P |
| ***SM21-22 2340B in Water*** | |
| Hardness | CT,MA,NH,NY |
| ***SW-846 6010C in Water*** | |
| Iron | CT,NH,NY,ME,NC,VA,NJ |
| ***SW-846 6020A in Water*** | |
| Antimony | CT,NH,NY,NC,ME,VA,NJ |
| Arsenic | CT,NH,NY,NC,ME,VA,NJ |
| Barium | CT,NH,NY,NC,ME,VA,NJ |
| Beryllium | CT,NH,NY,NC,ME,VA,NJ |
| Cadmium | CT,NH,NY,RI,NC,ME,VA,NJ |
| Chromium | CT,NH,NY,NC,ME,VA,NJ |
| Lead | CT,NH,NY,NC,ME,VA,NJ |
| Nickel | CT,NH,NY,NC,ME,VA,NJ |
| Selenium | CT,NH,NY,NC,ME,VA,NJ |
| Silver | CT,NH,NY,NC,ME,VA,NJ |
| Thallium | CT,NH,NY,NC,ME,VA,NJ |
| Vanadium | CT,NC,NH,NY,ME,VA,NJ |
| Zinc | CT,NH,NY,NC,ME,VA,NJ |
| ***SW-846 7470A in Water*** | |
| Mercury | CT,NH,NY,NC,ME,VA,NJ |

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

| Code | Description | Number | Expires |
|---|---|---|---|
| AIHA | AIHA-LAP, LLC | 100033 | 02/1/2016 |
| MA | Massachusetts DEP | M-MA100 | 06/30/2015 |
| CT | Connecticut Department of Publilc Health | PH-0567 | 09/30/2015 |
| NY | New York State Department of Health | 10899 NELAP | 04/1/2015 |
| NH-S | New Hampshire Environmental Lab | 2516 NELAP | 02/5/2015 |
| RI | Rhode Island Department of Health | LAO00112 | 12/30/2015 |
| NC | North Carolina Div. of Water Quality | 652 | 12/31/2015 |
| NJ | New Jersey DEP | MA007 NELAP | 06/30/2015 |
| FL | Florida Department of Health | E871027 NELAP | 06/30/2015 |
| VT | Vermont Department of Health Lead Laboratory | LL015036 | 07/30/2015 |
| WA | State of Washington Department of Ecology | C2065 | 02/23/2015 |
| ME | State of Maine | 2011028 | 06/9/2015 |
| VA | Commonwealth of Virginia | 460217 | 12/14/2015 |
| NH-P | New Hampshire Environmental Lab | 2557 NELAP | 09/6/2015 |

# CHAIN OF CUSTODY RECORD

con-test® ANALYTICAL LABORATORY
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39 Spruce Street
East longmeadow, MA 01028



Rev 04.05.12

15A0201

Company Name: Cyn Environmental
Address: 100 Tosca Dr
Stoughton, MA 02072
Attention: Ben Duelly
Project Location: 18 Swan Rd. Quincy, MA
Sampled By: B Duelly

Telephone: 781-341-1777
Project # 208101-ST
Client PO#

**DATA DELIVERY** (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ○ PDF ○ EXCEL ○ GIS ○ OTHER ○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

| Con-Test Lab ID (laboratory use only) | Client Sample ID / Description | Collection Beginning Date/Time | Collection Ending Date/Time | Composite | Grab | *Matrix Code | Conc Code | EPH Chains w/ 4 PAH's | VPH Chains w/ BTEX | MCP 13 Metals | Iron | Hardness | # of Containers | ** Preservation | ***Container Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | Sump | | 11/9/15 12:15 | | ✓ | GW | | X | X | X | X | X | | | |

ANALYSIS REQUESTED

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

| Relinquished by: (signature) | Date/Time: |
|---|---|
| B Duelly | 11/9/15 1230 |
| Received by: (signature) | Date/Time: |
| [signature] | 11/9/15 12:10 |
| Relinquished by: (signature) | Date/Time: |
| [signature] | 11/9/15 16:15 |
| Received by: (signature) | Date/Time: |
| [signature] 5.6 VOAS | 16:15 |

**Turnaround** ††
☑ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

**Detection Limit Requirements**
Massachusetts: GW1
Connecticut:
Other:

**Is your project MCP or RCP ?**
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

**PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT**

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test ANALYTICAL LABORATORY



# Sample Receipt Checklist

CLIENT NAME: Cyn Environmental RECEIVED BY: KB DATE: 1/9/15

1) **Was the chain(s) of custody relinquished and signed?** (Yes) No No CoC Included

2) **Does the chain agree with the samples?** (Yes) No

If not, explain:

3) **Are all the samples in good condition?** (Yes) No

If not, explain:

4) **How were the samples received:**

On Ice ☑ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☑

**Were the samples received in Temperature Compliance of (2-6°C)?** (Yes) No N/A

Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.6°

5) **Are there Dissolved samples for the lab to filter?** Yes (No)

Who was notified _____ Date _____ Time _____

6) **Are there any RUSH or SHORT HOLDING TIME samples?** Yes (No)

Who was notified _____ Date _____ Time _____

7) **Location where samples are stored:** 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

8) **Do all samples have the proper Acid pH:** (Yes) No ~~N/A~~ KB (N/A) _____

9) **Do all samples have the proper Base pH:** Yes No (N/A) _____

10) **Was the PC notified of any discrepancies with the CoC vs the samples:** Yes No (N/A)

## Containers received at Con-Test

| | # of containers | | # of containers |
|---|---|---|---|
| 1 Liter Amber | 2 | 8 oz amber/clear jar | |
| 500 mL Amber | | 4 oz amber/clear jar | |
| 250 mL Amber (8oz amber) | | 2 oz amber/clear jar | |
| 1 Liter Plastic | | Plastic Bag / Ziploc | |
| 500 mL Plastic | | SOC Kit | |
| 250 mL plastic | 1 | Non-ConTest Container | |
| 40 mL Vial - type listed below | 3 | Perchlorate Kit | |
| Colisure / bacteria bottle | | Flashpoint bottle | |
| Dissolved Oxygen bottle | | Other glass jar | |
| Encore | | Other | |

Laboratory Comments:

40 mL vials: # HCl 3 # Methanol _____

# Bisulfate _____ # DI Water _____

# Thiosulfate _____ Unpreserved

Time and Date Frozen:

**Login Sample Receipt Checklist**

**(Rejection Criteria Listing - Using Sample Acceptance Policy)**

**Any False statement will be brought to the attention of Client**

| Question | Answer (True/False) T/F/NA | Comment |
|---|---|---|
| 1) The cooler's custody seal, if present, is intact. | NA | |
| 2) The cooler or samples do not appear to have been compromised or tampered with. | T | |
| 3) Samples were received on ice. | T | |
| 4) Cooler Temperature is acceptable. | T | |
| 5) Cooler Temperature is recorded. | T | |
| 6) COC is filled out in ink and legible. | T | |
| 7) COC is filled out with all pertinent information. | T | |
| 8) Field Sampler's name present on COC. | T | |
| 9) There are no discrepancies between the sample IDs on the container and the COC. | T | |
| 10) Samples are received within Holding Time. | T | |
| 11) Sample containers have legible labels. | T | |
| 12) Containers are not broken or leaking. | T | |
| 13) Air Cassettes are not broken/open. | NA | |
| 14) Sample collection date/times are provided. | T | |
| 15) Appropriate sample containers are used. | T | |
| 16) Proper collection media used. | T | |
| 17) No headspace sample bottles are completely filled. | F | |
| 18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs. | T | |
| 19) Trip blanks provided if applicable. | NA | |
| 20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter. | T | |
| 21) Samples do not require splitting or compositing. | T | |

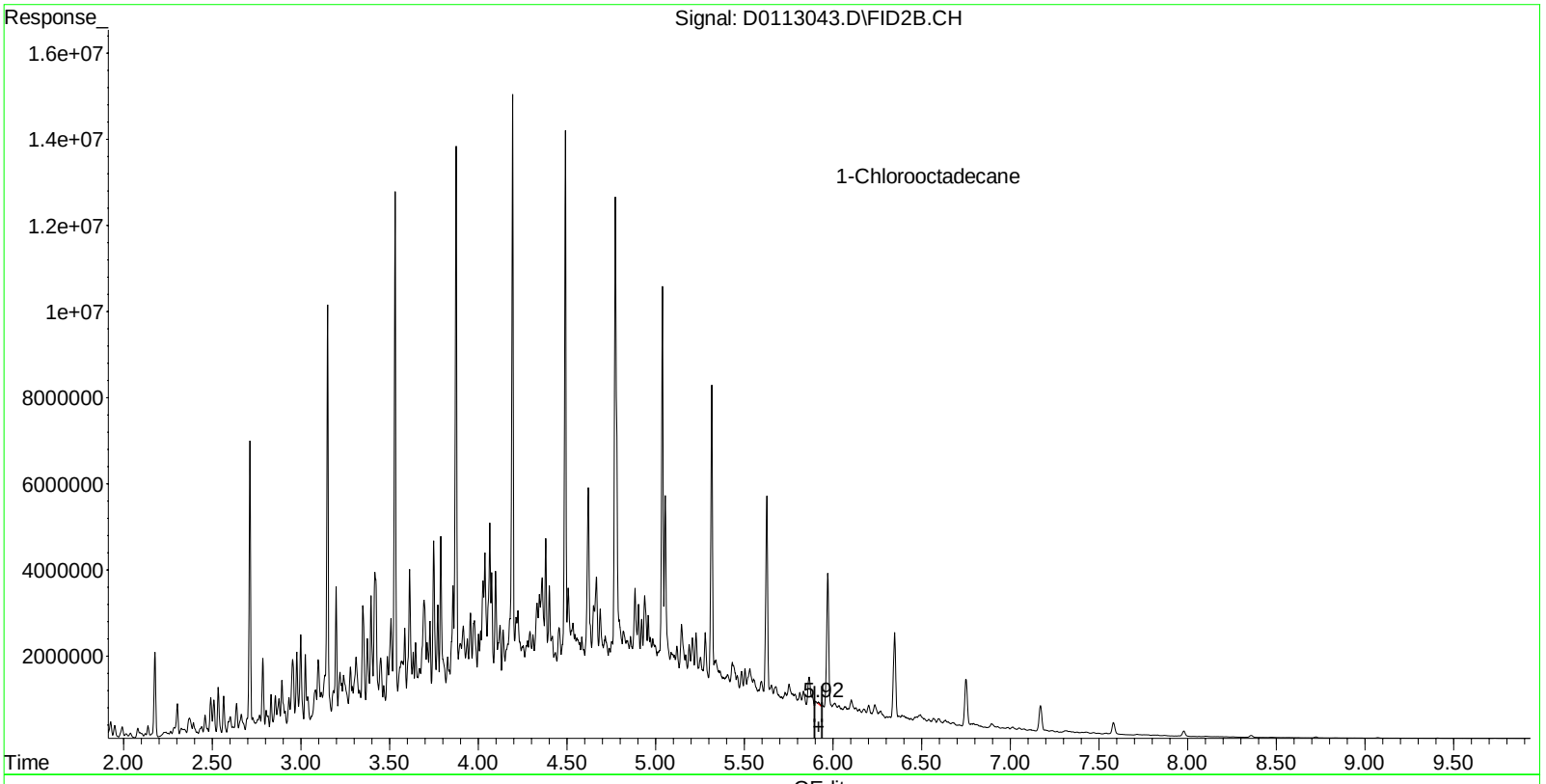
**Who notified of False statements?** **Date/Time:** 1/9/15

**Doc #277 Rev. 4 August 2013** **Log-In Technician Initials:** KB **Date/Time:** 16:15

Data Path : C:\MSDChem\4\DATA\D011315.SEC\
Data File : D0113043.D
Signal(s) : FID2B.CH
Acq On : 13 Jan 2015 10:21 pm
Operator : SCS
Sample : 15A0201-01@5X Inst : GCFID4
Misc :
ALS Vial : 43 Sample Multiplier: 1

Integration File: EVENTS.E
Quant Time: Jan 14 09:17:02 2015
DataAcq Meth:EPH11D.M
Quant Method : C:\MSDCHEM\4\METHODS\AL070714.M
Quant Title : MA EPH Aliphatic GCFID4
QLast Update : Fri Dec 19 10:22:28 2014
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal Phase : Rtx-5Sil MS w/Integra-Guard
Signal Info : 0.25 mm




(11) Chlorooctadecane (COD) (S)

5.92min 3.020ug/mL

response 300096

(+) = Expected Retention Time

# MADEP MCP Anal al M C a n F

| | |
|---|---|
| a a a C n Anal al a a | P A |
| P a n an n MA | |

F a n ll n a a l a a a l D y

A

Ma Wa a

**M**

| | | | | | |
|---|---|---|---|---|---|
| CAM A | CAM | Ma CDEP P CAM A | P CAM | C CAM | Ma DEP AP CAM A |
| CAM | M al CAM C | Ma DEP EP CAM A y | CAM C | E l CAM A | CAM |
| M al CAM A | M al CAM D | PC CAM A | al C an PAC CAM A | P l a CAM | |

***Q F***

| | | | |
|---|---|---|---|
| | all a l n a n n n n n C an C l n l n a y n l la a an a anal n y l n | ☐ | ☐ |
| | anal al an all a a n n Cl CAM l ll | ☐ | ☐ |
| | all a n an anal al n a n n l CAM l l n all n n an a n y n n a a | ☐ | ☐ |
| | D la a l all n n n CAM A al A an an al C n l G ln A n an n Anal al Da a | ☐ | ☐ |
| | P EP an AP M nl a n a an a n n al a l n an a n | ☐ | ☐ |
| | AP an M nl l anal l a a | ☐ | ☐ |
| **F** | all a l a l CAM l an n an a n nC n n an an a al a na la a na a n l n all n n A E | ☐ | ☐ |

***G w***

| | | | |
|---|---|---|---|
| | n l a l all CAM n l n l CAM l | ☐ | ☐ |

| | | | |
|---|---|---|---|
| **H** | all n an a C n CAM l a | ☐ | ☐ |
| **I** y | l l anal l n l CAM l | ☐ | ☐ |

*mu y h me*

***w***

na P n Ma

P n a anna a n n y Da