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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

SEP 20 2013

James Newell
Facilities Manager
Tufts University
529 Boston Avenue
Medford, MA 02115

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Tufts University Central Heating Plant site located at 100 North Hill Road, Medford, MA 02115; Authorization# MAG910597

Dear Mr. Newell:

Based on the review of a Notice of Intent (NOI) submitted by Dawn Horter from Capaccio Environmental Engineering, Inc., on behalf of Tufts University for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you the Owners' representative as the Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

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

Please note the enclosed checklist includes parameters that exceeded Appendix III limits. 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. For each parameter the dilution factor 41.08 for this site is within a dilution range greater than ten to fifty (>10 - 50), established in the RGP. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limits for antimony of 60 ug/L, arsenic of 100 ug/L, cadmium of 2 ug/L, copper of 52 ug/L, selenium of 50 ug/L, and iron of 5,000ug/L, are required to achieve permit compliance at your site.

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

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on October 31, 2013. 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
Dawn Horter, Capaccio, Engineering, Inc.

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910597**
Authorization Issued:	September, 2013
Facility/Site Name:	Tuft University Heating Plant
Facility/Site Address:	100 North Hill Road, Medford, MA 02115, Middlesex
	Email address of owner: james.newell@tufts.edu
Legal Name of Operator:	Bond Brothers
Operator contact name, title, and Address:	Thomas Walsh 145 Spring Street, Everett, 02149
	Email: twalsh@bondbrothers.com. Pn:617-349-6395
Estimated date of Completion:	October 31, 2013
Category and Sub-Category:	Category I. Petroleum Related Site Remediation. Subcategory B. Fuel Oils and Other Oils Sites
RGP Termination Date:	September 10, 2015
Receiving Water:	Mystic River

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

	Parameter	**Effluent Limit/Method#/ML** (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
√	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing **, Me#60.2/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

	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)
	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

	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)
	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 0.1ug/L

	Metal parameter	Total Recoverable MA/Metal Limit H [10] = 50 mg/l CaCO3, Units = ug/l [(11/12)] Freshwater Limts	Minimum level=ML
√	39. Antimony	60	ML 10
√	40. Arsenic **	100	ML 20
√	41. Cadmium **	2	ML 10
	42. Chromium III (trivalent) **	48.8	ML 15
	43. Chromium VI (hexavalent) **	48.8	ML 10
√	44. Copper **	52	ML 15
√	45. Lead **	13	ML 20
	46. Mercury **	0.9	ML 02
	47. Nickel **	29	ML 20
	48. Selenium **	50	ML 20
	49. Silver	1.2	ML 10
	50. Zinc **	333	ML 15
√	51. Iron	5,000	ML 20

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

Footnotes:

[1] Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).
[2] Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.
[3] Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).
[4] BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.
[5] Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.
[6] The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[7] Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.

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

[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

September 3, 2013

Mr. Victor Alvarez
US Environmental Protection Agency
RGP-NOC Processing
Municipal Assistance Unit (CMU)
1 Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

RE: **EPA Remediation General Permit Notice of Intent**
Tufts University/Central Heating Plant
100 North Hill Road
Medford, Massachusetts
RTN 3-29825

Dear Mr. Alvarez:

On behalf of Tufts University (TUFTS), Capaccio Environmental Engineering, Inc. (CAPACCIO) hereby submits the enclosed Notice of Intent with supporting documentation for an EPA Remediation General Permit (RGP) for the above-referenced location. The RGP is required to treat and discharge hydrocarbon-impacted water from dewatering activities during removal of two No. 6 and one No. 2 fuel oil underground storage tanks (USTs) and the installation of two new USTs at the facility. Figure 1 is a Site Location Map indicating the location of the property and Figure 2 is a Site Plan showing the layout of the property, location of the tankfield area and the location of the discharge point.

Groundwater will be encountered during installation of the new USTs. Groundwater will be evacuated to a frac tank for temporary storage prior to discharge. Discharge of the groundwater will be through a bag filter and a granular activated carbon unit. The groundwater treatment system will be designed to accommodate a maximum flow of 50 gallons per minute. A flow meter and flow totalizer will be placed immediately prior to discharge of the treated groundwater. Flow rates will be periodically monitored throughout discharging and the total amount of groundwater discharged will be recorded at the end of each day.

Treated groundwater will be discharged to a storm drain located adjacent to the site, which discharges to a stormwater main along Boston Avenue. Stormwater in the main flows north to discharge into the Mystic River. The discharge will be monitored in accordance with the RGP with in-line sample ports for the influent and effluent sample locations. Please note that the Mystic River is listed as a Class B waterway that is listed as an impaired waterway.

If you have any questions or require additional information, please do not hesitate to contact me at (508) 970-0033, ext. 118.

Sincerely,
Capaccio Environmental Engineering, Inc.

Dawn Horter, PG, LSP
Senior Hydrogeologist

Enc: Notice of Intent and supporting documents

c: Jim Newell (TUFTS)
MF 05-034.014

Remediation General Permit
Appendix V

Notice of Intent (NOI)
Suggested Forms & Instructions

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

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

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

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

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

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

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

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

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

1. General facility/site information.

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

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

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

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

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

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

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

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

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

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

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

If so, provide permit tracking number(s).

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

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

2. Discharge information.

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

b) Provide the following information about each discharge:

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

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

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

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

3. Contaminant information.

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

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

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

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

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

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

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

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

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

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

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

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

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

Step 1: Initial Evaluation

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

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

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

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

Step 2: Calculation of Dilution Factor

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

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

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

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

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

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

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

DF = (Qd + Qs)/Qd

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

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

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

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

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

4. Treatment system information.

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

5. Receiving surface water(s) information.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

a) Name of **facility/site**: Tufts University/Central Heating Plan		**Facility/site** mailing address:		
Location of **facility/site**: longitude: 71.11815 latitude: 42.40707947	Facility SIC code(s): 8221	Street: Central Heating Plant 100 North Hill Road Medford, MA 02115		
b) Name of **facility/site owner:**		Town: Medford		
Email address of facility/site owner: james.newell@tufts.edu		State: MA	Zip: 02115	County: Middlesex
Telephone no. of facility/site **owner**: 617-627-3954				
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):		Tufts University		
Street: 529 Boston Avenue				
Town: Medford	State: MA	Zip: 02115	County: Middlesex	
c) Legal name of **operator**:		**Operator** telephone no: 617-387-3400		
Bond Brothers		**Operator** fax no.: 617-394-6395	**Operator** email: twalsh@bondbrothers.com	
Operator contact name and title: Thomas Walsh, Project Manager				
Address of **operator** (if different from owner):		Street: 145 Spring St.		
Town: Everett	State: MA	Zip: 02149	County: Middlesex	

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: RTN3-29825
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:

MassDEP, 205 Lowell Street, Wilmington, MA 01887

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

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

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

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

Potential groundwater discharge during removal of two No. 6 and one No. 2 fuel oil underground storage tanks located at the Central Heating Plant.

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: 0.1195 Is maximum flow a **design value**? Y ○ N ◉
Average flow (include units): 0.0446 cfs Is average flow a design value or estimate? estimate

3) Latitude and longitude of each discharge within 100 feet:
pt.1: lat. 42.407947 long. 71.11815 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 Oct 15, 2013 end Oct 31, 2013

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). Attached

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)		☐	☒								
2. Total Residual Chlorine (TRC)		☒	☐								
3. Total Petroleum Hydrocarbons (TPH)		☐	☒	1	from MW	8100	500 ug/l	5800		5800	
4. Cyanide (CN)	57125	☒	☐								
5. Benzene (B)	71432	☒	☐	1	from MW	8260	1 ug/l	<1		<1	
6. Toluene (T)	108883	☒	☐	1	from MW	8260	1 ug/l	<1		<1	
7. Ethylbenzene (E)	100414	☒	☐	1	from MW	8260	1 ug/l	<1		<1	
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	1	from MW	8260	1 ug/l	<1		<1	
9. Total BTEX [2]	n/a	☒	☐	1	from MW	8260	1 ug/l	<1		<1	
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐	1	from MW	8260	1 ug/l	<1		<1	
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	1	from MW	8260	2 ug/l	<2		<2	
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐								

***** 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	☒	☐	1	from MV	8260	5ug/l	<5		<5	
14. Naphthalene	91203	☒	☐	1	from MV	8260	1 ug/l	<1		<1	
15. Carbon Tetrachloride	56235	☒	☐	1	from MV	8260	1 ug/l	<1		<1	
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	1	from MV	8260	1 ug/l	<1		<1	
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	1	from MV	8260	1 ug/l	<1		<1	
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	1	from MV	8260	1 ug/l	<1		<1	
18a. Total dichlorobenzene		☒	☐	1	from MV	8260	1 ug/l	<1		<1	
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	1	from MV	8260	1 ug/l	<1		<1	
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	1	from MV	8260	1 ug/l	<1		<1	
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	1	from MV	8260	1 ug/l	<1		<1	
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	1	from MV	8260	1 ug/l	<1		<1	
23. Methylene Chloride	75092	☒	☐	1	from MV	8260	5 ug/l	<1		<5	
24. Tetrachloroethene (PCE)	127184	☒	☐	1	from MV	8260	1 ug/l	<1		<1	
25. 1,1,1 Trichloro-ethane (TCA)	71556	☐	☐	1	from MV	8260	1 ug/l	<1		<1	
26. 1,1,2 Trichloro-ethane (TCA)	79005	☐	☐		from MV	8260	1 ug/l	<1		<1	
27. Trichloroethene (TCE)	79016	☐	☐	1	from MV	8260	1 ug/l	<1		<1	

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	from MW	8260	1 ug/l	<1		<1	
29. Acetone	67641	☒	☐	1	from MW	8260	10 ug/l	<10		<10	
30. 1,4 Dioxane	123911	☒	☐	1	from MW	8260	100 ug/l	<100		<100	
31. Total Phenols	108952	☒	☐	1							
32. Pentachlorophenol (PCP)	87865	☒	☐	1							
33. Total Phthalates (Phthalate esters) [4]		☒	☐	1							
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐	1							
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	1	from MW	MassDEP	6 ug/l	<6		<6	
a. Benzo(a) Anthracene	56553	☒	☐	1	from MW	MassDEP	6 ug/l	<6		<6	
b. Benzo(a) Pyrene	50328	☒	☐	1	from MW	MassDEP	6 ug/l	<6		<6	
c. Benzo(b)Fluoranthene	205992	☒	☐	1	from MW	MassDEP	6 ug/l	<6		<6	
d. Benzo(k)Fluoranthene	207089	☒	☐	1	from MW	MassDEP	6 ug/l	<6		<6	
e. Chrysene	21801	☒	☐	1	from MW	MassDEP	6 ug/l	<6		<6	
f. Dibenzo(a,h)anthracene	53703	☒	☐	1	from MW	MassDEP	6 ug/l	<6		<6	
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	1	from MW	MassDEP	6 ug/l	<6		<6	
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	1	from MW	MassDEP	6 ug/l	<6		<6	

[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	from MV	MassDEP	6 ug/l	<6		<6	
i. Acenaphthylene	208968	☒	☐	1	from MV	MassDEP	6 ug/l	<6		<6	
j. Anthracene	120127	☒	☐	1	from MV	MassDEP	6 ug/l	<6		<6	
k. Benzo(ghi) Perylene	191242	☒	☐	1	from MV	MassDEP	6 ug/l	<6		<6	
l. Fluoranthene	206440	☒	☐	1	from MV	MassDEP	6 ug/l	<6		<6	
m. Fluorene	86737	☒	☐	1	from MV	MassDEP	6 ug/l	<6		<6	
n. Naphthalene	91203	☒	☐	1	from MV	MassDEP	6 ug/l	<6		<6	
o. Phenanthrene	85018	☒	☐	1	from MV	MassDEP	6 ug/l	<6		<6	
p. Pyrene	129000	☒	☐	1	from MV	MassDEP	6 ug/l	<6		<6	
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	1	from MV	8082	0.6 ug/l	<0.6		<0.6	
38. Chloride	16887006	☒	☐								
39. Antimony	7440360	☒	☐	1	from MV	6010	0.1 mg/l	<100		<100	
40. Arsenic	7440382	☒	☐	1	from MV	6010	0.1 mg/l	<100		<100	
41. Cadmium	7440439	☒	☐								
42. Chromium III (trivalent)	16065831	☒	☐	1	from MV	6010	0.03 mg.l	<30		<30	
43. Chromium VI (hexavalent)	18540299	☒	☐	1	from MV	SM3500-CRD	0.02 mg/l	<20		<20	
44. Copper	7440508	☒	☐	1	from MV	6010	0.05 mg/l	<50		<50	
45. Lead	7439921	☒	☐	1	from MV	6020	0.001 mg/l	<1		<1	
46. Mercury	7439976	☒	☐	1	from MV	7470	0.0005 mg/l	<.5		<0.5	
47. Nickel	7440020	☐	☐	1	from MV	6010	0.02 mg/l	<20		<20	
48. Selenium	7782492	☒	☐	1	from MV	6010	0.1 mg/l	<200		<200	
49. Silver	7440224	☒	☐	1	from MV	6020	0.002 mg/l	<2		<2	
50. Zinc	7440666	☐	☐	1	from MV	6010	0.02 mg/l	40		40	
51. Iron	7439896	☐	☐	1	from MV	6010	0.1 mg/l	9720		9720	
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? 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? Metal: Iron DF: 41.36 Metal: DF: Metal: DF: Metal: DF: Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y◉ N○ If Y, list which metals: 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 evacuated from the UST excavation will be contained within a frac tank to separate any non-aqueous phase liquid. Water will be discharged from the frac tank through a minimum of one solids filter to remove particulate matter. Following the solids filter, the water will be discharged through a water-phase granular activated carbon unit to ensure removal of soluble hydrocarbon compounds. Treated water will then be discharged to an adjacent storm drain.

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 20 gpm Maximum flow rate of treatment system 50 gpm
Design flow rate of treatment system 20 gpm

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

None

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

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

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
Discharge is to an adjacent storm drain which flows to Boston Avenue and north to Mystic River outfall.

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 Class B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 4.5 cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

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

Is there a final TMDL? Y ◉ N ○ If yes, for which pollutant(s)? As,chlordane,chlorophylls, DDT, DOS, e.coli, PCB,P,secchi disk transparency,sediment bioassays

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.

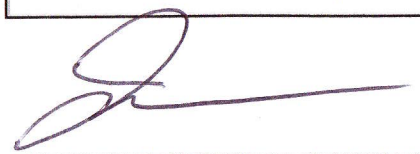
7. Supplemental information.

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

Attachments include:
Water Flow Schematic
Laboratory Analytical Data Report
Dilution Factor Calculations
Site Plan
303(d) List
TMDL List
Endangered Species List and MassDEP GIS Map

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:	Tufts University, Central Heating Plant
Operator signature:	
Printed Name &Title:	James Newell, Facilities Manager
Date:	8/13/13

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

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

or electronically mailed to NPDES.Generalpermits@epa.gov

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

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

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

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

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

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

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

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

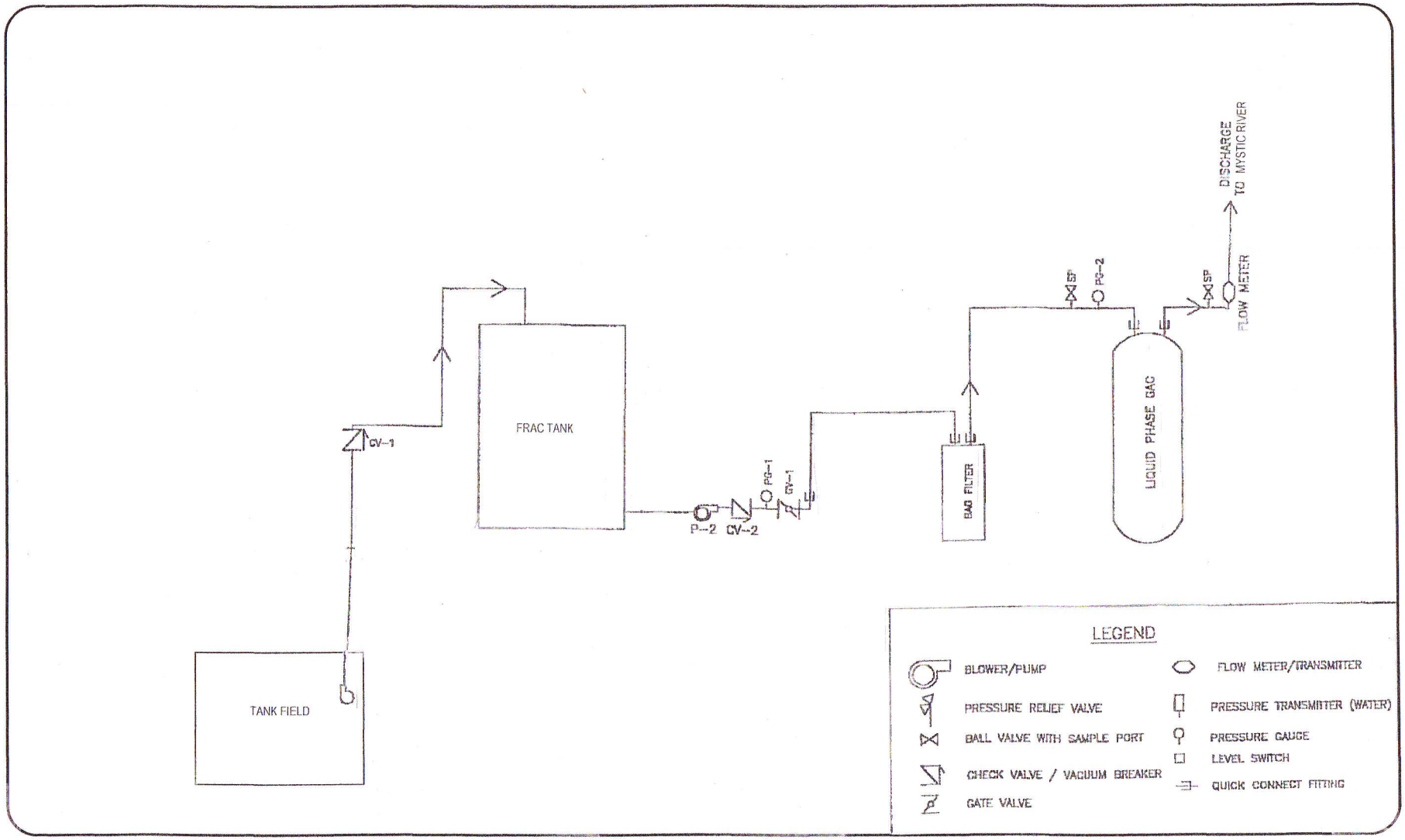
Please note: Applicants for discharges in Massachusetts should note that under 310 CMR 40.000, *as a matter of state law*, the general permit only applies to discharges that are **not** subject to the

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

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

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

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



PROJECT TITLE: UST Excavation	CLIENT: Tufts University	Capaccio Environmental Engineering, Inc. 293 Boston Post Road-West Marlborough, MA 01752 (508) 970-0033 * www.capaccio.com "Helping Industry and the Environment Prosper"	JOB NO: 05-034.007 SCALE: 1" = 2083'-0" REV: A DRW: GJS CHK: DLH ENG: DATE: 08-17-13	SHEET: Figure 1
DRAWING TITLE: Process Flow Diagram – Dewatering Treatment System (Typical)	JOB LOCATION: 100 North Hill Road Medford, MA 02155			SIZE: A

DILUTION FACTOR CALCULATION WORKSHEET
NPDES REMEDIATION GENERAL PERMIT – NOTICE OF INTENT FORM

Site: Tufts University/Central Heating Plant
Address: 100 North Hill Road, Medford, MA
Receiving Water: Mystic River

DF = (Qd + Qs) / Qd

Where:

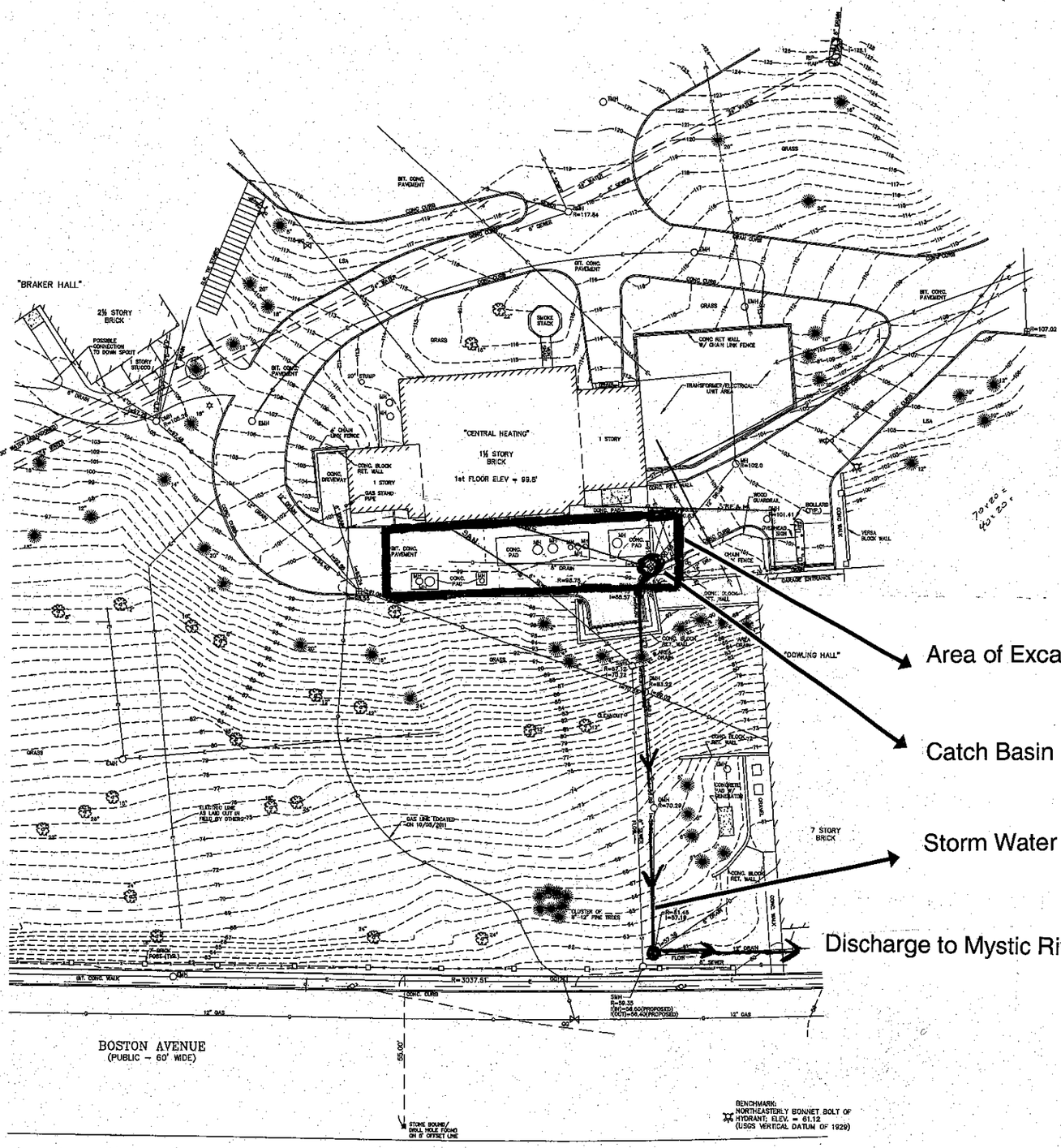
DF = Massachusetts dilution factor

Qd = Maximum flow rate of the discharge in cubic feet per second (cfs), estimated at 50 gpm and 1.0 gpm = 0.00223 cfs

Qs = Receiving water 7Q10 flow (cfs), where 7Q10 is the maximum flow in cfs for 7 consecutive days with a recurrence interval of 10 years, estimated at 4.5 cfs based on United States Geological Survey, National Water Information System data

Therefore:

DF = (0.1115 cfs + 4.5 cfs) / 0.1115 cfs = 41.36



LEGEND

—S—	SEWER
—D—	DRAIN
—G—	GAS
—W—	WATER
—ST—	STEAM
— —	OVERHEAD WIRES
	UTILITY POLE
	FIRE HYDRANT
	MONITORING WELL
	CATCH BASIN
WG	WATER GATE
GG	GAS GATE
	SIGN
	DECIDUOUS TREE
	CONIFEROUS TREE
	FLUSH CURB
SMH	SEWER MANHOLE
DMH	DRAIN MANHOLE
EMH	ELECTRIC MANHOLE
MH	MANHOLE
WMH	WATER MANHOLE
LSA	LANDSCAPED AREA

NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THIS PLAN, PRIOR TO ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION BEFORE PROCEEDING WITH THE WORK.

THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATERGATES, ETC. AND COMPILED FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES.

ALL CONTRACTORS SHOULD NOTIFY, IN WRITING, ALL UTILITY COMPANIES OR AGENCIES PRIOR TO ANY EXCAVATION WORK.
CALL DIGSAFE, 1-800-322-4844

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED FROM AN INSTRUMENT SURVEY.

THOMAS M. KILLION, P.L.S. — DATE: 10/6/2011

SITE PLAN OF LAND
PREPARED FOR TUFTS UNIVERSITY CENTRAL HEATING PLANT MEDFORD, MASS.

PREPARED BY:
MEDFORD ENGINEERING & SURVEY
ANGELO B. VENEZIANO ASSOCIATES
15 HALL ST. MEDFORD, MA. 02155
781-396-4466 fax: 781-396-8052

SCALE: 1" = 20'

REV: OCTOBER 6, 2011
DATE: AUGUST 31, 2011

FIELD	DESIGN	DRAW	CALC.	CHECK	FILE No.
A.V.T.C.	-	P.P.	P.P.	T.M.K.	18133

18133.DWG

Appendix 1
Assessment Units and Integrated List Categories by Major Watershed

NAME	SEGMENT ID	DESCRIPTION	SIZE	UNITS	CATEGORY
Cummings Brook	MA71-10	Headwaters east of Wright Street, Woburn to confluence with Fowle Brook, Woburn.	2.1	MILES	3
Ell Pond	MA71014	Melrose	23	ACRES	5
Hills Pond	MA71018	Arlington	2	ACRES	4C
Horn Pond	MA71019	Woburn	108	ACRES	5
Lower Mystic Lake	MA71027	Arlington/Medford	93	ACRES	5
Malden River	MA71-05	Headwaters south of Exchange Street, Malden to confluence with Mystic River, Everett/Medford.	2.3	MILES	5
Mill Brook	MA71-07	Headwaters south of Massachusetts Avenue, Lexington to inlet of Lower Mystic Lake, Arlington (portions culverted underground).	3.9	MILES	5
Mill Creek	MA71-08	From Route 1, Chelsea/Revere to confluence with Chelsea River, Chelsea/Revere.	0.02	SQUARE MILES	5
Mystic River	MA71-02	Outlet Lower Mystic Lake, Arlington/Medford to Amelia Earhart Dam, Somerville/Everett.	4.9	MILES	5
Mystic River	MA71-03	Amelia Earhart Dam, Somerville/Everett to confluence with Boston Inner Harbor, Chelsea/Charlestown (Includes Island End River).	0.49	SQUARE MILES	5
Sales Crrek	MA71-12	Headwaters near Route 145, Revere to tidegate/confluence with Belle Isle Inlet, Boston/Revere.	0.008	SQUARE MILES	3
Shaker Glen Brook	MA71-11	Headwaters, west of Dix Road Extention, Woburn to confluence with Fowle Brook, Woburn (portion culverted underground).	1.5	MILES	3
Spot Pond	MA71039	Stoneham/Medford	290	ACRES	3
Spy Pond	MA71040	Arlington	98	ACRES	5
Unnamed Tributary	MA71-13	Unnamed tributary locally known as 'Meetinghouse Brook', from emergence south of Route 16/east of Winthrop Street, Medford to confluence with the Mystic River, Medford. (brook not apparent on 1985 Boston North USGS quad - 2005 orthophotos used to delineate stream)	0.1	MILES	5
Upper Mystic Lake	MA71043	Winchester/Arlington/Medford	176	ACRES	5
Wedge Pond	MA71045	Winchester	23	ACRES	5
Winn Brook	MA71-09	Headwaters near Juniper Road and the Belmont Hill School, Belmont to confluence with Little Pond, Belmont (portions culverted underground).	1.4	MILES	5
Winter Pond	MA71047	Winchester	18	ACRES	5
Narragansett Bay					
Bad Luck Brook	MA53-11	Headwaters, outlet Warren Upper Reservoir, Rehoboth to confluence with East Branch Palmer River, Rehoboth	1.7	MILES	3
Beaverdam Brook	MA53-10	Headwaters, southeast of Chestnut Street, Rehoboth to confluence with Palmer River, Rehoboth	2.9	MILES	3
Clear Run Brook	MA53-13	Headwaters, outlet unnamed pond northwest of Miller Street, Seekonk to confluence with Palmer River, Rehoboth	1.6	MILES	4A
East Branch Palmer River	MA53-08	Headwaters, near Stevens Corner Cemetery, Rehoboth to confluence with West Branch Palmer River (forming Palmer River), Rehoboth	7.2	MILES	3
Fullers Brook	MA53-12	Headwaters in wetland north of Jacobs Street, Seekonk to confluence with Palmer River, Rehoboth	1.7	MILES	3
Oak Swamp Brook	MA53-15	Headwaters in Oak Swamp east of School Street, Rehoboth to confluence with Rocky Run, Rehoboth	3	MILES	3
Palmer River	MA53-03	From Route 6 bridge, Rehoboth to state line, Swansea, MA/Barrington, RI	0.11	SQUARE MILES	4A

Massachusetts Category 5 Waters
"Waters requiring a TMDL"

NAME	SEGMENT ID	DESCRIPTION	SIZE	UNITS	IMPAIRMENT CAUSE	EPA TMDL NO.
Mystic River	MA71-02	Outlet Lower Mystic Lake, Arlington/Medford to Amelia Earhart Dam, Somerville/Everett.	4.9	MILES	(Fish-Passage Barrier*)	
					Arsenic	
					Chlordane	
					Chlorophyll-a	
					DDT	
					Dissolved oxygen saturation	
					Escherichia coli	
					PCB in Fish Tissue	
					Phosphorus (Total)	
					Secchi disk transparency	
					Sediment Bioassays -- Chronic Toxicity Freshwater	
Mystic River	MA71-03	Amelia Earhart Dam, Somerville/Everett to confluence with Boston Inner Harbor, Chelsea/Charlestown (Includes Island End River).	0.49	SQUARE MILES	Ammonia (Un-ionized)	
					Fecal Coliform	
					Foam/Flocs/Scum/Oil Slicks	
					Other	
					Oxygen, Dissolved	
					PCB in Fish Tissue	
					Petroleum Hydrocarbons	
					Sediment Bioassays -- Chronic Toxicity Freshwater	
					Taste and Odor	
Spy Pond	MA71040	Arlington	98	ACRES	(Eurasian Water Milfoil, Myriophyllum spicatum*)	
					Chlordane	
					DDT	
					Excess Algal Growth	
					Oxygen, Dissolved	
					Phosphorus (Total)	
Unnamed Tributary	MA71-13	Unnamed tributary locally known as 'Meetinghouse Brook', from emergence south of Route 16/east of Winthrop Street, Medford to confluence with the Mystic River, Medford. (brook not apparent on 1985 Boston North USGS quad - 2005 orthophotos used to delineate stream)	0.1	MILES	Escherichia coli	
Upper Mystic Lake	MA71043	Winchester/Arlington/Medford	176	ACRES	(Non-Native Aquatic Plants*)	
					Dissolved oxygen saturation	
					Oxygen, Dissolved	
Wedge Pond	MA71045	Winchester	23	ACRES	Oxygen, Dissolved	
					Phosphorus (Total)	
Winn Brook	MA71-09	Headwaters near Juniper Road and the Belmont Hill School, Belmont to confluence with Little Pond, Belmont (portions culverted underground).	1.4	MILES	(Physical substrate habitat alterations*)	
					Escherichia coli	

* TMDL not required (Non-Pollutant)

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Raynham and Taunton
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague
	Dwarf wedgemussel	Endangered	Mill River	Whately
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hadley, Hatfield, Amherst and Northampton
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, and Wareham
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
Suffolk	Piping Plover	Threatened	Coastal Beaches	Winthrop
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster

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

7/31/2008

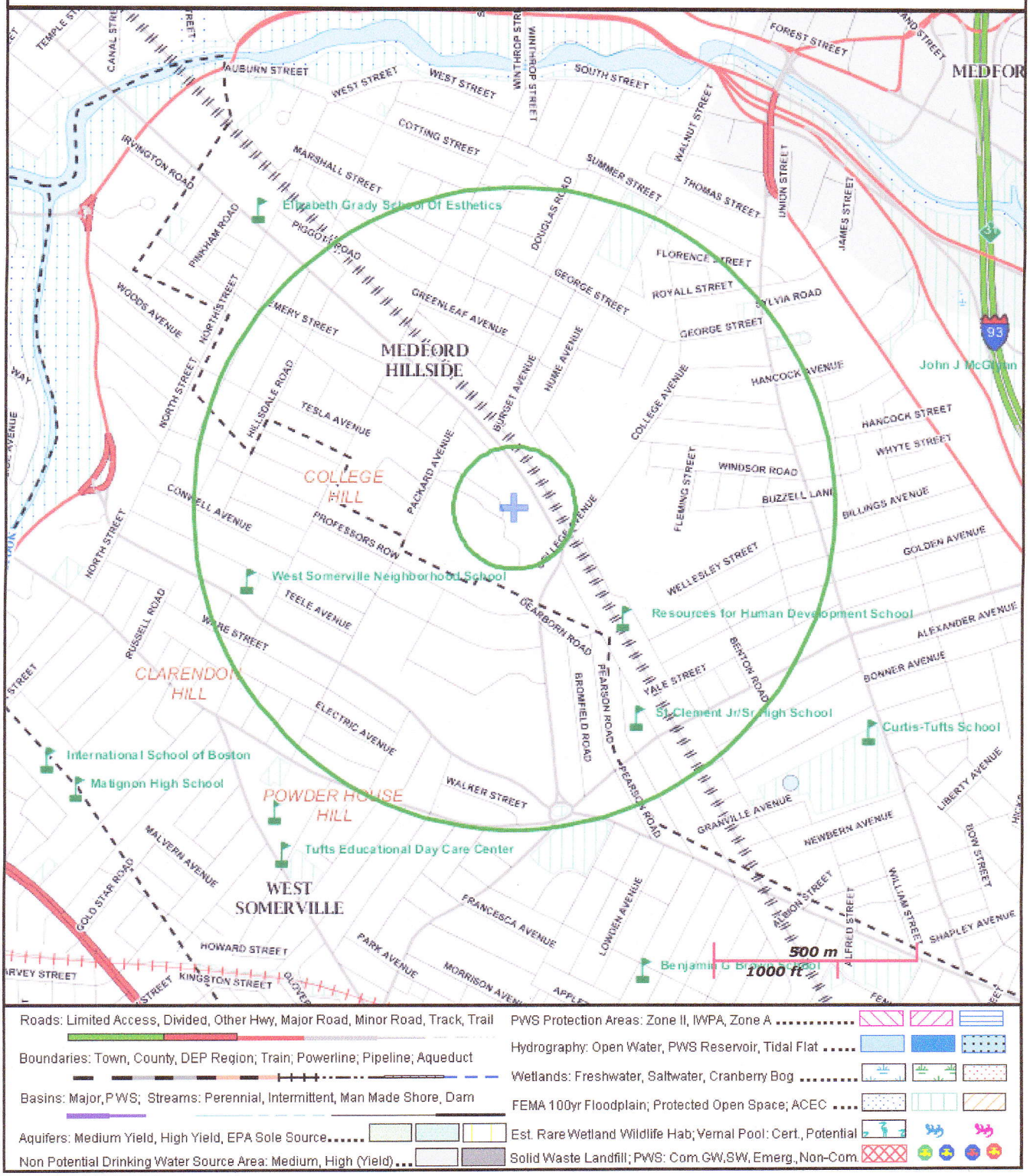
MassDEP - Bureau of Waste Site Cleanup

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

TUFTS UNIVERSITY
100 NORTH HILL ROAD MEDFORD, MA
3-000029825
NAD83 UTM Meters:
5222289mN , -7916842mE (Zone: 18)
August 9, 2013

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



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

R.I. ANALYTICAL
Specialists in Environmental Services

CERTIFICATE OF ANALYSIS

Capaccio Environmental Eng.
Attn: Ms. Dawn Horter
293 Boston Post Road - West
Marlborough, MA 01752

Date Received: 7/23/13
Date Reported: 7/30/13
P.O. #: TUFTS NORTH HILL
Work Order #: 1307-15549

DESCRIPTION: TUFTS MEDFORD (GROUNDWATER SAMPLING)

Subject sample(s) has/have been analyzed by our Warwick, R.I. laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA and Massachusetts Contingency Plan (MCP) approved methodologies where applicable. The specific methodologies are listed in the methods column of the Certificate of Analysis.

Data qualifiers (if present) are explained in full at the end of a given sample's analytical results.

Certification #: RI-033, MA-RI015, CT-PH-0508, ME-RI015
NH-253700 A & B, USDA S-41844

This Certificate represents all data associated with the referenced work order and is paginated for completeness. The complete Certificate includes one attachment; the original Chain of Custody.

If you have any questions regarding this work, or if we may be of further assistance, please contact our customer service department.

Approved by:

Data Reporting

enc: Chain of Custody

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

Capaccio Environmental Eng.

Date Received: 7/23/13
Work Order #: 1307-15549
TUFTS MEDFORD (GROUNDWATER SAMPLING)

Sample # 001
SAMPLE DESCRIPTION: MW-2
SAMPLE TYPE: GRAB **SAMPLE DATE/TIME:** 7/23/2013 @ 10:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
pH	6.2		SU	SM 4500-H+ B	7/23/13	15:55	PTT
Hexavalent Chromium	<0.02	0.02	mg/l	SM3500-CR D	7/23/13	20:30	DM
Oil & Grease Gravimetric	1.7	0.5	mg/l	EPA 1664	7/24/13	7:09	BLY
TPH							
TPH GC/FID	5800	500	ug/l	SW846 8100M	7/24/13	18:17	THP
Surrogate			RANGE	SW-846 8100	7/24/13	18:17	THP
2-Fluorobiphenyl	87		40-140%	SW-846 8100	7/24/13	18:17	THP
Extraction date	Extracted			SW846 3510	7/23/13	20:15	MMM
Pesticides / PCB'S							
Aldrin	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Alpha-BHC	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Beta-BHC	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Delta-BHC	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Gamma-BHC	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Chlordane	<1.0	1.0	ug/l	SW-846 8081	7/26/13	13:29	JEB
4-4'-DDD	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
4-4'-DDE	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
4-4'-DDT	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Dieldrin	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Endosulfan I	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Endosulfan II	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Endosulfan Sulfate	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Endrin	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Endrin Ketone	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Heptachlor	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Heptachlor epoxide	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Hexachlorobenzene	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Methoxychlor	<0.1	0.1	ug/l	SW-846 8081	7/26/13	13:29	JEB
Aroclor-1016	<0.6	0.6	ug/l	SW-846 8082	7/26/13	11:22	JEB
Aroclor-1221	<0.6	0.6	ug/l	SW-846 8082	7/26/13	11:22	JEB
Aroclor-1232	<0.6	0.6	ug/l	SW-846 8082	7/26/13	11:22	JEB
Aroclor-1242	<0.6	0.6	ug/l	SW-846 8082	7/26/13	11:22	JEB
Aroclor-1248	<0.6	0.6	ug/l	SW-846 8082	7/26/13	11:22	JEB
Aroclor-1254	<0.6	0.6	ug/l	SW-846 8082	7/26/13	11:22	JEB
Aroclor-1260	<0.6	0.6	ug/l	SW-846 8082	7/26/13	11:22	JEB

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

Capaccio Environmental Eng.

Date Received: 7/23/13

Work Order #: 1307-15549

TUFTS MEDFORD (GROUNDWATER SAMPLING)

Sample # 001
SAMPLE DESCRIPTION: MW-2
SAMPLE TYPE: GRAB **SAMPLE DATE/TIME:** 7/23/2013 @ 10:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Aroclor-1262	<0.6	0.6	ug/l	SW-846 8082	7/26/13	11:22	JEB
Aroclor-1268	<0.6	0.6	ug/l	SW-846 8082	7/26/13	11:22	JEB
Surrogate			RANGE	SW-846 8081	7/26/13	13:29	JEB
Tetrachloro-m-xylene (TCMX)	74		30-150%	SW-846 8081	7/26/13	13:29	JEB
Decachlorobiphenyl	44		30-150%	SW-846 8081	7/26/13	13:29	JEB
EPH/PAH							
C9-C18 Aliphatics	200	130	ug/l	MADEP	7/26/13	21:07	THP
C19-C36 Aliphatics	<130	130	ug/l	MADEP	7/26/13	21:07	THP
C11-C22 Aromatics	370	130	ug/l	MADEP	7/26/13	21:07	THP
TARGET PAH ANALYTES					7/26/13	21:07	THP
Naphthalene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
2-Methylnaphthalene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Acenaphthylene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Acenaphthene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Fluorene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Phenanthrene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Anthracene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Fluoranthene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Pyrene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Benzo(a)anthracene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Chrysene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Benzo(b)fluoranthene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Benzo(k)fluoranthene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Benzo(a)pyrene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Indeno(1,2,3-cd)pyrene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Dibenzo(a,h)anthracene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Benzo(g,h,i)perylene	<6	6	ug/l	MADEP	7/26/13	21:07	THP
Extraction Surrogates			RANGE		7/26/13	21:07	THP
5-alpha-Androstane	68		40-140%	MADEP	7/26/13	21:07	THP
Ortho-terphenyl	81		40-140%	MADEP	7/26/13	21:07	THP
Fractionation Surrogates			RANGE		7/26/13	21:07	THP
2-Fluorobiphenyl	82		40-140%	MADEP	7/26/13	21:07	THP
2-Bromonaphthalene	74		40-140%	MADEP	7/26/13	21:07	THP
Extraction date	Extracted			MADEP	7/25/13	9:58	KD

Total Metals Analyzed by ICP

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

Capaccio Environmental Eng.

Date Received: 7/23/13

Work Order #: 1307-15549

TUFTS MEDFORD (GROUNDWATER SAMPLING)

Sample # 001
SAMPLE DESCRIPTION: MW-2
SAMPLE TYPE: GRAB **SAMPLE DATE/TIME:** 7/23/2013 @ 10:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Antimony	<0.100	0.100	mg/l	SW-846 6010C	7/25/13	11:30	JRW
Arsenic	<0.1	0.1	mg/l	SW-846 6010C	7/25/13	11:30	JRW
Beryllium	<0.001	0.001	mg/l	SW-846 6010C	7/25/13	11:30	JRW
Chromium	<0.03	0.03	mg/l	SW-846 6010C	7/25/13	11:30	JRW
Copper	<0.05	0.05	mg/l	SW-846 6010C	7/25/13	11:30	JRW
Mercury	<0.0005	0.0005	mg/l	SW-846 7470A	7/24/13	11:58	JRW
Nickel	<0.02	0.02	mg/l	SW-846 6010C	7/25/13	11:30	JRW
Selenium	<0.2	0.2	mg/l	SW-846 6010C	7/25/13	11:30	JRW
Thallium	<0.100	0.100	mg/l	SW-846 6010C	7/25/13	11:30	JRW
Zinc	0.04	0.02	mg/l	SW-846 6010C	7/25/13	11:30	JRW
Extraction date	Extracted			SW846 3510	7/25/13	8:05	KD
ICP Digestion				SW-846 3005	7/24/13	23:02	OMC
Mercury Digestion				SW-846 7470A	7/24/13	11:00	JL
Total Metals Analyzed by ICP/MS							
Cadmium	<0.001	0.001	mg/l	SW-846 6020A	7/25/13	12:11	PJC
Lead	<0.001	0.001	mg/l	SW-846 6020A	7/25/13	12:11	PJC
Silver	0.002	0.001	mg/l	SW-846 6020A	7/25/13	12:11	PJC
ICPMS Digestion	Digested			SW-846 3020	7/24/13	23:24	OMC
Volatile Organic Compounds							
Acetone	<10	10	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Tertiary Amyl Methyl Ether	<5	5	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Benzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Bromobenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Bromochloromethane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Bromodichloromethane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Bromoform	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Bromomethane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
n-Butylbenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Sec-butylbenzene	1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
tert-Butylbenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Carbon Disulfide	<5	5	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Chlorobenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Dibromochloromethane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Chloroethane	<5	5	ug/l	SW-846 8260B	7/24/13	15:29	MEL

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

Capaccio Environmental Eng.

Date Received: 7/23/13

Work Order #: 1307-15549

TUFTS MEDFORD (GROUNDWATER SAMPLING)

Sample # 001
SAMPLE DESCRIPTION: MW-2
SAMPLE TYPE: GRAB **SAMPLE DATE/TIME:** 7/23/2013 @ 10:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Chloroform	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Chloromethane	<5	5	ug/l	SW-846 8260B	7/24/13	15:29	MEL
2-Chlorotoluene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
4-Chlorotoluene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Dibromomethane	<2	2	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
n-Propylbenzene	2	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,1-Dichloroethane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
cis-1,2-Dichloroethene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
trans-1,2-Dichloroethylene	<2	2	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
cis-1,3-Dichloropropene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
trans-1,3-Dichloropropylene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Diethyl ether	<5	5	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Diisopropyl ether (DIPE)	<5	5	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,4-Dioxane	<100	100	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Ethyl Tertiary Butyl Ether	<5	5	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Ethylbenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Hexachlorobutadiene	<0.5	0.5	ug/l	SW-846 8260B	7/24/13	15:29	MEL
2-Hexanone	<10	10	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Isopropylbenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
2-Butanone(MEK)	<10	10	ug/l	SW-846 8260B	7/24/13	15:29	MEL
4-Methyl-2-pentanone(MIBK)	<10	10	ug/l	SW-846 8260B	7/24/13	15:29	MEL
MTBE	<2	2	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Methylene Chloride	<5	5	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Naphthalene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

Capaccio Environmental Eng.

Date Received: 7/23/13

Work Order #: 1307-15549

TUFTS MEDFORD (GROUNDWATER SAMPLING)

Sample # 001
SAMPLE DESCRIPTION: MW-2
SAMPLE TYPE: GRAB **SAMPLE DATE/TIME:** 7/23/2013 @ 10:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
1,1,2-Trichlorocthane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Styrene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,1,2,2-Tetrachlorocthane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Tetrachloroethene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Tetrahydrofuran	<10	10	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Toluene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Trichloroethene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,2,3-Trichloropropane	<2	2	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Vinyl Chloride	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
o-Xylene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
m,p-Xylene	<1	1	ug/l	SW-846 8260B	7/24/13	15:29	MEL
Surrogates			RANGE	SW-846 8260B	7/24/13	15:29	MEL
Dibromofluoromethane	115		86-118%	SW-846 8260B	7/24/13	15:29	MEL
Toluene-d8	98		88-110%	SW-846 8260B	7/24/13	15:29	MEL
4-Bromofluorobenzene	92		86-115%	SW-846 8260B	7/24/13	15:29	MEL
1,2 Dichloroethane-d4	107		80-120%	SW-846 8260B	7/24/13	15:29	MEL
Semi-Volatile Organic Compounds							
Acenaphthene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Acenaphthylene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Anthracene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Benzidine	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Benzo(a)anthracene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Benzo(b)fluoranthene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Benzo(k)fluoranthene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Benzo(g,h,i)perylene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Benzo(a)pyrene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Bis(2-chloroethyl)ether	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Bis(2-Chloroethoxy)methane	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Bis(2-Chloroisopropyl)Ether	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

Capaccio Environmental Eng.

Date Received: 7/23/13

Work Order #: 1307-15549

TUFTS MEDFORD (GROUNDWATER SAMPLING)

Sample # 001
SAMPLE DESCRIPTION: MW-2
SAMPLE TYPE: GRAB **SAMPLE DATE/TIME:** 7/23/2013 @ 10:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
Bis(2-ethylhexyl)phthalate	16	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
4-Bromophenyl phenyl ether	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Butylbenzyl phthalate	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
2-Chloronaphthalene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
4-Chlorophenyl phenyl ether	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Chrysene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Dibenzo(a,h)anthracene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Di-n-butyl phthalate	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
1,2-Dichlorobenzene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
1,3-Dichlorobenzene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
1,4-Dichlorobenzene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
3,3'-Dichlorobenzidine	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Diethyl phthalate	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Dimethyl phthalate	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
2,4-Dinitrotoluene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
2,6-Dinitrotoluene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Di-n-octyl phthalate	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
1,2-Diphenylhydrazine	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Fluoranthene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Fluorene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Hexachlorobenzene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Hexachlorobutadiene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Hexachlorocyclopentadiene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Hexachloroethane	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Indeno(1,2,3-cd)pyrene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Isophorone	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Naphthalene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Nitrobenzene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
N-nitrosodimethylamine	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
N-nitrosodiphenylamine	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
N-nitrosodi-n-propylamine	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Phenanthrene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Pyrene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
1,2,4-Trichlorobenzene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
4-Chloro-3-methylphenol	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
2-Chlorophenol	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
2,4-Dichlorophenol	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF

R.I. Analytical Laboratories, Inc.
CERTIFICATE OF ANALYSIS

Capaccio Environmental Eng.

Date Received: 7/23/13

Work Order #: 1307-15549

TUFTS MEDFORD (GROUNDWATER SAMPLING)

Sample # 001
SAMPLE DESCRIPTION: MW-2
SAMPLE TYPE: GRAB **SAMPLE DATE/TIME:** 7/23/2013 @ 10:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED		ANALYST
2,4-Dimethylphenol	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
2-Methyl-4,6-dinitrophenol	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
2,4-Dinitrophenol	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
2-Nitrophenol	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
4-Nitrophenol	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Pentachlorophenol	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Phenol	<14	10	ug/l	SW-846 8270D	7/30/13	7:39	KF
2,4,5-Trichlorophenol	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
2,4,6-Trichlorophenol	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
2-Methylnaphthalene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
2-Methylphenol	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
3 & 4-Methylphenols	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Acetophenone	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Aniline	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Azobenzene	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
4-Chloroaniline	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Dibenzofuran	<14	14	ug/l	SW-846 8270D	7/30/13	7:39	KF
Surrogates			RANGE	SW-846 8270D	7/30/13	7:39	KF
Phenol-d5	46		15-110%	SW-846 8270D	7/30/13	7:39	KF
2-Fluorophenol	57		15-110%	SW-846 8270D	7/30/13	7:39	KF
2,4,6-Tribromophenol	104		15-110%	SW-846 8270D	7/30/13	7:39	KF
Nitrobenzene-d5	91		30-130%	SW-846 8270D	7/30/13	7:39	KF
2-Fluorobiphenyl	90		30-130%	SW-846 8270D	7/30/13	7:39	KF
P-Terphenyl-d14	96		30-130%	SW-846 8270D	7/30/13	7:39	KF
Total Metals Analyzed by ICP							
Iron	9.72	0.100	mg/l	SW-846 6010C	7/25/13	11:30	JRW

All QA/QC procedures required by the EPH Method were followed.
All Performance/Acceptance Standards for the required QA/QC procedures were achieved or otherwise stated.

No significant modifications were made to the EPH Method.

Customer Name : Capaccio Environmental Eng.

W.O. Number 1307-15549

MassDEP Analytical Protocol Certification Form

Laboratory Name: R.I. Analytical Laboratories Work Order No: 1307-15549

Project / Location: TUFTS MEDFORD (GROUNDWATER SAMPLING) RTN :

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):

1307-15549-001 through 1307-15549-001

Matrices: ☒ Groundwater/Surface Water ☐ Soil / Sediment ☐ Drinking Water ☐ Air ☐ Other

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☒	7470/7471 Hg CAM III B ☒	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☒	7196 Hex Cr CAM VI B ☒	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☒	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☒	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☒	6020 Metals CAM III D ☐	8082 PCB CAM V A ☒	9014 Total Cyanide /PAC CAM VI A ☐	6860 Perchlorate CAM V111 B ☐	

Affirmative responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☒ Yes ☐ No
B	Were the analytical methods(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☒ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Aquisition and Reporting of Analytical Data"?	☒ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s) ? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☒ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☒ Yes ☐ No

Responses to Questions G,H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☒ No [1]

***Data User Note:** Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.*

H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☐ Yes ☒ No [1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☒ No [1]

[1] *All negative responses must be addressed in an attached laboratory narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: _____ Position: QA/QC Director

Printed Name: Mike Hobin Date: 7/31/13

QA/QC Report

Client: Capaccio Environmental Eng.
WO #: 1307-15549
Date: 7/30/2013

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
Hexavalent Chromium	mg/l	<0.02	7/23/2013
Oil & Grease Gravimetric	mg/l	<0.5	7/24/2013
Total Petroleum Hydrocarbons by Method 8100 (Aqueous)			
TPH GC/FID	ug/l	<200	7/24/2013
Extractable Petroleum Hydrocarbons with PAH (Aqueous)			
C9-C18 Aliphatics	ug/l	<100	7/26/2013
C19-C36 Aliphatics	ug/l	<100	7/26/2013
C11-C22 Aromatics	ug/l	<100	7/26/2013
Target PAH Analytes			7/26/2013
Naphthalene	ug/l	<5	7/26/2013
2-Methylnaphthalene	ug/l	<5	7/26/2013
Acenaphthylene	ug/l	<5	7/26/2013
Acenaphthene	ug/l	<5	7/26/2013
Fluorene	ug/l	<5	7/26/2013
Phenanthrene	ug/l	<5	7/26/2013
Anthracene	ug/l	<5	7/26/2013
Fluoranthene	ug/l	<5	7/26/2013
Pyrene	ug/l	<5	7/26/2013
Benzo(a)anthracene	ug/l	<5	7/26/2013
Chrysene	ug/l	<5	7/26/2013
Benzo(b)fluoranthene	ug/l	<5	7/26/2013
Benzo(k)fluoranthene	ug/l	<5	7/26/2013
Benzo(a)pyrene	ug/l	<5	7/26/2013
Indeno(1,2,3-cd)pyrene	ug/l	<5	7/26/2013
Dibenzo(a,h)anthracene	ug/l	<5	7/26/2013
Benzo(g,h,i)perylene	ug/l	<5	7/26/2013
Extraction Surrogates	**RANGE**		
5-alpha-Androstane	40-140%	74	7/26/2013
Ortho-terphenyl	40-140%	93	7/26/2013
Fractionation Surrogates	**RANGE**		
2-Fluorobiphenyl	40-140%	97	7/26/2013
2-Bromonaphthalene	40-140%	84	7/26/2013
Pesticide/PCB's(Aqueous)			
Endrin Ketone	ug/l	<0.1	7/26/2013
Aldrin	ug/l	<0.1	7/26/2013
Alpha-BHC	ug/l	<0.1	7/26/2013
Beta-BHC	ug/l	<0.1	7/26/2013

QA/QC Report

Client: Capaccio Environmental Eng.
WO #: 1307-15549
Date: 7/30/2013

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
Pesticide/PCB's(Aqueous) (cont'd)			
Delta-BHC	ug/l	<0.1	7/26/2013
Gamma-BHC	ug/l	<0.1	7/26/2013
Chlordane	ug/l	<0.5	7/26/2013
4-4'-DDD	ug/l	<0.1	7/26/2013
4-4'-DDE	ug/l	<0.1	7/26/2013
4-4'-DDT	ug/l	<0.1	7/26/2013
Dieldrin	ug/l	<0.1	7/26/2013
Endosulfan I	ug/l	<0.1	7/26/2013
Endosulfan II	ug/l	<0.1	7/26/2013
Endosulfan Sulfate	ug/l	<0.1	7/26/2013
Endrin	ug/l	<0.1	7/26/2013
Heptachlor	ug/l	<0.1	7/26/2013
Heptachlor epoxide	ug/l	<0.1	7/26/2013
Hexachlorobenzene	ug/l	<0.1	7/26/2013
Methoxychlor	ug/l	<0.1	7/26/2013
Surrogate	**RANGE**		7/26/2013
Decachlorobiphenyl	30-150%	59	7/26/2013
Tetrachloro-m-xylene (TCMX)	30-150%	81	7/26/2013
Aroclor-1016	ug/l	<0.5	7/26/2013
Aroclor-1262	ug/l	<0.5	7/26/2013
Aroclor-1268	ug/l	<0.5	7/26/2013
Aroclor-1221	ug/l	<0.5	7/26/2013
Aroclor-1232	ug/l	<0.5	7/26/2013
Aroclor-1242	ug/l	<0.5	7/26/2013
Aroclor-1248	ug/l	<0.5	7/26/2013
Aroclor-1254	ug/l	<0.5	7/26/2013
Aroclor-1260	ug/l	<0.5	7/26/2013
Volatile Organics by Method 8260			
Acetone	ug/l	<10	7/24/2013
Tertiary Amyl Methyl Ether	ug/l	<5	7/24/2013
Benzene	ug/l	<1	7/24/2013
Bromobenzene	ug/l	<1	7/24/2013
Bromochloromethane	ug/l	<1	7/24/2013
Bromodichloromethane	ug/l	<1	7/24/2013
Bromoform	ug/l	<1	7/24/2013
Bromomethane	ug/l	<1	7/24/2013
n-Butylbenzene	ug/l	<1	7/24/2013
Sec-butylbenzene	ug/l	<1	7/24/2013

QA/QC Report

Client: Capaccio Environmental Eng.
WO #: 1307-15549
Date: 7/30/2013

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
Volatile Organics by Method 8260 (cont'd)			
tert-Butylbenzene	ug/l	<1	7/24/2013
Carbon Disulfide	ug/l	<5	7/24/2013
Carbon Tetrachloride	ug/l	<1	7/24/2013
Chlorobenzene	ug/l	<1	7/24/2013
Dibromochloromethane	ug/l	<1	7/24/2013
Chloroethane	ug/l	<5	7/24/2013
Chloroform	ug/l	<1	7/24/2013
Chloromethane	ug/l	<5	7/24/2013
2-Chlorotoluene	ug/l	<1	7/24/2013
4-Chlorotoluene	ug/l	<1	7/24/2013
1,2-Dibromo-3-Chloropropane	ug/l	<2	7/24/2013
1,2-Dibromoethane(EDB)	ug/l	<1	7/24/2013
Dibromomethane	ug/l	<2	7/24/2013
1,3-Dichlorobenzene	ug/l	<1	7/24/2013
1,2-Dichlorobenzene	ug/l	<1	7/24/2013
1,4-Dichlorobenzene	ug/l	<1	7/24/2013
n-Propylbenzene	ug/l	<1	7/24/2013
Dichlorodifluoromethane	ug/l	<5	7/24/2013
1,1-Dichloroethane	ug/l	<1	7/24/2013
1,2-Dichloroethane	ug/l	<1	7/24/2013
1,1-Dichloroethene	ug/l	<1	7/24/2013
cis-1,2-Dichloroethene	ug/l	<1	7/24/2013
trans-1,2-Dichloroethylene	ug/l	<2	7/24/2013
1,2-Dichloropropane	ug/l	<1	7/24/2013
1,3-Dichloropropane	ug/l	<1	7/24/2013
2,2-Dichloropropane	ug/l	<1	7/24/2013
1,1-Dichloropropene	ug/l	<1	7/24/2013
cis-1,3-Dichloropropene	ug/l	<1	7/24/2013
Diethyl ether	ug/l	<5	7/24/2013
Diisopropyl ether (DIPE)	ug/l	<5	7/24/2013
1,4-Dioxane	ug/l	<100	7/24/2013
Ethyl Tertiary Butyl Ether	ug/l	<5	7/24/2013
Ethylbenzene	ug/l	<1	7/24/2013
Hexachlorobutadiene	ug/l	<0.5	7/24/2013
2-Hexanone	ug/l	<10	7/24/2013
Isopropylbenzene	ug/l	<1	7/24/2013
p-Isopropyltoluene	ug/l	<1	7/24/2013
2-Butanone(MEK)	ug/l	<10	7/24/2013
4-Methyl-2-pentanone(MIBK)	ug/l	<10	7/24/2013

QA/QC Report

Client: Capaccio Environmental Eng.
WO #: 1307-15549
Date: 7/30/2013

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
Volatile Organics by Method 8260 (cont'd)			
MTBE	ug/l	<2	7/24/2013
Methylene Chloride	ug/l	<5	7/24/2013
Naphthalene	ug/l	<1	7/24/2013
1,1,2-Trichloroethane	ug/l	<1	7/24/2013
Styrene	ug/l	<1	7/24/2013
1,1,1,2-Tetrachloroethane	ug/l	<1	7/24/2013
1,1,2,2-Tetrachloroethane	ug/l	<1	7/24/2013
Tetrachloroethene	ug/l	<1	7/24/2013
Tetrahydrofuran	ug/l	<10	7/24/2013
Toluene	ug/l	<1	7/24/2013
1,2,4-Trichlorobenzene	ug/l	<1	7/24/2013
1,2,3-Trichlorobenzene	ug/l	<1	7/24/2013
1,1,1-Trichloroethane	ug/l	<1	7/24/2013
Trichloroethene	ug/l	<1	7/24/2013
Trichlorofluoromethane	ug/l	<1	7/24/2013
1,2,3-Trichloropropane	ug/l	<2	7/24/2013
1,2,4-Trimethylbenzene	ug/l	<1	7/24/2013
1,3,5-Trimethylbenzene	ug/l	<1	7/24/2013
Vinyl Chloride	ug/l	<1	7/24/2013
o-Xylene	ug/l	<1	7/24/2013
m,p-Xylene	ug/l	<1	7/24/2013
trans-1,3-Dichloropropylene	ug/l	<1	7/24/2013
Surrogates	**RANGE**		7/24/2013
Dibromofluoromethane	86-118%	111	7/24/2013
Toluene-d8	88-110%	98	7/24/2013
4-Bromofluorobenzene	86-115%	91	7/24/2013
1,2 Dichloroethane-d4	80-120%	104	7/24/2013
Semi-Volatile Organics by Method 8270 (Aqueous)			
Acenaphthene	ug/l	<5	7/26/2013
Acenaphthylene	ug/l	<5	7/26/2013
Anthracene	ug/l	<5	7/26/2013
Benzidine	ug/l	<5	7/26/2013
Benzo(a)anthracene	ug/l	<5	7/26/2013
Benzo(b)fluoranthene	ug/l	<5	7/26/2013
Benzo(k)fluoranthene	ug/l	<5	7/26/2013
Benzo(g,h,i)perylene	ug/l	<5	7/26/2013
Benzo(a)pyrene	ug/l	<5	7/26/2013
Bis(2-chloroethyl)ether	ug/l	<5	7/26/2013

QA/QC Report

Client: Capaccio Environmental Eng.
WO #: 1307-15549
Date: 7/30/2013

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
Semi-Volatile Organics by Method 8270 (Aqueous) (cont'd)			
Bis(2-Chloroethoxy)methane	ug/l	<5	7/26/2013
Bis(2-Chloroisopropyl)Ether	ug/l	<5	7/26/2013
Bis(2-ethylhexyl)phthalate	ug/l	<5	7/26/2013
4-Bromophenyl phenyl ether	ug/l	<5	7/26/2013
Butylbenzyl phthalate	ug/l	<5	7/26/2013
2-Chloronaphthalene	ug/l	<5	7/26/2013
4-Chlorophenyl phenyl ether	ug/l	<5	7/26/2013
Chrysene	ug/l	<5	7/26/2013
Dibenzo(a,h)anthracene	ug/l	<5	7/26/2013
Di-n-butyl phthalate	ug/l	<5	7/26/2013
1,2-Dichlorobenzene	ug/l	<5	7/26/2013
1,3-Dichlorobenzene	ug/l	<5	7/26/2013
1,4-Dichlorobenzene	ug/l	<5	7/26/2013
3,3'-Dichlorobenzidine	ug/l	<5	7/26/2013
Diethyl phthalate	ug/l	<5	7/26/2013
Dimethyl phthalate	ug/l	<5	7/26/2013
2,4-Dinitrotoluene	ug/l	<5	7/26/2013
2,6-Dinitrotoluene	ug/l	<5	7/26/2013
Di-n-octyl phthalate	ug/l	<5	7/26/2013
1,2-Diphenylhydrazine	ug/l	<5	7/26/2013
Fluoranthene	ug/l	<5	7/26/2013
Fluorene	ug/l	<5	7/26/2013
Hexachlorobenzene	ug/l	<5	7/26/2013
Hexachlorobutadiene	ug/l	<5	7/26/2013
Hexachlorocyclopentadiene	ug/l	<5	7/26/2013
Hexachloroethane	ug/l	<5	7/26/2013
Indeno(1,2,3-cd)pyrene	ug/l	<5	7/26/2013
Isophorone	ug/l	<5	7/26/2013
Naphthalene	ug/l	<5	7/26/2013
Nitrobenzene	ug/l	<5	7/26/2013
N-nitrosodimethylamine	ug/l	<5	7/26/2013
N-nitrosodiphenylamine	ug/l	<5	7/26/2013
N-nitrosodi-n-propylamine	ug/l	<5	7/26/2013
Phenanthrene	ug/l	<5	7/26/2013
Pyrene	ug/l	<5	7/26/2013
1,2,4-Trichlorobenzene	ug/l	<5	7/26/2013
4-Chloro-3-methylphenol	ug/l	<5	7/26/2013
2-Chlorophenol	ug/l	<5	7/26/2013
2,4-Dichlorophenol	ug/l	<5	7/26/2013

QA/QC Report

Client: Capaccio Environmental Eng.
WO #: 1307-15549
Date: 7/30/2013

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
Semi-Volatile Organics by Method 8270 (Aqueous) (cont'd)			
2,4-Dimethylphenol	ug/l	<5	7/26/2013
2-Methyl-4,6-dinitrophenol	ug/l	<5	7/26/2013
2,4-Dinitrophenol	ug/l	<5	7/26/2013
2-Nitrophenol	ug/l	<5	7/26/2013
4-Nitrophenol	ug/l	<5	7/26/2013
Pentachlorophenol	ug/l	<5	7/26/2013
Phenol	ug/l	<5	7/26/2013
2,4,6-Trichlorophenol	ug/l	<5	7/26/2013
2,4,5-Trichlorophenol	ug/l	<5	7/26/2013
3 & 4-Methylphenols	ug/l	<5	7/26/2013
2-Methylphenol	ug/l	<5	7/26/2013
4-Chloroaniline	ug/l	<5	7/26/2013
Dibenzofuran	ug/l	<5	7/26/2013
2-Methylnaphthalene	ug/l	<5	7/26/2013
Azobenzene	ug/l	<5	7/26/2013
Acetophenone	ug/l	<5	7/26/2013
Aniline	ug/l	<5	7/26/2013
Surrogates	**RANGE**		7/26/2013
Phenol-d5	15-110%	40	7/26/2013
2-Fluorophenol	15-110%	55	7/26/2013
2,4,6-Tribromophenol	15-110%	103	7/26/2013
Nitrobenzene-d5	30-130%	99	7/26/2013
2-Fluorobiphenyl	30-130%	93	7/26/2013
P-Terphenyl-d14	30-130%	127	7/26/2013
Metals (Aqueous)			
Antimony	mg/l	<0.100	7/25/2013
Iron	mg/l	<0.100	7/25/2013
Thallium	mg/l	<0.100	7/25/2013
Mercury	mg/l	<0.0005	7/24/2013
Arsenic	mg/l	<0.1	7/25/2013
Beryllium	mg/l	<0.001	7/25/2013
Chromium	mg/l	<0.03	7/25/2013
Copper	mg/l	<0.05	7/25/2013
Nickel	mg/l	<0.02	7/25/2013
Selenium	mg/l	<0.2	7/25/2013
Zinc	mg/l	<0.02	7/25/2013
Metals by ICPMS (Aqueous)			

QA/QC Report

Client: Capaccio Environmental Eng.
WO #: 1307-15549
Date: 7/30/2013

-Method Blanks Results-

Parameter	Units	Results	Date Analyzed
Metals by ICPMS (Aqueous) (cont'd)			
Cadmium	mg/l	<0.001	7/25/2013
Lead	mg/l	<0.001	7/25/2013
Silver	mg/l	<0.001	7/25/2013

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Hexavalent Chromium		0.200	0.203	102			0	7/23/2013
Total Petroleum Hydrocarbons by Method 8100 (Aqueous)								
TPH GC/FID		1000	864	86	754	75	14	7/24/2013
Extractable Petroleum Hydrocarbons with PAH (Aqueous)								
C9-C18 Aliphatics		300	174	58	191	64	9	7/26/2013
C19-C36 Aliphatics		400	376	94	366	92	3	7/26/2013
C11-C22 Aromatics		850	682	80	693	82	2	7/26/2013
Target PAH Analytes								
Naphthalene		50	26.6	53	31.0	62	15	7/26/2013
2-Methylnaphthalene		50	28.8	58	33.5	67	15	7/26/2013
Acenaphthylene		50	32.2	64	36.6	73	13	7/26/2013
Acenaphthene		50	32.8	66	36.9	74	12	7/26/2013
Fluorene		50	36.6	73	39.3	79	7	7/26/2013
Phenanthrene		50	40.2	80	41.3	83	3	7/26/2013
Anthracene		50	42.8	86	42.8	86	0	7/26/2013
Fluoranthene		50	42.6	85	42.6	85	0	7/26/2013
Pyrene		50	42.8	86	42.7	85	0	7/26/2013
Benzo(a)anthracene		50	43.5	87	42.6	85	2	7/26/2013
Chrysene		50	44.1	88	43.3	87	2	7/26/2013
Benzo(b)fluoranthene		50	44.7	89	42.1	84	6	7/26/2013
Benzo(k)fluoranthene		50	46.3	93	43.5	87	6	7/26/2013
Benzo(a)pyrene		50	43.7	87	42.8	86	2	7/26/2013
Indeno(1,2,3-cd)pyrene		50	44.6	89	43.7	87	2	7/26/2013
Dibenzo(a,h)anthracene		50	45.5	91	44.2	88	3	7/26/2013
Benzo(g,h,i)perylene		50	44.9	90	43.8	88	2	7/26/2013
Extraction Surrogates								
5-alpha-Androstane			65		57			
Ortho-terphenyl			88		86			
Fractionation Surrogates								
2-Fluorobiphenyl			86		91			
2-Bromonaphthalene			80		84			
Pesticide/PCB's(Aqueous)								
Endrin Ketone		1.0	0.74	74	0.62	62	18	7/26/2013
Aldrin		1.0	0.71	71	0.61	61	15	7/26/2013
Alpha-BHC		1.0	0.71	71	0.60	60	17	7/26/2013
Beta-BHC		1.0	0.72	72	0.62	62	15	7/26/2013
Delta-BHC		1.0	0.71	71	0.60	60	17	7/26/2013
Gamma-BHC		1.0	0.71	71	0.61	61	15	7/26/2013
Chlordane		2.0	1.45	73	1.23	62	16	7/26/2013
4-4'-DDD		1.0	0.77	77	0.63	63	20	7/26/2013
4-4'-DDE		1.0	0.74	74	0.61	61	19	7/26/2013
4-4'-DDT		1.0	0.67	67	0.55	55	20	7/26/2013
Dieldrin		1.0	0.75	75	0.63	63	17	7/26/2013
Endosulfan I		1.0	0.75	75	0.63	63	17	7/26/2013
Endosulfan II		1.0	0.76	76	0.63	63	19	7/26/2013
Endosulfan Sulfate		1.0	0.71	71	0.59	59	18	7/26/2013
Endrin		1.0	0.73	73	0.61	61	18	7/26/2013
Heptachlor		1.0	0.73	73	0.62	62	16	7/26/2013
Heptachlor epoxide		1.0	0.74	74	0.63	63	16	7/26/2013

QA/QC Report

Client: Capaccio Environmental Eng.
WO #: 1307-15549
Date: 7/30/2013

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Pesticide/PCB's(Aqueous) (cont'd)								
Hexachlorobenzene		1.0	0.97	97	0.85	85	13	7/26/2013
Methoxychlor		1.0	0.81	81	0.66	66	20	7/26/2013
Surrogate								7/26/2013
Decachlorobiphenyl				0		0		7/26/2013
Tetrachloro-m-xylene (TCMX)				0		0		7/26/2013
Aroclor-1016		5.0	3.75	75	3.65	73	3	7/26/2013
Aroclor-1260		5.0	4.26	85	4.24	85	0	7/26/2013
Volatile Organics by Method 8260								
Acetone		500	530	106	530	106	0	7/24/2013
Tertiary Amyl Methyl Ether		50	44	88	45	90	2	7/24/2013
Benzene		50	54	108	54	108	0	7/24/2013
Bromobenzene		50	52	104	52	104	0	7/24/2013
Bromochloromethane		50	56	112	55	110	2	7/24/2013
Bromodichloromethane		50	54	108	53	106	2	7/24/2013
Bromoform		50	49	98	49	98	0	7/24/2013
Bromomethane		50	60	120	57	114	5	7/24/2013
n-Butylbenzene		50	45	90	45	90	0	7/24/2013
Sec-butylbenzene		50	47	94	46	92	2	7/24/2013
tert-Butylbenzene		50	48	96	47	94	2	7/24/2013
Carbon Disulfide		50	53	106	51	102	4	7/24/2013
Carbon Tetrachloride		50	52	104	51	102	2	7/24/2013
Chlorobenzene		50	52	104	52	104	0	7/24/2013
Dibromochloromethane		50	52	104	53	106	2	7/24/2013
Chloroethane		50	61	122	57	114	7	7/24/2013
Chloroform		50	54	108	54	108	0	7/24/2013
Chloromethane		50	52	104	50	100	4	7/24/2013
2-Chlorotoluene		50	52	104	51	102	2	7/24/2013
4-Chlorotoluene		50	52	104	51	102	2	7/24/2013
1,2-Dibromo-3-Chloropropane		50	45	90	46	92	2	7/24/2013
1,2-Dibromoethane(EDB)		50	53	106	54	108	2	7/24/2013
Dibromomethane		50	55	110	56	112	2	7/24/2013
1,3-Dichlorobenzene		50	50	100	51	102	2	7/24/2013
1,2-Dichlorobenzene		50	50	100	49	98	2	7/24/2013
1,4-Dichlorobenzene		50	51	102	51	102	0	7/24/2013
n-Propylbenzene		50	52	104	51	102	2	7/24/2013
Dichlorodifluoromethane		50	47	94	46	92	2	7/24/2013
1,1-Dichloroethane		50	55	110	53	106	4	7/24/2013
1,2-Dichloroethane		50	55	110	55	110	0	7/24/2013
1,1-Dichloroethene		50	50	100	50	100	0	7/24/2013
cis-1,2-Dichloroethene		50	49	98	48	96	2	7/24/2013
trans-1,2-Dichloroethylene		50	50	100	49	98	2	7/24/2013
1,2-Dichloropropane		50	54	108	53	106	2	7/24/2013

QA/QC Report

Client: Capaccio Environmental Eng.
WO #: 1307-15549
Date: 7/30/2013

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Volatile Organics by Method 8260 (cont'd)								
1,3-Dichloropropane		50	56	112	56	112	0	7/24/2013
2,2-Dichloropropane		50	54	108	51	102	6	7/24/2013
1,1-Dichloropropene		50	51	102	49	98	4	7/24/2013
cis-1,3-Dichloropropene		50	50	100	50	100	0	7/24/2013
Diethyl ether		500	530	106	530	106	0	7/24/2013
Diisopropyl ether (DIPE)		50	46	92	49	98	6	7/24/2013
1,4-Dioxane		1000	860	86	800	80	7	7/24/2013
Ethyl Tertiary Butyl Ether		50	46	92	47	94	2	7/24/2013
Ethylbenzene		50	51	102	51	102	0	7/24/2013
Hexachlorobutadiene		50	41	82	42	84	2	7/24/2013
2-Hexanone		500	520	104	530	106	2	7/24/2013
Isopropylbenzene		50	50	100	49	98	2	7/24/2013
p-Isopropyltoluene		50	46	92	46	92	0	7/24/2013
2-Butanone(MEK)		500	540	108	540	108	0	7/24/2013
4-Methyl-2-pentanone(MIBK)		500	520	104	520	104	0	7/24/2013
MTBE		50	45	90	47	94	4	7/24/2013
Methylene Chloride		50	54	108	53	106	2	7/24/2013
Naphthalene		50	40	80	42	84	5	7/24/2013
1,1,2-Trichloroethane		50	55	110	56	112	2	7/24/2013
Styrene		50	52	104	51	102	2	7/24/2013
1,1,1,2-Tetrachloroethane		50	51	102	51	102	0	7/24/2013
1,1,2,2-Tetrachloroethane		50	53	106	54	108	2	7/24/2013
Tetrachloroethene		50	54	108	52	104	4	7/24/2013
Tetrahydrofuran		500	490	98	500	100	2	7/24/2013
Toluene		50	54	108	53	106	2	7/24/2013
1,2,4-Trichlorobenzene		50	40	80	41	82	2	7/24/2013
1,2,3-Trichlorobenzene		50	39	78	41	82	5	7/24/2013
1,1,1-Trichloroethane		50	52	104	50	100	4	7/24/2013
Trichloroethene		50	52	104	51	102	2	7/24/2013
Trichlorofluoromethane		50	55	110	52	104	6	7/24/2013
1,2,3-Trichloropropane		50	52	104	52	104	0	7/24/2013
1,2,4-Trimethylbenzene		50	50	100	49	98	2	7/24/2013
1,3,5-Trimethylbenzene		50	50	100	48	96	4	7/24/2013
Vinyl Chloride		50	52	104	51	102	2	7/24/2013
o-Xylene		50	50	100	50	100	0	7/24/2013
m,p-Xylene		100	100	100	100	100	0	7/24/2013
trans-1,3-Dichloropropylene		50	50	100	51	102	2	7/24/2013
Surrogates								
Dibromofluoromethane			109		108			
Toluene-d8			106		105			
4-Bromofluorobenzene			100		99			
1,2 Dichloroethane-d4			105		107			

QA/QC Report

Client: Capaccio Environmental Eng.
WO #: 1307-15549
Date: 7/30/2013

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Semi-Volatile Organics by Method 8270 (Aqueous)								
Acenaphthene		50	51	102	48	96	6	7/30/2013
Acenaphthylene		50	56	112	53	106	6	7/30/2013
Anthracene		50	55	110	54	108	2	7/30/2013
Benzidine		50	36	72	21	42	53	7/30/2013
Benzo(a)anthracene		50	58	116	57	114	2	7/30/2013
Benzo(b)fluoranthene		50	48	96	49	98	2	7/30/2013
Benzo(k)fluoranthene		50	44	88	42	84	5	7/30/2013
Benzo(g,h,i)perylene		50	42	84	37	74	13	7/30/2013
Benzo(a)pyrene		50	45	90	43	86	5	7/30/2013
Bis(2-chloroethyl)ether		50	45	90	41	82	9	7/30/2013
Bis(2-Chloroethoxy)methane		50	49	98	45	90	9	7/30/2013
Bis(2-Chloroisopropyl)Ether		50	47	94	42	84	11	7/30/2013
Bis(2-ethylhexyl)phthalate		50	52	104	50	100	4	7/30/2013
4-Bromophenyl phenyl ether		50	54	108	52	104	4	7/30/2013
Butylbenzyl phthalate		50	54	108	52	104	4	7/30/2013
2-Chloronaphthalene		50	49	98	47	94	4	7/30/2013
4-Chlorophenyl phenyl ether		50	52	104	50	100	4	7/30/2013
Chrysene		50	52	104	50	100	4	7/30/2013
Dibenzo(a,h)anthracene		50	41	82	36	72	13	7/30/2013
Di-n-butyl phthalate		50	56	112	54	108	4	7/30/2013
1,2-Dichlorobenzene		50	41	82	35	70	16	7/30/2013
1,3-Dichlorobenzene		50	40	80	33	66	19	7/30/2013
1,4-Dichlorobenzene		50	39	78	33	66	17	7/30/2013
3,3'-Dichlorobenzidine		50	52	104	50	100	4	7/30/2013
Diethyl phthalate		50	59	118	56	112	5	7/30/2013
Dimethyl phthalate		50	56	112	54	108	4	7/30/2013
2,4-Dinitrotoluene		50	52	104	50	100	4	7/30/2013
2,6-Dinitrotoluene		50	54	108	52	104	4	7/30/2013
Di-n-octyl phthalate		50	42	84	40	80	5	7/30/2013
1,2-Diphenylhydrazine		50	57	114	56	112	2	7/30/2013
Fluoranthene		50	58	116	56	112	4	7/30/2013
Fluorene		50	53	106	50	100	6	7/30/2013
Hexachlorobenzene		50	50	100	49	98	2	7/30/2013
Hexachlorobutadiene		50	40	80	34	68	16	7/30/2013
Hexachlorocyclopentadiene		50	42	84	37	74	13	7/30/2013
Hexachloroethane		50	37	74	31	62	18	7/30/2013
Indeno(1,2,3-cd)pyrene		50	40	80	36	72	11	7/30/2013
Isophorone		50	53	106	50	100	6	7/30/2013
Naphthalene		50	44	88	39	78	12	7/30/2013
Nitrobenzene		50	48	96	43	86	11	7/30/2013
N-nitrosodimethylamine		50	32	64	25	50	25	7/30/2013
N-nitrosodiphenylamine		100	111	111	108	108	3	7/30/2013

QA/QC Report

Client: Capaccio Environmental Eng.
WO #: 1307-15549
Date: 7/30/2013

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Semi-Volatile Organics by Method 8270 (Aqueous) (cont'd)								
N-nitrosodi-n-propylamine		50	55	110	52	104	6	7/30/2013
Phenanthrene		50	51	102	49	98	4	7/30/2013
Pyrene		50	59	118	57	114	3	7/30/2013
1,2,4-Trichlorobenzene		50	43	86	37	74	15	7/30/2013
4-Chloro-3-methylphenol		50	51	102	45	90	13	7/30/2013
2-Chlorophenol		50	44	88	36	72	20	7/30/2013
2,4-Dichlorophenol		50	52	104	46	92	12	7/30/2013
2,4-Dimethylphenol		50	48	96	42	84	13	7/30/2013
2-Methyl-4,6-dinitrophenol		50	49	98	47	94	4	7/30/2013
2,4-Dinitrophenol		50	49	98	49	98	0	7/30/2013
2-Nitrophenol		50	47	94	41	82	14	7/30/2013
4-Nitrophenol		50	22	44	19	38	15	7/30/2013
Pentachlorophenol		50	48	96	46	92	4	7/30/2013
Phenol		50	20	40	16	32	22	7/30/2013
2,4,6-Trichlorophenol		50	52	104	49	98	6	7/30/2013
2,4,5-Trichlorophenol		50	52	104	49	98	6	7/30/2013
3 & 4-Methylphenols		50	39	78	30	60	26	7/30/2013
2-Methylphenol		50	42	84	33	66	24	7/30/2013
4-Chloroaniline		50	57	114	48	96	17	7/30/2013
Dibenzofuran		50	50	100	48	96	4	7/30/2013
2-Methylnaphthalene		50	46	92	42	84	9	7/30/2013
Azobenzene		50	57	114	56	112	2	7/30/2013
Acetophenone		50	51	102	47	94	8	7/30/2013
Aniline		50	101	202	59	118	53	7/30/2013
Surrogates								
Phenol-d5			39		31			
2-Fluorophenol			54		39			
2,4,6-Tribromophenol			106		99			
Nitrobenzene-d5			101		88			
2-Fluorobiphenyl			92		86			
P-Terphenyl-d14			112		104			
Metals (Aqueous)								
Mercury		0.0020	0.0020	100	0.0021	105	5	7/24/2013
Antimony		1.00	0.976	98	0.968	97	1	7/25/2013
Thallium		1.00	1.02	102	0.976	98	4	7/25/2013
Arsenic		1.00	1.0	100	1.0	100	0	7/25/2013
Beryllium		1.00	1.01	101	1.00	100	1	7/25/2013
Chromium		1.00	0.96	96	0.95	95	1	7/25/2013
Copper		1.00	1.0	100	1.0	100	0	7/25/2013
Nickel		1.00	1.0	100	1.01	101	1	7/25/2013
Selenium		1.00	0.94	94	0.99	99	5	7/25/2013
Zinc		1.00	1.02	102	1.0	100	2	7/25/2013

QA/QC Report

Client: Capaccio Environmental Eng.
WO #: 1307-15549
Date: 7/30/2013

-LCS/LCS Duplicate Data Results-

Parameter	CRM Acceptance Limits	Spike Conc	LCS Conc	LCS % Rec	LCS Dup Conc	LCS DUP % Rec	% RPD	Date Analyzed
Metals (Aqueous) (cont'd)								
Iron		10.0	9.69	97	9.83	98	1	7/25/2013
Metals by ICPMS (Aqueous)								
Cadmium		0.050	0.048	96	0.049	98	2	7/25/2013
Lead		0.050	0.050	100	0.049	98	2	7/25/2013
Silver		0.050	0.048	96	0.048	96	0	7/25/2013

Case Narrative

Date: 7/30/2013

Capaccio Environmental Eng.
Attn: Ms. Dawn Horter
293 Boston Post Road - West
Marlborough, MA 01752

All QA/QC procedures required by the EPH Method were followed. All performance/acceptance standards for the required QA/QC procedures were achieved or otherwise stated in this case narrative. A fractionation check was performed on the silica gel lot associated with this sample and found to pass the method criteria unless otherwise stated here. The data reported for this sample was not corrected for instrument/solvent baseline effects. No significant modifications were made to the EPH Method.

The following exceptions were noted for this Work Order:

The methods requested for pH, Oil & Grease Gravimetric, and TPH GC/FID are not listed in the table of contents for compendium of MCP analytical methods. Therefore, there is no guideline for presumptive certainty.

Semi Volatile Organics by 8270

Question G - The GW-2 reporting limits were not met for (Hexachlorobenzene, and Hexachlorobutadiene) in Sample -001(MW-2).

Question H - Laboratory control sample (7/30/13)/ laboratory control sample duplicate (7/30/13) had analytes outside the 40%-140% for base-neutrals and 30%-130% for acid compounds QC acceptance limits. Up to 10% are allowed to exceed the criteria. The specific outliers include, (Aniline LCS 202%). These analytes were not detected in the associated samples.

Question H - The RPD for (Benzidine 53%, N-nitrosodimethylamine 25%, Phenol 22%, 3&4-Methylphenols 26%, 2-Methylphenol 24%, and Aniline 53%) in the Laboratory control sample (7/30/13)/ laboratory control sample duplicate (7/30/13)was outside the 20% (water) QC acceptance limits.

Total Metals by 6010C, 6020A

Question G - The GW-3 reporting limits were not met for (Selenium) in Samples -001(MW-2).

Question I - Per the client's request, only a subset of the MCP analyte list for SW-846 Method 6010C, 6020A Total Metals is reported.

There were no additional exceptions or analytical issues to discuss concerning the testing requirements for the project.

Mike Hobin
QA/QC Director

EST
Associates, Inc.
51 Fremont Street Needham, MA 02494 Tel: 781-455-0003, Fax: 781-455-8336

CHAIN OF CUSTODY RECORD

Laboratory: RIAL

Client	Capaccio Environmental Engineering
Address	293 Boston Post Road Marlborough, MA
Contact	Dawn Horter
Phone #	978-270-0193 **Fax:** 508-970-0028

Project Name	Tufts Medford
Address	100 North Hill Road Medford, MA
Contact	tel:
Location ID #	Fax:
Description	Groundwater Sampling **PO#**

MATRIX
1. Wastewater
2. Groundwater
3. Drinking Water
4. Soil
5. Surface Water
6. Other _____

				Collection			# of bottles			Preservation							Analytical Information										
	Field ID / Point of Collection	Date	Time	Matrix	Glass	Plastic	VOA's	HCL	NaOH	HNO3	H2So4	MEOH	Other	None	624 8260/8270 *	625 8270 *	PCB's & Pesticides	TPH	FOG	pH	PP13 Metals, Fe	CrVI	EPH			
	MW-2	7/23/13	1080	2	10	3	2	x		x	x		X	x	x	x	x	x	x	x	x	x	x			

* use 8260/8270 method (liquid) for MCP pur & Ford 7/25/13 MP

EST to Invoice: Capaccio
Lab to Invoice: Capaccio
Lab Report to: dhorter@capaccio.com
Billing Reference: Proj No. Tufts North Hill
Comments:

Turnaround Information
- ☐ Std. 10 Day Turnaround
- ☐ 5 Day *RUSH*
- ☐ 4 Day *RUSH*
- ☐ 3 Day *RUSH*
- ☐ 2 Day *RUSH*
- ☐ 1 Day *RUSH*

Approved By:

QA/QC
~~SPECIAL~~ QA/QC or DATA Requirements:
Data Enhancement to meet GW-2 or GW-3 standards.
MCP method per D.Horter 7/25/13 MP

Additional Information
2.4°C

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

Relinquished by Sampler:		Date Time: 7/23/13 1345	Received By: 1		Date Time: 7/23/13 3:00		
Relinquished by Sampler: 2		Date Time: 7/23/13 2:00	Received By: 2		Date Time: 7/23/13 4:30		
Relinquished by Sampler: 3	Date Time: 7/24/13 [illegible]	Received By: 3	Date Time: 7/23/13 1810	Seal #	Preserve where applicable ☐	On Ice ☐	Temp. 2.4

1307-1339

If you have any questions or require additional information, please do not hesitate to contact me at (508) 970-0033, ext. 118.

Sincerely,
Capaccio Environmental Engineering, Inc.

Dawn Horter, PG, LSP
Senior Hydrogeologist

Enc: Notice of Intent and supporting documents

c: Jim Newell (TUFTS)
MF 05-034.014