



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

OCT 02 2014

Raymond Jack
Falmouth Director of Public Works
Long Pond Water Treatment Plant
416 Guilford Street
Falmouth, MA 02540

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. Long Pond Water Treatment Plant, Raw Water Pump Station and Intake
site located 650 Gifford Street, Falmouth, MA 02540, Barnstable County; Authorization
MAG910636

Dear Mr. Jack:

Based on the review of a Notice of Intent (NOI) submitted by Patrick S. O'Neale from
Tata & Howard, Inc., on behalf of The Falmouth Department of Public Works for the site
referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes
you, as the named Owner and Operator, to discharge in accordance with the provisions of
the RGP at that site. Your authorization number is listed above.

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

Please note the enclosed checklist includes parameters, total suspended solids (TSS), pH
total petroleum hydrocarbons and chlorides. Except for Chlorides, there were no
pollutants indicated "Believe Present" in the NOI and none were indicated to have been
detected on the laboratory data submitted with the NOI. The influent appears to be
uncontaminated therefore, this office is requiring monitoring for pollutant commonly
required on construction sites classified as uncontaminated discharges. Please note
because the receiving waters is classified as a drinking water source no untreated
pollutants are allowed to enter the Long Pond as a result of the proposed construction.

Please note sampling of both the influent and the effluent characteristics is required by the permit on Part I. D. a. Influent sampling shall be taken at a point prior to any treatment of water, i.e., raw influent. For effluent, samples should be taken after all treatment and just prior to discharge to the receiving water.

Based on the dewatering flow schematic in Appendix B, we observed that the Fractionation (Frac) tank is treating the influent water serving the temporary infiltration basin rather than the ultimate effluent that discharges to Long Pond. In order to ensure meeting the influent and effluent sampling requirements indicated above, we recommend a reconfiguration of the treatment system.

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 this project will terminate on November 1, 2016. You are required to reapply for coverage by submitting a Notice of Intent (NOI) to EPA after the 2015 RGP has been reissued. Also, regardless of your project termination date you are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

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

Sincerely,


Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Patrick S. O'Neale Tata & Howard, Inc.

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

NPDES Authorization Number:	MAG910636
Authorization Issued:	September, 2014
Facility/Site Name:	Long Pond Water Treatment Plant, Raw Water Pump Station and Intake
Facility/Site Address:	650 Gifford Street, Falmouth, MA 02540, Barnstable County
	Email address of owner: rjack@falmouthmass.us
Legal Name of Operator:	Falmouth Department of Public Works
Operator contact name, title, and Address:	Raymond Jack, Director of Public Works
	Email: Same as the Owner.
Estimated date of the site's Completion:	November 1, 2016
Category and Sub-Category:	None Selected
RGP Termination Date:	September 10, 2015
Receiving Water:	Long Pond, Falmouth MA.

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

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

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

	<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	Phthalate]	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/ML 5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
	h. Acenaphthene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	l. Fluoranthene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	n. Naphthalene ⁵	20 ug/L / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	o. Phenanthrene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	p. Pyrene	X/Me#8270D/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) ^{8, 9}	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
✓	38. Chloride	Monitor only/Me# 300.0/ ML 100 ug/L

	Metal parameter	Total Recoverable MA/Metal Limit H¹⁰ = 50 mg/l CaCO₃, Units = ug/l^(11/12)		Minimum level=ML	
		Freshwater Limits			
	39. Antimony	5.6		ML	10
	40. Arsenic **	10		ML	20
	41. Cadmium **	0.2		ML	10
	42. Chromium III (trivalent) **	48.8		ML	15
	43. Chromium VI (hexavalent) **	11.4		ML	10
	44. Copper **	5.2		ML	15
	45. Lead **	1.3		ML	20
	46. Mercury **	0.9		ML	02
	47. Nickel **	29		ML	20
	48. Selenium **	5		ML	20
	49. Silver	1.2		ML	10
	50. Zinc **	66.6		ML	15
	51. Iron	1,000		ML	20

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

Footnotes:

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

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

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

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

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

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

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

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

⁸ In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Aroclor 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 $DF \times 1,000 \text{ ug/L}$ (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit = $1,000 \times 2 = 2,000 \text{ ug/L}$, etc. not to exceed the DF=5.

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

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

¹⁴ Temperature sampling per Method 170.1



September 3, 2014

Ms. Shelley Puleo, Environmental Protection Specialist
US Environmental Protection Agency
Industrial Permits Section
5 Post Office Square – Suite 100
Mail Code OEP06-1
Boston, MA 02109-3912

Subject: NPDES Remediation & Miscellaneous Contaminated Site General Permit Notice of Intent
Water Quality Testing Results
Long Pond Water Treatment Plant
Raw Water Pump Station and Intake
Falmouth, Massachusetts
T&H No. 3326

Dear Ms. Puleo,

On behalf of the Falmouth Department of Public Works, we are pleased to submit the enclosed supplemental information to the NPDES Remediation and Miscellaneous Contaminated Site General Permit Notice of Intent (NOI), submitted on July 30, 2014 and revised on August 19, 2014, for construction of the Long Pond Water Treatment Plant (WTP) in Falmouth, Massachusetts. The enclosed information includes the results of water quality testing required for permit approval for the discharge of uncontaminated groundwater from construction dewatering activities to the Long Pond surface water supply in Falmouth, Massachusetts.

On August 20, 2014, water quality samples were taken from an existing monitoring well located approximately 150 feet east of the shoreline of Long Pond on the proposed WTP parcel. The monitoring well is located in the vicinity of the raw water pump station, proposed as part of this WTP project, where proposed dewatering activities are slated to occur under the jurisdiction of this permit. Samples were analyzed for all parameters listed in Section 3 (Contaminant Information) of the Suggested Form for Notice of Intent for the Remediation General Permit. A revised copy of Section 3 of the NOI with laboratory analysis results incorporated is attached. Groundwater at this location directly recharges to Long Pond, which is an existing public surface water supply that is regularly sampled in accordance with state and federal drinking water regulations and standards.

The laboratory analysis indicated non-detect (ND) results for all required parameters with the exception of chloride, which was detected at a concentration of 18 milligrams per liter (mg/l). This concentration is well below the Environmental Protection Agency's (EPA's) Secondary Maximum Contaminant Level (SMCL) of 250 mg/l for chloride. Elevated chloride levels in drinking water

above the SMCL can affect the taste of the water, but not at the low level detected during the subject sampling round. Chloride is naturally present in surface water and groundwater due to the weathering of various rocks and minerals into soil and water. Coastal areas may observe increased levels of chloride in surface and groundwater due to the close proximity of the ocean and atmospheric deposition. A full copy of laboratory analysis results associated with the sampling is attached.

We appreciate your continued assistance with this important project. Should you have any questions or require additional information in this regard, please do not hesitate to contact our office.

Sincerely,

TATA & HOWARD, INC.



Patrick S. O'Neale, P.E.
Vice President

Enclosures

cc: Mr. Raymond A. Jack, Director
Falmouth Department of Public Works

Falmouth Conservation Commission

MassDEP Division of Watershed Management

3. Contaminant information.

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

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
1. Total Suspended Solids (TSS)		☒	☐	1	grab	SM18-20 2540D	5.0 mg/l				
2. Total Residual Chlorine (TRC)		☒	☐	1	grab	SM18-20 4500 CLG	0.020 mg/l				
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	1	grab	SW8468260C	—				
4. Cyanide (CN)	57125	☒	☐	1	grab	SW-846 9014	0.01 mg/l				
5. Benzene (B)	71432	☒	☐	1	grab	SW-846 8260C	1.0 ug/l				
6. Toluene (T)	108883	☒	☐	1	grab	SW-846 8260C	1.0 ug/l				
7. Ethylbenzene (E)	100414	☒	☐	1	grab	SW-846 8260C	1.0 ug/l				
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	1	grab		2.0 ug/l 1.0 ug/l				
9. Total BTEX ²	n/a	☒	☐	1	grab		—				
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934	☒	☐	1	grab		0.5 ug/l				
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	1	grab		1.0 ug/l				
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐	1	grab	↓	0.5 ug/l				

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

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

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

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐	1	grab	SW8468260C	0.5 ug/l				
14. Naphthalene	91203	☒	☐	1	grab	SW8468270D	5.0 ug/l				
15. Carbon Tetrachloride	56235	☒	☐	1	grab	SW-8468260C	1.0 ug/l				
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	1	grab						
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	1	grab						
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	1	grab						
18a. Total dichlorobenzene		☒	☐	1	grab						
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	1	grab		1.0 ug/l				
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	1	grab		5.0 ug/l				
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	1	grab		1.0 ug/l				
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	1	grab		1.0 ug/l				
23. Methylene Chloride	75092	☒	☐	1	grab		5.0 ug/l				
24. Tetrachloroethene (PCE)	127184	☒	☐	1	grab		1.0 ug/l				
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	1	grab		1.0 ug/l				
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	1	grab						
27. Trichloroethene (TCE)	79016	☒	☐	1	grab						

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	grab	SW846 8260C	2.0 ug/l				
29. Acetone	67641	☒	☐	1	grab	SW-846 8260C	20 ug/l				
30. 1,4 Dioxane	123911	☒	☐	1	grab	SW-846 8260C	50 ug/l				
31. Total Phenols	108952	☒	☐	1	grab	SW846 8260D	10 ug/l				
32. Pentachlorophenol (PCP)	87865	☒	☐	1	grab	SW846 8260D	10 ug/l				
33. Total Phthalates (Phthalate esters) ⁴		☒	☐	1	grab	↓	↓				
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐	1	grab	↓	↓				
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	1	grab	↓	↓				
a. Benzo(a) Anthracene	56553	☒	☐	1	grab	SW846 8260D	5.0 ug/l				
b. Benzo(a) Pyrene	50328	☒	☐	1	grab	↓	↓				
c. Benzo(b)Fluoranthene	205992	☒	☐	1	grab	↓	↓				
d. Benzo(k)Fluoranthene	207089	☒	☐	1	grab	↓	↓				
e. Chrysene	21801	☒	☐	1	grab	↓	↓				
f. Dibenzo(a,h)anthracene	53703	☒	☐	1	grab	↓	↓				
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	1	grab	↓	↓				
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	1	grab	↓	↓				

⁴ The sum of individual phthalate compounds.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
h. Acenaphthene	83329	☒	☐	1	grab	SW8468270D	5.0 ug/l				
i. Acenaphthylene	208968	☒	☐	1	grab						
j. Anthracene	120127	☒	☐	1	grab						
k. Benzo(ghi) Perylene	191242	☒	☐	1	grab						
l. Fluoranthene	206440	☒	☐	1	grab						
m. Fluorene	86737	☒	☐	1	grab						
n. Naphthalene	91203	☒	☐	1	grab						
o. Phenanthrene	85018	☒	☐	1	grab						
p. Pyrene	129000	☒	☐	1	grab						
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	1	grab						
38. Chloride	16887006	☐	☒	1	grab	SM18-20 4500 CLB	1.0 mg/l				
39. Antimony	7440360	☒	☐	1	grab	SW-8466020A	1.0 ug/l				
40. Arsenic	7440382	☒	☐	1	grab	SW-8466020A	0.40 ug/l				
41. Cadmium	7440439	☒	☐	1	grab		0.5 ug/l				
42. Chromium III (trivalent)	16065831	☒	☐	1	grab		1.0 ug/l				
43. Chromium VI (hexavalent)	18540299	☒	☐	1	grab		1.0 ug/l				
44. Copper	7440508	☒	☐	1	grab	✓	5.0 ug/l				
45. Lead	7439921	☒	☐	1	grab		1.0 ug/l				
46. Mercury	7439976	☒	☐	1	grab	SW-8467470A	0.0001 mg/l				
47. Nickel	7440020	☒	☐	1	grab	SW-8466020A	5.0 ug/l				
48. Selenium	7782492	☒	☐	1	grab		5.0 ug/l				
49. Silver	7440224	☒	☐	1	grab		0.5 ug/l				
50. Zinc	7440666	☒	☐	1	grab		10 ug/l				
51. Iron	7439896	☒	☐	1	grab	SW-8466010C	0.05 mg/l				
Other (describe):		☒	☐								

August 26, 2014

Jim DeAngelis
Tata & Howard, Inc.
67 Forest Street, #2
Marlborough, MA 01752

Project Location: Falmouth
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 14H0942

Enclosed are results of analyses for samples received by the laboratory on August 20, 2014. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



James M. Georgantas
Project Manager

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Tata & Howard, Inc.
67 Forest Street, #2
Marlborough, MA 01752
ATTN: Jim DeAngelis

REPORT DATE: 8/26/2014

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 14H0942

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

PROJECT LOCATION: Falmouth

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-8	14H0942-01	Ground Water		EPA 1664B	
				EPA 420.1	
				EPA 504.1	
				SM18-20 2540D	
				SM18-20 4500 CL B	
				SM18-20 4500 CL G	
				SW-846 6010C	
				SW-846 6020A	
				SW-846 7196A	
				SW-846 7470A	
				SW-846 8082A	
				SW-846 8260C	
				SW-846 8270D	
				SW-846 9014	
Trip Blank	14H0942-02	Trip Blank Water		Tri Chrome Calc.	
				SW-846 8260C	

CASE NARRATIVE SUMMARY

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

Qualifications:**L-04**

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

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

14H0942-01[B-8], 14H0942-02[Trip Blank], B103323-BLK1, B103323-BS1, B103323-BSD1

L-14

Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.

Analyte & Samples(s) Qualified:**1,4-Dioxane**

B103323-BS1, B103323-BSD1

Acetone

B103323-BS1, B103323-BSD1

Bromomethane

B103323-BS1, B103323-BSD1

RL-07

Elevated reporting limit based on lowest point in calibration.

MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:**1,2-Dibromo-3-chloropropane (DBP)**

14H0942-01[B-8], 14H0942-02[Trip Blank]

1,2-Dichloroethane

14H0942-01[B-8], 14H0942-02[Trip Blank]

Bromomethane

14H0942-01[B-8], 14H0942-02[Trip Blank]

Carbon Disulfide

14H0942-01[B-8], 14H0942-02[Trip Blank]

Chloromethane

14H0942-01[B-8], 14H0942-02[Trip Blank]

Methylene Chloride

14H0942-01[B-8], 14H0942-02[Trip Blank]

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:**1,2-Dibromo-3-chloropropane (DBP)**

14H0942-01[B-8], 14H0942-02[Trip Blank], B103323-BLK1, B103323-BS1, B103323-BSD1

1,4-Dioxane

14H0942-01[B-8], 14H0942-02[Trip Blank], B103323-BLK1, B103323-BS1, B103323-BSD1

Acetone

14H0942-01[B-8], 14H0942-02[Trip Blank], B103323-BLK1, B103323-BS1, B103323-BSD1

Naphthalene

14H0942-01[B-8], 14H0942-02[Trip Blank], B103323-BLK1, B103323-BS1, B103323-BSD1

Tetrahydrofuran

14H0942-01[B-8], 14H0942-02[Trip Blank], B103323-BLK1, B103323-BS1, B103323-BSD1

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:**1,4-Dioxane**

14H0942-01[B-8], 14H0942-02[Trip Blank], B103323-BLK1, B103323-BS1, B103323-BSD1

Tetrahydrofuran

14H0942-01[B-8], 14H0942-02[Trip Blank], B103323-BLK1, B103323-BS1, B103323-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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

B103323-BS1, B103323-BSD1

Dichlorodifluoromethane (Freon 12)

B103323-BS1, B103323-BSD1

SW-846 8270D**Qualifications:****S-07**

One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.

Analyte & Samples(s) Qualified:**2,4,6-Tribromophenol**

14H0942-01[B-8], B103366-BS1

V-06

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:**4-Nitrophenol**

B103366-BS1, B103366-BSD1

Bis(2-chloroisopropyl)ether

B103366-BS1, B103366-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:**4-Nitrophenol**

14H0942-01[B-8], B103366-BLK1

Bis(2-chloroisopropyl)ether

14H0942-01[B-8], B103366-BLK1

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for "difficult analytes" where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

SW-846 8270D

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for "difficult analytes" listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Daren J. Damboragian
Laboratory Manager

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Falmouth

Sample Description:

Work Order: 14H0942

Date Received: 8/20/2014

Field Sample #: B-8

Sampled: 8/20/2014 10:15

Sample ID: 14H0942-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	20	µg/L	1	V-05	SW-846 8260C	8/23/14	8/24/14 5:33	LBD
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Benzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Bromomethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/23/14	8/24/14 5:33	LBD
2-Butanone (MEK)	ND	50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Chloromethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/23/14	8/24/14 5:33	LBD
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	RL-07, V-05	SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,2-Dichloroethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,4-Dioxane	ND	50	µg/L	1	V-05, V-16	SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD

Project Location: Falmouth

Sample Description:

Work Order: 14H0942

Date Received: 8/20/2014

Field Sample #: B-8

Sampled: 8/20/2014 10:15

Sample ID: 14H0942-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/23/14	8/24/14 5:33	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Naphthalene	ND	2.0	µg/L	1	V-05	SW-846 8260C	8/23/14	8/24/14 5:33	LBD
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Styrene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Tetrahydrofuran	ND	2.0	µg/L	1	V-05, V-16	SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Toluene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
Vinyl Chloride	ND	2.0	µg/L	1	L-04	SW-846 8260C	8/23/14	8/24/14 5:33	LBD
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 5:33	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	91.3	70-130	
Toluene-d8	99.8	70-130	
4-Bromofluorobenzene	89.9	70-130	

Project Location: Falmouth

Sample Description:

Work Order: 14H0942

Date Received: 8/20/2014

Field Sample #: B-8

Sampled: 8/20/2014 10:15

Sample ID: 14H0942-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Acenaphthylene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Acetophenone	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Aniline	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Anthracene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Benzo(a)anthracene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Benzo(a)pyrene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Benzo(b)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Benzo(g,h,i)perylene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Benzo(k)fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Bis(2-chloroethoxy)methane	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Bis(2-chloroethyl)ether	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Bis(2-chloroisopropyl)ether	ND	10	µg/L	1	V-20	SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Bis(2-Ethylhexyl)phthalate	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
4-Bromophenylphenylether	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Butylbenzylphthalate	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
4-Chloroaniline	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
2-Chloronaphthalene	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
2-Chlorophenol	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Chrysene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Dibenz(a,h)anthracene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Dibenzofuran	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Di-n-butylphthalate	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
1,2-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
1,3-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
1,4-Dichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
3,3-Dichlorobenzidine	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
2,4-Dichlorophenol	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Diethylphthalate	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
2,4-Dimethylphenol	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Dimethylphthalate	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
2,4-Dinitrophenol	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
2,4-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
2,6-Dinitrotoluene	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Di-n-octylphthalate	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Fluoranthene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Fluorene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Hexachlorobenzene	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Hexachlorobutadiene	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Hexachloroethane	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Indeno(1,2,3-cd)pyrene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Isophorone	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
2-Methylnaphthalene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL

Project Location: Falmouth

Sample Description:

Work Order: 14H0942

Date Received: 8/20/2014

Field Sample #: B-8

Sampled: 8/20/2014 10:15

Sample ID: 14H0942-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
3/4-Methylphenol	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Naphthalene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Nitrobenzene	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
2-Nitrophenol	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
4-Nitrophenol	ND	10	µg/L	1	V-20	SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Pentachlorophenol	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Phenanthrene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Phenol	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Pyrene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
2,4,5-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
2,4,6-Trichlorophenol	ND	10	µg/L	1		SW-846 8270D	8/22/14	8/23/14 15:37	BGL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
2-Fluorophenol	70.7	15-110						8/23/14 15:37	
Phenol-d6	52.4	15-110						8/23/14 15:37	
Nitrobenzene-d5	107	30-130						8/23/14 15:37	
2-Fluorobiphenyl	97.8	30-130						8/23/14 15:37	
2,4,6-Tribromophenol	118	* 15-110			S-07			8/23/14 15:37	
p-Terphenyl-d14	123	30-130						8/23/14 15:37	

Project Location: Falmouth

Sample Description:

Work Order: 14H0942

Date Received: 8/20/2014

Field Sample #: B-8

Sampled: 8/20/2014 10:15

Sample ID: 14H0942-01

Sample Matrix: Ground Water

1,4-Dioxane by isotope dilution GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,4-Dioxane	ND	0.20	µg/L	1		SW-846 8270D	8/22/14	8/25/14 12:19	CJM
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
1,4-Dioxane-d8	34.5		15-110					8/25/14 12:19	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Falmouth

Sample Description:

Work Order: 14H0942

Date Received: 8/20/2014

Field Sample #: B-8

Sampled: 8/20/2014 10:15

Sample ID: 14H0942-01

Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/21/14	8/23/14 0:44	MJC
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/21/14	8/23/14 0:44	MJC
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/21/14	8/23/14 0:44	MJC
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/21/14	8/23/14 0:44	MJC
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/21/14	8/23/14 0:44	MJC
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/21/14	8/23/14 0:44	MJC
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/21/14	8/23/14 0:44	MJC
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/21/14	8/23/14 0:44	MJC
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	8/21/14	8/23/14 0:44	MJC
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]	98.9		30-150				8/23/14 0:44		
Decachlorobiphenyl [2]	90.9		30-150				8/23/14 0:44		
Tetrachloro-m-xylene [1]	88.4		30-150				8/23/14 0:44		
Tetrachloro-m-xylene [2]	88.6		30-150				8/23/14 0:44		

Project Location: Falmouth

Sample Description:

Work Order: 14H0942

Date Received: 8/20/2014

Field Sample #: B-8

Sampled: 8/20/2014 10:15

Sample ID: 14H0942-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chromium, Trivalent	0.0		mg/L	1		Tri Chrome Calc.	8/23/14	8/25/14 9:57	KSH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Falmouth

Sample Description:

Work Order: 14H0942

Date Received: 8/20/2014

Field Sample #: B-8

Sampled: 8/20/2014 10:15

Sample ID: 14H0942-01

Sample Matrix: Ground Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A	8/23/14	8/25/14 9:57	KSH
Arsenic	ND	0.40	µg/L	1		SW-846 6020A	8/23/14	8/25/14 9:57	KSH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A	8/23/14	8/25/14 9:57	KSH
Chromium	ND	1.0	µg/L	1		SW-846 6020A	8/23/14	8/25/14 9:57	KSH
Copper	ND	5.0	µg/L	1		SW-846 6020A	8/23/14	8/25/14 9:57	KSH
Iron	ND	0.050	mg/L	1		SW-846 6010C	8/23/14	8/25/14 11:30	OP
Lead	ND	1.0	µg/L	1		SW-846 6020A	8/23/14	8/25/14 9:57	KSH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	8/23/14	8/25/14 12:19	JMP
Nickel	ND	5.0	µg/L	1		SW-846 6020A	8/23/14	8/25/14 9:57	KSH
Selenium	ND	5.0	µg/L	1		SW-846 6020A	8/23/14	8/25/14 9:57	KSH
Silver	ND	0.50	µg/L	1		SW-846 6020A	8/23/14	8/25/14 9:57	KSH
Zinc	ND	10	µg/L	1		SW-846 6020A	8/23/14	8/25/14 9:57	KSH

Project Location: Falmouth

Sample Description:

Work Order: 14H0942

Date Received: 8/20/2014

Field Sample #: B-8

Sampled: 8/20/2014 10:15

Sample ID: 14H0942-01

Sample Matrix: Ground Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chloride	18	1.0	mg/L	1		SM18-20 4500 CL B	8/25/14	8/25/14 11:50	ABH
Chlorine, Residual	ND	0.020	mg/L	1		SM18-20 4500 CL G	8/20/14	8/20/14 22:55	DJM
Cyanide	ND	0.010	mg/L	1		SW-846 9014	8/22/14	8/23/14 13:30	VAK
Hexavalent Chromium	ND	0.0040	mg/L	1		SW-846 7196A	8/20/14	8/20/14 21:58	DJM
Phenol	ND	0.050	mg/L	1		EPA 420.1	8/21/14	8/21/14 12:00	LL
Total Suspended Solids	ND	5.0	mg/L	1		SM18-20 2540D	8/21/14	8/21/14 17:30	ABH
Silica Gel Treated HEM (SGT-HEM)	ND	1.6	mg/L	1		EPA 1664B	8/25/14	8/25/14 9:00	LL

Project Location: Falmouth

Sample Description:

Work Order: 14H0942

Date Received: 8/20/2014

Field Sample #: B-8

Sampled: 8/20/2014 10:15

Sample ID: 14H0942-01

Sample Matrix: Ground Water

Drinking Water Organics EPA 504.1

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,2-Dibromoethane (EDB) (1)	ND	0.021	µg/L	1		EPA 504.1	8/25/14	8/25/14 22:30	JMB
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
1,3-Dibromopropane (1)	73.7		70-130					8/25/14 22:30	
1,3-Dibromopropane (2)	77.3		70-130					8/25/14 22:30	

Project Location: Falmouth

Sample Description:

Work Order: 14H0942

Date Received: 8/20/2014

Field Sample #: Trip Blank

Sampled: 8/20/2014 10:15

Sample ID: 14H0942-02

Sample Matrix: Trio Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	20	µg/L	1	V-05	SW-846 8260C	8/23/14	8/24/14 4:14	LBD
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Benzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Bromomethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/23/14	8/24/14 4:14	LBD
2-Butanone (MEK)	ND	50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Chloromethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/23/14	8/24/14 4:14	LBD
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	RL-07, V-05	SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,2-Dichloroethane	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,4-Dioxane	ND	50	µg/L	1	V-05, V-16	SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD

Project Location: Falmouth

Sample Description:

Work Order: 14H0942

Date Received: 8/20/2014

Field Sample #: Trip Blank

Sampled: 8/20/2014 10:15

Sample ID: 14H0942-02

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	8/23/14	8/24/14 4:14	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Naphthalene	ND	2.0	µg/L	1	V-05	SW-846 8260C	8/23/14	8/24/14 4:14	LBD
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Styrene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Tetrahydrofuran	ND	2.0	µg/L	1	V-05, V-16	SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Toluene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
Vinyl Chloride	ND	2.0	µg/L	1	L-04	SW-846 8260C	8/23/14	8/24/14 4:14	LBD
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	8/23/14	8/24/14 4:14	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	91.4	70-130	8/24/14 4:14
Toluene-d8	97.8	70-130	8/24/14 4:14
4-Bromofluorobenzene	90.6	70-130	8/24/14 4:14

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 : Long Pond Water Treatment Plant		Facility/site mailing address:	
Location of facility/site :	Facility SIC code(s):	Street:	
longitude: W 70 36' 28.00"		650 Gifford Street	
latitude: N 41 34' 41.84"			
b) Name of facility/site owner :		Town: Falmouth	
Email address of facility/site owner:		State:	Zip:
rjack@falmouthmass.us		MA	02540
Telephone no. of facility/site owner: (508) 457-2543		County: Barnstable	
Fax no. of facility/site owner: (508) 548-1537		Owner is (check one): 1. Federal ☐ 2. State/Tribal ☐	
Address of owner (if different from site):		3. Private ☐ 4. Other ☒ if so, describe:	
		Town/ Municipal	
Street: 416 Gifford Street			
Town: Falmouth	State: MA	Zip: 02540	County: Barnstable
c) Legal name of operator :		Operator telephone no: (508) 457-2543	
Falmouth Department of Public Works		Operator fax no.: (508) 548-1537	Operator email: rjack@falmouthmass.us
Operator contact name and title: Raymond Jack, Director of Public Works			
Address of operator (if different from owner):		Street:	
		416 Gifford Street	
Town: Falmouth	State: MA	Zip: 02540	County: Barnstable

d) Check Y for "yes" or N for "no" for the following: 1. Has a prior NPDES permit exclusion been granted for the discharge? Y ☐ N ☒, if Y, number: 2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Y ☐ N ☒, if Y, date and tracking #: 3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y ☒ N ☐ 4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y ☐ N ☒									
e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y ☐ N ☒ If Y, please list: 1. site identification # assigned by the state of NH or MA: 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number:	f) Is the site/facility covered by any other EPA permit, including: 1. Multi-Sector General Permit? Y ☐ N ☒, if Y, number: 2. Final Dewatering General Permit? Y ☐ N ☒, if Y, number: 3. EPA Construction General Permit? Y ☐ N ☒, if Y, number: 4. Individual NPDES permit? Y ☐ N ☒, if Y, number: 5. any other water quality related individual or general permit? Y ☐ N ☒, if Y, number:								
g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y ☐ N ☒									
h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%; text-align: left; padding: 5px;"><u>Activity Category</u></th> <th style="width: 60%; text-align: left; padding: 5px;"><u>Activity Sub-Category</u></th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">I - Petroleum Related Site Remediation</td> <td style="padding: 5px;"> A. Gasoline Only Sites ☐ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ☐ C. Petroleum Sites with Additional Contamination ☐ </td> </tr> <tr> <td style="padding: 5px;">II - Non Petroleum Site Remediation</td> <td style="padding: 5px;"> A. Volatile Organic Compound (VOC) Only Sites ☐ B. VOC Sites with Additional Contamination ☐ C. Primarily Heavy Metal Sites ☐ </td> </tr> <tr> <td style="padding: 5px;">III - Contaminated Construction Dewatering</td> <td style="padding: 5px;"> A. General Urban Fill Sites ☐ B. Known Contaminated Sites ☐ </td> </tr> </tbody> </table>		<u>Activity Category</u>	<u>Activity Sub-Category</u>	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 ☐
<u>Activity Category</u>	<u>Activity Sub-Category</u>								
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) ☐
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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:			
Construction dewatering of groundwater			
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 2.23 Is maximum flow a design value ? Y ☒ N ☐ Average flow (include units) 1.56 ft<sup>3</sup>/s Is average flow a design value or estimate? Design		
3) Latitude and longitude of each discharge within 100 feet:			
pt.1: lat.	long	pt.2: lat.	long ;
pt.3: lat.	long	pt.4: lat.	long ;
pt.5: lat.	long	pt.6: lat.	long ;
pt.7: lat.	long	pt.8: lat.	long ; etc.
4) If hydrostatic testing, total volume of the discharge (gals): N/A	5) Is the discharge intermittent ☒ or seasonal ☐ ? Is discharge ongoing? Y ☐ N ☒		
c) Expected dates of discharge (mm/dd/yy): start Mar 1, 2015 end Nov 1, 2016			
d) Please attach a line drawing or flow schematic showing water flow through the facility including:			
1. sources of intake water. 2. contributing flow from the operation. 3. treatment units. and 4. discharge points and receiving waters(s).			
See Figure No. 4 - Dewatering Flow Schematic			

3. Contaminant information.

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

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
1. Total Suspended Solids (TSS)		☒	☐								
2. Total Residual Chlorine (TRC)		☒	☐								
3. Total Petroleum Hydrocarbons (TPH)		☒	☐								
4. Cyanide (CN)	57125	☒	☐								
5. Benzene (B)	71432	☒	☐								
6. Toluene (T)	108883	☒	☐								
7. Ethylbenzene (E)	100414	☒	☐								
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐								
9. Total BTEX ²	n/a	☒	☐								
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) ³	106934	☒	☐								
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐								
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.

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

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

⁴ The sum of individual phthalate compounds.

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>
h. Acenaphthene	83329	☒	☐								
i. Acenaphthylene	208968	☒	☐								
j. Anthracene	120127	☒	☐								
k. Benzo(ghi) Perylene	191242	☒	☐								
l. Fluoranthene	206440	☒	☐								
m. Fluorene	86737	☒	☐								
n. Naphthalene	91203	☒	☐								
o. Phenanthrene	85018	☒	☐								
p. Pyrene	129000	☒	☐								
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐								
38. Chloride	16887006	☐	☒								
39. Antimony	7440360	☒	☐								
40. Arsenic	7440382	☒	☐								
41. Cadmium	7440439	☒	☐								
42. Chromium III (trivalent)	16065831	☒	☐								
43. Chromium VI (hexavalent)	18540299	☒	☐								
44. Copper	7440508	☐	☒								
45. Lead	7439921	☒	☐								
46. Mercury	7439976	☒	☐								
47. Nickel	7440020	☒	☐								
48. Selenium	7782492	☒	☐								
49. Silver	7440224	☒	☐								
50. Zinc	7440666	☐	☒								
51. Iron	7439896	☐	☒								
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):

<i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y ☐ N ☒	If yes, which metals? N/A																
<i>Step 2:</i> For any metals which exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? <table border="1"> <tr> <td>Metal:</td> <td></td> <td>DF:</td> <td></td> </tr> <tr> <td>Metal:</td> <td></td> <td>DF:</td> <td></td> </tr> <tr> <td>Metal:</td> <td></td> <td>DF:</td> <td></td> </tr> <tr> <td>Metal:</td> <td></td> <td>DF:</td> <td></td> </tr> </table> Etc.	Metal:		DF:		Metal:		DF:		Metal:		DF:		Metal:		DF:		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:
Metal:		DF:															
Metal:		DF:															
Metal:		DF:															
Metal:		DF:															

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:

See attached narrative.

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):	Infiltration Basin, Flow Diffuser		

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

Average flow rate of discharge gpm Maximum flow rate of treatment system gpm

Design flow rate of treatment system gpm

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

No use of chemical additive is planned.

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:

See attached narrative.

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:

1. For multiple discharges, number the discharges sequentially.

2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water

The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

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

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water cfs

Please attach any calculation sheets used to support stream flow and dilution calculations.

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

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

6. ESA and NHPA Eligibility.

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

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

A ☒ B ☐ C ☐ D ☐ E ☐ F ☐

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

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

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

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

1 ☐ 2 ☒ 3 ☐

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

7. Supplemental information.

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

See attached US Fish & Wildlife Federal Endangered Species Letter and copy of Current County Species List.

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:	Long Pond Water Treatment Plant
Operator signature:	
Printed Name & Title:	Raymond A. Jack, Director of Public Works
Date:	8/15/2014