



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**Region 1**

**5 Post Office Square, Suite 100**

**BOSTON, MA 02109-3912**

**CERTIFIED MAIL RETURN RECEIPT REQUESTED**

**NOV 01 2013**

Matthew Young  
Senior Project Manager  
Cumberland Farms, Inc.  
100 Crossing Boulevard  
Framingham, MA 01702

Re: Authorization to discharge under the Remediation General Permit (RGP) –  
MAG910000. Cumberland Farms Station#1286 site located at 324 Marrett Road,  
Lexington, MA 01518, Middlesex County; Authorization # MAG910599

Dear Mr. Young:

Based on the review of a Notice of Intent (NOI) submitted by Aaron Kaczowka from Environmental Compliance Services, Inc. (ECS) on behalf of Cumberland Farms, Inc. (CFI), for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Owner and Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

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

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

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on a dilution factor range (DFR). With the limited dilution at Beaver Brook the receiving water, EPA determined that the DFR for each parameter is in the one and five (1-5) range. (See the RGP Appendix IV for

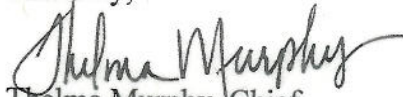
Massachusetts facilities) Therefore, the limits for lead of 2.28 ug/L and iron of 1,750 ug/L, are required to achieve permit compliance at your site. Please note that these metal limitations for your site have increased to a Factor Range above the established 0-5 dilution factor range. The reason for the increase has to do with the new RGP regulations which allows for a limit increase based on the metal limit times the available dilution of the receiving stream provided it does not exceed the 5 DFR. The available dilution in this case is 1.75. See footnote eleven at the end of the "Summary of Monitoring Parameters" listed below for further explanation.

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 23, 2014. 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](mailto:Alvarez.Victor@epa.gov), if you have any questions.

Sincerely,



Thelma Murphy, Chief  
Storm Water and Construction  
Permits Section

Enclosure

cc: Robert Kubit, MassDEP  
Bill Hadley, Town of Lexington PWD



**2010 Remediation General Permit  
Summary of Monitoring Parameters<sup>[1]</sup>**

<b>NPDES Authorization Number:</b>		<b>MAG910599</b>
Authorization Issued:	October, 2013	
Facility/Site Name:	Cumberland Farms Station#1286	
Facility/Site Address:	324 Marrett Road, Lexington, MA 01518	
	Email address of Owner: 100 Crossing Boulevard, Framingham, MA 01702, Middlesex County	
Legal Name of Operator:	Cumberland Farms, Inc.	
Operator contact name, title, and Address:	Matthew Young, Senior Project Manager, 100 Crossing Boulevard, Framingham, MA 01702, Middlesex County	
	Email: <a href="mailto:myoung@cumberlandgulf.com">myoung@cumberlandgulf.com</a>	
Estimated date of Completion:	October 23, 2014	
Category and Sub-Category:	Category I. Petroleum Related Site Remediation. Subcategory A. Gasoline Only Sites.	
RGP Termination Date:	September 10, 2015	
Receiving Water:	Beaver Brook	

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

	<u><b>Parameter</b></u>	<u><b>Effluent Limit/Method#/ML</b></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) <sup>1</sup>	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) <sup>2, 3</sup>	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



	<b><u>Parameter</u></b>	<b><u>Effluent Limit/Method#/ML</u></b> (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) <sup>4</sup>	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 <sup>5</sup>	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) <sup>6</sup>	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



	<b>Parameter</b>	<b>Effluent Limit/Method#/ML</b> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
	a. Benzo(a) Anthracene <sup>7</sup>	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene <sup>7</sup>	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene <sup>7</sup>	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene <sup>7</sup>	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene <sup>7</sup>	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene <sup>7</sup>	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 <sup>7</sup>	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 <sup>5</sup>	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) <sup>8,9</sup>	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
✓	38. Chloride	Monitor only/Me# 300.0/ ML 100 ug/L



	<b>Metal parameter</b>	<b>Total Recoverable MA/Metal Limit <math>H^{10} = 50 \text{ mg/l}</math> CaCO<sub>3</sub>, Units = ug/l <sup>(11/12)</sup></b>		<b>Minimum level=ML</b>	
		<b>Freshwater Limits</b>			
	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 **	2.28		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	1,750		ML	20

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

Footnotes:



<sup>1</sup> 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).

<sup>2</sup> 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.

<sup>3</sup> 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).

<sup>4</sup> BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.

<sup>5</sup> 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.

<sup>6</sup> 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.*

<sup>7</sup> 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.

<sup>8</sup> 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.

<sup>9</sup> 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).

<sup>10</sup> Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.

<sup>11</sup> 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.

<sup>12</sup> 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).

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

<sup>14</sup> Temperature sampling per Method 170.1



WHERE BUSINESS AND THE ENVIRONMENT CONVERGE



997 Millbury Street, Unit G, Worcester, MA 01607 tel 508.756.0151 fax 508.757.7063 www.ecsconsult.com

September 25, 2013  
Project No. 03-50098.13

Mr. Victor Alvarez  
U.S. Environmental Protection Agency  
EPA-Region 1  
5 Post Office Square  
Mail Code OEP06-4  
Boston, MA 02109-3912

**RE: Notice of Intent for Remediation General Permit  
Cumberland Farms Store #1286  
324 Marrett Road  
Lexington, MA 01518  
RTN 3-15876**

Dear Mr. Alvarez:

Environmental Compliance Services, Inc. (ECS) is pleased to provide supporting documentation for the Notice of Intent (NOI) for the Remediation General Permit (RGP) on behalf of Cumberland Farms, Inc. (CFI), for the above-referenced property. The property is a retail gas station, automotive repair and convenience store and has been a gas station since 1935. No information on the prior use of the Site has been obtained. This NOI is being submitted in order to obtain a permit for the operation of a temporary groundwater recovery and treatment system (GWTS) at the Site. The GWTS is required to be operated at the Site in order to allow for the removal and replacement of petroleum underground storage tanks (USTs) during site redevelopment. A Site Locus is provided as Figure 1 and a Site Plan is provided as Figure 2. A Flow Schematic of the dewatering treatment plan is included as Figure 3. A Dewatering Discharge Location Plan of existing features has been attached as Figure 4. The A copy of the NOI form is provided as Attachment I.

### **System Design**

Groundwater treatment will occur prior to discharge to the storm water manhole located at the southwest corner of the intersection of Marrett Road and Waltham Street. According to the Lexington Department of Public Works Engineer (Dave Pavlik), the storm water manhole drains to the south, at emerges at the outfall designated OF2-21, which joins the Cleamatis Brook, which joins Beaver Brook and ultimately becomes part of the Charles River. Please refer to Figure 4 for the estimated storm drain path running toward Beaver Brook.

The groundwater treatment system located on the Site will be composed of the following:

Submersible pneumatic pumps will collect groundwater from the UST excavation area, then recovered groundwater will be pumped into a 20,000 gallon frac tank (to settle out solids and



metals) and then processed through through particulate filters and two-1,000 lbs. liquid phase granular activated carbon (GAC) units for the removal of volatile organic carbons and iron. A line diagram of the groundwater treatment system is provided as Figure 3.

Average flow rate of discharge of treated groundwater from the system to the storm water line is expected to be approximately 50 gallons per minute (gpm). The design capacity of the groundwater treatment system is 75 gpm based upon data collected from comparable systems installed at other remedial sites operated/created by ECS.

### **Influent Sample Analysis**

Groundwater samples were collected from monitoring well MW-2 on August 27, 2013 to evaluate groundwater quality. These samples were submitted to Spectrum Analytical, Inc. of Agawam, Massachusetts under standard chain of custody protocol for analysis of total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), total metals (iron and lead), and total suspended solids. A copy of the laboratory reports and chains of custody record are provided as Attachment II.

Appendix III of the 2010 RGP under NPDES sets the effluent limitations for treatment system discharges. Groundwater analytical results of the samples collected from MW-2 have been compared to the Appendix III effluent limitations ([www.epa.gov/region1/npdes/rgp.html](http://www.epa.gov/region1/npdes/rgp.html)). These results indicate that the petroleum constituents (i.e., benzene, total benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tert butyl ether (MTBE), and naphthalene) and iron were detected in the samples at concentrations above the applicable Appendix III effluent limitations for Subcategory A-gasoline only sites.

### **Receiving Waters Information**

According to the Lexington Town Engineer, the receiving water for the treated groundwater discharge is the Cleamatis Brook, which Google Maps identifies as Beaver Brook and is located approximately 2,000 feet south of the Site. ECS consulted the online United States Geological Survey (USGS) Streamstats program to determine the 7Q10 flow rate at the discharge location (<http://ma.water.usgs.gov/streamstats/>, accessed September 24, 2013). Data obtained from the online resource indicated that the 7Q10 flow rate for the drainage basin which includes the discharge point and outfall south of the Site is 0.0083 cubic feet per second (cfs). Data obtained from the Streamstats program have been attached as Attachment III.

### **Receiving Water Classification**

ECS consulted the Massachusetts Department of Environmental Protection (MassDEP) Division of Water Pollution Control (<http://www.mass.gov/dep/water/laws/tblfig.pdf>) to determine the classification for the receiving waters. The Charles River is listed as Class B surface water.

### **Evaluation of Threatened or Endangered Species or Critical Habitat Located within Receiving Waters**

According to Massachusetts Geographic Information Systems (MassGIS) online maps for the Natural Heritage Endangered Species Program (NHESP) (2008), no Priority Habitat of Rare

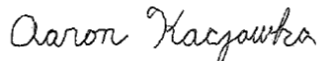
Species or Estimated Habitats of Rare Wildlife are located within the proposed at or immediately adjacent to the work zone area. The closest NHESP Estimated Habitats of Rare Wildlife is located approximately 3.2 miles south/southwest of the Site. A copy of the MassGIS Resource Priority and NHESP Maps of the Site area is included in Attachment IV.

#### **Review of National Register of Historic Places**

Listings of Historic Places within the Town of Lexington in the vicinity of the Site were obtained from the Massachusetts Cultural Resources Information System (MACRIS) online database at <http://mhc-macris.net/towns.aspx> (accessed September 23, 2013). Copies of the MACRIS report are provided as Attachment V. The database indicated that there are no historic places located in close proximity to the Site and proposed discharge area. This project does not involve the demolition or rehabilitation of historic properties.

Should you have any questions or concerns regarding the contents of this letter or the NOI for the RGP, please do not hesitate to contact the undersigned at (508) 756-0151.

Sincerely,  
ENVIRONMENTAL COMPLIANCE SERVICES, INC.



Aaron Kaczowka  
Project Manager

cc: Matthew Young, Cumberland Farms, Inc., 100 Crossing Blvd, Framingham, MA 01702  
Robert Kubit, MassDEP, Division of Watershed Management, 627 Main Street,  
Worcester, MA 01608  
William Hadley, Lexington Department of Public Works, 201 Bedford Street, Lexington,  
MA, 02420  
Karen Mullins, Lexington Conservation Commission, 1625 Massachusetts Avenue,  
Lexington, MA 02420

#### **LIST OF ATTACHMENTS**

##### Figures

Figure 1: Site Locus

Figure 2: Site Plan

Figure 3: Flow Schematic

Figure 4: Dewatering Discharge Location Plan

Attachment I: NOI for the RGP

Attachment II: Laboratory Analytical Reports and Chain of Custody Records

Attachment III: StreamStats Site Report

Attachment IV: On-line MassGIS Resource Priority & NHESP Maps

Attachment V: MACRIS Database Search Results



## FIGURES

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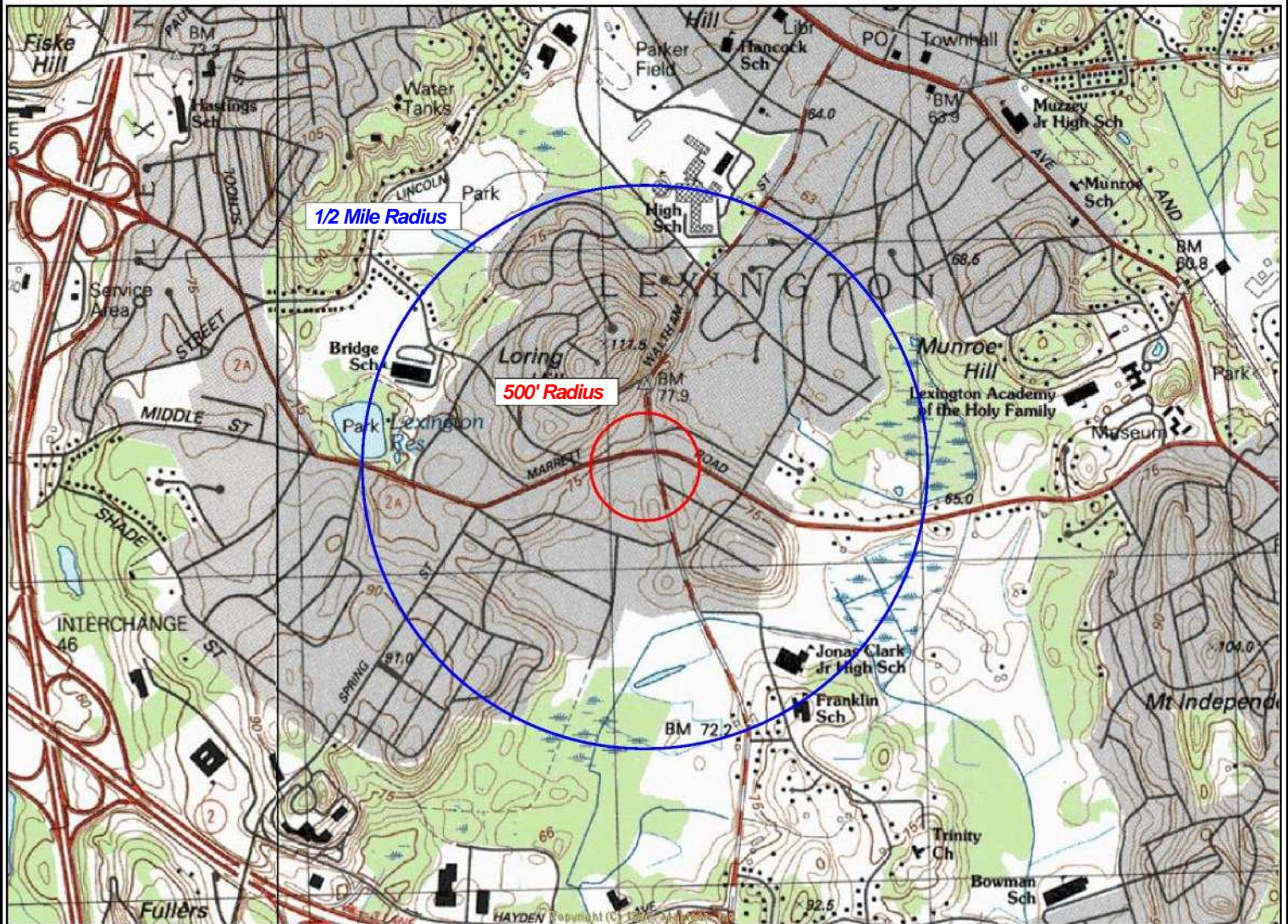
Environmental Compliance Services, Inc.  
997 Millbury Street, Worcester, MA  
Phone (508)-756-0151 Fax (508)-757-7063  
[www.ecsconsult.com](http://www.ecsconsult.com)

## SITE LOCUS

Figure: 1

**Cumberland Farms, Inc.**  
**324 Marrett Road**  
**Lexington, MA**  
**02421**

Job Number: J50098



1 1/2 0 1 Mile

1 inch = 1500 feet

Contour Interval: 3 Meters

North



Base Map: U.S. Geological Survey; Quadrangle Location: Boston North

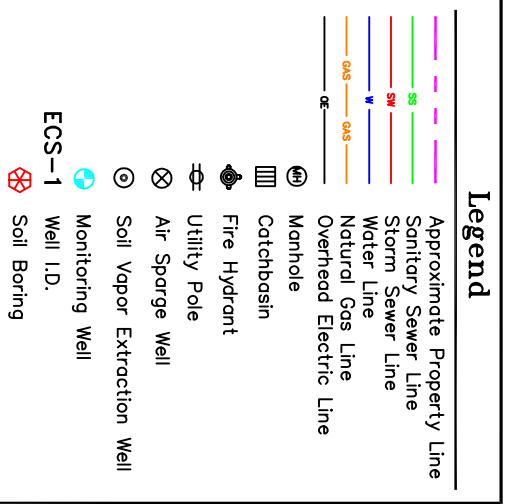
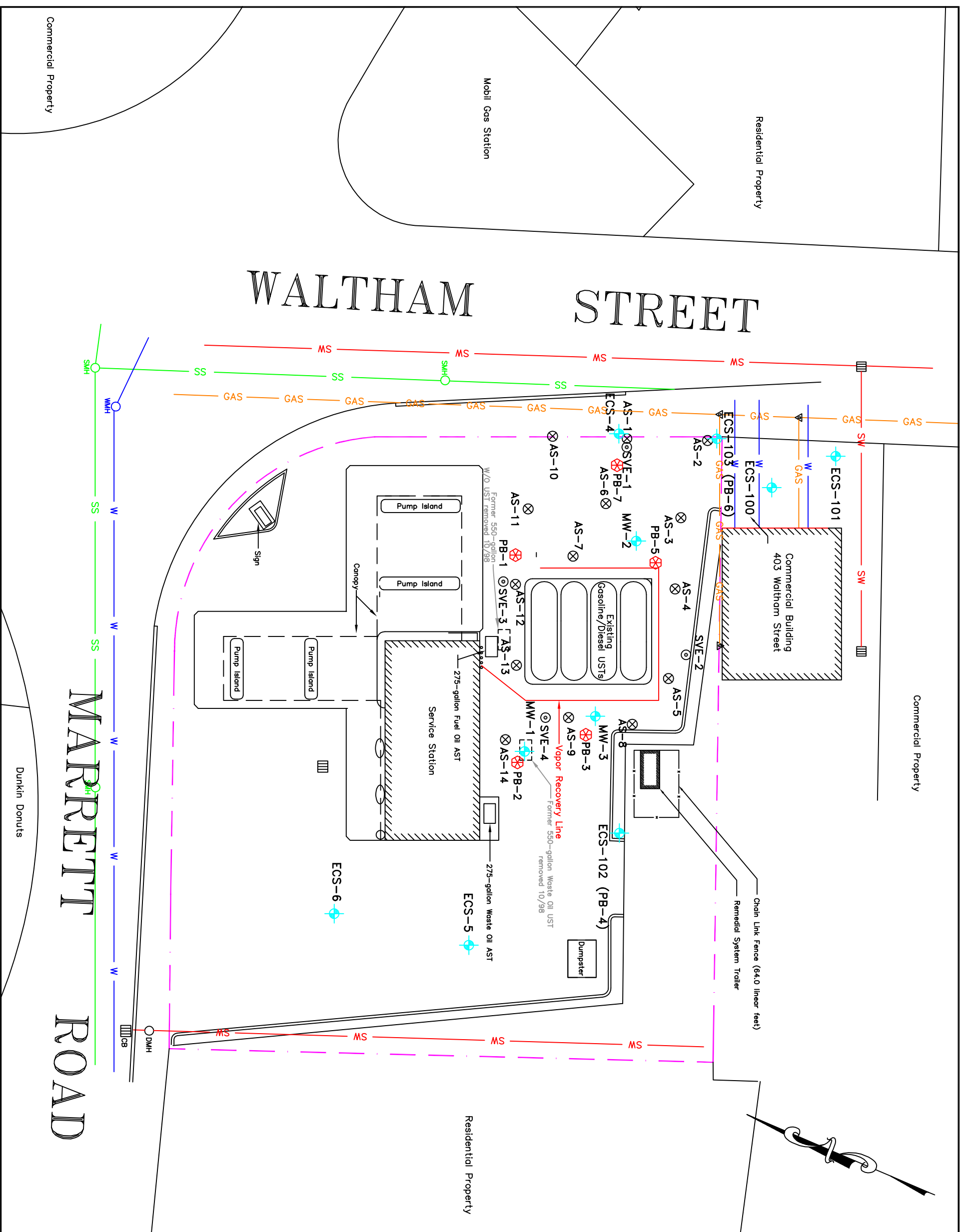
UTM Coordinates: 19 0316118 East / 47 00330 North

Map Edited: 1985

Map Revised: none

Generated By: MJC





**General Notes:**

Site plan prepared from town of Lexington Assessors Maps and measurements obtained during site reconnaissance by ECS, Inc.

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

Horizontal, and vertical locations of wells, and selected site features determined through measurements made by representatives of ECS.



**ENVIRONMENTAL COMPLIANCE SERVICES, INC.**  
10 State Street \* Woburn, MA 01801

10 State Street \* Woburn, MA 01801

**CUMBERLAND FARMS, INC.**

324 MARRETT ROAD  
LEXINGTON, MA

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**NOTES**

## SITE PLAN

**CLIENT:**

**CUMBERLAND FARMS, INC.**

GRAPHIC SCALE:



COMPUTER CADFILE : 50098-S1.dwg

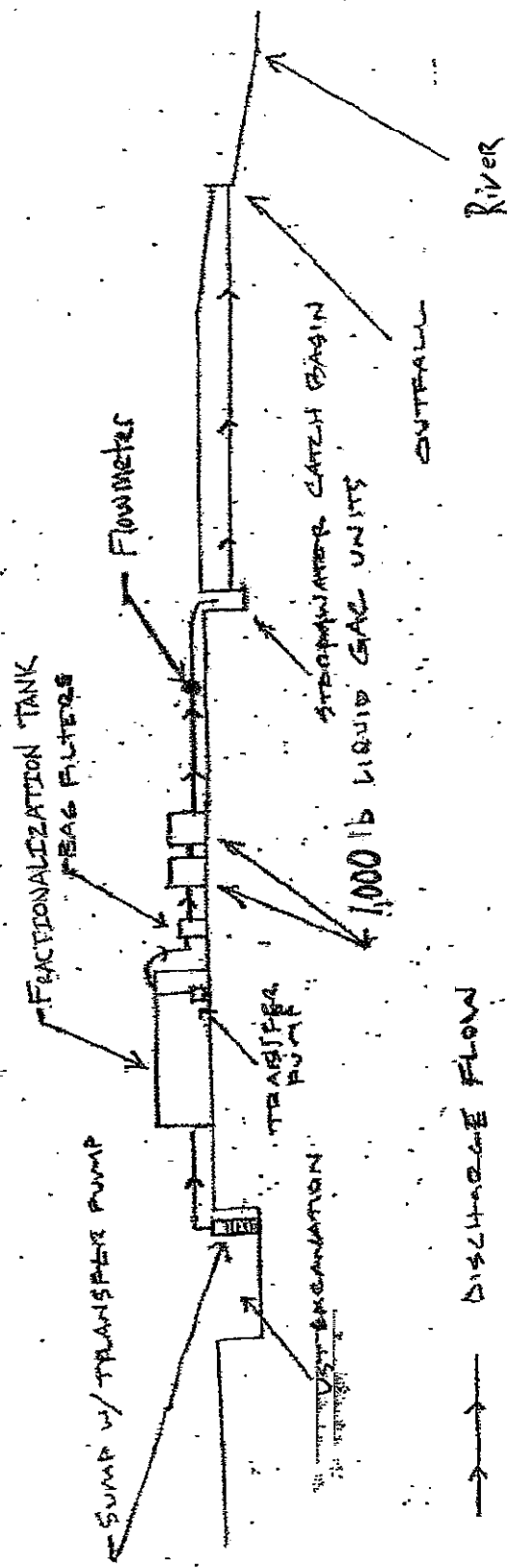
DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
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5


SCALE:	DATE:
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1"=30FT	March 2010	J50098
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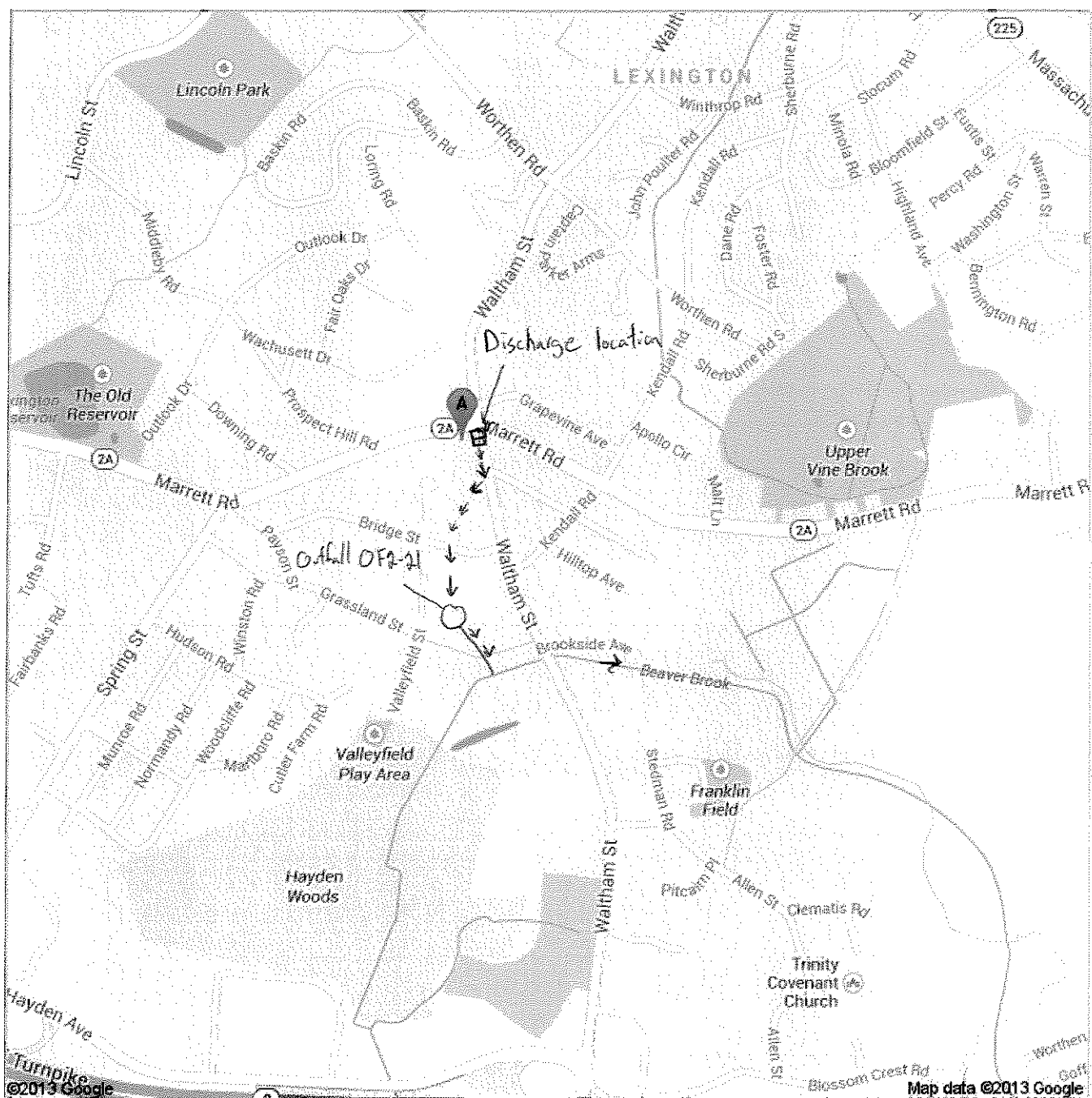
Flow Schematic - Figure 3







Address **324 Marrett Rd**  
**Lexington, MA 02421**



## **ATTACHMENT I**

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

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<sup>1</sup>, 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.

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<sup>1</sup>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.**

$$DF = [(Q_d + Q_s)/Q_d] \times 0.9$$

**Where:**

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

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.

$$DF = (Q_d + Q_s) / Q_d$$

**Where:**    **DF**            = **Dilution Factor**  
              **Q<sub>d</sub>**            = **Maximum flow rate of the discharge in cubic feet per second (cfs) (1.0 gpm = .00223 cfs)**  
              **Q<sub>s</sub>**            = **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: Cumberland Farms # 1286		Facility/site mailing address:	
Location of facility/site:	Facility SIC code(s):	Street:	
longitude: 7114620	5541	324 Marrett Road	
latitude: 4226937			
b) Name of facility/site owner:		Town: Lexington	
Email address of facility/site owner: myyoung@cumberlandgulf.com		State: MA	County: Worcester
Telephone no. of facility/site owner: 508-270-4477		Zip: 01518	
Fax no. of facility/site owner: 781-459-0454		Owner is (check one): 1. Federal <input type="radio"/> 2. State/Tribal <input type="radio"/>	
Address of owner (if different from site):		3. Private <input checked="" type="radio"/> 4. Other <input type="radio"/> if so, describe:	
Street: 100 Crossing Boulevard			
Town: Framingham	State: MA	Zip: 01702	County: Middlesex
c) Legal name of operator:		Operator telephone no: 508-270-4477	
Cumberland Farms, Inc.		Operator fax no.: 781-459-0454	Operator email: myyoung@cumberlandgulf.co
Operator contact name and title:		Matthew Young, Senior Project Manager	
Address of operator (if different from owner):		Street:	
Town:	State:	Zip:	County:

<p>d) Check Y for "yes" or N for "no" for the following:</p> <p>1. Has a prior NPDES permit exclusion been granted for the discharge? Y <input type="radio"/> N <input type="radio"/> if Y, number: <input style="width: 100px;" type="text"/></p> <p>2. Has a prior NPDES application (Form I &amp; 2C) ever been filed for the discharge? Y <input type="radio"/> N <input type="radio"/> if Y, date and tracking #: <input style="width: 100px;" type="text"/></p> <p>3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y <input type="radio"/> N <input type="radio"/></p> <p>4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y <input type="radio"/> N <input type="radio"/></p>	<p>e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y <input type="radio"/> N <input type="radio"/></p> <p>If Y, please list:</p> <p>1. site identification # assigned by the state of NH or MA: <input style="width: 100px;" type="text"/></p> <p>2. permit or license # assigned: <input style="width: 100px;" type="text"/></p> <p>3. state agency contact information: name, location, and telephone number: <input style="width: 100px;" type="text"/></p> <p>f) Is the site/facility covered by any other EPA permit, including:</p> <p>1. Multi-Sector General Permit? Y <input type="radio"/> N <input type="radio"/> if Y, number: <input style="width: 100px;" type="text"/></p> <p>2. Final Dewatering General Permit? Y <input type="radio"/> N <input type="radio"/> if Y, number: <input style="width: 100px;" type="text"/></p> <p>3. EPA Construction General Permit? Y <input type="radio"/> N <input type="radio"/> if Y, number: <input style="width: 100px;" type="text"/></p> <p>4. Individual NPDES permit? Y <input type="radio"/> N <input type="radio"/> if Y, number: <input style="width: 100px;" type="text"/></p> <p>5. any other water quality related individual or general permit? Y <input type="radio"/> N <input type="radio"/> if Y, number: <input style="width: 100px;" type="text"/></p> <p>g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y <input type="radio"/> N <input type="radio"/></p> <p>h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%; text-align: left;">Activity Category</th> <th style="width: 70%; text-align: left;">Activity Sub-Category</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">I - Petroleum Related Site Remediation</td> <td> <p>A. Gasoline Only Sites <input type="checkbox"/></p> <p>B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) <input type="checkbox"/></p> <p>C. Petroleum Sites with Additional Contamination <input type="checkbox"/></p> <p>A. Volatile Organic Compound (VOC) Only Sites <input type="checkbox"/></p> <p>B. VOC Sites with Additional Contamination <input type="checkbox"/></p> <p>C. Primarily Heavy Metal Sites <input type="checkbox"/></p> <p>A. General Urban Fill Sites <input type="checkbox"/></p> <p>B. Known Contaminated Sites <input type="checkbox"/></p> </td> </tr> <tr> <td style="vertical-align: top;">II - Non Petroleum Site Remediation</td> <td></td> </tr> <tr> <td style="vertical-align: top;">III - Contaminated Construction Dewatering</td> <td></td> </tr> </tbody> </table>	Activity Category	Activity Sub-Category	I - Petroleum Related Site Remediation	<p>A. Gasoline Only Sites <input type="checkbox"/></p> <p>B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) <input type="checkbox"/></p> <p>C. Petroleum Sites with Additional Contamination <input type="checkbox"/></p> <p>A. Volatile Organic Compound (VOC) Only Sites <input type="checkbox"/></p> <p>B. VOC Sites with Additional Contamination <input type="checkbox"/></p> <p>C. Primarily Heavy Metal Sites <input type="checkbox"/></p> <p>A. General Urban Fill Sites <input type="checkbox"/></p> <p>B. Known Contaminated Sites <input type="checkbox"/></p>	II - Non Petroleum Site Remediation		III - Contaminated Construction Dewatering	
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II - Non Petroleum Site Remediation									
III - Contaminated Construction Dewatering									

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites <input type="checkbox"/> B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites <input type="checkbox"/> C. Hydrostatic Testing of Pipelines and Tanks <input type="checkbox"/> D. Long-Term Remediation of Contaminated Sumps and Dikes <input type="checkbox"/> E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) <input type="checkbox"/>
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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: The petroleum station is upgrading their underground fuel storage tanks and drainage system and dewatering will be necessary to perform these upgrades. The discharge will be associated with the dewatering activities.									
b) Provide the following information about each discharge:									
1) Number of discharge points: <u>1</u>	2) What is the <b>maximum</b> and <b>average flow rate</b> of discharge (in cubic feet per second, ft <sup>3</sup> /s)? Max. flow: <u>168</u> Is maximum flow a design value? Y <input type="radio"/> N <input checked="" type="radio"/> Average flow (include units): <u>6.168</u> Is average flow a design value or estimate? <u>Estimate</u>								
3) Latitude and longitude of each discharge within 100 feet: <table border="1"> <tr> <td>pt. 1: lat. <u>42.435718</u> long. <u>71.234714</u></td> <td>pt. 2: lat. <u>          </u> long. <u>          </u></td> </tr> <tr> <td>pt. 3: lat. <u>          </u> long. <u>          </u></td> <td>pt. 4: lat. <u>          </u> long. <u>          </u></td> </tr> <tr> <td>pt. 5: lat. <u>          </u> long. <u>          </u></td> <td>pt. 6: lat. <u>          </u> long. <u>          </u></td> </tr> <tr> <td>pt. 7: lat. <u>          </u> long. <u>          </u></td> <td>pt. 8: lat. <u>          </u> long. <u>          </u> etc.</td> </tr> </table>		pt. 1: lat. <u>42.435718</u> long. <u>71.234714</u>	pt. 2: lat. <u>          </u> long. <u>          </u>	pt. 3: lat. <u>          </u> long. <u>          </u>	pt. 4: lat. <u>          </u> long. <u>          </u>	pt. 5: lat. <u>          </u> long. <u>          </u>	pt. 6: lat. <u>          </u> long. <u>          </u>	pt. 7: lat. <u>          </u> long. <u>          </u>	pt. 8: lat. <u>          </u> long. <u>          </u> etc.
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4) If hydrostatic testing, total volume of the discharge (gals): <u>          </u>	5) Is the discharge intermittent <input checked="" type="radio"/> or seasonal <input type="radio"/> ? Is discharge ongoing? Y <input type="radio"/> N <input checked="" type="radio"/>								
c) Expected dates of discharge (mm/dd/yy): start <u>10/23/2013</u> end <u>1/23/2014</u>									
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). <u>Flow Schematic is attached.</u>									



### 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)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	SM2540D	2,000	60,000	54	60,000	54
2. Total Residual Chlorine (TRC)		<input checked="" type="checkbox"/>	<input type="checkbox"/>								
3. Total Petroleum Hydrocarbons (TPH)		<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	SM846 3510	200	6,500	5.85	6,500	5.85
4. Cyanide (CN)	57125	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
5. Benzene (B)	71432	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	8260	6.69	42	0.0378	42	0.0378
6. Toluene (T)	108883	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	8260	8.12	<10	0	<10	0
7. Ethylbenzene (E)	100414	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	8260	7.32	174	0.1566	174	0.1566
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	8260	25.2	158.1	0.1423	158.1	0.1423
9. Total BTEX <sup>2</sup>	n/a	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	8260	47.33	374.1	0.3367	374.4	0.3367
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) <sup>3</sup>	106934	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	3.27	<5	0	<5	0
11. Methyl-tert-Butyl Ether (MtBE)	1634044	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	8260	23.9	0.02151	23.9	0.02151	23.9
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	grab	8260	86.4	132	0.1188	132	0.1188

\* 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.

<sup>2</sup> BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

<sup>3</sup> 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	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	7.19	<10	0	<10	0
14. Naphthalene	91203	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	5.79	74.9	0.06741	74.9	0.06741
15. Carbon Tetrachloride	56235	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	5.49	<10	0	<10	0
16. 1,2 Dichlorobenzene (o-DCB)	95501	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	7.81	<10	0	<10	0
17. 1,3 Dichlorobenzene (m-DCB)	541731	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	7.12	<10	0	<10	0
18. 1,4 Dichlorobenzene (p-DCB)	106467	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	6.24	<10	0	<10	0
18a. Total dichlorobenzene		<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	13.36	<20	0	<20	0
19. 1,1 Dichloroethane (DCA)	75343	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	6.80	<10	0	<10	0
20. 1,2 Dichloroethane (DCA)	107062	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	7.81	<10	0	<10	0
21. 1,1 Dichloroethene (DCE)	75354	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	4.88	<10	0	<10	0
22. cis-1,2 Dichloroethene (DCE)	156592	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	7.16	<10	0	<10	0
23. Methylene Chloride	75092	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	5.90	<20	0	<20	0
24. Tetrachloroethene (PCE)	127184	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	7.43	<10	0	<10	0
25. 1,1,1 Trichloro-ethane (TCA)	71556	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	5.82	<10	0	<10	0
26. 1,1,2 Trichloro-ethane (TCA)	79005	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	6.42	<10	0	<10	0
27. Trichloroethene (TCE)	79016	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	7.55	<10	0	<10	0

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	8.07	<10	0	<10	0
29. Acetone	67641	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	25.6	<100	0	<100	0
30. 1,4 Dioxane	123911	<input type="checkbox"/>	<input type="checkbox"/>	1	grab	8260	140	<200	0	<200	0
31. Total Phenols	108952	<input type="checkbox"/>	<input type="checkbox"/>	0							
32. Pentachlorophenol (PCP)	87865	<input type="checkbox"/>	<input type="checkbox"/>	0							
33. Total Phthalates (Phthalate esters) <sup>4</sup>		<input type="checkbox"/>	<input type="checkbox"/>	0							
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	<input type="checkbox"/>	<input type="checkbox"/>	0							
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		<input type="checkbox"/>	<input type="checkbox"/>	0							
a. Benzo(a) Anthracene	56553	<input type="checkbox"/>	<input type="checkbox"/>	0							
b. Benzo(a) Pyrene	50328	<input type="checkbox"/>	<input type="checkbox"/>	0							
c. Benzo(b) Fluoranthene	205992	<input type="checkbox"/>	<input type="checkbox"/>	0							
d. Benzo(k) Fluoranthene	207089	<input type="checkbox"/>	<input type="checkbox"/>	0							
e. Chrysene	21801	<input type="checkbox"/>	<input type="checkbox"/>	0							
f. Dibenzo(a,h)anthracene	53703	<input type="checkbox"/>	<input type="checkbox"/>	0							
g. Indeno(1,2,3-cd) Pyrene	193395	<input type="checkbox"/>	<input type="checkbox"/>	0							
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		<input type="checkbox"/>	<input type="checkbox"/>	0							

<sup>4</sup> 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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
i. Acenaphthylene	208968	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
j. Anthracene	120127	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
k. Benzo(ghi) Perylene	191242	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
l. Fluoranthene	206440	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
m. Fluorene	86737	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
n. Naphthalene	91203	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
o. Phenanthrene	85018	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
p. Pyrene	129000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
37. Total Polychlorinated Biphenyls (PCBs)	85687;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
	84742;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
	117840;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
	84662;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
	131113;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
	117817.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
38. Chloride	16887006	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
39. Antimony	7440360	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
40. Arsenic	7440382	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
41. Cadmium	7440439	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
42. Chromium III (trivalent)	16065831	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
43. Chromium VI (hexavalent)	18540299	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
44. Copper	7440508	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
45. Lead	7439921	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	grab	3010C	2	<7.5	0	<7.5	0
46. Mercury	7439976	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
47. Nickel	7440020	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
48. Selenium	7782492	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
49. Silver	7440224	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
50. Zinc	7440666	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							
51. Iron	7439896	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	grab	3010C	0.0074	51500	46.35	51500	46.35
Other (describe):		<input checked="" type="checkbox"/>	<input type="checkbox"/>	0							

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								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
		<input type="checkbox"/>	<input type="checkbox"/>								
		<input type="checkbox"/>	<input type="checkbox"/>								

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

<p><b>Step 1:</b> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y <input checked="" type="radio"/> N <input type="radio"/></p> <p>If yes, which metals? Iron</p>	<p>Look up the limit calculated at the corresponding dilution factor in <b>Appendix IV</b>. Do any of the metals in the <b>influent</b> have the potential to exceed the corresponding <b>effluent</b> limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y <input checked="" type="radio"/> N <input type="radio"/> If Y, list which metals: Iron</p>
<p><b>Step 2:</b> For any metals which exceed the <b>Appendix III</b> limits, calculate the <b>dilution factor (DF)</b> 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.</p> <p>What is the dilution factor for applicable metals?</p> <p>Metal: Iron DF: 1.0496</p> <p>Metal: _____ DF: _____</p> <p>Metal: _____ DF: _____</p> <p>Metal: _____ DF: _____</p> <p>Etc.</p>	

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

<p>a) A description of the treatment system, including a schematic of the proposed or existing treatment system:</p> <p>The water from the UST excavation will be pumped into a frac tank for settling, then through two bag filter units in parallel, two 1,000 lbs liquid granular activated carbon vessels in series, and a flow meter prior to discharge to a MassDOT storm drainage manhole. The storm drain located adjacent to the Site on Waltham Street.</p>					
<p>b) Identify each applicable treatment unit (check all that apply):</p>	<p>Frac. tank <input checked="" type="checkbox"/></p> <p>Chlorination <input type="checkbox"/></p>	<p>Air stripper <input type="checkbox"/></p> <p>De-chlorination <input type="checkbox"/></p>	<p>Oil/water separator <input type="checkbox"/></p> <p>Other (please describe):</p>	<p>Equalization tanks <input type="checkbox"/></p> <p>Bag filter <input type="checkbox"/></p> <p>GAC filter <input type="checkbox"/></p>	

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

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

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 <input type="checkbox"/>	Within facility (sewer) <input type="checkbox"/>	Storm drain <input type="checkbox"/>	Wetlands <input type="checkbox"/>	Other (describe): <input type="text"/>
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b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:  
The discharge will be pumped into the stormwater system, come out of the Valleyfield Outfall into the Cleamatic Brook and then travel to the Charles River.

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

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

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

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

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



**6. ESA and NHPA Eligibility.**

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


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

**7. Supplemental information.**

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

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

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

Facility/Site Name:	Cumberland Farms # 1286
Operator signature:	
Printed Name & Title:	Matthew D. Young Senior Project Manager
Date:	9/25/13

**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](http://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, 2<sup>nd</sup> 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.



## **ATTACHMENT II**

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Report Date:  
04-Sep-13 14:36



- ☒ Final Report  
☐ Re-Issued Report  
☐ Revised Report

**SPECTRUM ANALYTICAL, INC.**

*Featuring*

**HANIBAL TECHNOLOGY**

***Laboratory Report***

Environmental Compliance Services  
997 Millbury Street, Unit G  
Worcester, MA 01607  
Attn: Aaron Kaczowka

Project: 324 Marrett Rd. Lexington, MA  
Project #: 03-50098.13

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SB75842-01	MW-2	Ground Water	27-Aug-13 00:00	28-Aug-13 15:28

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.  
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110  
Connecticut # PH-0777  
Florida # E87600/E87936  
Maine # MA138  
New Hampshire # 2538  
New Jersey # MA011/MA012  
New York # 11393/11840  
Pennsylvania # 68-04426/68-02924  
Rhode Island # 98  
USDA # S-51435



Authorized by:

Nicole Leja  
Laboratory Director


Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 8 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

*Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at [www.spectrum-analytical.com](http://www.spectrum-analytical.com) for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).*

*Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.*

## MassDEP Analytical Protocol Certification Form

<b>Laboratory Name:</b> Spectrum Analytical, Inc.			<b>Project #:</b> 03-50098.13		
<b>Project Location:</b> 324 Marrett Rd. Lexington, MA			<b>RTN:</b>		
<b>This form provides certifications for the following data set:</b>			SB75842-01		
<b>Matrices:</b> Ground Water					
<b>CAM Protocol</b>					
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	9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<b>Affirmative responses to questions A through F are required for "Presumptive Certainty" status</b>					
<b>A</b>	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>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes    No
<b>C</b>	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
<b>D</b>	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes    No
<b>E</b>	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes    No Yes    No
<b>F</b>	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
<b>Responses to questions G, H and I below are required for "Presumptive Certainty" status</b>					
<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				✓ Yes    No
<b>Data User Note:</b> 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.					
<b>H</b>	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes    ✓    No
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				Yes    ✓    No
<b>All negative responses are addressed in a case narrative on the cover page of this report.</b>					
<p><i>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, accurate and complete.</i></p> <div style="text-align: right; margin-top: 20px;">   Nicole Leja  Laboratory Director  Date: 9/4/2013 </div>					

## CASE NARRATIVE:

The samples were received -0.5 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

**See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.**

### **SW846 6010C**

#### **Spikes:**

1320956-MS1      *Source: SB75842-01*

---

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Iron

1320956-MSD1      *Source: SB75842-01*

---

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Iron

1320956-PS1      *Source: SB75842-01*

---

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Iron

## Sample Acceptance Check Form

Client: Environmental Compliance Services - Worcester, MA  
Project: 324 Marrett Rd. Lexington, MA / 03-50098.13  
Work Order: SB75842  
Sample(s) received on: 8/28/2013  
Received by: Vickie Knowles

*The following outlines the condition of samples for the attached Chain of Custody upon receipt.*

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
1. Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Were samples received at a temperature of $\leq 6^{\circ}\text{C}$ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Were samples cooled on ice upon transfer to laboratory representative?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Did sample container labels agree with Chain of Custody document?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Sample Identification

MW-2

SB75842-01

Client Project #

03-50098.13

Matrix

Ground Water

Collection Date/Time

27-Aug-13 00:00

Received

28-Aug-13

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
<b>Total Metals by EPA 200/6000 Series Methods</b>													
	Preservation	Lab Preserved		N/A			1	EPA 200/6000 methods	29-Aug-13	29-Aug-13	AME	1320867	
<b>Total Metals by EPA 6000/7000 Series Methods</b>													
7439-89-6	Iron	51.5		mg/l	0.0150	0.0074	1	SW846 6010C	30-Aug-13	03-Sep-13	TBC	1320956	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0020	1	"	"	"	"	"	
<b>General Chemistry Parameters</b>													
	Total Suspended Solids	60		mg/l	5	2	1	SM2540D	29-Aug-13	30-Aug-13	BD	1320874	X

*This laboratory report is not valid without an authorized signature on the cover page.*

**Total Metals by EPA 6000/7000 Series Methods - Quality Control**

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch 1320956 - SW846 3005A</b>										
<b><u>Blank (1320956-BLK1)</u></b>	<b><u>Prepared: 30-Aug-13 Analyzed: 03-Sep-13</u></b>									
Iron	< 0.0150		mg/l	0.0150						
Lead	< 0.0075		mg/l	0.0075						
<b><u>LCS (1320956-BS1)</u></b>	<b><u>Prepared: 30-Aug-13 Analyzed: 03-Sep-13</u></b>									
Iron	<b>1.39</b>		mg/l	0.0150	1.25		112	85-115		
Lead	<b>1.32</b>		mg/l	0.0075	1.25		105	85-115		
<b><u>LCS Dup (1320956-BSD1)</u></b>	<b><u>Prepared: 30-Aug-13 Analyzed: 03-Sep-13</u></b>									
Iron	<b>1.42</b>		mg/l	0.0150	1.25		113	85-115	2	20
Lead	<b>1.34</b>		mg/l	0.0075	1.25		107	85-115	2	20
<b><u>Matrix Spike (1320956-MS1)</u></b>	<b><u>Source: SB75842-01 Prepared: 30-Aug-13 Analyzed: 03-Sep-13</u></b>									
Iron	<b>53.8</b>	QM2	mg/l	0.0150	1.25	51.5	184	75-125		
Lead	<b>1.26</b>		mg/l	0.0075	1.25	0.0058	100	75-125		
<b><u>Matrix Spike Dup (1320956-MSD1)</u></b>	<b><u>Source: SB75842-01 Prepared: 30-Aug-13 Analyzed: 03-Sep-13</u></b>									
Iron	<b>54.8</b>	QM2	mg/l	0.0150	1.25	51.5	268	75-125	2	20
Lead	<b>1.24</b>		mg/l	0.0075	1.25	0.0058	99	75-125	0.9	20
<b><u>Post Spike (1320956-PS1)</u></b>	<b><u>Source: SB75842-01 Prepared: 30-Aug-13 Analyzed: 03-Sep-13</u></b>									
Iron	<b>53.2</b>	QM2	mg/l	0.0150	1.25	51.5	132	80-120		
Lead	<b>1.22</b>		mg/l	0.0075	1.25	0.0058	97	80-120		

## General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch 1320874 - General Preparation</b>										
<b><u>Blank (1320874-BLK1)</u></b>								<u>Prepared: 29-Aug-13 Analyzed: 30-Aug-13</u>		
Total Suspended Solids	< 5		mg/l	5						
<b><u>LCS (1320874-BS1)</u></b>								<u>Prepared: 29-Aug-13 Analyzed: 30-Aug-13</u>		
Total Suspended Solids	<b>102</b>		mg/l	10	100		102	90-110		

## Notes and Definitions

QM2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:  
June O'Connor  
Kimberly Wisk





Report Date:  
30-Aug-13 16:23



**SPECTRUM ANALYTICAL, INC.**

*Featuring*

**HANIBAL TECHNOLOGY**

***Laboratory Report***

- ☒ Final Report  
☐ Re-Issued Report  
☐ Revised Report

Environmental Compliance Services  
997 Millbury Street, Unit G  
Worcester, MA 01607  
Attn: Aaron Kaczowka

Project: 324 Marrett Rd. Lexington, MA  
Project #: J50098

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SB75649-01	MW-2	Ground Water	18-Aug-13 14:00	23-Aug-13 15:30

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.  
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110  
Connecticut # PH-0777  
Florida # E87600/E87936  
Maine # MA138  
New Hampshire # 2538  
New Jersey # MA011/MA012  
New York # 11393/11840  
Pennsylvania # 68-04426/68-02924  
Rhode Island # 98  
USDA # S-51435



Authorized by:

Nicole Leja  
Laboratory Director


Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 16 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

*Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at [www.spectrum-analytical.com](http://www.spectrum-analytical.com) for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).*

*Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.*

## MassDEP Analytical Protocol Certification Form

<b>Laboratory Name:</b> Spectrum Analytical, Inc.			<b>Project #:</b> J50098		
<b>Project Location:</b> 324 Marrett Rd. Lexington, MA			<b>RTN:</b>		
<b>This form provides certifications for the following data set:</b>			SB75649-01		
<b>Matrices:</b> Ground Water					
<b>CAM Protocol</b>					
✓ 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	9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B
<b>Affirmative responses to questions A through F are required for "Presumptive Certainty" status</b>					
<b>A</b>	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>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?				✓ Yes    No
<b>C</b>	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
<b>D</b>	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?				✓ Yes    No
<b>E</b>	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?				Yes    No Yes    No
<b>F</b>	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
<b>Responses to questions G, H and I below are required for "Presumptive Certainty" status</b>					
<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?				Yes    ✓    No
<b>Data User Note:</b> 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.					
<b>H</b>	Were all QC performance standards specified in the CAM protocol(s) achieved?				Yes    ✓    No
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?				✓ Yes    No
<b>All negative responses are addressed in a case narrative on the cover page of this report.</b>					
<p><i>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, accurate and complete.</i></p> <div style="text-align: right; margin-top: 20px;">   Nicole Leja  Laboratory Director  Date: 8/30/2013 </div>					

## CASE NARRATIVE:

The samples were received 0.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

**See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.**

## **SW846 8260C**

### **Calibration:**

1308090

---

Analyte quantified by quadratic equation type calibration.

1,4-Dioxane  
Acrylonitrile  
trans-1,4-Dichloro-2-butene

This affected the following samples:

1320848-BLK1  
1320848-BS1  
1320848-BSD1  
MW-2  
S310351-ICV1  
S310390-CCV1

### **Laboratory Control Samples:**

1320848 BS/BSD

---

1,2,3-Trichlorobenzene percent recoveries (66/64) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

MW-2

1,2,4-Trichlorobenzene percent recoveries (62/64) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

MW-2

1,2-Dibromo-3-chloropropane percent recoveries (76/64) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

MW-2

## **SW846 8260C**

### **Laboratory Control Samples:**

1320848 BS/BSD

---

2-Butanone (MEK) percent recoveries (79/69) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

MW-2

Acetone percent recoveries (77/62) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

MW-2

trans-1,4-Dichloro-2-butene percent recoveries (73/69) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

MW-2

1320848 BSD

---

Acetone RPD 22% (20%) is outside individual acceptance criteria.

### **Samples:**

S310390-CCV1

---

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

1,1,2,2-Tetrachloroethane (-22.1%)  
1,2-Dibromo-3-chloropropane (-25.5%)  
Bromoform (-25.2%)  
Naphthalene (-26.6%)  
Tert-Butanol / butyl alcohol (-23.4%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

1,2,3-Trichlorobenzene (-36.4%)  
1,2,4-Trichlorobenzene (-35.0%)  
Acetone (-27.4%)  
trans-1,4-Dichloro-2-butene (-25.6%)

This affected the following samples:

1320848-BLK1  
1320848-BS1  
1320848-BSD1  
MW-2

SB75649-01

*MW-2*

---

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

## Sample Acceptance Check Form

Client: Environmental Compliance Services - Worcester, MA  
Project: 324 Marrett Rd. Lexington, MA / J50098  
Work Order: SB75649  
Sample(s) received on: 8/23/2013  
Received by: Tanya Krivolenko

*The following outlines the condition of samples for the attached Chain of Custody upon receipt.*

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
1. Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Were samples received at a temperature of $\leq 6^{\circ}\text{C}$ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Were samples cooled on ice upon transfer to laboratory representative?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Did sample container labels agree with Chain of Custody document?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Sample Identification

MW-2

SB75649-01

Client Project #

J50098

Matrix

Ground Water

Collection Date/Time

18-Aug-13 14:00

Received

23-Aug-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 10.0	D	µg/l	10.0	6.47	10	SW846 8260C	29-Aug-13	30-Aug-13	JEG	1320848	
67-64-1	Acetone	< 100	D	µg/l	100	25.6	10	"	"	"	"	"	
107-13-1	Acrylonitrile	< 5.00	D	µg/l	5.00	4.75	10	"	"	"	"	"	
71-43-2	Benzene	42.0	D	µg/l	10.0	6.69	10	"	"	"	"	"	
108-86-1	Bromobenzene	< 10.0	D	µg/l	10.0	7.21	10	"	"	"	"	"	
74-97-5	Bromochloromethane	< 10.0	D	µg/l	10.0	7.10	10	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 5.00	D	µg/l	5.00	4.79	10	"	"	"	"	"	
75-25-2	Bromoform	< 10.0	D	µg/l	10.0	6.03	10	"	"	"	"	"	
74-83-9	Bromomethane	< 20.0	D	µg/l	20.0	11.4	10	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 100	D	µg/l	100	19.3	10	"	"	"	"	"	
104-51-8	n-Butylbenzene	15.7	D	µg/l	10.0	5.62	10	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 10.0	D	µg/l	10.0	8.20	10	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 10.0	D	µg/l	10.0	7.45	10	"	"	"	"	"	
75-15-0	Carbon disulfide	< 20.0	D	µg/l	20.0	6.27	10	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 10.0	D	µg/l	10.0	5.49	10	"	"	"	"	"	
108-90-7	Chlorobenzene	< 10.0	D	µg/l	10.0	6.54	10	"	"	"	"	"	
75-00-3	Chloroethane	< 20.0	D	µg/l	20.0	10.3	10	"	"	"	"	"	
67-66-3	Chloroform	< 10.0	D	µg/l	10.0	6.89	10	"	"	"	"	"	
74-87-3	Chloromethane	< 20.0	D	µg/l	20.0	14.7	10	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 10.0	D	µg/l	10.0	7.91	10	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 10.0	D	µg/l	10.0	7.31	10	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 20.0	D	µg/l	20.0	12.0	10	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 5.00	D	µg/l	5.00	3.43	10	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 5.00	D	µg/l	5.00	3.27	10	"	"	"	"	"	
74-95-3	Dibromomethane	< 10.0	D	µg/l	10.0	6.66	10	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 10.0	D	µg/l	10.0	6.68	10	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 10.0	D	µg/l	10.0	7.12	10	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 10.0	D	µg/l	10.0	6.24	10	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 20.0	D	µg/l	20.0	4.47	10	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 10.0	D	µg/l	10.0	6.80	10	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 10.0	D	µg/l	10.0	7.81	10	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 10.0	D	µg/l	10.0	4.88	10	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 10.0	D	µg/l	10.0	7.16	10	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 10.0	D	µg/l	10.0	6.81	10	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 10.0	D	µg/l	10.0	7.12	10	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 10.0	D	µg/l	10.0	8.07	10	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 10.0	D	µg/l	10.0	6.05	10	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 10.0	D	µg/l	10.0	6.36	10	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 5.00	D	µg/l	5.00	2.52	10	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 5.00	D	µg/l	5.00	4.99	10	"	"	"	"	"	
100-41-4	Ethylbenzene	174	D	µg/l	10.0	7.32	10	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 5.00	D	µg/l	5.00	4.89	10	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 100	D	µg/l	100	5.47	10	"	"	"	"	"	

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Sample Identification

MW-2

SB75649-01

Client Project #

J50098

Matrix

Ground Water

Collection Date/Time

18-Aug-13 14:00

Received

23-Aug-13

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260			GS1										
Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	32.7	D	µg/l	10.0	6.21	10	SW846 8260C	29-Aug-13	30-Aug-13	JEG	1320848	
99-87-6	4-Isopropyltoluene	< 10.0	D	µg/l	10.0	6.09	10	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	23.9	D	µg/l	10.0	6.52	10	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 100	D	µg/l	100	9.32	10	"	"	"	"	"	
75-09-2	Methylene chloride	< 20.0	D	µg/l	20.0	6.90	10	"	"	"	"	"	
91-20-3	Naphthalene	74.9	D	µg/l	10.0	5.79	10	"	"	"	"	"	
103-65-1	n-Propylbenzene	72.9	D	µg/l	10.0	7.58	10	"	"	"	"	"	
100-42-5	Styrene	< 10.0	D	µg/l	10.0	6.15	10	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 10.0	D	µg/l	10.0	6.26	10	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 5.00	D	µg/l	5.00	3.49	10	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 10.0	D	µg/l	10.0	7.43	10	"	"	"	"	"	
108-88-3	Toluene	< 10.0	D	µg/l	10.0	8.12	10	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 10.0	D	µg/l	10.0	3.76	10	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 10.0	D	µg/l	10.0	3.60	10	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 10.0	D	µg/l	10.0	7.84	10	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 10.0	D	µg/l	10.0	5.82	10	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 10.0	D	µg/l	10.0	6.42	10	"	"	"	"	"	
79-01-6	Trichloroethene	< 10.0	D	µg/l	10.0	7.55	10	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 10.0	D	µg/l	10.0	6.28	10	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 10.0	D	µg/l	10.0	7.36	10	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	473	D	µg/l	10.0	7.57	10	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	80.6	D	µg/l	10.0	7.44	10	"	"	"	"	"	
75-01-4	Vinyl chloride	< 10.0	D	µg/l	10.0	8.07	10	"	"	"	"	"	
179601-23-1	m,p-Xylene	147	D	µg/l	20.0	16.4	10	"	"	"	"	"	
95-47-6	o-Xylene	11.1	D	µg/l	10.0	8.82	10	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 20.0	D	µg/l	20.0	14.4	10	"	"	"	"	"	
60-29-7	Ethyl ether	< 10.0	D	µg/l	10.0	6.93	10	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 10.0	D	µg/l	10.0	7.19	10	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 10.0	D	µg/l	10.0	7.82	10	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 10.0	D	µg/l	10.0	7.27	10	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	132	D	µg/l	100	86.4	10	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 200	D	µg/l	200	140	10	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-buten e	< 50.0	D	µg/l	50.0	7.67	10	"	"	"	"	"	
64-17-5	Ethanol	< 4000	D	µg/l	4000	357	10	"	"	"	"	"	

Surrogate recoveries:

460-00-4	4-Bromofluorobenzene	101		70-130 %	"	"	"	"	"
2037-26-5	Toluene-d8	101		70-130 %	"	"	"	"	"
17060-07-0	1,2-Dichloroethane-d4	106		70-130 %	"	"	"	"	"
1868-53-7	Dibromofluoromethane	101		70-130 %	"	"	"	"	"

**Extractable Petroleum Hydrocarbons**Fingerprinting by GC

Prepared by method SW846 3510C

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Sample Identification

MW-2

SB75649-01

Client Project #

J50098

Matrix

Ground Water

Collection Date/Time

18-Aug-13 14:00

Received

23-Aug-13

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
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**Extractable Petroleum Hydrocarbons**

Fingerprinting by GC

Prepared by method SW846 3510C

8006-61-9	Gasoline	6.5		mg/l	0.2	0.2	1	SW846 8100Mod.	29-Aug-13	30-Aug-13	SEP	1320813
68476-30-2	Fuel Oil #2	< 0.2		mg/l	0.2	0.2	1	"	"	"	"	"
68476-31-3	Fuel Oil #4	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"
68553-00-4	Fuel Oil #6	< 0.2		mg/l	0.2	0.2	1	"	"	"	"	"
M09800000	Motor Oil	< 0.2		mg/l	0.2	0.2	1	"	"	"	"	"
8032-32-4	Ligroin	< 0.2		mg/l	0.2	0.05	1	"	"	"	"	"
J00100000	Aviation Fuel	< 0.2		mg/l	0.2	0.05	1	"	"	"	"	"
	Hydraulic Oil	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"
	Dielectric Fluid	< 0.2		mg/l	0.2	0.05	1	"	"	"	"	"
	Unidentified	< 0.2		mg/l	0.2	0.05	1	"	"	"	"	"
	Other Oil	< 0.2		mg/l	0.2	0.02	1	"	"	"	"	"
	Total Petroleum Hydrocarbons	6.5		mg/l	0.2	0.02	1	"	"	"	"	"

*Surrogate recoveries:*

3386-33-2	1-Chlorooctadecane	53			40-140 %			"	"	"	"	"
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# Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch 1320848 - SW846 5030 Water MS</b>										
<b>Blank (1320848-BLK1)</b>	<b>Prepared &amp; Analyzed: 29-Aug-13</b>									
1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00						
Acetone	< 10.0		µg/l	10.0						
Acrylonitrile	< 0.50		µg/l	0.50						
Benzene	< 1.00		µg/l	1.00						
Bromobenzene	< 1.00		µg/l	1.00						
Bromochloromethane	< 1.00		µg/l	1.00						
Bromodichloromethane	< 0.50		µg/l	0.50						
Bromoform	< 1.00		µg/l	1.00						
Bromomethane	< 2.00		µg/l	2.00						
2-Butanone (MEK)	< 10.0		µg/l	10.0						
n-Butylbenzene	< 1.00		µg/l	1.00						
sec-Butylbenzene	< 1.00		µg/l	1.00						
tert-Butylbenzene	< 1.00		µg/l	1.00						
Carbon disulfide	< 2.00		µg/l	2.00						
Carbon tetrachloride	< 1.00		µg/l	1.00						
Chlorobenzene	< 1.00		µg/l	1.00						
Chloroethane	< 2.00		µg/l	2.00						
Chloroform	< 1.00		µg/l	1.00						
Chloromethane	< 2.00		µg/l	2.00						
2-Chlorotoluene	< 1.00		µg/l	1.00						
4-Chlorotoluene	< 1.00		µg/l	1.00						
1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00						
Dibromochloromethane	< 0.50		µg/l	0.50						
1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50						
Dibromomethane	< 1.00		µg/l	1.00						
1,2-Dichlorobenzene	< 1.00		µg/l	1.00						
1,3-Dichlorobenzene	< 1.00		µg/l	1.00						
1,4-Dichlorobenzene	< 1.00		µg/l	1.00						
Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00						
1,1-Dichloroethane	< 1.00		µg/l	1.00						
1,2-Dichloroethane	< 1.00		µg/l	1.00						
1,1-Dichloroethene	< 1.00		µg/l	1.00						
cis-1,2-Dichloroethene	< 1.00		µg/l	1.00						
trans-1,2-Dichloroethene	< 1.00		µg/l	1.00						
1,2-Dichloropropane	< 1.00		µg/l	1.00						
1,3-Dichloropropane	< 1.00		µg/l	1.00						
2,2-Dichloropropane	< 1.00		µg/l	1.00						
1,1-Dichloropropene	< 1.00		µg/l	1.00						
cis-1,3-Dichloropropene	< 0.50		µg/l	0.50						
trans-1,3-Dichloropropene	< 0.50		µg/l	0.50						
Ethylbenzene	< 1.00		µg/l	1.00						
Hexachlorobutadiene	< 0.50		µg/l	0.50						
2-Hexanone (MBK)	< 10.0		µg/l	10.0						
Isopropylbenzene	< 1.00		µg/l	1.00						
4-Isopropyltoluene	< 1.00		µg/l	1.00						
Methyl tert-butyl ether	< 1.00		µg/l	1.00						
4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0						
Methylene chloride	< 2.00		µg/l	2.00						
Naphthalene	< 1.00		µg/l	1.00						
n-Propylbenzene	< 1.00		µg/l	1.00						
Styrene	< 1.00		µg/l	1.00						
1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00						

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# Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch 1320848 - SW846 5030 Water MS</b>										
<b>Blank (1320848-BLK1)</b>					<u>Prepared &amp; Analyzed: 29-Aug-13</u>					
1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50						
Tetrachloroethene	< 1.00		µg/l	1.00						
Toluene	< 1.00		µg/l	1.00						
1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00						
1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00						
1,1,1-Trichloroethane	< 1.00		µg/l	1.00						
1,1,2-Trichloroethane	< 1.00		µg/l	1.00						
Trichloroethene	< 1.00		µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00						
1,2,3-Trichloropropane	< 1.00		µg/l	1.00						
1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00						
1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00						
Vinyl chloride	< 1.00		µg/l	1.00						
m,p-Xylene	< 2.00		µg/l	2.00						
o-Xylene	< 1.00		µg/l	1.00						
Tetrahydrofuran	< 2.00		µg/l	2.00						
Ethyl ether	< 1.00		µg/l	1.00						
Tert-amyl methyl ether	< 1.00		µg/l	1.00						
Ethyl tert-butyl ether	< 1.00		µg/l	1.00						
Di-isopropyl ether	< 1.00		µg/l	1.00						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.00		µg/l	5.00						
Ethanol	< 400		µg/l	400						
Surrogate: 4-Bromofluorobenzene	48.5		µg/l		50.0		97	70-130		
Surrogate: Toluene-d8	49.5		µg/l		50.0		99	70-130		
Surrogate: 1,2-Dichloroethane-d4	56.8		µg/l		50.0		114	70-130		
Surrogate: Dibromofluoromethane	50.7		µg/l		50.0		101	70-130		
<b>LCS (1320848-BS1)</b>					<u>Prepared &amp; Analyzed: 29-Aug-13</u>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	21.0		µg/l		20.0		105	70-130		
Acetone	15.5		µg/l		20.0		77	70-130		
Acrylonitrile	23.1		µg/l		20.0		116	70-130		
Benzene	18.5		µg/l		20.0		93	70-130		
Bromobenzene	18.4		µg/l		20.0		92	70-130		
Bromochloromethane	19.1		µg/l		20.0		96	70-130		
Bromodichloromethane	18.7		µg/l		20.0		94	70-130		
Bromoform	14.8		µg/l		20.0		74	70-130		
Bromomethane	22.5		µg/l		20.0		113	70-130		
2-Butanone (MEK)	15.8		µg/l		20.0		79	70-130		
n-Butylbenzene	18.3		µg/l		20.0		91	70-130		
sec-Butylbenzene	18.2		µg/l		20.0		91	70-130		
tert-Butylbenzene	18.2		µg/l		20.0		91	70-130		
Carbon disulfide	17.5		µg/l		20.0		88	70-130		
Carbon tetrachloride	16.6		µg/l		20.0		83	70-130		
Chlorobenzene	18.5		µg/l		20.0		93	70-130		
Chloroethane	17.0		µg/l		20.0		85	70-130		
Chloroform	21.4		µg/l		20.0		107	70-130		
Chloromethane	18.9		µg/l		20.0		95	70-130		
2-Chlorotoluene	18.2		µg/l		20.0		91	70-130		
4-Chlorotoluene	18.2		µg/l		20.0		91	70-130		

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# Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch 1320848 - SW846 5030 Water MS</b>										
<b>LCS (1320848-BS1)</b>					<u>Prepared &amp; Analyzed: 29-Aug-13</u>					
1,2-Dibromo-3-chloropropane	15.1		µg/l		20.0		76	70-130		
Dibromochloromethane	17.2		µg/l		20.0		86	70-130		
1,2-Dibromoethane (EDB)	18.8		µg/l		20.0		94	70-130		
Dibromomethane	18.4		µg/l		20.0		92	70-130		
1,2-Dichlorobenzene	18.6		µg/l		20.0		93	70-130		
1,3-Dichlorobenzene	17.5		µg/l		20.0		87	70-130		
1,4-Dichlorobenzene	18.7		µg/l		20.0		94	70-130		
Dichlorodifluoromethane (Freon12)	19.6		µg/l		20.0		98	70-130		
1,1-Dichloroethane	18.7		µg/l		20.0		94	70-130		
1,2-Dichloroethane	21.6		µg/l		20.0		108	70-130		
1,1-Dichloroethene	18.7		µg/l		20.0		94	70-130		
cis-1,2-Dichloroethene	18.4		µg/l		20.0		92	70-130		
trans-1,2-Dichloroethene	18.9		µg/l		20.0		95	70-130		
1,2-Dichloropropane	19.6		µg/l		20.0		98	70-130		
1,3-Dichloropropane	21.2		µg/l		20.0		106	70-130		
2,2-Dichloropropane	20.3		µg/l		20.0		101	70-130		
1,1-Dichloropropene	18.7		µg/l		20.0		94	70-130		
cis-1,3-Dichloropropene	18.4		µg/l		20.0		92	70-130		
trans-1,3-Dichloropropene	17.0		µg/l		20.0		85	70-130		
Ethylbenzene	18.7		µg/l		20.0		94	70-130		
Hexachlorobutadiene	17.8		µg/l		20.0		89	70-130		
2-Hexanone (MBK)	16.2		µg/l		20.0		81	70-130		
Isopropylbenzene	18.7		µg/l		20.0		94	70-130		
4-Isopropyltoluene	18.7		µg/l		20.0		93	70-130		
Methyl tert-butyl ether	17.9		µg/l		20.0		90	70-130		
4-Methyl-2-pentanone (MIBK)	17.4		µg/l		20.0		87	70-130		
Methylene chloride	21.4		µg/l		20.0		107	70-130		
Naphthalene	15.5		µg/l		20.0		78	70-130		
n-Propylbenzene	18.6		µg/l		20.0		93	70-130		
Styrene	18.3		µg/l		20.0		91	70-130		
1,1,1,2-Tetrachloroethane	16.8		µg/l		20.0		84	70-130		
1,1,2,2-Tetrachloroethane	15.2		µg/l		20.0		76	70-130		
Tetrachloroethene	19.9		µg/l		20.0		100	70-130		
Toluene	18.4		µg/l		20.0		92	70-130		
1,2,3-Trichlorobenzene	13.2	QC2	µg/l		20.0		66	70-130		
1,2,4-Trichlorobenzene	12.5	QC2	µg/l		20.0		62	70-130		
1,3,5-Trichlorobenzene	16.7		µg/l		20.0		84	70-130		
1,1,1-Trichloroethane	19.3		µg/l		20.0		96	70-130		
1,1,2-Trichloroethane	19.3		µg/l		20.0		96	70-130		
Trichloroethene	19.2		µg/l		20.0		96	70-130		
Trichlorofluoromethane (Freon 11)	19.9		µg/l		20.0		100	70-130		
1,2,3-Trichloropropane	19.2		µg/l		20.0		96	70-130		
1,2,4-Trimethylbenzene	18.5		µg/l		20.0		92	70-130		
1,3,5-Trimethylbenzene	18.3		µg/l		20.0		92	70-130		
Vinyl chloride	20.2		µg/l		20.0		101	70-130		
m,p-Xylene	38.2		µg/l		40.0		96	70-130		
o-Xylene	18.9		µg/l		20.0		94	70-130		
Tetrahydrofuran	17.0		µg/l		20.0		85	70-130		
Ethyl ether	20.2		µg/l		20.0		101	70-130		
Tert-amyl methyl ether	17.2		µg/l		20.0		86	70-130		
Ethyl tert-butyl ether	17.8		µg/l		20.0		89	70-130		
Di-isopropyl ether	17.4		µg/l		20.0		87	70-130		

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# Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch 1320848 - SW846 5030 Water MS</b>										
<b>LCS (1320848-BS1)</b>					<b>Prepared &amp; Analyzed: 29-Aug-13</b>					
Tert-Butanol / butyl alcohol	144		µg/l		200		72	70-130		
1,4-Dioxane	162		µg/l		200		81	70-130		
trans-1,4-Dichloro-2-butene	14.6		µg/l		20.0		73	70-130		
Ethanol	373		µg/l		400		93	70-130		
Surrogate: 4-Bromofluorobenzene	50.0		µg/l		50.0		100	70-130		
Surrogate: Toluene-d8	50.3		µg/l		50.0		101	70-130		
Surrogate: 1,2-Dichloroethane-d4	56.3		µg/l		50.0		113	70-130		
Surrogate: Dibromofluoromethane	49.2		µg/l		50.0		98	70-130		
<b>LCS Dup (1320848-BSD1)</b>					<b>Prepared: 29-Aug-13 Analyzed: 30-Aug-13</b>					
1,1,2-Trichlorotrifluoroethane (Freon 113)	20.4		µg/l		20.0		102	70-130	3	20
Acetone	12.4	QR2	µg/l		20.0		62	70-130	22	20
Acrylonitrile	19.8		µg/l		20.0		99	70-130	15	20
Benzene	17.3		µg/l		20.0		87	70-130	7	20
Bromobenzene	19.2		µg/l		20.0		96	70-130	4	20
Bromochloromethane	18.6		µg/l		20.0		93	70-130	3	20
Bromodichloromethane	17.6		µg/l		20.0		88	70-130	6	20
Bromoform	14.8		µg/l		20.0		74	70-130	0	20
Bromomethane	21.4		µg/l		20.0		107	70-130	5	20
2-Butanone (MEK)	13.7		µg/l		20.0		69	70-130	14	20
n-Butylbenzene	17.8		µg/l		20.0		89	70-130	3	20
sec-Butylbenzene	18.8		µg/l		20.0		94	70-130	3	20
tert-Butylbenzene	18.9		µg/l		20.0		94	70-130	4	20
Carbon disulfide	17.2		µg/l		20.0		86	70-130	2	20
Carbon tetrachloride	17.3		µg/l		20.0		86	70-130	4	20
Chlorobenzene	18.8		µg/l		20.0		94	70-130	1	20
Chloroethane	17.0		µg/l		20.0		85	70-130	0.3	20
Chloroform	19.7		µg/l		20.0		98	70-130	8	20
Chloromethane	18.2		µg/l		20.0		91	70-130	4	20
2-Chlorotoluene	18.0		µg/l		20.0		90	70-130	0.8	20
4-Chlorotoluene	17.9		µg/l		20.0		89	70-130	2	20
1,2-Dibromo-3-chloropropane	12.7	QM9	µg/l		20.0		64	70-130	18	20
Dibromochloromethane	16.6		µg/l		20.0		83	70-130	3	20
1,2-Dibromoethane (EDB)	17.9		µg/l		20.0		90	70-130	5	20
Dibromomethane	17.3		µg/l		20.0		87	70-130	6	20
1,2-Dichlorobenzene	18.5		µg/l		20.0		92	70-130	0.5	20
1,3-Dichlorobenzene	18.6		µg/l		20.0		93	70-130	6	20
1,4-Dichlorobenzene	18.4		µg/l		20.0		92	70-130	1	20
Dichlorodifluoromethane (Freon12)	19.1		µg/l		20.0		96	70-130	2	20
1,1-Dichloroethane	17.4		µg/l		20.0		87	70-130	7	20
1,2-Dichloroethane	19.5		µg/l		20.0		97	70-130	11	20
1,1-Dichloroethene	18.5		µg/l		20.0		92	70-130	1	20
cis-1,2-Dichloroethene	17.9		µg/l		20.0		90	70-130	2	20
trans-1,2-Dichloroethene	18.5		µg/l		20.0		92	70-130	3	20
1,2-Dichloropropane	17.0		µg/l		20.0		85	70-130	14	20
1,3-Dichloropropane	19.0		µg/l		20.0		95	70-130	11	20
2,2-Dichloropropane	20.0		µg/l		20.0		100	70-130	1	20
1,1-Dichloropropene	18.5		µg/l		20.0		92	70-130	1	20
cis-1,3-Dichloropropene	16.8		µg/l		20.0		84	70-130	9	20
trans-1,3-Dichloropropene	15.3		µg/l		20.0		77	70-130	10	20
Ethylbenzene	18.8		µg/l		20.0		94	70-130	0.3	20
Hexachlorobutadiene	18.9		µg/l		20.0		95	70-130	6	20

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# Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch 1320848 - SW846 5030 Water MS</b>										
<b>LCS Dup (1320848-BSD1)</b>					Prepared: 29-Aug-13 Analyzed: 30-Aug-13					
2-Hexanone (MBK)	14.8		µg/l		20.0		74	70-130	9	20
Isopropylbenzene	19.2		µg/l		20.0		96	70-130	3	20
4-Isopropyltoluene	18.4		µg/l		20.0		92	70-130	2	20
Methyl tert-butyl ether	16.3		µg/l		20.0		82	70-130	9	20
4-Methyl-2-pentanone (MIBK)	14.9		µg/l		20.0		75	70-130	16	20
Methylene chloride	19.0		µg/l		20.0		95	70-130	12	20
Naphthalene	14.8		µg/l		20.0		74	70-130	5	20
n-Propylbenzene	18.7		µg/l		20.0		94	70-130	1	20
Styrene	18.4		µg/l		20.0		92	70-130	0.9	20
1,1,1,2-Tetrachloroethane	16.7		µg/l		20.0		84	70-130	0.4	20
1,1,2,2-Tetrachloroethane	14.1		µg/l		20.0		71	70-130	7	20
Tetrachloroethene	20.5		µg/l		20.0		103	70-130	3	20
Toluene	18.4		µg/l		20.0		92	70-130	0.2	20
1,2,3-Trichlorobenzene	12.8	QC2	µg/l		20.0		64	70-130	3	20
1,2,4-Trichlorobenzene	12.9	QC2	µg/l		20.0		64	70-130	3	20
1,3,5-Trichlorobenzene	16.9		µg/l		20.0		84	70-130	1	20
1,1,1-Trichloroethane	18.2		µg/l		20.0		91	70-130	6	20
1,1,2-Trichloroethane	17.9		µg/l		20.0		90	70-130	7	20
Trichloroethene	16.7		µg/l		20.0		83	70-130	14	20
Trichlorofluoromethane (Freon 11)	19.5		µg/l		20.0		98	70-130	2	20
1,2,3-Trichloropropane	16.3		µg/l		20.0		81	70-130	17	20
1,2,4-Trimethylbenzene	18.4		µg/l		20.0		92	70-130	0.7	20
1,3,5-Trimethylbenzene	18.7		µg/l		20.0		94	70-130	2	20
Vinyl chloride	19.6		µg/l		20.0		98	70-130	3	20
m,p-Xylene	38.6		µg/l		40.0		96	70-130	1	20
o-Xylene	19.6		µg/l		20.0		98	70-130	4	20
Tetrahydrofuran	14.8		µg/l		20.0		74	70-130	14	20
Ethyl ether	18.1		µg/l		20.0		90	70-130	11	20
Tert-amyl methyl ether	16.1		µg/l		20.0		81	70-130	7	20
Ethyl tert-butyl ether	16.4		µg/l		20.0		82	70-130	8	20
Di-isopropyl ether	15.9		µg/l		20.0		80	70-130	9	20
Tert-Butanol / butyl alcohol	159		µg/l		200		80	70-130	10	20
1,4-Dioxane	148		µg/l		200		74	70-130	9	20
trans-1,4-Dichloro-2-butene	13.8	QM9	µg/l		20.0		69	70-130	5	20
Ethanol	357		µg/l		400		89	70-130	5	20
Surrogate: 4-Bromofluorobenzene	50.6		µg/l		50.0		101	70-130		
Surrogate: Toluene-d8	50.3		µg/l		50.0		101	70-130		
Surrogate: 1,2-Dichloroethane-d4	52.1		µg/l		50.0		104	70-130		
Surrogate: Dibromofluoromethane	49.6		µg/l		50.0		99	70-130		

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# Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch 1320813 - SW846 3510C</b>										
<b>Blank (1320813-BLK1)</b>					Prepared: 29-Aug-13 Analyzed: 30-Aug-13					
Gasoline	< 0.2		mg/l	0.2						
Fuel Oil #2	< 0.2		mg/l	0.2						
Fuel Oil #4	< 0.2		mg/l	0.2						
Fuel Oil #6	< 0.2		mg/l	0.2						
Motor Oil	< 0.2		mg/l	0.2						
Ligroin	< 0.2		mg/l	0.2						
Aviation Fuel	< 0.2		mg/l	0.2						
Hydraulic Oil	< 0.2		mg/l	0.2						
Dielectric Fluid	< 0.2		mg/l	0.2						
Unidentified	< 0.2		mg/l	0.2						
Other Oil	< 0.2		mg/l	0.2						
Total Petroleum Hydrocarbons	< 0.2		mg/l	0.2						
Surrogate: 1-Chlorooctadecane	0.0417		mg/l		0.0500		83	40-140		
<b>LCS (1320813-BS2)</b>					Prepared: 29-Aug-13 Analyzed: 30-Aug-13					
Fuel Oil #2	9.7		mg/l	0.2	10.0		97	40-140		
Surrogate: 1-Chlorooctadecane	0.0518		mg/l		0.0500		104	40-140		

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## Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

### Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

- Gasoline - includes regular, unleaded, premium, etc.
- Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
- Fuel Oil #4 - includes #4 fuel oil
- Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
- Motor Oil - includes virgin and waste automobile oil
- Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
- Aviation Fuel - includes kerosene, Jet A and JP-4
- Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as Calculated as.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:  
Kimberly Wisk

# CHAIN OF CUSTODY RECORD

Page 1 of 1

- Special Handling:**
- ☐ Standard TAT - 7 to 10 business days
  - ☒ Rush TAT - Date Needed: 8-30-13
  - ☐ All TATs subject to laboratory approval.
  - ☐ Min. 24-hour notification needed for rushes.
  - ☐ Samples disposed of after 60 days unless otherwise instructed.

Report To: ELS - Worcester

Invoice To: CFI

Project No.: JS0098

Site Name: Lexington

Location: 324 Mallett Rd, Lexington State: MA

Telephone #: 508-756-0150

P.O. No.: Please call PM RON: Same

Sampler(s): A, Kaczmarek

Project Mgr: Aaron Kaczmarek

List preservative code below:

QA/QC Reporting Notes:  
\* additional charges may apply

1=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> 2=HCl 3=H<sub>2</sub>SO<sub>4</sub> 4=HNO<sub>3</sub> 5=NaOH 6=Ascorbic Acid 7=CH<sub>3</sub>OH  
8=NaHSO<sub>4</sub> 9=Deionized Water 10=H<sub>3</sub>PO<sub>4</sub> 11=  
DW=Drinking Water GW=Groundwater WW=Wastewater  
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air  
X1= X2= X3=

G=Grab C=Composite

Lab Id: Sample Id: Date: Time: Type

Matrix  
# of VOA Vials  
# of Amber Glass  
# of Clear Glass  
# of Plastic

Containers:

Analyses:

MA DEP MCP CAM Report: Yes ☒ No ☐  
CT DPH RCP Report: Yes ☐ No ☐  
QA/QC Reporting Level  
☒ Standard ☐ No QC ☐ DOA\*  
☐ NY ASP A\* ☐ NY ASP B\*  
☐ NJ Reduced\* ☐ NJ Full\*  
☐ TIER II\* ☐ TIER IV\*  
☐ Other  
State-specific reporting standards:

30750494 MW-2 8-18-13 2:00 G 60 3 1

X 820, TAME, TBA  
X TPH by GL  
X TSS  
X Total Lead to  
X Upper Stream  
X State Character

Cancelled per AK  
8/23/13

Relinquished by: Received by:

Date: Time: Temp °C

Condition upon receipt:

☐ Ambient ☐ Ice ☒ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Carla Kaczmarek David 8/23/13 9:15 8-23-13 15:30

☐ EDD Format  
☒ E-mail to akaczmarek@elscom30.com

3/1/03 IR 01

30750494.44



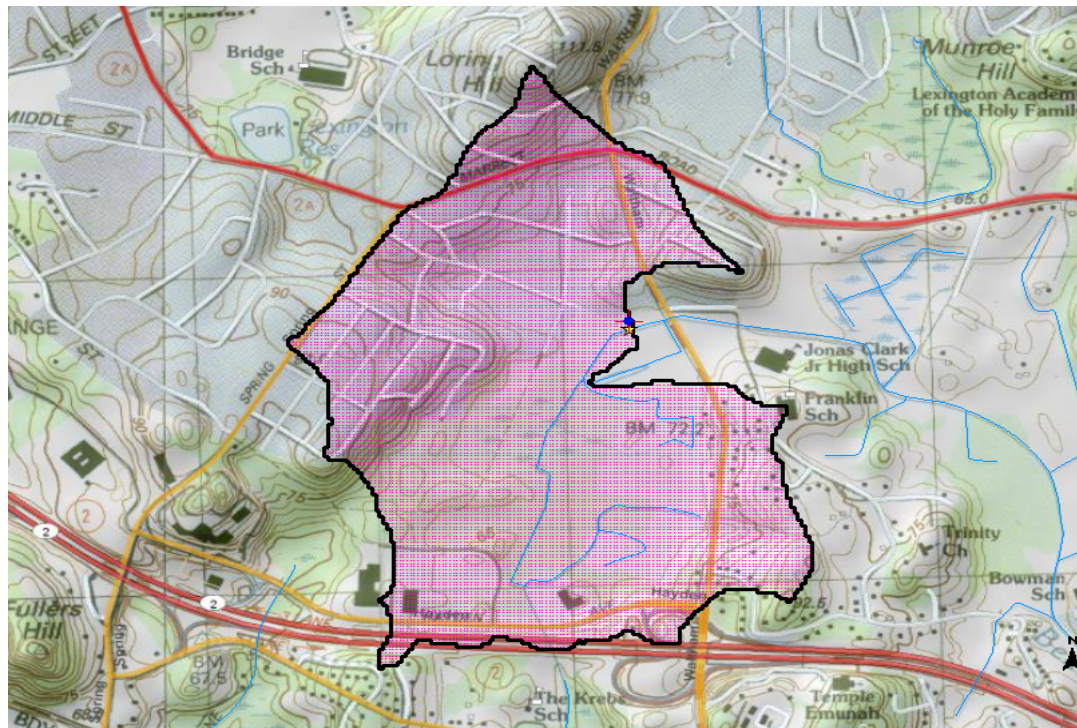


## **ATTACHMENT III**

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## StreamStats Print Page

**Explanation**

- ◆ NHDHGage
- ◆ NHDHDam
- ▲ Gaging Station, Continuous Record
- ▲ Low Flow, Partial Record
- ▲ Peak Flow, Partial Record
- ▲ Peak and Low Flow, Partial Record
- ▲ Stage Only
- ▲ Low Flow, Partial Record, Stage
- ▲ Miscellaneous Record
- ▲ Unknown
- ★ GlobalWatershedPoint
- Dendritic Stream Network
- ▭ GlobalWatershed
- ⊗ Excludepoly

9/24/2013 7:08:30 AM



## Massachusetts StreamStats

### Streamstats Ungaged Site Report

Date: Tue Sep 24 2013 07:07:36 Mountain Daylight Time

Site Location: Massachusetts

NAD27 Latitude: 42.4307 (42 25 51)

NAD27 Longitude: -71.2345 (-71 14 04)

NAD83 Latitude: 42.4308 (42 25 51)

NAD83 Longitude: -71.2340 (-71 14 03)

ReachCode: 01090001022257

Measure: 30.66

Drainage Area: 0.59 mi<sup>2</sup>

Percent Urban: 59.2 %

Percent Impervious: 19.4 %

Low Flows Basin Characteristics			
100% Statewide Low Flow (0.59 mi <sup>2</sup> )			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	0.59 (below min value 1.61)	1.61	149
Mean Basin Slope from 250K DEM (percent)	1.31	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.12	0	1.29
Massachusetts Region (dimensionless)	0	0	1

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Probability of Perennial Flow Basin Characteristics			
100% Perennial Flow Probability (0.59 mi <sup>2</sup> )			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	0.59	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	31.59	0	100
Percent Forest (percent)	34.29	0	100
Massachusetts Region (dimensionless)	0	0	1

Low Flows Streamflow Statistics					
Statistic	Flow (ft <sup>3</sup> /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
D50	0.56				
D60	0.36				
D70	0.2				
D75	0.15				
D80	0.11				
D85	0.0715				
D90	0.0466				
D95	0.0236				
D98	0.015				
D99	0.0102				
M7D2Y	0.028				
AUGD50	0.0802				
M7D10Y	0.0083				

The equation for estimating the probability of perennial flow is applicable for most areas of Massachusetts except eastern Buzzards Bay, Cape Cod, and the Island regions. The estimate obtained from the equation assumes natural flow conditions at the site. The equation also is best used for sites with drainage areas between 0.01 to 1.99 mi<sup>2</sup>, as errors beyond for basins beyond these bounds are unknown.

Probability of Perennial Flow Statistics		
Statistic	Value	Standard Error (percent)
PROBPEREN	0.86	0.3

## **ATTACHMENT IV**

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# MassDEP - Bureau of Waste Site Cleanup

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

**Site Information:**

CFI - #1286  
324 MARRETT ROAD LEXINGTON, MA

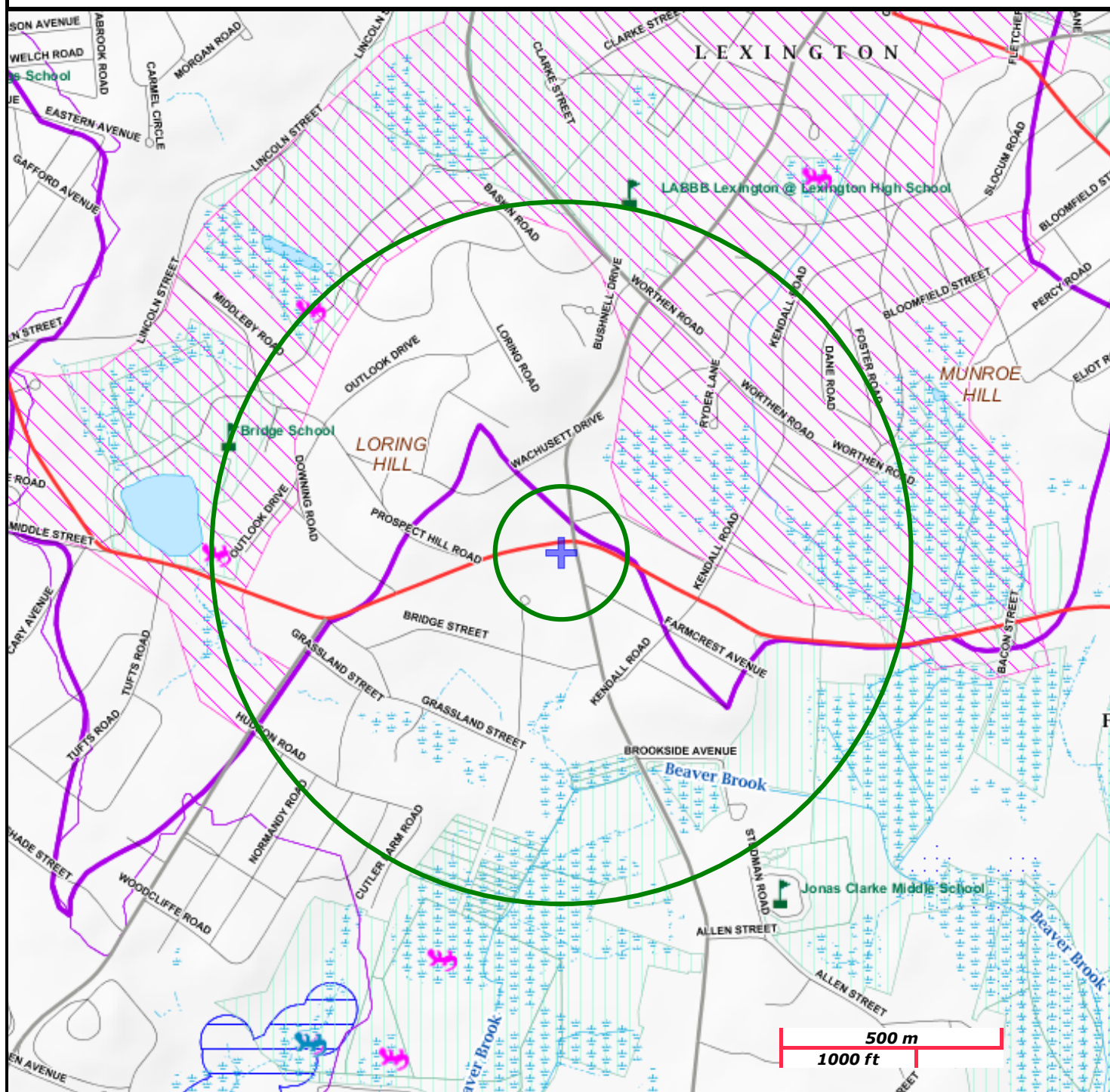
NAD83 UTM Meters:  
4700567mN , 316166mE (Zone: 19)  
September 24, 2013

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



# MassDEP

Commonwealth of Massachusetts  
Department of Environmental Protection



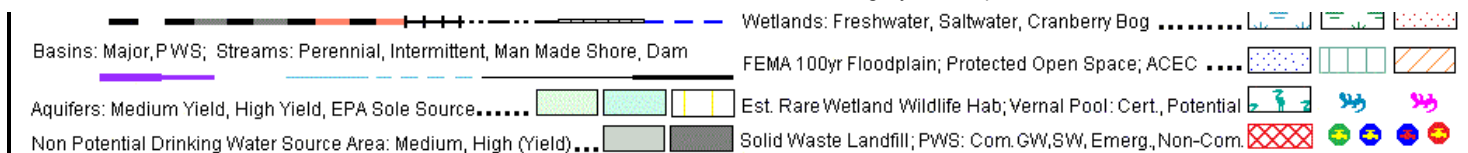
Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat





## **ATTACHMENT V**

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# Massachusetts Cultural Resource Information System

## MACRIS

### MACRIS Search Results

Search Criteria: Town(s): Lexington; Street Name: Marrett;

Inv. No.	Property Name	Street	Town	Year
LEX.515	Bryant, Josiah House	8 Marrett Rd	Lexington	1805
LEX.516	Museum of Our National Heritage	33 Marrett Rd	Lexington	1974
LEX.610	Tower, Richard Gleason House	33 Marrett Rd	Lexington	1905
LEX.611	Tower, William Augustus Carriage House	33 Marrett Rd	Lexington	1905
LEX.1084	Mongeon, Dr. Louis House	64 Marrett Rd	Lexington	1909
LEX.1085	Moulton, Fred House	80 Marrett Rd	Lexington	1909
LEX.1086	Moulton, Fred Garage	80 Marrett Rd	Lexington	1909
LEX.583	Cotton, Henry Ward Beecher House	123 Marrett Rd	Lexington	1805
LEX.584	Randolph, W. B. House	162 Marrett Rd	Lexington	1850
LEX.585	Bridge, Abel Elijah - Patch, Franklin House	212 Marrett Rd	Lexington	1850
LEX.641	Wellington, Jonas C. - Copeland, Robert M. House	241 Marrett Rd	Lexington	1850
LEX.1087	Bridge, Matthew - Kendall, Francis P. Barn	259 Marrett Rd	Lexington	1850
LEX.586	Bridge, Matthew House	271 Marrett Rd	Lexington	1700
LEX.1597	Partridge, Ashley House	274 Marrett Rd	Lexington	1928
LEX.1088	Hinckley, William House	335 Marrett Rd	Lexington	1910
LEX.1598		360 Marrett Rd	Lexington	1920
LEX.1599		364 Marrett Rd	Lexington	1920
LEX.1600	Stanton, John J. House	366 Marrett Rd	Lexington	1925
LEX.1601	Payson, Edward S. House	399 Marrett Rd	Lexington	1907
LEX.642	Wellington, Walter House	410 Marrett Rd	Lexington	1860
LEX.587	Bridge, Joseph House	419 Marrett Rd	Lexington	1722
LEX.588	Wellington, Horatio - Fuller, George G. House	445 Marrett Rd	Lexington	1840
LEX.932	Whittemore - Muzzey Stone Walls	Marrett St	Lexington	
LEX.618	Whittemore, Jacob House	21 Marrett St	Lexington	1745
LEX.937	Whittemore, Jacob Well	21 Marrett St	Lexington	
LEX.1536	Hargrove Barn	21 Marrett St	Lexington	1850

Monday, September 23, 2013

# Massachusetts Cultural Resource Information System

## MACRIS

### MACRIS Search Results

Search Criteria: Town(s): Lexington; Street Name: Waltham;

Inv. No.	Property Name	Street	Town	Year
LEX.23		15-17 Waltham St	Lexington	1800
LEX.19	Holmes, Dr. Howland Barn	20 Waltham St	Lexington	1851
LEX.43		27 Waltham St	Lexington	
LEX.46		36 Waltham St	Lexington	1965
LEX.44	Manhattan Building	41-47 Waltham St	Lexington	1956
LEX.20	Whitcher, Bradley C. House	52 Waltham St	Lexington	1895
LEX.22	Brown, Elijah - Thurston, George House	55 Waltham St	Lexington	1850
LEX.21	Richardson, Aaron Parker House	72 Waltham St	Lexington	1865
LEX.45	New England Telephone and Telegraph Company Office	73 Waltham St	Lexington	1954
LEX.449	Spaulding, Albert G. House	82 Waltham St	Lexington	1870
LEX.450	Reed, Hammon House	87 Waltham St	Lexington	1870
LEX.451	O'Brien, Martin House	113 Waltham St	Lexington	1860
LEX.452	Hodgeman, J. E. House	125 Waltham St	Lexington	1873
LEX.453	Fairchild, Camille Carriage House	177 Waltham St	Lexington	1895
LEX.454	Gould, Henry T. House	182 Waltham St	Lexington	1895
LEX.455	Peabody, Frank House	183 Waltham St	Lexington	1895
LEX.456	Scott, John T. House	188 Waltham St	Lexington	1895
LEX.457	Tuttle, Herbert Alnsworth House	191 Waltham St	Lexington	1894
LEX.458	Miswell, Charles Henry House	194 Waltham St	Lexington	1897
LEX.459	Kershaw, George E. House	201 Waltham St	Lexington	1904
LEX.460	Muliken, Emery Abbot House	221-223 Waltham St	Lexington	1857
LEX.461	Scott, Augustus Elwin House	277 Waltham St	Lexington	1891
LEX.1139	Smith, William H. House	346 Waltham St	Lexington	1924
LEX.1140	Schwalm, William House	439 Waltham St	Lexington	1926
LEX.1141	Kendall, F. P. Barn	462 Waltham St	Lexington	1875
LEX.577	Messerlis House	609 Waltham St	Lexington	1895

Monday, September 23, 2013

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Inv. No.	Property Name	Street	Town	Year
LEX.614	Messerlis Barn	609 Waltham St	Lexington	1895
LEX.578	Condinno, Jesse House	610 Waltham St	Lexington	1910
LEX.576	Bullock, A. House	673 Waltham St	Lexington	1875
LEX.575		759 Waltham St	Lexington	1915
LEX.574	Smith, Ebenezer R. House	945 Waltham St	Lexington	1829
LEX.573	O'Brien, Martin House	990 Waltham St	Lexington	1895