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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

SEP 11 2014

Shawn D. Rising
Senior Project Manager
Environmental Compliance Services, Inc.
588 Silver Street
Agawam, MA 01001

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. O'Connell Oil Shell Gasoline Station site located at 3086 South Main Street, Bondsville (Palmer), MA 01069, Hampden County; Authorization # MAG910638

Dear Mr. Rising:

Based on the review of your Notice of Intent (NOI) submittal representing Environmental Compliance Services, Inc., on behalf of O'Connell Oil Associates, Inc. for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the designated Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

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

Please note the enclosed checklist includes parameters that exceeded Appendix III limits.

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on a dilution factor range (DFR), due to the ample dilution at the point of discharge (202.5) the DFR applicable for this pollutant is within a dilution range greater than one hundred (>100) established in the RGP. (See the RGP Appendix IV for Massachusetts facilities). Therefore, the limit for lead of 132 ug/L and iron of 5,000 ug/L, shall not be exceeded in the discharge.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on September 22, 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, if you have any questions.

Sincerely,

Thelma Murphy

Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Rudy Pisarczyk, (Bondsville) Palmer PWD

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910638**
Authorization Issued:	September, 2014
Facility/Site Name:	O'Connel Oil Gasoline Station
Facility/Site Address:	3086 South Main Street, Bondsville, a district of Palmer, MA 01069, Hampden County.
	Email address of owner: jsobon@oconnelloil.com
Legal Name of Operator:	Environmental Compliance Services, Inc.
Operator contact name, title, and Address:	Shawn Rising, LSP/Senior Project Manager
	Email: srising@ecsconsultant.com
Estimated date of the site's Completion:	September/08/2214
Category and Sub-Category:	Petroleum Related Site Remediation. Subcategory A. Gasoline Only Sites
RGP Termination Date:	September 10, 2015
Receiving Water:	Swift River

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

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

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

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

	Metal parameter	Total Recoverable MA/Metal Limit H [10] = 50 mg/l CaCO3, Units = ug/l [(11/12)] Freshwater Limits		Minimum level=ML	
	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 **	132		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	5,000		ML	20

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

Footnotes:

[1] Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).
[2] Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.
[3] Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).
[4] BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.
[5] Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.
[6] The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[7] Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
[8] In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Aroclor analyses."Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[9]Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).
[10] Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.
[11] For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using DF x 1,000ug/L (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit =1,000 x 2 =2,000 ug/L., etc. not to exceed the DF=5.
[12] Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).
[13] pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.
[14] Temperature sampling per Method 170.1

ENVIRONMENTAL COMPLIANCE SERVICES, INC.

588 Silver Street, Agawam, MA 01001 tel 413. 789.3530 fax 413.789.2776 www.ecsconsult.com

Mr. Victor Alvarez
U.S. Environmental Protection Agency
EPA – Region 1
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, MA 02109-3912

August 19, 2014
Project No. 204373
Document No. 43468

Attn: Remediation General Permit NOI Processing

RE: Remediation General Permit Notice of Intent
Shell-Branded Gasoline Service Station
3086 South Main Street
Bondsville, Massachusetts

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 O'Connell Oil Associates, Inc. for the above-referenced location (the "Site"). The Site consists of 1.55 acres of land improved with a 3,540-square foot convenience store, three gasoline underground storage tanks (USTs), a fuel dispensing area, a shed, and asphalt parking areas. The existing USTs and fuel dispensers are located on the central portion of the Site. The proposed gasoline USTs to be installed in September 2014 will be located to the southwest of the existing tank field.

The NOI is being submitted in order to obtain a permit for the discharge of treated groundwater to surface water. Dewatering activities and corresponding treatment of such using a temporary groundwater treatment system (GWTS) is necessary to depress the groundwater table at the Site during removal and replacement of the gasoline USTs. A Site Locus is provided as **Figure 1** and a Site Plan is provided as **Figure 2**.

System Design

The GWTS located on the Site will consist of electric submersible pumps which will pump groundwater from temporary dewatering wells set within the two excavation areas to two 21,000-gallon fractation (frac) tanks. Recovered groundwater will be pumped from the frac tanks through bag filters to remove particulates and then through two 500-pound liquid phase granular activated carbon (LGAC) units plumbed in series. The treated groundwater will discharge via a storm drain located at the northern edge of the site. The results of a dye test performed by the Palmer, MA Department of Public Works on July 31, 2014 indicated that this storm drain discharges to the Swift River, which is located approximately 600 feet west of the site. It is anticipated that the work will require excavation dewatering for approximately 7 to 10 days.

The average flow rate of the discharge of treated groundwater from the system to the storm water line is expected to be approximately 50 gallons per minute (gpm). The pumping capacity of the GWTS is 75 gpm based on the design capacity of the submersible pumps.

A process and instrumentation diagram (P&ID) of the dewatering system is provided as **Figure 3**. A dewatering discharge location plan with existing features is provided as **Figure 4**. The A copy of the NOI form is provided as **Attachment I.**

Influent Sample Analysis

Groundwater samples were collected from four tank pad observation wells around the existing gasoline USTs (TP-North, TP-East, TP-South and TP-West) on August 4 and 5, 2014 to evaluate groundwater quality. The samples were submitted to Spectrum Analytical, Inc. of Agawam, Massachusetts under chain of custody protocol for analysis volatile organic compounds (VOCs) by USEPA Method 8260C, total petroleum hydrocarbons (TPH) by USEPA Method 1664, ethylene dibromide (EDB) by USEPA Method 504.1, total iron and total lead by USEPA Method 200.7, and total suspended solids by SM2540D. A copy of the laboratory analytical reports are provided as **Attachment II**.

The attached **Table 1** summarizes the results of analysis of the groundwater sampling. Acetone, benzene, n-butylbenzene, ethylbenzene, isopropylbenzene, methyl tert-butyl ether (MtBE), naphthalene, n-propylbenzene, toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, m,p-xylene, o-xylene, ethyl tert-butyl ether, tert-butanol (TBA), total iron, total lead, and total suspended solids (TSS) were detected in the groundwater samples collected from tank pad wells TP-North, TP-East, TP-South and/or TP-West. Comparison of the concentrations of these compounds to the Appendix III effluent limitations for Category I – Petroleum Related Site Remediation, Sub Category A – Gasoline Sites Only (http://www.epa.gov/ne/npdes/remediation/RGP2010_PermitAppendixIII.pdf) indicates that the concentrations of TSS at all four samples exceeded the monthly average, and the concentrations of benzene, MtBE and TBA exceed the daily maximum level in the sample collected from TP-North. Note that these groundwater samples were collected via bailer sampling methods, and therefore are representative of unfiltered/untreated groundwater conditions.

Receiving Waters Information

The receiving water for the treated groundwater discharge is the Swift River, located approximately 600 feet west of the site. ECS consulted the online United States Geological Survey (USGS) Streamstats program (http://streamstatsags.cr.usgs.gov/gages/viewer15.htm?stabbr=GAGES) to determine the 7Q10 flow rate at the discharge location. The nearest stream gauge location with respect to the discharge point is Station No. 01175500 (located at 42.26797N, -72.3328W) at the Swift River in West Ware, MA. Data obtained from the online resource indicates that the calculated 7Q10 flow rate for this basin is 33.7 cubic feet per second (cfs). A copy of the Streamstats map and Streamstats gauging station report is provided as **Attachment III**.

Based on an estimated maximum flow rate of the discharge from the groundwater treatment system of 75 gpm, the dilution factor was calculated as 202.5. Details are provided below:

Equation 1: DF = (Qd + Qs)/Qd

Where: DF = Dilution Factor
Qd = Maximum flow rate of the discharge in cfs
Qs = Receiving water 7Q10 flow (cfs), where,
7Q10 = The minimum flow (cfs) for 7 consecutive days with a recurrence interval of 10 years

Qd = 75 gpm x 0.00223 cfs/gpm = 0.16725 cfs
DF = (0.16725 + 33.7)/(0.16725)

DF = 202.5

The concentrations of total iron and lead in the untreated groundwater samples collected at the site on August 4 and 5, 2014 were compared to a dilution factor of 202.5 (>100) in the Appendix IV table. The discharge limits listed in the Appendix IV table are 132 micrograms per liter (µg/L) for lead and 5,000 µg/L for iron. The concentrations of total lead in the four groundwater samples collected at the site ranged from 0.139 to 0.113 milligrams per liter (mg/L), or 13.9 to 113 µg/L, therefore, total lead should not be subject to monitoring requirements. The concentrations of total iron in the four groundwater samples collected at the site ranged from 65.6 to 149 mg/L, or 65,600 to 149,000 µg/L, which exceeds the total iron discharge limit of 5,000 µg/L. Therefore, iron should be subject to monitoring requirements.

Receiving Water Classification

According to 310 CMR 4.06, the portion of the Swift River from Winsor Dam at the Quabbin Reservoir to its confluence with the Ware River is designated as a Class B water due to cold water.

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

According to Massachusetts Geographic Information Systems (MassGIS) online maps (http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm) 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 work area or at the proposed groundwater discharge location. The closest NHESP Priority Habitat of Rare Species is located approximately 4,000 feet west of the site and the proposed discharge area at the Swift River. A copy of the MassGIS NHESP map is provided as **Attachment IV.** MassGIS maps (http://maps.massgis.state.ma.us/map_ol/acecs.php) do not depict any Areas of Critical Environmental Concern on the site or within one mile of the site.

Review of National Register of Historic Places

A listing of all Historic Places within the Town of Palmer (which includes Bondsville) was obtained from the Massachusetts Cultural Resources Information System (MACRIS) online database at (http://mhc-macris.net/) on August 5, 2014. A copy of the MACRIS report for South Main Street and Pine Street is provided as **Attachment V**. The database indicates that several historic places are located in the vicinity

of the site. The project does involve new construction and the demolition or rehabilitation of existing structures. However historic properties are not affected by the discharge or identified in the path of the discharges regulated by this permit, and are not identified where installation or construction of treatment systems or best management practices to control such discharges are planned.

Copies of this letter and supporting documentation have been forwarded to the to Mr. James Sobon of O'Connell Oil Associates, to Mr. Kenneth Lord of the Town of Palmer Department of Public Works, and to the Town of Palmer Conservation Commission.

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 413-789-3530.

Sincerely,
ENVIRONMENTAL COMPLIANCE SERVICES, INC.

Shawn D. Rising, LSP
Senior Project Manager

SDR/es

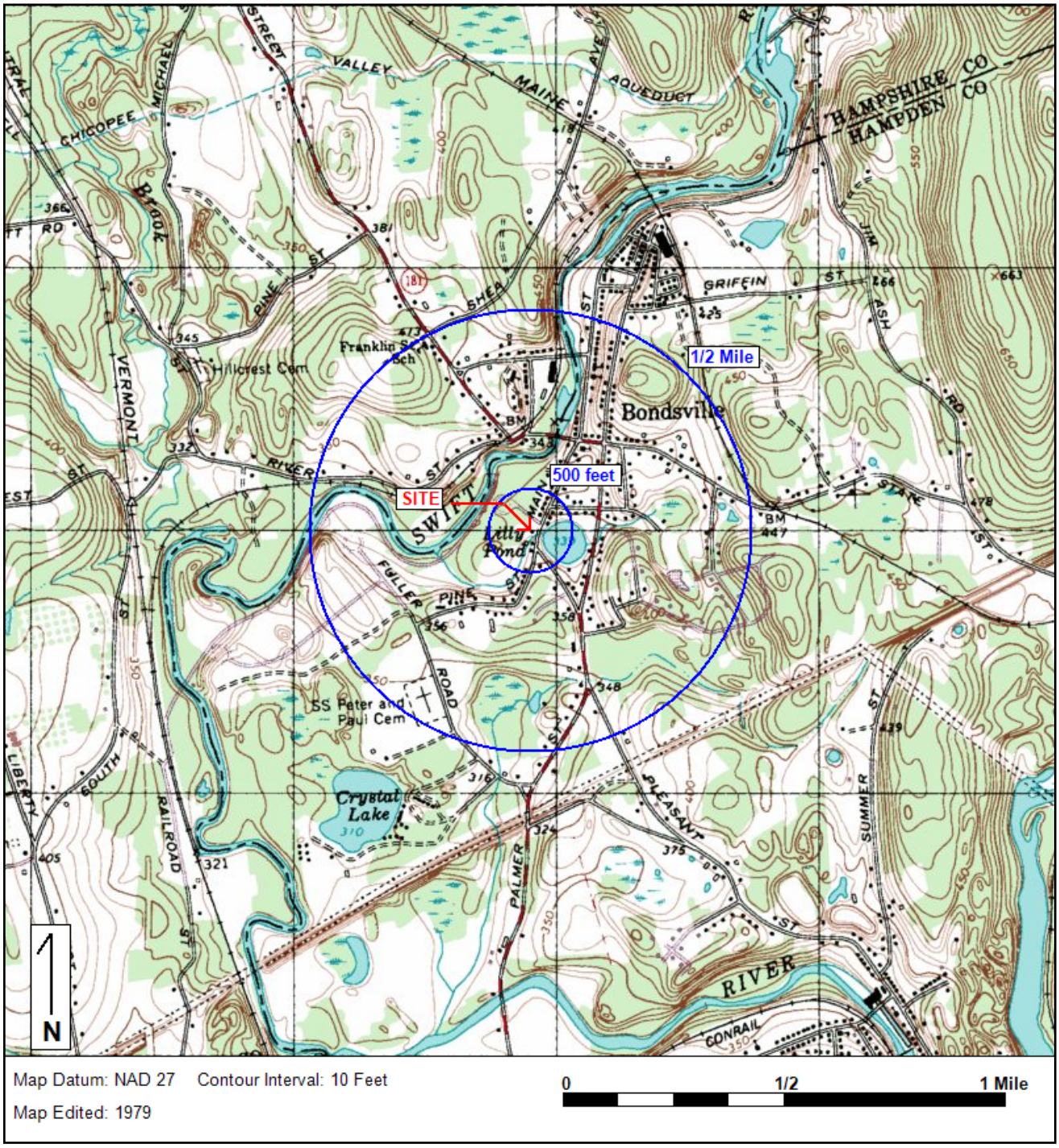
Attachments

FIGURES

Environmental Compliance Services, Inc.
588 Silver Street
Agawam, MA 01001
Phone 413.789.3530 Fax 413.789.2776
www.ecsconsult.com

O'Connell Oil Associates, Inc.
3086 South Main Street
Bondsville, MA 01009

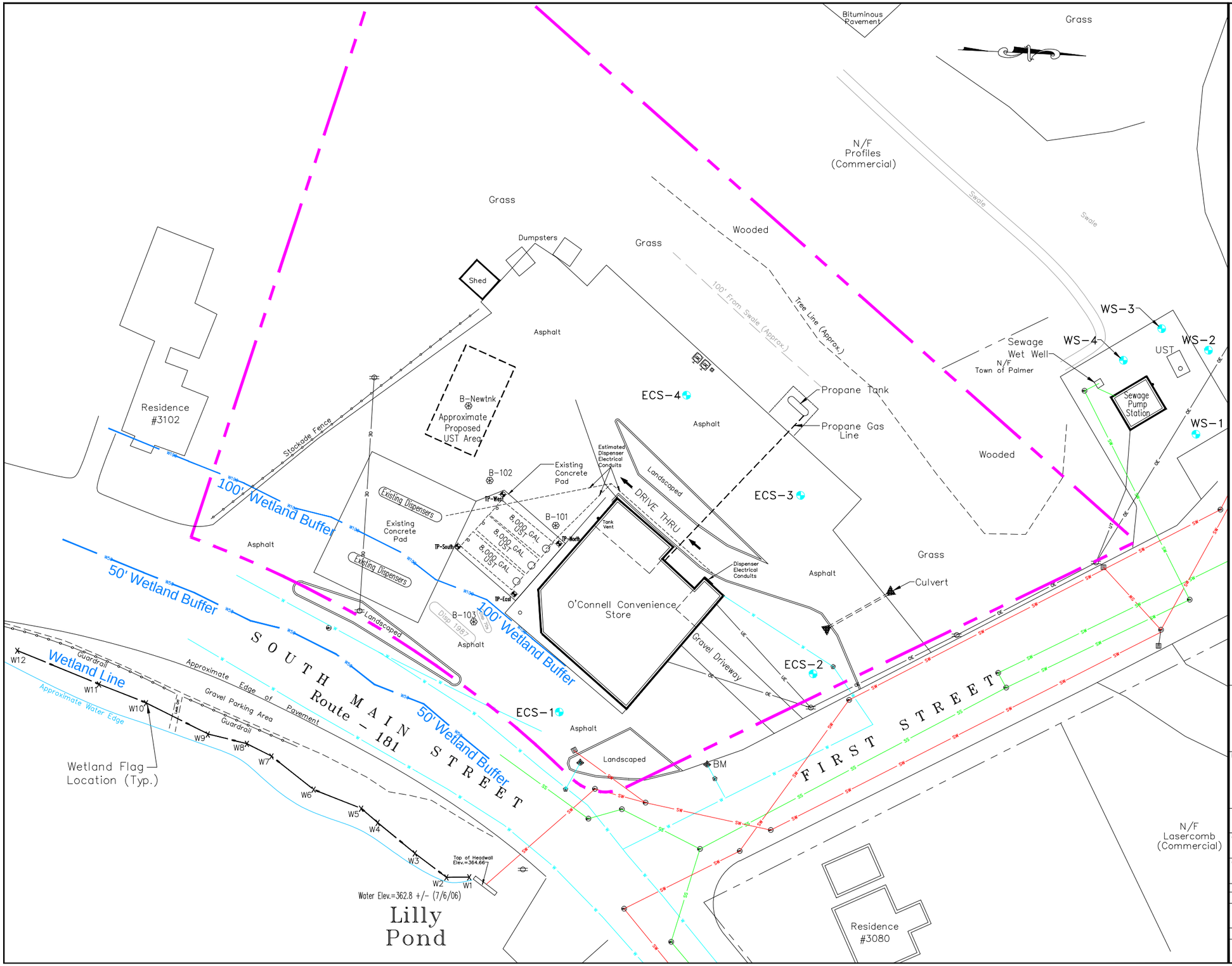
Figure 1: SITE LOCUS



Base Map: U.S. Geological Survey; Quadrangle Location: Palmer, MA

Lat/Lon: 42 12' 27.3" NORTH, 72 20' 52.4" WEST - UTM Coordinates: 18 718934 EAST / 4676231 NORTH

Generated By: Rick Starodoj



Legend

- Approximate Property Line
- SS — Sanitary Sewer Line
- SW — Storm Sewer Line
- W — Water Line
- NG — Natural Gas Line
- OE — Overhead Electric Line
- MH — Manhole
- Catchbasin
- Water Gate
- Fire Hydrant
- Utility Pole
- Soil Boring
- Monitoring Well
- ECS-1 — Well I.D.

General Notes:

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

Wetland delineation by ECS on 4/3/14.

ecs
588 Silver Street * Agawam, MA 01001
Phone: 1-800-789-3530 Fax: 413-789-2776

PROJECT:
O'Connell Oil, Inc.
3086 South Main Street
Bondsville, Massachusetts

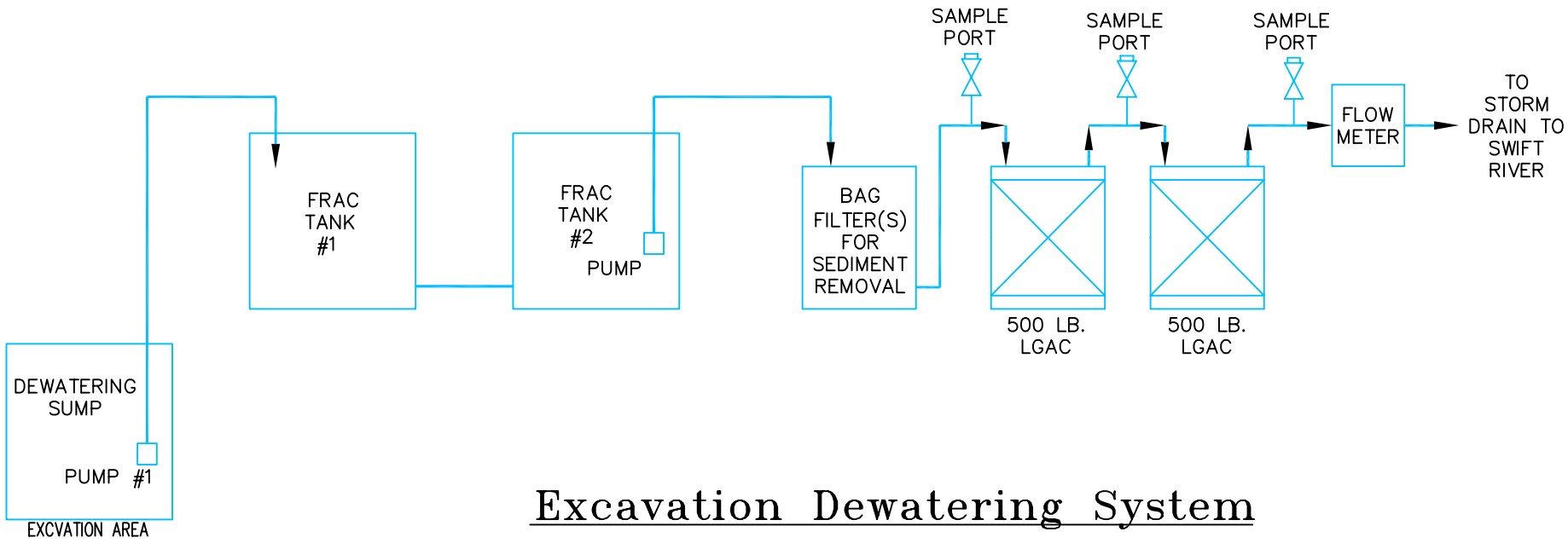
TITLE:
Site Plan

CLIENT:
O'Connell Oil, Inc.

GRAPHIC SCALE: 40 20 0 20 40

COMPUTER CADFILE : 204373SP.DWG

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
RRW/RAS	TB/SR	SR	TB
SCALE:	**DATE:**	**JOB NO.:**	**FIGURE NO.:**
1" = 40'	5/1/14	204373	2



Excavation Dewatering System

ecs
588 Silver Street * Agawam, MA 01001
Phone: 800-780-3530 Fax: 413-789-3530
www.ecsconsult.com

REVISIONS

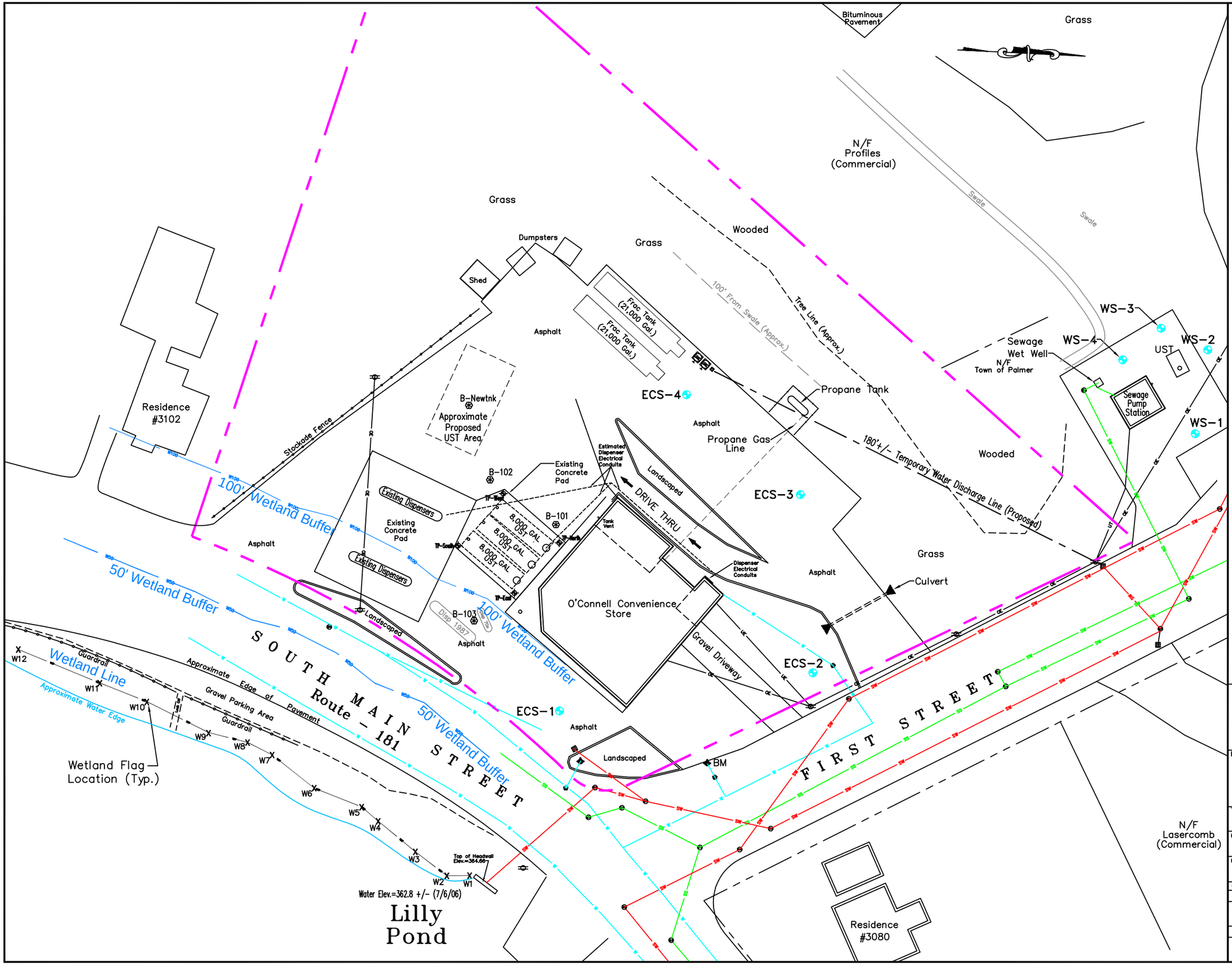
No.	Date	Description

PROJECT:
O'Connell Oil Associates, Inc.
3086 South Main Street – Route 181
Bondsville, Massachusetts

TITLE:
Excavation Dewatering System

COMPUTER CADFILE : Dewater-sys.dwg

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
RAS	SR	SR	SR
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
NTS	4/15/14	204373	3



Legend

- Approximate Property Line
- SS — Sanitary Sewer Line
- SW — Storm Sewer Line
- W — Water Line
- NG — Natural Gas Line
- OE — Overhead Electric Line
- MH — Manhole
- Catchbasin
- Water Gate
- Fire Hydrant
- Utility Pole
- Soil Boring
- Monitoring Well
- ECS–1 — Well I.D.

General Notes:

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

Wetland delineation by ECS on 4/3/14.

ecs
588 Silver Street * Agawam, MA 01001
Phone: 1-800-780-3530 Fax: 413-789-2778

PROJECT:
O'Connell Oil, Inc.
3086 South Main Street
Bondsville, Massachusetts

TITLE:
Dewatering Discharge Location

CLIENT:
O'Connell Oil, Inc.

GRAPHIC SCALE: 40 20 0 20 40

COMPUTER CADFILE : 204373SP.DWG

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
RRW/RAS	TB/SR	SR	TB
SCALE:	**DATE:**	**JOB NO.:**	**FIGURE NO.:**
1" = 40'	AUG 2014	204373	4

TABLES

TABLE 1
RESULTS OF ANALYSIS OF GROUNDWATER SAMPLES

O'Connell Oil Associates
3086 South Main Street, Bondsville, Massachusetts

Results reported in milligrams per liter (mg/L) or micrograms per liter (µg/L), as noted

Monitoring Well/Sample ID		TP-North		TP-East		TP-South		TP-West	
Method / Analyte	**Units**	**Result**	**RDL**	**Result**	**RDL**	**Result**	**RDL**	**Result**	**RDL**
EPA 1664 Rev. A									
Non-polar material (SGT-HEM)	mg/l	BRL	1.1	BRL	1.0	BRL	1.0	BRL	1.0
EPA 504.1									
1,2-Dibromoethane (EDB)	µg/l	BRL	0.0100	BRL	0.0100	BRL	0.0100	BRL	0.0100
EPA 200.7									
Total Iron	mg/l	**149**	0.0150	**65.6**	0.0150	**111**	0.0150	**83.0**	0.0150
Total Lead	mg/l	**0.113**	0.0075	**0.0139**	0.0075	**0.0802**	0.0075	**0.0701**	0.0075
SM2540D									
Total Suspended Solids	mg/l	**592**	10.0	**832**	20.0	**1,500**	20.0	**1,110**	10.0
SW846 8260C									
1,1,2-Trichlorotrifluoroethane (Freon 113)	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Acetone	µg/l	**1,140**	200	**10.4**	10.0	BRL	10.0	BRL	10.0
Acrylonitrile	µg/l	BRL	10.0	BRL	0.50	BRL	0.50	BRL	0.50
Benzene	µg/l	**217**	20.0	**2.26**	1.00	**4.36**	1.00	**1.29**	1.00
Bromobenzene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Bromochloromethane	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Bromodichloromethane	µg/l	BRL	10.0	BRL	0.50	BRL	0.50	BRL	0.50
Bromoform	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Bromomethane	µg/l	BRL	40.0	BRL	2.00	BRL	2.00	BRL	2.00
2-Butanone (MEK)	µg/l	BRL	200	BRL	10.0	BRL	10.0	BRL	10.0
n-Butylbenzene	µg/l	BRL	20.0	BRL	1.00	**1.65**	1.00	BRL	1.00
sec-Butylbenzene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
tert-Butylbenzene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Carbon disulfide	µg/l	BRL	40.0	BRL	2.00	BRL	2.00	BRL	2.00
Carbon tetrachloride	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Chlorobenzene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Chloroethane	µg/l	BRL	40.0	BRL	2.00	BRL	2.00	BRL	2.00
Chloroform	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Chloromethane	µg/l	BRL	40.0	BRL	2.00	BRL	2.00	BRL	2.00
2-Chlorotoluene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
4-Chlorotoluene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,2-Dibromo-3-chloropropane	µg/l	BRL	40.0	BRL	2.00	BRL	2.00	BRL	2.00
Dibromochloromethane	µg/l	BRL	10.0	BRL	0.50	BRL	0.50	BRL	0.50
1,2-Dibromoethane (EDB)	µg/l	BRL	10.0	BRL	0.50	BRL	0.50	BRL	0.50

TABLE 1
RESULTS OF ANALYSIS OF GROUNDWATER SAMPLES

O'Connell Oil Associates
3086 South Main Street, Bondsville, Massachusetts

Results reported in milligrams per liter (mg/L) or micrograms per liter (µg/L), as noted

Monitoring Well/Sample ID		**TP-North**		**TP-East**		**TP-South**		**TP-West**	
Method / Analyte	**Units**	**Result**	**RDL**	**Result**	**RDL**	**Result**	**RDL**	**Result**	**RDL**
SW846 8260C (Continued)									
Dibromomethane	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,2-Dichlorobenzene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,3-Dichlorobenzene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,4-Dichlorobenzene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Dichlorodifluoromethane (Freon12)	µg/l	BRL	40.0	BRL	2.00	BRL	2.00	BRL	2.00
1,1-Dichloroethane	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,2-Dichloroethane	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,1-Dichloroethene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
cis-1,2-Dichloroethene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
trans-1,2-Dichloroethene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,2-Dichloropropane	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,3-Dichloropropane	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
2,2-Dichloropropane	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,1-Dichloropropene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
cis-1,3-Dichloropropene	µg/l	BRL	10.0	BRL	0.50	BRL	0.50	BRL	0.50
trans-1,3-Dichloropropene	µg/l	BRL	10.0	BRL	0.50	BRL	0.50	BRL	0.50
Ethylbenzene	µg/l	BRL	20.0	BRL	1.00	**25.8**	1.00	BRL	1.00
Hexachlorobutadiene	µg/l	BRL	10.0	BRL	0.50	BRL	0.50	BRL	0.50
2-Hexanone (MBK)	µg/l	BRL	200	BRL	10.0	BRL	10.0	BRL	10.0
Isopropylbenzene	µg/l	BRL	20.0	BRL	1.00	**2.14**	1.00	BRL	1.00
4-Isopropyltoluene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Methyl tert-butyl ether	µg/l	**415**	20.0	**4.89**	1.00	BRL	1.00	**1.38**	1.00
4-Methyl-2-pentanone (MIBK)	µg/l	BRL	200	BRL	10.0	BRL	10.0	BRL	10.0
Methylene chloride	µg/l	BRL	40.0	BRL	2.00	BRL	2.00	BRL	2.00

TABLE 1
RESULTS OF ANALYSIS OF GROUNDWATER SAMPLES

O'Connell Oil Associates
3086 South Main Street, Bondsville, Massachusetts

Results reported in milligrams per liter (mg/L) or micrograms per liter (µg/L), as noted

Monitoring Well/Sample ID		**TP-North**		**TP-East**		**TP-South**		**TP-West**	
Method / Analyte	**Units**	**Result**	**RDL**	**Result**	**RDL**	**Result**	**RDL**	**Result**	**RDL**
SW846 8260C (Continued)									
Naphthalene	µg/l	BRL	20.0	**1.18**	1.00	**11.9**	1.00	**1.79**	1.00
n-Propylbenzene	µg/l	BRL	20.0	BRL	1.00	**3.99**	1.00	BRL	1.00
Styrene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,1,1,2-Tetrachloroethane	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,1,2,2-Tetrachloroethane	µg/l	BRL	10.0	BRL	0.50	BRL	0.50	BRL	0.50
Tetrachloroethene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Toluene	µg/l	**103**	20.0	BRL	1.00	**6.92**	1.00	BRL	1.00
1,2,3-Trichlorobenzene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,2,4-Trichlorobenzene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,3,5-Trichlorobenzene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,1,1-Trichloroethane	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,1,2-Trichloroethane	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Trichloroethene	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Trichlorofluoromethane (Freon 11)	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,2,3-Trichloropropane	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
1,2,4-Trimethylbenzene	µg/l	BRL	20.0	BRL	1.00	**13.9**	1.00	BRL	1.00
1,3,5-Trimethylbenzene	µg/l	BRL	20.0	BRL	1.00	**1.41**	1.00	BRL	1.00
Vinyl chloride	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
m,p-Xylene	µg/l	BRL	40.0	BRL	2.00	**30.9**	2.00	BRL	2.00
o-Xylene	µg/l	BRL	20.0	BRL	1.00	**26.0**	1.00	BRL	1.00
Tetrahydrofuran	µg/l	BRL	40.0	BRL	2.00	BRL	2.00	BRL	2.00
Ethyl ether	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Tert-amyl methyl ether	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Ethyl tert-butyl ether	µg/l	**51.4**	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Di-isopropyl ether	µg/l	BRL	20.0	BRL	1.00	BRL	1.00	BRL	1.00
Tert-Butanol / butyl alcohol	µg/l	**1,010**	200	**20.1**	10.0	**20.0**	10.0	**11.5**	10.0
1,4-Dioxane	µg/l	BRL	400	BRL	20.0	BRL	20.0	BRL	20.0
trans-1,4-Dichloro-2-butene	µg/l	BRL	100	BRL	5.00	BRL	5.00	BRL	5.00
Ethanol	µg/l	BRL	8,000	BRL	400	BRL	400	BRL	400

BRL is Below Reporting Limit
RDL is Reportable Detection Limit

ATTACHMENT I

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**: O'Connell Oil Shell Gasoline Station		**Facility/site** mailing address:		
Location of **facility/site**: longitude: -72.347910W latitude: 42.207687N	Facility SIC code(s): 5541	Street: 3086 South Main Street		
b) Name of **facility/site owner:**		Town: Bondsville (Palmer)		
Email address of facility/site owner: jsobon@oconnelloil.com		State: MA	Zip: 01069	County: Hampden
Telephone no. of facility/site **owner**: 413-499-4800				
Fax no. of facility/site **owner**: 413-499-6072		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ○ 3. Private ◉ 4. Other ○ if so, describe:		
Address of **owner** (if different from site):				
Street: 545 Merrill Road				
Town: Pittsfield	State: MA	Zip: 01201	County: Berkshire	
c) Legal name of **operator**:		**Operator** telephone no: 413-789-3530		
Environmental Compliance Services, Inc.		**Operator** fax no.: 413-789-2776	**Operator** email: srising@ecsconsult.com	
Operator contact name and title: Shawn Rising, LSP/Senior Project Manager				
Address of **operator** (if different from owner):	Street: 588 Silver Street			
Town: Agawam	State: MA	Zip: 01001	County: Hampden	

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

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y__ N__
If Y, please list:
1. site identification # assigned by the state of NH or MA: Release Tracking Number 1-19404
2. permit or license # assigned:
3. state agency contact information: name, location, and telephone number:
David Slowick
MassDEP Western Regional Office
436 Dwight Street, Springfield, MA 01103 413-784-1100

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

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

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

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

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

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

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

Groundwater will be pumped from two excavations at the site during underground storage tank removal and installation activities.

b) Provide the following information about each discharge:

1) Number of discharge points: 1

2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)?
Max. flow: 0.16725 Is maximum flow a **design value**? Y ◉ N ○
Average flow (include units) 0.1115 Is average flow a design value or estimate? estimate

3) Latitude and longitude of each discharge within 100 feet:
pt.1: lat. 42.208041 long. -72.347871 pt.2: lat. ____ long. ____;
pt.3: lat. ____ long. ____ pt.4: lat. ____ long. ____;
pt.5: lat. ____ long. ____ pt.6: lat. ____ long. ____;
pt.7: lat. ____ long. ____ pt.8: lat. ____ long. ____; etc.

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

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

c) Expected dates of discharge (mm/dd/yy): start 09/08/14 end 09/22/14

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). Refer to Figures 3 and 4

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)		☐	☒	4	Grab	SM2540D	5,000 ug/L	1,500,000	0.991	1,008,500	0.0572
2. Total Residual Chlorine (TRC)		☒	☐	0	NA	NA	NA	NA	NA	NA	NA
3. Total Petroleum Hydrocarbons (TPH)		☐	☒	4	Grab	1664A	5,000 ug/L	ND	NA	ND	NA
4. Cyanide (CN)	57125	☒	☐	0	NA	NA	NA	NA	NA	NA	NA
5. Benzene (B)	71432	☐	☒	4	Grab	8260C	2 ug/L	217	0.1433	56.23	0.0369
6. Toluene (T)	108883	☐	☒	4	Grab	8260C	2 ug/L	103	0.0679	27.98	0.0185
7. Ethylbenzene (E)	100414	☐	☒	4	Grab	8260C	2 ug/L	25.8	0.0169	11.95	0.0079
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☐	☒	4	Grab	8260C	4 ug/L	56.9	0.0376	30.73	0.0202
9. Total BTEX [2]	n/a	☐	☒	4	Grab	8260C	2 ug/L	400	0.2642	129.39	0.0856
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☐	☒	4	Grab	504.1	0.01 ug/L	ND	NA	ND	NA
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☐	☒	4	Grab	8260C	10 ug/L	415	0.2741	105.57	0.0697
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☐	☒	4	Grab	8260C	10 ug/L	1,010	0.6670	265.40	0.1753

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

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

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

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☐	☒	4	Grab	8260C	10 ug/L	ND	NA	ND	NA
14. Naphthalene	91203	☐	☒	4	Grab	8260C	10 ug/L	11.9	0.0079	8.72	0.0057
15. Carbon Tetrachloride	56235	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
18a. Total dichlorobenzene		☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
23. Methylene Chloride	75092	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
24. Tetrachloroethene (PCE)	127184	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
27. Trichloroethene (TCE)	79016	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA

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	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
29. Acetone	67641	☐	☒	4	Grab	8260C	50 ug/L	1,140	0.7531	292.6	0.1932
30. 1,4 Dioxane	123911	☒	☐	4	Grab	8260C	5 ug/L	ND	NA	ND	NA
31. Total Phenols	108952	☒	☐	0							
32. Pentachlorophenol (PCP)	87865	☒	☐	0							
33. Total Phthalates (Phthalate esters) [4]		☒	☐	0							
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐	0							
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	0							
a. Benzo(a) Anthracene	56553	☒	☐	0							
b. Benzo(a) Pyrene	50328	☒	☐	0							
c. Benzo(b)Fluoranthene	205992	☒	☐	0							
d. Benzo(k)Fluoranthene	207089	☒	☐	0							
e. Chrysene	21801	☒	☐	0							
f. Dibenzo(a,h)anthracene	53703	☒	☐	0							
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	0							
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	0							

[4] The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	☒	☐	0							
i. Acenaphthylene	208968	☒	☐	0							
j. Anthracene	120127	☒	☐	0							
k. Benzo(ghi) Perylene	191242	☒	☐	0							
l. Fluoranthene	206440	☒	☐	0							
m. Fluorene	86737	☒	☐	0							
n. Naphthalene	91203	☒	☐	0							
o. Phenanthrene	85018	☒	☐	0							
p. Pyrene	129000	☒	☐	0							
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	0							
38. Chloride	16887006	☒	☐	0							
39. Antimony	7440360	☒	☐	0							
40. Arsenic	7440382	☒	☐	0							
41. Cadmium	7440439	☒	☐	0							
42. Chromium III (trivalent)	16065831	☒	☐	0							
43. Chromium VI (hexavalent)	18540299	☒	☐	0							
44. Copper	7440508	☒	☐	0							
45. Lead	7439921	☐	☒	4	Grab	200.7	3 ug/L	113	0.0746	69.3	0.0458
46. Mercury	7439976	☒	☐	0							
47. Nickel	7440020	☒	☐	0							
48. Selenium	7782492	☒	☐	0							
49. Silver	7440224	☒	☐	0							
50. Zinc	7440666	☒	☐	0							
51. Iron	7439896	☐	☒	4	Grab	200.7	50 ug/L	149,000	98.42	102,150	67.47
Other (describe):		☒	☐	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)
		☐	☐								
		☐	☐								

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

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y_○_ N_○_	If yes, which metals? Iron and lead
Step 2: For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: Iron DF: 202.5 Metal: Lead DF: 202.5 Metal: DF: Metal: DF: Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y_◉_ N_○_ If Y, list which metals: Iron

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

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

Electric submersible pumps will pump groundwater from temporary dewatering wells, set within the excavation areas, to two 21,000-gallon fractation (frac) tanks. Recovered groundwater will be passed through bag filters to remove particulates and two 500-pound liquid phase granular activated carbon (LGAC) units will be plumbed in series. The treated groundwater will discharge into a storm drain at the northern edge of the site. The storm drain dishcarges to th Swift River located approximately 600 feet west of the site.

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

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system:
Average flow rate of discharge 50 gpm Maximum flow rate of treatment system 75 gpm
Design flow rate of treatment system 75 gpm

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

None

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

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

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
Storm drain to Swift 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 dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

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

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 33.7 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.

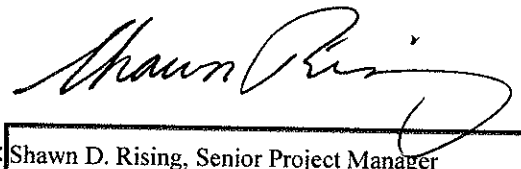
7. Supplemental information.

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

Please see attached letter for supplemental information.

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:	O'Connell Oil Associates Shell Gasoline Station
Operator signature:	
Printed Name &Title:	Shawn D. Rising, Senior Project Manager
Date:	August 19, 2014

ATTACHMENT II

Report Date:
13-Aug-14 12:50

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
588 Silver Street
Agawam, MA 01001
Attn: Shawn Rising

Project: 3036 S. Main St - Bondsville, MA
Project #: 01-204373.01

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB93924-01	TP-North	Ground Water	04-Aug-14 12:11	04-Aug-14 16:17
SB93924-02	TP-East	Ground Water	04-Aug-14 11:17	04-Aug-14 16:17
SB93924-03	TP-South	Ground Water	04-Aug-14 14:48	04-Aug-14 16:17
SB93924-04	TP-West	Ground Water	04-Aug-14 12:50	04-Aug-14 16:17
SB93924-05	Trip Blank	Deionized Water	04-Aug-14 08:00	04-Aug-14 16:17

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 36 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 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, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, NJ-MA012, PA-68-04426 and FL-E87936).

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

Laboratory Name: Spectrum Analytical, Inc.	**Project #:** 01-204373.01
Project Location: 3036 S. Main St - Bondsville, MA	**RTN:**
This form provides certifications for the following data set:	SB93924-01 through SB93924-05
Matrices: Deionized Water Ground Water	

CAM Protocol

✓ 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

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

A	Were all samples received in a condition consistent with those described on the Chain of Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	✓ Yes No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	✓ Yes No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	✓ Yes No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	✓ Yes No
E	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
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to questions A through E)?	✓ Yes No

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

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes ✓ No

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

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes ✓ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	✓ Yes No

All negative responses are addressed in a case narrative on the cover page of this report.

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.

Nicole Leja
Laboratory Director
Date: 8/13/2014

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

The samples were received 5.1 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:

1418570-MS1 *Source: SB93924-01*

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

The spike recovery exceeded the QC control limits for the MS and/or MSD. The batch was accepted based upon acceptable PS and /or LCS recovery.

Lead

1418570-MSD1 *Source: SB93924-01*

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

The spike recovery exceeded the QC control limits for the MS and/or MSD. The batch was accepted based upon acceptable PS and /or LCS recovery.

Lead

1418570-PS1 *Source: SB93924-01*

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

SW846 8260C

Calibration:

1407029

SW846 8260C

Calibration:

1407029

Analyte quantified by quadratic equation type calibration.

1,1,2,2-Tetrachloroethane
1,2,4-Trichlorobenzene
1,2-Dibromo-3-chloropropane
Bromoform
Dibromochloromethane
Naphthalene
trans-1,3-Dichloropropene
trans-1,4-Dichloro-2-butene

This affected the following samples:

1418376-BLK1
1418376-BS1
1418376-BSD1
S407903-ICV1
S408769-CCV1
TP-East
TP-North
TP-West
Trip Blank

1407030

Analyte quantified by quadratic equation type calibration.

1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
Bromomethane
Naphthalene
trans-1,4-Dichloro-2-butene

This affected the following samples:

1418497-BLK1
1418497-BS1
1418497-BSD1
S407907-ICV1
S408836-CCV1
TP-South

Laboratory Control Samples:

1418376 BS/BSD

Acetone percent recoveries (112/134) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

TP-East
TP-North
TP-West
Trip Blank

1418497 BS/BSD

Bromomethane percent recoveries (118/139) are outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

TP-South

Samples:

SW846 8260C

Samples:

S408769-CCV1

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

2,2-Dichloropropane (-21.1%)
2-Hexanone (MBK) (-21.9%)
Ethyl tert-butyl ether (-21.5%)
Tert-Butanol / butyl alcohol (-24.3%)

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

4-Methyl-2-pentanone (MIBK) (-25.4%)
Naphthalene (-27.5%)
trans-1,4-Dichloro-2-butene (-22.2%)

This affected the following samples:

1418376-BLK1
1418376-BS1
1418376-BSD1
TP-East
TP-North
TP-West
Trip Blank

SB93924-01 *TP-North*

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

Sample Acceptance Check Form

Client:	Environmental Compliance Services - Agawam, MA
Project:	3036 S. Main St - Bondsville, MA / 01-204373.01
Work Order:	SB93924
Sample(s) received on:	8/4/2014
Received by:	Mary Wilson

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

	Yes	No	N/A
1. Were custody seals present?	☐	☑	☐
2. Were custody seals intact?	☐	☐	☑
3. Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
4. Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
5. Were samples refrigerated upon transfer to laboratory representative?	☐	☑	☐
6. Were sample containers received intact?	☑	☐	☐
7. Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
8. Were samples accompanied by a Chain of Custody document?	☑	☐	☐
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?	☑	☐	☐
10. Did sample container labels agree with Chain of Custody document?	☑	☐	☐
11. Were samples received within method-specific holding times?	☑	☐	☐

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-North	01-204373.01	Ground Water	04-Aug-14 12:11	04-Aug-14
SB93924-01				

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 Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 20.0	D	µg/l	20.0	13.9	20	SW846 8260C	06-Aug-14	07-Aug-14	NAA	1418376	
67-64-1	Acetone	**1,140**	D	µg/l	200	72.2	20	"	"	"	"	"	
107-13-1	Acrylonitrile	< 10.0	D	µg/l	10.0	9.96	20	"	"	"	"	"	
71-43-2	Benzene	**217**	D	µg/l	20.0	6.34	20	"	"	"	"	"	
108-86-1	Bromobenzene	< 20.0	D	µg/l	20.0	6.48	20	"	"	"	"	"	
74-97-5	Bromochloromethane	< 20.0	D	µg/l	20.0	5.98	20	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 10.0	D	µg/l	10.0	7.10	20	"	"	"	"	"	
75-25-2	Bromoform	< 20.0	D	µg/l	20.0	12.7	20	"	"	"	"	"	
74-83-9	Bromomethane	< 40.0	D	µg/l	40.0	9.22	20	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 200	D	µg/l	200	62.2	20	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 20.0	D	µg/l	20.0	8.24	20	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 20.0	D	µg/l	20.0	8.20	20	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 20.0	D	µg/l	20.0	7.40	20	"	"	"	"	"	
75-15-0	Carbon disulfide	< 40.0	D	µg/l	40.0	15.0	20	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 20.0	D	µg/l	20.0	8.64	20	"	"	"	"	"	
108-90-7	Chlorobenzene	< 20.0	D	µg/l	20.0	6.44	20	"	"	"	"	"	
75-00-3	Chloroethane	< 40.0	D	µg/l	40.0	14.2	20	"	"	"	"	"	
67-66-3	Chloroform	< 20.0	D	µg/l	20.0	9.42	20	"	"	"	"	"	
74-87-3	Chloromethane	< 40.0	D	µg/l	40.0	9.92	20	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 20.0	D	µg/l	20.0	8.52	20	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 20.0	D	µg/l	20.0	6.88	20	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 40.0	D	µg/l	40.0	10.0	20	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 10.0	D	µg/l	10.0	7.18	20	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 10.0	D	µg/l	10.0	6.40	20	"	"	"	"	"	
74-95-3	Dibromomethane	< 20.0	D	µg/l	20.0	8.40	20	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 20.0	D	µg/l	20.0	8.54	20	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 20.0	D	µg/l	20.0	7.76	20	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 20.0	D	µg/l	20.0	9.46	20	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 40.0	D	µg/l	40.0	12.9	20	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 20.0	D	µg/l	20.0	5.58	20	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 20.0	D	µg/l	20.0	6.08	20	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 20.0	D	µg/l	20.0	9.44	20	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	< 20.0	D	µg/l	20.0	7.68	20	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 20.0	D	µg/l	20.0	9.30	20	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 20.0	D	µg/l	20.0	6.32	20	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 20.0	D	µg/l	20.0	4.08	20	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 20.0	D	µg/l	20.0	6.46	20	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 20.0	D	µg/l	20.0	8.08	20	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 10.0	D	µg/l	10.0	8.06	20	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 10.0	D	µg/l	10.0	9.44	20	"	"	"	"	"	
100-41-4	Ethylbenzene	< 20.0	D	µg/l	20.0	8.32	20	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 10.0	D	µg/l	10.0	8.88	20	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 200	D	µg/l	200	40.4	20	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-North	01-204373.01	Ground Water	04-Aug-14 12:11	04-Aug-14
SB93924-01				

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 Prepared by method SW846 5030 Water MS			GS1										
98-82-8	Isopropylbenzene	< 20.0	D	µg/l	20.0	9.48	20	SW846 8260C	06-Aug-14	07-Aug-14	NAA	1418376	
99-87-6	4-Isopropyltoluene	< 20.0	D	µg/l	20.0	9.80	20						
1634-04-4	Methyl tert-butyl ether	**415**	D	µg/l	20.0	7.36	20						
108-10-1	4-Methyl-2-pentanone (MIBK)	< 200	D	µg/l	200	49.4	20						
75-09-2	Methylene chloride	< 40.0	D	µg/l	40.0	9.88	20						
91-20-3	Naphthalene	< 20.0	D	µg/l	20.0	10.7	20						
103-65-1	n-Propylbenzene	< 20.0	D	µg/l	20.0	8.60	20						
100-42-5	Styrene	< 20.0	D	µg/l	20.0	7.12	20						
630-20-6	1,1,1,2-Tetrachloroethane	< 20.0	D	µg/l	20.0	8.54	20						
79-34-5	1,1,2,2-Tetrachloroethane	< 10.0	D	µg/l	10.0	9.90	20						
127-18-4	Tetrachloroethene	< 20.0	D	µg/l	20.0	11.5	20						
108-88-3	Toluene	**103**	D	µg/l	20.0	5.64	20						
87-61-6	1,2,3-Trichlorobenzene	< 20.0	D	µg/l	20.0	15.5	20						
120-82-1	1,2,4-Trichlorobenzene	< 20.0	D	µg/l	20.0	8.40	20						
108-70-3	1,3,5-Trichlorobenzene	< 20.0	D	µg/l	20.0	11.2	20						
71-55-6	1,1,1-Trichloroethane	< 20.0	D	µg/l	20.0	7.28	20						
79-00-5	1,1,2-Trichloroethane	< 20.0	D	µg/l	20.0	6.50	20						
79-01-6	Trichloroethene	< 20.0	D	µg/l	20.0	8.84	20						
75-69-4	Trichlorofluoromethane (Freon 11)	< 20.0	D	µg/l	20.0	15.6	20						
96-18-4	1,2,3-Trichloropropane	< 20.0	D	µg/l	20.0	5.72	20						
95-63-6	1,2,4-Trimethylbenzene	< 20.0	D	µg/l	20.0	6.62	20						
108-67-8	1,3,5-Trimethylbenzene	< 20.0	D	µg/l	20.0	7.82	20						
75-01-4	Vinyl chloride	< 20.0	D	µg/l	20.0	19.3	20						
179601-23-1	m,p-Xylene	< 40.0	D	µg/l	40.0	8.32	20						
95-47-6	o-Xylene	< 20.0	D	µg/l	20.0	7.12	20						
109-99-9	Tetrahydrofuran	< 40.0	D	µg/l	40.0	15.3	20						
60-29-7	Ethyl ether	< 20.0	D	µg/l	20.0	9.52	20						
994-05-8	Tert-amyl methyl ether	< 20.0	D	µg/l	20.0	6.00	20						
637-92-3	Ethyl tert-butyl ether	**51.4**	D	µg/l	20.0	8.60	20						
108-20-3	Di-isopropyl ether	< 20.0	D	µg/l	20.0	6.40	20						
75-65-0	Tert-Butanol / butyl alcohol	**1,010**	D	µg/l	200	178	20						
123-91-1	1,4-Dioxane	< 400	D	µg/l	400	293	20						
110-57-6	trans-1,4-Dichloro-2-buten e	< 100	D	µg/l	100	19.4	20						
64-17-5	Ethanol	< 8000	D	µg/l	8000	1620	20						
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*89*			*70-130 %*								
2037-26-5	*Toluene-d8*	*100*			*70-130 %*								
17060-07-0	*1,2-Dichloroethane-d4*	*106*			*70-130 %*								
1868-53-7	*Dibromofluoromethane*	*100*			*70-130 %*								
Microextractable Organic Compounds													
106-93-4	1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100	0.00513	1	SW846 8011	12-Aug-14	12-Aug-14	DS	1418819	
Extractable Petroleum Hydrocarbons													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-North SB93924-01	01-204373.01	Ground Water	04-Aug-14 12:11	04-Aug-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
	Non-polar material (SGT-HEM)	< 1.1		mg/l	1.1	0.3	1	EPA 1664B	07-Aug-14	08-Aug-14	JK	1418485	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Field Preserved**		N/A			1	EPA 200/6000 methods			LNB	1418294	
Total Metals by EPA 6000/7000 Series Methods													
7439-89-6	Iron	**149**		mg/l	0.0150	0.0122	1	SW846 6010C	08-Aug-14	12-Aug-14	EDT	1418570	
7439-92-1	Lead	**0.113**		mg/l	0.0075	0.0032	1						
General Chemistry Parameters													
	Total Suspended Solids	**592**	LIV	mg/l	10.0	4.3	1	SM2540D	06-Aug-14	07-Aug-14	CMB	1418380	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-East	01-204373.01	Ground Water	04-Aug-14 11:17	04-Aug-14
SB93924-02				

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 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.70	1	SW846 8260C	06-Aug-14	07-Aug-14	NAA	1418376	
67-64-1	Acetone	**10.4**		µg/l	10.0	3.61	1						
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.50	1						
71-43-2	Benzene	**2.26**		µg/l	1.00	0.32	1						
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.32	1						
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.30	1						
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.36	1						
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.64	1						
74-83-9	Bromomethane	< 2.00		µg/l	2.00	0.46	1						
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	3.11	1						
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.41	1						
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.41	1						
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.37	1						
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.75	1						
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.43	1						
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.32	1						
75-00-3	Chloroethane	< 2.00		µg/l	2.00	0.71	1						
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.47	1						
74-87-3	Chloromethane	< 2.00		µg/l	2.00	0.50	1						
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.43	1						
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.34	1						
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.50	1						
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.36	1						
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.32	1						
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.42	1						
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.43	1						
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.39	1						
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.47	1						
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.65	1						
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.28	1						
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.30	1						
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.47	1						
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.38	1						
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.46	1						
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.32	1						
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.20	1						
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.32	1						
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.40	1						
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.40	1						
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.47	1						
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.42	1						
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.44	1						
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	2.02	1						

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-East	01-204373.01	Ground Water	04-Aug-14 11:17	04-Aug-14
SB93924-02				

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 Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.47	1	SW846 8260C	06-Aug-14	07-Aug-14	NAA	1418376	
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.49	1						
1634-04-4	Methyl tert-butyl ether	**4.89**		µg/l	1.00	0.37	1						
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	2.47	1						
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.49	1						
91-20-3	Naphthalene	**1.18**		µg/l	1.00	0.54	1						
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.43	1						
100-42-5	Styrene	< 1.00		µg/l	1.00	0.36	1						
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.43	1						
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.50	1						
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.57	1						
108-88-3	Toluene	< 1.00		µg/l	1.00	0.28	1						
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.78	1						
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.42	1						
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.56	1						
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.36	1						
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.32	1						
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.44	1						
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.78	1						
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.29	1						
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.33	1						
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.39	1						
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.97	1						
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	0.42	1						
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.36	1						
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	0.77	1						
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.48	1						
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.30	1						
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.43	1						
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.32	1						
75-65-0	Tert-Butanol / butyl alcohol	**20.1**		µg/l	10.0	8.89	1						
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	14.6	1						
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	0.97	1						
64-17-5	Ethanol	< 400		µg/l	400	80.8	1						
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*90*			*70-130 %*								
2037-26-5	*Toluene-d8*	*101*			*70-130 %*								
17060-07-0	*1,2-Dichloroethane-d4*	*105*			*70-130 %*								
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*								
Microextractable Organic Compounds													
106-93-4	1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100	0.00513	1	SW846 8011	12-Aug-14	12-Aug-14	DS	1418819	
Extractable Petroleum Hydrocarbons													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-East SB93924-02	01-204373.01	Ground Water	04-Aug-14 11:17	04-Aug-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
	Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0	0.3	1	EPA 1664B	07-Aug-14	08-Aug-14	JK	1418485	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Field Preserved**		N/A			1	EPA 200/6000 methods			LNB	1418294	
Total Metals by EPA 6000/7000 Series Methods													
7439-89-6	Iron	**65.6**		mg/l	0.0150	0.0122	1	SW846 6010C	08-Aug-14	12-Aug-14	EDT	1418570	
7439-92-1	Lead	**0.0139**		mg/l	0.0075	0.0032	1						
General Chemistry Parameters													
	Total Suspended Solids	**832**	LIV	mg/l	20.0	8.6	1	SM2540D	06-Aug-14	07-Aug-14	CMB	1418380	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-South	01-204373.01	Ground Water	04-Aug-14 14:48	04-Aug-14
SB93924-03				

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 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.70	1	SW846 8260C	07-Aug-14	08-Aug-14	JEG	1418497	
67-64-1	Acetone	< 10.0		µg/l	10.0	3.61	1						
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.50	1						
71-43-2	Benzene	**4.36**		µg/l	1.00	0.32	1						
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.32	1						
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.30	1						
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.36	1						
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.64	1						
74-83-9	Bromomethane	< 2.00		µg/l	2.00	0.46	1						
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	3.11	1						
104-51-8	n-Butylbenzene	**1.65**		µg/l	1.00	0.41	1						
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.41	1						
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.37	1						
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.75	1						
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.43	1						
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.32	1						
75-00-3	Chloroethane	< 2.00		µg/l	2.00	0.71	1						
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.47	1						
74-87-3	Chloromethane	< 2.00		µg/l	2.00	0.50	1						
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.43	1						
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.34	1						
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.50	1						
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.36	1						
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.32	1						
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.42	1						
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.43	1						
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.39	1						
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.47	1						
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.65	1						
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.28	1						
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.30	1						
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.47	1						
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.38	1						
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.46	1						
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.32	1						
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.20	1						
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.32	1						
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.40	1						
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.40	1						
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.47	1						
100-41-4	Ethylbenzene	**25.8**		µg/l	1.00	0.42	1						
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.44	1						
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	2.02	1						

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-South	01-204373.01	Ground Water	04-Aug-14 14:48	04-Aug-14
SB93924-03				

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 Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	**2.14**		µg/l	1.00	0.47	1	SW846 8260C	07-Aug-14	08-Aug-14	JEG	1418497	
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.49	1						
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.37	1						
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	2.47	1						
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.49	1						
91-20-3	Naphthalene	**11.9**		µg/l	1.00	0.54	1						
103-65-1	n-Propylbenzene	**3.99**		µg/l	1.00	0.43	1						
100-42-5	Styrene	< 1.00		µg/l	1.00	0.36	1						
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.43	1						
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.50	1						
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.57	1						
108-88-3	Toluene	**6.92**		µg/l	1.00	0.28	1						
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.78	1						
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.42	1						
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.56	1						
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.36	1						
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.32	1						
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.44	1						
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.78	1						
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.29	1						
95-63-6	1,2,4-Trimethylbenzene	**13.9**		µg/l	1.00	0.33	1						
108-67-8	1,3,5-Trimethylbenzene	**1.41**		µg/l	1.00	0.39	1						
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.97	1						
179601-23-1	m,p-Xylene	**30.9**		µg/l	2.00	0.42	1						
95-47-6	o-Xylene	**26.0**		µg/l	1.00	0.36	1						
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	0.77	1						
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.48	1						
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.30	1						
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.43	1						
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.32	1						
75-65-0	Tert-Butanol / butyl alcohol	**20.0**		µg/l	10.0	8.89	1						
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	14.6	1						
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	0.97	1						
64-17-5	Ethanol	< 400		µg/l	400	80.8	1						
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*100*			*70-130 %*								
2037-26-5	*Toluene-d8*	*102*			*70-130 %*								
17060-07-0	*1,2-Dichloroethane-d4*	*105*			*70-130 %*								
1868-53-7	*Dibromofluoromethane*	*98*			*70-130 %*								
Microextractable Organic Compounds													
106-93-4	1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100	0.00513	1	SW846 8011	12-Aug-14	12-Aug-14	DS	1418819	
Total Metals by EPA 200/6000 Series Methods													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-South SB93924-03	01-204373.01	Ground Water	04-Aug-14 14:48	04-Aug-14

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Field Preserved**		N/A			1	EPA 200/6000 methods			LNB	1418294	
Total Metals by EPA 6000/7000 Series Methods													
7439-89-6	Iron	**111**		mg/l	0.0150	0.0122	1	SW846 6010C	08-Aug-14	12-Aug-14	EDT	1418570	
7439-92-1	Lead	**0.0802**		mg/l	0.0075	0.0032	1						
General Chemistry Parameters													
	Total Suspended Solids	**1,500**	LIV	mg/l	20.0	8.6	1	SM2540D	06-Aug-14	07-Aug-14	CMB	1418380	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-West	01-204373.01	Ground Water	04-Aug-14 12:50	04-Aug-14
SB93924-04				

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 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.70	1	SW846 8260C	06-Aug-14	07-Aug-14	NAA	1418376	
67-64-1	Acetone	< 10.0		µg/l	10.0	3.61	1						
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.50	1						
71-43-2	Benzene	**1.29**		µg/l	1.00	0.32	1						
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.32	1						
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.30	1						
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.36	1						
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.64	1						
74-83-9	Bromomethane	< 2.00		µg/l	2.00	0.46	1						
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	3.11	1						
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.41	1						
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.41	1						
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.37	1						
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.75	1						
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.43	1						
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.32	1						
75-00-3	Chloroethane	< 2.00		µg/l	2.00	0.71	1						
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.47	1						
74-87-3	Chloromethane	< 2.00		µg/l	2.00	0.50	1						
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.43	1						
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.34	1						
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.50	1						
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.36	1						
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.32	1						
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.42	1						
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.43	1						
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.39	1						
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.47	1						
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.65	1						
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.28	1						
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.30	1						
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.47	1						
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.38	1						
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.46	1						
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.32	1						
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.20	1						
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.32	1						
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.40	1						
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.40	1						
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.47	1						
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.42	1						
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.44	1						
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	2.02	1						

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-West	01-204373.01	Ground Water	04-Aug-14 12:50	04-Aug-14
SB93924-04				

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 Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.47	1	SW846 8260C	06-Aug-14	07-Aug-14	NAA	1418376	
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.49	1						
1634-04-4	Methyl tert-butyl ether	**1.38**		µg/l	1.00	0.37	1						
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	2.47	1						
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.49	1						
91-20-3	Naphthalene	**1.79**		µg/l	1.00	0.54	1						
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.43	1						
100-42-5	Styrene	< 1.00		µg/l	1.00	0.36	1						
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.43	1						
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.50	1						
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.57	1						
108-88-3	Toluene	< 1.00		µg/l	1.00	0.28	1						
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.78	1						
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.42	1						
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.56	1						
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.36	1						
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.32	1						
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.44	1						
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.78	1						
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.29	1						
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.33	1						
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.39	1						
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.97	1						
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	0.42	1						
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.36	1						
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	0.77	1						
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.48	1						
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.30	1						
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.43	1						
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.32	1						
75-65-0	Tert-Butanol / butyl alcohol	**11.5**		µg/l	10.0	8.89	1						
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	14.6	1						
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	0.97	1						
64-17-5	Ethanol	< 400		µg/l	400	80.8	1						
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*90*			*70-130 %*								
2037-26-5	*Toluene-d8*	*101*			*70-130 %*								
17060-07-0	*1,2-Dichloroethane-d4*	*108*			*70-130 %*								
1868-53-7	*Dibromofluoromethane*	*104*			*70-130 %*								
Microextractable Organic Compounds													
106-93-4	1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100	0.00513	1	SW846 8011	12-Aug-14	12-Aug-14	DS	1418819	
Extractable Petroleum Hydrocarbons													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-West SB93924-04	01-204373.01	Ground Water	04-Aug-14 12:50	04-Aug-14

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Extractable Petroleum Hydrocarbons													
	Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0	0.3	1	EPA 1664B	07-Aug-14	08-Aug-14	JK	1418485	
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Lab Preserved**		N/A			1	EPA 200/6000 methods	05-Aug-14	05-Aug-14	LNB	1418294	
Total Metals by EPA 6000/7000 Series Methods													
7439-89-6	Iron	**83.0**		mg/l	0.0150	0.0122	1	SW846 6010C	08-Aug-14	12-Aug-14	EDT	1418570	
7439-92-1	Lead	**0.0701**		mg/l	0.0075	0.0032	1						
General Chemistry Parameters													
	Total Suspended Solids	**1,110**	LIV	mg/l	10.0	4.3	1	SM2540D	06-Aug-14	07-Aug-14	CMB	1418380	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank	01-204373.01	Deionized Water	04-Aug-14 08:00	04-Aug-14
SB93924-05				

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 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.70	1	SW846 8260C	06-Aug-14	07-Aug-14	NAA	1418376	
67-64-1	Acetone	< 10.0		µg/l	10.0	3.61	1						
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.50	1						
71-43-2	Benzene	< 1.00		µg/l	1.00	0.32	1						
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.32	1						
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.30	1						
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.36	1						
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.64	1						
74-83-9	Bromomethane	< 2.00		µg/l	2.00	0.46	1						
78-93-3	2-Butanone (MEK)	< 10.0		µg/l	10.0	3.11	1						
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.41	1						
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.41	1						
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.37	1						
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.75	1						
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.43	1						
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.32	1						
75-00-3	Chloroethane	< 2.00		µg/l	2.00	0.71	1						
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.47	1						
74-87-3	Chloromethane	< 2.00		µg/l	2.00	0.50	1						
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.43	1						
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.34	1						
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.50	1						
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.36	1						
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.32	1						
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.42	1						
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.43	1						
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.39	1						
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.47	1						
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.65	1						
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.28	1						
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.30	1						
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.47	1						
156-59-2	cis-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.38	1						
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.46	1						
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.32	1						
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.20	1						
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.32	1						
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.40	1						
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.40	1						
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.47	1						
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.42	1						
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.44	1						
591-78-6	2-Hexanone (MBK)	< 10.0		µg/l	10.0	2.02	1						

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Trip Blank	01-204373.01	Deionized Water	04-Aug-14 08:00	04-Aug-14
SB93924-05				

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 Prepared by method SW846 5030 Water MS													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.47	1	SW846 8260C	06-Aug-14	07-Aug-14	NAA	1418376	
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.49	1						
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.37	1						
108-10-1	4-Methyl-2-pentanone (MIBK)	< 10.0		µg/l	10.0	2.47	1						
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.49	1						
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.54	1						
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.43	1						
100-42-5	Styrene	< 1.00		µg/l	1.00	0.36	1						
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.43	1						
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.50	1						
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.57	1						
108-88-3	Toluene	< 1.00		µg/l	1.00	0.28	1						
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.78	1						
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.42	1						
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.56	1						
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.36	1						
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.32	1						
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.44	1						
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.78	1						
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.29	1						
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.33	1						
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.39	1						
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.97	1						
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	0.42	1						
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.36	1						
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	0.77	1						
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.48	1						
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.30	1						
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.43	1						
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.32	1						
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	8.89	1						
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	14.6	1						
110-57-6	trans-1,4-Dichloro-2-buten e	< 5.00		µg/l	5.00	0.97	1						
64-17-5	Ethanol	< 400		µg/l	400	80.8	1						
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*87*			*70-130 %*								
2037-26-5	*Toluene-d8*	*100*			*70-130 %*								
17060-07-0	*1,2-Dichloroethane-d4*	*106*			*70-130 %*								
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*								

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418376 - SW846 5030 Water MS										
Blank (1418376-BLK1)					Prepared & Analyzed: 06-Aug-14					
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						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418376 - SW846 5030 Water MS										
Blank (1418376-BLK1)					Prepared & Analyzed: 06-Aug-14					
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	*44.8*		µg/l		*50.0*		*90*	*70-130*		
Surrogate: Toluene-d8	*50.8*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*53.6*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Dibromofluoromethane	*51.3*		µg/l		*50.0*		*103*	*70-130*		
LCS (1418376-BS1)					Prepared & Analyzed: 06-Aug-14					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**18.0**		µg/l		20.0		90	70-130		
Acetone	**22.5**		µg/l		20.0		112	70-130		
Acrylonitrile	**18.4**		µg/l		20.0		92	70-130		
Benzene	**19.0**		µg/l		20.0		95	70-130		
Bromobenzene	**19.0**		µg/l		20.0		95	70-130		
Bromochloromethane	**19.7**		µg/l		20.0		99	70-130		
Bromodichloromethane	**21.0**		µg/l		20.0		105	70-130		
Bromoform	**20.9**		µg/l		20.0		104	70-130		
Bromomethane	**19.4**		µg/l		20.0		97	70-130		
2-Butanone (MEK)	**18.4**		µg/l		20.0		92	70-130		
n-Butylbenzene	**18.0**		µg/l		20.0		90	70-130		
sec-Butylbenzene	**19.4**		µg/l		20.0		97	70-130		
tert-Butylbenzene	**19.3**		µg/l		20.0		97	70-130		
Carbon disulfide	**19.1**		µg/l		20.0		95	70-130		
Carbon tetrachloride	**21.7**		µg/l		20.0		108	70-130		
Chlorobenzene	**19.0**		µg/l		20.0		95	70-130		
Chloroethane	**17.9**		µg/l		20.0		90	70-130		
Chloroform	**19.3**		µg/l		20.0		96	70-130		
Chloromethane	**17.6**		µg/l		20.0		88	70-130		
2-Chlorotoluene	**19.5**		µg/l		20.0		97	70-130		
4-Chlorotoluene	**19.6**		µg/l		20.0		98	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418376 - SW846 5030 Water MS										
LCS (1418376-BS1)					Prepared & Analyzed: 06-Aug-14					
1,2-Dibromo-3-chloropropane	**19.3**		µg/l		20.0		96	70-130		
Dibromochloromethane	**19.3**		µg/l		20.0		97	70-130		
1,2-Dibromoethane (EDB)	**19.6**		µg/l		20.0		98	70-130		
Dibromomethane	**20.2**		µg/l		20.0		101	70-130		
1,2-Dichlorobenzene	**18.8**		µg/l		20.0		94	70-130		
1,3-Dichlorobenzene	**19.8**		µg/l		20.0		99	70-130		
1,4-Dichlorobenzene	**18.5**		µg/l		20.0		93	70-130		
Dichlorodifluoromethane (Freon12)	**18.0**		µg/l		20.0		90	70-130		
1,1-Dichloroethane	**18.5**		µg/l		20.0		93	70-130		
1,2-Dichloroethane	**19.2**		µg/l		20.0		96	70-130		
1,1-Dichloroethene	**18.4**		µg/l		20.0		92	70-130		
cis-1,2-Dichloroethene	**18.9**		µg/l		20.0		94	70-130		
trans-1,2-Dichloroethene	**18.1**		µg/l		20.0		90	70-130		
1,2-Dichloropropane	**18.7**		µg/l		20.0		93	70-130		
1,3-Dichloropropane	**18.8**		µg/l		20.0		94	70-130		
2,2-Dichloropropane	**15.3**		µg/l		20.0		77	70-130		
1,1-Dichloropropene	**17.5**		µg/l		20.0		87	70-130		
cis-1,3-Dichloropropene	**19.1**		µg/l		20.0		96	70-130		
trans-1,3-Dichloropropene	**17.4**		µg/l		20.0		87	70-130		
Ethylbenzene	**19.4**		µg/l		20.0		97	70-130		
Hexachlorobutadiene	**18.6**		µg/l		20.0		93	70-130		
2-Hexanone (MBK)	**17.1**		µg/l		20.0		85	70-130		
Isopropylbenzene	**19.0**		µg/l		20.0		95	70-130		
4-Isopropyltoluene	**18.0**		µg/l		20.0		90	70-130		
Methyl tert-butyl ether	**17.4**		µg/l		20.0		87	70-130		
4-Methyl-2-pentanone (MIBK)	**15.8**		µg/l		20.0		79	70-130		
Methylene chloride	**18.8**		µg/l		20.0		94	70-130		
Naphthalene	**15.8**		µg/l		20.0		79	70-130		
n-Propylbenzene	**19.0**		µg/l		20.0		95	70-130		
Styrene	**19.4**		µg/l		20.0		97	70-130		
1,1,1,2-Tetrachloroethane	**21.5**		µg/l		20.0		107	70-130		
1,1,2,2-Tetrachloroethane	**17.3**		µg/l		20.0		87	70-130		
Tetrachloroethene	**18.2**		µg/l		20.0		91	70-130		
Toluene	**19.0**		µg/l		20.0		95	70-130		
1,2,3-Trichlorobenzene	**18.5**		µg/l		20.0		93	70-130		
1,2,4-Trichlorobenzene	**16.6**		µg/l		20.0		83	70-130		
1,3,5-Trichlorobenzene	**18.0**		µg/l		20.0		90	70-130		
1,1,1-Trichloroethane	**18.9**		µg/l		20.0		94	70-130		
1,1,2-Trichloroethane	**18.9**		µg/l		20.0		94	70-130		
Trichloroethene	**18.4**		µg/l		20.0		92	70-130		
Trichlorofluoromethane (Freon 11)	**18.5**		µg/l		20.0		93	70-130		
1,2,3-Trichloropropane	**19.5**		µg/l		20.0		97	70-130		
1,2,4-Trimethylbenzene	**19.8**		µg/l		20.0		99	70-130		
1,3,5-Trimethylbenzene	**19.6**		µg/l		20.0		98	70-130		
Vinyl chloride	**18.2**		µg/l		20.0		91	70-130		
m,p-Xylene	**19.4**		µg/l		20.0		97	70-130		
o-Xylene	**21.3**		µg/l		20.0		106	70-130		
Tetrahydrofuran	**16.5**		µg/l		20.0		82	70-130		
Ethyl ether	**18.8**		µg/l		20.0		94	70-130		
Tert-amyl methyl ether	**17.2**		µg/l		20.0		86	70-130		
Ethyl tert-butyl ether	**16.6**		µg/l		20.0		83	70-130		
Di-isopropyl ether	**18.0**		µg/l		20.0		90	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418376 - SW846 5030 Water MS										
LCS (1418376-BS1)						Prepared & Analyzed: 06-Aug-14				
Tert-Butanol / butyl alcohol	**158**		µg/l		200		79	70-130		
1,4-Dioxane	**166**		µg/l		200		83	70-130		
trans-1,4-Dichloro-2-butene	**16.6**		µg/l		20.0		83	70-130		
Ethanol	**384**		µg/l		400		96	70-130		
Surrogate: 4-Bromofluorobenzene	*50.0*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.6*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Dibromofluoromethane	*48.8*		µg/l		*50.0*		*98*	*70-130*		
LCS Dup (1418376-BSD1)						Prepared & Analyzed: 06-Aug-14				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**18.6**		µg/l		20.0		93	70-130	3	20
Acetone	**26.8**		µg/l		20.0		134	70-130	17	20
Acrylonitrile	**17.6**		µg/l		20.0		88	70-130	4	20
Benzene	**18.9**		µg/l		20.0		94	70-130	0.8	20
Bromobenzene	**18.6**		µg/l		20.0		93	70-130	2	20
Bromochloromethane	**19.1**		µg/l		20.0		95	70-130	3	20
Bromodichloromethane	**19.8**		µg/l		20.0		99	70-130	6	20
Bromoform	**20.3**		µg/l		20.0		101	70-130	3	20
Bromomethane	**19.1**		µg/l		20.0		96	70-130	2	20
2-Butanone (MEK)	**16.0**		µg/l		20.0		80	70-130	14	20
n-Butylbenzene	**18.1**		µg/l		20.0		90	70-130	0.6	20
sec-Butylbenzene	**19.3**		µg/l		20.0		97	70-130	0.4	20
tert-Butylbenzene	**19.2**		µg/l		20.0		96	70-130	0.5	20
Carbon disulfide	**19.1**		µg/l		20.0		96	70-130	0.3	20
Carbon tetrachloride	**21.6**		µg/l		20.0		108	70-130	0.6	20
Chlorobenzene	**18.7**		µg/l		20.0		93	70-130	2	20
Chloroethane	**17.4**		µg/l		20.0		87	70-130	3	20
Chloroform	**18.8**		µg/l		20.0		94	70-130	2	20
Chloromethane	**17.5**		µg/l		20.0		88	70-130	0.3	20
2-Chlorotoluene	**19.3**		µg/l		20.0		97	70-130	0.8	20
4-Chlorotoluene	**19.1**		µg/l		20.0		95	70-130	3	20
1,2-Dibromo-3-chloropropane	**17.6**		µg/l		20.0		88	70-130	9	20
Dibromochloromethane	**18.8**		µg/l		20.0		94	70-130	3	20
1,2-Dibromoethane (EDB)	**19.1**		µg/l		20.0		95	70-130	3	20
Dibromomethane	**19.2**		µg/l		20.0		96	70-130	5	20
1,2-Dichlorobenzene	**18.8**		µg/l		20.0		94	70-130	0.2	20
1,3-Dichlorobenzene	**19.2**		µg/l		20.0		96	70-130	3	20
1,4-Dichlorobenzene	**17.9**		µg/l		20.0		90	70-130	3	20
Dichlorodifluoromethane (Freon12)	**17.5**		µg/l		20.0		88	70-130	3	20
1,1-Dichloroethane	**18.2**		µg/l		20.0		91	70-130	2	20
1,2-Dichloroethane	**18.4**		µg/l		20.0		92	70-130	4	20
1,1-Dichloroethene	**18.3**		µg/l		20.0		92	70-130	0.8	20
cis-1,2-Dichloroethene	**18.6**		µg/l		20.0		93	70-130	2	20
trans-1,2-Dichloroethene	**17.9**		µg/l		20.0		90	70-130	0.9	20
1,2-Dichloropropane	**18.0**		µg/l		20.0		90	70-130	3	20
1,3-Dichloropropane	**17.9**		µg/l		20.0		89	70-130	5	20
2,2-Dichloropropane	**15.4**		µg/l		20.0		77	70-130	0.7	20
1,1-Dichloropropene	**17.8**		µg/l		20.0		89	70-130	2	20
cis-1,3-Dichloropropene	**18.4**		µg/l		20.0		92	70-130	4	20
trans-1,3-Dichloropropene	**17.0**		µg/l		20.0		85	70-130	2	20
Ethylbenzene	**18.8**		µg/l		20.0		94	70-130	3	20
Hexachlorobutadiene	**18.6**		µg/l		20.0		93	70-130	0.4	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418376 - SW846 5030 Water MS										
LCS Dup (1418376-BSD1)					Prepared & Analyzed: 06-Aug-14					
2-Hexanone (MBK)	**15.8**		µg/l		20.0		79	70-130	8	20
Isopropylbenzene	**18.8**		µg/l		20.0		94	70-130	0.8	20
4-Isopropyltoluene	**18.7**		µg/l		20.0		94	70-130	4	20
Methyl tert-butyl ether	**16.6**		µg/l		20.0		83	70-130	5	20
4-Methyl-2-pentanone (MIBK)	**15.5**		µg/l		20.0		77	70-130	2	20
Methylene chloride	**18.4**		µg/l		20.0		92	70-130	3	20
Naphthalene	**15.5**		µg/l		20.0		78	70-130	2	20
n-Propylbenzene	**18.6**		µg/l		20.0		93	70-130	2	20
Styrene	**19.0**		µg/l		20.0		95	70-130	2	20
1,1,1,2-Tetrachloroethane	**21.3**		µg/l		20.0		107	70-130	0.7	20
1,1,2,2-Tetrachloroethane	**18.7**		µg/l		20.0		94	70-130	8	20
Tetrachloroethene	**18.0**		µg/l		20.0		90	70-130	0.8	20
Toluene	**18.4**		µg/l		20.0		92	70-130	3	20
1,2,3-Trichlorobenzene	**18.9**		µg/l		20.0		94	70-130	2	20
1,2,4-Trichlorobenzene	**16.8**		µg/l		20.0		84	70-130	1	20
1,3,5-Trichlorobenzene	**17.8**		µg/l		20.0		89	70-130	0.6	20
1,1,1-Trichloroethane	**18.8**		µg/l		20.0		94	70-130	0.3	20
1,1,2-Trichloroethane	**18.2**		µg/l		20.0		91	70-130	4	20
Trichloroethene	**17.1**		µg/l		20.0		86	70-130	7	20
Trichlorofluoromethane (Freon 11)	**18.5**		µg/l		20.0		92	70-130	0.2	20
1,2,3-Trichloropropane	**18.3**		µg/l		20.0		92	70-130	6	20
1,2,4-Trimethylbenzene	**19.6**		µg/l		20.0		98	70-130	1	20
1,3,5-Trimethylbenzene	**19.6**		µg/l		20.0		98	70-130	0.2	20
Vinyl chloride	**17.8**		µg/l		20.0		89	70-130	2	20
m,p-Xylene	**19.4**		µg/l		20.0		97	70-130	0.2	20
o-Xylene	**20.1**		µg/l		20.0		100	70-130	6	20
Tetrahydrofuran	**15.3**		µg/l		20.0		77	70-130	7	20
Ethyl ether	**18.2**		µg/l		20.0		91	70-130	3	20
Tert-amyl methyl ether	**16.2**		µg/l		20.0		81	70-130	6	20
Ethyl tert-butyl ether	**15.8**		µg/l		20.0		79	70-130	5	20
Di-isopropyl ether	**17.5**		µg/l		20.0		87	70-130	3	20
Tert-Butanol / butyl alcohol	**153**		µg/l		200		77	70-130	3	20
1,4-Dioxane	**164**		µg/l		200		82	70-130	2	20
trans-1,4-Dichloro-2-butene	**15.8**		µg/l		20.0		79	70-130	5	20
Ethanol	**375**		µg/l		400		94	70-130	2	20
Surrogate: 4-Bromofluorobenzene	*50.5*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: Toluene-d8	*49.2*		µg/l		*50.0*		*98*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.8*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*49.6*		µg/l		*50.0*		*99*	*70-130*		
Batch 1418497 - SW846 5030 Water MS										
Blank (1418497-BLK1)					Prepared: 07-Aug-14 Analyzed: 08-Aug-14					
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						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418497 - SW846 5030 Water MS										
Blank (1418497-BLK1)					Prepared: 07-Aug-14 Analyzed: 08-Aug-14					
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						
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						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418497 - SW846 5030 Water MS										
Blank (1418497-BLK1)					Prepared: 07-Aug-14 Analyzed: 08-Aug-14					
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	*49.7*		µg/l		*50.0*		*99*	*70-130*		
Surrogate: Toluene-d8	*50.8*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.2*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*48.3*		µg/l		*50.0*		*97*	*70-130*		
LCS (1418497-BS1)					Prepared: 07-Aug-14 Analyzed: 08-Aug-14					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.2**		µg/l		20.0		101	70-130		
Acetone	**20.0**		µg/l		20.0		100	70-130		
Acrylonitrile	**19.2**		µg/l		20.0		96	70-130		
Benzene	**19.0**		µg/l		20.0		95	70-130		
Bromobenzene	**19.9**		µg/l		20.0		99	70-130		
Bromochloromethane	**19.2**		µg/l		20.0		96	70-130		
Bromodichloromethane	**20.2**		µg/l		20.0		101	70-130		
Bromoform	**22.0**		µg/l		20.0		110	70-130		
Bromomethane	**23.7**		µg/l		20.0		118	70-130		
2-Butanone (MEK)	**18.2**		µg/l		20.0		91	70-130		
n-Butylbenzene	**20.5**		µg/l		20.0		102	70-130		
sec-Butylbenzene	**20.2**		µg/l		20.0		101	70-130		
tert-Butylbenzene	**21.2**		µg/l		20.0		106	70-130		
Carbon disulfide	**19.1**		µg/l		20.0		96	70-130		
Carbon tetrachloride	**20.3**		µg/l		20.0		101	70-130		
Chlorobenzene	**19.4**		µg/l		20.0		97	70-130		
Chloroethane	**19.8**		µg/l		20.0		99	70-130		
Chloroform	**17.7**		µg/l		20.0		88	70-130		
Chloromethane	**21.6**		µg/l		20.0		108	70-130		
2-Chlorotoluene	**21.0**		µg/l		20.0		105	70-130		
4-Chlorotoluene	**20.3**		µg/l		20.0		101	70-130		
1,2-Dibromo-3-chloropropane	**19.9**		µg/l		20.0		100	70-130		
Dibromochloromethane	**20.4**		µg/l		20.0		102	70-130		
1,2-Dibromoethane (EDB)	**19.3**		µg/l		20.0		97	70-130		
Dibromomethane	**19.7**		µg/l		20.0		98	70-130		
1,2-Dichlorobenzene	**20.4**		µg/l		20.0		102	70-130		
1,3-Dichlorobenzene	**19.5**		µg/l		20.0		98	70-130		
1,4-Dichlorobenzene	**19.2**		µg/l		20.0		96	70-130		
Dichlorodifluoromethane (Freon12)	**20.2**		µg/l		20.0		101	70-130		
1,1-Dichloroethane	**18.3**		µg/l		20.0		92	70-130		
1,2-Dichloroethane	**20.0**		µg/l		20.0		100	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418497 - SW846 5030 Water MS										
LCS (1418497-BS1)						Prepared: 07-Aug-14 Analyzed: 08-Aug-14				
1,1-Dichloroethene	**19.8**		µg/l		20.0		99	70-130		
cis-1,2-Dichloroethene	**18.6**		µg/l		20.0		93	70-130		
trans-1,2-Dichloroethene	**18.7**		µg/l		20.0		94	70-130		
1,2-Dichloropropane	**18.6**		µg/l		20.0		93	70-130		
1,3-Dichloropropane	**19.7**		µg/l		20.0		98	70-130		
2,2-Dichloropropane	**21.2**		µg/l		20.0		106	70-130		
1,1-Dichloropropene	**19.4**		µg/l		20.0		97	70-130		
cis-1,3-Dichloropropene	**21.7**		µg/l		20.0		108	70-130		
trans-1,3-Dichloropropene	**23.8**		µg/l		20.0		119	70-130		
Ethylbenzene	**20.0**		µg/l		20.0		100	70-130		
Hexachlorobutadiene	**21.2**		µg/l		20.0		106	70-130		
2-Hexanone (MBK)	**19.5**		µg/l		20.0		98	70-130		
Isopropylbenzene	**20.2**		µg/l		20.0		101	70-130		
4-Isopropyltoluene	**20.5**		µg/l		20.0		102	70-130		
Methyl tert-butyl ether	**20.2**		µg/l		20.0		101	70-130		
4-Methyl-2-pentanone (MIBK)	**20.4**		µg/l		20.0		102	70-130		
Methylene chloride	**18.6**		µg/l		20.0		93	70-130		
Naphthalene	**20.6**		µg/l		20.0		103	70-130		
n-Propylbenzene	**20.1**		µg/l		20.0		100	70-130		
Styrene	**21.2**		µg/l		20.0		106	70-130		
1,1,1,2-Tetrachloroethane	**19.6**		µg/l		20.0		98	70-130		
1,1,2,2-Tetrachloroethane	**18.8**		µg/l		20.0		94	70-130		
Tetrachloroethene	**19.6**		µg/l		20.0		98	70-130		
Toluene	**19.4**		µg/l		20.0		97	70-130		
1,2,3-Trichlorobenzene	**19.9**		µg/l		20.0		100	70-130		
1,2,4-Trichlorobenzene	**20.8**		µg/l		20.0		104	70-130		
1,3,5-Trichlorobenzene	**21.4**		µg/l		20.0		107	70-130		
1,1,1-Trichloroethane	**20.3**		µg/l		20.0		101	70-130		
1,1,2-Trichloroethane	**19.5**		µg/l		20.0		97	70-130		
Trichloroethene	**19.5**		µg/l		20.0		97	70-130		
Trichlorofluoromethane (Freon 11)	**20.5**		µg/l		20.0		102	70-130		
1,2,3-Trichloropropane	**19.4**		µg/l		20.0		97	70-130		
1,2,4-Trimethylbenzene	**21.4**		µg/l		20.0		107	70-130		
1,3,5-Trimethylbenzene	**21.5**		µg/l		20.0		108	70-130		
Vinyl chloride	**21.3**		µg/l		20.0		106	70-130		
m,p-Xylene	**20.6**		µg/l		20.0		103	70-130		
o-Xylene	**20.8**		µg/l		20.0		104	70-130		
Tetrahydrofuran	**16.5**		µg/l		20.0		82	70-130		
Ethyl ether	**19.8**		µg/l		20.0		99	70-130		
Tert-amyl methyl ether	**17.3**		µg/l		20.0		87	70-130		
Ethyl tert-butyl ether	**21.1**		µg/l		20.0		105	70-130		
Di-isopropyl ether	**18.2**		µg/l		20.0		91	70-130		
Tert-Butanol / butyl alcohol	**197**		µg/l		200		98	70-130		
1,4-Dioxane	**170**		µg/l		200		85	70-130		
trans-1,4-Dichloro-2-butene	**22.0**		µg/l		20.0		110	70-130		
Ethanol	**335**		µg/l		400		84	70-130		
Surrogate: 4-Bromofluorobenzene	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.2*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*48.6*		µg/l		*50.0*		*97*	*70-130*		
LCS Dup (1418497-BSD1)						Prepared: 07-Aug-14 Analyzed: 08-Aug-14				

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418497 - SW846 5030 Water MS										
LCS Dup (1418497-BSD1)					Prepared: 07-Aug-14 Analyzed: 08-Aug-14					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**21.0**		µg/l		20.0		105	70-130	4	20
Acetone	**19.9**		µg/l		20.0		99	70-130	0.4	20
Acrylonitrile	**18.4**		µg/l		20.0		92	70-130	4	20
Benzene	**20.0**		µg/l		20.0		100	70-130	5	20
Bromobenzene	**20.2**		µg/l		20.0		101	70-130	1	20
Bromochloromethane	**20.5**		µg/l		20.0		103	70-130	7	20
Bromodichloromethane	**21.1**		µg/l		20.0		106	70-130	4	20
Bromoform	**21.7**		µg/l		20.0		108	70-130	1	20
Bromomethane	**27.8**		µg/l		20.0		139	70-130	16	20
2-Butanone (MEK)	**18.6**		µg/l		20.0		93	70-130	2	20
n-Butylbenzene	**22.6**		µg/l		20.0		113	70-130	10	20
sec-Butylbenzene	**21.4**		µg/l		20.0		107	70-130	6	20
tert-Butylbenzene	**22.2**		µg/l		20.0		111	70-130	5	20
Carbon disulfide	**20.9**		µg/l		20.0		104	70-130	9	20
Carbon tetrachloride	**21.2**		µg/l		20.0		106	70-130	4	20
Chlorobenzene	**20.0**		µg/l		20.0		100	70-130	3	20
Chloroethane	**20.7**		µg/l		20.0		103	70-130	4	20
Chloroform	**18.7**		µg/l		20.0		94	70-130	6	20
Chloromethane	**23.5**		µg/l		20.0		118	70-130	9	20
2-Chlorotoluene	**22.0**		µg/l		20.0		110	70-130	4	20
4-Chlorotoluene	**21.5**		µg/l		20.0		108	70-130	6	20
1,2-Dibromo-3-chloropropane	**20.0**		µg/l		20.0		100	70-130	0.7	20
Dibromochloromethane	**20.8**		µg/l		20.0		104	70-130	2	20
1,2-Dibromoethane (EDB)	**19.4**		µg/l		20.0		97	70-130	0.5	20
Dibromomethane	**19.9**		µg/l		20.0		100	70-130	1	20
1,2-Dichlorobenzene	**21.4**		µg/l		20.0		107	70-130	4	20
1,3-Dichlorobenzene	**20.1**		µg/l		20.0		100	70-130	3	20
1,4-Dichlorobenzene	**20.2**		µg/l		20.0		101	70-130	5	20
Dichlorodifluoromethane (Freon12)	**21.4**		µg/l		20.0		107	70-130	6	20
1,1-Dichloroethane	**19.7**		µg/l		20.0		99	70-130	7	20
1,2-Dichloroethane	**20.7**		µg/l		20.0		104	70-130	3	20
1,1-Dichloroethene	**21.2**		µg/l		20.0		106	70-130	7	20
cis-1,2-Dichloroethene	**20.0**		µg/l		20.0		100	70-130	7	20
trans-1,2-Dichloroethene	**20.0**		µg/l		20.0		100	70-130	7	20
1,2-Dichloropropane	**20.1**		µg/l		20.0		100	70-130	7	20
1,3-Dichloropropane	**19.8**		µg/l		20.0		99	70-130	0.5	20
2,2-Dichloropropane	**22.2**		µg/l		20.0		111	70-130	4	20
1,1-Dichloropropene	**21.2**		µg/l		20.0		106	70-130	9	20
cis-1,3-Dichloropropene	**22.7**		µg/l		20.0		113	70-130	5	20
trans-1,3-Dichloropropene	**24.5**		µg/l		20.0		122	70-130	3	20
Ethylbenzene	**21.3**		µg/l		20.0		106	70-130	6	20
Hexachlorobutadiene	**22.3**		µg/l		20.0		112	70-130	5	20
2-Hexanone (MBK)	**19.6**		µg/l		20.0		98	70-130	0.4	20
Isopropylbenzene	**21.1**		µg/l		20.0		105	70-130	4	20
4-Isopropyltoluene	**22.0**		µg/l		20.0		110	70-130	7	20
Methyl tert-butyl ether	**20.7**		µg/l		20.0		103	70-130	2	20
4-Methyl-2-pentanone (MIBK)	**20.5**		µg/l		20.0		103	70-130	0.8	20
Methylene chloride	**20.2**		µg/l		20.0		101	70-130	8	20
Naphthalene	**20.9**		µg/l		20.0		104	70-130	2	20
n-Propylbenzene	**21.4**		µg/l		20.0		107	70-130	6	20
Styrene	**22.2**		µg/l		20.0		111	70-130	5	20
1,1,1,2-Tetrachloroethane	**20.0**		µg/l		20.0		100	70-130	2	20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418497 - SW846 5030 Water MS										
LCS Dup (1418497-BSD1)					Prepared: 07-Aug-14 Analyzed: 08-Aug-14					
1,1,2,2-Tetrachloroethane	**19.9**		µg/l		20.0		100	70-130	6	20
Tetrachloroethene	**20.5**		µg/l		20.0		102	70-130	4	20
Toluene	**20.3**		µg/l		20.0		101	70-130	5	20
1,2,3-Trichlorobenzene	**20.7**		µg/l		20.0		104	70-130	4	20
1,2,4-Trichlorobenzene	**21.7**		µg/l		20.0		109	70-130	5	20
1,3,5-Trichlorobenzene	**22.6**		µg/l		20.0		113	70-130	5	20
1,1,1-Trichloroethane	**21.8**		µg/l		20.0		109	70-130	7	20
1,1,2-Trichloroethane	**19.8**		µg/l		20.0		99	70-130	1	20
Trichloroethene	**19.3**		µg/l		20.0		97	70-130	0.7	20
Trichlorofluoromethane (Freon 11)	**21.9**		µg/l		20.0		110	70-130	7	20
1,2,3-Trichloropropane	**19.3**		µg/l		20.0		96	70-130	0.4	20
1,2,4-Trimethylbenzene	**22.5**		µg/l		20.0		112	70-130	5	20
1,3,5-Trimethylbenzene	**22.6**		µg/l		20.0		113	70-130	5	20
Vinyl chloride	**23.2**		µg/l		20.0		116	70-130	9	20
m,p-Xylene	**21.7**		µg/l		20.0		108	70-130	5	20
o-Xylene	**21.5**		µg/l		20.0		108	70-130	3	20
Tetrahydrofuran	**16.6**		µg/l		20.0		83	70-130	0.7	20
Ethyl ether	**20.5**		µg/l		20.0		102	70-130	3	20
Tert-amyl methyl ether	**17.7**		µg/l		20.0		89	70-130	2	20
Ethyl tert-butyl ether	**22.0**		µg/l		20.0		110	70-130	4	20
Di-isopropyl ether	**19.6**		µg/l		20.0		98	70-130	7	20
Tert-Butanol / butyl alcohol	**198**		µg/l		200		99	70-130	0.7	20
1,4-Dioxane	**177**		µg/l		200		88	70-130	4	20
trans-1,4-Dichloro-2-butene	**21.8**		µg/l		20.0		109	70-130	1	20
Ethanol	**362**		µg/l		400		91	70-130	8	20
Surrogate: 4-Bromofluorobenzene	*50.1*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8	*50.8*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*48.2*		µg/l		*50.0*		*96*	*70-130*		

Microextractable Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418819 - General Preparation SVOC										
Blank (1418819-BLK1)						Prepared & Analyzed: 12-Aug-14				
1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100						
LCS (1418819-BS1)						Prepared & Analyzed: 12-Aug-14				
1,2-Dibromoethane (EDB)	**0.222**		µg/l	0.0100	0.200		111	60-140		
LCS Dup (1418819-BSD1)						Prepared & Analyzed: 12-Aug-14				
1,2-Dibromoethane (EDB)	**0.242**		µg/l	0.0100	0.200		121	60-140	9	50
Duplicate (1418819-DUP1)			**Source: SB93924-02**			Prepared & Analyzed: 12-Aug-14				
1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100		BRL				30

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418485 - SW846 3510C										
Blank (1418485-BLK1)						Prepared: 07-Aug-14 Analyzed: 08-Aug-14				
Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0						
LCS (1418485-BS1)						Prepared: 07-Aug-14 Analyzed: 08-Aug-14				
Non-polar material (SGT-HEM)	**16.4**		mg/l	1.0	18.8		87	83-101		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418570 - SW846 3005A										
Blank (1418570-BLK1)					Prepared: 08-Aug-14 Analyzed: 12-Aug-14					
Iron	< 0.0150		mg/l	0.0150						
Lead	< 0.0075		mg/l	0.0075						
LCS (1418570-BS1)					Prepared: 08-Aug-14 Analyzed: 12-Aug-14					
Iron	**1.23**		mg/l	0.0150	1.25		99	85-115		
Lead	**1.17**		mg/l	0.0075	1.25		94	85-115		
LCS Dup (1418570-BSD1)					Prepared: 08-Aug-14 Analyzed: 12-Aug-14					
Iron	**1.25**		mg/l	0.0150	1.25		100	85-115	1	20
Lead	**1.18**		mg/l	0.0075	1.25		95	85-115	1	20
Duplicate (1418570-DUP1)			**Source: SB93924-01**		Prepared: 08-Aug-14 Analyzed: 12-Aug-14					
Iron	**145**		mg/l	0.0150		149			2	20
Lead	**0.109**		mg/l	0.0075		0.113			4	20
Matrix Spike (1418570-MS1)			**Source: SB93924-01**		Prepared: 08-Aug-14 Analyzed: 12-Aug-14					
Iron	**143**	QM2	mg/l	0.0150	1.25	149	-472	75-125		
Lead	**0.954**	QM8	mg/l	0.0075	1.25	0.113	67	75-125		
Matrix Spike Dup (1418570-MSD1)			**Source: SB93924-01**		Prepared: 08-Aug-14 Analyzed: 12-Aug-14					
Iron	**150**	QM2	mg/l	0.0150	1.25	149	60	75-125	5	20
Lead	**0.958**	QM8	mg/l	0.0075	1.25	0.113	68	75-125	0.3	20
Post Spike (1418570-PS1)			**Source: SB93924-01**		Prepared: 08-Aug-14 Analyzed: 12-Aug-14					
Iron	**149**	QM2	mg/l	0.0150	1.25	149	-4	80-120		
Lead	**1.12**		mg/l	0.0075	1.25	0.113	80	80-120		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418380 - General Preparation										
Blank (1418380-BLK1)						Prepared: 06-Aug-14 Analyzed: 07-Aug-14				
Total Suspended Solids	< 5.0		mg/l	5.0						
LCS (1418380-BS1)						Prepared: 06-Aug-14 Analyzed: 07-Aug-14				
Total Suspended Solids	**495**		mg/l	25.0	468		106	90-110		

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.
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.
QM8	The spike recovery exceeded the QC control limits for the MS and/or MSD. The batch was accepted based upon acceptable PS and /or LCS recovery.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
LIV	The initial volume for this sample has been reduced due to sample matrix and/or historical data therefore elevating the reporting limit.

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:
Nicole Leja

SB93924 AME

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- [X] Standard TAT - 7 to 10 business days
- [ ] Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: ECS - Agawam
Telephone #: 413-789-3530
Project Mgr: Shawn Rising

Invoice To: ECS - Agawam
P.O No.: _____ Quote/RQN: Extreme

Project No: 01-204373.01
Site Name: 3036 South main st
Location: Bondsville State: MA
Sampler(s): Jillian Roy

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= ice 12= _____

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= _____ X2= _____ X3= _____

G= Grab C=Compsite

List Preservative Code below: 3/11 | 1/11 | 2/11 | 4/11 | 11

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: VOCs 8260C	EDB-504.1	TPH-1664	total Cr/Pb	TSS-SM2540D	Check if chlorinated
SB93924-01	TP-North	8/4/14	12:11	G	GW	5	1		2	X	X	X	X	X	☐
-02	TP-East	8/4/14	11:17	G	GW	5	1		2	X	X	X	X	X	☐
-03	TP-South	8/4/14	2:48	G	GW	5	80		2	X	X	X	X	X	☐
-04	TP-West	8/4/14	12:50	G	GW	5	1		2	X	X	X	X	X	☐
-05	Trip Blank	8/4/14	8:00am	G	X	1				X			-	X	☐
															☐
															☐
															☐
															☐
															☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? [X] Yes [ ] No
CT DPH RCP Report? [ ] Yes [ ] No
- [ ] Standard [ ] No QC
- [ ] DQA*
- [ ] ASP A* [ ] ASP B*
- [ ] NJ Reduced* [ ] NJ Full*
- [ ] Tier II* [ ] Tier IV*
- [ ] Other: _____

State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:
Jillian Roy	Mary Olsen	8/4/2014	1017

Temp °C
Observed: 10.1
Correction Factor: -1
Corrected: 51
IR ID #: 02

- [ ] EDD format: _____
- [X] E-mail to: abutler@ecsconsult.com srising@ecsconsult.com

Condition upon receipt: Custody Seals: [ ] Present [ ] Intact [ ] Broken
[ ] Ambient [X] Iced [ ] Refrigerated [ ] DI VOA Frozen [ ] Soil Jar Frozen

SB93924 AME

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- [X] Standard TAT - 7 to 10 business days
- [ ] Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: ECS - Agawam
Telephone #: 413-789-3530
Project Mgr: Shawn Rising

Invoice To: ECS - Agawam
P.O No.: _____ Quote/RQN: Extreme

Project No: 01-204373.01
Site Name: 3036 South main st
Location: Bondsville State: MA
Sampler(s): Jillian Roy

F=Field Filtered 1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= ice 12= _____

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= DI Water * X2= _____ X3= _____

G= Grab C=Compsite

List Preservative Code below:

3/11	1/11	2/11	4/11	11				

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: VOCs 8260	EDB-504.1	TPH-1664	total/can/lead	TSS-SM2540	Check if chlorinated
SB93924-01	TP-North	8/4/14	12:11	G	GW	5	1		2	X	X	X	X	X	☐
-02	TP-East	8/4/14	11:17	G	GW	5	1		2	X	X	X	X	X	☐
-03	TP-South	8/4/14	2:48	G	GW	5	80		2	X	X	X*	X	X	☐
-04	TP-West	8/4/14	12:50	G	GW	5	1		2	X	X	X	X	X	☐
-05	Trip Blank	8/4/14	8:00am	G	X	1				X			-		☐
															☐
															☐
															☐
															☐
															☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? [X] Yes [ ] No
CT DPH RCP Report? [ ] Yes [ ] No
- [ ] Standard
- [ ] No QC
- [ ] DQA*
- [ ] ASP A*
- [ ] ASP B*
- [ ] NJ Reduced*
- [ ] NJ Full*
- [ ] Tier II*
- [ ] Tier IV*
- [ ] Other: _____

State-specific reporting standards:

* DI H_2O matrix of trip per client.
Client submitted volume of TP-South for TPH 1664 on seperate chain.
AME 8/6

Relinquished by:	Received by:	Date:	Time:
Jillian Roy	Mary Olsen	8/4/2014	1617

Temp °C
Observed: 10.1
Correction Factor: -1
Corrected: 5.1
IR ID #: 02

- [ ] EDD format: _____
- [X] E-mail to: abutler@ecsconsult.com srising@ecsconsult.com

Condition upon receipt: Custody Seals: [ ] Present [ ] Intact [ ] Broken
[ ] Ambient [X] Iced [ ] Refrigerated [ ] DI VOA Frozen [ ] Soil Jar Frozen

Report Date:
14-Aug-14 10:43

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Environmental Compliance Services
588 Silver Street
Agawam, MA 01001
Attn: Amy Butler

Project: 3036 S. Main St - Bondsville, MA
Project #: 01-204373.01

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB93914-01	TP-South	Ground Water	05-Aug-14 08:00	05-Aug-14 08:55

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 6 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 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, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, NJ-MA012, PA-68-04426 and FL-E87936).

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

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

The samples were received 4.1 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.

There is no relevant protocol-specific QC and/or performance standards non-conformances to report.

Sample Acceptance Check Form

Client:	Environmental Compliance Services - Agawam, MA
Project:	3036 S. Main St - Bondsville, MA / 01-204373.01
Work Order:	SB93914
Sample(s) received on:	8/5/2014
Received by:	Katy Wilkinson

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

	Yes	No	N/A
1. Were custody seals present?	☐	☑	☐
2. Were custody seals intact?	☐	☐	☑
3. Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
4. Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
5. Were samples refrigerated upon transfer to laboratory representative?	☐	☑	☐
6. Were sample containers received intact?	☑	☐	☐
7. Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
8. Were samples accompanied by a Chain of Custody document?	☑	☐	☐
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?	☑	☐	☐
10. Did sample container labels agree with Chain of Custody document?	☑	☐	☐
11. Were samples received within method-specific holding times?	☑	☐	☐

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
TP-South SB93914-01	01-204373.01	Ground Water	05-Aug-14 08:00	05-Aug-14

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Extractable Petroleum Hydrocarbons													
	Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0	0.3	1	EPA 1664B	07-Aug-14	08-Aug-14	JK	1418485	

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1418485 - SW846 3510C										
Blank (1418485-BLK1)						Prepared: 07-Aug-14 Analyzed: 08-Aug-14				
Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0						
LCS (1418485-BS1)						Prepared: 07-Aug-14 Analyzed: 08-Aug-14				
Non-polar material (SGT-HEM)	**16.4**		mg/l	1.0	18.8		87	83-101		

Notes and Definitions

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:

SB93914 AME

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- [X] Standard TAT - (7 to 10 business days)
- [ ] Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: ECS- Agawam
Telephone #:
Project Mgr:

Invoice To: ECS- Agawam
P.O No.: Quote/RQN: Extreme

Project No: 01-204373.01
Site Name: 3036 S. main st
Location: Bondsville State: MA
Sampler(s): Jillian Ray

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= ice 12=

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: List Preservative Code below: 2/4 — TPH-1664	Check if chlorinated
SB93914-01	TP-South	8-5-14	8:00	G	GW		1			X	

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? [X] Yes [ ] No
CT DPH RCP Report? [ ] Yes [ ] No
[ ] Standard [ ] No QC [ ] DQA*
[ ] ASP A* [ ] ASP B*
[ ] NJ Reduced* [ ] NJ Full*
[ ] Tier II* [ ] Tier IV*
[ ] Other:
State-specific reporting standards:

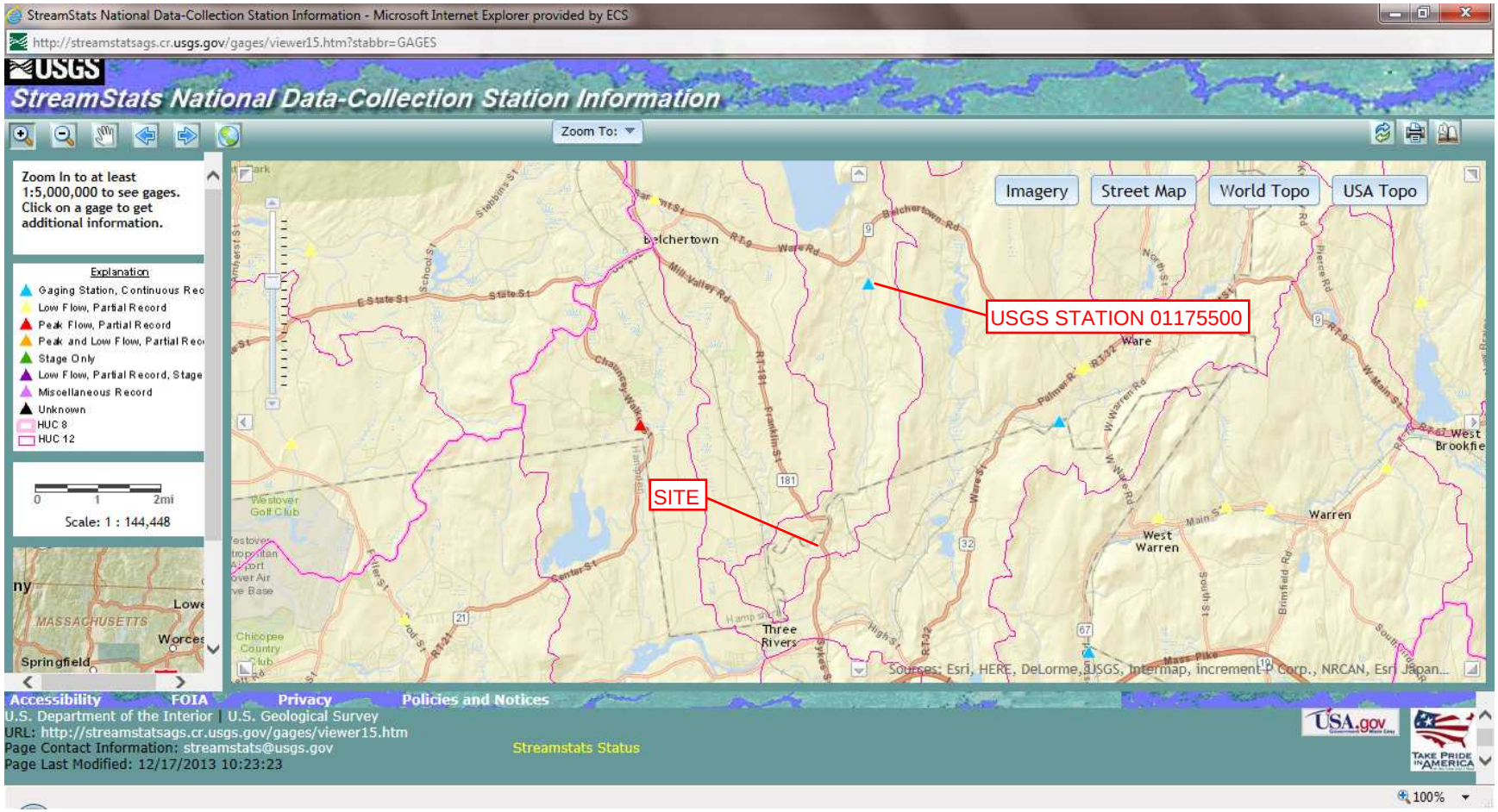
4.1 / 0 / 4.1 IR 01
@ 8/5/14

Relinquished by:	Received by:	Date:	Time:	Temp °C
Jillian Ray		8/5/14	855	Observed
				Correction Factor
				Corrected
				IR ID #

[ ] EDD format:
[X] E-mail to: abutler@ecsconsult.com
srising@ecsconsult.com

Condition upon receipt: Custody Seals: [ ] Present [ ] Intact [ ] Broken
[ ] Ambient [ ] Iced [ ] Refrigerated [ ] DI VOA Frozen [ ] Soil Jar Frozen

ATTACHMENT III


StreamStats National Data-Collection Station Information - Microsoft Internet Explorer provided by ECS
http://streamstatsags.cr.usgs.gov/gages/viewer15.htm?stabbr=GAGES
USGS
StreamStats National Data-Collection Station Information
Zoom To:
Zoom In to at least 1:5,000,000 to see gages. Click on a gage to get additional information.
Explanation
Gaging Station, Continuous Rec
Low Flow, Partial Record
Peak Flow, Partial Record
Peak and Low Flow, Partial Rec
Stage Only
Low Flow, Partial Record, Stage
Miscellaneous Record
Unknown
HUC 8
HUC 12
0 1 2mi
Scale: 1 : 144,448
Imagery
Street Map
World Topo
USA Topo
USGS STATION 01175500
SITE
Belchertown
Ware
West Warren
Warren
Three Rivers
Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan...
Accessibility
FOIA
Privacy
Policies and Notices
U.S. Department of the Interior | U.S. Geological Survey
URL: http://streamstatsags.cr.usgs.gov/gages/viewer15.htm
Page Contact Information: streamstats@usgs.gov
Page Last Modified: 12/17/2013 10:23:23
Streamstats Status
USA.gov
TAKE PRIDE IN AMERICA
100%

StreamStats Data-Collection Station Report

USGS Station Number	**01175500**
Station Name	**SWIFT RIVER AT WEST WARE, MA**

Click here to link to available data on NWIS-Web for this site.

Descriptive Information

Station Type	Gaging Station, continuous record
Location	
Gage	
Regulation and Diversions	
Regulated?	True
Period of Record	1912-present
Remarks	Regulated by Quabbin Reservoir since 1939. Diversion to and from Quabbin Reservoir for water supplies of metropolitan Boston and other cities. Water-quality records 1952-54.
Latitude (degrees NAD83)	42.26787
Longitude (degrees NAD83)	-72.3325822
Hydrologic unit code	01080204
County	015-Hampshire
HCDN2009	No

Physical Characteristics

Characteristic Name	Value	Units	Citation Number
Descriptive Information			
State_Code	25	dimensionless	30
Datum_of_Latitude_Longitude	NAD83	dimensionless	30
District_Code	25	dimensionless	30
Begin_date_of_record	10/1/1912	days	41
End_date_of_record	9/30/2003	days	41
Number_of_days_of_record	33237	days	41
Number_of_days_GT_0	33237	days	41
Active_station	Yes	Yes or No	41
Precipitation Statistics			
24_Hour_2_Year_Precipitation	2.9000	inches	47
Mean_Annual_Precipitation	44.400	inches	47
Climate Characteristics			
Mean_Annual_Snowfall	58.000	inches	47
Temperature Statistics			
Mean_Min_January_Temperature	13.000	degrees F	47
Topographical Characteristics			
Mean_Basin_Elevation	800	feet	30
Land Cover Characteristics			
Area_of_Lakes_and_Ponds	1.1	square miles	30
Percent_Forest	69.000	percent	47
Percent_Lakes_and_Ponds	1.1000	percent	47
Percent_Storage	1.1400	percent	47
Soil Properties			
Soil_Infiltration	5.3000	inches	47
Stream Channel Properties			
Main_Channel_Length	26.000	miles	47

Stream_Slope_10_and_85_Method	11.800	feet per mi	47
Total_Stream_Length	26	miles	30
Basin Dimensional Characteristics			
Contributing_Drainage_Area	188.000	square miles	47
Drainage_Area	189	square miles	30

Streamflow Statistics

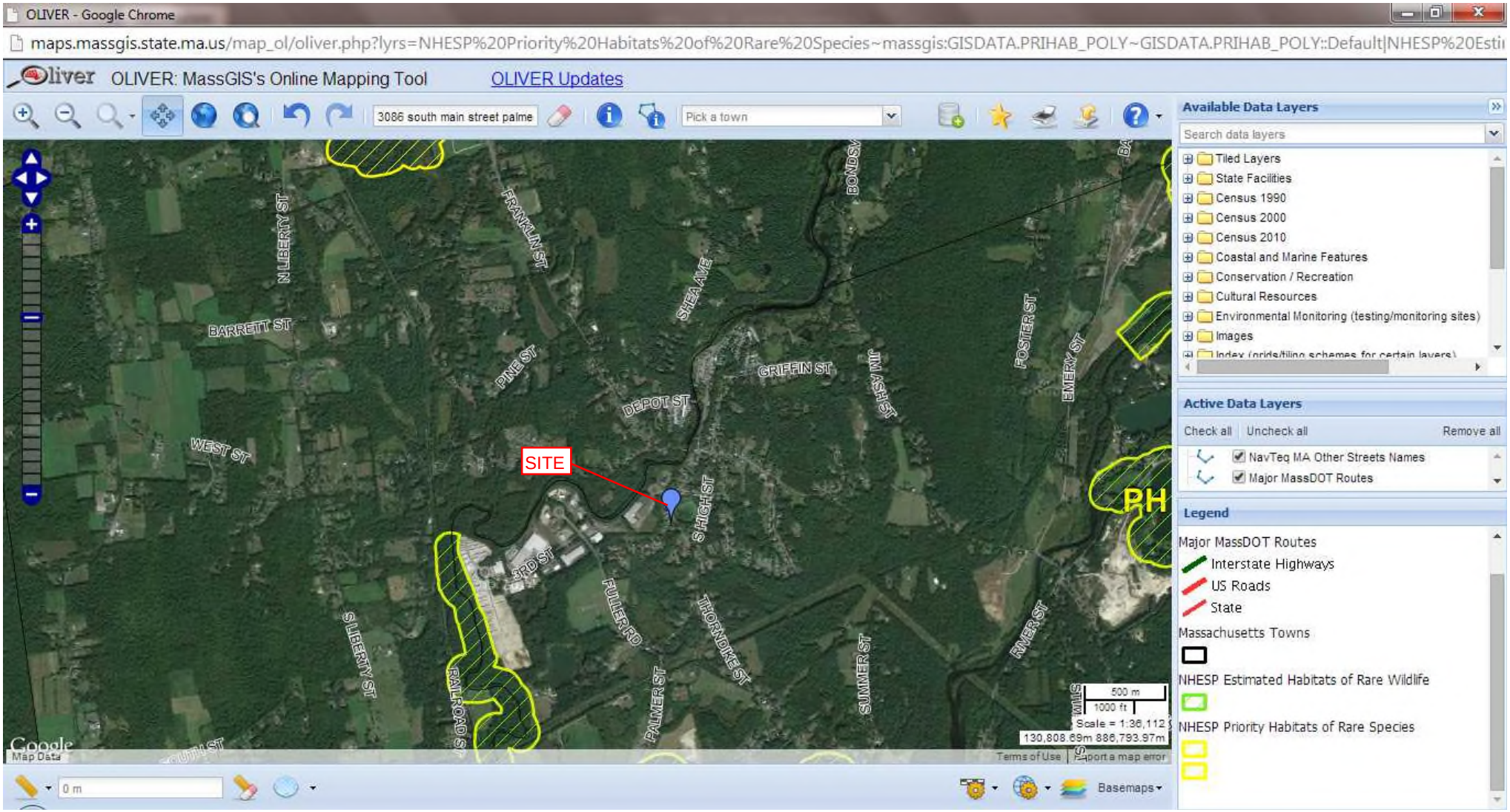
Statistic Name	Value	Units	Citation Number	Preferred?	Years of Record	Standard Error, percent	Variance log-10	Lower 95% Confidence Interval	Upper 95% Confidence Interval	Start Date	End Date	Remarks
Peak-Flow Statistics												
Mean_Annual_Flood	1810	cubic feet per second	12	Y								
2_Year_Peak_Flood	1660.00	cubic feet per second	47	Y								
Low-Flow Statistics												
7_Day_2_Year_Low_Flow	39	cubic feet per second	20	Y								
7_Day_10_Year_Low_Flow	33.7	cubic feet per second	20	Y								
Flow-Duration Statistics												
1_Percent_Duration	1080	cubic feet per second	41	Y	92							
5_Percent_Duration	591.65	cubic feet per second	41	Y	92							
10_Percent_Duration	403	cubic feet per second	41	Y	92							
20_Percent_Duration	210	cubic feet per second	41	Y	92							
25_Percent_Duration	155	cubic feet per second	41	Y	92							
30_Percent_Duration	133	cubic feet per second	41	Y	92							
40_Percent_Duration	107	cubic feet per second	41	Y	92							
50_Percent_Duration	90	cubic feet per second	41	Y	92							
60_Percent_Duration	49	cubic feet per second	41	Y	92							
70_Percent_Duration	42	cubic feet per second	41	Y	92							
75_Percent_Duration	40	cubic feet per second	41	Y	92							
80_Percent_Duration	37	cubic feet per second	41	Y	92							
90_Percent_Duration	33	cubic feet per second	41	Y	92							
95_Percent_Duration	31	cubic feet per second	41	Y	92							
99_Percent_Duration	27	cubic feet per second	41	Y	92							
General Flow Statistics												
Minimum_daily_flow	9.1	cubic feet per second	41	Y	92							
Maximum_daily_flow	6850	cubic feet per second	41	Y	92							
Std_Dev_of_daily_flows	231.355	cubic feet per second	41	Y	92							
Average_daily_streamflow	159.472	cubic feet per second	41	Y	92							
Base Flow Statistics												

Number_of_years_to_compute_BFI	91	years	42	Y	92
Average_BFI_value	0.725	dimensionless	42	Y	92
Std_dev_of_annual_BFI_values	0.136	dimensionless	42	Y	92

Citations

Citation Number	*Citation Name and URL*
12	Murphy, P.J., 2001, Evaluation of mixed-population flood-frequency analysis: American Society of Civil Engineers, Journal of Hydrologic Engineering, v. 6, no. 1, p. 62-70
20	Wandle, S.W., Jr.,1984, Gazetteer of Hydrologic Characteristics of Streams in Massachusetts--Connecticut River Basin: U.S. Geological Survey Water-Resources Investigations Report 84-4282.
30	Imported from NWIS file
41	Wolock, D.M., 2003, Flow characteristics at U.S. Geological Survey streamgages in the conterminous United States: U.S. Geological Survey Open-File Report 03-146, digital data set
42	Wolock, D.M., 2003, Base-flow index grid for the conterminous United States: U.S. Geological Survey Open-File Report 03-263, digital data set
47	Wandle, S.W., Jr., 1983, Estimating peak discharges of small, rural streams in Massachusetts: U.S. Geological Survey Water-Supply Paper 2214, 26 p.

ATTACHMENT IV


OLIVER - Google Chrome
maps.massgis.state.ma.us/map_ol/oliver.php?lyrs=NHESP%20Priority%20Habitats%20of%20Rare%20Species~massgis:GISDATA.PRIHAB_POLY~GISDATA.PRIHAB_POLY::Default|NHESP%20Esti
Oliver
OLIVER: MassGIS's Online Mapping Tool
OLIVER Updates
3086 south main street palme
Pick a town
Available Data Layers
Search data layers
Tiled Layers
State Facilities
Census 1990
Census 2000
Census 2010
Coastal and Marine Features
Conservation / Recreation
Cultural Resources
Environmental Monitoring (testing/monitoring sites)
Images
Active Data Layers
Check all
Uncheck all
Remove all
NavTeq MA Other Streets Names
Major MassDOT Routes
Legend
Major MassDOT Routes
Interstate Highways
US Roads
State
Massachusetts Towns
NHESP Estimated Habitats of Rare Wildlife
NHESP Priority Habitats of Rare Species
SITE
N LIBERTY ST
FRANKLIN ST
BONDSV
SHEA AVE
FOSTER ST
EMERY ST
BARRETT ST
PINE ST
GRIFFIN ST
JILLY'S ST
DEPOT ST
WEST ST
S HIGH ST
PH
3RD ST
FULLER RD
THORNDIKE ST
S LIBERTY ST
RAILROAD ST
PALMER ST
SUMMER ST
RIVER ST
500 m
1000 ft
Scale = 1:36,112
130,808.69m 886,793.97m
Google
Map Data
Terms of Use
Report a map error
0 m
Basemaps

ATTACHMENT V

Inv. No.	Property Name	Street	Town	Year
PAL.73	Ditto, Peter House	60 Shearer St	Palmer	1883
PAL.88	Ditto, Abraham House	65 Shearer St	Palmer	c 1889
PAL.84	Patterson, George House	69 Shearer St	Palmer	1918
PAL.85	Brown, Howard House	77 Shearer St	Palmer	1924
PAL.86	Forsman, Carl House	85 Shearer St	Palmer	c 1924
PAL.83	Levene, Benjamin House	100 Shearer St	Palmer	1914
PAL.628	Gould, A. E. House	9 South High St	Palmer	c 1850
PAL.627	Gilmore, James House	13 South High St	Palmer	c 1848
PAL.626	Boynton, R. L. House	25 South High St	Palmer	r 1849
PAL.625	Bond Village School House	29 South High St	Palmer	c 1830
PAL.624	Thayer, Avando House	41 South High St	Palmer	1852
PAL.623	Cheeseborough, D. Lewis House	53 South High St	Palmer	1853
PAL.682	Brothers, Lawrence House	3124 South High St	Palmer	1930
PAL.681		3148 South High St	Palmer	c 1890
PAL.508	Enfield Methodist Church	South Main St	Palmer	c 1845
PAL.677	Fitzgerald House	South Main St	Palmer	c 1945
PAL.507	Depot Village Schoolhouse	1158 South Main St	Palmer	1841
PAL.484	Andrews, Marshall House	1240 South Main St	Palmer	c 1865
PAL.483	Gilbert, Increase House	1242 South Main St	Palmer	c 1869
PAL.482	Parks, Sylvester House	1243 South Main St	Palmer	c 1842
PAL.481	Nelson, Lyman A. House	1245 South Main St	Palmer	c 1851
PAL.480	Dewey, Alonzo N. House	1248 South Main St	Palmer	c 1866
PAL.479	Broulette, Edward House	1250 South Main St	Palmer	c 1911
PAL.478	Weeks, Rev. A. W. House	1252 South Main St	Palmer	c 1889
PAL.476	Berthiaume, Joseph House	1256 South Main St	Palmer	c 1915
PAL.477	Child, William C. House	1257 South Main St	Palmer	c 1853
PAL.475	Bradley, Jeremiah House	1259 South Main St	Palmer	c 1914
PAL.474	Todd, Horace G. House	1262 South Main St	Palmer	c 1906
PAL.473	Duffy, Frank W. House	1266 South Main St	Palmer	c 1905
PAL.472	Kellog, P. P. House	1269 South Main St	Palmer	c 1862
PAL.471	Loomis, James S. House	1276 South Main St	Palmer	c 1886
PAL.469	Palmer Trucking Company Office	1278 South Main St	Palmer	c 1926
PAL.470	Thompson, Frederick House	1279 South Main St	Palmer	c 1913
PAL.468	Thompson, Frederick Blacksmith Shop	1281 South Main St	Palmer	c 1895
PAL.465	Dewey, Capt. Alonzo N. House	1282 South Main St	Palmer	c 1842
PAL.466	Podrat, Abner House	1282 South Main St	Palmer	r 1910
PAL.467	Podrat, Abner House	1282 South Main St	Palmer	c 1910
PAL.464	Gallagher, Barney House	1287 South Main St	Palmer	c 1862

Inv. No.	Property Name	Street	Town	Year
PAL.463		1289 South Main St	Palmer	c 1862
PAL.462	Gamwell, James House	1292 South Main St	Palmer	c 1847
PAL.461	Brown, F. J. Carriage Shop	1293 South Main St	Palmer	c 1905
PAL.456	Kurts, William Store and Tenement	1294 South Main St	Palmer	c 1880
PAL.459	Eager, F. M. House and Shoe Shop	1295 South Main St	Palmer	c 1869
PAL.460	Allen, Lambert Block	1295 South Main St	Palmer	c 1854
PAL.455	Calkins, Able House	1302 South Main St	Palmer	c 1846
PAL.454	Weeks House Hotel	1306 South Main St	Palmer	c 1892
PAL.458	McGilvery, D. F. House	1309 South Main St	Palmer	c 1857
PAL.457	Calkins, Dickenson Store	1311 South Main St	Palmer	c 1851
PAL.634	Boston Duck Company Worker Housing	3006 South Main St	Palmer	1900
PAL.635	Boyton, Ezekial House	3026 South Main St	Palmer	c 1795
PAL.636	Bond, R. P. House	3026 South Main St	Palmer	1910
PAL.638	Bond, R. L. House	3034 South Main St	Palmer	1910
PAL.641	Sullivan, Lawrence Shop	3042 South Main St	Palmer	1892
PAL.639	Palmer Methodist Church Parsonage	3045 South Main St	Palmer	1905
PAL.642	Bond, R. L. House	3050 South Main St	Palmer	1907
PAL.640	Southwick, Peter House	3053 South Main St	Palmer	c 1845
PAL.643	Peck House	3058 South Main St	Palmer	c 1900
PAL.644	Taylor, Jonathan House	3062 South Main St	Palmer	1828
PAL.645	Bond, Lorenzo W. House	3065 South Main St	Palmer	c 1845
PAL.650	Potter, T. D. Lumber Yard Office	3069 South Main St	Palmer	c 1890
PAL.651	Potter, T. D. House	3077 South Main St	Palmer	c 1910
PAL.652	Potter, T. D. House	3081 South Main St	Palmer	1910
PAL.653	Stanks, Henry Farm and Blacksmith Shop	3102 South Main St	Palmer	1850
PAL.654	Fenton, D. House	3106 South Main St	Palmer	c 1912
PAL.676	Fitzgerald, Thomas House	3118 South Main St	Palmer	c 1877
PAL.680	Lusty, Robert House	3144 South Main St	Palmer	1880
PAL.678	Potter, T. D. House	3145 South Main St	Palmer	c 1915
PAL.679		3157 South Main St	Palmer	1915
PAL.146	Lyman, George Carpentry Workshop	1014 Spring St	Palmer	c 1883
PAL.537	Boston Duck Company Worker Housing	3003 Spring St	Palmer	c 1900
PAL.538	Boston Duck Company Worker Housing	3006 Spring St	Palmer	c 1900
PAL.536	Boston Duck Company Worker Housing	3007 Spring St	Palmer	1850
PAL.535	Brown, Joseph House	3011 Spring St	Palmer	1850
PAL.692		77 Springfield St	Palmer	
PAL.691		88 Springfield St	Palmer	
PAL.214	Blanchard, Thomas Barn	0 Squier St	Palmer	1886

Inv. No.	Property Name	Street	Town	Year
PAL.407	Atkins, George M. Storehouse	1109 Park St	Palmer	c 1891
PAL.505	Breckenridge Farm	1240 Park St	Palmer	1844
PAL.509	Blanchard, Franklin House	1454 Park St	Palmer	1834
PAL.436	Loomis, Henry House	6 Pearl St	Palmer	c 1908
PAL.435	Lawrence, Hubbard House	9 Pearl St	Palmer	c 1880
PAL.434	Roper, Elvie J. House	15 Pearl St	Palmer	c 1898
PAL.433	Barnes, John P. House	17 Pearl St	Palmer	c 1866
PAL.413	Dockery, Michael House	25 Pearl St	Palmer	c 1862
PAL.414	Murphy, William House	29 Pearl St	Palmer	c 1870
PAL.416	Kenerson, George House	30 Pearl St	Palmer	c 1885
PAL.415	Stebbins, William House	38 Pearl St	Palmer	c 1884
PAL.246	Thompson, Joseph Worker Housing	1006 Pine St	Palmer	1879
PAL.247	Thompson, Joseph Worker Housing	1010 Pine St	Palmer	c 1879
PAL.221	Marcy, Omer House	1015 Pine St	Palmer	c 1905
PAL.220	Cotton, Frederick House	1019 Pine St	Palmer	1915
PAL.219	Hunt, George A. House and Blacksmith Shop	1025 Pine St	Palmer	1875
PAL.217	Taft, Daniel House	1026 Pine St	Palmer	c 1893
PAL.218	Wilder, John House	1029 Pine St	Palmer	c 1883
PAL.188	Huntington, Henry T. House	1030 Pine St	Palmer	c 1884
PAL.216	Rich, Otis N. House	1033 Pine St	Palmer	1870
PAL.186	Faulkner, Robert E. House	1037 Pine St	Palmer	c 1915
PAL.183		1040 Pine St	Palmer	c 1900
PAL.185	Starks, Henry House	1041 Pine St	Palmer	1879
PAL.184	Smith, John W. House	1045 Pine St	Palmer	1888
PAL.181	Stone, Walter E. House	1046 Pine St	Palmer	c 1908
PAL.182	Lyman, George House	1051 Pine St	Palmer	1882
PAL.147	Frances, Ralph House	1055 Pine St	Palmer	1912
PAL.149	Palmer, Jason House	1061 Pine St	Palmer	1888
PAL.150	Emulus, Harvey House	1065 Pine St	Palmer	c 1880
PAL.151	Ammann, August House	1067 Pine St	Palmer	1925
PAL.152	Healey, Viola House	1069 Pine St	Palmer	c 1926
PAL.153	Butts, John House	1071 Pine St	Palmer	1925
PAL.154	Brown, Yale House	1073 Pine St	Palmer	c 1924
PAL.675	Fenton, D. House	3016 Pine St	Palmer	c 1910
PAL.674	Fenton, J. House	3020 Pine St	Palmer	c 1894
PAL.673	Ferris, Patrick House	3028 Pine St	Palmer	c 1882
PAL.672	Martin, A. House	3036 Pine St	Palmer	c 1850
PAL.671	Lyon, David House	3044 Pine St	Palmer	c 1894