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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

DEC 18 2012

Thomas Williamson Jr., President
Williamson Environmental LLC
2 Shaker Road, Building A
Shirley, MA 01464

Re: Authorization to discharge under the Remediation General Permit (RGP) – NHG910000. Brookside Mini Mart site located at 626 Gibbons Highway, Wilton, NH 03086, Hillsborough County, Authorization # NHG910060

Dear Mr. Williamson:

Based on the review of a Notice of Intent (NOI) submitted on behalf of ENI 626 & 630 Gibbons Highway LLC, by your firm Williamson Environmental LLC, for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

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

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

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on selected dilution ranges and technology-

based ceiling limitations. For each parameter the dilution factor 8.85 for this site is within a dilution range greater than five to ten (>5 to 10), established in the RGP. (See the RGP Appendix IV for New Hampshire facilities). Therefore, the limits for antimony of 30 ug/L, arsenic of 50 ug/L, cadmium of 4 ug/L, lead of 2.5 ug/L, selenium of 25 ug/L, zinc of 185 ug/L and iron of 5,000ug/L, are required to achieve permit compliance at your site.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that the site termination is December 31, 2012. If for any reason the discharge terminates at certain point in the future 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, Manager
Storm Water and Construction
Permits Section

cc: Jeffrey Andrews, NHDES
Steve Eliot, Wilton, PWD
Heidi Resca, Williamson Environmental

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**NHG910060**
Date Authorization Issued:	December, 2012
Facility/Site Name:	Brookside Mini Mart
Facility/Site Address:	626 Gibbons Highway Wilton, NH 03086, Hillsborough County
Legal Name of operator:	poconnell@energynorthgroup.com
Operator contact name, title, and Address:	Thomas Williamson, Jr., President
	2 Shaker Road, BLG. A, Shirley, MA 01461
Estimated Date of Completion:	December 31, 2012
Category and Sub-Category:	Category I- Petroleum Related Site Remediation. Subcategory A. Gasoline Only Sites
Receiving Water:	Blood Brook tributary to Soughegan 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); Minimum Levels =ML
√	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/l) **, 50 mg/l for hydrostatic testing **, Me#60.2/5mL
	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/5.0mg/LmL
	4. Cyanide (CN) [2, 3]	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/l **/ Me#335.4/ML 5ug/L
√	5. Benzene (B)	5ug/L /50.0 ug/l for hydrostatic testing only/ Me#8260C/ML 2 ug/L
√	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
√	7. Ethylbenzene (E)	(limited as ug/L total BTEX))/ Me#8260C/ ML 2ug/L
√	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX))/ Me#8260C/ ML 2ug/L
√	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) [4]	100 ug/l)/ Me#8260C/ ML 2ug/L
	10. Ethylene Dibromide (EDB) (1,2-Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L

	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); Minimum Levels =ML
√	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/ ML5ug/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 2ug/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/ML5ug/L,Me#606/ML 10ug/L& Me#625/ML5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/l
	a. Benzo(a) Anthracene [7]	0.0038 ug/l /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene [7]	0.0038 ug/l /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene [7]	0.0038 ug/l /Me#8270D/ ML

	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); Minimum Levels =ML
		5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene [7]	0.0038 ug/l /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene [7]	0.0038 ug/l /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene [7]	0.0038 ug/l /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	g. Indeno(1,2,3-cd) Pyrene [7]	0.0038 ug/l /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/l
	h. Acenaphthene	5ug/L/Me#8270D/ML 5ug/L/Me#610/ML 5ug/L & Me#625/ML 5ug/L & Me#610 (HPLC)/ ML 2ug/L
	i. Acenaphthylene	5ug/L/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	l. Fluoranthene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	n. Naphthalene [5]	20 ug/l / Me#8270D/ ML 5ug/L, Me#610/ML5ug/L & Me#625/ML 5ug/L
	o. Phenanthrene	X/Me#8270D/ML5ug/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 0.5ug/L
√	38. Chloride	Monitor only/Me# 300.0/ML 0.1ug/L

	Metal parameter	ML= Minimun Levels		Total Recoverable Metal Limit @ H [10] = 25 mg/l CaCO3 for Discharges in New Hampshire (ug/l) [11]	
				Freshwater	Saltwater
√	39. Antimony			30/ML 10	
√	40. Arsenic **			50/ML 20	36/ML 20
√	41. Cadmium **			4/ML 10	9.3/ML 10
	42. Chromium III (trivalent) **			27.7/ML 15	100/ML 15
	43. Chromium VI (hexavalent) **			11.4/ML 10	50.3/ML 10
	44. Copper **			2.9/ML 15	3.7/ML 15
√	45. Lead **			2.5/ML 20	8.5/ML 20
	46. Mercury **			0.9/ML 0.2	1.1/ML 0.2
	47. Nickel **			16.1/ML 20	8.2/ML 20
√	48. Selenium **			25/ML 20	71/ML 20
	49. Silver			0.4/ML 10	2.2/ML 10
√	50. Zinc **			185/ML 15	85.6/ML15
√	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]
√	1,2,4 Trimethylbenzene	Monitoring Only

Footnotes:

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

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

[14] Temperature sampling per Method 170.1

Williamson Environmental LLC

Two Shaker Road, Building A, Shirley, MA 01464 • Office: (978) 425-6600 • Fax: (978) 425-6650

NHG910060

November 30, 2012

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

Re: Notice of Intent for Remediation General Permit (RGP)
Brookside Mini Mart
626 Gibbons Highway
Wilton, New Hampshire 03086

To Whom It May Concern:

On behalf of ENI 626 & 630 Gibbons Highway LLC, Williamson Environmental LLC (Williamson Environmental) has prepared this Notice of Intent (NOI) for a new discharge at the above referenced location. The project consists of dewatering during UST replacement activities and treatment of recovered ground water prior to discharge to Blood Brook.

Should you have questions or require additional information, please contact the undersigned.

Sincerely,
Williamson Environmental LLC

Thomas Williamson, Jr.
President

cc: NH DES, Jeffrey Andrews, Sanitary Engineer
Town of Wilton

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:** BROOKSIDE MINI MART		**Facility/site** mailing address:			
Location of **facility/site:** longitude: 71.77123 latitude: 42.8258	Facility SIC code(s): 5541	Street: 626 GIBBONS HIGHWAY			
b) Name of **facility/site owner:**		Town: WILTON			
Email address of facility/site owner: POCONNELL@ENERGYNORTHGROUP.COM		State: NH	Zip: 03086	County: HILLSBOROUGH	
Telephone no. of facility/site **owner:** 978/640-1100					
Fax no. of facility/site **owner:** 978/664-9887		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ○ 3. Private ◉ 4. Other ○ if so, describe:			
Address of **owner** (if different from site):		ENI 626 & 630 GIBBONS HWY LLC			
Street: 1700 SHAWSHEEN STREET					
Town: TEWKSBURY	State: MA	Zip: 01876	County:		
c) Legal name of **operator:**		**Operator** telephone no: 978/425-6600			
WILLIAMSON ENVIRONMENTAL LLC		**Operator** fax no.: 978/425-6650	**Operator** email: HEIDIR@WILLIAMSONENV.COM		
Operator contact name and title: THOMAS WILLIAMSON JR., PRESIDENT					
Address of **operator** (if different from owner):	Street: 2 SHAKER ROAD, BLG A				
Town: SHIRLEY	State: MA	Zip: 01464	County:		

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: NH 199312932
2. permit or license # assigned: LUST PROJECT NO. 29010
3. state agency contact information: name, location, and telephone number:

NH DES
JOSHUA WHIPPLE
603/271-7377

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:

PROJECT INVOLVES DEWATERING AS A REMEDIAL ACTION DURING UST REPLACEMENT AT A RETAIL GASOLINE STATION

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 0.07 Is maximum flow a **design value**? Y ◉ N ○
Average flow (include units) 25 GPM Is average flow a design value or estimate? ESTIMATE

3) Latitude and longitude of each discharge within 100 feet:

pt.1: lat	42.825798	long	71.771225	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 12/010/2012 end 12/31/2012

d) Please attach a line drawing or flow schematic showing water flow through the facility including:
1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s). SEE ATTACHED

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)		☐	☒	1	GRAB	2540D	2000	51000			
2. Total Residual Chlorine (TRC)		☒	☐	1	GRAB	4500C	200	<200			
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	1	GRAB	1664	1000	<1000			
4. Cyanide (CN)	57125	☒	☐	1	GRAB	335.4	5	<5			
5. Benzene (B)	71432	☐	☒	1	GRAB	8260C	500	6620			
6. Toluene (T)	108883	☐	☒	1	GRAB	8260C	500	31800			
7. Ethylbenzene (E)	100414	☐	☒	1	GRAB	8260C	500	2310			
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☐	☒	1	GRAB	8260C	1500	10560			
9. Total BTEX [2]	n/a	☐	☒	1	GRAB	8260C	--	51290			
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐	1	GRAB	504.1	0.01	<0.01			
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☐	☒	1	GRAB	8260C	500	935			
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☒	☐	1	GRAB	8260C	5000	<5000			

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

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

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

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☒	☐	1	GRAB	8260C	500	<500			
14. Naphthalene	91203	☒	☐	1	GRAB	8260C	500	<500			
15. Carbon Tetrachloride	56235	☒	☐	1	GRAB	8260C	500	<500			
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	1	GRAB	8260C	500	<500			
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	1	GRAB	8260C	500	<500			
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	1	GRAB	8260C	500	<500			
18a. Total dichlorobenzene		☒	☐	1	GRAB	8260C	500	ND			
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	1	GRAB	8260C	500	<500			
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	1	GRAB	8260C	500	<500			
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	1	GRAB	8260C	500	<500			
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	1	GRAB	8260C	500	<500			
23. Methylene Chloride	75092	☒	☐	1	GRAB	8260C	1000	<1000			
24. Tetrachloroethene (PCE)	127184	☒	☐	1	GRAB	8260C	500	<500			
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	1	GRAB	8260C	500	<500			
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	1	GRAB	8260C	500	<500			
27. Trichloroethene (TCE)	79016	☒	☐	1	GRAB	8260C	500	<500			

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	GRAB	8260c	500	<500			
29. Acetone	67641	☒	☐	1	GRAB	8260c	5000	<5000			
30. 1,4 Dioxane	123911	☒	☐	1	GRAB	8260c	10000	<10000			
31. Total Phenols	108952	☐	☒	1	GRAB	8270D	27.8	28			
32. Pentachlorophenol (PCP)	87865	☒	☐	1	GRAB	8270D	27.8	<27.8			
33. Total Phthalates (Phthalate esters) [4]		☒	☐	1	GRAB	8270D	27.8	ND			
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐	1	GRAB	8270D	27.8	<27.8			
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	1	GRAB	8270D	27.8	ND			
a. Benzo(a) Anthracene	56553	☒	☐	1	GRAB	8270D	27.8	<27.8			
b. Benzo(a) Pyrene	50328	☒	☐	1	GRAB	8270D	27.8	<27.8			
c. Benzo(b)Fluoranthene	205992	☒	☐	1	GRAB	8270D	27.8	<27.8			
d. Benzo(k)Fluoranthene	207089	☒	☐	1	GRAB	8270D	27.8	<27.8			
e. Chrysene	21801	☒	☐	1	GRAB	8270D	27.8	<27.8			
f. Dibenzo(a,h)anthracene	53703	☒	☐	1	GRAB	8270D	27.8	<27.8			
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	1	GRAB	8270D	27.8	<27.8			
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☒	☐	1	GRAB	8270D	27.8	74			

[4] The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	☒	☐	1	GRAB	8270D	27.8	<27.8			
i. Acenaphthylene	208968	☒	☐	1	GRAB	8270D	27.8	<27.8			
j. Anthracene	120127	☒	☐	1	GRAB	8270D	27.8	<27.8			
k. Benzo(ghi) Perylene	191242	☒	☐	1	GRAB	8270D	27.8	<27.8			
l. Fluoranthene	206440	☒	☐	1	GRAB	8270D	27.8	<27.8			
m. Fluorene	86737	☒	☐	1	GRAB	8270D	27.8	<27.8			
n. Naphthalene	91203	☐	☒	1	GRAB	8270D	27.8	74			
o. Phenanthrene	85018	☒	☐	1	GRAB	8270D	27.8	<27.8			
p. Pyrene	129000	☒	☐	1	GRAB	8270D	27.8	<27.8			
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	1	GRAB	608	0.21	ND			
38. Chloride	16887006	☐	☒	1	GRAB	300	10,000	236,000			
39. Antimony	7440360	☐	☒	1	GRAB	200.7	6	10.3			
40. Arsenic	7440382	☐	☒	1	GRAB	200.7	4	45.6			
41. Cadmium	7440439	☐	☒	1	GRAB	200.7	2.5	3.3			
42. Chromium III (trivalent)	16065831	☒	☐	1	GRAB	CALC	10	<10			
43. Chromium VI (hexavalent)	18540299	☒	☐	1	GRAB	7196A	50	<50			
44. Copper	7440508	☒	☐	1	GRAB	200.7	15	<15			
45. Lead	7439921	☐	☒	1	GRAB	200.8	0.5	1.8			
46. Mercury	7439976	☒	☐	1	GRAB	245.1	0.2	<0.2			
47. Nickel	7440020	☒	☐	1	GRAB	200.7	5	<5			
48. Selenium	7782492	☐	☒	1	GRAB	200.7	15	18.6			
49. Silver	7440224	☒	☐	1	GRAB	200.7	5	<5			
50. Zinc	7440666	☐	☒	1	GRAB	200.7	5	256			
51. Iron	7439896	☐	☒	1	GRAB	200.7	15	184000			
Other (describe):		☐	☐								

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1,2,4,TRIMETHYLBENZENE		☐	☒	1	GRAB	8260C	500	920			
		☐	☐								

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? Sb, As, Cd, Pb, Se, Zn & Fe
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: ALL DF: 8.3 Metal: DF: Metal: DF: Metal: DF: Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y ⊙ N ○ If Y, list which metals: Zn, Fe

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

a) A description of the treatment system, including a schematic of the proposed or existing treatment system: SEE ATTACHED SCHEMATIC						
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 30 gpm Maximum flow rate of treatment system 30 gpm
Design flow rate of treatment system 30 gpm

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

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

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

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
Discharge will be to Blood Brook which flows into Soughegan 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 0.55 cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

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

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

6. ESA and NHPA Eligibility.

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

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

A ○ B ◉ C ○ D ○ E ○ F ○

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

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

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

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

1 ◉ 2 ○ 3 ○

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

7. Supplemental information.

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

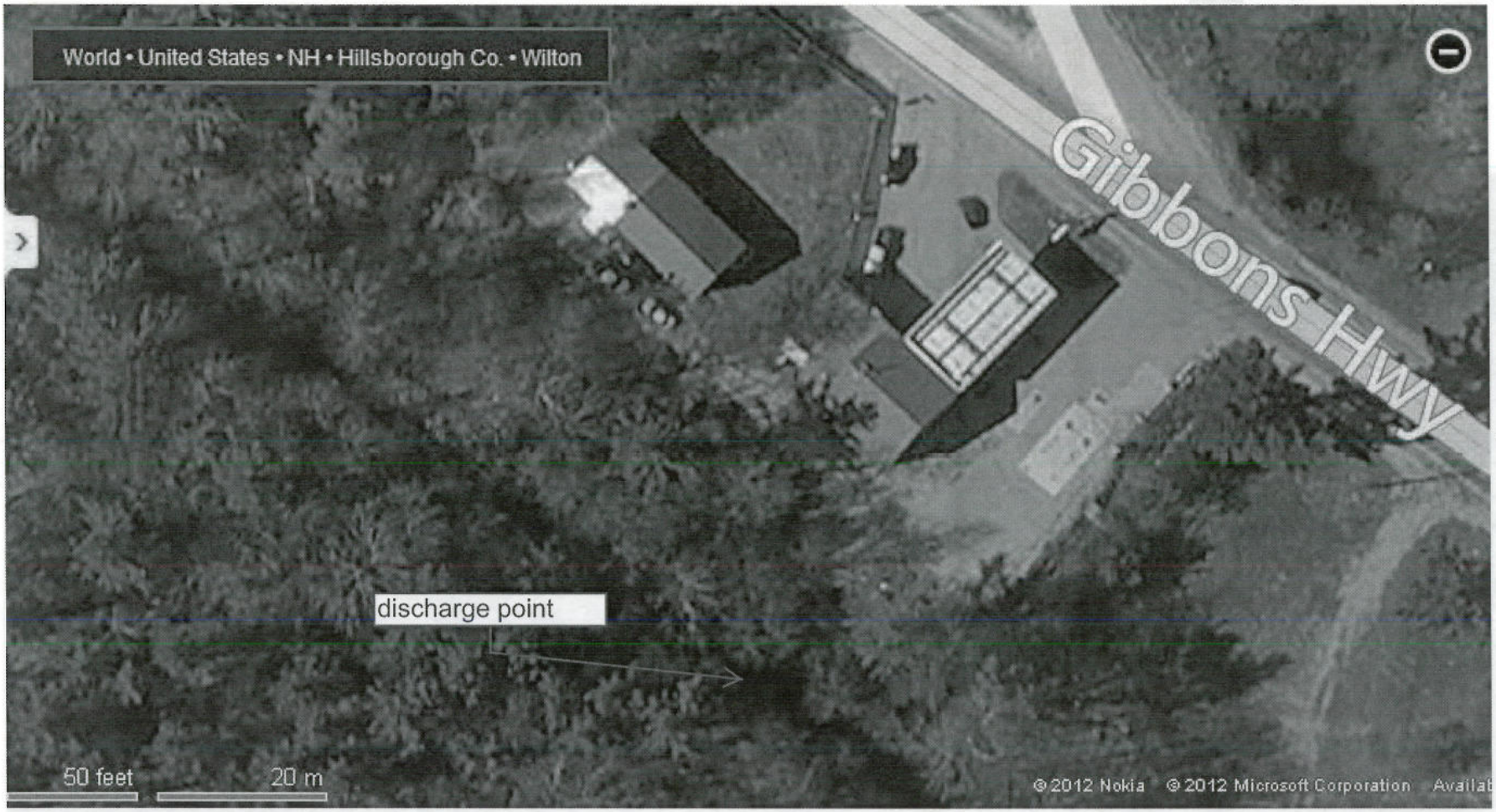
8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

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

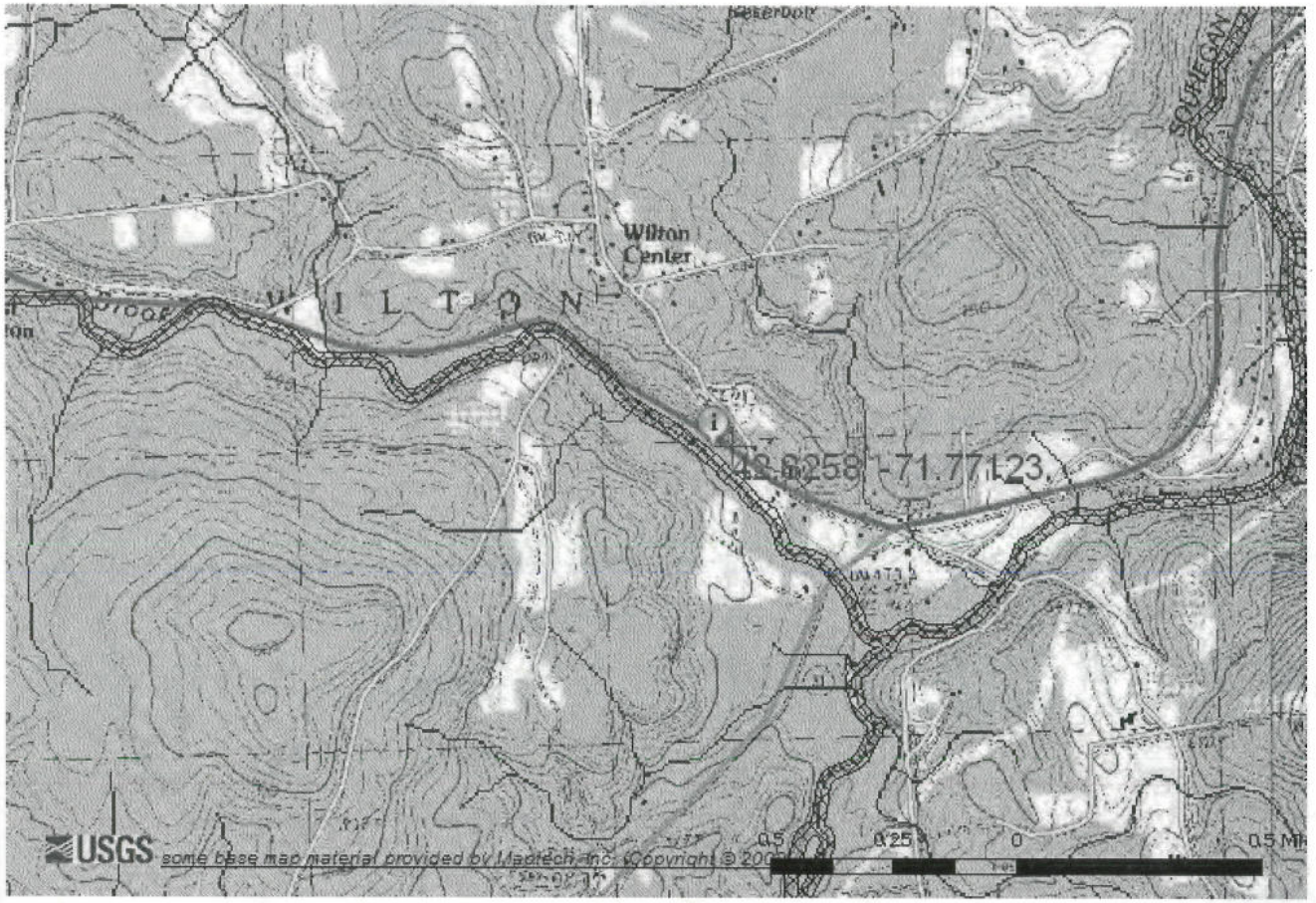
Facility/Site Name:	BROOKSIDE MINI MART
Operator signature:	
Printed Name &Title:	THOMAS WILLIAMSON JR., PRESIDENT
Date:	

Aerial Photo of 626 Gibbons Highway
Wilton, New Hampshire

Williamson Environmental LLC



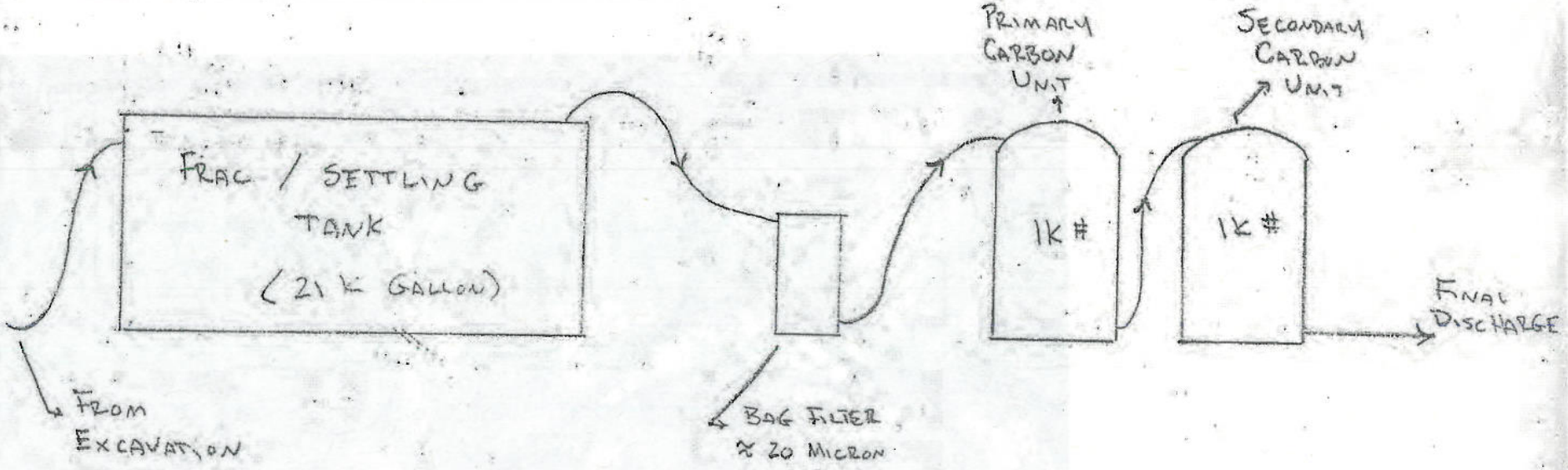
Williamson Environmental LLC



SECTION OF USGS STREAMSTATS MAP FOR
626 GIBBONS HIGHWAY
WILTON, NH
42.825798, -71.771225
PRINTED 11/19/2012

Williamson Environmental LLC

WATER TREATMENT AND DISCHARGE SCHEMATIC



ENPRO SERVICES INC.

RGP Dilution Calculation Sheet
626 Gibbons Highway
Wilton, NH

DF = [(Qd + Qs)/Qd] * 0.9
Qd = 0.669 flow = 30 gpm converted to cfs using 1gpm = 0.00223cfs
Qs (7Q10) = 0.55 cfs (provided by NHDES)
DF = 8.3

Metals	***Concentration Detected (ug/L)***	***Appendix III Effluent Limits (ug/L)***	***Appendix IV Metal Limitations for DF range 5-10 (ug/L)***
Antimony	10.3	5.6	30
Arsenic	45.6	10	50
Cadmium	3.3	0.8	4
Chromium III	<10	27.7	138
Chromium VI	<50	11.4	57
Copper	<15	2.9	14.5
Lead	1.8	0.5	2.5
Mercury	<0.2	0.9	2.3
Nickel	<5	16.1	80.5
Selenium	18.6	5	25
Silver	<5	0.4	2
Zinc	256	37	185
Iron	184,000	1,000	5,000

11/30/2012

Williamson Environmental LLC

Report Date:
29-Nov-12 16:25

☐ Final Report
☐ Re-Issued Report
☑ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

Williamson Environmental, LLC
2 Shaker Road, Building A
Shirley, MA 01464
Attn: Heidi Resca

Project: Wilton, 626 - Wilton, NH
Project #: ENE, NH

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SB60160-01	GW-1	Ground Water	15-Nov-12 12:30	16-Nov-12 14:52
SB60160-02	RB	Blank	15-Nov-12 11:55	16-Nov-12 14:52

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 New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York 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 28 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 and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).

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

CASE NARRATIVE:

The samples were received 1.4 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.

Report Revision Case Narrative: 12/29/2012

This report has been revised to include analyses added as listed in the appendix at the end of this report.

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

EPA 200.7

Blanks:

1229002-BLK1

The method blank contains analyte at a concentration above the MRL, however no reportable concentration is present in the sample.

Zinc

Laboratory Control Samples:

1229002 BS

Zinc percent recovery 122 (85-115) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially high bias:

GW-1

1229002-BS1

Analyte is found in the associated blank as well as in the sample (CLP B-flag).

Zinc

Spikes:

1229002-MS1 *Source: SB60160-01*

Analyte is found in the associated blank as well as in the sample (CLP B-flag).

Zinc

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

Duplicates:

1229002-DUP1 *Source: SB60160-01*

Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.

Antimony
Chromium

EPA 200.7

Duplicates:

1229002-DUP1 *Source: SB60160-01*

Analyte is found in the associated blank as well as in the sample (CLP B-flag).

Zinc

EPA 300.0

Spikes:

1229353-MSD1 *Source: SB60160-01*

The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Chloride

Duplicates:

1229353-DUP1 *Source: SB60160-01*

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

Chloride

Samples:

SB60160-01 *GW-1*

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

Chloride

SM4500-Cl-G

Spikes:

1228672-MS1 *Source: SB60160-01*

The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

Total Residual Chlorine

1228672-MSD1 *Source: SB60160-01*

The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

Total Residual Chlorine

Samples:

SB60160-01 *GW-1*

This sample was received outside the EPA recommended holding time for the analysis specified.

Total Residual Chlorine

SW846 7196A/SM3500CrD

Spikes:

1228419-MS1 *Source: SB60160-01*

The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

Hexavalent Chromium

SW846 7196A/SM3500CrD

Spikes:

1228419-MSD1 *Source: SB60160-01*

The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.

Hexavalent Chromium

Samples:

SB60160-01 *GW-1*

The Reporting Limit has been raised to account for matrix interference.

Hexavalent Chromium

This sample was received outside the EPA recommended holding time for the analysis specified.

Hexavalent Chromium

SW846 8260C

Calibration:

1211050

Analyte quantified by quadratic equation type calibration.

1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromo-3-chloropropane
1,3,5-Trichlorobenzene
4-Isopropyltoluene
Bromodichloromethane
Bromoform
Carbon disulfide
Carbon tetrachloride
cis-1,3-Dichloropropene
Dibromochloromethane
Hexachlorobutadiene
Naphthalene
n-Butylbenzene
sec-Butylbenzene
trans-1,3-Dichloropropene
trans-1,4-Dichloro-2-butene
Vinyl chloride

This affected the following samples:

1229036-BLK1
1229036-BS1
1229036-BSD1
GW-1
S214165-ICV1
S214745-CCV1

Laboratory Control Samples:

1229036 BSD

Acetone RPD 22% (20%) is outside individual acceptance criteria, but within overall method allowances.

SW846 8260C

Laboratory Control Samples:

1229036-BS1

LCS/LCSD were analyzed in place of MS/MSD.

1229036-BSD1

LCS/LCSD were analyzed in place of MS/MSD.

The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

Acetone

Samples:

S214745-CCV1

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

2,2-Dichloropropane (21.8%)
2-Chlorotoluene (-22.6%)
2-Hexanone (MBK) (-21.4%)

This affected the following samples:

1229036-BLK1
1229036-BS1
1229036-BSD1
GW-1

SB60160-01 *GW-1*

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

SW846 8270D

Laboratory Control Samples:

1228753 BS

Phenol percent recovery 28 (30-130) is outside individual acceptance criteria, but within overall method allowances. All reported results of the following samples are considered to have a potentially low bias:

GW-1

Samples:

S214713-CCV1

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

Bis(2-ethylhexyl)phthalate (22.7%)
Butyl benzyl phthalate (20.7%)
Di-n-butyl phthalate (20.5%)
Di-n-octyl phthalate (25.8%)

This affected the following samples:

1228753-BLK1
1228753-BS1

S214719-CCV1

SW846 8270D

Samples:

S214719-CCV1

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

Di-n-octyl phthalate (21.4%)

This affected the following samples:

GW-1

SB60160-01 *GW-1*

Elevated Reporting Limits due to the presence of high levels of non-target analytes.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GW-1 SB60160-01	ENE, NH	Ground Water	15-Nov-12 12:30	16-Nov-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds Prepared by method SW846 5030 Water MS			GS1										
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 500	D	µg/l	500	324	500	SW846 8260C	27-Nov-12	27-Nov-12	GMA	1229036	X
67-64-1	Acetone	< 5000	D	µg/l	5000	1280	500	"	"	"	"	"	X
107-13-1	Acrylonitrile	< 250	D	µg/l	250	230	500	"	"	"	"	"	X
71-43-2	Benzene	**6,620**	D	µg/l	500	334	500	"	"	"	"	"	X
108-86-1	Bromobenzene	< 500	D	µg/l	500	360	500	"	"	"	"	"	X
74-97-5	Bromochloromethane	< 500	D	µg/l	500	355	500	"	"	"	"	"	X
75-27-4	Bromodichloromethane	< 250	D	µg/l	250	240	500	"	"	"	"	"	X
75-25-2	Bromoform	< 500	D	µg/l	500	302	500	"	"	"	"	"	X
74-83-9	Bromomethane	< 1000	D	µg/l	1000	570	500	"	"	"	"	"	X
78-93-3	2-Butanone (MEK)	< 5000	D	µg/l	5000	867	500	"	"	"	"	"	X
104-51-8	n-Butylbenzene	< 500	D	µg/l	500	281	500	"	"	"	"	"	X
135-98-8	sec-Butylbenzene	< 500	D	µg/l	500	410	500	"	"	"	"	"	X
98-06-6	tert-Butylbenzene	< 500	D	µg/l	500	372	500	"	"	"	"	"	X
75-15-0	Carbon disulfide	< 1000	D	µg/l	1000	314	500	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 500	D	µg/l	500	274	500	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 500	D	µg/l	500	327	500	"	"	"	"	"	X
75-00-3	Chloroethane	< 1000	D	µg/l	1000	516	500	"	"	"	"	"	X
67-66-3	Chloroform	< 500	D	µg/l	500	344	500	"	"	"	"	"	X
74-87-3	Chloromethane	< 1000	D	µg/l	1000	736	500	"	"	"	"	"	X
95-49-8	2-Chlorotoluene	< 500	D	µg/l	500	396	500	"	"	"	"	"	X
106-43-4	4-Chlorotoluene	< 500	D	µg/l	500	366	500	"	"	"	"	"	X
96-12-8	1,2-Dibromo-3-chloropropane	< 1000	D	µg/l	1000	464	500	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 250	D	µg/l	250	144	500	"	"	"	"	"	X
106-93-4	1,2-Dibromoethane (EDB)	< 250	D	µg/l	250	164	500	"	"	"	"	"	X
74-95-3	Dibromomethane	< 500	D	µg/l	500	333	500	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 500	D	µg/l	500	334	500	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 500	D	µg/l	500	356	500	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 500	D	µg/l	500	312	500	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 1000	D	µg/l	1000	224	500	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 500	D	µg/l	500	340	500	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 500	D	µg/l	500	390	500	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 500	D	µg/l	500	244	500	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	< 500	D	µg/l	500	358	500	"	"	"	"	"	X
156-60-5	trans-1,2-Dichloroethene	< 500	D	µg/l	500	340	500	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 500	D	µg/l	500	356	500	"	"	"	"	"	X
142-28-9	1,3-Dichloropropane	< 500	D	µg/l	500	404	500	"	"	"	"	"	X
594-20-7	2,2-Dichloropropane	< 500	D	µg/l	500	302	500	"	"	"	"	"	X
563-58-6	1,1-Dichloropropene	< 500	D	µg/l	500	318	500	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 250	D	µg/l	250	126	500	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 250	D	µg/l	250	250	500	"	"	"	"	"	X
100-41-4	Ethylbenzene	**2,310**	D	µg/l	500	366	500	"	"	"	"	"	X
87-68-3	Hexachlorobutadiene	< 250	D	µg/l	250	225	500	"	"	"	"	"	X
591-78-6	2-Hexanone (MBK)	< 5000	D	µg/l	5000	272	500	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GW-1 SB60160-01	ENE, NH	Ground Water	15-Nov-12 12:30	16-Nov-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds Prepared by method SW846 5030 Water MS			GS1										
98-82-8	Isopropylbenzene	< 500	D	µg/l	500	310	500	SW846 8260C	27-Nov-12	27-Nov-12	GMA	1229036	X
99-87-6	4-Isopropyltoluene	< 500	D	µg/l	500	304	500	"	"	"	"	"	X
1634-04-4	Methyl tert-butyl ether	**935**	D	µg/l	500	326	500	"	"	"	"	"	X
108-10-1	4-Methyl-2-pentanone (MIBK)	< 5000	D	µg/l	5000	466	500	"	"	"	"	"	X
75-09-2	Methylene chloride	< 1000	D	µg/l	1000	345	500	"	"	"	"	"	X
91-20-3	Naphthalene	< 500	D	µg/l	500	166	500	"	"	"	"	"	X
103-65-1	n-Propylbenzene	< 500	D	µg/l	500	379	500	"	"	"	"	"	X
100-42-5	Styrene	< 500	D	µg/l	500	308	500	"	"	"	"	"	X
630-20-6	1,1,1,2-Tetrachloroethane	< 500	D	µg/l	500	313	500	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 250	D	µg/l	250	174	500	"	"	"	"	"	X
127-18-4	Tetrachloroethene	< 500	D	µg/l	500	372	500	"	"	"	"	"	X
108-88-3	Toluene	**31,800**	D	µg/l	500	406	500	"	"	"	"	"	X
87-61-6	1,2,3-Trichlorobenzene	< 500	D	µg/l	500	188	500	"	"	"	"	"	X
120-82-1	1,2,4-Trichlorobenzene	< 500	D	µg/l	500	180	500	"	"	"	"	"	X
108-70-3	1,3,5-Trichlorobenzene	< 500	D	µg/l	500	392	500	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 500	D	µg/l	500	291	500	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 500	D	µg/l	500	321	500	"	"	"	"	"	X
79-01-6	Trichloroethene	< 500	D	µg/l	500	378	500	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 500	D	µg/l	500	314	500	"	"	"	"	"	X
96-18-4	1,2,3-Trichloropropane	< 500	D	µg/l	500	368	500	"	"	"	"	"	X
95-63-6	1,2,4-Trimethylbenzene	**920**	D	µg/l	500	378	500	"	"	"	"	"	X
108-67-8	1,3,5-Trimethylbenzene	< 500	D	µg/l	500	372	500	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 500	D	µg/l	500	404	500	"	"	"	"	"	X
179601-23-1	m,p-Xylene	**7,500**	D	µg/l	1000	820	500	"	"	"	"	"	X
95-47-6	o-Xylene	**3,060**	D	µg/l	500	441	500	"	"	"	"	"	X
109-99-9	Tetrahydrofuran	< 1000	D	µg/l	1000	721	500	"	"	"	"	"	
60-29-7	Ethyl ether	< 500	D	µg/l	500	346	500	"	"	"	"	"	X
994-05-8	Tert-amyl methyl ether	< 500	D	µg/l	500	360	500	"	"	"	"	"	X
637-92-3	Ethyl tert-butyl ether	< 500	D	µg/l	500	391	500	"	"	"	"	"	X
108-20-3	Di-isopropyl ether	< 500	D	µg/l	500	364	500	"	"	"	"	"	X
75-65-0	Tert-Butanol / butyl alcohol	< 5000	D	µg/l	5000	4320	500	"	"	"	"	"	X
123-91-1	1,4-Dioxane	< 10000	D	µg/l	10000	7010	500	"	"	"	"	"	X
110-57-6	trans-1,4-Dichloro-2-butene	< 2500	D	µg/l	2500	384	500	"	"	"	"	"	X
64-17-5	Ethanol	< 200000	D	µg/l	200000	17800	500	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*96*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*98*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*102*			*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	0.00740	1	EPA 504.1	27-Nov-12	27-Nov-12	DS	1228993	X
Semivolatile Organic Compounds by GCMS													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GW-1 SB60160-01	ENE, NH	Ground Water	15-Nov-12 12:30	16-Nov-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GCMS													
PAHs			R05										
Prepared by method SW846 3510C													
83-32-9	Acenaphthene	< 27.8	D	µg/l	27.8	4.50	5	SW846 8270D	21-Nov-12	27-Nov-12	MSL	1228753	X
208-96-8	Acenaphthylene	< 27.8	D	µg/l	27.8	5.61	5	"	"	"	"	"	X
120-12-7	Anthracene	< 27.8	D	µg/l	27.8	4.11	5	"	"	"	"	"	X
56-55-3	Benzo (a) anthracene	< 27.8	D	µg/l	27.8	3.11	5	"	"	"	"	"	X
50-32-8	Benzo (a) pyrene	< 27.8	D	µg/l	27.8	4.67	5	"	"	"	"	"	X
205-99-2	Benzo (b) fluoranthene	< 27.8	D	µg/l	27.8	5.33	5	"	"	"	"	"	X
191-24-2	Benzo (g,h,i) perylene	< 27.8	D	µg/l	27.8	8.06	5	"	"	"	"	"	X
207-08-9	Benzo (k) fluoranthene	< 27.8	D	µg/l	27.8	8.44	5	"	"	"	"	"	X
218-01-9	Chrysene	< 27.8	D	µg/l	27.8	3.67	5	"	"	"	"	"	X
53-70-3	Dibenzo (a,h) anthracene	< 27.8	D	µg/l	27.8	7.28	5	"	"	"	"	"	X
206-44-0	Fluoranthene	< 27.8	D	µg/l	27.8	11.9	5	"	"	"	"	"	X
86-73-7	Fluorene	< 27.8	D	µg/l	27.8	5.06	5	"	"	"	"	"	X
193-39-5	Indeno (1,2,3-cd) pyrene	< 27.8	D	µg/l	27.8	7.44	5	"	"	"	"	"	X
90-12-0	1-Methylnaphthalene	< 27.8	D	µg/l	27.8	6.11	5	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	< 27.8	D	µg/l	27.8	7.11	5	"	"	"	"	"	X
91-20-3	Naphthalene	**74.0**	D	µg/l	27.8	4.17	5	"	"	"	"	"	X
85-01-8	Phenanthrene	< 27.8	D	µg/l	27.8	3.33	5	"	"	"	"	"	X
129-00-0	Pyrene	< 27.8	D	µg/l	27.8	13.7	5	"	"	"	"	"	X
Surrogate recoveries:													
321-60-8	*2-Fluorobiphenyl*	*67*			*30-130 %*			"	"	"	"	"	
1718-51-0	*Terphenyl-dl4*	*72*			*30-130 %*			"	"	"	"	"	
Acid Extractables/Phenols			R05										
Prepared by method SW846 3510C													
59-50-7	4-Chloro-3-methylphenol	< 27.8	D	µg/l	27.8	8.06	5	"	"	"	"	"	X
95-57-8	2-Chlorophenol	< 27.8	D	µg/l	27.8	4.67	5	"	"	"	"	"	X
120-83-2	2,4-Dichlorophenol	< 27.8	D	µg/l	27.8	7.39	5	"	"	"	"	"	X
105-67-9	2,4-Dimethylphenol	< 27.8	D	µg/l	27.8	5.83	5	"	"	"	"	"	X
534-52-1	4,6-Dinitro-2-methylphenol	< 27.8	D	µg/l	27.8	10.7	5	"	"	"	"	"	X
51-28-5	2,4-Dinitrophenol	< 27.8	D	µg/l	27.8	17.8	5	"	"	"	"	"	X
95-48-7	2-Methylphenol	**28.0**	D	µg/l	27.8	4.72	5	"	"	"	"	"	X
108-39-4, 106-44-5	3 & 4-Methylphenol	< 55.6	D	µg/l	55.6	6.06	5	"	"	"	"	"	X
88-75-5	2-Nitrophenol	< 27.8	D	µg/l	27.8	7.28	5	"	"	"	"	"	X
100-02-7	4-Nitrophenol	< 27.8	D	µg/l	27.8	14.3	5	"	"	"	"	"	X
87-86-5	Pentachlorophenol	< 27.8	D	µg/l	27.8	9.89	5	"	"	"	"	"	X
108-95-2	Phenol	< 27.8	D	µg/l	27.8	5.83	5	"	"	"	"	"	X
95-95-4	2,4,5-Trichlorophenol	< 27.8	D	µg/l	27.8	8.17	5	"	"	"	"	"	X
88-06-2	2,4,6-Trichlorophenol	< 27.8	D	µg/l	27.8	5.39	5	"	"	"	"	"	X
Surrogate recoveries:													
367-12-4	*2-Fluorophenol*	*36*			*15-110 %*			"	"	"	"	"	
4165-62-2	*Phenol-d5*	*24*			*15-110 %*			"	"	"	"	"	
Phthalates			R05										
Prepared by method SW846 3510C													
117-81-7	Bis(2-ethylhexyl)phthalate	< 27.8	D	µg/l	27.8	9.33	5	"	"	"	"	"	X
85-68-7	Butyl benzyl phthalate	< 27.8	D	µg/l	27.8	4.17	5	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GW-1 SB60160-01	ENE, NH	Ground Water	15-Nov-12 12:30	16-Nov-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Semivolatile Organic Compounds by GCMS													
Phthalates			R05										
Prepared by method SW846 3510C													
84-66-2	Diethyl phthalate	< 27.8	D	µg/l	27.8	6.83	5	SW846 8270D	21-Nov-12	27-Nov-12	MSL	1228753	X
131-11-3	Dimethyl phthalate	< 27.8	D	µg/l	27.8	4.72	5	"	"	"	"	"	X
84-74-2	Di-n-butyl phthalate	< 27.8	D	µg/l	27.8	7.44	5	"	"	"	"	"	X
117-84-0	Di-n-octyl phthalate	< 27.8	D	µg/l	27.8	7.33	5	"	"	"	"	"	X
Surrogate recoveries:													
321-60-8	*2-Fluorobiphenyl*	*67*			*30-130 %*			"	"	"	"	"	
1718-51-0	*Terphenyl-dl4*	*72*			*30-130 %*			"	"	"	"	"	
Semivolatile Organic Compounds by GC													
Polychlorinated Biphenyls													
Prepared by method SW846 3510C													
12674-11-2	Aroclor-1016	< 0.213		µg/l	0.213	0.00915	1	EPA 608	19-Nov-12	21-Nov-12	IMR	1228473	X
11104-28-2	Aroclor-1221	< 0.213		µg/l	0.213	0.0152	1	"	"	"	"	"	X
11141-16-5	Aroclor-1232	< 0.213		µg/l	0.213	0.0143	1	"	"	"	"	"	X
53469-21-9	Aroclor-1242	< 0.213		µg/l	0.213	0.00777	1	"	"	"	"	"	X
12672-29-6	Aroclor-1248	< 0.213		µg/l	0.213	0.0120	1	"	"	"	"	"	X
11097-69-1	Aroclor-1254	< 0.213		µg/l	0.213	0.0105	1	"	"	"	"	"	X
11096-82-5	Aroclor-1260	< 0.213		µg/l	0.213	0.00617	1	"	"	"	"	"	X
37324-23-5	Aroclor-1262	< 0.213		µg/l	0.213	0.00926	1	"	"	"	"	"	
11100-14-4	Aroclor-1268	< 0.213		µg/l	0.213	0.0101	1	"	"	"	"	"	
Surrogate recoveries:													
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*60*			*30-150 %*			"	"	"	"	"	
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr) [2C]*	*70*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr)*	*35*			*30-150 %*			"	"	"	"	"	
2051-24-3	*Decachlorobiphenyl (Sr) [2C]*	*45*			*30-150 %*			"	"	"	"	"	
Extractable Petroleum Hydrocarbons													
	Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0	0.6	1	EPA 1664 Rev. A	21-Nov-12	26-Nov-12	JK	1228754	X
Total Metals by EPA 200/6000 Series Methods													
	Preservation	**Lab Preserved**		N/A			1	EPA 200/6000 methods	19-Nov-12	19-Nov-12	JS	1228476	
Total Metals by EPA 200 Series Methods													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0031	1	EPA 200.7	27-Nov-12	27-Nov-12	EDT	1229002	X
7440-38-2	Arsenic	**0.0456**		mg/l	0.0040	0.0026	1	"	"	27-Nov-12	"	"	X
7440-43-9	Cadmium	**0.0033**		mg/l	0.0025	0.0015	1	"	"	27-Nov-12	"	"	X
7440-47-3	Chromium	**0.0050**		mg/l	0.0050	0.0016	1	"	"	"	"	"	X
7440-50-8	Copper	< 0.0150		mg/l	0.0150	0.0044	1	"	"	"	"	"	X
7439-89-6	Iron	**184**		mg/l	0.0150	0.0056	1	"	"	"	"	"	X
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00007	1	EPA 245.1/7470A	"	27-Nov-12	JLM	1229004	X
7440-02-0	Nickel	< 0.0050		mg/l	0.0050	0.0028	1	EPA 200.7	"	27-Nov-12	EDT	1229002	X
7439-92-1	Lead	**0.00178**		mg/l	0.00050	0.00006	1	EPA 200.8	"	27-Nov-12	TBC	1229003	X
7440-36-0	Antimony	**0.0103**		mg/l	0.0060	0.0038	1	EPA 200.7	"	27-Nov-12	EDT	1229002	X
7782-49-2	Selenium	**0.0186**		mg/l	0.0150	0.0090	1	"	"	"	"	"	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
GW-1 SB60160-01	ENE, NH	Ground Water	15-Nov-12 12:30	16-Nov-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Total Metals by EPA 200 Series Methods													
Re-analysis of Total Zinc by ICP Prepared by method EPA 200 Series													
7440-66-6	Zinc	**0.256**		mg/l	0.0050	0.0022	1	EPA 200.7	29-Nov-12	29-Nov-12	LR	1229300	X
General Chemistry Parameters													
16065-83-1	Trivalent Chromium	< 0.0100		mg/l	0.0100	0.0053	1	Calculation	27-Nov-12	27-Nov-12	EDT	1229002	
7782-50-5	Total Residual Chlorine	< 0.200	HT2,CIH T	mg/l	0.200	0.056	1	SM4500-Cl-G	16-Nov-12 17:30	16-Nov-12 17:30	CAA	1228672	
16887-00-6	Chloride	**236**	GS1, D	mg/l	10.0	4.48	10	EPA 300.0	29-Nov-12	29-Nov-12	KK	1229353	X
18540-29-9	Hexavalent Chromium	< 0.050	HT2, R01,LIV	mg/l	0.050	0.031	1	SW846 7196A/SM3500C rD	16-Nov-12 18:44	16-Nov-12 18:50	TDD/C	1228419	X
57-12-5	Cyanide (total)	< 0.00500		mg/l	0.00500	0.00345	1	EPA 335.4 / SW846 9012B	27-Nov-12	27-Nov-12	RLT	1229052	X
	Total Suspended Solids	**51**		mg/l	5	2	1	SM2540D	20-Nov-12	21-Nov-12	BD	1228638	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
RB SB60160-02	ENE, NH	Blank	15-Nov-12 11:55	16-Nov-12

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Microextractable Organic Compounds													
106-93-4	1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100	0.00740	1	EPA 504.1	27-Nov-12	27-Nov-12	DS	1228993	X

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1229036 - SW846 5030 Water MS										
Blank (1229036-BLK1)						Prepared & Analyzed: 27-Nov-12				
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						

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1229036 - SW846 5030 Water MS										
Blank (1229036-BLK1)						Prepared & Analyzed: 27-Nov-12				
1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50						
Tetrachloroethene	< 1.00		µg/l	1.00						
Toluene	< 1.00		µg/l	1.00						
1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00						
1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00						
1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00						
1,1,1-Trichloroethane	< 1.00		µg/l	1.00						
1,1,2-Trichloroethane	< 1.00		µg/l	1.00						
Trichloroethene	< 1.00		µg/l	1.00						
Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00						
1,2,3-Trichloropropane	< 1.00		µg/l	1.00						
1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00						
1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00						
Vinyl chloride	< 1.00		µg/l	1.00						
m,p-Xylene	< 2.00		µg/l	2.00						
o-Xylene	< 1.00		µg/l	1.00						
Tetrahydrofuran	< 2.00		µg/l	2.00						
Ethyl ether	< 1.00		µg/l	1.00						
Tert-amyl methyl ether	< 1.00		µg/l	1.00						
Ethyl tert-butyl ether	< 1.00		µg/l	1.00						
Di-isopropyl ether	< 1.00		µg/l	1.00						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
1,4-Dioxane	< 20.0		µg/l	20.0						
trans-1,4-Dichloro-2-butene	< 5.00		µg/l	5.00						
Ethanol	< 400		µg/l	400						
Surrogate: 4-Bromofluorobenzene	*48.2*		µg/l		*50.0*		*96*	*70-130*		
Surrogate: Toluene-d8	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.2*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*51.2*		µg/l		*50.0*		*102*	*70-130*		
LCS (1229036-BS1)		QM10				Prepared & Analyzed: 27-Nov-12				
1,1,2-Trichlorotrifluoroethane (Freon 113)	**20.9**		µg/l		20.0		104	70-130		
Acetone	**17.7**		µg/l		20.0		88	70-130		
Acrylonitrile	**19.3**		µg/l		20.0		97	70-130		
Benzene	**19.1**		µg/l		20.0		95	70-130		
Bromobenzene	**20.1**		µg/l		20.0		100	70-130		
Bromochloromethane	**21.0**		µg/l		20.0		105	70-130		
Bromodichloromethane	**21.3**		µg/l		20.0		107	70-130		
Bromoform	**21.4**		µg/l		20.0		107	70-130		
Bromomethane	**19.8**		µg/l		20.0		99	70-130		
2-Butanone (MEK)	**22.6**		µg/l		20.0		113	70-130		
n-Butylbenzene	**18.9**		µg/l		20.0		94	70-130		
sec-Butylbenzene	**19.4**		µg/l		20.0		97	70-130		
tert-Butylbenzene	**20.4**		µg/l		20.0		102	70-130		
Carbon disulfide	**19.8**		µg/l		20.0		99	70-130		
Carbon tetrachloride	**20.6**		µg/l		20.0		103	70-130		
Chlorobenzene	**19.0**		µg/l		20.0		95	70-130		
Chloroethane	**19.4**		µg/l		20.0		97	70-130		
Chloroform	**20.0**		µg/l		20.0		100	70-130		
Chloromethane	**18.4**		µg/l		20.0		92	70-130		
2-Chlorotoluene	**16.2**		µg/l		20.0		81	70-130		
4-Chlorotoluene	**19.7**		µg/l		20.0		99	70-130		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1229036 - SW846 5030 Water MS										
LCS (1229036-BS1)		QM10			Prepared & Analyzed: 27-Nov-12					
1,2-Dibromo-3-chloropropane	**18.0**		µg/l		20.0		90	70-130		
Dibromochloromethane	**21.6**		µg/l		20.0		108	70-130		
1,2-Dibromoethane (EDB)	**21.6**		µg/l		20.0		108	70-130		
Dibromomethane	**21.2**		µg/l		20.0		106	70-130		
1,2-Dichlorobenzene	**19.0**		µg/l		20.0		95	70-130		
1,3-Dichlorobenzene	**20.4**		µg/l		20.0		102	70-130		
1,4-Dichlorobenzene	**18.4**		µg/l		20.0		92	70-130		
Dichlorodifluoromethane (Freon12)	**16.8**		µg/l		20.0		84	70-130		
1,1-Dichloroethane	**19.2**		µg/l		20.0		96	70-130		
1,2-Dichloroethane	**19.9**		µg/l		20.0		100	70-130		
1,1-Dichloroethene	**19.9**		µg/l		20.0		100	70-130		
cis-1,2-Dichloroethene	**19.2**		µg/l		20.0		96	70-130		
trans-1,2-Dichloroethene	**20.2**		µg/l		20.0		101	70-130		
1,2-Dichloropropane	**19.2**		µg/l		20.0		96	70-130		
1,3-Dichloropropane	**20.5**		µg/l		20.0		103	70-130		
2,2-Dichloropropane	**23.7**		µg/l		20.0		119	70-130		
1,1-Dichloropropene	**19.7**		µg/l		20.0		98	70-130		
cis-1,3-Dichloropropene	**21.1**		µg/l		20.0		106	70-130		
trans-1,3-Dichloropropene	**21.2**		µg/l		20.0		106	70-130		
Ethylbenzene	**19.7**		µg/l		20.0		99	70-130		
Hexachlorobutadiene	**19.4**		µg/l		20.0		97	70-130		
2-Hexanone (MBK)	**17.0**		µg/l		20.0		85	70-130		
Isopropylbenzene	**19.9**		µg/l		20.0		100	70-130		
4-Isopropyltoluene	**18.8**		µg/l		20.0		94	70-130		
Methyl tert-butyl ether	**19.1**		µg/l		20.0		96	70-130		
4-Methyl-2-pentanone (MIBK)	**18.3**		µg/l		20.0		91	70-130		
Methylene chloride	**20.5**		µg/l		20.0		103	70-130		
Naphthalene	**19.0**		µg/l		20.0		95	70-130		
n-Propylbenzene	**21.2**		µg/l		20.0		106	70-130		
Styrene	**21.0**		µg/l		20.0		105	70-130		
1,1,1,2-Tetrachloroethane	**20.0**		µg/l		20.0		100	70-130		
1,1,2,2-Tetrachloroethane	**17.8**		µg/l		20.0		89	70-130		
Tetrachloroethene	**20.4**		µg/l		20.0		102	70-130		
Toluene	**19.4**		µg/l		20.0		97	70-130		
1,2,3-Trichlorobenzene	**19.2**		µg/l		20.0		96	70-130		
1,2,4-Trichlorobenzene	**18.5**		µg/l		20.0		92	70-130		
1,3,5-Trichlorobenzene	**19.0**		µg/l		20.0		95	70-130		
1,1,1-Trichloroethane	**20.6**		µg/l		20.0		103	70-130		
1,1,2-Trichloroethane	**19.8**		µg/l		20.0		99	70-130		
Trichloroethene	**18.6**		µg/l		20.0		93	70-130		
Trichlorofluoromethane (Freon 11)	**21.2**		µg/l		20.0		106	70-130		
1,2,3-Trichloropropane	**19.5**		µg/l		20.0		98	70-130		
1,2,4-Trimethylbenzene	**19.5**		µg/l		20.0		98	70-130		
1,3,5-Trimethylbenzene	**20.5**		µg/l		20.0		102	70-130		
Vinyl chloride	**19.6**		µg/l		20.0		98	70-130		
m,p-Xylene	**41.3**		µg/l		40.0		103	70-130		
o-Xylene	**20.4**		µg/l		20.0		102	70-130		
Tetrahydrofuran	**17.4**		µg/l		20.0		87	70-130		
Ethyl ether	**21.7**		µg/l		20.0		109	70-130		
Tert-amyl methyl ether	**19.2**		µg/l		20.0		96	70-130		
Ethyl tert-butyl ether	**19.0**		µg/l		20.0		95	70-130		
Di-isopropyl ether	**18.7**		µg/l		20.0		94	70-130		

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1229036 - SW846 5030 Water MS										
LCS (1229036-BS1)		QM10			Prepared & Analyzed: 27-Nov-12					
Tert-Butanol / butyl alcohol	**191**		µg/l		200		95	70-130		
1,4-Dioxane	**206**		µg/l		200		103	70-130		
trans-1,4-Dichloro-2-butene	**18.4**		µg/l		20.0		92	70-130		
Ethanol	**429**		µg/l		400		107	70-130		
Surrogate: 4-Bromofluorobenzene	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Toluene-d8	*51.2*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*51.1*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*54.0*		µg/l		*50.0*		*108*	*70-130*		
LCS Dup (1229036-BSD1)		QM10			Prepared & Analyzed: 27-Nov-12					
1,1,2-Trichlorotrifluoroethane (Freon 113)	**23.3**		µg/l		20.0		117	70-130	11	20
Acetone	**22.1**	QR2	µg/l		20.0		110	70-130	22	20
Acrylonitrile	**19.1**		µg/l		20.0		96	70-130	0.9	20
Benzene	**20.3**		µg/l		20.0		102	70-130	6	20
Bromobenzene	**20.8**		µg/l		20.0		104	70-130	3	20
Bromochloromethane	**21.5**		µg/l		20.0		108	70-130	3	20
Bromodichloromethane	**22.0**		µg/l		20.0		110	70-130	3	20
Bromoform	**21.4**		µg/l		20.0		107	70-130	0.4	20
Bromomethane	**21.4**		µg/l		20.0		107	70-130	8	20
2-Butanone (MEK)	**23.6**		µg/l		20.0		118	70-130	4	20
n-Butylbenzene	**20.2**		µg/l		20.0		101	70-130	7	20
sec-Butylbenzene	**20.6**		µg/l		20.0		103	70-130	6	20
tert-Butylbenzene	**22.0**		µg/l		20.0		110	70-130	8	20
Carbon disulfide	**21.5**		µg/l		20.0		107	70-130	8	20
Carbon tetrachloride	**23.0**		µg/l		20.0		115	70-130	11	20
Chlorobenzene	**19.6**		µg/l		20.0		98	70-130	3	20
Chloroethane	**21.1**		µg/l		20.0		105	70-130	8	20
Chloroform	**20.9**		µg/l		20.0		104	70-130	4	20
Chloromethane	**19.5**		µg/l		20.0		97	70-130	5	20
2-Chlorotoluene	**16.8**		µg/l		20.0		84	70-130	4	20
4-Chlorotoluene	**21.2**		µg/l		20.0		106	70-130	7	20
1,2-Dibromo-3-chloropropane	**18.5**		µg/l		20.0		93	70-130	3	20
Dibromochloromethane	**22.2**		µg/l		20.0		111	70-130	3	20
1,2-Dibromoethane (EDB)	**21.5**		µg/l		20.0		108	70-130	0.4	20
Dibromomethane	**21.6**		µg/l		20.0		108	70-130	2	20
1,2-Dichlorobenzene	**19.8**		µg/l		20.0		99	70-130	4	20
1,3-Dichlorobenzene	**21.1**		µg/l		20.0		106	70-130	4	20
1,4-Dichlorobenzene	**19.4**		µg/l		20.0		97	70-130	5	20
Dichlorodifluoromethane (Freon12)	**18.7**		µg/l		20.0		93	70-130	11	20
1,1-Dichloroethane	**21.0**		µg/l		20.0		105	70-130	9	20
1,2-Dichloroethane	**20.1**		µg/l		20.0		101	70-130	1	20
1,1-Dichloroethene	**22.8**		µg/l		20.0		114	70-130	14	20
cis-1,2-Dichloroethene	**20.3**		µg/l		20.0		102	70-130	6	20
trans-1,2-Dichloroethene	**22.0**		µg/l		20.0		110	70-130	9	20
1,2-Dichloropropane	**19.5**		µg/l		20.0		98	70-130	2	20
1,3-Dichloropropane	**21.0**		µg/l		20.0		105	70-130	3	20
2,2-Dichloropropane	**25.8**		µg/l		20.0		129	70-130	9	20
1,1-Dichloropropene	**22.1**		µg/l		20.0		111	70-130	12	20
cis-1,3-Dichloropropene	**21.2**		µg/l		20.0		106	70-130	0.05	20
trans-1,3-Dichloropropene	**21.8**		µg/l		20.0		109	70-130	3	20
Ethylbenzene	**21.2**		µg/l		20.0		106	70-130	7	20
Hexachlorobutadiene	**20.9**		µg/l		20.0		105	70-130	7	20

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1229036 - SW846 5030 Water MS										
LCS Dup (1229036-BSD1)		QM10			Prepared & Analyzed: 27-Nov-12					
2-Hexanone (MBK)	**17.0**		µg/l		20.0		85	70-130	0.2	20
Isopropylbenzene	**21.2**		µg/l		20.0		106	70-130	6	20
4-Isopropyltoluene	**20.0**		µg/l		20.0		100	70-130	6	20
Methyl tert-butyl ether	**19.4**		µg/l		20.0		97	70-130	2	20
4-Methyl-2-pentanone (MIBK)	**18.7**		µg/l		20.0		94	70-130	2	20
Methylene chloride	**20.9**		µg/l		20.0		104	70-130	2	20
Naphthalene	**19.4**		µg/l		20.0		97	70-130	2	20
n-Propylbenzene	**22.4**		µg/l		20.0		112	70-130	5	20
Styrene	**22.0**		µg/l		20.0		110	70-130	4	20
1,1,1,2-Tetrachloroethane	**20.9**		µg/l		20.0		105	70-130	5	20
1,1,2,2-Tetrachloroethane	**17.8**		µg/l		20.0		89	70-130	0.06	20
Tetrachloroethene	**22.5**		µg/l		20.0		112	70-130	10	20
Toluene	**21.0**		µg/l		20.0		105	70-130	8	20
1,2,3-Trichlorobenzene	**20.2**		µg/l		20.0		101	70-130	5	20
1,2,4-Trichlorobenzene	**19.4**		µg/l		20.0		97	70-130	5	20
1,3,5-Trichlorobenzene	**19.8**		µg/l		20.0		99	70-130	4	20
1,1,1-Trichloroethane	**23.0**		µg/l		20.0		115	70-130	11	20
1,1,2-Trichloroethane	**19.6**		µg/l		20.0		98	70-130	0.6	20
Trichloroethene	**20.6**		µg/l		20.0		103	70-130	10	20
Trichlorofluoromethane (Freon 11)	**23.9**		µg/l		20.0		119	70-130	12	20
1,2,3-Trichloropropane	**18.7**		µg/l		20.0		94	70-130	4	20
1,2,4-Trimethylbenzene	**20.2**		µg/l		20.0		101	70-130	4	20
1,3,5-Trimethylbenzene	**21.5**		µg/l		20.0		107	70-130	5	20
Vinyl chloride	**21.7**		µg/l		20.0		108	70-130	10	20
m,p-Xylene	**42.9**		µg/l		40.0		107	70-130	4	20
o-Xylene	**21.4**		µg/l		20.0		107	70-130	5	20
Tetrahydrofuran	**17.7**		µg/l		20.0		89	70-130	2	20
Ethyl ether	**21.0**		µg/l		20.0		105	70-130	4	20
Tert-amyl methyl ether	**18.7**		µg/l		20.0		93	70-130	3	20
Ethyl tert-butyl ether	**19.3**		µg/l		20.0		96	70-130	2	20
Di-isopropyl ether	**19.4**		µg/l		20.0		97	70-130	4	20
Tert-Butanol / butyl alcohol	**196**		µg/l		200		98	70-130	3	20
1,4-Dioxane	**190**		µg/l		200		95	70-130	8	20
trans-1,4-Dichloro-2-butene	**18.6**		µg/l		20.0		93	70-130	1	20
Ethanol	**439**		µg/l		400		110	70-130	2	20
Surrogate: 4-Bromofluorobenzene	*51.4*		µg/l		*50.0*		*103*	*70-130*		
Surrogate: Toluene-d8	*51.0*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*52.0*		µg/l		*50.0*		*104*	*70-130*		
Surrogate: Dibromofluoromethane	*53.6*		µg/l		*50.0*		*107*	*70-130*		

Microextractable Organic Compounds - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1228993 - General Preparation SVOC										
Blank (1228993-BLK1)						Prepared & Analyzed: 27-Nov-12				
1,2-Dibromoethane (EDB)	< 0.0100		µg/l	0.0100						
LCS (1228993-BS1)						Prepared & Analyzed: 27-Nov-12				
1,2-Dibromoethane (EDB)	**0.193**		µg/l	0.0100	0.200		96	50-150		
LCS Dup (1228993-BSD1)						Prepared & Analyzed: 27-Nov-12				
1,2-Dibromoethane (EDB)	**0.204**		µg/l	0.0100	0.200		102	50-150	6	50

Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1228753 - SW846 3510C										
Blank (1228753-BLK1)						Prepared: 21-Nov-12 Analyzed: 26-Nov-12				
Acenaphthene	< 5.00		µg/l	5.00						
Acenaphthylene	< 5.00		µg/l	5.00						
Anthracene	< 5.00		µg/l	5.00						
Benzo (a) anthracene	< 5.00		µg/l	5.00						
Benzo (a) pyrene	< 5.00		µg/l	5.00						
Benzo (b) fluoranthene	< 5.00		µg/l	5.00						
Benzo (g,h,i) perylene	< 5.00		µg/l	5.00						
Benzo (k) fluoranthene	< 5.00		µg/l	5.00						
Benzoic acid	< 5.00		µg/l	5.00						
Bis(2-ethylhexyl)phthalate	< 5.00		µg/l	5.00						
Butyl benzyl phthalate	< 5.00		µg/l	5.00						
4-Chloro-3-methylphenol	< 5.00		µg/l	5.00						
2-Chlorophenol	< 5.00		µg/l	5.00						
Chrysene	< 5.00		µg/l	5.00						
Dibenzo (a,h) anthracene	< 5.00		µg/l	5.00						
2,4-Dichlorophenol	< 5.00		µg/l	5.00						
Diethyl phthalate	< 5.00		µg/l	5.00						
Dimethyl phthalate	< 5.00		µg/l	5.00						
2,4-Dimethylphenol	< 5.00		µg/l	5.00						
Di-n-butyl phthalate	< 5.00		µg/l	5.00						
4,6-Dinitro-2-methylphenol	< 5.00		µg/l	5.00						
2,4-Dinitrophenol	< 5.00		µg/l	5.00						
Di-n-octyl phthalate	< 5.00		µg/l	5.00						
Fluoranthene	< 5.00		µg/l	5.00						
Fluorene	< 5.00		µg/l	5.00						
Indeno (1,2,3-cd) pyrene	< 5.00		µg/l	5.00						
1-Methylnaphthalene	< 5.00		µg/l	5.00						
2-Methylnaphthalene	< 5.00		µg/l	5.00						
2-Methylphenol	< 5.00		µg/l	5.00						
3 & 4-Methylphenol	< 10.0		µg/l	10.0						
Naphthalene	< 5.00		µg/l	5.00						
2-Nitrophenol	< 5.00		µg/l	5.00						
4-Nitrophenol	< 5.00		µg/l	5.00						
Pentachlorophenol	< 5.00		µg/l	5.00						
Phenanthrene	< 5.00		µg/l	5.00						
Phenol	< 5.00		µg/l	5.00						
Pyrene	< 5.00		µg/l	5.00						
2,4,5-Trichlorophenol	< 5.00		µg/l	5.00						
2,4,6-Trichlorophenol	< 5.00		µg/l	5.00						
Surrogate: 2-Fluorobiphenyl	*29.8*		µg/l		*50.0*		*60*	*30-130*		
Surrogate: 2-Fluorobiphenyl	*29.8*		µg/l		*50.0*		*60*	*30-130*		
Surrogate: 2-Fluorophenol	*20.1*		µg/l		*50.0*		*40*	*15-110*		
Surrogate: Phenol-d5	*13.5*		µg/l		*50.0*		*27*	*15-110*		
Surrogate: Terphenyl-dl4	*44.5*		µg/l		*50.0*		*89*	*30-130*		
Surrogate: Terphenyl-dl4	*44.5*		µg/l		*50.0*		*89*	*30-130*		
LCS (1228753-BS1)						Prepared: 21-Nov-12 Analyzed: 26-Nov-12				
Acenaphthene	**33.9**		µg/l	5.00	50.0		68	40-140		
Acenaphthylene	**33.3**		µg/l	5.00	50.0		67	40-140		
Anthracene	**39.8**		µg/l	5.00	50.0		80	40-140		
Benzo (a) anthracene	**36.0**		µg/l	5.00	50.0		72	40-140		
Benzo (a) pyrene	**36.2**		µg/l	5.00	50.0		72	40-140		

Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1228753 - SW846 3510C										
LCS (1228753-BS1)						Prepared: 21-Nov-12 Analyzed: 26-Nov-12				
Benzo (b) fluoranthene	**35.2**		µg/l	5.00	50.0		70	40-140		
Benzo (g,h,i) perylene	**35.9**		µg/l	5.00	50.0		72	40-140		
Benzo (k) fluoranthene	**38.4**		µg/l	5.00	50.0		77	40-140		
Bis(2-ethylhexyl)phthalate	**44.8**		µg/l	5.00	50.0		90	40-140		
Butyl benzyl phthalate	**38.7**		µg/l	5.00	50.0		77	40-140		
4-Chloro-3-methylphenol	**36.9**		µg/l	5.00	50.0		74	30-130		
2-Chlorophenol	**30.9**		µg/l	5.00	50.0		62	30-130		
Chrysene	**34.6**		µg/l	5.00	50.0		69	40-140		
Dibenzo (a,h) anthracene	**38.0**		µg/l	5.00	50.0		76	40-140		
2,4-Dichlorophenol	**31.1**		µg/l	5.00	50.0		62	30-130		
Diethyl phthalate	**39.3**		µg/l	5.00	50.0		79	40-140		
Dimethyl phthalate	**35.0**		µg/l	5.00	50.0		70	40-140		
2,4-Dimethylphenol	**30.2**		µg/l	5.00	50.0		60	30-130		
Di-n-butyl phthalate	**42.0**		µg/l	5.00	50.0		84	40-140		
4,6-Dinitro-2-methylphenol	**35.9**		µg/l	5.00	50.0		72	30-130		
2,4-Dinitrophenol	**33.7**		µg/l	5.00	50.0		67	30-130		
Di-n-octyl phthalate	**40.3**		µg/l	5.00	50.0		81	40-140		
Fluoranthene	**39.8**		µg/l	5.00	50.0		80	40-140		
Fluorene	**35.2**		µg/l	5.00	50.0		70	40-140		
Indeno (1,2,3-cd) pyrene	**38.8**		µg/l	5.00	50.0		78	40-140		
1-Methylnaphthalene	**32.1**		µg/l	5.00	50.0		64	40-140		
2-Methylnaphthalene	**33.1**		µg/l	5.00	50.0		66	40-140		
2-Methylphenol	**28.7**		µg/l	5.00	50.0		57	30-130		
3 & 4-Methylphenol	**28.0**		µg/l	10.0	50.0		56	30-130		
Naphthalene	**30.5**		µg/l	5.00	50.0		61	40-140		
2-Nitrophenol	**31.7**		µg/l	5.00	50.0		63	30-130		
4-Nitrophenol	**16.5**		µg/l	5.00	50.0		33	30-130		
Pentachlorophenol	**28.9**		µg/l	5.00	50.0		58	30-130		
Phenanthrene	**35.7**		µg/l	5.00	50.0		71	40-140		
Phenol	**14.1**	QC2	µg/l	5.00	50.0		28	30-130		
Pyrene	**37.4**		µg/l	5.00	50.0		75	40-140		
2,4,5-Trichlorophenol	**37.2**		µg/l	5.00	50.0		74	30-130		
2,4,6-Trichlorophenol	**29.9**		µg/l	5.00	50.0		60	30-130		
Surrogate: 2-Fluorobiphenyl	*29.2*		µg/l		*50.0*		*58*	*30-130*		
Surrogate: 2-Fluorobiphenyl	*29.2*		µg/l		*50.0*		*58*	*30-130*		
Surrogate: 2-Fluorophenol	*18.3*		µg/l		*50.0*		*37*	*15-110*		
Surrogate: Phenol-d5	*12.5*		µg/l		*50.0*		*25*	*15-110*		
Surrogate: Terphenyl-dl4	*43.2*		µg/l		*50.0*		*86*	*30-130*		
Surrogate: Terphenyl-dl4	*43.2*		µg/l		*50.0*		*86*	*30-130*		

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1228473 - SW846 3510C										
Blank (1228473-BLK1)						Prepared & Analyzed: 19-Nov-12				
Aroclor-1016	< 0.200		µg/l	0.200						
Aroclor-1016 [2C]	< 0.200		µg/l	0.200						
Aroclor-1221	< 0.200		µg/l	0.200						
Aroclor-1221 [2C]	< 0.200		µg/l	0.200						
Aroclor-1232	< 0.200		µg/l	0.200						
Aroclor-1232 [2C]	< 0.200		µg/l	0.200						
Aroclor-1242	< 0.200		µg/l	0.200						
Aroclor-1242 [2C]	< 0.200		µg/l	0.200						
Aroclor-1248	< 0.200		µg/l	0.200						
Aroclor-1248 [2C]	< 0.200		µg/l	0.200						
Aroclor-1254	< 0.200		µg/l	0.200						
Aroclor-1254 [2C]	< 0.200		µg/l	0.200						
Aroclor-1260	< 0.200		µg/l	0.200						
Aroclor-1260 [2C]	< 0.200		µg/l	0.200						
Aroclor-1262	< 0.200		µg/l	0.200						
Aroclor-1262 [2C]	< 0.200		µg/l	0.200						
Aroclor-1268	< 0.200		µg/l	0.200						
Aroclor-1268 [2C]	< 0.200		µg/l	0.200						
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.180*		µg/l		*0.200*		*90*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.200*		µg/l		*0.200*		*100*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.190*		µg/l		*0.200*		*95*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.210*		µg/l		*0.200*		*105*	*30-150*		
LCS (1228473-BS1)						Prepared & Analyzed: 19-Nov-12				
Aroclor-1016	**2.39**		µg/l	0.200	2.50		96	50-114		
Aroclor-1016 [2C]	**2.48**		µg/l	0.200	2.50		99	50-114		
Aroclor-1260	**2.02**		µg/l	0.200	2.50		81	40-127		
Aroclor-1260 [2C]	**1.78**		µg/l	0.200	2.50		71	40-127		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.190*		µg/l		*0.200*		*95*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.190*		µg/l		*0.200*		*95*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.180*		µg/l		*0.200*		*90*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.190*		µg/l		*0.200*		*95*	*30-150*		
LCS Dup (1228473-BSD1)						Prepared & Analyzed: 19-Nov-12				
Aroclor-1016	**2.38**		µg/l	0.200	2.50		95	50-114	0.4	20
Aroclor-1016 [2C]	**2.49**		µg/l	0.200	2.50		100	50-114	0.4	20
Aroclor-1260	**2.00**		µg/l	0.200	2.50		80	40-127	1	20
Aroclor-1260 [2C]	**1.75**		µg/l	0.200	2.50		70	40-127	2	20
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.190*		µg/l		*0.200*		*95*	*30-150*		
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr) [2C]	*0.200*		µg/l		*0.200*		*100*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr)	*0.180*		µg/l		*0.200*		*90*	*30-150*		
Surrogate: Decachlorobiphenyl (Sr) [2C]	*0.200*		µg/l		*0.200*		*100*	*30-150*		

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1228754 - SW846 3510C										
Blank (1228754-BLK1)						Prepared: 21-Nov-12 Analyzed: 26-Nov-12				
Non-polar material (SGT-HEM)	< 1.0		mg/l	1.0						
LCS (1228754-BS1)						Prepared: 21-Nov-12 Analyzed: 26-Nov-12				
Non-polar material (SGT-HEM)	**27.9**		mg/l		33.3		84	83-101		

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1229002 - EPA 200 Series										
Blank (1229002-BLK1)						Prepared & Analyzed: 27-Nov-12				
Iron	< 0.0150		mg/l	0.0150						
Antimony	< 0.0060		mg/l	0.0060						
Selenium	< 0.0150		mg/l	0.0150						
Zinc	**0.800**	QB2	mg/l	0.360						
Nickel	< 0.0050		mg/l	0.0050						
Copper	< 0.0150		mg/l	0.0150						
Chromium	< 0.0050		mg/l	0.0050						
Cadmium	< 0.0025		mg/l	0.0025						
Silver	< 0.0050		mg/l	0.0050						
Arsenic	< 0.0040		mg/l	0.0040						
LCS (1229002-BS1)						Prepared & Analyzed: 27-Nov-12				
Zinc	**1.52**	QC2, B	mg/l	0.360	1.25		122	85-115		
Selenium	**1.29**		mg/l	0.0150	1.25		103	85-115		
Antimony	**1.22**		mg/l	0.0060	1.25		98	85-115		
Nickel	**1.24**		mg/l	0.0050	1.25		99	85-115		
Iron	**1.24**		mg/l	0.0150	1.25		99	85-115		
Copper	**1.22**		mg/l	0.0150	1.25		97	85-115		
Arsenic	**1.25**		mg/l	0.0040	1.25		100	85-115		
Chromium	**1.20**		mg/l	0.0050	1.25		96	85-115		
Cadmium	**1.25**		mg/l	0.0025	1.25		100	85-115		
Silver	**1.19**		mg/l	0.0050	1.25		95	85-115		
Duplicate (1229002-DUP1)			Source: SB60160-01			Prepared & Analyzed: 27-Nov-12				
Zinc	**0.303**	J,B	mg/l	0.360		0.359			17	20
Iron	**176**		mg/l	0.0150		184			4	20
Nickel	< 0.0050		mg/l	0.0050		BRL				20
Antimony	**0.0076**	QR8	mg/l	0.0060		0.0103			31	20
Selenium	**0.0172**		mg/l	0.0150		0.0186			8	20
Copper	< 0.0150		mg/l	0.0150		BRL				20
Chromium	**0.0036**	J,QR8	mg/l	0.0050		0.0050			33	20
Cadmium	**0.0029**		mg/l	0.0025		0.0033			13	20
Silver	< 0.0050		mg/l	0.0050		BRL				20
Arsenic	**0.0453**		mg/l	0.0040		0.0456			0.8	20
Matrix Spike (1229002-MS1)			Source: SB60160-01			Prepared & Analyzed: 27-Nov-12				
Iron	**181**	QM2	mg/l	0.0150	1.25	184	-192	70-130		
Nickel	**1.22**		mg/l	0.0050	1.25	BRL	98	70-130		
Antimony	**1.26**		mg/l	0.0060	1.25	0.0103	100	70-130		
Selenium	**1.35**		mg/l	0.0150	1.25	0.0186	107	70-130		
Zinc	**1.47**	B	mg/l	0.360	1.25	0.359	89	70-130		
Chromium	**1.20**		mg/l	0.0050	1.25	0.0050	96	70-130		
Silver	**1.25**		mg/l	0.0050	1.25	BRL	100	70-130		
Cadmium	**1.24**		mg/l	0.0025	1.25	0.0033	99	70-130		
Copper	**1.31**		mg/l	0.0150	1.25	BRL	105	70-130		
Arsenic	**1.34**		mg/l	0.0040	1.25	0.0456	103	70-130		
Batch 1229003 - EPA 200 Series										
Blank (1229003-BLK1)						Prepared & Analyzed: 27-Nov-12				
Lead	< 0.00050		mg/l	0.00050						
LCS (1229003-BS1)						Prepared & Analyzed: 27-Nov-12				
Lead	**0.0984**	D	mg/l	0.00500	0.100		98	85-115		
Duplicate (1229003-DUP1)			Source: SB60160-01			Prepared & Analyzed: 27-Nov-12				
Lead	**0.00183**		mg/l	0.00050		0.00178			3	20
Matrix Spike (1229003-MS1)			Source: SB60160-01			Prepared & Analyzed: 27-Nov-12				

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Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1229003 - EPA 200 Series										
Matrix Spike (1229003-MS1)			Source: SB60160-01			Prepared & Analyzed: 27-Nov-12				
Lead	**0.0968**	D	mg/l	0.00500	0.100	0.00178	95	70-130		
Post Spike (1229003-PS1)			Source: SB60160-01			Prepared & Analyzed: 27-Nov-12				
Lead	**0.102**	D	mg/l	0.00500	0.100	0.00178	100	85-115		
Batch 1229004 - EPA200/SW7000 Series										
Blank (1229004-BLK1)						Prepared & Analyzed: 27-Nov-12				
Mercury	< 0.00020		mg/l	0.00020						
LCS (1229004-BS1)						Prepared & Analyzed: 27-Nov-12				
Mercury	**0.00461**		mg/l	0.00020	0.00500		92	85-115		
Duplicate (1229004-DUP1)			Source: SB60160-01			Prepared & Analyzed: 27-Nov-12				
Mercury	< 0.00020		mg/l	0.00020		BRL				20
Matrix Spike (1229004-MS1)			Source: SB60160-01			Prepared & Analyzed: 27-Nov-12				
Mercury	**0.00495**		mg/l	0.00020	0.00500	BRL	99	80-120		
Post Spike (1229004-PS1)			Source: SB60160-01			Prepared & Analyzed: 27-Nov-12				
Mercury	**0.00490**		mg/l	0.00020	0.00500	BRL	98	85-115		
Batch 1229300 - EPA 200 Series										
Blank (1229300-BLK1)						Prepared & Analyzed: 29-Nov-12				
Zinc	< 0.0050		mg/l	0.0050						
LCS (1229300-BS1)						Prepared & Analyzed: 29-Nov-12				
Zinc	**1.36**		mg/l	0.0050	1.25		109	85-115		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1228419 - General Preparation										
Blank (1228419-BLK1)						Prepared & Analyzed: 16-Nov-12				
Hexavalent Chromium	< 0.005		mg/l	0.005						
LCS (1228419-BS1)						Prepared & Analyzed: 16-Nov-12				
Hexavalent Chromium	**0.050**		mg/l	0.005	0.0500		100	80-120		
Calibration Blank (1228419-CCB1)						Prepared & Analyzed: 16-Nov-12				
Hexavalent Chromium	**-0.0001**		mg/l							
Calibration Blank (1228419-CCB2)						Prepared & Analyzed: 16-Nov-12				
Hexavalent Chromium	**-0.0001**		mg/l							
Calibration Check (1228419-CCV1)						Prepared & Analyzed: 16-Nov-12				
Hexavalent Chromium	**0.050**		mg/l	0.005	0.0500		99	85-115		
Calibration Check (1228419-CCV2)						Prepared & Analyzed: 16-Nov-12				
Hexavalent Chromium	**0.049**		mg/l	0.005	0.0500		99	85-115		
Duplicate (1228419-DUP1)			Source: SB60160-01			Prepared & Analyzed: 16-Nov-12				
Hexavalent Chromium	< 0.050		mg/l	0.050		BRL				20
Matrix Spike (1228419-MS1)			Source: SB60160-01			Prepared & Analyzed: 16-Nov-12				
Hexavalent Chromium	**0.394**	QM9	mg/l	0.050	0.500	BRL	79	85-115		
Matrix Spike Dup (1228419-MSD1)			Source: SB60160-01			Prepared & Analyzed: 16-Nov-12				
Hexavalent Chromium	**0.399**	QM9	mg/l	0.050	0.500	BRL	80	85-115	1	20
Reference (1228419-SRM1)						Prepared & Analyzed: 16-Nov-12				
Hexavalent Chromium	**0.025**		mg/l	0.005	0.0250		100	85-115		
Batch 1228638 - General Preparation										
Blank (1228638-BLK1)						Prepared: 20-Nov-12 Analyzed: 21-Nov-12				
Total Suspended Solids	< 5		mg/l	5						
LCS (1228638-BS1)						Prepared: 20-Nov-12 Analyzed: 21-Nov-12				
Total Suspended Solids	**94**		mg/l	10	100		94	90-110		
Batch 1228672 - General Preparation										
Blank (1228672-BLK1)						Prepared & Analyzed: 16-Nov-12				
Total Residual Chlorine	< 0.020		mg/l	0.020						
LCS (1228672-BS1)						Prepared & Analyzed: 16-Nov-12				
Total Residual Chlorine	**0.050**		mg/l	0.020	0.0500		100	90-110		
Calibration Blank (1228672-CCB1)						Prepared & Analyzed: 16-Nov-12				
Total Residual Chlorine	**0.001**		mg/l							
Calibration Blank (1228672-CCB2)						Prepared & Analyzed: 16-Nov-12				
Total Residual Chlorine	**0.001**		mg/l							
Calibration Check (1228672-CCV1)						Prepared & Analyzed: 16-Nov-12				
Total Residual Chlorine	**0.051**		mg/l	0.020	0.0500		102	90-110		
Calibration Check (1228672-CCV2)						Prepared & Analyzed: 16-Nov-12				
Total Residual Chlorine	**0.053**		mg/l	0.020	0.0500		106	90-110		
Duplicate (1228672-DUP1)			Source: SB60160-01			Prepared & Analyzed: 16-Nov-12				
Total Residual Chlorine	< 0.200		mg/l	0.200		BRL				20
Matrix Spike (1228672-MS1)			Source: SB60160-01			Prepared & Analyzed: 16-Nov-12				
Total Residual Chlorine	**0.360**	QM9	mg/l	0.200	0.500	BRL	72	80-120		
Matrix Spike Dup (1228672-MSD1)			Source: SB60160-01			Prepared & Analyzed: 16-Nov-12				
Total Residual Chlorine	**0.360**	QM9	mg/l	0.200	0.500	BRL	72	80-120	0	200
Reference (1228672-SRM1)						Prepared & Analyzed: 16-Nov-12				
Total Residual Chlorine	**0.111**		mg/l	0.020	0.112		99	85-115		
Batch 1229052 - General Preparation										
Blank (1229052-BLK1)						Prepared & Analyzed: 27-Nov-12				
Cyanide (total)	< 0.00500		mg/l	0.00500						
Blank (1229052-BLK2)						Prepared & Analyzed: 27-Nov-12				

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1229052 - General Preparation										
Blank (1229052-BLK2)						Prepared & Analyzed: 27-Nov-12				
Cyanide (total)	< 0.00500		mg/l	0.00500						
LCS (1229052-BS1)						Prepared & Analyzed: 27-Nov-12				
Cyanide (total)	**0.317**		mg/l	0.00500	0.300		106	90-110		
LCS (1229052-BS2)						Prepared & Analyzed: 27-Nov-12				
Cyanide (total)	**0.312**		mg/l	0.00500	0.300		104	90-110		
Reference (1229052-SRM1)						Prepared & Analyzed: 27-Nov-12				
Cyanide (total)	**0.121**		mg/l	0.00595	0.185		66	65-135		
Batch 1229353 - General Preparation										
Blank (1229353-BLK1)						Prepared & Analyzed: 29-Nov-12				
Chloride	< 1.00		mg/l	1.00						
LCS (1229353-BS1)						Prepared & Analyzed: 29-Nov-12				
Chloride	**19.1**		mg/l	1.00	20.0		96	90-110		
Duplicate (1229353-DUP1)			Source: SB60160-01			Prepared & Analyzed: 29-Nov-12				
Chloride	**239**	GS1, D	mg/l	10.0		236			1	20
Matrix Spike (1229353-MS1)			Source: SB60160-01			Prepared & Analyzed: 29-Nov-12				
Chloride	**277**		mg/l	10.0	40.0	236	103	90-110		
Matrix Spike Dup (1229353-MSD1)			Source: SB60160-01			Prepared & Analyzed: 29-Nov-12				
Chloride	**282**	QM7	mg/l	10.0	40.0	236	116	90-110	2	20
Reference (1229353-SRM1)						Prepared & Analyzed: 29-Nov-12				
Chloride	**25.1**		mg/l	1.00	25.0		101	90-110		

Notes and Definitions

B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
HT2	This sample was received outside the EPA recommended holding time for the analysis specified.
QB2	The method blank contains analyte at a concentration above the MRL, however no reportable concentration is present in the sample.
QC2	Analyte out of acceptance range in QC spike but no reportable concentration present in sample.
QM10	LCS/LCSD were analyzed in place of MS/MSD.
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.
QM7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM9	The spike recovery for this QC sample is outside the established control limits. The sample results for the QC batch were accepted based on LCS/LCSD or SRM recoveries within the control limits.
QR2	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QR8	Analyses are not controlled on RPD values from sample concentrations that are less than 5 times the reporting level. The batch is accepted based upon the difference between the sample and duplicate is less than or equal to the reporting limit.
R01	The Reporting Limit has been raised to account for matrix interference.
R05	Elevated Reporting Limits due to the presence of high levels of non-target analytes.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
ClHT	The method for residual chlorine indicates that samples should be analyzed immediately. 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous residual chlorine samples not analyzed in the field are considered out of hold time at the time of sample receipt.
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:
Kimberly Wisk
Nicole Leja
Rebecca Merz

1BB601160

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Brookside #2217 Page 1 of 1

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

Report To: Williamson Environmental
2 Shaker Rd, Bldg A
Shirley MA 01464
978-425-6600
Project Mgr.: H. Resca

Invoice To: Energy North Group
1700 Shawsheen St.
Tewksbury, MA
Pat O'Connell
P.O. No.: _____ RQN: _____

Project No.: ENG, NH
Site Name: Wilton, 626
Location: Wilton State: NH
Sampler(s): SM

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8=$NaHSO_4$ 9=_____ 10=_____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW=Surface Water SO=Soil SL=Sludge A=Air
X1= Blank X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Containers:	Analyses:								QA Reporting Notes: (check if needed)
											TSS (2540D) Cl, Fluoride, SO4 (9056A)	TPH (1664)	CN (335.4)	8260B + Xylenes + TBA + 1,4 Dioxane	EDB (504.1)	PCBs (3510C)	8270C	12 metals SB, AS, CD, CR3		
601160-01	GW-1	11.15.12	12:30pm	G	GW	1-5	5	3		3	X	X	X	X	X	X	X	X	→ CU, FE, PB, NI, SE, AG, Z, Hg	
↓ 02	BB	11.15.12	1205		XI	1	2								X					

☐ Fax results when available to (____) _____
☒ E-mail to labdata@williamsonenv.com
EDD Format _____
Condition upon receipt: ☐ Iced ☐ Ambient ☐ °C Ref.

Relinquished by:	Received by:	Date:	Time:
Thomas Williamson Jr	Secure Refrigerator	11/15/12	3:00pm
Thomas Williamson Jr		11-16-12	1200
	CRC	11/16/12	1452

11.4

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

11 Almgren Drive
Agawam, MA 01001
(413) 789-9018

This preceding chain of custody has been amended to include the client requested additional analyses as noted below:

Laboratory ID	*Client ID*	*Analysis*	*Added*
SB60160-01	GW-1	Total Residual Chlorine	11/20/2012
SB60160-01	GW-1	PAHs	11/27/2012
SB60160-01	GW-1	Chloride	11/28/2012

NEW HAMPSHIRE NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: HEIDI RESCA, WILLIAMSON ENVIRONMENTAL LLC
2 SHAKER ROAD, BLG A

SHIRLEY, MA 01464

From: NH Natural Heritage Bureau

Date: 11/30/2012 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau of request submitted 11/28/2012

NHB File ID: NHB12-3573 **Applicant:** HEIDI RESCA

Location: Wilton
Tax Maps: 171 A

Project Description: Dewatering project at a gas station during UST replacement

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 11/28/2012, and cannot be used for any other project.

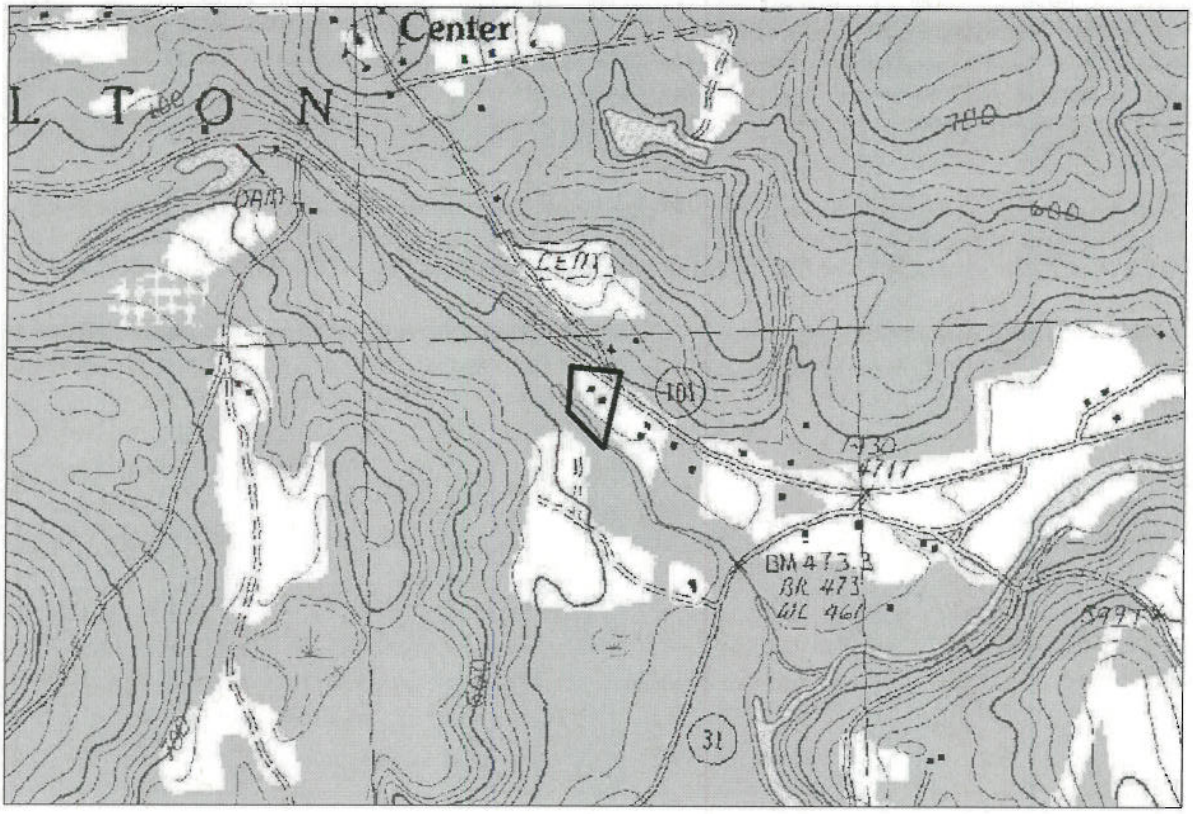
Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
PO Box 1856
Concord NH 03302-1856

MAP OF PROJECT BOUNDARIES FOR: **NHB12-3573**

NHB12-3573

NH NATURAL HERITAGE BUREAU



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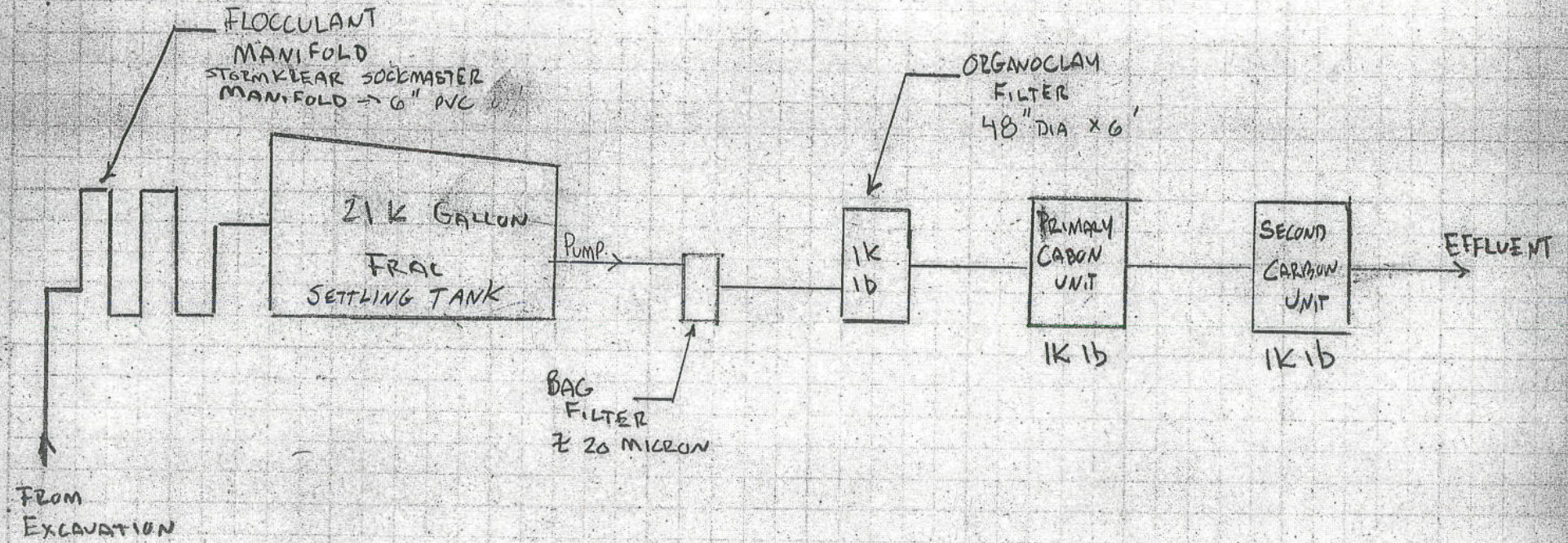
Valid for one year from this date: 30 Nov 2012

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
PO Box 1856
Concord NH 03302-1856

WATER TREATMENT AND DISCHARGE SCHEMATIC



ENPRO SERVICES, INC

200 | Hydrosil International

HS-200 Series

Media to remove oil, heavy metals and similar organics from water.

The Key to successful water treatment and filtration is selecting the right combination of media and hardware. For treatment of hydrocarbons, heavy metals, and other organic contaminants, the optimal solution is eficient oil and water separation followed by the HS-200 series. Because HS-200 series can absorb up to 70% of its weight in hydrocarbons, its life inside a still bed canister is much longer than that of other process media such as granular activated carbon.

HS-200 King of Liquid Filtration

- No swelling upon water exposure
- More active ingredients per cubic foot then other organoclays
- Can be used at full strength or custom blended
- Prolongs life of activated carbon and resins thereby reducing costs and increasing efficiency
- Cost effective and environmentally sound technology

HS-200 Series Veratility

- **Free Standing Mode:**
  Used on its own, HS-200 series can be loaded in drums for use as an efficient stillbed filtration medium. Other applications include tank cleaning, oil spill mitigation, and lining/capping projects.
- **Pre-Treatment Mode**
  HS-200 Series can be used upstream to enhance the performance and extend the useful life of other filtration processes and media such as reverse osmosis, activated carbon and resins.
- **Post-Treatment Mode:**
  HS-200 Series utilized downstream of an oil-water separator or coalesce filter, has the ability to act as an effective cleaning and polishing agent.

The liquid phase filtration media HS-200 shall be 8 x 14 mesh zeolite impregnated with no less than 125 milimoles cetyl trimethyl ammonium chloride per kilogram of zeolite. The density of the product shall be 57-59 pounds per cubic foot.

HS-200 Removes

Oil and Grease

- All types

Heavy Metals

- Aluminum

- Cadmium
- Chromium
- Copper
- Lead
- Mercury
- Nickel
- Selenate
- Zinc

Hydrocarbons and other contaminants

- Acenaphthene
- Ammonia
- Anthracene
- Benzo (a) Anthracene
- Benzo (b) Flouranthene
- Benzo (a) Pyrene
- Benzo (g,h,i) Perylene
- BOD's
- BTEX
- 4-chloro-3-Methylphenol
- Chromate
- Chrysene
- COD's
- 1,1 Dichloroethane
- 1,2 Dichloroethane
- 1,4 Dioxane
- Flouranthene
- Flourine
- Gas Range Hydrocarbons
- 2-Methylnaphthalene
- Motor Oil
- Naphthalene
- PCP (pentachlorophenol)
- Phenanthrene

- Phenolics (recoverable)
- Pyrene
- TCE
- TOC
- Total Phosphorus
- TPH (Total-Petroleum Hydrocarbons)
- TSS's
- Vinyl Chloride

Constituents have had a 95%+ Reductions when treated with these media

GelFloc™

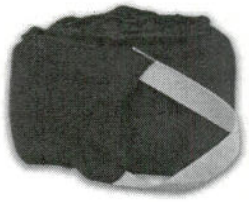
HaloKlear™ GelFloc is formulated from natural biopolymers and is 100% biodegradable through enzymatic decomposition, which prevents bioaccumulation in the environment. The patented deployment method and concentrated formula deliver superior and consistent performance at a more economical cost. GelFloc can be used as a stand-alone solution to your problem or in conjunction with HaloKlear DBP-2100™ or LBP-2101™ as part of the Dual Polymer System. GelFloc has a proven track record of treating billions of gallons of stormwater effectively and economically.

SPECIFICATIONS

Appearance:	A fine, off-white powder with no odor
pH:	3.0 - 4.5
Bulk Density:	0.281 g/ml (freely settled)
Tap Density:	0.338 g/ml
Temperature stability:	40°F to 90°F

Applications:

- Settling
- Enhanced filtration
- Pretreatment



DELIVERY METHOD

GelFloc may be applied using several delivery methods:

- passive systems
- semi-passive systems
- active treatment systems.

For more information, please contact a qualified HaloKlear sales representative at 1-888-987-8676 or visit the HaloKlear website at www.haloklear.com.

Deployment Method: A 6-foot segmented black sock with a yellow handle at one end.

Packaging Details: Product is sold as sets of 4 individually wrapped socks packaged within a 6 gallon pail.

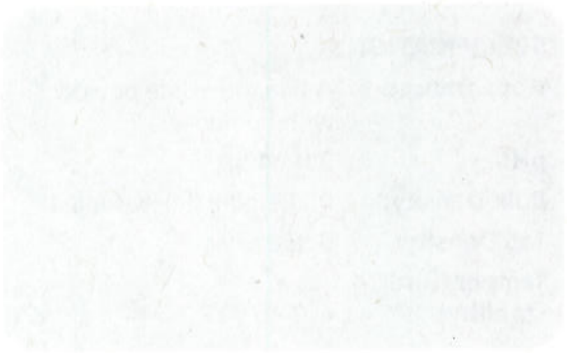
U.S. Patent No. 6,749,748
U.S. Patent No. 6,821,427
****additional patent pending***

Distributed By:

HaloKlear™
A HaloSource Brand

HaloSource, Inc.
1631 220th St. SE, Suite 100, Bothell, WA 98021
Phone: 425-881-6464 Fax: 425-556-4120

www.halosource.com • www.haloklear.com



The KEY to successful water treatment and filtration is selecting the right combination of media and hardware. For treatment of hydrocarbons, heavy metals, and other organic contaminants, the optimal solution is efficient oil and water separation followed by the HS-200 series. Because HS-200 series can adsorb up to 70% of its weight in hydrocarbons, its life inside a still bed canister is much longer than that of other process media such as granular activated carbon.

HS-200 *KING OF LIQUID FILTRATION*

- NO SWELLING UPON WATER EXPOSURE
- MORE ACTIVE INGREDIENTS PER CUBIC FOOT THEN OTHER ORGANOCLAYS
- CAN BE USED AT FULL STRENGTH OR CUSTOM BLENDED
- PROLONGS LIFE OF ACTIVATED CARBON AND RESINS THEREBY REDUCING COSTS AND INCREASING EFFICIENCY
- COST EFFECTIVE AND ENVIRONMENTALLY SOUND TECHNOLOGY

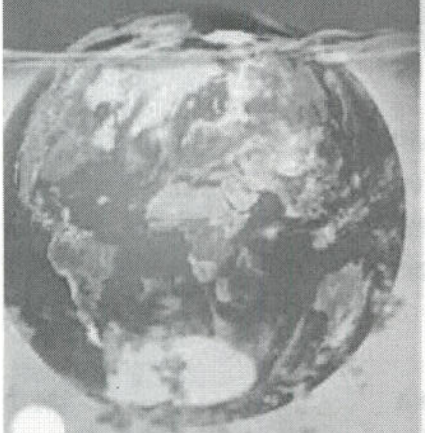
HYDROSIL INTERNATIONAL LIMITED is a modified Zeolite provider setting new standards in economical water treatment, including treatment of processed water and wastewater. Hydrosil's corporate headquarters and manufacturing facilities are located in Elgin, IL. With over 16 years of filtration experience, we specialize in our own Zeolite based organoclay products called HS-200.

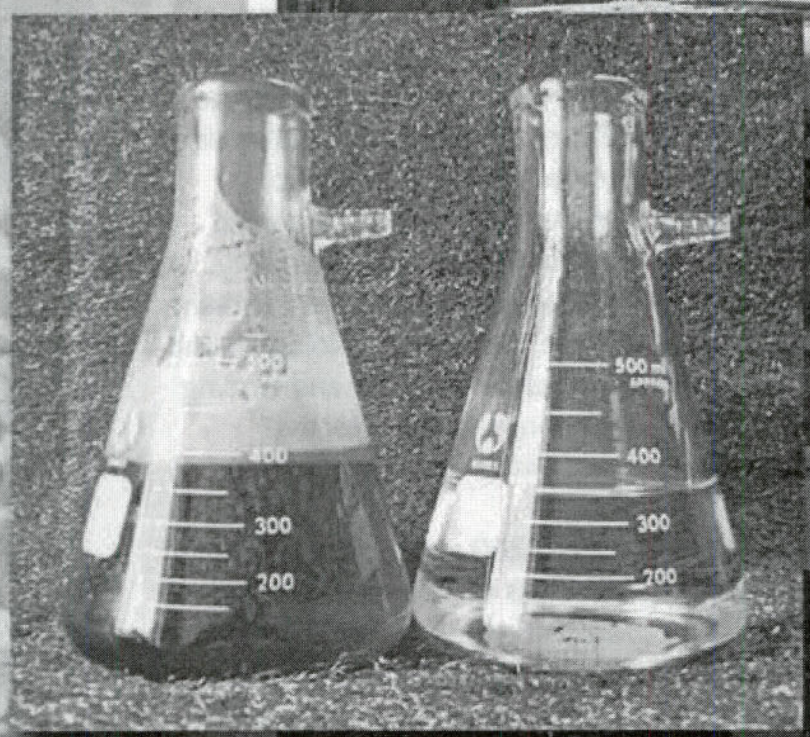
ZEOLITE BASE Zeolite is the base of our filtration media. Zeolite belongs to a family of naturally occurring volcanic minerals with unique physical and chemical characteristics. Generally speaking, natural zeolites are hydrated aluminosilicates. They consist of an open, three-dimensional cage-like structure and a vast network of open channels extending throughout. Loosely bound, positively charged atoms called cations are attached at the junctures of the negatively charged aluminosilicate lattice structure. Zeolite has a crystalline structure (similar to a honeycomb) consisting of a network of interconnected tunnels and cages. Zeolite has a high specific surface area; it's rigid framework eliminates shrinking and swelling. Perhaps the most commercially valuable and dynamic property of zeolite is its cation exchange capacity. The most common exchangeable cations found in zeolite molecules are ammonia, sodium, calcium, potassium, and magnesium, many which are desirable in numerous biological and industrial processes. The ability to release beneficial elements while capturing and binding other, often less desirable, materials makes zeolite an ideal media for selective adsorption of certain elements and compounds from soil, water and air.

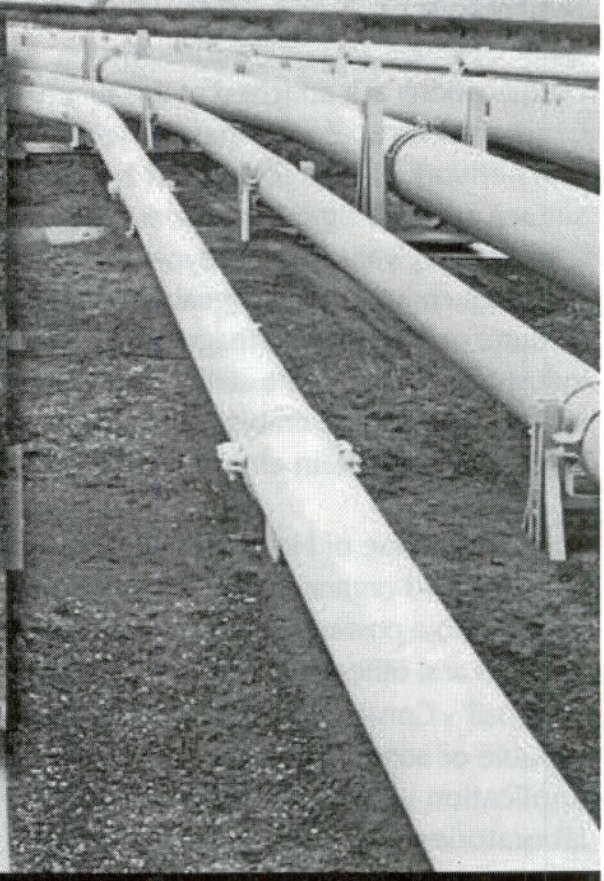
The cornerstone of Hydrosil International's success is the HS-200 series, the future of Zeolite based organoclays. Our proprietary modification process transforms high-grade Zeolite into a powerful, selective water treatment adsorbent that bonds with hydrocarbons, organics and other contaminants upon contact, locking them inside its molecular structure. Hydrosil's Contaminant Encapsulation Technology yields a granular filtration media capable of adsorping approximately 70% of its weight in hydrocarbons. Extensive application use and field testing of the HS-200 series, analyzed by independent laboratories, has demonstrated removal of a wide range of contaminants to nondetectable levels. The resulting discharge water meets or exceeds typical regulatory requirements.

Water Filtration

HYDROSIL
INTERNATIONAL LTD.







The Media Is The Key....

HS-200 Series Versatility

- Free Standing Mode:
  Used on its own, HS-200 series can be loaded in drums for use as an efficient stillbed filtration medium. Other applications include tank cleaning, oil spill mitigation, and lining/capping projects.
- Pre-Treatment Mode:
  HS-200 Series can be used upstream to enhance the performance and extend the useful life of other filtration processes and media such as reverse osmosis, activated carbon and resins.
- Post-Treatment Mode:
  HS-200 Series utilized downstream of an oil-water separator or coalesce filter, has the ability to act as an effective cleaning and polishing agent.

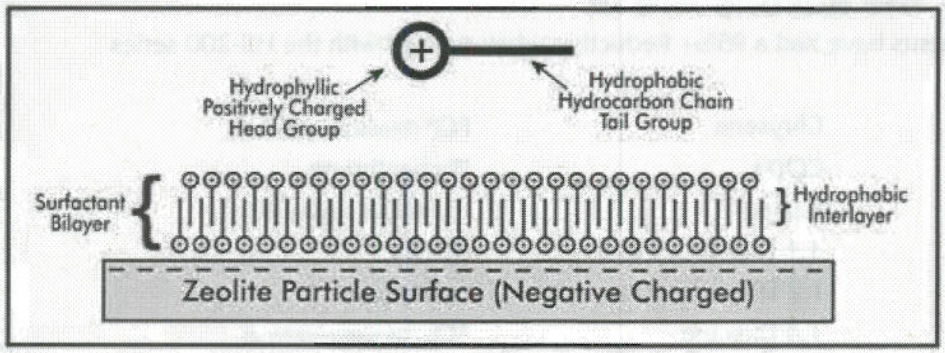
Application Parameters:

Bulk Density: 58 lbs/Ft³ (928 kg/M³)

10 - 15 minutes depending on solubility of contaminant(s) to be removed.

Temperature Range: 33 - 170 F° (1 - 77 C°)
pH Range: 4 - 10

Pre-treatment prior to activated carbon and ion exchange resin columns; Pre-treatment for RO systems; Polishing for oil and water separators and DAF units.



HYDROSIL
INTERNATIONAL LTD.

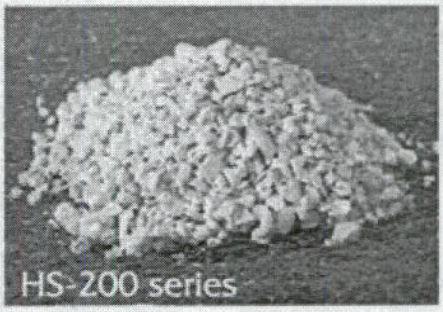
1180 St. Charles Street
Elgin, IL 60120

phone: 1-847-741-1600
phone: 1-800-PURPLE.1
Hydrosilintl.com

HS-200 Applications

HS-200 series has been used against a wide array of industrial waste streams:

- Creosote Plants
- Wood Processing
- Pulp and Paper Mills
- Carbon Black Plants
- Oil Production
- Firefighting Academy
- Industrial Laundry Services
- Shipyards
- Plastic Manufactures
- Tank and Storage Vessel Cleaning
- Pesticide Manufacturers
- Condensate Systems
- Pipeline Pressure Testing Runoff
- Industrial Water Runoff


HS-200 series


HS-200 series blend

The HS-200 Series Blends

HS-250 a blend of HS-200 and 8x30 Anthracite Coal

- Contains 66% more active ingredient per cubic foot than activated clays on the market

HS-250-AC a blend of HS-200 and 6x12 Virgin Activated Carbon

- This blend is the best of both worlds with the added benefits of Virgin Activated Carbon

HS-270 a blend of HS-200 and 8x30 Anthracite Coal

- Was created to be a 1 to 1 replacement for Organoclays/Activated Clays on the market that have swelling issues

HS-200 Series, the Results Are In

The following Constituents have had a 95%+ Reduction when treated with the HS-200 series

Acenaphthene	Chrysene	PCP (Pentachlorophenol)
Acenaphthylen	COD's	Phenanthrene
Ammonia	Copper	Phenolics (recoverable)
Anthracene	1,1 Dichloroethane	Pyrene
Arsenate	1,2 Dichloroethene	Selenate
Arsenic	1,4 Dioxane	TCE (Trichloroethylene)
Benzo (a) Anthracene	Fluoranthene	TOC (Total Organic Compounds)
Benzo (b) Fluoranthene	Fluorene	Total Phosphorous
Benzo (a) Pyrene	Gasoline Range Hydrocarbons	TPH (Total-Petroleum Hydrocarbons)
Benzo (g,h,i) Perylene	Lead	TSS's
BOD's	Mercury	Vinyl Chloride
BTEX	2-Methylnaphthalene	Zinc
Cadmium	Motor Oil	
4-Chloro-3-Methylphenol	Naphthalene	
Chromate	Nickel	
Chromium	Oil and Grease	

HYDROSIL INTERNATIONAL LTD
1180 St. Charles St. Elgin, IL 60120
phone: 1-847-741-1600
phone: 1-800-PURPLE.1