



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

5 Post Office Square, Suite 100

BOSTON, MA 02109-3912

CERTIFIED MAIL RETURN RECEIPT REQUESTED

APR 27 2011

Stephan White
President
PES Associates
858 Washington Street
Dedham, MA 02026

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. Hoffman Building site located at 160 North Washington Street, Suffolk
County; Authorization # MAG910232 – Reissuance

Dear Mr. White:

Based on the review of a Notice of Intent (NOI) submitted on behalf of Ajax Partnership
by the firm Cooperstown 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 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 you have marked believed present.
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. With the absence of dilution of freshwater into tidal water,

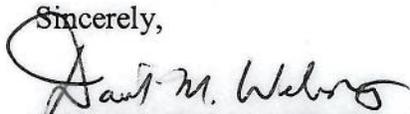
EPA determined that the Dilution Factor Range (DFR) for each parameter for this site is in the one to five (1-5) range. (See Appendix IV of the RGP for Massachusetts facilities). Therefore, the limits for arsenic of 36ug/L, trivalent chromium of 100ug/L, hexavalent chromium of 50.5ug/L, copper of 3.7ug/L, lead of 8.5 ug/L, nickel of 8.2ug/L, zinc of 85.6ug/L and iron of 1,000ug/L, are required to achieve permit compliance at your site.

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

This general permit and authorization to discharge will expire on September 9, 2015. You have not reported a termination date for this project. 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,



David M. Webster, Chief
Industrial Permits Branch

Enclosure

cc: Kathleen Keohane, MassDEP
James T. Curtis, Cooperstown

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

NPDES Authorization Number:	MAG910232 - Reissuance
Authorization Issued:	April, 2011
Facility/Site Name:	Hoffman Building
Facility/Site Address:	160 North Washington Street, Boston, MA 02108, Suffolk County
	Email address of owner: Realtors@ajaxpartners.com
Legal Name of Operator:	PES Associates
Operator contact name, title, and Address:	Stephan White, President, 858 Washington Street, Dedham, MA 02026
	Email: swhite@pesassociatesinc.com
Estimated Date of Completion:	Unknown
Category and Sub-Category:	Category I. Petroleum Related Site Remediation. Subcategory C. Petroleum Sites with Additional Contamination
Receiving Water:	Boston Inner Harbor

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

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
✓	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing **, Me#60.2/ML5ug/L
	2. Total Residual Chlorine (TRC) ¹	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
✓	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
✓	4. Cyanide (CN) ^{2,3}	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 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
✓	11. Methyl-tert-Butyl Ether (MtBE)	70.0 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)
✓	12. tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
✓	13. tert-Amyl Methyl Ether (TAME)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	14. Naphthalene ⁵	20 ug/L /Me#8260C/ML 2ug/L
	15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML 5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
	20. 1,2 Dichloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
	22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
	23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
	24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
	28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
	29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
✓	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
✓	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L, Me#604 &625/ML 10ug/L
	33. Total Phthalates (Phthalate esters) ⁶	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L & Me#625/ML 5ug/L
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
✓	a. Benzo(a) Anthracene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L

<u>Parameter</u>	<u>Effluent Limit/Method#/ML</u> (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
d. Benzo(k)Fluoranthene ⁷	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
e. Chrysene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
f. Dibenzo(a,h)anthracene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
g. Indeno(1,2,3-cd) Pyrene ⁷	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
h. Acenaphthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
i. Acenaphthylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
j. Anthracene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
l. Fluoranthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
m. Fluorene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
n. Naphthalene ⁵	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
o. Phenanthrene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
p. Pyrene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
37. Total Polychlorinated Biphenyls (PCBs) ^{8,9}	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
✓ 38. Chloride	Monitor only/Me# 300.0/ ML 0.1ug/L

	<u>Metal parameter</u>	<u>Total Recoverable Metal Limit @ H ¹⁰ = 50 mg/l CaCO3 for discharges in Massachusetts (ug/l) ^{11/12}</u>		<u>Minimum level=ML</u>
			<u>Saltwater</u>	
	39. Antimony	5.6/ML	10	
✓	40. Arsenic **		36/ML	20
	41. Cadmium **		8.9/ML	10
✓	42. Chromium III (trivalent) **		100/ML	15
✓	43. Chromium VI (hexavalent) **		50.3/ML	10

	<u>Metal parameter</u>	<u>Total Recoverable Metal Limit @ H¹⁰ = 50 mg/l CaCO₃ for discharges in Massachusetts (ug/l)^{11/12}</u>		<u>Minimum level=ML</u>
			<u>Saltwater</u>	
✓	44. Copper **		3.7/ML 15	
✓	45. Lead **		8.5/ML 20	
	46. Mercury **		1.1/ML 0.2	
✓	47. Nickel **		8.2/ML 20	
✓	48. Selenium **		71/ML 20	
	49. Silver		2.2/ML 10	
✓	50. Zinc **		85.6/ML 15	
✓	51. Iron	1,000/ML	20	

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

Footnotes:

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

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

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

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

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

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

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

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

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

⁹Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).

¹⁰ Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.

¹¹ For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using $DF \times 1,000 \text{ug/L}$ (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit = $1,000 \times 2 = 2,000 \text{ug/L}$, etc. not to exceed the DF=5.

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

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

¹⁴ Temperature sampling per Method 170.1



April 4, 2011

Mr. Victor Alvarez
United States Environmental Protection Agency
New England – Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109

Re: Reauthorization for Dewatering Discharge
EPA Remedial General Permit
160 North Washington Street, Boston, Massachusetts
Previous NPDES Permit #MAG 910232.
MassDEP RTN #3-22351

Dear Mr. Alvarez:

On behalf of Ajax Partnership, **Cooperstown Environmental LLC** has prepared this Notice of Intent requesting reauthorization for dewatering discharge under the MA EPA Remedial General Permit (RGP)

The previous NPDES RGP Permit was authorized in May 2006 (Permit #MAG910232). The site is covered by the Massachusetts Contingency Plan (MCP) and has been assigned Release Transaction Number (RTN) #3-22351. The tidal recovery system and treatment operated nearly continuously until April 2010, when mechanical problems led to the system shut down. System is currently undergoing repairs and discharge is scheduled to resume upon approval of reauthorization.

If you have any questions or need additional information feel free to contact me at (978) 470-4755.

Very sincerely yours,

Cooperstown Environmental LLC

James T. Curtis, PE, LSP
President

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 :		Facility/site mailing address:	
Location of facility/site : longitude: _____ latitude: _____	Facility SIC code(s):	Street:	
b) Name of facility/site owner :		Town:	
Email address of facility/site owner:	State:	Zip:	County:
Telephone no. of facility/site owner :			
Fax no. of facility/site owner :	Owner is (check one): 1. Federal____ 2. State/Tribal____ 3. Private____ 4. Other ____ if so, describe:		
Address of owner (if different from site):			
Street:			
Town:	State:	Zip:	County:
c) Legal name of operator :	Operator telephone no:		
	Operator fax no.:	Operator email:	
Operator contact name and title:			
Address of operator (if different from owner):	Street:		
Town:	State:	Zip:	County:

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

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ____ B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ____ C. Hydrostatic Testing of Pipelines and Tanks ____ D. Long-Term Remediation of Contaminated Sumps and Dikes ____ E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ____
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2. Discharge information. Please provide information about the discharge, (attaching additional sheets as necessary) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:	
b) Provide the following information about each discharge:	
1) Number of discharge points:	2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow _____ Is maximum flow a design value ? Y__ N____ Average flow (include units) _____ Is average flow a design value or estimate? _____
3) Latitude and longitude of each discharge within 100 feet: pt.1: lat. _____ long. _____; pt.2: lat. _____ long. _____; pt.3: lat. _____ long. _____; pt.4: lat. _____ long. _____; pt.5: lat. _____ long. _____; pt.6: lat. _____ long. _____; pt.7: lat. _____ long. _____; pt.8: lat. _____ long. _____; etc.	
4) If hydrostatic testing, total volume of the discharge (gals): _____	5) Is the discharge intermittent ____ or seasonal ____? Is discharge ongoing? Y* ____ N____ *System will resume upon RGP reauthorization
c) Expected dates of discharge (mm/dd/yy): start _____ end _____	
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).	

3. Contaminant information.

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

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

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

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

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

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

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

⁴The sum of individual phthalate compounds.

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

<u>Parameter *</u>	<u>CAS Number</u>	<u>Believed Absent</u>	<u>Believed Present</u>	<u># of Samples</u>	<u>Sample Type (e.g., grab)</u>	<u>Analytical Method Used (method #)</u>	<u>Minimum Level (ML) of Test Method</u>	<u>Maximum daily value</u>		<u>Average daily value</u>	
								<u>concentration (ug/l)</u>	<u>mass (kg)</u>	<u>concentration (ug/l)</u>	<u>mass (kg)</u>

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

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

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:						
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 _____ gpm Maximum flow rate of treatment system _____ gpm
 Design flow rate of treatment system _____ gpm

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

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:					
c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water: 1. For multiple discharges, number the discharges sequentially. 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.					
d) Provide the state water quality classification of the receiving water _____					
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water _____ cfs Please attach any calculation sheets used to support stream flow and dilution calculations.					
f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y____ N____ If yes, for which pollutant(s)? Pathogens _____					
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.

<p>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 ____</p> <p>b) If you selected Criterion D or F, has consultation with the federal services been completed? Y ____ N ____ Underway ____</p> <p>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 ____</p> <p>d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.</p>
<p>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 ____</p> <p>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.</p>

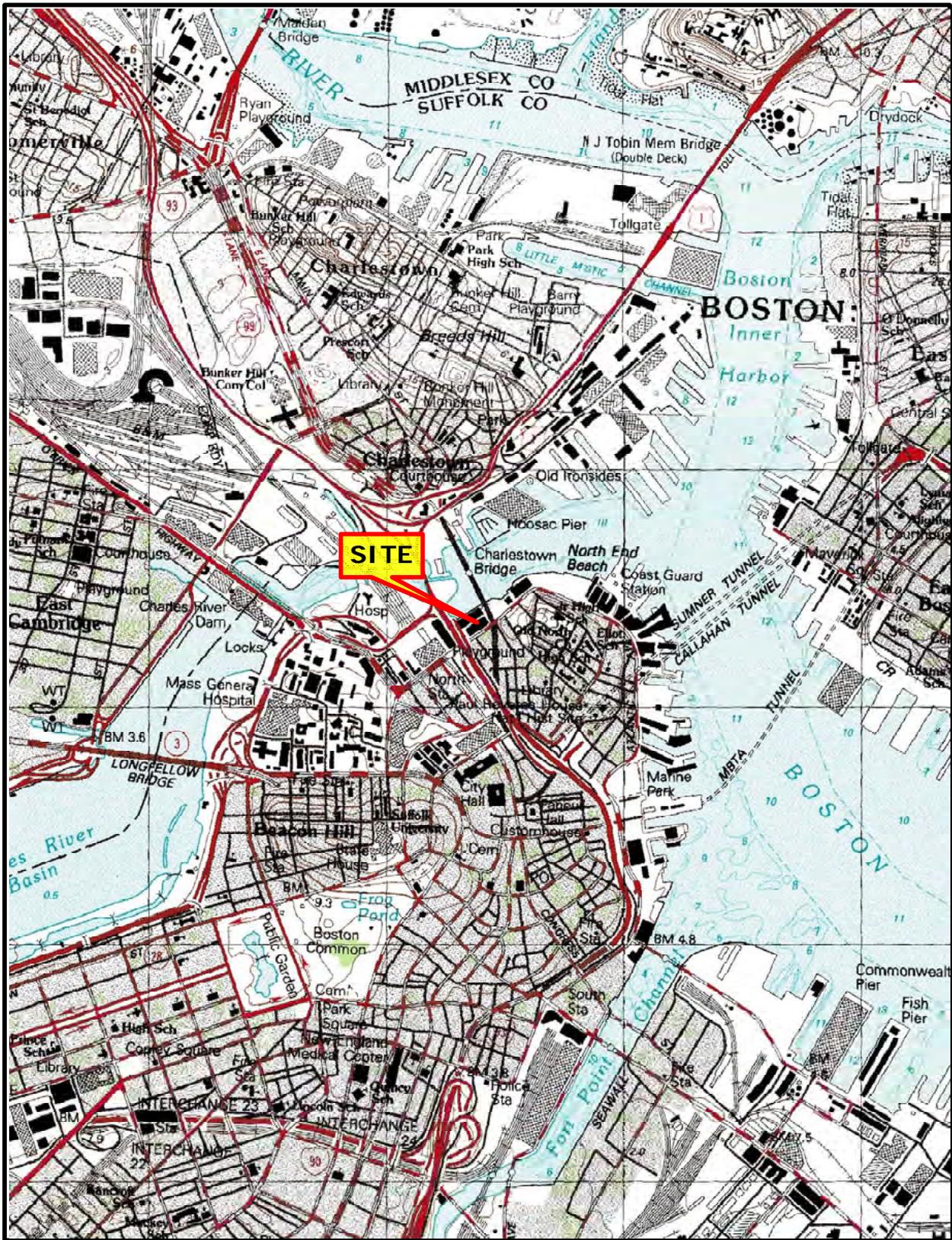
7. Supplemental information.

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

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:
Operator signature: 
Printed Name & Title:
Date:



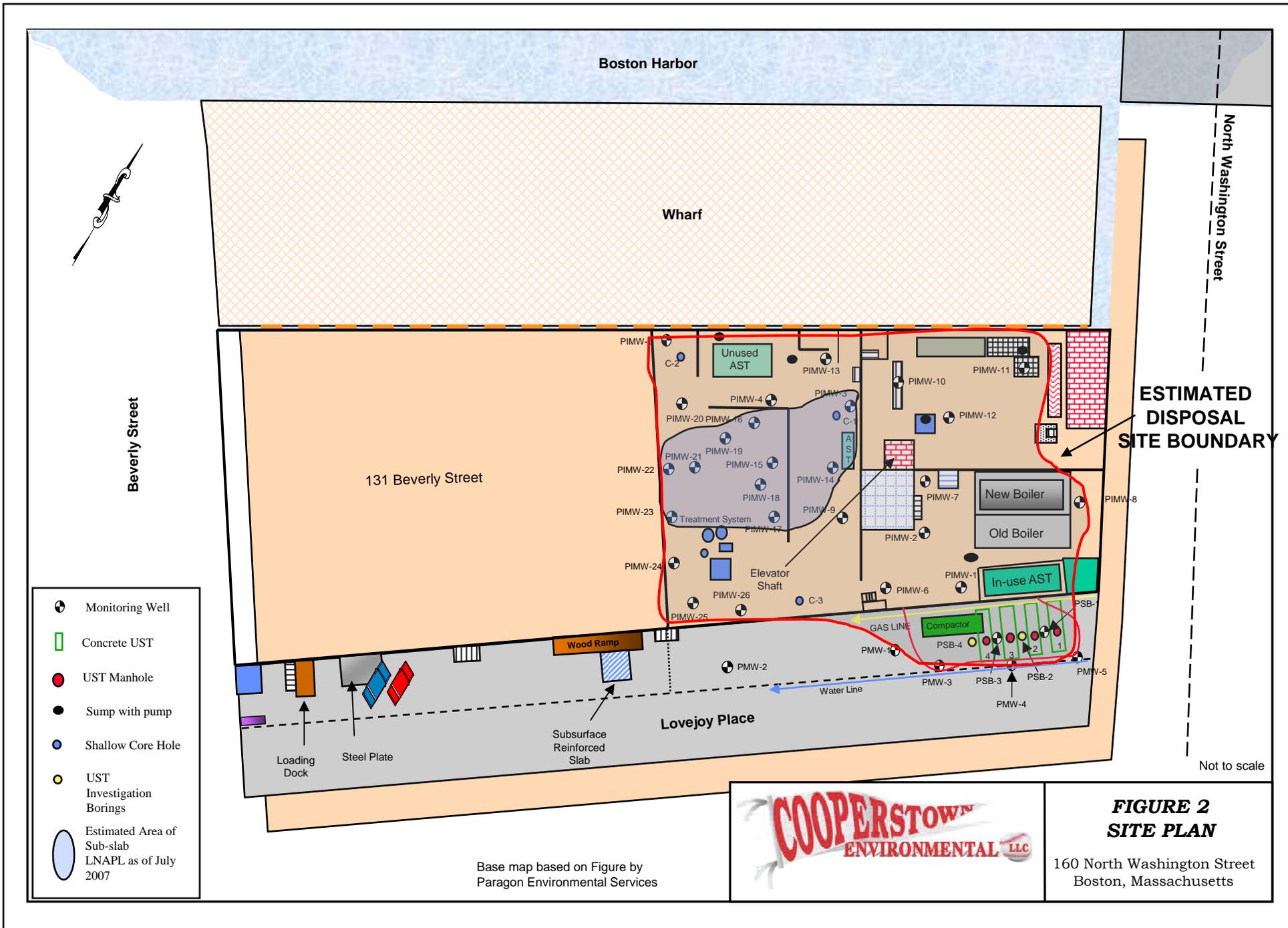
USGS Boston North Quad via TopoZone July 9, 2007

FIGURE 1 - SITE LOCUS
FORMER HOFFMAN BUILDING
160 NORTH WASHINGTON STREET
BOSTON, MASSACHUSETTS



1 inch = 2000 feet





Boston Harbor

Wharf

Beverly Street

131 Beverly Street

North Washington Street

ESTIMATED DISPOSAL SITE BOUNDARY

- Monitoring Well
- Concrete UST
- UST Manhole
- Sump with pump
- Shallow Core Hole
- UST Investigation Borings
- Estimated Area of Sub-slab LNAPL as of July 2007

Loading Dock
Steel Plate

Wood Ramp

Subsurface Reinforced Slab

Lovejoy Place

GAS LINE
Water Line

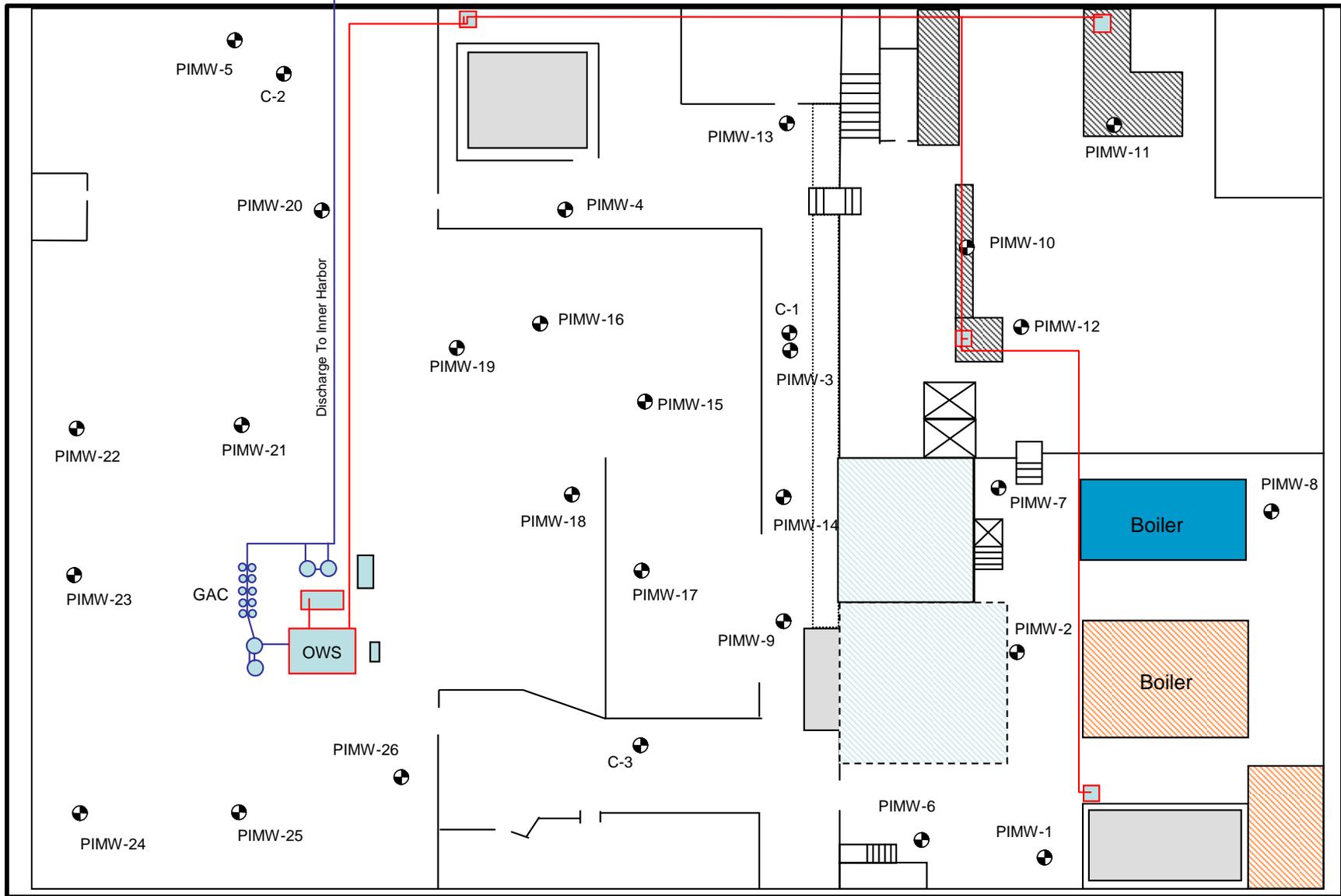
Not to scale



**FIGURE 2
SITE PLAN**

160 North Washington Street
Boston, Massachusetts

Base map based on Figure by
Paragon Environmental Services



Source: Ajax Management Partners, LLC.

**FIGURE 3 – BASEMENT LAYOUT
NORTH WASHINGTON WHARF, LLC
160 NORTH WASHINGTON STREET
BOSTON, MASSACHUSETTS**

No Scale

**160 North Washington Street
Boston, Massachusetts**

LOCATION SAMPLING DATE LAB SAMPLE ID	CasNum	EPA RGP Effluent Limits	Units	INFLUENT 3/14/2011 L1103319-01	
General Chemistry					
Cyanide, Total	57-12-5	1	ug/l	25	U
Chloride		MO	ug/l	11000000	
Phenolics, Total	NONE		ug/l	40	
Chromium, Hexavalent	18540-29-9	50.3	ug/l	10	U
Pesticides by GC					
1,2-Dibromoethane	106-93-4	0.05	ug/l	0.009	U
Semivolatile Organics by GC/MS					
Benzidine	92-87-5		ug/l	50	U
1,2,4-Trichlorobenzene	120-82-1		ug/l	5	U
Bis(2-chloroethyl)ether	111-44-4		ug/l	5	U
1,2-Dichlorobenzene	95-50-1		ug/l	5	U
1,3-Dichlorobenzene	541-73-1		ug/l	5	U
1,4-Dichlorobenzene	106-46-7		ug/l	5	U
3,3'-Dichlorobenzidine	91-94-1		ug/l	50	U
2,4-Dinitrotoluene	121-14-2		ug/l	6	U
2,6-Dinitrotoluene	606-20-2		ug/l	5	U
Azobenzene	103-33-3		ug/l	5	U
4-Chlorophenyl phenyl ether	7005-72-3		ug/l	5	U
4-Bromophenyl phenyl ether	101-55-3		ug/l	5	U
Bis(2-chloroisopropyl)ether	108-60-1		ug/l	5	U
Bis(2-chloroethoxy)methane	111-91-1		ug/l	5	U
Hexachlorocyclopentadiene	77-47-4		ug/l	30	U
Isophorone	78-59-1		ug/l	5	U
Nitrobenzene	98-95-3		ug/l	5	U
NitrosoDiPhenylAmine(NDPA)/DP	86-30-6		ug/l	15	U
Bis(2-Ethylhexyl)phthalate	117-81-7		ug/l	5	U
Butyl benzyl phthalate	85-68-7		ug/l	5	U
Di-n-butylphthalate	84-74-2		ug/l	5	U
Di-n-octylphthalate	117-84-0		ug/l	5	U
Diethyl phthalate	84-66-2		ug/l	5	U
Dimethyl phthalate	131-11-3		ug/l	5	U
Aniline	62-53-3		ug/l	20	U
4-Chloroaniline	106-47-8		ug/l	5	U
2-Nitroaniline	88-74-4		ug/l	5	U
3-Nitroaniline	99-09-2		ug/l	5	U
4-Nitroaniline	100-01-6		ug/l	7	U
Dibenzofuran	132-64-9		ug/l	5	U
n-Nitrosodimethylamine	62-75-9		ug/l	50	U
2,4,6-Trichlorophenol	88-06-2		ug/l	5	U
P-Chloro-M-Cresol	59-50-7		ug/l	5	U
2-Chlorophenol	95-57-8		ug/l	6	U
2,4-Dichlorophenol	120-83-2		ug/l	10	U
2,4-Dimethylphenol	105-67-9		ug/l	10	U
2-Nitrophenol	88-75-5		ug/l	20	U
4-Nitrophenol	100-02-7		ug/l	10	U
2,4-Dinitrophenol	51-28-5		ug/l	30	U
4,6-Dinitro-o-cresol	534-52-1		ug/l	20	U
Phenol	108-95-2	300	ug/l	7	U
2-Methylphenol	95-48-7		ug/l	6	U
3-Methylphenol/4-Methylphenol	108-39-4		ug/l	6	U
2,4,5-Trichlorophenol	95-95-4		ug/l	5	U
Benzoic Acid	65-85-0		ug/l	50	U
Benzyl Alcohol	100-51-6		ug/l	10	U
Carbazole	86-74-8		ug/l	5	U
Pyridine	110-86-1		ug/l	50	U
Semivolatile Organics by GC/MS-SIM - Westborough Lab					
Acenaphthene	83-32-9		ug/l	0.2	U
2-Chloronaphthalene	91-58-7		ug/l	0.2	U
Fluoranthene	206-44-0		ug/l	0.2	U
Hexachlorobutadiene	87-68-3		ug/l	0.5	U
Naphthalene	91-20-3		ug/l	0.2	U
Benzo(a)anthracene	56-55-3	0.0038	ug/l	0.2	U
Benzo(a)pyrene	50-32-8	0.0038	ug/l	0.2	U
Benzo(b)fluoranthene	205-99-2	0.0038	ug/l	0.2	U
Benzo(k)fluoranthene	207-08-9	0.0038	ug/l	0.2	U
Chrysene	218-01-9	0.0038	ug/l	0.2	U
Acenaphthylene	208-96-8		ug/l	0.2	U
Anthracene	120-12-7		ug/l	0.2	U
Benzo(ghi)perylene	191-24-2		ug/l	0.2	U
Fluorene	86-73-7		ug/l	0.2	U
Phenanthrene	85-01-8		ug/l	0.2	U
Dibenzo(a,h)anthracene	53-70-3	0.0038	ug/l	0.2	U

Indeno(1,2,3-cd)Pyrene	193-39-5	0.0038	ug/l	0.2	U
Pyrene	129-00-0		ug/l	0.2	U
1-Methylnaphthalene	90-12-0		ug/l	0.2	U
2-Methylnaphthalene	91-57-6		ug/l	0.2	U
Pentachlorophenol	87-86-5	1	ug/l	0.8	U
Hexachlorobenzene	118-74-1		ug/l	0.8	U
Hexachloroethane	67-72-1		ug/l	0.8	U
Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		100	ug/l		U
Total Metals - Westborough Lab					
Antimony, Total	7440-36-0	5.6	ug/l	10	U
Arsenic, Total	7440-38-2	36	ug/l	11.2	
Cadmium, Total	7440-43-9	8.9	ug/l	2	U
Chromium, Total	7440-47-3	??	ug/l	5	U
Copper, Total	7440-50-8	3.7	ug/l	10.1	
Iron, Total	7439-89-6	1000	ug/l	350	
Lead, Total	7439-92-1	8.5	ug/l	5	U
Mercury, Total	7439-97-6	1.1	ug/l	0.2	U
Nickel, Total	7440-02-0	8.2	ug/l	6.8	
Selenium, Total	7782-49-2	71	ug/l	59	
Silver, Total	7440-22-4	2.2	ug/l	4	U
Zinc, Total	7440-66-6	85.6	ug/l	81.9	
Volatile Organics by GC/MS - Westborough Lab					
Methylene chloride	75-09-2		ug/l	5	U
1,1-Dichloroethane	75-34-3	70	ug/l	1.5	U
Chloroform	67-66-3		ug/l	1.5	U
Carbon tetrachloride	56-23-5	4.4	ug/l	1	U
1,2-Dichloropropane	78-87-5		ug/l	3.5	U
Dibromochloromethane	124-48-1		ug/l	1	U
1,1,2-Trichloroethane	79-00-5	5	ug/l	1.5	U
2-Chloroethylvinyl ether	110-75-8		ug/l	10	U
Tetrachloroethene	127-18-4	5	ug/l	1.5	U
Chlorobenzene	108-90-7		ug/l	3.5	U
Trichlorofluoromethane	75-69-4		ug/l	5	U
1,2-Dichloroethane	107-06-2		ug/l	1.5	U
1,1,1-Trichloroethane	71-55-6	200	ug/l	2	U
Bromodichloromethane	75-27-4		ug/l	1	U
trans-1,3-Dichloropropene	10061-02-6		ug/l	1.5	U
cis-1,3-Dichloropropene	10061-01-5		ug/l	1.5	U
Bromoform	75-25-2		ug/l	1	U
1,1,2,2-Tetrachloroethane	79-34-5		ug/l	1	U
Benzene	71-43-2		ug/l	1	U
Toluene	108-88-3		ug/l	1	U
Ethylbenzene	100-41-4		ug/l	1	U
Chloromethane	74-87-3		ug/l	10	U
Bromomethane	74-83-9		ug/l	5	U
Vinyl chloride	75-01-4	2	ug/l	2	U
Chloroethane	75-00-3		ug/l	2	U
1,1-Dichloroethene	75-35-4	3.2	ug/l	1	U
trans-1,2-Dichloroethene	156-60-5		ug/l	1.5	U
cis-1,2-Dichloroethene	156-59-2		ug/l	1	U
Trichloroethene	79-01-6	5	ug/l	1	U
1,2-Dichlorobenzene	95-50-1	600	ug/l	5	U
1,3-Dichlorobenzene	541-73-1	320	ug/l	5	U
1,4-Dichlorobenzene	106-46-7	5	ug/l	5	U
p/m-Xylene	106-42-3/108-38-3		ug/l	2	U
o-xylene	95-47-6		ug/l	1	U
Xylene (Total)	1330-20-7		ug/l	2	U
Styrene	100-42-5		ug/l	1	U
Acetone	67-64-1	MO	ug/l	10	U
Carbon disulfide	75-15-0		ug/l	5	U
2-Butanone	78-93-3		ug/l	10	U
Vinyl acetate	108-05-4		ug/l	20	U
4-Methyl-2-pentanone	108-10-1		ug/l	10	U
2-Hexanone	591-78-6		ug/l	10	U
Acrolein	107-02-8		ug/l	8	U
Acrylonitrile	107-13-1		ug/l	10	U
Methyl tert butyl ether	1634-04-4	70	ug/l	20	U
Dibromomethane	74-95-3		ug/l	1	U
1,4-Dioxane	123-91-1	MO	ug/l	2000	U
Tert-Butyl Alcohol	75-65-0	MO	ug/l	100	U
Tertiary-Amyl Methyl Ether	994-05-8	MO	ug/l	20	U
BTEX	N/A	100	ug/l		U

Notes

EPA RGP Effluent Limits based on Sub-Category C - Petroleum Sites with Additional Contamination

"MO" = Parameter is required to be monitored only

"U" = Denotes parameter not detected at laboratory detection limit

Bold and highlighted indicated influent parameter exceeds EPA RGP Effluent Limits

**160 North Washington Street
Boston, Massachusetts**

LOCATION SAMPLING DATE LAB SAMPLE ID	CasNum	EPA RGP Effluent Limits	Units	INFLUENT 11/19/2009 129656
General Chemistry				
Solids, Total Suspended	NONE	30000	ug/l	9000
Chlorine, Total Residual	NONE	7.5	ug/l	U
TPH	NONE	5000	ug/l	400
Polychlorinated Biphenyls by GC/ECD			ug/l	
Aroclor 1016	12674-11-2		ug/l	0.2 U
Aroclor 1221	11104-28-2		ug/l	0.2 U
Aroclor 1232	11141-16-5		ug/l	0.2 U
Aroclor 1242	53469-21-9		ug/l	0.2 U
Aroclor 1248	12672-29-6		ug/l	0.2 U
Aroclor 1254	11097-69-1		ug/l	0.2 U
Aroclor 1260	11096-82-5		ug/l	0.2 U
Total Polychlorinated Biphenyls		0.000064	ug/l	U

Notes

EPA RGP Effluent Limits based on Sub-Category C - Petroleum Sites with Additional Contamination

"U" = Denotes parameter not detected at laboratory detection limit



ANALYTICAL REPORT

Lab Number:	L1103319
Client:	Cooperstown Environmental LLC 23 Main Street Andover, MA 01810-0814
ATTN:	Sean Foster
Phone:	(978) 470-4755
Project Name:	AJAX
Project Number:	Not Specified
Report Date:	03/21/11

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1103319-01	INFLUENT	160 NO. WASHINGTON	03/14/11 11:15

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Semivolatile Organics

The WG459117-2 LCS recovery, associated with L1103319-01, was above the acceptance criteria for 4-Nitrophenol (100%); however, the associated sample was non-detect for this target compound. The results of the original analysis are reported. In addition, the WG459117-2/-3 LCS/LCSD RPD is above the acceptance criteria for 4-Nitrophenol (34%).

The WG459117-2/-3 LCS/LCSD RPD, associated with L1103319-01, is above the acceptance criteria for Phenol (46%); however, the individual LCS/LCSD recoveries are within method limits.

Metals

L1103319-01 has elevated detection limits for all analytes by Method 6020 due to the dilution required by the high concentrations of non-target analytes. The requested reporting limits were not achieved.

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Case Narrative (continued)

Cyanide, Total

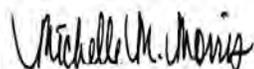
L1103319-01 has an elevated detection limit due to the dilution required by the sample matrix.

Chloride

L1103319-01 has an elevated detection limit due to the dilution required to quantitate the result within the calibration range.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Michelle M. Morris

Title: Technical Director/Representative

Date: 03/21/11

ORGANICS

VOLATILES

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

SAMPLE RESULTS

Lab ID: L1103319-01
 Client ID: INFLUENT
 Sample Location: 160 NO. WASHINGTON
 Matrix: Water
 Analytical Method: 14,504.1
 Analytical Date: 03/17/11 16:29
 Analyst: SH

Date Collected: 03/14/11 11:15
 Date Received: 03/14/11
 Field Prep: Not Specified
 Extraction Date: 03/17/11 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Pesticides by GC - Westborough Lab						
1,2-Dibromoethane	ND		ug/l	0.0090	--	1

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

SAMPLE RESULTS

Lab ID: L1103319-01
Client ID: INFLUENT
Sample Location: 160 NO. WASHINGTON
Matrix: Water
Analytical Method: 5,624
Analytical Date: 03/15/11 08:59
Analyst: TT

Date Collected: 03/14/11 11:15
Date Received: 03/14/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	5.0	--	1
1,1-Dichloroethane	ND		ug/l	1.5	--	1
Chloroform	ND		ug/l	1.5	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	3.5	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Tetrachloroethene	ND		ug/l	1.5	--	1
Chlorobenzene	ND		ug/l	3.5	--	1
Trichlorofluoromethane	ND		ug/l	5.0	--	1
1,2-Dichloroethane	ND		ug/l	1.5	--	1
1,1,1-Trichloroethane	ND		ug/l	2.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	1.5	--	1
cis-1,3-Dichloropropene	ND		ug/l	1.5	--	1
Bromoform	ND		ug/l	1.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	1.0	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	10	--	1
Bromomethane	ND		ug/l	5.0	--	1
Vinyl chloride	ND		ug/l	2.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.5	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	5.0	--	1

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

SAMPLE RESULTS

Lab ID: L1103319-01
Client ID: INFLUENT
Sample Location: 160 NO. WASHINGTON

Date Collected: 03/14/11 11:15
Date Received: 03/14/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	5.0	--	1
1,4-Dichlorobenzene	ND		ug/l	5.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-xylene	ND		ug/l	1.0	--	1
Xylene (Total)	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Acetone	ND		ug/l	10	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	10	--	1
Vinyl acetate	ND		ug/l	20	--	1
4-Methyl-2-pentanone	ND		ug/l	10	--	1
2-Hexanone	ND		ug/l	10	--	1
Acrolein	ND		ug/l	8.0	--	1
Acrylonitrile	ND		ug/l	10	--	1
Methyl tert butyl ether	ND		ug/l	20	--	1
Dibromomethane	ND		ug/l	1.0	--	1
1,4-Dioxane	ND		ug/l	2000	--	1
Tert-Butyl Alcohol	ND		ug/l	100	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	91		80-120
Fluorobenzene	96		80-120
4-Bromofluorobenzene	105		80-120

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 5,624
Analytical Date: 03/15/11 07:49
Analyst: TT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG458487-6					
Methylene chloride	ND		ug/l	5.0	--
1,1-Dichloroethane	ND		ug/l	1.5	--
Chloroform	ND		ug/l	1.5	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	3.5	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.5	--
2-Chloroethylvinyl ether	ND		ug/l	10	--
Tetrachloroethene	ND		ug/l	1.5	--
Chlorobenzene	ND		ug/l	3.5	--
Trichlorofluoromethane	ND		ug/l	5.0	--
1,2-Dichloroethane	ND		ug/l	1.5	--
1,1,1-Trichloroethane	ND		ug/l	2.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	1.5	--
cis-1,3-Dichloropropene	ND		ug/l	1.5	--
Bromoform	ND		ug/l	1.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	10	--
Bromomethane	ND		ug/l	5.0	--
Vinyl chloride	ND		ug/l	2.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.5	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 5,624
Analytical Date: 03/15/11 07:49
Analyst: TT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG458487-6					
1,4-Dichlorobenzene	ND		ug/l	5.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-xylene	ND		ug/l	1.0	--
Xylene (Total)	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Acetone	ND		ug/l	10	--
Carbon disulfide	ND		ug/l	5.0	--
2-Butanone	ND		ug/l	10	--
Vinyl acetate	ND		ug/l	20	--
4-Methyl-2-pentanone	ND		ug/l	10	--
2-Hexanone	ND		ug/l	10	--
Acrolein	ND		ug/l	8.0	--
Acrylonitrile	ND		ug/l	10	--
Methyl tert butyl ether	ND		ug/l	20	--
Dibromomethane	ND		ug/l	1.0	--
1,4-Dioxane	ND		ug/l	2000	--
Tert-Butyl Alcohol	ND		ug/l	100	--
Tertiary-Amyl Methyl Ether	ND		ug/l	20	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	92		80-120
Fluorobenzene	98		80-120
4-Bromofluorobenzene	116		80-120

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 03/17/11 15:23
Analyst: SH

Extraction Date: 03/17/11 12:30

Parameter	Result	Qualifier	Units	RL	MDL
Pesticides by GC - Westborough Lab for sample(s): 01 Batch: WG459340-1					
1,2-Dibromoethane	ND		ug/l	0.010	--
1,2-Dibromo-3-chloropropane	ND		ug/l	0.010	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG458487-5								
Methylene chloride	77		-		1-221	-		30
1,1-Dichloroethane	105		-		59-155	-		30
Chloroform	103		-		51-138	-		30
Carbon tetrachloride	120		-		70-140	-		30
1,2-Dichloropropane	101		-		1-210	-		30
Dibromochloromethane	109		-		53-149	-		30
1,1,2-Trichloroethane	110		-		52-150	-		30
2-Chloroethylvinyl ether	126		-		1-305	-		30
Tetrachloroethene	124		-		64-148	-		30
Chlorobenzene	107		-		37-160	-		30
Trichlorofluoromethane	85		-		17-181	-		30
1,2-Dichloroethane	95		-		49-155	-		30
1,1,1-Trichloroethane	109		-		52-162	-		30
Bromodichloromethane	106		-		35-155	-		30
trans-1,3-Dichloropropene	102		-		17-183	-		30
cis-1,3-Dichloropropene	100		-		1-227	-		30
Bromoform	103		-		45-169	-		30
1,1,2,2-Tetrachloroethane	102		-		46-157	-		30
Benzene	104		-		37-151	-		30
Toluene	107		-		47-150	-		30
Ethylbenzene	113		-		37-162	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG458487-5								
Chloromethane	120		-		1-273	-		30
Bromomethane	78		-		1-242	-		30
Vinyl chloride	62		-		1-251	-		30
Chloroethane	69		-		14-230	-		30
1,1-Dichloroethene	94		-		1-234	-		30
trans-1,2-Dichloroethene	114		-		54-156	-		30
cis-1,2-Dichloroethene	102		-		60-140	-		30
Trichloroethene	105		-		71-157	-		30
1,2-Dichlorobenzene	106		-		18-190	-		30
1,3-Dichlorobenzene	106		-		59-156	-		30
1,4-Dichlorobenzene	110		-		18-190	-		30
p/m-Xylene	109		-		40-160	-		30
o-Xylene	102		-		40-160	-		30
XYLENE (TOTAL)	106		-		40-160	-		30
Styrene	97		-		40-160	-		30
Acetone	72		-		40-160	-		30
Carbon disulfide	83		-		40-160	-		30
2-Butanone	100		-		40-160	-		30
Vinyl acetate	101		-		40-160	-		30
4-Methyl-2-pentanone	109		-		40-160	-		30
2-Hexanone	106		-		40-160	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG458487-5								
Acrolein	63		-		40-160	-		30
Acrylonitrile	102		-		40-160	-		30
Dibromomethane	118		-		70-130	-		30

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
Pentafluorobenzene	98				80-120
Fluorobenzene	101				80-120
4-Bromofluorobenzene	104				80-120

Pesticides by GC - Westborough Lab Associated sample(s): 01 Batch: WG459340-2								
1,2-Dibromoethane	95		-		70-130	-		20
1,2-Dibromo-3-chloropropane	91		-		70-130	-		20

Matrix Spike Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458487-3 QC Sample: L1103252-01 Client ID: MS Sample												
Methylene chloride	ND	20	15	78		-	-		1-221	-		30
1,1-Dichloroethane	ND	20	21	104		-	-		59-155	-		30
Chloroform	ND	20	21	104		-	-		51-138	-		30
Carbon tetrachloride	ND	20	25	124		-	-		70-140	-		30
1,2-Dichloropropane	ND	20	20	103		-	-		1-210	-		30
Dibromochloromethane	ND	20	22	112		-	-		53-149	-		30
1,1,2-Trichloroethane	ND	20	23	113		-	-		52-150	-		30
2-Chloroethylvinyl ether	ND	20	18	91		-	-		1-305	-		30
Tetrachloroethene	ND	20	25	124		-	-		64-148	-		30
Chlorobenzene	ND	20	21	104		-	-		37-160	-		30
Trichlorofluoromethane	ND	20	17	87		-	-		17-181	-		30
1,2-Dichloroethane	ND	20	19	95		-	-		49-155	-		30
1,1,1-Trichloroethane	ND	20	22	109		-	-		52-162	-		30
Bromodichloromethane	ND	20	22	113		-	-		35-155	-		30
trans-1,3-Dichloropropene	ND	20	21	106		-	-		17-183	-		30
cis-1,3-Dichloropropene	ND	20	20	101		-	-		1-227	-		30
Bromoform	ND	20	21	105		-	-		45-169	-		30
1,1,2,2-Tetrachloroethane	ND	20	21	104		-	-		46-157	-		30
Benzene	ND	20	21	105		-	-		35-151	-		30
Toluene	ND	20	22	108		-	-		47-150	-		30
Ethylbenzene	ND	20	22	110		-	-		37-162	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458487-3 QC Sample: L1103252-01 Client ID: MS Sample												
Chloromethane	ND	20	25	127		-	-		1-273	-		30
Bromomethane	ND	20	16	79		-	-		1-242	-		30
Vinyl chloride	ND	20	13	64		-	-		1-251	-		30
Chloroethane	ND	20	15	73		-	-		14-230	-		30
1,1-Dichloroethene	ND	20	19	94		-	-		1-234	-		30
trans-1,2-Dichloroethene	ND	20	23	115		-	-		54-156	-		30
cis-1,2-Dichloroethene	ND	20	21	104		-	-		60-140	-		30
Trichloroethene	ND	20	21	104		-	-		71-157	-		30
1,2-Dichlorobenzene	ND	20	21	105		-	-		18-190	-		30
1,3-Dichlorobenzene	ND	20	21	104		-	-		59-156	-		30
1,4-Dichlorobenzene	ND	20	22	108		-	-		18-190	-		30
p/m-Xylene	ND	40	43	107		-	-		40-160	-		30
o-Xylene	ND	20	20	100		-	-		40-160	-		30
XYLENE (TOTAL)	ND	60	63	105		-	-		40-160	-		30
Styrene	ND	20	19	95		-	-		40-160	-		30
Acetone	ND	50	38	75		-	-		40-160	-		30
Carbon disulfide	ND	20	17	86		-	-		40-160	-		30
2-Butanone	ND	50	47	93		-	-		40-160	-		30
Vinyl acetate	ND	40	23	59		-	-		40-160	-		30
4-Methyl-2-pentanone	ND	50	53	106		-	-		40-160	-		30
2-Hexanone	ND	50	52	104		-	-		40-160	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458487-3 QC Sample: L1103252-01 Client ID: MS Sample												
Acrolein	ND	40	19	48		-	-		40-160	-		30
Acrylonitrile	ND	40	37	92		-	-		40-160	-		30
Dibromomethane	ND	20	18	92		-	-			-		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
4-Bromofluorobenzene	102				80-120
Fluorobenzene	99				80-120
Pentafluorobenzene	98				80-120

Pesticides by GC - Westborough Lab Associated sample(s): 01 QC Batch ID: WG459340-3 QC Sample: L1103319-01 Client ID: INFLUENT												
Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
1,2-Dibromoethane	ND	0.235	0.200	85		-	-		70-130	-		20
1,2-Dibromo-3-chloropropane	ND	0.235	0.186	79		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458487-4 QC Sample: L1103252-01 Client ID: DUP Sample						
Benzene	ND	ND	ug/l	NC		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Pentafluorobenzene	92		93		80-120
Fluorobenzene	99		98		80-120
4-Bromofluorobenzene	110		115		80-120



SEMIVOLATILES

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

SAMPLE RESULTS

Lab ID: L1103319-01
Client ID: INFLUENT
Sample Location: 160 NO. WASHINGTON
Matrix: Water
Analytical Method: 1,8270C
Analytical Date: 03/18/11 15:21
Analyst: JB

Date Collected: 03/14/11 11:15
Date Received: 03/14/11
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/17/11 17:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	50	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	5.0	--	1
1,2-Dichlorobenzene	ND		ug/l	5.0	--	1
1,3-Dichlorobenzene	ND		ug/l	5.0	--	1
1,4-Dichlorobenzene	ND		ug/l	5.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	50	--	1
2,4-Dinitrotoluene	ND		ug/l	6.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	5.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	5.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	5.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	5.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	30	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	5.0	--	1
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/l	15	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/l	5.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Aniline	ND		ug/l	20	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1
3-Nitroaniline	ND		ug/l	5.0	--	1
4-Nitroaniline	ND		ug/l	7.0	--	1
Dibenzofuran	ND		ug/l	5.0	--	1

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

SAMPLE RESULTS

Lab ID: L1103319-01
Client ID: INFLUENT
Sample Location: 160 NO. WASHINGTON

Date Collected: 03/14/11 11:15
Date Received: 03/14/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
n-Nitrosodimethylamine	ND		ug/l	50	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
P-Chloro-M-Cresol	ND		ug/l	5.0	--	1
2-Chlorophenol	ND		ug/l	6.0	--	1
2,4-Dichlorophenol	ND		ug/l	10	--	1
2,4-Dimethylphenol	ND		ug/l	10	--	1
2-Nitrophenol	ND		ug/l	20	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	30	--	1
4,6-Dinitro-o-cresol	ND		ug/l	20	--	1
Phenol	ND		ug/l	7.0	--	1
2-Methylphenol	ND		ug/l	6.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	6.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	10	--	1
Carbazole	ND		ug/l	5.0	--	1
Pyridine	ND		ug/l	50	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	58		21-120
Phenol-d6	50		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	69		15-120
2,4,6-Tribromophenol	78		10-120
4-Terphenyl-d14	106		33-120

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

SAMPLE RESULTS

Lab ID: L1103319-01
Client ID: INFLUENT
Sample Location: 160 NO. WASHINGTON
Matrix: Water
Analytical Method: 1,8270C-SIM
Analytical Date: 03/19/11 21:38
Analyst: HL

Date Collected: 03/14/11 11:15
Date Received: 03/14/11
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/17/11 17:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
1-Methylnaphthalene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

SAMPLE RESULTS

Lab ID: L1103319-01
 Client ID: INFLUENT
 Sample Location: 160 NO. WASHINGTON

Date Collected: 03/14/11 11:15
 Date Received: 03/14/11
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatiles by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	55		21-120
Phenol-d6	50		10-120
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	96		10-120
4-Terphenyl-d14	109		33-120

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C-SIM
Analytical Date: 03/19/11 20:15
Analyst: HL

Extraction Method: EPA 3510C
Extraction Date: 03/17/11 17:35

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG459113-1					
Acenaphthene	ND		ug/l	0.20	--
2-Chloronaphthalene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.20	--
Benzo(a)anthracene	ND		ug/l	0.20	--
Benzo(a)pyrene	ND		ug/l	0.20	--
Benzo(b)fluoranthene	ND		ug/l	0.20	--
Benzo(k)fluoranthene	ND		ug/l	0.20	--
Chrysene	ND		ug/l	0.20	--
Acenaphthylene	ND		ug/l	0.20	--
Anthracene	ND		ug/l	0.20	--
Benzo(ghi)perylene	ND		ug/l	0.20	--
Fluorene	ND		ug/l	0.20	--
Phenanthrene	ND		ug/l	0.20	--
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--
Pyrene	ND		ug/l	0.20	--
1-Methylnaphthalene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--
Pentachlorophenol	ND		ug/l	0.80	--
Hexachlorobenzene	ND		ug/l	0.80	--
Hexachloroethane	ND		ug/l	0.80	--

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270C-SIM
Analytical Date: 03/19/11 20:15
Analyst: HL

Extraction Method: EPA 3510C
Extraction Date: 03/17/11 17:35

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG459113-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	54		21-120
Phenol-d6	46		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	98		10-120
4-Terphenyl-d14	107		33-120

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C
Analytical Date: 03/18/11 10:25
Analyst: JB

Extraction Method: EPA 3510C
Extraction Date: 03/17/11 17:40

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG459117-1					
Acenaphthene	ND		ug/l	5.0	--
Benzidine	ND		ug/l	50	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Hexachlorobenzene	ND		ug/l	5.0	--
Bis(2-chloroethyl)ether	ND		ug/l	5.0	--
2-Chloronaphthalene	ND		ug/l	6.0	--
1,2-Dichlorobenzene	ND		ug/l	5.0	--
1,3-Dichlorobenzene	ND		ug/l	5.0	--
1,4-Dichlorobenzene	ND		ug/l	5.0	--
3,3'-Dichlorobenzidine	ND		ug/l	50	--
2,4-Dinitrotoluene	ND		ug/l	6.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	5.0	--
Fluoranthene	ND		ug/l	5.0	--
4-Chlorophenyl phenyl ether	ND		ug/l	5.0	--
4-Bromophenyl phenyl ether	ND		ug/l	5.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	5.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Hexachlorobutadiene	ND		ug/l	10	--
Hexachlorocyclopentadiene	ND		ug/l	30	--
Hexachloroethane	ND		ug/l	5.0	--
Isophorone	ND		ug/l	5.0	--
Naphthalene	ND		ug/l	5.0	--
Nitrobenzene	ND		ug/l	5.0	--
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/l	15	--
Bis(2-Ethylhexyl)phthalate	ND		ug/l	5.0	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C
Analytical Date: 03/18/11 10:25
Analyst: JB

Extraction Method: EPA 3510C
Extraction Date: 03/17/11 17:40

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG459117-1					
Benzo(a)anthracene	ND		ug/l	5.0	--
Benzo(a)pyrene	ND		ug/l	5.0	--
Benzo(b)fluoranthene	ND		ug/l	5.0	--
Benzo(k)fluoranthene	ND		ug/l	5.0	--
Chrysene	ND		ug/l	5.0	--
Acenaphthylene	ND		ug/l	5.0	--
Anthracene	ND		ug/l	5.0	--
Benzo(ghi)perylene	ND		ug/l	5.0	--
Fluorene	ND		ug/l	5.0	--
Phenanthrene	ND		ug/l	5.0	--
Dibenzo(a,h)anthracene	ND		ug/l	5.0	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	7.0	--
Pyrene	ND		ug/l	5.0	--
Aniline	ND		ug/l	20	--
4-Chloroaniline	ND		ug/l	5.0	--
1-Methylnaphthalene	ND		ug/l	5.0	--
2-Nitroaniline	ND		ug/l	5.0	--
3-Nitroaniline	ND		ug/l	5.0	--
4-Nitroaniline	ND		ug/l	7.0	--
Dibenzofuran	ND		ug/l	5.0	--
2-Methylnaphthalene	ND		ug/l	5.0	--
n-Nitrosodimethylamine	ND		ug/l	50	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
P-Chloro-M-Cresol	ND		ug/l	5.0	--
2-Chlorophenol	ND		ug/l	6.0	--
2,4-Dichlorophenol	ND		ug/l	10	--
2,4-Dimethylphenol	ND		ug/l	10	--
2-Nitrophenol	ND		ug/l	20	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	30	--
4,6-Dinitro-o-cresol	ND		ug/l	20	--

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270C
Analytical Date: 03/18/11 10:25
Analyst: JB

Extraction Method: EPA 3510C
Extraction Date: 03/17/11 17:40

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG459117-1					
Pentachlorophenol	ND		ug/l	10	--
Phenol	ND		ug/l	7.0	--
2-Methylphenol	ND		ug/l	6.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	6.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--
Benzoic Acid	ND		ug/l	50	--
Benzyl Alcohol	ND		ug/l	10	--
Carbazole	ND		ug/l	5.0	--
Pyridine	ND		ug/l	50	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	62		21-120
Phenol-d6	48		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	72		10-120
4-Terphenyl-d14	92		33-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG459113-2 WG459113-3								
Acenaphthene	73		76		37-111	4		40
2-Chloronaphthalene	85		91		40-140	7		40
Fluoranthene	109		118		40-140	8		40
Anthracene	93		105		40-140	12		40
Pyrene	103		112		26-127	8		40
Pentachlorophenol	80		82		9-103	2		40

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
2-Fluorophenol	58		65		21-120
Phenol-d6	47		55		10-120
Nitrobenzene-d5	82		90		23-120
2-Fluorobiphenyl	71		78		15-120
2,4,6-Tribromophenol	113		106		10-120
4-Terphenyl-d14	101		112		33-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG459117-2 WG459117-3								
Acenaphthene	84		74		37-111	13		30
1,2,4-Trichlorobenzene	59		52		39-98	13		30
2-Chloronaphthalene	85		69		40-140	21		30
1,2-Dichlorobenzene	70		59		40-140	17		30
1,4-Dichlorobenzene	64		56		36-97	13		30
2,4-Dinitrotoluene	93		85		24-96	9		30
2,6-Dinitrotoluene	74		71		40-140	4		30
Fluoranthene	101		92		40-140	9		30
4-Chlorophenyl phenyl ether	91		76		40-140	18		30
n-Nitrosodi-n-propylamine	86		72		41-116	18		30
Butyl benzyl phthalate	106		97		40-140	9		30
Anthracene	100		88		40-140	13		30
Pyrene	101		88		26-127	14		30
P-Chloro-M-Cresol	90		79		23-97	13		30
2-Chlorophenol	76		70		27-123	8		30
2-Nitrophenol	67		54		30-130	21		30
4-Nitrophenol	100	Q	71		10-80	34	Q	30
2,4-Dinitrophenol	47		36		20-130	27		30
Pentachlorophenol	83		84		9-103	1		30
Phenol	64		40		12-110	46	Q	30

Lab Control Sample Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG459117-2 WG459117-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	74		54		21-120
Phenol-d6	61		36		10-120
Nitrobenzene-d5	88		74		23-120
2-Fluorobiphenyl	75		62		15-120
2,4,6-Tribromophenol	82		80		10-120
4-Terphenyl-d14	94		89		33-120

METALS

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

SAMPLE RESULTS

Lab ID: L1103319-01
 Client ID: INFLUENT
 Sample Location: 160 NO. WASHINGTON
 Matrix: Water

Date Collected: 03/14/11 11:15
 Date Received: 03/14/11
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westborough Lab											
Antimony, Total	ND		mg/l	0.0100	--	10	03/15/11 09:30	03/16/11 19:49	EPA 3005A	1,6020	BM
Arsenic, Total	0.0112		mg/l	0.0050	--	10	03/15/11 09:30	03/16/11 19:49	EPA 3005A	1,6020	BM
Cadmium, Total	ND		mg/l	0.0020	--	10	03/15/11 09:30	03/16/11 19:49	EPA 3005A	1,6020	BM
Chromium, Total	ND		mg/l	0.0050	--	10	03/15/11 09:30	03/16/11 19:49	EPA 3005A	1,6020	BM
Copper, Total	0.0101		mg/l	0.0050	--	10	03/15/11 09:30	03/16/11 19:49	EPA 3005A	1,6020	BM
Iron, Total	0.35		mg/l	0.05	--	1	03/15/11 09:00	03/17/11 13:41	EPA 3005A	19,200.7	AI
Lead, Total	ND		mg/l	0.0050	--	10	03/15/11 09:30	03/16/11 19:49	EPA 3005A	1,6020	BM
Mercury, Total	ND		mg/l	0.0002	--	1	03/15/11 14:30	03/16/11 12:05	EPA 245.1	3,245.1	AH
Nickel, Total	0.0068		mg/l	0.0050	--	10	03/15/11 09:30	03/16/11 19:49	EPA 3005A	1,6020	BM
Selenium, Total	0.059		mg/l	0.010	--	10	03/15/11 09:30	03/16/11 19:49	EPA 3005A	1,6020	BM
Silver, Total	ND		mg/l	0.0040	--	10	03/15/11 09:30	03/16/11 19:49	EPA 3005A	1,6020	BM
Zinc, Total	0.0819		mg/l	0.0500	--	10	03/15/11 09:30	03/16/11 19:49	EPA 3005A	1,6020	BM



Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG458656-1									
Iron, Total	ND	mg/l	0.05	--	1	03/15/11 09:00	03/17/11 12:53	19,200.7	AI

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG458663-1									
Antimony, Total	ND	mg/l	0.0010	--	1	03/15/11 09:30	03/16/11 18:24	1,6020	BM
Arsenic, Total	ND	mg/l	0.0005	--	1	03/15/11 09:30	03/16/11 18:24	1,6020	BM
Cadmium, Total	ND	mg/l	0.0002	--	1	03/15/11 09:30	03/16/11 18:24	1,6020	BM
Chromium, Total	ND	mg/l	0.0005	--	1	03/15/11 09:30	03/16/11 18:24	1,6020	BM
Copper, Total	ND	mg/l	0.0005	--	1	03/15/11 09:30	03/16/11 18:24	1,6020	BM
Lead, Total	ND	mg/l	0.0005	--	1	03/15/11 09:30	03/16/11 18:24	1,6020	BM
Nickel, Total	ND	mg/l	0.0005	--	1	03/15/11 09:30	03/16/11 18:24	1,6020	BM
Selenium, Total	ND	mg/l	0.001	--	1	03/15/11 09:30	03/16/11 18:24	1,6020	BM
Silver, Total	ND	mg/l	0.0004	--	1	03/15/11 09:30	03/16/11 18:24	1,6020	BM
Zinc, Total	ND	mg/l	0.0050	--	1	03/15/11 09:30	03/16/11 18:24	1,6020	BM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01 Batch: WG458813-1									
Mercury, Total	ND	mg/l	0.0002	--	1	03/15/11 14:30	03/16/11 11:49	3,245.1	AH

Prep Information

Digestion Method: EPA 245.1



Lab Control Sample Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG458656-2								
Iron, Total	100		-		85-115	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG458663-2								
Antimony, Total	90		-		80-120	-		
Arsenic, Total	100		-		80-120	-		
Cadmium, Total	100		-		80-120	-		
Chromium, Total	92		-		80-120	-		
Copper, Total	98		-		80-120	-		
Lead, Total	99		-		80-120	-		
Nickel, Total	97		-		80-120	-		
Selenium, Total	101		-		80-120	-		
Silver, Total	93		-		80-120	-		
Zinc, Total	100		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG458813-2								
Mercury, Total	103		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458656-4 QC Sample: L1103333-01 Client ID: MS Sample												
Iron, Total	0.21	1	1.2	99		-	-		75-125	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458663-4 QC Sample: L1103340-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.5424	108		-	-		80-120	-		20
Arsenic, Total	0.0007	0.12	0.1353	112		-	-		80-120	-		20
Cadmium, Total	ND	0.051	0.0570	112		-	-		80-120	-		20
Chromium, Total	0.0017	0.2	0.2031	101		-	-		80-120	-		20
Copper, Total	ND	0.25	0.2688	108		-	-		80-120	-		20
Lead, Total	ND	0.51	0.5660	111		-	-		80-120	-		20
Nickel, Total	0.0031	0.5	0.5316	106		-	-		80-120	-		20
Selenium, Total	ND	0.12	0.096	80		-	-		80-120	-		20
Silver, Total	ND	0.05	0.0514	103		-	-		80-120	-		20
Zinc, Total	0.0096	0.5	0.5344	105		-	-		80-120	-		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458813-4 QC Sample: L1103266-08 Client ID: MS Sample												
Mercury, Total	ND	0.001	0.0010	104		-	-		70-130	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458663-3 QC Sample: L1103340-01 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	0.0007	0.0008	mg/l	14		20
Lead, Total	ND	ND	mg/l	NC		20
Total Metals - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458813-3 QC Sample: L1103266-08 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS & MISCELLANEOUS

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

SAMPLE RESULTS

Lab ID: L1103319-01
Client ID: INFLUENT
Sample Location: 160 NO. WASHINGTON
Matrix: Water

Date Collected: 03/14/11 11:15
Date Received: 03/14/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.025	--	5	03/15/11 10:15	03/15/11 16:32	30,4500CN-CE	JO
Chloride	11000		mg/l	1000	--	1000	-	03/15/11 21:49	30,4500CL-E	LA
Phenolics, Total	0.04		mg/l	0.03	--	1	03/15/11 17:25	03/16/11 00:36	4,420.1	TP
Chromium, Hexavalent	ND		mg/l	0.010	--	1	03/14/11 21:40	03/14/11 20:52	30,3500CR-D	TP



Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Method Blank Analysis
Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG458609-1									
Chromium, Hexavalent	ND	mg/l	0.010	--	1	03/14/11 21:40	03/14/11 20:51	30,3500CR-D	TP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG458649-2									
Cyanide, Total	ND	mg/l	0.005	--	1	03/15/11 10:15	03/15/11 16:16	30,4500CN-CE	JO
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG458735-1									
Phenolics, Total	ND	mg/l	0.03	--	1	03/15/11 17:25	03/16/11 00:32	4,420.1	TP
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG458741-1									
Chloride	ND	mg/l	1.0	--	1	-	03/15/11 20:53	30,4500CL-E	LA

Lab Control Sample Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG458609-2								
Chromium, Hexavalent	103		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG458649-1								
Cyanide, Total	91		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG458735-2								
Phenolics, Total	102		-		82-111	-		12
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG458741-2								
Chloride	90		-		90-110	-		

Matrix Spike Analysis Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458609-3 QC Sample: L1103319-01 Client ID: INFLUENT												
Chromium, Hexavalent	ND	0.1	0.107	107	-	-	-	-	85-115	-	-	20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458649-3 QC Sample: L1103319-01 Client ID: INFLUENT												
Cyanide, Total	ND	0.2	0.204	102	-	-	-	-	90-110	-	-	30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458735-3 QC Sample: L1103338-02 Client ID: MS Sample												
Phenolics, Total	0.03	0.8	0.82	99	-	-	-	-	77-124	-	-	12
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458741-3 QC Sample: L1103138-01 Client ID: MS Sample												
Chloride	44	40	80	91	-	-	-	-	58-140	-	-	7

Lab Duplicate Analysis

Batch Quality Control

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458609-4 QC Sample: L1103319-01 Client ID: INFLUENT						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458649-4 QC Sample: L1103266-06 Client ID: DUP Sample						
Cyanide, Total	ND	ND	mg/l	NC		30
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458735-4 QC Sample: L1103338-01 Client ID: DUP Sample						
Phenolics, Total	ND	ND	mg/l	NC		12
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG458741-4 QC Sample: L1103138-01 Client ID: DUP Sample						
Chloride	44	43	mg/l	2		7

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1103319-01A	Vial Na2S2O3 preserved	A	N/A	3.8	Y	Absent	504(14)
L1103319-01B	Vial Na2S2O3 preserved	A	N/A	3.8	Y	Absent	504(14)
L1103319-01C	Vial Na2S2O3 preserved	A	N/A	3.8	Y	Absent	624(7)
L1103319-01D	Vial Na2S2O3 preserved	A	N/A	3.8	Y	Absent	624(7)
L1103319-01E	Amber 1000ml unpreserved	A	7	3.8	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1103319-01F	Amber 1000ml unpreserved	A	7	3.8	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1103319-01G	Amber 1000ml unpreserved	A	7	3.8	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1103319-01H	Amber 1000ml unpreserved	A	7	3.8	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1103319-01I	Amber 1000ml H2SO4 preserved	A	<2	3.8	Y	Absent	TPHENOL-420(28)
L1103319-01J	Plastic 500ml HNO3 preserved	A	<2	3.8	Y	Absent	SE-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),FE-U(180),PB-6020T(180),HG-U(28),AS-6020T(180),SB-6020T(180),AG-6020T(180),CD-6020T(180)
L1103319-01K	Plastic 500ml unpreserved	A	7	3.8	Y	Absent	HEXCR-3500(1)
L1103319-01L	Plastic 500ml unpreserved	A	7	3.8	Y	Absent	CL-4500(28)
L1103319-01M	Plastic 250ml NaOH preserved	A	>12	3.8	Y	Absent	TCN-4500(14)

*Values in parentheses indicate holding time in days



Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

GLOSSARY

Acronyms

- EPA** - Environmental Protection Agency.
- LCS** - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCS D** - Laboratory Control Sample Duplicate: Refer to LCS.
- MDL** - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- MS** - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MS D** - Matrix Spike Sample Duplicate: Refer to MS.
- NA** - Not Applicable.
- NC** - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- NI** - Not Ignitable.
- RL** - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD** - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when

Report Format: Data Usability Report



Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

Data Qualifiers

the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Project Name: AJAX
Project Number: Not Specified

Lab Number: L1103319
Report Date: 03/21/11

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.
- 3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.
- 4 Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020. Revised March 1983.
- 5 Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).
- 14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.
- 19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. **NELAP Accredited Solid Waste/Soil.**

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3,3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.

Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500CI-D, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Non-Potable Water (Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LCHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. *NELAP Accredited.*

Drinking Water (Organic Parameters: EPA 524.2)

Non-Potable Water (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. **NELAP Accredited via NY-DOH.**

Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commission on Environmental Quality Certificate/Lab ID: T104704476-09-1. **NELAP Accredited.**

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH₃-H, 4500NO₂B, 4500P-E, 4500 S²⁻ D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Department of Defense Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO₃-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methyl naphthalenes, Total Dimethyl naphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD MA
TEL: 508-822-9300
FAX: 508-822-3288

CHAIN OF CUSTODY

PAGE 1 OF 1

Project Information

Project Name: Ajax

Project Location: 160 N. Washington

Project Manager: Sean Foster

Project #:

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: 3/21/11 Time:

Email: Sean@Cooperstown-env.com

Other Project Specific Requirements/Comments/Detection Limits:
If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All CAM methods for inorganic analyses require MS every 20 soil samples)

Please run for NPDES RGP Criteria except:
MS/TRC/TRP/PCB + PH

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Time	Sample Matrix	Sampler's Initials
03819	1	3/14/11	11:15	GW	SBF

Date Rec'd in Lab: 3/14/11

ALPHA Job #: L1103319

Report Information - Data Deliverables

FAX EMAIL

ADEX Add'l Deliverables

Regulatory Requirements/Report Limits

State / Fed Program EPA Criteria NPDES RGP

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

Are MCP Analytical Methods Required? Yes No
Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments) Yes No
Are CT RCP (Reasonable Confidence Protocol) Required? Yes No

ANALYSIS	
TEN	X
SVOC's (8270)	X
Hex CC	X
Total Metals (12)	X
624	X
504	X
CL	X
PAH-Low	X
Total Phenol	X

SAMPLE HANDLING

Filtration _____
 Done
 Not needed (*)
 Lab to do
 Preservation
 Lab to do

(Please specify below)
 Sample-Specific Comments

Container Type	Preservative	Date/Time	Received By:	Date/Time
D	A	3/14/11	Ray Foster	3/14/11 1430
A	A	3/14/11	Sam Channing	3/14/11 1700
D	A			
A	A			
P	V			
V	V			
D	A			
A	A			
D	A			

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT
MAMCP or CT RCP?

Relinquished By: [Signature]

Date/Time: 3/14/11

Received By: [Signature]

Date/Time: 3/14/11 1700

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Groundwater Analytical, Inc.
P.O.Box 1200
228 Main Street
Buzzards Bay, MA 02532

**GROUNDWATER
ANALYTICAL**

Telephone: (508) 759-4441
FAX: (508) 759-4475

e-mail

To: Marnin Feldman
From: e-mail reporting GWA

PES Associates
Pages: 25

e-mail: mfeld@hotmail.com
Date: 05/01/2009 17:48:24

Re: 124886
CC:

Urgent For Review Please Comment Please Reply

● Comments:

Final Project Report for 160 No. Washington Street/5384, Lab ID 124886,
Received 04-24-09

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Confidential

May 1, 2009

Mr. Marnin Feldman
PES Associates, Inc.
858 Washington St.
Suite 50
Dedham, MA 02026

LABORATORY REPORT

Project: **160 No. Washington Street/5384**
Lab ID: **124886**
Received: **04-24-09**

Dear Munch:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority turnaround.

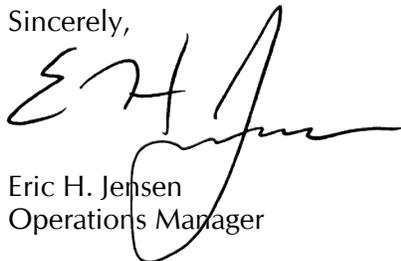
This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC or NVLAP standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Eric H. Jensen
Operations Manager

EHJ/elm
Enclosures

Sample Receipt Report

Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Lab ID: **124886**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **04-24-09**

Temperature: **2.4°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
124886-1	Effluent	Aqueous	4/24/09 14:30	EPA 200.7 Cu Fe Total EPA 200.9 Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1148166	250 mL Plastic	Proline	BX31623	HNO3	R-5613C	10-03-08	11-06-08	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
124886-2	Influent	Aqueous	4/24/09 14:30	EPA 200.7 Cu Fe Total EPA 200.9 Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1148255	250 mL Plastic	Proline	BX31623	HNO3	R-5613C	10-03-08	11-06-08	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
124886-3	Effluent	Aqueous	4/24/09 14:30	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H + B pH				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C940387	1 L Plastic	Proline	BX27010	None	n/a	n/a	05-31-07	
C1104414	250 mL Plastic	Proline	BX31778	None	n/a	n/a	09-24-08	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
124886-4	Influent	Aqueous	4/24/09 14:30	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H + B pH				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1105867	1L Plastic	Proline	BX32653	None	n/a	n/a	01-21-09	
C1104424	250 mL Plastic	Proline	BX31778	None	n/a	n/a	09-24-08	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
124886-5	Effluent	Aqueous	4/24/09 14:30	EPA 608 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1112380	1 L Amber Glass	Proline	BX31430	None	n/a	n/a	09-08-08	
C1137902	1 L Amber Glass	Proline	BX31881	None	n/a	n/a	11-06-08	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
124886-6	Influent	Aqueous	4/24/09 14:30	EPA 608 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1112371	1 L Amber Glass	Proline	BX31432	None	n/a	n/a	09-08-08	
C1112378	1 L Amber Glass	Proline	BX31430	None	n/a	n/a	09-08-08	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
124886-7	Effluent	Aqueous	4/24/09 14:30	TPH by GC EPA 8015B Mod				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C801942	1 L Amber Glass	Proline	BX20780	H2SO4	R-4845B	04-20-06	n/a	
C801941	1 L Amber Glass	Proline	BX20780	H2SO4	R-4845B	04-20-06	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
124886-8	Influent	Aqueous	4/24/09 14:30	TPH by GC EPA 8015B Mod				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1136963	1 L Amber Glass	Proline	BX31917	H2SO4	n/a	n/a	11-06-08	
C1008508	1 L Amber Glass	Proline	BX30015	H2SO4	R-5502D	04-08-08	n/a	

Trace Metals

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **124886-1**
 Sampled: **04-24-09 14:30**
 Received: **04-24-09 18:50**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **04-24-09 14:30**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.7 ¹	MB-3718-W	EPA 200.7	04-28-09 00:00	50 mL	ICP-1 PE 3000	JK
EPA 200.8 ²	MB-3718-W	EPA 200.8	04-28-09 00:00	50 mL	ICPMS-1 ELAN 9000	JK

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper, Total	0.005		mg/L	0.004	1	04-28-09 19:01	EPA 200.7 ¹
7439-89-6	Iron, Total	4.5		mg/L	0.1	1	04-28-09 19:01	EPA 200.7 ¹
7439-92-1	Lead, Total	BRL		mg/L	0.001	1	04-28-09 22:13	EPA 200.8 ²

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **124886-2**
 Sampled: **04-24-09 14:30**
 Received: **04-24-09 18:50**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **04-24-09 14:30**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.7 ¹	MB-3718-W	EPA 200.7	04-28-09 00:00	50 mL	ICP-1 PE 3000	JK
EPA 200.8 ²	MB-3718-W	EPA 200.8	04-28-09 00:00	50 mL	ICPMS-1 ELAN 9000	JK

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper, Total	0.020		mg/L	0.004	1	04-28-09 19:05	EPA 200.7 ¹
7439-89-6	Iron, Total	0.1		mg/L	0.1	1	04-28-09 19:05	EPA 200.7 ¹
7439-92-1	Lead, Total	BRL		mg/L	0.001	1	04-28-09 22:18	EPA 200.8 ²

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Inorganic Chemistry

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **04-24-09 18:50**

Lab ID: **124886-03** Sampled: **04-24-09 14:30** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	2	1	500 mL	04-25-09 10:29	TSS-1613-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.2	1	5 mL	04-25-09 14:00	TRC-0763-W	SM 4500-Cl G	1	DEB
pH	6.8	pH	NA	1	50 mL	04-25-09 09:27	PH-2754-W	SM 4500-H+B	2	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

Inorganic Chemistry

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **04-24-09 18:50**

Lab ID: **124886-04** Sampled: **04-24-09 14:30** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	4	mg/L	2	1	500 mL	04-25-09 10:29	TSS-1613-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.2	1	5 mL	04-25-09 14:00	TRC-0763-W	SM 4500-Cl G	1	DEB
pH	7.2	pH	NA	1	50 mL	04-25-09 09:28	PH-2754-W	SM 4500-H+B	2	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

**EPA Method 608
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **124886-05**
 Sampled: **04-24-09 14:30**
 Received: **04-24-09 18:50**
 Extracted: **04-29-09 09:00**
 Cleaned Up: **04-29-09 11:00**
 Analyzed: **04-29-09 14:55**
 Analyst: **AWG**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2511-F**
 Instrument ID: **GC-13 Agilent 6890**
 Sample Weight: **1000 mL**
 Final Volume: **10 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260		BRL	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First	Tetrachloro- <i>m</i> -xylene	0.20	0.16	81 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.16	80 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	0.20	0.18	90 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.16	81 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 608
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **124886-06**
 Sampled: **04-24-09 14:30**
 Received: **04-24-09 18:50**
 Extracted: **04-29-09 09:00**
 Cleaned Up: **04-29-09 11:00**
 Analyzed: **04-29-09 15:42**
 Analyst: **AWG**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2511-F**
 Instrument ID: **GC-13 Agilent 6890**
 Sample Weight: **1000 mL**
 Final Volume: **10 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260		BRL	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.16	80 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.20	0.16	79 %	30 - 150 %
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.18	91 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.20	0.16	79 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986). Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **124886-7**
 Sampled: **04-24-09 14:30**
 Received: **04-24-09 18:50**
 Extracted: **04-30-09 08:00**
 Analyzed: **04-30-09 17:31**
 Analyst: **MB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool/Cool**
 QC Batch ID: **HF-2118-F**
 Instrument ID: **GC4 HP 5890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.034	85 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **124886-8**
 Sampled: **04-24-09 14:30**
 Received: **04-24-09 18:50**
 Extracted: **04-30-09 08:00**
 Analyzed: **04-30-09 18:26**
 Analyst: **MB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool/Cool**
 QC Batch ID: **HF-2118-F**
 Instrument ID: **GC4 HP 5890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	0.3		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.033	83 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Project Narrative

Project: **160 No. Washington Street/5384**
Client: **PES Associates, Inc.**

Lab ID: **124886**
Received: **04-24-09 18:50**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

- 1 . No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1 . pH Non-conformance: Samples 124886-3 and -4. pH analysis was not performed within 15 minutes of sample collection. Samples were analyzed shortly after receipt by the laboratory.

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Sample**

Category: **EPA 8015B Mod TPH**
 QC Batch ID: **HF-2118-F**
 Matrix: **Aqueous**
 Units: **mg/L**

Instrument ID: **GC4 HP 5890**
 Extracted: **04-30-09 08:00**
 Analyzed: **04-30-09 12:58**
 Analyst: **MB**

Analyte	Spiked	Measured	Recovery	QC Limits
Fuel Oil No. 2	2.0	1.5	75 %	60 - 140 %

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.032	80 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA 8015B Mod TPH**
 QC Batch ID: **HF-2118-F**
 Matrix: **Aqueous**

Instrument ID: **GC4 HP 5890**
 Extracted: **04-30-09 08:00**
 Analyzed: **04-30-09 12:03**
 Analyst: **MB**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.036	90 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Sample**

Category: **Inorganic Chemistry**
Matrix: **Aqueous**

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	mg/L	83	76	92 %	80 - 120 %	04-25-09 10:29	TSS-1613-W	SM 2540 D	3	JR
Chlorine, Total Residual	mg/L	1	1	100 %	80 - 120 %	04-25-09 14:00	TRC-0763-W	SM 4500-Cl G	1	DEB
pH	pH	7.0	7.0	101 %	80 - 120 %	04-25-09 09:25	PH-2754-W	SM 4500-H+ B	2	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Method Blank**

Category: **Inorganic Chemistry**

Matrix: **Aqueous**

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	2	04-25-09 10:29	TSS-1613-W	SM 2540 D	2	JR
Chlorine, Total Residual	BRL	mg/L	0.2	04-25-09 14:00	TRC-0763-W	SM 4500-Cl G	1	DEB

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

1 Instrument ID: Thermo Electron Genesys 20

2 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Laboratory Control Sample**

Category: **EPA Method 608 PCBs**
 QC Batch ID: **PB-2511-F**
 Matrix: **Aqueous**
 Units: **ug/L**

Instrument ID: **GC-13 Agilent 6890**
 Extracted: **04-29-09 09:00**
 Cleaned Up: **04-29-09 11:00**
 Analyzed: **04-29-09 14:31**
 Analyst: **AWG**

CAS Number	Analyte	Spiked	Measured		Recovery		QC Limits
			1st Column	2nd Column	1st Column	2nd Column	
12674-11-2	Aroclor 1016	5.0	3.8	4.0	76 %	81 %	40 - 140 %
11096-82-5	Aroclor 1260	5.0	4.5	5.1	91 %	101 %	40 - 140 %

QC Surrogate Compound	Spiked	Measured		Recovery		QC Limits
Tetrachloro- <i>m</i> -xylene	0.20	0.14	0.15	72 %	77 %	30 - 150 %
Decachlorobiphenyl	0.20	0.16	0.16	81 %	82 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA Method 608 PCBs**
 QC Batch ID: **PB-2511-F**
 Matrix: **Aqueous**

Instrument ID: **GC-13 Agilent 6890**
 Extracted: **04-29-09 09:00**
 Cleaned Up: **04-29-09 11:00**
 Analyzed: **04-29-09 13:43**
 Analyst: **AWG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.20
11104-28-2	Aroclor 1221	BRL		ug/L	0.20
11141-16-5	Aroclor 1232	BRL		ug/L	0.20
53469-21-9	Aroclor 1242	BRL		ug/L	0.20
12672-29-6	Aroclor 1248	BRL		ug/L	0.20
11097-69-1	Aroclor 1254	BRL		ug/L	0.20
11096-82-5	Aroclor 1260	BRL		ug/L	0.20
QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.16	79 %	30 - 150 %
	Decachlorobiphenyl	0.20	0.16	79 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	0.20	0.17	86 %	30 - 150 %
	Decachlorobiphenyl	0.20	0.16	81 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986). Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Sample**

Category: **Metals**
Matrix: **Aqueous**
Units: **mg/L**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-3718-WL	EPA 200.7	04-28-09 00:00	ICP-1 PE 3000	MFP
EPA 200.8	MB-3718-WL	EPA 200.7	04-28-09 00:00	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits	Analyzed	Method
7440-50-8	Copper	1.0	0.95	95 %	85-115 %	04-28-09 18:34	EPA 200.7
7439-89-6	Iron	5.0	5.0	100 %	85-115 %	04-28-09 18:34	EPA 200.7
7439-92-1	Lead	5.0	5.0	99 %	85-115 %	04-28-09 18:34	EPA 200.8

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Aqueous**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-3718-WB	EPA 200.7	04-28-09 00:00	50 mL	ICP-1 PE 3000	MFP
EPA 200.8	MB-3718-WB	EPA 200.7	04-28-09 00:00	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper		BRL	mg/L	0.004	1	04-28-09 18:29	EPA 200.7
7439-89-6	Iron		BRL	mg/L	0.1	1	04-28-09 18:30	EPA 200.7
7439-92-1	Lead		BRL	mg/L	0.001	1	04-28-09 22:05	EPA 200.8

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT

Department of Health Services, PH-0586 Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 Potable Water and Non-Potable Water
<http://public.dep.state.ma.us/labcert/labcert.aspx>
Department of Labor, Asbestos Analytical Services, Class A
Division of Occupational Safety, AA000195
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 Potable Water, Non-Potable Water, Solid and Chemical Materials
<http://www4.egov.nh.gov/DES/NHELAP>

NEW YORK

Department of Health, 11754 Potable Water, Non-Potable Water, Solid and Hazardous Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

NIST NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP)

NVLAP Lab Code 200751-1 Bulk Asbestos Fiber Analysis (PLM)
<http://ts.nist.gov/Standards/scopes/plmtm.htm>

RHODE ISLAND

Department of Health, Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
Division of Laboratories, LAO00054
<http://www.health.ri.gov/labs/outofstatelabs.pdf>

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 Foreign soil import permit

VERMONT

Department of Health, VT-87643 Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	EC-MUG SM 9221-F
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Lead	EPA 200.9
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Thallium	EPA 200.9
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	Lachat 10-303-31-1-A
Alpha-BHC	EPA 608
Aluminum	EPA 200.7
Aluminum	EPA 200.8

Non-Potable Water (Wastewater)

Analyte	Method
Ammonia-N	Lachat 10-107-06-1-B
Antimony	EPA 200.7
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Copper	EPA 200.9
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Fluoride	EPA 300.0
Gamma-BHC	EPA 608
Hardness (CaCO3), Total	EPA 200.7
Hardness (CaCO3), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Lead	EPA 200.9
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nickel	EPA 200.9
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

Certifications and Approvals

MASSACHUSETTS**Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Thallium	EPA 200.9
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

Groundwater Analytical, Inc.
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**GROUNDWATER
ANALYTICAL**

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e-mail

To:	Marnin Feldman	From:	e-mail reporting GWA				
	PES Associates	Pages:	25				
e-mail:	mfeld@hotmail.com	Date:	06/05/2009 15:41:26				
Re:	125615	CC:					
<input type="checkbox"/>	Urgent	<input type="checkbox"/>	For Review	<input type="checkbox"/>	Please Comment	<input type="checkbox"/>	Please Reply

● Comments:

Final Project Report for 160 No. Washington Street/5384, Lab ID 125615,
Received 05-29-09

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Confidential

June 5, 2009

Mr. Marnin Feldman
PES Associates, Inc.
858 Washington St.
Suite 50
Dedham, MA 02026

LABORATORY REPORT

Project: **160 No. Washington Street/5384**
Lab ID: **125615**
Received: **05-29-09**

Dear Munch:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority turnaround.

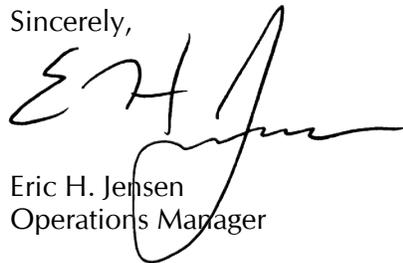
This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC or NVLAP standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Eric H. Jensen
Operations Manager

EHJ/elm
Enclosures

Sample Receipt Report

Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Lab ID: **125615**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **05-29-09**

Temperature: **5.9°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method			Notes
125615-1	Influent		Aqueous	5/29/09 14:00	EPA 608 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C811452	1 L Amber Glass	Proline	BX23603	None	n/a	n/a	n/a	
C1137900	1 L Amber Glass	Proline	BX31881	None	n/a	n/a	11-06-08	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
125615-2	Effluent		Aqueous	5/29/09 14:00	EPA 608 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1112368	1 L Amber Glass	Proline	BX31432	None	n/a	n/a	09-08-08	
C1137898	1 L Amber Glass	Proline	BX31881	None	n/a	n/a	11-06-08	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
125615-3	Influent		Aqueous	5/29/09 14:00	TPH by GC EPA 8015B Mod			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C801946	1 L Amber Glass	Proline	BX20780	H2SO4	R-4845B	04-20-06	n/a	
C1112426	1 L Amber Glass	Proline	BX31435	H2SO4	R-5615F	09-05-08	09-08-08	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
125615-4	Effluent		Aqueous	5/29/09 14:00	TPH by GC EPA 8015B Mod			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C801945	1 L Amber Glass	Proline	BX20780	H2SO4	R-4845B	04-20-06	n/a	
C1008511	1 L Amber Glass	Proline	BX30015	H2SO4	R-5502D	04-08-08	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
125615-5	Influent		Aqueous	5/29/09 14:00	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H + B pH			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1195166	250 mL Plastic	Proline	BX33218	None	n/a	n/a	04-23-09	
C1133201	1L Plastic	Proline	BX32651	None	n/a	n/a	01-14-09	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
125615-6	Effluent		Aqueous	5/29/09 14:00	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H + B pH			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1195161	250 mL Plastic	Proline	BX33218	None	n/a	n/a	04-23-09	
C1133195	1L Plastic	Proline	BX32651	None	n/a	n/a	01-14-09	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
125615-7	Influent		Aqueous	5/29/09 14:00	EPA 200.7 Cu Fe Total EPA 200.8 Pb Total			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1193069	250 mL Plastic	Proline	BX32928	HNO3	R-5790D	03-31-09	04-23-09	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
125615-8	Effluent		Aqueous	5/29/09 14:00	EPA 200.7 Cu Fe Total EPA 200.8 Pb Total			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1194106	250 mL Plastic	Proline	BX33120	HNO3	R-5790D	03-31-09	04-23-09	

**EPA Method 608
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **125615-01**
 Sampled: **05-29-09 14:00**
 Received: **05-29-09 18:27**
 Extracted: **06-02-09 12:00**
 Cleaned Up: **06-02-09 21:30**
 Analyzed: **06-03-09 20:23**
 Analyst: **AWG**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2519-F**
 Instrument ID: **GC-11 Agilent 6890**
 Sample Weight: **1000 mL**
 Final Volume: **10 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260		BRL	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First	Tetrachloro- <i>m</i> -xylene	0.20	0.15	73 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.19	96 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	0.20	0.15	75 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.19	95 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 608
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **125615-02**
 Sampled: **05-29-09 14:00**
 Received: **05-29-09 18:27**
 Extracted: **06-02-09 12:00**
 Cleaned Up: **06-02-09 21:30**
 Analyzed: **06-03-09 21:11**
 Analyst: **AWG**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2519-F**
 Instrument ID: **GC-11 Agilent 6890**
 Sample Weight: **1000 mL**
 Final Volume: **10 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260		BRL	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First	Tetrachloro- <i>m</i> -xylene	0.20	0.16	81 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.19	94 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	0.20	0.17	86 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.18	91 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **125615-3**
 Sampled: **05-29-09 14:00**
 Received: **05-29-09 18:27**
 Extracted: **06-03-09 08:00**
 Analyzed: **06-03-09 15:56**
 Analyst: **CL**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool/Cool**
 QC Batch ID: **HF-2125-F**
 Instrument ID: **GC4 HP 5890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	0.3		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.030	75 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **125615-4**
 Sampled: **05-29-09 14:00**
 Received: **05-29-09 18:27**
 Extracted: **06-03-09 08:00**
 Analyzed: **06-03-09 16:51**
 Analyst: **CL**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool/Cool**
 QC Batch ID: **HF-2125-F**
 Instrument ID: **GC4 HP 5890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.032	80 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Inorganic Chemistry

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **05-29-09 18:27**

Lab ID: **125615-05** Sampled: **05-29-09 14:00** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	2	mg/L	2	1	500 mL	05-30-09 07:58	TSS-1624-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.2	1	5 mL	05-29-09 23:55	TRC-0771-W	SM 4500-Cl G	1	LD
pH	7.1	pH	NA	1	50 mL	05-29-09 21:50	PH-2771-W	SM 4500-H+B	2	LJD

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

Inorganic Chemistry

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **05-29-09 18:27**

Lab ID: **125615-06** Sampled: **05-29-09 14:00** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	5	mg/L	2	1	500 mL	05-30-09 07:58	TSS-1624-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.2	1	5 mL	05-29-09 23:55	TRC-0771-W	SM 4500-Cl G	1	LD
pH	7.1	pH	NA	1	50 mL	05-29-09 21:51	PH-2771-W	SM 4500-H+B	2	LJD

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

Trace Metals

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **125615-7**
 Sampled: **05-29-09 14:00**
 Received: **05-29-09 18:27**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **05-29-09 14:00**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.7 ¹	MB-3759-W	EPA 200.7	06-01-09 07:36	50 mL	ICP-1 PE 3000	MFP
EPA 200.8 ²	MB-3759-W	EPA 200.8	06-01-09 07:36	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper, Total	0.018		mg/L	0.005	1	06-01-09 21:38	EPA 200.7 ¹
7439-89-6	Iron, Total	BRL		mg/L	0.1	1	06-01-09 21:38	EPA 200.7 ¹
7439-92-1	Lead, Total	BRL		mg/L	0.005	1	06-02-09 00:45	EPA 200.8 ²

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **125615-8**
 Sampled: **05-29-09 14:00**
 Received: **05-29-09 18:27**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **05-29-09 14:00**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.7 ¹	MB-3759-W	EPA 200.7	06-01-09 07:36	50 mL	ICP-1 PE 3000	MFP
EPA 200.8 ²	MB-3759-W	EPA 200.8	06-01-09 07:36	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper, Total	0.008		mg/L	0.005	1	06-01-09 21:52	EPA 200.7 ¹
7439-89-6	Iron, Total	BRL		mg/L	0.1	1	06-01-09 21:52	EPA 200.7 ¹
7439-92-1	Lead, Total	BRL		mg/L	0.001	1	06-02-09 00:58	EPA 200.8 ²

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Project Narrative

Project: **160 No. Washington Street/5384**
Client: **PES Associates, Inc.**

Lab ID: **125615**
Received: **05-29-09 18:27**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

- 1 . No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1 . pH Non-conformance: Samples 125615-5 and -6. pH analysis was not performed within 15 minutes of sample collection. Samples were analyzed shortly after receipt by the laboratory.

GROUNDWATER ANALYTICAL

225 Main Street, P.O. Box 1200
 Buzzards Bay, MA 02532
 Telephone (508) 759-4441 • FAX (508) 759-4475
 www.groundwateranalytical.com

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

No 210155

Project Name: (N. Wash.)
 160 No. Washington St.
 Project Number: 5384
 Sampler Name: David Blackwell
 Project Manager: Marnin Feldman

Firm: PES Associates, Inc.
 Address: 858 Washington St.
 City / State / Zip: Dedham, MA 02026
 Telephone: (781) 487-7777

TURNAROUND
 STANDARD (10 Business Days)
 PRIORITY (5 Business Days)
 RUSH (RAN - Rush requires Rush Authorization Number)
 Please Email to: david.blackwell@pesassociates.com
 Please FAX to:

BILLING
 Purchase Order No.:
 Third Party Billing:
 GWA Quote:

ANALYSIS REQUEST		Metals		Petroleum Hydrocarbon		Har. Waste		General Chemistry		Other	
Options	Variables	Samplables	Residuals/PCBs	Extractions	Vol	Est. TPH	Mg/PH	Har. Waste	General Chemistry	Other	
<input type="checkbox"/> The Search	<input type="checkbox"/> 824										
<input type="checkbox"/> 82508 NH PETROLEUM											
<input type="checkbox"/> 82508 NH PETROLEUM											
<input type="checkbox"/> 82508 NH PETROLEUM											

Sampling	SAMPLE IDENTIFICATION	Matrix		Type		Container(s)		Preservation		Filtered								
		GROUNDWATER	DRINKING WATER	WASTEWATER	OTHER SOLID	OTHER LIQUID	COMPOSITE	GRAB	120ml. Stab.	1.02 oz Plastic	500mL/16 oz Plastic	250mL/8 oz Plastic	120mL/4 oz Glass	500mL/16 oz Glass	250mL/8 oz Glass	120mL/4 oz Glass	40mL VOA Vial	170mL oz Amber Glass
6/29/01 8:00 AM	Exluent (Inf)	X																
6/29/01 8:00 PM	Effluent (Eff)	X																

REMARKS / SPECIAL INSTRUCTIONS		DATA QUALITY OBJECTIVES		CHAIN-OF-CUSTODY RECORD	
<p>MA DEP MCP Data Enhancement Affirmation</p> <p><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO MCP Data Certification required.</p> <p><input type="checkbox"/> YES <input type="checkbox"/> NO MCP Drinking Water Sample included. (Require collection of contingent duplicate sample. Trip blanks are also required, if VOA sample collected).</p> <p>Signature: _____</p>		<p>Project Specific QC</p> <p>Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. Each MS, MSD and Sample Duplicate requires an additional sample aliquot.</p> <p>Project Specific QC Required <input type="checkbox"/> Selection of QC Sample <input type="checkbox"/></p> <p>Sample Duplicate <input type="checkbox"/> Please use sample: _____</p> <p>Matrix Spike <input type="checkbox"/></p> <p>Matrix Spike Duplicate <input type="checkbox"/></p>		<p>NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.</p> <p>Relinquished by Sampler: David Blackwell Date: 6/29/01 8:00 AM Time: 5:30 PM Received by: MCF Container Count: 1915</p> <p>Relinquished by: MCF Date: 6/29/01 12:27 Time: 12:27 Received by: Groundwater Laboratory Shipping/Vibril Number: _____ Custody Seal Number: _____</p> <p>Method of Shipment: <input checked="" type="checkbox"/> GWA Courier <input type="checkbox"/> Express Mail <input type="checkbox"/> Federal Express <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/></p>	

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Sample**

Category: **EPA 8015B Mod TPH**
 QC Batch ID: **HF-2125-F**
 Matrix: **Aqueous**
 Units: **mg/L**

Instrument ID: **GC4 HP 5890**
 Extracted: **06-03-09 08:00**
 Analyzed: **06-03-09 16:57**
 Analyst: **CL**

Analyte	Spiked	Measured	Recovery	QC Limits
Fuel Oil No. 2	2.0	1.6	80 %	60 - 140 %

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.031	78 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA 8015B Mod TPH**
 QC Batch ID: **HF-2125-F**
 Matrix: **Aqueous**

Instrument ID: **GC4 HP 5890**
 Extracted: **06-03-09 08:00**
 Analyzed: **06-03-09 16:02**
 Analyst: **CL**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.032	81 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Sample**

Category: **Inorganic Chemistry**
Matrix: **Aqueous**

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	mg/L	68	60	88 %	80 - 120 %	05-30-09 07:58	TSS-1624-W	SM 2540 D	3	JR
Chlorine, Total Residual	mg/L	1	1	100 %	80 - 120 %	05-29-09 23:55	TRC-0771-W	SM 4500-Cl G	1	LD
pH	pH	7.0	7.0	100 %	80 - 120 %	05-29-09 12:06	PH-2771-W	SM 4500-H+ B	2	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Method Blank**

Category: **Inorganic Chemistry**

Matrix: **Aqueous**

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	2	05-30-09 07:58	TSS-1624-W	SM 2540 D	2	JR
Chlorine, Total Residual	BRL	mg/L	0.2	05-29-09 23:55	TRC-0771-W	SM 4500-Cl G	1	LD

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

1 Instrument ID: Thermo Electron Genesys 20

2 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Laboratory Control Sample**

Category: **EPA Method 608 PCBs**
 QC Batch ID: **PB-2519-F**
 Matrix: **Aqueous**
 Units: **ug/L**

Instrument ID: **GC-11 Agilent 6890**
 Extracted: **06-02-09 12:00**
 Cleaned Up: **06-02-09 21:30**
 Analyzed: **06-03-09 18:26**
 Analyst: **AWG**

CAS Number	Analyte	Spiked	Measured		Recovery		QC Limits
			1st Column	2nd Column	1st Column	2nd Column	
12674-11-2	Aroclor 1016	5.0	5.0	5.0	100 %	100 %	40 - 140 %
11096-82-5	Aroclor 1260	5.0	4.8	4.9	97 %	98 %	40 - 140 %

QC Surrogate Compound	Spiked	Measured		Recovery		QC Limits
Tetrachloro- <i>m</i> -xylene	0.20	0.16	0.17	79 %	83 %	30 - 150 %
Decachlorobiphenyl	0.20	0.20	0.20	99 %	100 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA Method 608 PCBs**
 QC Batch ID: **PB-2519-F**
 Matrix: **Aqueous**

Instrument ID: **GC-11 Agilent 6890**
 Extracted: **06-02-09 12:00**
 Cleaned Up: **06-02-09 21:30**
 Analyzed: **06-03-09 17:38**
 Analyst: **AWG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.20
11104-28-2	Aroclor 1221	BRL		ug/L	0.20
11141-16-5	Aroclor 1232	BRL		ug/L	0.20
53469-21-9	Aroclor 1242	BRL		ug/L	0.20
12672-29-6	Aroclor 1248	BRL		ug/L	0.20
11097-69-1	Aroclor 1254	BRL		ug/L	0.20
11096-82-5	Aroclor 1260	BRL		ug/L	0.20
QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.16	79 %	30 - 150 %
	Decachlorobiphenyl	0.20	0.19	95 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	0.20	0.17	83 %	30 - 150 %
	Decachlorobiphenyl	0.20	0.20	98 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Sample**

Category: **Metals**
Matrix: **Aqueous**
Units: **mg/L**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-3759-WL	EPA 200.7	06-01-09 07:36	ICP-1 PE 3000	MFP
EPA 200.8	MB-3759-WL	EPA 200.8	06-01-09 07:36	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits	Analyzed	Method
7440-50-8	Copper	1.0	0.86	86 %	85-115 %	06-01-09 21:00	EPA 200.7
7439-89-6	Iron	5.0	5.0	100 %	85-115 %	06-01-09 21:00	EPA 200.7
7439-92-1	Lead	0.050	0.050	100 %	85-115 %	06-02-09 00:30	EPA 200.8

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Aqueous**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-3759-WB	EPA 200.7	06-01-09 07:36	50 mL	ICP-1 PE 3000	MFP
EPA 200.8	MB-3759-WB	EPA 200.8	06-01-09 07:36	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper		BRL	mg/L	0.005	1	06-01-09 20:56	EPA 200.7
7439-89-6	Iron		BRL	mg/L	0.1	1	06-01-09 20:57	EPA 200.7
7439-92-1	Lead		BRL	mg/L	0.001	1	06-02-09 00:30	EPA 200.8

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT

Department of Health Services, PH-0586 Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 Potable Water and Non-Potable Water
<http://public.dep.state.ma.us/labcert/labcert.aspx>

Department of Labor, Division of Occupational Safety, AA000195 Asbestos Analytical Services, Class A
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 Potable Water, Non-Potable Water, Solid and Chemical Materials
<http://www4.egov.nh.gov/DES/NHELAP>

NEW YORK

Department of Health, 11754 Potable Water, Non-Potable Water, Solid and Hazardous Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

NIST NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP)

NVLAP Lab Code 200751-1 Bulk Asbestos Fiber Analysis (PLM)
<http://ts.nist.gov/Standards/scopes/plmtm.htm>

RHODE ISLAND

Department of Health, Division of Laboratories, LAO00054 Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
<http://www.health.ri.gov/labs/outofstatelabs.pdf>

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 Foreign soil import permit

VERMONT

Department of Health, VT-87643 Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	EC-MUG SM 9221-F
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Lead	EPA 200.9
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Thallium	EPA 200.9
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	Lachat 10-303-31-1-A
Alpha-BHC	EPA 608
Aluminum	EPA 200.7
Aluminum	EPA 200.8

Non-Potable Water (Wastewater)

Analyte	Method
Ammonia-N	Lachat 10-107-06-1-B
Antimony	EPA 200.7
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Copper	EPA 200.9
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Fluoride	EPA 300.0
Gamma-BHC	EPA 608
Hardness (CaCO3), Total	EPA 200.7
Hardness (CaCO3), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Lead	EPA 200.9
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nickel	EPA 200.9
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

Certifications and Approvals**MASSACHUSETTS****Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Thallium	EPA 200.9
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

Groundwater Analytical, Inc.
P.O.Box 1200
228 Main Street
Buzzards Bay, MA 02532

**GROUNDWATER
ANALYTICAL**

Telephone: (508) 759-4441
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e-mail

To: Marnin Feldman
From: e-mail reporting GWA

PES Associates
Pages: 25

e-mail: mfeld@hotmail.com
Date: 07/08/2009 15:44:04

Re: 126307
CC:

Urgent For Review Please Comment Please Reply

● Comments:

Final Project Report for 160 No. Washington Street/5384, Lab ID 126307,
Received 06-30-09

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Confidential

July 8, 2009

Mr. Marnin Feldman
PES Associates, Inc.
858 Washington St.
Suite 50
Dedham, MA 02026

LABORATORY REPORT

Project: **160 No. Washington Street/5384**
Lab ID: **126307**
Received: **06-30-09**

Dear Munch:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority turnaround.

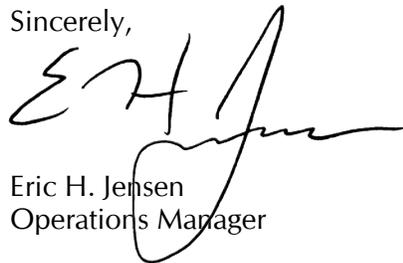
This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC or NVLAP standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Eric H. Jensen
Operations Manager

EHJ/elm
Enclosures

Sample Receipt Report

Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Lab ID: **126307**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **06-30-09**

Temperature: **4.9°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method			Notes
126307-1	Influent		Aqueous	6/30/09 9:00	EPA 608 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1112383	1 L Amber Glass	Proline	BX31430	None	n/a	n/a	09-08-08	
C1176267	1 L Amber Glass	Proline	BX33510	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
126307-2	Effluent		Aqueous	6/30/09 9:00	EPA 608 PCBs			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1112382	1 L Amber Glass	Proline	BX31430	None	n/a	n/a	09-08-08	
C1176273	1 L Amber Glass	Proline	BX33510	None	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
126307-3	Influent		Aqueous	6/30/09 9:00	TPH by GC EPA 8015B Mod			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1195598	1 L Amber Glass	Proline	BX33397	H2SO4	n/a	n/a	n/a	
C1195591	1 L Amber Glass	Proline	BX33397	H2SO4	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
126307-4	Effluent		Aqueous	6/30/09 9:00	TPH by GC EPA 8015B Mod			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1195595	1 L Amber Glass	Proline	BX33397	H2SO4	n/a	n/a	n/a	
C1195588	1 L Amber Glass	Proline	BX33397	H2SO4	n/a	n/a	n/a	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
126307-5	Influent		Aqueous	6/30/09 9:00	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H + B pH			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1195055	250 mL Plastic	Proline	BX33218	None	n/a	n/a	04-23-09	
C1133224	1L Plastic	Proline	BX32651	None	n/a	n/a	01-14-09	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
126307-6	Effluent		Aqueous	6/30/09 9:00	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H + B pH			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1195170	250 mL Plastic	Proline	BX33218	None	n/a	n/a	n/a	
C1133209	1L Plastic	Proline	BX32651	None	n/a	n/a	01-14-09	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
126307-7	Influent		Aqueous	6/30/09 9:00	EPA 200.7 Cu Fe Total EPA 200.8 Pb Total			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1195056	250 mL Plastic	Proline	BX33218	HNO3	R-5790D	04-03-09	04-23-09	

Lab ID	Field ID		Matrix	Sampled	Method			Notes
126307-8	Effluent		Aqueous	6/30/09 9:00	EPA 200.7 Cu Fe Total EPA 200.8 Pb Total			
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1195411	250 mL Plastic	Proline	BX33220	HNO3	R-5790D	04-03-09	04-23-09	

**EPA Method 608
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **126307-01**
 Sampled: **06-30-09 09:00**
 Received: **06-30-09 18:15**
 Extracted: **07-06-09 17:30**
 Cleaned Up: **07-06-09 21:00**
 Analyzed: **07-07-09 04:33**
 Analyst: **AWG**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2525-F**
 Instrument ID: **GC-11 Agilent 6890**
 Sample Weight: **990 mL**
 Final Volume: **10 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260		BRL	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First	Tetrachloro- <i>m</i> -xylene	0.20	0.17	84 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.18	90 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	0.20	0.16	81 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.15	75 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 608
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **126307-02**
 Sampled: **06-30-09 09:00**
 Received: **06-30-09 18:15**
 Extracted: **07-06-09 17:30**
 Cleaned Up: **07-06-09 21:00**
 Analyzed: **07-07-09 05:20**
 Analyst: **AWG**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2525-F**
 Instrument ID: **GC-11 Agilent 6890**
 Sample Weight: **1000 mL**
 Final Volume: **10 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260		BRL	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.17	87 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.20	0.18	89 %	30 - 150 %
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.16	82 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.20	0.14	72 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986). Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **126307-3**
 Sampled: **06-30-09 09:00**
 Received: **06-30-09 18:15**
 Extracted: **07-01-09 14:30**
 Analyzed: **07-01-09 17:51**
 Analyst: **MB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool/Cool**
 QC Batch ID: **HF-2134-F**
 Instrument ID: **GC4 HP 5890**
 Sample Volume: **990 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	0.6		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.030	74 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **126307-4**
 Sampled: **06-30-09 09:00**
 Received: **06-30-09 18:15**
 Extracted: **07-01-09 14:30**
 Analyzed: **07-01-09 19:41**
 Analyst: **MB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool/Cool**
 QC Batch ID: **HF-2134-F**
 Instrument ID: **GC4 HP 5890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.032	81 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Inorganic Chemistry

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **06-30-09 18:15**

Lab ID: **126307-05** Sampled: **06-30-09 09:00** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	10	mg/L	2	1	500 mL	07-01-09 13:32	TSS-1635-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.2	1	5 mL	06-30-09 19:20	TRC-0783-W	SM 4500-Cl G	1	LD
pH	7.4	pH	NA	1	50 mL	06-30-09 20:10	PH-2790-W	SM 4500-H+B	2	LJD

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

Inorganic Chemistry

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **06-30-09 18:15**

Lab ID: **126307-06** Sampled: **06-30-09 09:00** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	9	mg/L	2	1	500 mL	07-01-09 13:32	TSS-1635-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.2	1	5 mL	06-30-09 19:20	TRC-0783-W	SM 4500-Cl G	1	LD
pH	7.4	pH	NA	1	50 mL	06-30-09 20:11	PH-2790-W	SM 4500-H+B	2	LJD

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

Trace Metals

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **126307-7**
 Sampled: **06-30-09 09:00**
 Received: **06-30-09 18:15**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **06-30-09 09:00**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.7 ¹	MB-3795-W	EPA 200.7	07-01-09 08:20	50 mL	ICP-1 PE 3000	MFP
EPA 200.8 ²	MB-3795-W	EPA 200.8	07-01-09 08:20	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper, Total	0.016		mg/L	0.004	1	07-01-09 21:35	EPA 200.7 ¹
7439-89-6	Iron, Total	0.2		mg/L	0.1	1	07-01-09 21:36	EPA 200.7 ¹
7439-92-1	Lead, Total	0.002		mg/L	0.001	1	07-06-09 00:00	EPA 200.8 ²

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **126307-8**
 Sampled: **06-30-09 09:00**
 Received: **06-30-09 18:15**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **06-30-09 09:00**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.7 ¹	MB-3795-W	EPA 200.7	07-01-09 08:20	50 mL	ICP-1 PE 3000	MFP
EPA 200.8 ²	MB-3795-W	EPA 200.8	07-01-09 08:20	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper, Total		BRL	mg/L	0.004	1	07-01-09 21:45	EPA 200.7 ¹
7439-89-6	Iron, Total		BRL	mg/L	0.1	1	07-01-09 21:46	EPA 200.7 ¹
7439-92-1	Lead, Total		BRL	mg/L	0.001	1	07-06-09 00:00	EPA 200.8 ²

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Project Narrative

Project: **160 No. Washington Street/5384**
Client: **PES Associates, Inc.**

Lab ID: **126307**
Received: **06-30-09 18:15**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

- 1 . No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1 . pH Non-conformance: Samples 126307-5 and -6. pH analysis was not performed within 15 minutes of sample collection. Samples were analyzed shortly after receipt by the laboratory.

GROUNDWATER ANALYTICAL

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Project Name: W Wash
 Project Number: 110 No. Washington St.
 Sampler Name: 5384
 Project Manager: David Blackwell
 Firm: PES Associates, Inc.
 Address: 208 Washington St., Suite 50
 City / State / Zip: Dorham, MA 02036
 Telephone: (481) 407-1111

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

TURNAROUND
 STANDARD (10 Business Days)
 PRIORITY (5 Business Days)
 RUSH (RAN. Rush requires Cash Authorization Number)
 Please Email: specassociate
 Please FAX to:

BILLING
 Purchase Order No.:
 Third Party Billing:
 GWA Quote:

ANALYSIS REQUEST

Volatiles		Semi-volatiles		Pesticides/PCBs		Metals		Petroleum Hydrocarbon		Hex. Waste		General Chemistry		Other	
OPTIONS	TESTS	TESTS	TESTS												
<input type="checkbox"/> 624	<input type="checkbox"/> 624+MTRB														
<input type="checkbox"/> 626	<input type="checkbox"/> 626+MTRB														
<input type="checkbox"/> 628	<input type="checkbox"/> 628+MTRB														
<input type="checkbox"/> 630	<input type="checkbox"/> 630+MTRB														
<input type="checkbox"/> 632	<input type="checkbox"/> 632+MTRB														
<input type="checkbox"/> 634	<input type="checkbox"/> 634+MTRB														
<input type="checkbox"/> 636	<input type="checkbox"/> 636+MTRB														
<input type="checkbox"/> 638	<input type="checkbox"/> 638+MTRB														
<input type="checkbox"/> 640	<input type="checkbox"/> 640+MTRB														
<input type="checkbox"/> 642	<input type="checkbox"/> 642+MTRB														
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<input type="checkbox"/> 650	<input type="checkbox"/> 650+MTRB														
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<input type="checkbox"/> 666	<input type="checkbox"/> 666+MTRB														
<input type="checkbox"/> 668	<input type="checkbox"/> 668+MTRB														
<input type="checkbox"/> 670	<input type="checkbox"/> 670+MTRB														
<input type="checkbox"/> 672	<input type="checkbox"/> 672+MTRB														
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<input type="checkbox"/> 690	<input type="checkbox"/> 690+MTRB														
<input type="checkbox"/> 692	<input type="checkbox"/> 692+MTRB														
<input type="checkbox"/> 694	<input type="checkbox"/> 694+MTRB														
<input type="checkbox"/> 696	<input type="checkbox"/> 696+MTRB														
<input type="checkbox"/> 698	<input type="checkbox"/> 698+MTRB														
<input type="checkbox"/> 700	<input type="checkbox"/> 700+MTRB														
<input type="checkbox"/> 702	<input type="checkbox"/> 702+MTRB														
<input type="checkbox"/> 704	<input type="checkbox"/> 704+MTRB														
<input type="checkbox"/> 706	<input type="checkbox"/> 706+MTRB														

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Sample**

Category: **EPA 8015B Mod TPH**
 QC Batch ID: **HF-2134-F**
 Matrix: **Aqueous**
 Units: **mg/L**

Instrument ID: **GC4 HP 5890**
 Extracted: **07-01-09 14:30**
 Analyzed: **07-01-09 19:35**
 Analyst: **MB**

Analyte	Spiked	Measured	Recovery	QC Limits
Fuel Oil No. 2	2.0	1.7	85 %	60 - 140 %

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.034	86 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA 8015B Mod TPH**
 QC Batch ID: **HF-2134-F**
 Matrix: **Aqueous**

Instrument ID: **GC4 HP 5890**
 Extracted: **07-01-09 14:30**
 Analyzed: **07-01-09 17:50**
 Analyst: **MB**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.032	81 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Sample**

Category: **Inorganic Chemistry**
Matrix: **Aqueous**

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	mg/L	68	72	106 %	80 - 120 %	07-01-09 13:32	TSS-1635-W	SM 2540 D	3	JR
Chlorine, Total Residual	mg/L	1	1	100 %	80 - 120 %	06-30-09 19:20	TRC-0783-W	SM 4500-Cl G	1	LD
pH	pH	7.0	7.0	101 %	80 - 120 %	06-30-09 15:53	PH-2790-W	SM 4500-H+ B	2	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Method Blank**

Category: **Inorganic Chemistry**

Matrix: **Aqueous**

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	2	07-01-09 13:32	TSS-1635-W	SM 2540 D	2	JR
Chlorine, Total Residual	BRL	mg/L	0.2	06-30-09 19:20	TRC-0783-W	SM 4500-Cl G	1	LD

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

1 Instrument ID: Thermo Electron Genesys 20

2 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Laboratory Control Sample**

Category: **EPA Method 608 PCBs**
 QC Batch ID: **PB-2525-F**
 Matrix: **Aqueous**
 Units: **ug/L**

Instrument ID: **GC-11 Agilent 6890**
 Extracted: **07-06-09 17:30**
 Cleaned Up: **07-06-09 21:00**
 Analyzed: **07-07-09 02:34**
 Analyst: **AWG**

CAS Number	Analyte	Spiked	Measured		Recovery		QC Limits
			1st Column	2nd Column	1st Column	2nd Column	
12674-11-2	Aroclor 1016	5.0	5.1	4.6	102 %	92 %	40 - 140 %
11096-82-5	Aroclor 1260	5.0	4.6	4.1	92 %	83 %	40 - 140 %

QC Surrogate Compound	Spiked	Measured		Recovery		QC Limits
Tetrachloro- <i>m</i> -xylene	0.20	0.16	0.15	79 %	77 %	30 - 150 %
Decachlorobiphenyl	0.20	0.17	0.14	83 %	72 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA Method 608 PCBs**
 QC Batch ID: **PB-2525-F**
 Matrix: **Aqueous**

Instrument ID: **GC-11 Agilent 6890**
 Extracted: **07-06-09 17:30**
 Cleaned Up: **07-06-09 21:00**
 Analyzed: **07-07-09 01:47**
 Analyst: **AWG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.20
11104-28-2	Aroclor 1221	BRL		ug/L	0.20
11141-16-5	Aroclor 1232	BRL		ug/L	0.20
53469-21-9	Aroclor 1242	BRL		ug/L	0.20
12672-29-6	Aroclor 1248	BRL		ug/L	0.20
11097-69-1	Aroclor 1254	BRL		ug/L	0.20
11096-82-5	Aroclor 1260	BRL		ug/L	0.20
QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.15	75 %	30 - 150 %
	Decachlorobiphenyl	0.20	0.16	80 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	0.20	0.14	71 %	30 - 150 %
	Decachlorobiphenyl	0.20	0.14	69 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Sample**

Category: **Metals**
 Matrix: **Aqueous**
 Units: **mg/L**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-3795-WL	EPA 200.7	07-01-09 08:20	ICP-1 PE 3000	MFP
EPA 200.8	MB-3795-WL	EPA 200.8	07-01-09 08:20	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits	Analyzed	Method
7440-50-8	Copper	1.0	1.0	103 %	85-115 %	07-01-09 20:45	EPA 200.7
7439-89-6	Iron	5.0	5.5	110 %	85-115 %	07-01-09 20:45	EPA 200.7
7439-92-1	Lead	0.050	0.053	105 %	85-115 %	07-06-09 00:00	EPA 200.8

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Aqueous**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-3795-WB	EPA 200.7	07-01-09 08:20	50 mL	ICP-1 PE 3000	MFP
EPA 200.8	MB-3795-WB	EPA 200.8	07-01-09 08:20	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper		BRL	mg/L	0.004	1	07-01-09 20:41	EPA 200.7
7439-89-6	Iron		BRL	mg/L	0.1	1	07-01-09 20:42	EPA 200.7
7439-92-1	Lead		BRL	mg/L	0.001	1	07-06-09 00:00	EPA 200.8

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT

Department of Health Services, PH-0586 Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 Potable Water and Non-Potable Water
<http://public.dep.state.ma.us/labcert/labcert.aspx>

Department of Labor, Division of Occupational Safety, AA000195 Asbestos Analytical Services, Class A
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 Potable Water, Non-Potable Water, Solid and Chemical Materials
<http://www4.egov.nh.gov/DES/NHELAP>

NEW YORK

Department of Health, 11754 Potable Water, Non-Potable Water, Solid and Hazardous Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

NIST NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP)

NVLAP Lab Code 200751-1 Bulk Asbestos Fiber Analysis (PLM)
<http://ts.nist.gov/Standards/scopes/plmtm.htm>

RHODE ISLAND

Department of Health, Division of Laboratories, LAO00054 Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
<http://www.health.ri.gov/labs/outofstatelabs.pdf>

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 Foreign soil import permit

VERMONT

Department of Health, VT-87643 Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	EC-MUG SM 9221-F
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Lead	EPA 200.9
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Thallium	EPA 200.9
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	Lachat 10-303-31-1-A
Alpha-BHC	EPA 608
Aluminum	EPA 200.7
Aluminum	EPA 200.8

Non-Potable Water (Wastewater)

Analyte	Method
Ammonia-N	Lachat 10-107-06-1-B
Antimony	EPA 200.7
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Copper	EPA 200.9
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Fluoride	EPA 300.0
Gamma-BHC	EPA 608
Hardness (CaCO3), Total	EPA 200.7
Hardness (CaCO3), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Lead	EPA 200.9
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nickel	EPA 200.9
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

Certifications and Approvals

MASSACHUSETTS**Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Thallium	EPA 200.9
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

Groundwater Analytical, Inc.
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Buzzards Bay, MA 02532

**GROUNDWATER
ANALYTICAL**

Telephone: (508) 759-4441
FAX: (508) 759-4475

e-mail

To: Marnin Feldman
From: e-mail reporting GWA
PES Associates
Pages: 25
e-mail: mfeld@hotmail.com
Date: 08/05/2009 16:56:15
Re: 126972
CC:

Urgent For Review Please Comment Please Reply

● Comments:

Final Project Report for 160 No. Washington Street/5384, Lab ID 126972,
Received 07-29-09

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Confidential

August 5, 2009

Mr. Marnin Feldman
PES Associates, Inc.
858 Washington St.
Suite 50
Dedham, MA 02026

LABORATORY REPORT

Project: **160 No. Washington Street/5384**
Lab ID: **126972**
Received: **07-29-09**

Dear Munch:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC or NVLAP standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Karyn E. Raymond
Project Manager

KER/elm
Enclosures

Sample Receipt Report

Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Lab ID: **126972**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **07-29-09**

Temperature: **2.7°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
126972-1	Influent	Aqueous	7/29/09 10:00	EPA 608 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1177526	1 L Amber Glass	Proline	BX33763	None	n/a	n/a	n/a	
C1177517	1 L Amber Glass	Proline	BX33763	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
126972-2	Effluent	Aqueous	7/29/09 10:00	EPA 608 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1177523	1 L Amber Glass	Proline	BX33763	None	n/a	n/a	n/a	
C1177520	1 L Amber Glass	Proline	BX33763	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
126972-3	Influent	Aqueous	7/29/09 10:00	TPH by GC EPA 8015B Mod				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1191847	1 L Amber Glass	Proline	BX33885	H2SO4	R-5886D	06-24-09	n/a	
C1191866	1 L Amber Glass	Proline	BX33894	H2SO4	R-5886D	06-19-09	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
126972-4	Effluent	Aqueous	7/29/09 10:00	TPH by GC EPA 8015B Mod				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1191844	1 L Amber Glass	Proline	BX33885	H2SO4	R-5886D	06-24-09	n/a	
C1191865	1 L Amber Glass	Proline	BX33894	H2SO4	R-5886D	06-19-09	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
126972-5	Influent	Aqueous	7/29/09 10:00	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H + B pH				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1185457	250 mL Plastic	Proline	BX33919	None	n/a	n/a	n/a	
C1162407	1L Plastic	Proline	BX33972	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
126972-6	Effluent	Aqueous	7/29/09 10:00	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H + B pH				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1185442	250 mL Plastic	Proline	BX33919	None	n/a	n/a	n/a	
C1162451	1L Plastic	Proline	BX33972	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
126972-7	Influent	Aqueous	7/29/09 10:00	EPA 200.7 Cu Fe Total EPA 200.8 Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1139329	250 mL Plastic	Proline	BX33925	HNO3	R-5790D	06-12-09	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
126972-8	Effluent	Aqueous	7/29/09 10:00	EPA 200.7 Cu Fe Total EPA 200.8 Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1139253	250 mL Plastic	Proline	BX33925	HNO3	R-5790D	06-12-09	n/a	

**EPA Method 608
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **126972-01**
 Sampled: **07-29-09 10:00**
 Received: **07-29-09 17:30**
 Extracted: **08-05-09 08:00**
 Cleaned Up: **08-05-09 10:00**
 Analyzed: **08-05-09 14:19**
 Analyst: **AWG**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2531-F**
 Instrument ID: **GC-11 Agilent 6890**
 Sample Weight: **1000 mL**
 Final Volume: **10 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260		BRL	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.18	90 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.20	0.18	88 %	30 - 150 %
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.19	93 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.20	0.18	92 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986). Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 608
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **126972-02**
 Sampled: **07-29-09 10:00**
 Received: **07-29-09 17:30**
 Extracted: **08-05-09 08:00**
 Cleaned Up: **08-05-09 10:00**
 Analyzed: **08-05-09 15:07**
 Analyst: **AWG**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2531-F**
 Instrument ID: **GC-11 Agilent 6890**
 Sample Weight: **1000 mL**
 Final Volume: **10 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260		BRL	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.19	96 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.20	0.20	98 %	30 - 150 %
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.21	103 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.20	0.21	104 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986). Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **126972-3**
 Sampled: **07-29-09 10:00**
 Received: **07-29-09 17:30**
 Extracted: **08-04-09 19:00**
 Analyzed: **08-05-09 11:23**
 Analyst: **MB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **HF-2140-F**
 Instrument ID: **GC4 HP 5890**
 Sample Volume: **990 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	0.7		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.031	78 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **126972-4**
 Sampled: **07-29-09 10:00**
 Received: **07-29-09 17:30**
 Extracted: **08-04-09 19:00**
 Analyzed: **08-05-09 12:18**
 Analyst: **MB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **HF-2140-F**
 Instrument ID: **GC4 HP 5890**
 Sample Volume: **980 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.041	0.034	84 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Inorganic Chemistry

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **07-29-09 17:30**

Lab ID: **126972-05** Sampled: **07-29-09 10:00** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	2	mg/L	2	1	500 mL	07-30-09 14:21	TSS-1650-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.02	1	5 mL	07-29-09 18:00	TRC-0795-W	SM 4500-Cl G	1	JK
pH	7.3	pH	NA	1	50 mL	07-30-09 11:09	PH-2808-W	SM 4500-H+B	2	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

Inorganic Chemistry

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **07-29-09 17:30**

Lab ID: **126972-06** Sampled: **07-29-09 10:00** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	5	mg/L	2	1	500 mL	07-30-09 14:21	TSS-1650-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.02	1	5 mL	07-29-09 18:00	TRC-0795-W	SM 4500-Cl G	1	JK
pH	7.3	pH	NA	1	50 mL	07-30-09 11:09	PH-2808-W	SM 4500-H+B	2	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

Trace Metals

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **126972-7**
 Sampled: **07-29-09 10:00**
 Received: **07-29-09 17:30**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **07-29-09 10:00**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.7 ¹	MB-3827-W	EPA 200.7	07-30-09 08:39	50 mL	ICPMS-1 ELAN 9000	MFP
EPA 200.8 ²	MB-3827-W	EPA 200.8	07-30-09 08:39	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper, Total	0.085		mg/L	0.004	1	07-31-09 00:00	EPA 200.7 ¹
7439-89-6	Iron, Total	0.1		mg/L	0.1	1	07-30-09 19:28	EPA 200.7 ¹
7439-92-1	Lead, Total	0.002		mg/L	0.001	1	07-31-09 00:00	EPA 200.8 ²

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **126972-8**
 Sampled: **07-29-09 10:00**
 Received: **07-29-09 17:30**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **07-29-09 10:00**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.7 ¹	MB-3827-W	EPA 200.7	07-30-09 08:39	50 mL	ICPMS-1 ELAN 9000	MFP
EPA 200.8 ²	MB-3827-W	EPA 200.8	07-30-09 08:39	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper, Total	0.087		mg/L	0.004	1	07-31-09 00:00	EPA 200.7 ¹
7439-89-6	Iron, Total	BRL		mg/L	0.1	1	07-30-09 19:32	EPA 200.7 ¹
7439-92-1	Lead, Total	BRL		mg/L	0.001	1	07-31-09 00:00	EPA 200.8 ²

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Project Narrative

Project: **160 No. Washington Street/5384**
Client: **PES Associates, Inc.**

Lab ID: **126972**
Received: **07-29-09 17:30**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

- 1 . Samples 126972-01 'Influent' and -02 'Effluent' were analyzed by EPA 608 PCBs, not by EPA 608 Pesticides as indicated on the Chain of Custody, per David Blackwell, 07-30-09.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1 . pH Non-conformance: Samples 126972-5 and -6. pH analysis was not performed within 15 minutes of sample collection. Samples were analyzed shortly after receipt by the laboratory.

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Sample**

Category: **EPA 8015B Mod TPH**
 QC Batch ID: **HF-2140-F**
 Matrix: **Aqueous**
 Units: **mg/L**

Instrument ID: **GC4 HP 5890**
 Extracted: **08-04-09 19:00**
 Analyzed: **08-05-09 12:12**
 Analyst: **MB**

Analyte	Spiked	Measured	Recovery	QC Limits
Fuel Oil No. 2	2.0	1.7	85 %	60 - 140 %

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.034	86 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA 8015B Mod TPH**
 QC Batch ID: **HF-2140-F**
 Matrix: **Aqueous**

Instrument ID: **GC4 HP 5890**
 Extracted: **08-04-09 19:00**
 Analyzed: **08-05-09 11:19**
 Analyst: **MB**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.035	88 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Sample**

Category: **Inorganic Chemistry**
Matrix: **Aqueous**

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	mg/L	79	80	102 %	80 - 120 %	07-30-09 14:21	TSS-1650-W	SM 2540 D	3	JR
Chlorine, Total Residual	mg/L	0.05	0.05	102 %	80 - 120 %	07-29-09 18:00	TRC-0795-W	SM 4500-Cl G	1	JK
pH	pH	7.0	7.0	100 %	80 - 120 %	07-30-09 11:05	PH-2808-W	SM 4500-H+ B	2	JR

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Method Blank**

Category: **Inorganic Chemistry**

Matrix: **Aqueous**

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	2	07-30-09 14:21	TSS-1650-W	SM 2540 D	2	JR
Chlorine, Total Residual	BRL	mg/L	0.02	07-29-09 18:00	TRC-0795-W	SM 4500-Cl G	1	JK

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

1 Instrument ID: Thermo Electron Genesys 20

2 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Laboratory Control Sample**

Category: **EPA Method 608 PCBs**
 QC Batch ID: **PB-2531-F**
 Matrix: **Aqueous**
 Units: **ug/L**

Instrument ID: **GC-11 Agilent 6890**
 Extracted: **08-05-09 08:00**
 Cleaned Up: **08-05-09 10:00**
 Analyzed: **08-05-09 13:56**
 Analyst: **AWG**

CAS Number	Analyte	Spiked	Measured		Recovery		QC Limits
			1st Column	2nd Column	1st Column	2nd Column	
12674-11-2	Aroclor 1016	5.0	5.3	5.5	105 %	109 %	40 - 140 %
11096-82-5	Aroclor 1260	5.0	4.8	4.9	96 %	98 %	40 - 140 %

QC Surrogate Compound	Spiked	Measured		Recovery		QC Limits
Tetrachloro- <i>m</i> -xylene	0.20	0.18	0.19	92 %	94 %	30 - 150 %
Decachlorobiphenyl	0.20	0.21	0.22	104 %	108 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA Method 608 PCBs**
 QC Batch ID: **PB-2531-F**
 Matrix: **Aqueous**

Instrument ID: **GC-11 Agilent 6890**
 Extracted: **08-05-09 08:00**
 Cleaned Up: **08-05-09 10:00**
 Analyzed: **08-05-09 13:08**
 Analyst: **AWG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.20
11104-28-2	Aroclor 1221	BRL		ug/L	0.20
11141-16-5	Aroclor 1232	BRL		ug/L	0.20
53469-21-9	Aroclor 1242	BRL		ug/L	0.20
12672-29-6	Aroclor 1248	BRL		ug/L	0.20
11097-69-1	Aroclor 1254	BRL		ug/L	0.20
11096-82-5	Aroclor 1260	BRL		ug/L	0.20
QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.19	96 %	30 - 150 %
	Decachlorobiphenyl	0.20	0.20	100 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	0.20	0.20	98 %	30 - 150 %
	Decachlorobiphenyl	0.20	0.21	104 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Sample**

Category: **Metals**
Matrix: **Aqueous**
Units: **mg/L**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-3827-WL	EPA 200.7	07-30-09 08:39	ICP-1 PE 3000	MFP
EPA 200.8	MB-3827-WL	EPA 200.8	07-30-09 08:39	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits	Analyzed	Method
7440-50-8	Copper	1.0	0.93	93 %	85-115 %	07-30-09 18:46	EPA 200.7
7439-89-6	Iron	5.0	5.2	104 %	85-115 %	07-30-09 18:46	EPA 200.7
7439-92-1	Lead	0.050	0.049	98 %	85-115 %	07-31-09 00:00	EPA 200.8

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Aqueous**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-3827-WB	EPA 200.7	07-30-09 08:39	50 mL	ICP-1 PE 3000	MFP
EPA 200.8	MB-3827-WB	EPA 200.8	07-30-09 08:39	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper		BRL	mg/L	0.025	1	07-30-09 18:41	EPA 200.7
7439-89-6	Iron		BRL	mg/L	0.1	1	07-30-09 18:42	EPA 200.7
7439-92-1	Lead		BRL	mg/L	0.001	1	07-31-09 00:00	EPA 200.8

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT

Department of Health Services, PH-0586 Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 Potable Water and Non-Potable Water
<http://public.dep.state.ma.us/labcert/labcert.aspx>

Department of Labor, Asbestos Analytical Services, Class A
Division of Occupational Safety, AA000195
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 Potable Water, Non-Potable Water, Solid and Chemical Materials
<http://www4.egov.nh.gov/DES/NHELAP>

NEW YORK

Department of Health, 11754 Potable Water, Non-Potable Water, Solid and Hazardous Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

RHODE ISLAND

Department of Health, Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
Division of Laboratories, LAO00054
<http://www.health.ri.gov/labs/outofstatelabs.pdf>

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 Foreign soil import permit

VERMONT

Department of Health, VT-87643 Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	EC-MUG SM 9221-F
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Lead	EPA 200.9
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Thallium	EPA 200.9
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	Lachat 10-303-31-1-A
Alpha-BHC	EPA 608
Aluminum	EPA 200.7
Aluminum	EPA 200.8

Non-Potable Water (Wastewater)

Analyte	Method
Ammonia-N	Lachat 10-107-06-1-B
Antimony	EPA 200.7
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Copper	EPA 200.9
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Fluoride	EPA 300.0
Gamma-BHC	EPA 608
Hardness (CaCO3), Total	EPA 200.7
Hardness (CaCO3), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Lead	EPA 200.9
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nickel	EPA 200.9
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Thallium	EPA 200.9
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

Groundwater Analytical, Inc.
P.O.Box 1200
228 Main Street
Buzzards Bay, MA 02532

**GROUNDWATER
ANALYTICAL**

Telephone: (508) 759-4441
FAX: (508) 759-4475

e-mail

To:	Marnin Feldman	From:	e-mail reporting GWA				
	PES Associates	Pages:	25				
e-mail:	mfeld@hotmail.com	Date:	09/02/2009 16:30:30				
Re:	127598	CC:					
<input type="checkbox"/>	Urgent	<input type="checkbox"/>	For Review	<input type="checkbox"/>	Please Comment	<input type="checkbox"/>	Please Reply

● Comments:

Final Project Report for 160 No. Washington Street/5384, Lab ID 127598,
Received 08-26-09

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Confidential

September 2, 2009

Mr. Marnin Feldman
PES Associates, Inc.
858 Washington St.
Suite 50
Dedham, MA 02026

LABORATORY REPORT

Project: **160 No. Washington Street/5384**
Lab ID: **127598**
Received: **08-26-09**

Dear Munch:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority turnaround.

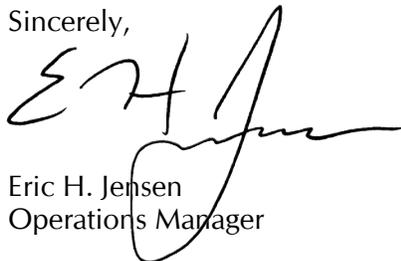
This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC or NVLAP standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Eric H. Jensen
Operations Manager

EHJ/elm
Enclosures

Sample Receipt Report

Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Lab ID: **127598**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **08-26-09**

Temperature: **4.7°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
127598-1	Influent	Aqueous	8/26/09 10:00	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H + B pH				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1133213	1L Plastic	Proline	BX32651	None	n/a	n/a	01-14-09	
C1104442	250 mL Plastic	Proline	BX31778	None	n/a	n/a	09-24-08	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
127598-2	Effluent	Aqueous	8/26/09 10:00	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H + B pH				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1133226	1L Plastic	Proline	BX32651	None	n/a	n/a	01-14-09	
C1057656	250 mL Plastic	Greenwood	BX29800	None	n/a	n/a	03-18-08	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
127598-3	Influent	Aqueous	8/26/09 10:00	EPA 608 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1176274	1 L Amber Glass	Proline	BX33510	None	n/a	n/a	n/a	
C1176266	1 L Amber Glass	Proline	BX33510	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
127598-4	Effluent	Aqueous	8/26/09 10:00	EPA 608 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1176268	1 L Amber Glass	Proline	BX33510	None	n/a	n/a	n/a	
C1176265	1 L Amber Glass	Proline	BX33510	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
127598-5	Influent	Aqueous	8/26/09 10:00	TPH by GC EPA 8015B Mod				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1195599	1 L Amber Glass	Proline	BX33397	H2SO4	n/a	n/a	n/a	
C1195590	1 L Amber Glass	Proline	BX33397	H2SO4	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
127598-6	Effluent	Aqueous	8/26/09 10:00	TPH by GC EPA 8015B Mod				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1195593	1 L Amber Glass	Proline	BX33397	H2SO4	n/a	n/a	n/a	
C1195589	1 L Amber Glass	Proline	BX33397	H2SO4	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
127598-7	Influent	Aqueous	8/26/09 10:00	EPA 200.7 Cu Fe Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1195215	250 mL Plastic	Proline	BX33219	HNO3	n/a	n/a	04-23-09	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
127598-8	Effluent	Aqueous	8/26/09 10:00	EPA 200.7 Cu Fe Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	Notes
C1195406	250 mL Plastic	Proline	BX33220	HNO3	R-5790D	04-03-09	04-23-09	

Inorganic Chemistry

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **08-26-09 18:00**

Lab ID: **127598-01** Sampled: **08-26-09 10:00** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	5	mg/L	3	2	330 mL	08-28-09 14:39	TSS-1665-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.02	1	5 mL	08-27-09 09:00	TRC-0805-W	SM 4500-Cl G	1	DEB
pH	7.1	pH	NA	1	50 mL	08-26-09 20:38	PH-2823-W	SM 4500-H+B	2	LJD

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

Inorganic Chemistry

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **08-26-09 18:00**

Lab ID: **127598-02** Sampled: **08-26-09 10:00** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	7	mg/L	2	1	500 mL	08-28-09 14:39	TSS-1665-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.02	1	5 mL	08-27-09 09:00	TRC-0805-W	SM 4500-Cl G	1	DEB
pH	7.3	pH	NA	1	50 mL	08-26-09 20:42	PH-2823-W	SM 4500-H+B	2	LJD

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

**EPA Method 608
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **127598-03**
 Sampled: **08-26-09 10:00**
 Received: **08-26-09 18:00**
 Extracted: **08-27-09 08:30**
 Cleaned Up: **08-27-09 12:00**
 Analyzed: **08-27-09 20:33**
 Analyst: **JJT**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2537-F**
 Instrument ID: **GC-13 Agilent 6890**
 Sample Weight: **1000 mL**
 Final Volume: **10 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260		BRL	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First	Tetrachloro- <i>m</i> -xylene	0.20	0.13	67 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.15	76 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	0.20	0.15	74 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.17	83 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 608
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **127598-04**
 Sampled: **08-26-09 10:00**
 Received: **08-26-09 18:00**
 Extracted: **08-27-09 08:30**
 Cleaned Up: **08-27-09 12:00**
 Analyzed: **08-27-09 20:57**
 Analyst: **JJT**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2537-F**
 Instrument ID: **GC-13 Agilent 6890**
 Sample Weight: **1000 mL**
 Final Volume: **10 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260		BRL	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First	Tetrachloro- <i>m</i> -xylene	0.20	0.17	84 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.14	71 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	0.20	0.18	90 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.15	77 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID:	Influent	Matrix:	Aqueous
Project:	160 No. Washington Street/5384	Container:	1 L Amber Glass
Client:	PES Associates, Inc.	Preservation:	H2SO4/ Cool/Cool
Laboratory ID:	127598-5	QC Batch ID:	HF-2148-F
Sampled:	08-26-09 10:00	Instrument ID:	GC4 HP 5890
Received:	08-26-09 18:00	Sample Volume:	1,000 mL
Extracted:	08-27-09 11:00	Final Volume:	1 mL
Analyzed:	08-27-09 20:52	Dilution Factor:	1
Analyst:	MB		

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	2.2		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.033	81 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **127598-6**
 Sampled: **08-26-09 10:00**
 Received: **08-26-09 18:00**
 Extracted: **08-27-09 11:00**
 Analyzed: **08-27-09 17:07**
 Analyst: **MB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool/Cool**
 QC Batch ID: **HF-2148-F**
 Instrument ID: **GC4 HP 5890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.033	82 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Trace Metals

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **08-26-09 10:00**

Laboratory ID: **127598-7**
 Sampled: **08-26-09 10:00**
 Received: **08-26-09 18:00**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.7 ¹	MB-3851-W	EPA 200.7	08-28-09 08:52	50 mL	ICP-1 PE 3000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper, Total	0.017		mg/L	0.004	1	08-31-09 20:49	EPA 200.7 ¹
7439-89-6	Iron, Total		BRL	mg/L	0.1	1	09-01-09 02:37	EPA 200.7 ¹
7439-92-1	Lead, Total	0.004		mg/L	0.001	1	09-01-09 23:44	EPA 200.7 ¹

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **127598-8**
 Sampled: **08-26-09 10:00**
 Received: **08-26-09 18:00**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **08-26-09 10:00**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7 ¹	MB-3851-W	EPA 200.7	08-28-09 08:52	50 mL	ICP-1 PE 3000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper, Total		BRL	mg/L	0.004	1	08-31-09 21:13	EPA 200.7 ¹
7439-89-6	Iron, Total		BRL	mg/L	0.1	1	09-01-09 03:01	EPA 200.7 ¹
7439-92-1	Lead, Total		BRL	mg/L	0.001	1	09-01-09 23:58	EPA 200.7 ¹

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Project Narrative

Project: **160 No. Washington Street/5384**
Client: **PES Associates, Inc.**

Lab ID: **127598**
Received: **08-26-09 18:00**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

- 1 . No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1 . pH Non-conformance: Samples 127598-1 and -2. pH analysis was not performed within 15 minutes of sample collection. Samples were analyzed shortly after receipt by the laboratory.

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

228 Main Street, P.O. Box 1200
Buzzards Bay, MA 02532
Telephone (508) 759-4441 • FAX (508) 759-4475
www.groundwateranalytical.com

GROUNDWATER ANALYTICAL

Project Name: (N Wash)
160 No. Washington St.
Project Number: 5384
Sampler Name: David Blackwell
Project Manager: Marnia Feldman
Address: PES Associates, Inc.
858 Washington St., Suite 50
City / State / Zip: Dedham, MA 02026
Telephone: (781) 407-7777

TURNAROUND
 10 Business Days
 5 Business Days
 RUSH (RAN - Rush requires Rush Authorization Number)
 Please Email to:
 Please FAX to:
BILLING
 Purchase Order No.:
 Third Party Billing:
 GWA Quote:

ANALYSIS REQUEST		Metals		Semi-Volatiles		Volatiles		Options		Petroleum Hydrocarbon		Hazard Waste		General Chemistry		Other			
DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME		
8/26/09	10:00A	8/26/09	10:00A	8/26/09	10:00A	8/26/09	10:00A	8/26/09	10:00A	8/26/09	10:00A	8/26/09	10:00A	8/26/09	10:00A	8/26/09	10:00A	8/26/09	10:00A

SAMPLING	SAMPLE IDENTIFICATION	MATRIX	TYPE	CONTAINER(S)	PRESERVATION		LABORATORY NUMBER (Lab Use Only)
					Method	Ice	
	Influent (Inf)	GROUNDWATER	COMPOSITE	42L / 42L	H2SO4	YES	
	Effluent (Eff)	GROUNDWATER	COMPOSITE	42L / 42L	H2SO4	YES	

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Relinquished by Sampler: <i>Judy Blackwell</i>	Date: 8/26/09	Time: 13:30
Relinquished by: <i>Alan Maddigan</i>	Date: 8/26/09	Time: 16:00
Relinquished by: <i>Alan Maddigan</i>	Date: 8/26/09	Time: 16:00

Receipt Temperature: 4.7 °C
 Container Count: 14
 Shipping/Airbill Number:
 Custody Seal Number:

DATA QUALITY OBJECTIVES

Project Specific QC
 Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. Each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Regulatory Program
 Standard Deliverables
 CT MCP GW-1/S-1 PWS Form
 ME MCP GW-2/S-2 MWRA
 MA NY STARS
 NH Drinking Water
 NY Wastewater
 RI Waste Disposal
 VT Dredge Material

Project Specific QC Required
 Selection of QC Sample
 Sample Duplicate
 Matrix Spike
 Matrix Spike Duplicate

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Sample**

Category: **EPA 8015B Mod TPH**
 QC Batch ID: **HF-2148-F**
 Matrix: **Aqueous**
 Units: **mg/L**

Instrument ID: **GC4 HP 5890**
 Extracted: **08-27-09 11:00**
 Analyzed: **08-27-09 18:08**
 Analyst: **MB**

Analyte	Spiked	Measured	Recovery	QC Limits
Fuel Oil No. 2	2.0	1.7	85 %	60 - 140 %

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.034	85 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA 8015B Mod TPH**
 QC Batch ID: **HF-2148-F**
 Matrix: **Aqueous**

Instrument ID: **GC4 HP 5890**
 Extracted: **08-27-09 11:00**
 Analyzed: **08-27-09 17:13**
 Analyst: **MB**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.036	89 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Sample**

Category: **Inorganic Chemistry**
Matrix: **Aqueous**

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	mg/L	80	66	83 %	80 - 120 %	08-28-09 14:39	TSS-1665-W	SM 2540 D	3	JR
Chlorine, Total Residual	mg/L	0.05	0.05	104 %	80 - 120 %	08-27-09 09:00	TRC-0805-W	SM 4500-Cl G	1	DEB
pH	pH	7.0	7.0	100 %	80 - 120 %	08-26-09 20:34	PH-2823-W	SM 4500-H+ B	2	LD

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Method Blank**

Category: **Inorganic Chemistry**

Matrix: **Aqueous**

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	2	08-28-09 14:39	TSS-1665-W	SM 2540 D	2	JR
Chlorine, Total Residual	BRL	mg/L	0.02	08-27-09 09:00	TRC-0805-W	SM 4500-Cl G	1	DEB

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

1 Instrument ID: Thermo Electron Genesys 20

2 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Laboratory Control Samples**

Category:	EPA 8082	LCS	Instrument ID:	GC-13 Agilent 6890	LCS D	Instrument ID:	GC-13 Agilent 6890
QC Batch ID:	PB-2537-F		Extracted:	08-27-09 08:30		Extracted:	08-27-09 08:30
Matrix:	Aqueous		Cleaned Up:	08-27-09 12:00		Cleaned Up:	08-27-09 12:00
Units:	ug/L		Analyzed:	08-27-09 18:58		Analyzed:	08-27-09 19:22
			Analyst:	JJT		Analyst:	JJT

CAS Number	Analyte	LCS						LCS Duplicate						QC Limits	
		Spiked	Measured		Recovery		Spiked	Measured		Recovery		RPD		Spike	RPD
			1st Col	2nd Col	1st Col	2nd Col		1st Col	2nd Col	1st Col	2nd Col	1st Col	2nd Col		
12674-11-2	Aroclor 1016	5.0	4.7	4.8	93%	96%	5.0	2.7	3.9	54%	77%	52 % q	22 %	40 - 140%	30 %
11096-82-5	Aroclor 1260	5.0	3.9	4.2	79%	84%	5.0	3.6	4.7	73%	95%	8 %	11 %	40 - 140%	30 %

QC Surrogate Compound	Surrogate Recovery												QC Limits	
Tetrachloro- <i>m</i> -xylene	0.20	0.17	0.17	87%	85%	0.20	0.10	0.14	51%	68%				30 - 150 %
Decachlorobiphenyl	0.20	0.16	0.17	80%	85%	0.20	0.16	0.18	78%	89%				30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

**Quality Control Report
Method Blank**

Category: **EPA Method 8082**
 QC Batch ID: **PB-2537-F**
 Matrix: **Aqueous**

Instrument ID: **GC-13 Agilent 6890**
 Extracted: **08-27-09 08:30**
 Cleaned Up: **08-27-09 12:00**
 Analyzed: **08-27-09 18:35**
 Analyst: **JJT**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.2
11104-28-2	Aroclor 1221	BRL		ug/L	0.2
11141-16-5	Aroclor 1232	BRL		ug/L	0.2
53469-21-9	Aroclor 1242	BRL		ug/L	0.2
12672-29-6	Aroclor 1248	BRL		ug/L	0.2
11097-69-1	Aroclor 1254	BRL		ug/L	0.2
11096-82-5	Aroclor 1260	BRL		ug/L	0.2
37324-23-5	Aroclor 1262 [†]	BRL		ug/L	0.2
11100-14-4	Aroclor 1268 [†]	BRL		ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.14	71 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.20	0.16	79 %	30 - 150 %
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.16	79 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.20	0.17	85 %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 † Non-target analyte. Result is based on a single mid-range calibration standard.

**Quality Control Report
Laboratory Control Sample**

Category: **Metals**
Matrix: **Aqueous**
Units: **mg/L**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-3851-WL	EPA 200.7	08-28-09 08:52	ICP-1 PE 3000	MFP

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits	Analyzed	Method
7440-50-8	Copper	1.0	0.96	96 %	85-115 %	08-31-09 20:38	EPA 200.7
7439-89-6	Iron	5.0	5.2	105 %	85-115 %	09-01-09 02:25	EPA 200.7
7439-92-1	Lead	5.0	5.4	108 %	85-115 %	09-01-09 23:32	EPA 200.7

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Aqueous**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-3851-WB	EPA 200.7	08-28-09 08:52	50 mL	ICP-1 PE 3000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper		BRL	mg/L	0.004	1	08-31-09 20:34	EPA 200.7
7439-89-6	Iron		BRL	mg/L	0.1	1	09-01-09 02:22	EPA 200.7
7439-92-1	Lead		BRL	mg/L	0.001	1	09-01-09 23:28	EPA 200.7

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT

Department of Health Services, PH-0586 Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 Potable Water and Non-Potable Water
<http://public.dep.state.ma.us/labcert/labcert.aspx>

Department of Labor, Asbestos Analytical Services, Class A
Division of Occupational Safety, AA000195
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 Potable Water, Non-Potable Water, Solid and Chemical Materials
<http://www4.egov.nh.gov/DES/NHELAP>

NEW YORK

Department of Health, 11754 Potable Water, Non-Potable Water, Solid and Hazardous Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

RHODE ISLAND

Department of Health, Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
Division of Laboratories, LAO00054
<http://www.health.ri.gov/labs/outofstatelabs.pdf>

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 Foreign soil import permit

VERMONT

Department of Health, VT-87643 Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	EC-MUG SM 9221-F
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Lead	EPA 200.9
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Thallium	EPA 200.9
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	Lachat 10-303-31-1-A
Alpha-BHC	EPA 608
Aluminum	EPA 200.7
Aluminum	EPA 200.8

Non-Potable Water (Wastewater)

Analyte	Method
Ammonia-N	Lachat 10-107-06-1-B
Antimony	EPA 200.7
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Copper	EPA 200.9
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Fluoride	EPA 300.0
Gamma-BHC	EPA 608
Hardness (CaCO3), Total	EPA 200.7
Hardness (CaCO3), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Lead	EPA 200.9
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nickel	EPA 200.9
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

Certifications and Approvals

MASSACHUSETTS**Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Thallium	EPA 200.9
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

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FAX: (508) 759-4475

**GROUNDWATER
ANALYTICAL**

e-mail

To: Marnin Feldman
From: e-mail reporting GWA
PES Associates
Pages: 25
e-mail: mfeld@hotmail.com
Date: 09/30/2009 17:05:28
Re: 128249
CC:

Urgent For Review Please Comment Please Reply

● Comments:

Final Project Report for 160 No. Washington Street/5384, Lab ID 128249,
Received 09-23-09

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Confidential

September 30, 2009

Mr. Marnin Feldman
PES Associates, Inc.
858 Washington St.
Suite 50
Dedham, MA 02026

LABORATORY REPORT

Project: **160 No. Washington Street/5384**
Lab ID: **128249**
Received: **09-23-09**

Dear Munch:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC or NVLAP standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

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

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Karyn E. Raymond
Project Manager

KER/elm
Enclosures

Sample Receipt Report

Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Lab ID: **128249**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **09-23-09**

Temperature: **5.8°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
128249-1	Influent	Aqueous	9/23/09 13:15	EPA 200.7 Cu Fe Total EPA 200.8 Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1148231	250 mL Plastic	Proline	BX31623	HNO3	R-5613C	10-03-08	11-06-08	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
128249-2	Effluent	Aqueous	9/23/09 13:15	EPA 200.7 Cu Fe Total EPA 200.8 Pb Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1150390	250 mL Plastic	Proline	BX31376	HNO3	R-5613C	09-18-08	11-06-08	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
128249-3	Influent	Aqueous	9/23/09 13:15	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H + B pH				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C798622	250 mL Plastic	Proline	BX19868	None	n/a	n/a	02-07-06	
C1133199	1L Plastic	Proline	BX32651	None	n/a	n/a	01-14-09	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
128249-4	Effluent	Aqueous	9/23/09 13:15	SM 4500-Cl G Total Residual Chlorine SM 2540 D Total Suspended Solids SM 4500-H + B pH				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C538020	250 mL Plastic	Greenwood	BX15976	None	n/a	n/a	03-21-05	
C1133222	1L Plastic	Proline	BX32651	None	n/a	n/a	01-14-09	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
128249-5	Influent	Aqueous	9/23/09 13:15	EPA 608 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1176272	1 L Amber Glass	Proline	BX33510	None	n/a	n/a	n/a	
C1176269	1 L Amber Glass	Proline	BX33510	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
128249-6	Effluent	Aqueous	9/23/09 13:15	EPA 608 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1176275	1 L Amber Glass	Proline	BX33510	None	n/a	n/a	n/a	
C1176264	1 L Amber Glass	Proline	BX33510	None	n/a	n/a	n/a	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
128249-7	Influent	Aqueous	9/23/09 13:15	TPH by GC EPA 8015B Mod				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1136967	1 L Amber Glass	Proline	BX31917	H2SO4	n/a	n/a	11-06-08	
C1136961	1 L Amber Glass	Proline	BX31917	H2SO4	n/a	n/a	11-06-08	

Lab ID	Field ID	Matrix	Sampled	Method	Notes			
128249-8	Effluent	Aqueous	9/23/09 13:15	TPH by GC EPA 8015B Mod				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship	
C1136971	1 L Amber Glass	Proline	BX31917	H2SO4	n/a	n/a	11-06-08	
C1136960	1 L Amber Glass	Proline	BX31917	H2SO4	n/a	n/a	11-06-08	

Trace Metals

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **128249-1**
 Sampled: **09-23-09 13:15**
 Received: **09-23-09 16:30**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **09-23-09 13:15**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.7 ¹	MB-3876-W	EPA 200.7	09-25-09 00:00	50 mL	ICP-1 PE 3000	MFP
EPA 200.8 ²	MB-3876-W	EPA 200.8	09-25-09 00:00	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper, Total	0.013		mg/L	0.004	1	09-25-09 23:15	EPA 200.7 ¹
7439-89-6	Iron, Total	BRL		mg/L	0.1	1	09-28-09 21:52	EPA 200.7 ¹
7439-92-1	Lead, Total	BRL		mg/L	0.001	1	09-29-09 00:00	EPA 200.8 ²

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Trace Metals

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **128249-2**
 Sampled: **09-23-09 13:15**
 Received: **09-23-09 16:30**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **09-23-09 13:15**

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.7 ¹	MB-3876-W	EPA 200.7	09-25-09 00:00	50 mL	ICP-1 PE 3000	MFP
EPA 200.8 ²	MB-3876-W	EPA 200.8	09-25-09 00:00	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper, Total	0.004		mg/L	0.004	1	09-25-09 23:19	EPA 200.7 ¹
7439-89-6	Iron, Total	BRL		mg/L	0.1	1	09-28-09 21:56	EPA 200.7 ¹
7439-92-1	Lead, Total	BRL		mg/L	0.001	1	09-29-09 00:00	EPA 200.8 ²

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
 DF Dilution Factor.

Inorganic Chemistry

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **09-23-09 16:30**

Lab ID: **128249-03** Sampled: **09-23-09 13:15** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	12	mg/L	2	1	500 mL	09-25-09 09:18	TSS-1679-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.02	1	5 mL	09-24-09 09:00	TRC-0809-W	SM 4500-Cl G	1	DEB
pH	7.1	pH	NA	1	50 mL	09-23-09 20:51	PH-2837-W	SM 4500-H+B	2	LJD

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

Inorganic Chemistry

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **09-23-09 16:30**

Lab ID: **128249-04** Sampled: **09-23-09 13:15** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	7	mg/L	2	1	500 mL	09-25-09 09:18	TSS-1679-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.02	1	5 mL	09-24-09 09:00	TRC-0809-W	SM 4500-Cl G	1	DEB
pH	7.1	pH	NA	1	50 mL	09-23-09 20:52	PH-2837-W	SM 4500-H+B	2	LJD

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations:

- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- RL Reporting Limit.
- DF Dilution Factor.
- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

**EPA Method 608
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **128249-05**
 Sampled: **09-23-09 13:15**
 Received: **09-23-09 16:30**
 Extracted: **09-29-09 10:00**
 Cleaned Up: **09-29-09 17:00**
 Analyzed: **09-29-09 18:21**
 Analyst: **AWG**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2541-F**
 Instrument ID: **GC-11 Agilent 6890**
 Sample Weight: **1000 mL**
 Final Volume: **10 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260	0.6	2C (0.57)*	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.13	64 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.20	0.21	104 %	30 - 150 %
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.13	64 %	30 - 150 %
Second Column	Decachlorobiphenyl	0.20	0.20	100 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986). Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 608
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **Effluent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **128249-06**
 Sampled: **09-23-09 13:15**
 Received: **09-23-09 16:30**
 Extracted: **09-29-09 10:00**
 Cleaned Up: **09-29-09 17:00**
 Analyzed: **09-29-09 19:08**
 Analyst: **AWG**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2541-F**
 Instrument ID: **GC-11 Agilent 6890**
 Sample Weight: **1000 mL**
 Final Volume: **10 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016		BRL	ug/L	0.2
11104-28-2	Aroclor 1221		BRL	ug/L	0.2
11141-16-5	Aroclor 1232		BRL	ug/L	0.2
53469-21-9	Aroclor 1242		BRL	ug/L	0.2
12672-29-6	Aroclor 1248		BRL	ug/L	0.2
11097-69-1	Aroclor 1254		BRL	ug/L	0.2
11096-82-5	Aroclor 1260		BRL	ug/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First	Tetrachloro- <i>m</i> -xylene	0.20	0.16	79 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.22	108 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	0.20	0.16	80 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.21	105 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID: **Influent**
 Project: **160 No. Washington Street/5384**
 Client: **PES Associates, Inc.**
 Laboratory ID: **128249-7**
 Sampled: **09-23-09 13:15**
 Received: **09-23-09 16:30**
 Extracted: **09-29-09 13:00**
 Analyzed: **09-29-09 23:55**
 Analyst: **MB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **HF-2155-F**
 Instrument ID: **GC4 HP 5890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	0.4		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.035	88 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**EPA Method 8015B (Modified)
Total Petroleum Hydrocarbons by GC/FID**

Field ID:	Effluent	Matrix:	Aqueous
Project:	160 No. Washington Street/5384	Container:	1 L Amber Glass
Client:	PES Associates, Inc.	Preservation:	H2SO4/ Cool
Laboratory ID:	128249-8	QC Batch ID:	HF-2155-F
Sampled:	09-23-09 13:15	Instrument ID:	GC4 HP 5890
Received:	09-23-09 16:30	Sample Volume:	1,000 mL
Extracted:	09-29-09 13:00	Final Volume:	1 mL
Analyzed:	09-30-09 01:44	Dilution Factor:	1
Analyst:	MB		

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.035	86 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

Project Narrative

Project: **160 No. Washington Street/5384**
Client: **PES Associates, Inc.**

Lab ID: **128249**
Received: **09-23-09 16:30**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

- 1 . No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

- 1 . pH Non-conformance: Samples 128249-3 and -4. pH analysis was not performed within 15 minutes of sample collection. Samples were analyzed shortly after receipt by the laboratory.

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

**Quality Control Report
Laboratory Control Sample**

Category: **EPA 8015B Mod TPH**
 QC Batch ID: **HF-2155-F**
 Matrix: **Aqueous**
 Units: **mg/L**

Instrument ID: **GC4 HP 5890**
 Extracted: **09-29-09 13:00**
 Analyzed: **09-30-09 00:55**
 Analyst: **MB**

Analyte	Spiked	Measured	Recovery	QC Limits
Fuel Oil No. 2	2.0	1.7	85 %	60 - 140 %

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.036	89 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA 8015B Mod TPH**
 QC Batch ID: **HF-2155-F**
 Matrix: **Aqueous**

Instrument ID: **GC4 HP 5890**
 Extracted: **09-29-09 13:00**
 Analyzed: **09-30-09 00:01**
 Analyst: **MB**

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	BRL		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
<i>ortho</i> -Terphenyl	0.040	0.036	91 %	60 - 140 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified to quantify total petroleum hydrocarbons in the range n-C 9 through n-C 36. Results are quantified on the basis of a series of aromatic and aliphatic hydrocarbons, using 5-alpha-androstane as an internal standard.
 Sample extraction performed by EPA Method 3510C.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Sample**

Category: **Inorganic Chemistry**
Matrix: **Aqueous**

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	mg/L	80	64	81 %	80 - 120 %	09-25-09 09:18	TSS-1679-W	SM 2540 D	3	JR
Chlorine, Total Residual	mg/L	0.05	0.06	110 %	80 - 120 %	09-24-09 09:00	TRC-0809-W	SM 4500-Cl G	1	DEB
pH	pH	7.0	7.0	101 %	80 - 120 %	09-23-09 12:10	PH-2837-W	SM 4500-H+ B	2	LD

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

- 1 Instrument ID: Thermo Electron Genesys 20
- 2 Instrument ID: Accumet AR50
- 3 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Method Blank**

Category: **Inorganic Chemistry**

Matrix: **Aqueous**

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	2	09-25-09 09:18	TSS-1679-W	SM 2540 D	2	JR
Chlorine, Total Residual	BRL	mg/L	0.02	09-24-09 09:00	TRC-0809-W	SM 4500-Cl G	1	DEB

Method Reference: Methods for Chemical Analysis of Water and Wastes, US EPA, EPA-600/4-790-020 (Revised 1983), and Methods for the Determination of Inorganic Substances in Environmental Samples, US EPA, EPA/600/R-93/100 (1993), and Standard Methods for the Examination of Water and Wastewater, APHA, Twentieth Edition (1998), and Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

RL Reporting Limit.

1 Instrument ID: Thermo Electron Genesys 20

2 Instrument ID: Mettler AT 200 Balance

**Quality Control Report
Laboratory Control Sample**

Category: **EPA Method 608 PCBs**
 QC Batch ID: **PB-2541-F**
 Matrix: **Aqueous**
 Units: **ug/L**

Instrument ID: **GC-11 Agilent 6890**
 Extracted: **09-29-09 10:00**
 Cleaned Up: **09-29-09 17:00**
 Analyzed: **09-29-09 17:57**
 Analyst: **AWG**

CAS Number	Analyte	Spiked	Measured		Recovery		QC Limits
			1st Column	2nd Column	1st Column	2nd Column	
12674-11-2	Aroclor 1016	5.0	4.9	4.8	97 %	95 %	40 - 140 %
11096-82-5	Aroclor 1260	5.0	5.0	4.8	100 %	96 %	40 - 140 %

QC Surrogate Compound	Spiked	Measured		Recovery		QC Limits
Tetrachloro- <i>m</i> -xylene	0.20	0.16	0.17	79 %	84 %	30 - 150 %
Decachlorobiphenyl	0.20	0.23	0.22	113 %	112 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **EPA Method 608 PCBs**
 QC Batch ID: **PB-2541-F**
 Matrix: **Aqueous**

Instrument ID: **GC-11 Agilent 6890**
 Extracted: **09-29-09 10:00**
 Cleaned Up: **09-29-09 17:00**
 Analyzed: **09-29-09 17:10**
 Analyst: **AWG**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.20
11104-28-2	Aroclor 1221	BRL		ug/L	0.20
11141-16-5	Aroclor 1232	BRL		ug/L	0.20
53469-21-9	Aroclor 1242	BRL		ug/L	0.20
12672-29-6	Aroclor 1248	BRL		ug/L	0.20
11097-69-1	Aroclor 1254	BRL		ug/L	0.20
11096-82-5	Aroclor 1260	BRL		ug/L	0.20
QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits	
First Column	Tetrachloro- <i>m</i> -xylene	0.20	0.14	70 %	30 - 150 %
	Decachlorobiphenyl	0.20	0.22	112 %	30 - 150 %
Second Column	Tetrachloro- <i>m</i> -xylene	0.20	0.16	78 %	30 - 150 %
	Decachlorobiphenyl	0.20	0.21	106 %	30 - 150 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).
 Sample extraction performed by EPA Method 3510C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

**Quality Control Report
Laboratory Control Sample**

Category: **Metals**
 Matrix: **Aqueous**
 Units: **mg/L**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-3876-WL	EPA 200.7	09-25-09 00:00	ICP-1 PE 3000	MFP
EPA 200.8	MB-3876-WL	EPA 200.8	09-25-09 00:00	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits	Analyzed	Method
7440-50-8	Copper	1.0	1.0	102 %	85-115 %	09-25-09 22:36	EPA 200.7
7439-89-6	Iron	5.0	5.3	105 %	85-115 %	09-28-09 21:29	EPA 200.7
7439-92-1	Lead	0.050	0.048	96 %	85-115 %	09-29-09 00:00	EPA 200.8

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

**Quality Control Report
Method Blank**

Category: **Metals**
Matrix: **Aqueous**

<u>Analysis Method</u>	<u>QC Batch ID</u>	<u>Prep Method</u>	<u>Prepared</u>	<u>Sample Volume</u>	<u>Instrument ID</u>	<u>Analyst</u>
EPA 200.7	MB-3876-WB	EPA 200.7	09-25-09 00:00	50 mL	ICP-1 PE 3000	MFP
EPA 200.8	MB-3876-WB	EPA 200.8	09-25-09 00:00	50 mL	ICPMS-1 ELAN 9000	MFP

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-50-8	Copper		BRL	mg/L	0.004	1	09-25-09 22:32	EPA 200.7
7439-89-6	Iron		BRL	mg/L	0.1	1	09-28-09 21:25	EPA 200.7
7439-92-1	Lead		BRL	mg/L	0.005	1	09-29-09 00:00	EPA 200.8

Method Reference: Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
DF Dilution Factor.

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states. Copies of our current certificates may be obtained from our website:

<http://www.groundwateranalytical.com/qualifications.htm>

CONNECTICUT

Department of Health Services, PH-0586 Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 Potable Water and Non-Potable Water
<http://public.dep.state.ma.us/labcert/labcert.aspx>

Department of Labor, Asbestos Analytical Services, Class A
Division of Occupational Safety, AA000195
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 Potable Water, Non-Potable Water, Solid and Chemical Materials
<http://www4.egov.nh.gov/DES/NHELAP>

NEW YORK

Department of Health, 11754 Potable Water, Non-Potable Water, Solid and Hazardous Waste
<http://www.wadsworth.org/labcert/elap/comm.html>

RHODE ISLAND

Department of Health, Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
Division of Laboratories, LAO00054
<http://www.health.ri.gov/labs/outofstatelabs.pdf>

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 Foreign soil import permit

VERMONT

Department of Health, VT-87643 Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

Certifications and Approvals

MASSACHUSETTS

Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	EC-MUG SM 9221-F
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Lead	EPA 200.9
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Thallium	EPA 200.9
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	Lachat 10-303-31-1-A
Alpha-BHC	EPA 608
Aluminum	EPA 200.7
Aluminum	EPA 200.8

Non-Potable Water (Wastewater)

Analyte	Method
Ammonia-N	Lachat 10-107-06-1-B
Antimony	EPA 200.7
Antimony	EPA 200.8
Antimony	EPA 200.9
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Arsenic	EPA 200.9
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Copper	EPA 200.9
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Fluoride	EPA 300.0
Gamma-BHC	EPA 608
Hardness (CaCO3), Total	EPA 200.7
Hardness (CaCO3), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Lead	EPA 200.9
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nickel	EPA 200.9
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

Certifications and Approvals

MASSACHUSETTS**Department of Environmental Protection, M-MA-103**

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Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Selenium	EPA 200.9
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Thallium	EPA 200.9
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8