



December 6, 2010

U.S. Environmental Protection Agency
5 Post Office Square
Suite 100
Mail Code OE106-4
Boston, MA 02109-3912

Attn: Remediation General Permit NOI Processing

Re: 2010 RGP NOI
Shaw's Plaza Site
700-800 South Main Street
Sharon, Massachusetts
RTN 4-0414

Dear Sir / Madam:

On Behalf of Sharon Retail Partners, LLC, *PES Associates, Inc.* is seeking coverage under the US Environmental Protection Agency's newly promulgated 2010 National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) for wastewater discharge from the Shaw's Plaza Site located at 700-800 South Main Street in Sharon, Massachusetts (the "Site"). Discharge of remedial wastewater at the Site was formerly conducted under NPDES permit exclusion letter #MA 03I-142 (Update) issued on December 4, 2003 & 2005 RGP MAG910109.

In accordance with the instructions set forth in Appendix V of the RGP, general facility/site information is included in Section 1 of NOI. A Locus Map illustrating the location of the Site relative to regional features is included as Figure 1. Discharge information is included in Section 2, and a Process Flow Diagram and Site Plan illustrating the single outfall location are included as Figure 2 and 3, respectively. A MassDEP Site Scoring Map is also attached.

The potential discharge has been determined to fall within the "VOC Only" category under the RGP.

Treatment system information is included in Section 4, and can be summarized as follows: groundwater from one (1) overburden recovery well is pumped through an air stripper where dissolved-phase volatile organic compounds are volatilized and released to the atmosphere. The treated effluent is discharged through a 4-inch drain line to a catch basin located southeast of the

Shaw's Plaza building; the effluent then flows southwest to Billings Brook, a tributary of the Rumford River, located at the western edge of the Site. Receiving water information is included in Section 5 of the NOI.

If you have any question or require additional information, please contact the undersigned at (781) 407-7777.

Sincerely,
PES Associates, Inc.

A handwritten signature in blue ink, appearing to read "Marnin Feldman", with a long horizontal flourish extending to the right.

Marnin Feldman
Senior Project Manager

Enclosures

Cc: Jeffrey Worthe – Sharon Retail Partners, LLC
Benjamin Puritz – Town Administrator, Sharon, MA
MADEP – Division of Watershed Management
627 Main St, 2nd Floor, Worcester, MA 01608
MADEP – SERO
20 Riverside Drive, Lakeville, MA 02347

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): 5411, 5912 6021, 8351	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:

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

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y___ N___
 If Y, please list:
 1. site identification # assigned by the state of NH or MA: _____
 2. permit or license # assigned: _____
 3. state agency contact information: name, location, and telephone number:

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

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

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

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

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

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



Source = "Resource Controls"



NORTH

Project #6017



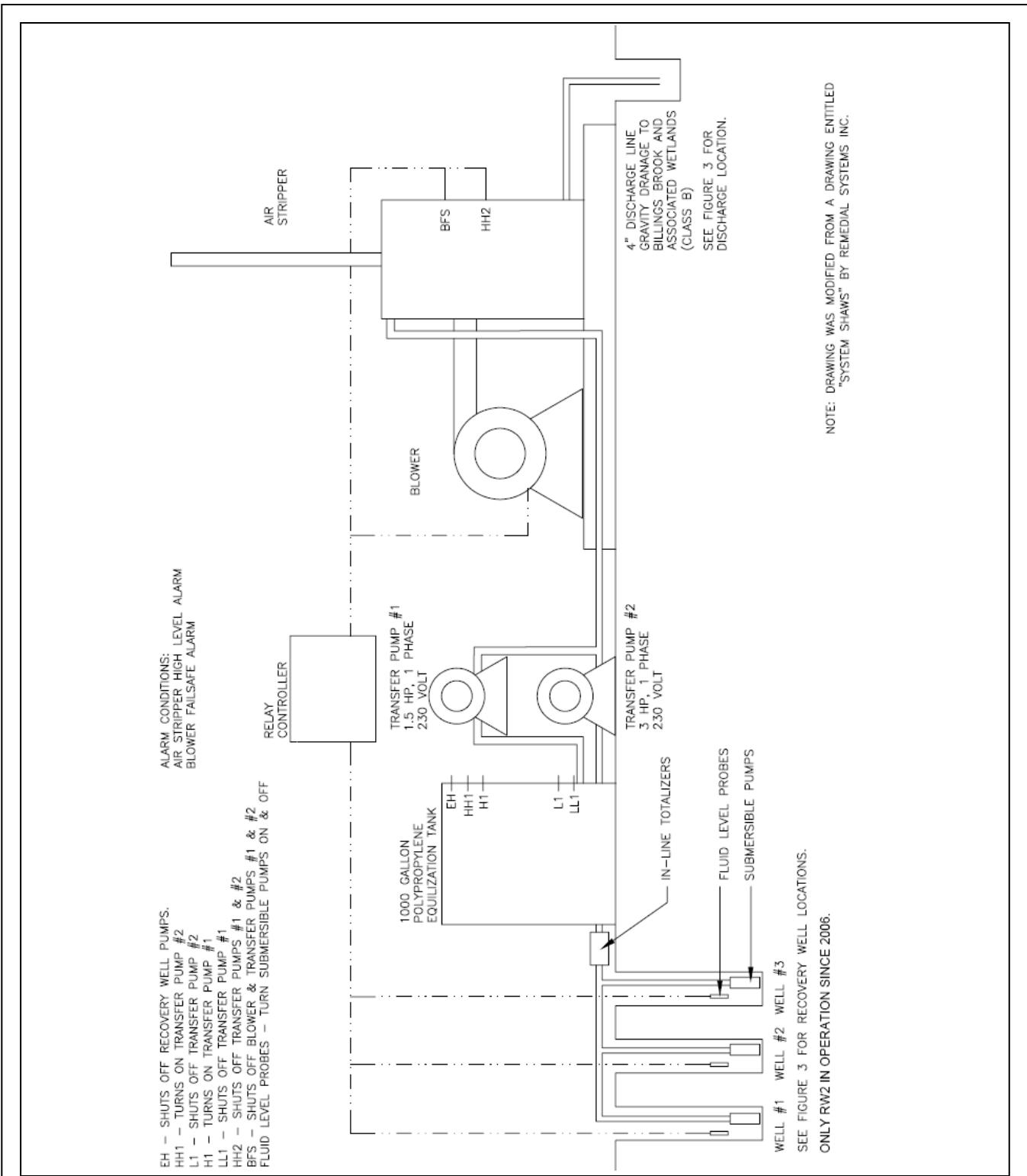
858 WASHINGTON STREET
 DEDHAM, MA 02026
 781.407.7777 781.407.0007 FAX

Locus Map

**700 - 800 South Main Street
 Sharon, Massachusetts**

Figure

1



NOTE: DRAWING WAS MODIFIED FROM A DRAWING ENTITLED "SYSTEM SHAW'S" BY REMEDIAL SYSTEMS INC.

Source = "Resource Controls"



Project #6017

PES ASSOCIATES

858 WASHINGTON STREET
 DEDHAM, MA 02026
 781.407.7777 781.407.0007FAX

Process Flow Diagram

700 - 800 South Main Street
Sharon, Massachusetts

Figure

2



LEGEND

- Monitoring Well
- Shoreline
- Hydrologic Connection
- Mean Low Water Line
- Wetland Limit
- Closure Line
- Marsh/Bog
- Wooded Marsh
- Cranberry Bog
- Salt Marsh
- Open Water
- Reservoir (with PWSID)
- Tidal Flats
- Beach/Dune

Source = "Resource Controls"



NORTH

Project #6017



858 WASHINGTON STREET
 DEDHAM, MA 02026
 781.407.7777 781.407.0007FAX

Site Plan

**700 - 800 South Main Street
 Sharon, Massachusetts**

Figure

3

MA DEP - Bureau of Waste Site Cleanup

SITE NAME:

Shaws Plaza RTN 04 00414
700 to 800 South Main Street
Sharon, MA 02067
NAD83 Coordinates: 871554 223211

Site Scoring Map: 500 feet & 0.5 Mile Radii

Site Location

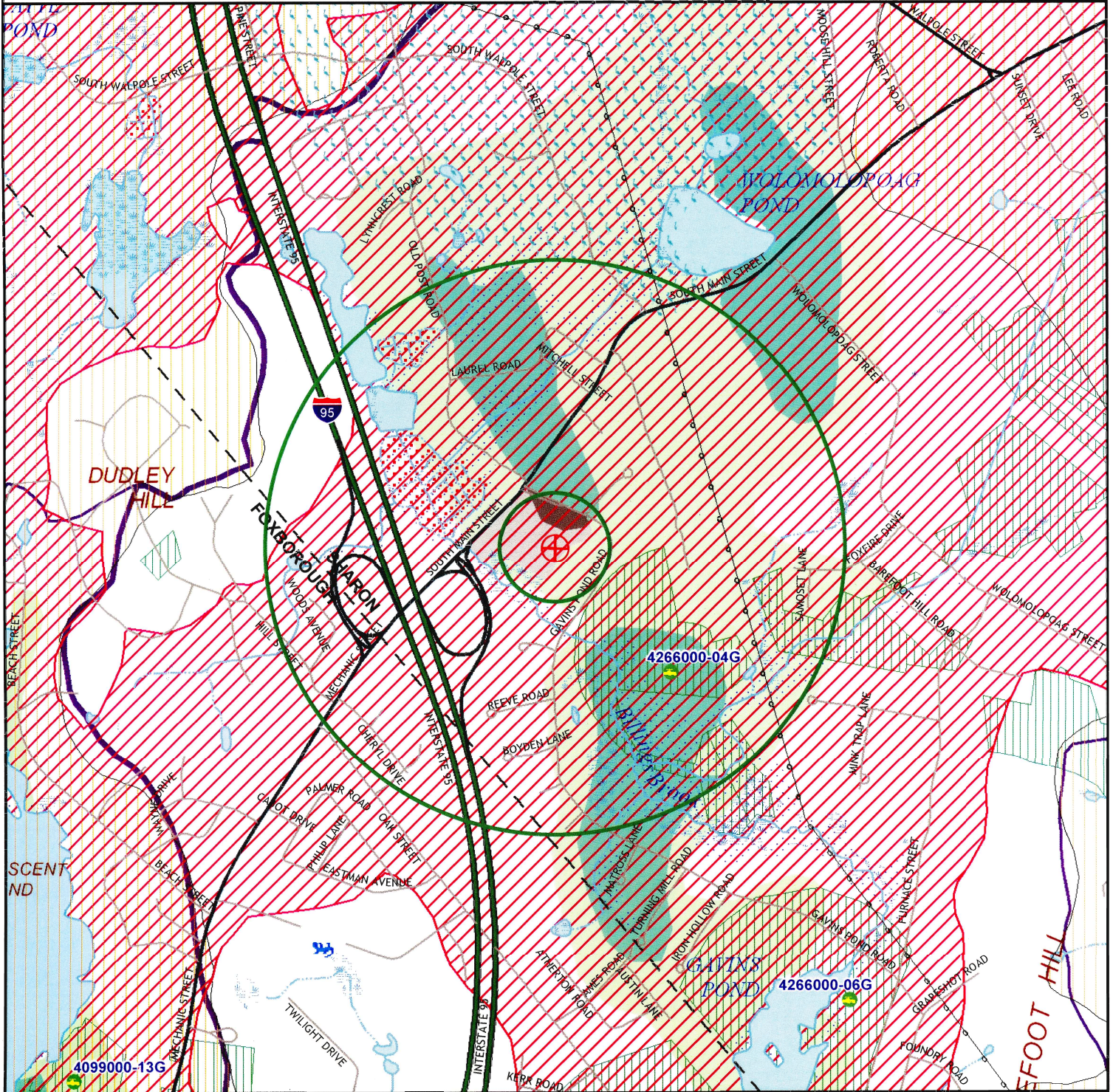


The information shown on this map is the best available at the date of printing. Please refer to the data source descriptions document.



Massachusetts Executive Office of Energy & Environmental Affairs

Office of Geographic and Environmental Information



SCALE 1:15,000

Roads: Limited Access, Divided, Major Road, Connector, Street, Track, Trail	EPA Sole Source Aquifer; FEMA 100-year floodplain	
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct	Public Water Supplies: Ground, Surface, Non Community	
Basins: Major, Sub; Streams: Perennial, Intermittent, Man Made Shore, Dams	Approved Zone 2; IWPA; Surface Water Supply Zone A	
Potentially Productive Aquifers: Medium, High Yield	Hydrography: Open Water, Reservoir, Tidal Flat	
Non-Potential Drinking Water Source Area: Medium, High Yield	Wetlands: Fresh, Salt, NHESP Wetlands Habitat	
	Cranberry Bog; Protected Open Space; ACEC	
	DEP Permitted Solid Waste Facilities; Certified Vernal Pools	

0 0.5 0.5 1 Miles
0 0.5 1 Kilometers

November 15, 2007



Massachusetts StreamStats

Streamstats Ungaged Site Report

Date: Mon Oct 4 2010 11:30:06 Mountain Daylight Time
 Site Location: Massachusetts
 NAD27 Latitude: 42.0926 (42 05 33)
 NAD27 Longitude: -71.2206 (-71 13 14)
 NAD83 Latitude: 42.0927 (42 05 34)
 NAD83 Longitude: -71.2201 (-71 13 12)
 ReachCode: 01090004001502
 Measure: 78.47
 Drainage Area: 1.29 mi2

Low Flows Basin Characteristics

100% Statewide Low Flow (1.29 mi2)

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	1.29 (below min value 1.61)	1.61	149
Mean Basin Slope from 250K DEM (percent)	3.11	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.25	0	1.29
Massachusetts Region (dimensionless)	0	0	1

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

Probability of Perennial Flow Basin Characteristics

100% Perennial Flow Probability (1.29 mi2)

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	1.29	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	72.05	0	100
Percent Forest (percent)	66.16	0	100
Massachusetts Region (dimensionless)	0	0	1

Low Flows Streamflow Statistics

Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
D50	1.24				
D60	0.88				
D70	0.55				
D75	0.43				
D80	0.4				
D85	0.29				
D90	0.24				
D95	0.13				
D98	0.0837				
D99	0.0594				
M7D2Y	0.13				
AUGD50	0.31				
M7D10Y	0.0559				

The equation for estimating the probability of perennial flow is applicable for most areas of Massachusetts except eastern Buzzards Bay, Cape Cod, and the Island regions. The estimate obtained from the equation assumes natural flow conditions at the site. The equation also is best used for sites with drainage areas between 0.01 to 1.99 mi2, as errors beyond for basins beyond these bounds are unknown.

Probability of Perennial Flow Statistics

Statistic	Value	Standard Error (percent)
PROBPEREN	0.91	0.4

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES
IN MASSACHUSETTS**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Taunton
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague
	Dwarf wedgemussel	Endangered	Mill River	Whately
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hadley, Hatfield, Amherst and Northampton
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoissett
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoissett.
Suffolk	Piping Plover	Threatened	Coastal Beaches	Winthrop
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster

- Eastern cougar and gray wolf are considered extirpated in Massachusetts.
- Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
- Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

Revised 06/22/2009

Endangered Species and Remediation General Permit

From: **Julie Crocker** (Julie.Crocker@Noaa.Gov)

Sent: Mon 10/11/10 9:41 PM

To: mfeld@hotmail.com

1 attachment

Julie_Crocker.vcf (0.3 KB)

This is to confirm that there are no species listed by NOAA's National Marine Fisheries Service in the vicinity of 700 Main St. in Sharon, MA or in Billings Brook. NMFS letter dated October 31, 2005 to Resource Controls remains valid.

Julie Crocker
NMFS Protected Resources Division

Mr. Feldman,

The plaza at 700 Main St in Sharon, Ma, and the immediately adjacent section of Billings Brook, is not currently mapped as Priority Habitat for state-listed species. Therefore, any project at this site does not require a review pursuant to the Massachusetts Endangered Species Act.

Best,
Emily

Emily Holt | Endangered Species Review Assistant
Natural Heritage & Endangered Species Program
MA Division of Fisheries & Wildlife
One Rabbit Hill Road | Westborough, MA 01581
ph. (508) 389-6361 | fax. (508) 389-7891
www.nhesp.org

From: m f [mailto:mfeld@hotmail.com]
Sent: Tuesday, October 05, 2010 1:14 PM
To: Holt, Emily (FWE)
Subject:

Emily

thx for your help.

Would appreciate quick email as you advised that 700 Main St., Sharon, MA and adjacent Billings Brook is not priority habitat for state endangered species.

Marnin Feldman

Marnin Feldman
Senior Project Manager
PES Associates
858 Washington Street
Dedham, MA 02026
Phone: 781-407-7777
Fax : 781-407-0007
Cell-617-834-4108
Home Office -978-774-6119
Home Office Fax 978-304-0512

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: Chuck White
From: e-mail reporting GWA

PES Associates
Pages: 46

e-mail: mfeld@hotmail.com
Date: 11/29/2010 15:05:50

Re: 137473
CC:

Urgent For Review Please Comment Please Reply

● Comments:

Final Project Report for Shaws/Sharon/6017, Lab ID 137473, Received
10-29-10

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Confidential

November 29, 2010

Mr. Chuck White
PES Associates, Inc.
858 Washington St.
Suite 50
Dedham, MA 02026

LABORATORY REPORT

Project: **Shaws/Sharon/6017**
Lab ID: **137473**
Received: **10-29-10**

Dear Chuck:

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 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

KER/elm
Enclosures

Sample Receipt Report

Project: **Shaws/Sharon/6017**
 Client: **PES Associates, Inc.**
 Lab ID: **137473**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **10-29-10**

Temperature: **2.3°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137473-1	EFF		Aqueous	10/29/10 10:30	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1287041	40 mL VOA Vial	Scientific Specialist Service	BX37104	HCL	R-5915D	07-23-10	n/a		
C1287017	40 mL VOA Vial	Scientific Specialist Service	BX37104	HCL	R-5915D	07-23-10	n/a		
C1287006	40 mL VOA Vial	Scientific Specialist Service	BX37104	HCL	R-5915D	07-23-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137473-2	INF		Aqueous	10/29/10 10:45	EPA 8260B Volatile Organics with Oxygenates				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1287065	40 mL VOA Vial	Scientific Specialist Service	BX37104	HCL	R-5915D	07-23-10	n/a		
C1287054	40 mL VOA Vial	Scientific Specialist Service	BX37104	HCL	R-5915D	07-23-10	n/a		
C1287030	40 mL VOA Vial	Scientific Specialist Service	BX37104	HCL	R-5915D	07-23-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137473-3	EFF		Aqueous	10/29/10 10:30	EPA 8270C Semivolatile Organics (Low Level)				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1248962	1 L Amber Glass	Proline	BX35507	None	n/a	n/a	n/a		
C1248956	1 L Amber Glass	Proline	BX35507	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137473-4	INF		Aqueous	10/29/10 10:45	EPA 8270C Semivolatile Organics (Low Level)				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1248964	1 L Amber Glass	Proline	BX35507	None	n/a	n/a	n/a		
C1248958	1 L Amber Glass	Proline	BX35507	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137473-5	EFF		Aqueous	10/29/10 10:30	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1248961	1 L Amber Glass	Proline	BX35507	None	n/a	n/a	n/a		
C1248957	1 L Amber Glass	Proline	BX35507	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137473-6	INF		Aqueous	10/29/10 10:45	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1248967	1 L Amber Glass	Proline	BX35507	None	n/a	n/a	n/a		
C1248959	1 L Amber Glass	Proline	BX35507	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137473-7	EFF		Aqueous	10/29/10 10:30	EPA 6010B Fe Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1280268	250 mL Plastic	Scientific Specialist Service	BX37069	HNO3	R-6113E	07-08-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137473-8	INF		Aqueous	10/29/10 10:45	EPA 6010B Fe Total				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1280225	250 mL Plastic	Scientific Specialist Service	BX37069	HNO3	R-6113E	07-08-10	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137473-9	EFF		Aqueous	10/29/10 10:30	TPH by GC EPA 8015B Mod				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1225187	1 L Amber Glass	Proline	BX35520	H2SO4	R-6048B	01-15-10	n/a		

Sample Receipt Report (Continued)

Project: **Shaws/Sharon/6017**
 Client: **PES Associates, Inc.**
 Lab ID: **137473**

Delivery: **GWA Courier**
 Airbill: **n/a**
 Lab Receipt: **10-29-10**

Temperature: **2.3°C**
 Chain of Custody: **Present**
 Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137473-10	INF		Aqueous	10/29/10 10:45	TPH by GC EPA 8015B Mod				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1225190	1 L Amber Glass	Proline	BX35520	H2SO4	R-6048B	01-15-10	n/a		
C1299310	1 L Amber Glass	n/a	n/a	H2SO4	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137473-12	EFF		Aqueous	10/29/10 10:30	EPA 9056 Chloride SM 4500-H + B pH				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1263188	250 mL Plastic	Scientific Specialist Services	BX36362	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
137473-13	INF		Aqueous	10/29/10 10:45	EPA 9056 Chloride SM 4500-H + B pH				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
C1288141	250 mL Plastic	Scientific Specialist Services	BX37197	None	n/a	n/a	n/a		

**EPA Method 8260B
Volatile Organics by GC/MS**

Field ID: **EFF**
Project: **Shaws/Sharon/6017**
Client: **PES Associates, Inc.**

Laboratory ID: **137473-1**
Sampled: **10-29-10 10:30**
Received: **10-29-10 17:05**
Analyzed: **11-05-10 13:06**
Analyst: **LMG**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**

QC Batch ID: **VM10-1171-W**
Instrument ID: **MS-10 HP 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.5
74-87-3	Chloromethane	BRL		ug/L	0.5
75-01-4	Vinyl Chloride	BRL		ug/L	0.5
74-83-9	Bromomethane	BRL		ug/L	0.5
75-00-3	Chloroethane	BRL		ug/L	0.5
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.5
60-29-7	Diethyl Ether	BRL		ug/L	2
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	3
107-13-1	Acrylonitrile	BRL		ug/L	3
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	BRL		ug/L	0.5
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	BRL		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	BRL		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	BRL		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/L	0.4
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/L	0.4
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/L	0.5

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: **EFF**
Project: **Shaws/Sharon/6017**
Client: **PES Associates, Inc.**

Laboratory ID: **137473-1**
Sampled: **10-29-10 10:30**
Received: **10-29-10 17:05**
Analyzed: **11-05-10 13:06**
Analyst: **LMG**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**

QC Batch ID: **VM10-1171-W**
Instrument ID: **MS-10 HP 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/L	0.5
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.5
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/L	25
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/L	0.5
95-49-8	2-Chlorotoluene	BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.5
106-43-4	4-Chlorotoluene	BRL		ug/L	0.5
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/L	0.5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.5
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.5
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/L	0.5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.5
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	9	95 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	10	103 %	70 - 130 %
Toluene-d ₈	10	9	89 %	70 - 130 %
4-Bromofluorobenzene	10	8	83 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

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 8260B
Volatile Organics by GC/MS**

Field ID: **INF**
Project: **Shaws/Sharon/6017**
Client: **PES Associates, Inc.**

Laboratory ID: **137473-2**
Sampled: **10-29-10 10:45**
Received: **10-29-10 17:05**
Analyzed: **11-05-10 13:52**
Analyst: **LMG**

Matrix: **Aqueous**
Container: **40 mL VOA Vial**
Preservation: **HCl/ Cool**

QC Batch ID: **VM10-1171-W**
Instrument ID: **MS-10 HP 6890**
Sample Volume: **5 mL**
Dilution Factor: **1**

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.5
74-87-3	Chloromethane	BRL		ug/L	0.5
75-01-4	Vinyl Chloride	BRL		ug/L	0.5
74-83-9	Bromomethane	BRL		ug/L	0.5
75-00-3	Chloroethane	BRL		ug/L	0.5
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.5
60-29-7	Diethyl Ether	BRL		ug/L	2
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	3
107-13-1	Acrylonitrile	BRL		ug/L	3
156-60-5	<i>trans</i> -1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl <i>tert</i> -butyl Ether (MTBE)	6		ug/L	0.5
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	<i>cis</i> -1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	BRL		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	BRL		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	0.6		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	<i>cis</i> -1,3-Dichloropropene	BRL		ug/L	0.4
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	<i>trans</i> -1,3-Dichloropropene	BRL		ug/L	0.4
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	37		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	<i>meta</i> -Xylene and <i>para</i> -Xylene	BRL		ug/L	0.5

**EPA Method 8260B (Continued)
Volatile Organics by GC/MS**

Field ID: INF
Project: Shaws/Sharon/6017
Client: PES Associates, Inc.
Laboratory ID: 137473-2
Sampled: 10-29-10 10:45
Received: 10-29-10 17:05
Analyzed: 11-05-10 13:52
Analyst: LMG

Matrix: Aqueous
Container: 40 mL VOA Vial
Preservation: HCl/ Cool
QC Batch ID: VM10-1171-W
Instrument ID: MS-10 HP 6890
Sample Volume: 5 mL
Dilution Factor: 1

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	<i>ortho</i> -Xylene	BRL		ug/L	0.5
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.5
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/L	25
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/L	0.5
95-49-8	2-Chlorotoluene	BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.5
106-43-4	4-Chlorotoluene	BRL		ug/L	0.5
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/L	0.5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.5
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.5
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/L	0.5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.5
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	1		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	9	95 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	10	104 %	70 - 130 %
Toluene-d ₈	10	9	89 %	70 - 130 %
4-Bromofluorobenzene	10	8	83 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

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 8270C
Semivolatile Organics by GC/MS (Part 1)**

Field ID: **EFF**
 Project: **Shaws/Sharon/6017**
 Client: **PES Associates, Inc.**
 Laboratory ID: **137473-03**
 Sampled: **10-29-10 10:30**
 Received: **10-29-10 17:05**
 Extracted: **11-05-10 18:30**
 Analyzed: **11-08-10 19:34**
 Analyst: **MJB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **SV-2575-F**
 Instrument ID: **MS-3 HP 5890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	5
110-86-1	Pyridine	BRL		ug/L	5
108-95-2	Phenol	BRL		ug/L	5
62-53-3	Aniline	BRL		ug/L	5
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	5
95-57-8	2-Chlorophenol	BRL		ug/L	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	5
100-51-6	Benzyl Alcohol	BRL		ug/L	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	5
95-48-7	2-Methylphenol	BRL		ug/L	5
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	5
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/L	5
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/L	5
98-86-2	Acetophenone	BRL		ug/L	5
67-72-1	Hexachloroethane	BRL		ug/L	5
98-95-3	Nitrobenzene	BRL		ug/L	5
78-59-1	Isophorone	BRL		ug/L	5
88-75-5	2-Nitrophenol	BRL		ug/L	5
105-67-9	2,4-Dimethylphenol	BRL		ug/L	5
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	5
120-83-2	2,4-Dichlorophenol	BRL		ug/L	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	5
106-47-8	4-Chloroaniline	BRL		ug/L	5
87-68-3	Hexachlorobutadiene	BRL		ug/L	5
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	5
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	10
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	5
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	5
91-58-7	2-Chloronaphthalene	BRL		ug/L	5
88-74-4	2-Nitroaniline	BRL		ug/L	5
100-25-4	1,4-Dinitrobenzene	BRL		ug/L	5
131-11-3	Dimethyl phthalate	BRL		ug/L	5
99-65-0	1,3-Dinitrobenzene	BRL		ug/L	5
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	5
528-29-0	1,2-Dinitrobenzene	BRL		ug/L	5
99-09-2	3-Nitroaniline	BRL		ug/L	5
51-28-5	2,4-Dinitrophenol	BRL		ug/L	10
100-02-7	4-Nitrophenol	BRL		ug/L	5
132-64-9	Dibenzofuran	BRL		ug/L	5
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	5
84-66-2	Diethyl phthalate	BRL		ug/L	5
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	5
100-01-6	4-Nitroaniline	BRL		ug/L	5
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	10

EPA Method 8270C (Continued) Semivolatile Organics by GC/MS (Part 1)

Field ID: **EFF**
 Project: **Shaws/Sharon/6017**
 Client: **PES Associates, Inc.**
 Laboratory ID: **137473-03**
 Sampled: **10-29-10 10:30**
 Received: **10-29-10 17:05**
 Extracted: **11-05-10 18:30**
 Analyzed: **11-08-10 19:34**
 Analyst: **MJB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **SV-2575-F**
 Instrument ID: **MS-3 HP 5890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/L	5
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	5
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	5
86-74-8	Carbazole	BRL		ug/L	5
84-74-2	Di-n-butyl phthalate	BRL		ug/L	5
85-68-7	Butyl benzyl phthalate	BRL		ug/L	5
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	5
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	5
117-84-0	Di-n-octyl phthalate	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	9	47 %	15 - 110 %
Phenol-d5	20	9	44 %	15 - 110 %
Nitrobenzene-d5	10	8	83 %	30 - 130 %
2-Fluorobiphenyl	10	9	86 %	30 - 130 %
2,4,6-Tribromophenol	20	13	66 %	15 - 110 %
Terphenyl-d14	10	10	104 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 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.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

EPA Method 8270C Semivolatile Organics by GC/MS-SIM (Part 2)

Field ID: **EFF**
 Project: **Shaws/Sharon/6017**
 Client: **PES Associates, Inc.**
 Laboratory ID: **137473-03**
 Sampled: **10-29-10 10:30**
 Received: **10-29-10 17:05**
 Extracted: **11-05-10 18:30**
 Analyzed: **11-24-10 09:38**
 Analyst: **MJB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **SV-2575-F**
 Instrument ID: **MS-6 HP 6890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.2
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.2
208-96-8	Acenaphthylene	BRL		ug/L	0.2
83-32-9	Acenaphthene	BRL		ug/L	0.2
86-73-7	Fluorene	BRL		ug/L	0.2
85-01-8	Phenanthrene	BRL		ug/L	0.2
120-12-7	Anthracene	BRL		ug/L	0.2
206-44-0	Fluoranthene	BRL		ug/L	0.2
129-00-0	Pyrene	BRL		ug/L	0.2
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
118-74-1	Hexachlorobenzene	BRL		ug/L	0.5
87-86-5	Pentachlorophenol	BRL		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	7.2	36 %	15 - 110 %
Phenol-d5	20	6.7	33 %	15 - 110 %
Nitrobenzene-d5	10	8.1	81 %	30 - 130 %
2-Fluorobiphenyl	10	6.2	62 %	30 - 130 %
2,4,6-Tribromophenol	20	15	73 %	15 - 110 %
Terphenyl-d14	10	7.2	72 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
 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 8270C Semivolatile Organics by GC/MS (Part 1)

Field ID: INF
Project: Shaws/Sharon/6017
Client: PES Associates, Inc.

Laboratory ID: 137473-04
Sampled: 10-29-10 10:45
Received: 10-29-10 17:05
Extracted: 11-05-10 18:30
Analyzed: 11-08-10 20:56
Analyst: MJB

Matrix: Aqueous
Container: 1 L Amber Glass
Preservation: Cool

QC Batch ID: SV-2575-F
Instrument ID: MS-3 HP 5890
Sample Volume: 1,000 mL
Final Volume: 1 mL
Dilution Factor: 1

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	5
110-86-1	Pyridine	BRL		ug/L	5
108-95-2	Phenol	BRL		ug/L	5
62-53-3	Aniline	BRL		ug/L	5
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	5
95-57-8	2-Chlorophenol	BRL		ug/L	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	5
100-51-6	Benzyl Alcohol	BRL		ug/L	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	5
95-48-7	2-Methylphenol	BRL		ug/L	5
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	5
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/L	5
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/L	5
98-86-2	Acetophenone	BRL		ug/L	5
67-72-1	Hexachloroethane	BRL		ug/L	5
98-95-3	Nitrobenzene	BRL		ug/L	5
78-59-1	Isophorone	BRL		ug/L	5
88-75-5	2-Nitrophenol	BRL		ug/L	5
105-67-9	2,4-Dimethylphenol	BRL		ug/L	5
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	5
120-83-2	2,4-Dichlorophenol	BRL		ug/L	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	5
106-47-8	4-Chloroaniline	BRL		ug/L	5
87-68-3	Hexachlorobutadiene	BRL		ug/L	5
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	5
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	10
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	5
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	5
91-58-7	2-Chloronaphthalene	BRL		ug/L	5
88-74-4	2-Nitroaniline	BRL		ug/L	5
100-25-4	1,4-Dinitrobenzene	BRL		ug/L	5
131-11-3	Dimethyl phthalate	BRL		ug/L	5
99-65-0	1,3-Dinitrobenzene	BRL		ug/L	5
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	5
528-29-0	1,2-Dinitrobenzene	BRL		ug/L	5
99-09-2	3-Nitroaniline	BRL		ug/L	5
51-28-5	2,4-Dinitrophenol	BRL		ug/L	10
100-02-7	4-Nitrophenol	BRL		ug/L	5
132-64-9	Dibenzofuran	BRL		ug/L	5
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	5
84-66-2	Diethyl phthalate	BRL		ug/L	5
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	5
100-01-6	4-Nitroaniline	BRL		ug/L	5
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	10

**EPA Method 8270C (Continued)
Semivolatile Organics by GC/MS (Part 1)**

Field ID: **INF**
 Project: **Shaws/Sharon/6017**
 Client: **PES Associates, Inc.**
 Laboratory ID: **137473-04**
 Sampled: **10-29-10 10:45**
 Received: **10-29-10 17:05**
 Extracted: **11-05-10 18:30**
 Analyzed: **11-08-10 20:56**
 Analyst: **MJB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **SV-2575-F**
 Instrument ID: **MS-3 HP 5890**
 Sample Volume: **1,000 mL**
 Final Volume: **1 mL**
 Dilution Factor: **1**

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/L	5
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	5
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	5
86-74-8	Carbazole	BRL		ug/L	5
84-74-2	Di-n-butyl phthalate	BRL		ug/L	5
85-68-7	Butyl benzyl phthalate	BRL		ug/L	5
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	5
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	5
117-84-0	Di-n-octyl phthalate	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	7	34 %	15 - 110 %
Phenol-d5	20	6	32 %	15 - 110 %
Nitrobenzene-d5	10	7	74 %	30 - 130 %
2-Fluorobiphenyl	10	8	81 %	30 - 130 %
2,4,6-Tribromophenol	20	13	66 %	15 - 110 %
Terphenyl-d14	10	10	100 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 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.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

EPA Method 8270C Semivolatile Organics by GC/MS-SIM (Part 2)

Field ID: INF
Project: Shaws/Sharon/6017
Client: PES Associates, Inc.

Laboratory ID: 137473-04
Sampled: 10-29-10 10:45
Received: 10-29-10 17:05
Extracted: 11-05-10 18:30
Analyzed: 11-24-10 10:18
Analyst: MJB

Matrix: Aqueous
Container: 1 L Amber Glass
Preservation: Cool

QC Batch ID: SV-2575-F
Instrument ID: MS-6 HP 6890
Sample Volume: 1,000 mL
Final Volume: 1 mL
Dilution Factor: 1

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.2
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.2
208-96-8	Acenaphthylene	BRL		ug/L	0.2
83-32-9	Acenaphthene	BRL		ug/L	0.2
86-73-7	Fluorene	BRL		ug/L	0.2
85-01-8	Phenanthrene	BRL		ug/L	0.2
120-12-7	Anthracene	BRL		ug/L	0.2
206-44-0	Fluoranthene	BRL		ug/L	0.2
129-00-0	Pyrene	BRL		ug/L	0.2
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
118-74-1	Hexachlorobenzene	BRL		ug/L	0.5
87-86-5	Pentachlorophenol	BRL		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	6.1	30 %	15 - 110 %
Phenol-d5	20	5.7	29 %	15 - 110 %
Nitrobenzene-d5	10	7.4	75 %	30 - 130 %
2-Fluorobiphenyl	10	5.8	58 %	30 - 130 %
2,4,6-Tribromophenol	20	15	73 %	15 - 110 %
Terphenyl-d14	10	7.2	72 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
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 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: **EFF**
 Project: **Shaws/Sharon/6017**
 Client: **PES Associates, Inc.**
 Laboratory ID: **137473-05**
 Sampled: **10-29-10 10:30**
 Received: **10-29-10 17:05**
 Extracted: **11-02-10 18:00**
 Cleaned Up: **11-05-10 18:00**
 Analyzed: **11-05-10 23:54**
 Analyst: **CRL**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **Cool**
 QC Batch ID: **PB-2628-F**
 Instrument ID: **GC-13 Agilent 6890**
 Sample Weight: **1000 mL**
 Final Volume: **1 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
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	Tetrachloro- <i>m</i> -xylene	0.20	0.10	50 %
Column	Decachlorobiphenyl	0.20	0.07	36 %
Second	Tetrachloro- <i>m</i> -xylene	0.20	0.12	58 %
Column	Decachlorobiphenyl	0.20	0.09	45 %

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.

**EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD**

Field ID: INF
 Project: Shaws/Sharon/6017
 Client: PES Associates, Inc.
 Laboratory ID: 137473-06
 Sampled: 10-29-10 10:45
 Received: 10-29-10 17:05
 Extracted: 11-02-10 18:00
 Cleaned Up: 11-05-10 18:00
 Analyzed: 11-06-10 00:42
 Analyst: CRL

Matrix: Aqueous
 Container: 1 L Amber Glass
 Preservation: Cool
 QC Batch ID: PB-2628-F
 Instrument ID: GC-13 Agilent 6890
 Sample Weight: 980 mL
 Final Volume: 1 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
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	Tetrachloro- <i>m</i> -xylene	0.20	0.14	68 %
Column	Decachlorobiphenyl	0.20	0.11	55 %
Second	Tetrachloro- <i>m</i> -xylene	0.20	0.16	77 %
Column	Decachlorobiphenyl	0.20	0.14	68 %
				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.

Trace Metals

Field ID: **EFF**
 Project: **Shaws/Sharon/6017**
 Client: **PES Associates, Inc.**
 Laboratory ID: **137473-7**
 Sampled: **10-29-10 10:30**
 Received: **10-29-10 17:05**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **10-29-10 10:30**

<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 6010B ¹	MB-4227-W	EPA 3010A	11-02-10 00:00	50 mL	ICP-1 PE 3000	JK

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-89-6	Iron, Total	2.5		mg/L	0.1	1	11-02-10 18:17	EPA 6010B ¹

Method Reference: 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.
 DF Dilution Factor.

Trace Metals

Field ID: **INF**
 Project: **Shaws/Sharon/6017**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Container: **250 mL Plastic**
 Preservation: **HNO3 / Cool**
 Preserved: **10-29-10 10:45**

Laboratory ID: **137473-8**
 Sampled: **10-29-10 10:45**
 Received: **10-29-10 17:05**

<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 6010B ¹	MB-4227-W	EPA 3010A	11-02-10 00:00	50 mL	ICP-1 PE 3000	JK

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-89-6	Iron, Total	7.5		mg/L	0.1	1	11-02-10 18:32	EPA 6010B ¹

Method Reference: 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.
 DF Dilution Factor.

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

Field ID: **EFF**
 Project: **Shaws/Sharon/6017**
 Client: **PES Associates, Inc.**
 Laboratory ID: **137473-9**
 Sampled: **10-29-10 10:30**
 Received: **10-29-10 17:05**
 Extracted: **11-05-10 21:00**
 Analyzed: **11-09-10 12:19**
 Analyst: **MB**

Matrix: **Aqueous**
 Container: **1 L Amber Glass**
 Preservation: **H2SO4/ Cool**
 QC Batch ID: **HF-2269-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.

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

Field ID: INF
 Project: Shaws/Sharon/6017
 Client: PES Associates, Inc.
 Laboratory ID: 137473-10
 Sampled: 10-29-10 10:45
 Received: 10-29-10 17:05
 Extracted: 11-05-10 21:00
 Analyzed: 11-09-10 13:14
 Analyst: MB

Matrix: Aqueous
 Container: 1 L Amber Glass
 Preservation: H2SO4/ Cool
 QC Batch ID: HF-2269-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	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.

Inorganic Chemistry

Field ID: **EFF**
 Project: **Shaws/Sharon/6017**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **10-29-10 17:05**

Lab ID: **137473-12** Sampled: **10-29-10 10:30** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Chloride	140	mg/L	6	100	0.05 mL	11-04-10 12:55	IC-1871-W	EPA 9056	1	JR
pH	6.0	pH	NA	1	50 mL	10-29-10 20:55	PH-3050-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: Dionex DX-500 IC

2 Instrument ID: Accumet AR50

Inorganic Chemistry

Field ID: **INF**
 Project: **Shaws/Sharon/6017**
 Client: **PES Associates, Inc.**

Matrix: **Aqueous**
 Received: **10-29-10 17:05**

Lab ID: **137473-13** Sampled: **10-29-10 10:45** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Chloride	140	mg/L	6	100	0.05 mL	11-04-10 13:57	IC-1871-W	EPA 9056	1	JR
pH	5.8	pH	NA	1	50 mL	10-29-10 20:52	PH-3050-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: Dionex DX-500 IC

2 Instrument ID: Accumet AR50

Project Narrative

Project: **Shaws/Sharon/6017**
Client: **PES Associates, Inc.**

Lab ID: **137473**
Received: **10-29-10 17:05**

A. Documentation and Client Communication

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

- 1 . The Total Phenolics analysis was cancelled per Chuck White, 11-1-10.

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 . EPA 6010B Note: Samples 137473-7 and -8. Samples were analyzed for selected target analytes, as requested by client.
- 2 . EPA 8260B Non-conformance: Laboratory control sample (LCS) analyte Dichlorodifluoromethane was below recommended recovery limits and analyte Methylene Chloride was above recommended recovery limits for QC batch VM10-1171-W.
- 3 . EPA 8260B Note: Samples 137473-1 and -2. Relative percent deviations for Dichlorodifluoromethane, 1,1,2-Trichlorotrifluoroethane, tert-Amyl Methyl Ether, Tetrachloroethene, Isopropylbenzene, trans-1,4-Dichloro-2-butene and 1,2-Dibromo-3-chloropropane were above the recommended limit in the CCV.
- 4 . EPA 8270C Modification: Samples 137473-3 and -4. Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method. GC/MS-SIM was used to achieve low quantification limits necessary for regulatory compliance.
- 5 . pH Non-conformance: Samples 137473-12 and -13. pH analysis was not performed within 15 minutes of sample collection. Samples were analyzed shortly after receipt by the laboratory.
- 6 . EPA 8270C Non-conformance: Sample 137473-3 and -4. Laboratory control sample (LCS) analyte Hexachlorobutadiene was below recommended limits for QC batch SV-2575-F.

GROUNDWATER ANALYTICAL

228 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

Project Name:

HAWES / STARON

Project Number:

6017

Project Manager:

THUCK WHITE

Project Name:

THUCK WHITE

Project Manager:

THUCK WHITE

Firm:

PE'S Assoc.

Address:

858 WASHINGTON ST

City / State / Zip:

DEHAM, MA 02026

Telephone:

781-407-7777

TURNAROUND

10 Business Days

5 Business Days

RUSH (RAN - Rush requires Rush Authorization Number)

Please Email to: thuck.white@peassociates.com

BILLING

Purchase Order No.:

Third Party Billing:

GWA Quote:

ANALYSIS REQUEST

Options

SDWA

NPDES

RCRA/21

82508

82608

82708

82808

82908

83008

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General Chemistry

Total Phosphorus

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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-2269-F**
 Matrix: **Aqueous**
 Units: **mg/L**

Instrument ID: **GC4 HP 5890**
 Extracted: **11-05-10 21:00**
 Analyzed: **11-09-10 13:08**
 Analyst: **MB**

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	0.035	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: 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-2269-F**
 Matrix: **Aqueous**

Instrument ID: **GC4 HP 5890**
 Extracted: **11-05-10 21:00**
 Analyzed: **11-09-10 12:17**
 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	0.033	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.

**Quality Control Report
Laboratory Control Sample**

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

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
pH	pH	7.0	7.0	101 %	80 - 120 %	10-29-10 09:15	PH-3050-W	SM 4500-H+ B	2	LD
Chloride	mg/L	2.5	2.7	110 %	80 - 120 %	11-04-10 10:51	IC-1871-W	EPA 9056	1	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: Dionex DX-500 IC
- 2 Instrument ID: Accumet AR50

**Quality Control Report
Method Blank**

Category: **Inorganic Chemistry**

Matrix: **Aqueous**

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Chloride	BRL	mg/L	0.6	11-04-10 10:51	IC-1871-W	EPA 9056	1	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.
 1 Instrument ID: Dionex DX-500 IC

**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-2628-F		Extracted:	11-02-10 18:00		Extracted:	11-02-10 18:00
Matrix:	Aqueous		Cleaned Up:	11-05-10 18:00		Cleaned Up:	11-05-10 18:00
Units:	ug/L		Analyzed:	11-05-10 23:07		Analyzed:	11-05-10 23:31
			Analyst:	CRL		Analyst:	CRL

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	4.4	4.5	88%	90%	5.0	4.2	4.2	83%	84%	5 %	7 %	40 - 140%	20 %
11096-82-5	Aroclor 1260	5.0	4.1	4.5	82%	91%	5.0	4.0	4.6	80%	92%	2 %	1 %	40 - 140%	20 %

QC Surrogate Compound	Surrogate Recovery											QC Limits	
Tetrachloro- <i>m</i> -xylene	0.20	0.15	0.17	73%	83%	0.20	0.14	0.16	69%	78%			30 - 150 %
Decachlorobiphenyl	0.20	0.13	0.17	66%	84%	0.20	0.13	0.16	63%	82%			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.

**Quality Control Report
Method Blank**

Category: **EPA Method 8082**
 QC Batch ID: **PB-2628-F**
 Matrix: **Aqueous**

Instrument ID: **GC-13 Agilent 6890**
 Extracted: **11-02-10 18:00**
 Cleaned Up: **11-05-10 18:00**
 Analyzed: **11-05-10 22:44**
 Analyst: **CRL**

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	Tetrachloro- <i>m</i> -xylene	0.20	0.15	73 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.13	64 %	30 - 150 %
Second	Tetrachloro- <i>m</i> -xylene	0.20	0.17	83 %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.16	82 %	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 Samples

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

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 6010B	MB-4227-WL	EPA 3010A	11-02-10 00:00	11-02-10 18:06	ICP-1 PE 3000	JK
LCS D	EPA 6010B	MB-4227-WL	EPA 3010A	11-02-10 00:00	11-02-10 18:12	ICP-1 PE 3000	JK

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7439-89-6	Iron	5.0	5.1	101%	5.0	5.2	104%	1 %	80-120 %	20 %	EPA 6010B

Method Reference: 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.

**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 6010B	MB-4227-WB	EPA 3010A	11-02-10 00:00	50 mL	ICP-1 PE 3000	JK

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7439-89-6	Iron		BRL	mg/L	0.1	1	11-02-10 18:03	EPA 6010B

Method Reference: 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.
DF Dilution Factor.

**Quality Control Report
Laboratory Control Samples**

Category:	EPA Method 8260B	LCS	Instrument ID:	MS-10 HP 6890	LCSD	Instrument ID:	MS-10 HP 6890
QC Batch ID:	VM10-1171-W		Analyzed:	11-05-10 11:06		Analyzed:	11-05-10 11:32
Matrix:	Aqueous		Analyst:	LMG		Analyst:	LMG
Units:	ug/L						

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
75-71-8	Dichlorodifluoromethane	10	7.0	70 %	10	6.9	69 % q	1 %	70 - 130 %	20%
74-87-3	Chloromethane	10	8.7	87 %	10	8.6	86 %	1 %	70 - 130 %	20%
75-01-4	Vinyl Chloride	10	8.1	81 %	10	8.3	83 %	2 %	70 - 130 %	20%
74-83-9	Bromomethane	10	10	105 %	10	11	106 %	1 %	70 - 130 %	20%
75-00-3	Chloroethane	10	9.5	95 %	10	9.5	95 %	0 %	70 - 130 %	20%
75-69-4	Trichlorofluoromethane	10	8.4	84 %	10	8.4	84 %	1 %	70 - 130 %	20%
60-29-7	Diethyl Ether	20	20	101 %	20	20	101 %	0 %	70 - 130 %	20%
75-35-4	1,1-Dichloroethene	10	10	101 %	10	10	100 %	2 %	70 - 130 %	20%
76-13-1	1,1,2-Trichlorotrifluoroethane	20	25	127 %	20	26	129 %	2 %	70 - 130 %	20%
67-64-1	Acetone	20	25	124 %	20	24	119 %	4 %	70 - 130 %	20%
75-15-0	Carbon Disulfide	20	20	102 %	20	20	102 %	1 %	70 - 130 %	20%
75-09-2	Methylene Chloride	10	14	144 % q	10	15	151 % q	4 %	70 - 130 %	20%
107-13-1	Acrylonitrile	10	12	118 %	10	12	123 %	4 %	70 - 130 %	20%
156-60-5	trans-1,2-Dichloroethene	10	10	103 %	10	10	105 %	2 %	70 - 130 %	20%
1634-04-4	Methyl tert-butyl Ether (MTBE)	10	11	105 %	10	11	108 %	2 %	70 - 130 %	20%
75-34-3	1,1-Dichloroethane	10	9.4	94 %	10	9.6	96 %	1 %	70 - 130 %	20%
594-20-7	2,2-Dichloropropane	10	9.5	95 %	10	9.4	94 %	1 %	70 - 130 %	20%
156-59-2	cis-1,2-Dichloroethene	10	11	106 %	10	11	106 %	1 %	70 - 130 %	20%
78-93-3	2-Butanone (MEK)	20	20	98 %	20	19	96 %	1 %	70 - 130 %	20%
74-97-5	Bromochloromethane	10	11	115 %	10	11	115 %	0 %	70 - 130 %	20%
109-99-9	Tetrahydrofuran (THF)	20	22	110 %	20	23	115 %	5 %	70 - 130 %	20%
67-66-3	Chloroform	10	9.5	95 %	10	9.7	97 %	3 %	70 - 130 %	20%
71-55-6	1,1,1-Trichloroethane	10	8.8	88 %	10	9.1	91 %	3 %	70 - 130 %	20%
56-23-5	Carbon Tetrachloride	10	8.5	85 %	10	8.7	87 %	2 %	70 - 130 %	20%
563-58-6	1,1-Dichloropropene	10	9.0	90 %	10	9.1	91 %	1 %	70 - 130 %	20%
71-43-2	Benzene	10	9.9	99 %	10	10	100 %	2 %	70 - 130 %	20%
107-06-2	1,2-Dichloroethane	10	8.7	87 %	10	8.8	88 %	1 %	70 - 130 %	20%
79-01-6	Trichloroethene	10	9.3	93 %	10	9.2	92 %	1 %	70 - 130 %	20%
78-87-5	1,2-Dichloropropane	10	9.6	96 %	10	9.5	95 %	1 %	70 - 130 %	20%
74-95-3	Dibromomethane	10	9.8	98 %	10	9.7	97 %	1 %	70 - 130 %	20%
75-27-4	Bromodichloromethane	10	9.2	92 %	10	9.3	93 %	1 %	70 - 130 %	20%
123-91-1	1,4-Dioxane	200	200	98 %	200	220	111 %	12 %	70 - 130 %	20%
10061-01-5	cis-1,3-Dichloropropene	10	8.5	85 %	10	8.5	85 %	0 %	70 - 130 %	20%
108-10-1	4-Methyl-2-Pentanone (MIBK)	20	21	107 %	20	22	110 %	2 %	70 - 130 %	20%
108-88-3	Toluene	10	9.7	97 %	10	9.7	97 %	0 %	70 - 130 %	20%
10061-02-6	trans-1,3-Dichloropropene	10	8.6	86 %	10	8.9	89 %	3 %	70 - 130 %	20%
79-00-5	1,1,2-Trichloroethane	10	10	103 %	10	11	110 %	7 %	70 - 130 %	20%
127-18-4	Tetrachloroethene	10	12	125 %	10	13	128 %	2 %	70 - 130 %	20%
142-28-9	1,3-Dichloropropane	10	10	104 %	10	11	105 %	1 %	70 - 130 %	20%
591-78-6	2-Hexanone	20	23	116 %	20	24	119 %	2 %	70 - 130 %	20%
124-48-1	Dibromochloromethane	10	9.0	90 %	10	9.4	94 %	5 %	70 - 130 %	20%
106-93-4	1,2-Dibromoethane (EDB)	10	11	110 %	10	11	115 %	4 %	70 - 130 %	20%
108-90-7	Chlorobenzene	10	11	106 %	10	11	110 %	4 %	70 - 130 %	20%
630-20-6	1,1,1,2-Tetrachloroethane	10	12	116 %	10	12	120 %	4 %	70 - 130 %	20%
100-41-4	Ethylbenzene	10	10	103 %	10	11	106 %	3 %	70 - 130 %	20%
108-38-3/106-42-3	meta- Xylene and para- Xylene	20	22	108 %	20	22	109 %	1 %	70 - 130 %	20%
95-47-6	ortho- Xylene	10	11	107 %	10	11	111 %	4 %	70 - 130 %	20%
100-42-5	Styrene	10	9.4	94 %	10	9.8	98 %	4 %	70 - 130 %	20%
75-25-2	Bromoform	10	9.4	94 %	10	9.8	98 %	4 %	70 - 130 %	20%

**Quality Control Report
Laboratory Control Samples**

Category:	EPA Method 8260B	LCS	Instrument ID:	MS-10 HP 6890	LCSD	Instrument ID:	MS-10 HP 6890
QC Batch ID:	VM10-1171-W		Analyzed:	11-05-10 11:06		Analyzed:	11-05-10 11:32
Matrix:	Aqueous		Analyst:	LMG		Analyst:	LMG
Units:	ug/L						

Page: 2 of 2

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
98-82-8	Isopropylbenzene	10	7.7	77 %	10	7.9	79 %	3 %	70 - 130 %	20%
108-86-1	Bromobenzene	10	10	102 %	10	11	106 %	4 %	70 - 130 %	20%
79-34-5	1,1,2,2-Tetrachloroethane	10	8.8	88 %	10	9.2	92 %	5 %	70 - 130 %	20%
96-18-4	1,2,3-Trichloropropane	10	9.2	92 %	10	9.4	94 %	3 %	70 - 130 %	20%
110-57-6	trans-1,4-Dichloro-2-butene	200	240	122 %	200	250	127 %	4 %	70 - 130 %	20%
103-65-1	n-Propylbenzene	10	8.7	87 %	10	8.9	89 %	3 %	70 - 130 %	20%
95-49-8	2-Chlorotoluene	10	9.3	93 %	10	9.3	93 %	1 %	70 - 130 %	20%
108-67-8	1,3,5-Trimethylbenzene	10	9.1	91 %	10	9.3	93 %	2 %	70 - 130 %	20%
106-43-4	4-Chlorotoluene	10	9.0	90 %	10	9.3	93 %	3 %	70 - 130 %	20%
98-06-6	tert-Butylbenzene	10	8.8	88 %	10	9.0	90 %	3 %	70 - 130 %	20%
95-63-6	1,2,4-Trimethylbenzene	10	9.4	94 %	10	9.7	97 %	3 %	70 - 130 %	20%
135-98-8	sec-Butylbenzene	10	8.8	88 %	10	8.9	89 %	1 %	70 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	10	9.7	97 %	10	10	100 %	3 %	70 - 130 %	20%
99-87-6	4-Isopropyltoluene	10	8.4	84 %	10	8.7	87 %	3 %	70 - 130 %	20%
106-46-7	1,4-Dichlorobenzene	10	9.5	95 %	10	9.8	98 %	3 %	70 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	10	9.4	94 %	10	9.8	98 %	4 %	70 - 130 %	20%
104-51-8	n-Butylbenzene	10	8.8	88 %	10	9.0	90 %	2 %	70 - 130 %	20%
96-12-8	1,2-Dibromo-3-chloropropane	10	7.5	75 %	10	8.0	80 %	6 %	70 - 130 %	20%
108-70-3	1,3,5-Trichlorobenzene	10	12	117 %	10	12	123 %	5 %	70 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	10	11	105 %	10	11	110 %	4 %	70 - 130 %	20%
87-68-3	Hexachlorobutadiene	10	11	108 %	10	11	111 %	3 %	70 - 130 %	20%
91-20-3	Naphthalene	10	9.5	95 %	10	10	100 %	6 %	70 - 130 %	20%
87-61-6	1,2,3-Trichlorobenzene	10	11	106 %	10	11	110 %	4 %	70 - 130 %	20%
75-65-0	tert-Butyl Alcohol (TBA)	200	180	90 %	200	190	93 %	3 %	70 - 130 %	20%
108-20-3	Di-isopropyl Ether (DIPE)	10	8.7	87 %	10	8.9	89 %	2 %	70 - 130 %	20%
637-92-3	Ethyl tert-butyl Ether (ETBE)	10	8.4	84 %	10	8.5	85 %	2 %	70 - 130 %	20%
994-05-8	tert-Amyl Methyl Ether (TAME)	10	7.8	78 %	10	8.0	80 %	2 %	70 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	95 %	10	10	99 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	10	100 %	10	10	101 %	70 - 130 %
Toluene-d ₈	10	9	91 %	10	9	92 %	70 - 130 %
4-Bromofluorobenzene	10	8	81 %	10	9	85 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample preparation performed by EPA Method 5030B.

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 8260B**
 QC Batch ID: **VM10-1171-W**
 Matrix: **Aqueous**

Instrument ID: **MS-10 HP 6890**
 Analyzed: **11-05-10 11:55**
 Analyst: **LMG**

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	0.5
74-87-3	Chloromethane	BRL		ug/L	0.5
75-01-4	Vinyl Chloride	BRL		ug/L	0.5
74-83-9	Bromomethane	BRL		ug/L	0.5
75-00-3	Chloroethane	BRL		ug/L	0.5
75-69-4	Trichlorofluoromethane	BRL		ug/L	0.5
60-29-7	Diethyl Ether	BRL		ug/L	2
75-35-4	1,1-Dichloroethene	BRL		ug/L	0.5
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	5
67-64-1	Acetone	BRL		ug/L	10
75-15-0	Carbon Disulfide	BRL		ug/L	5
75-09-2	Methylene Chloride	BRL		ug/L	3
107-13-1	Acrylonitrile	BRL		ug/L	3
156-60-5	<i>trans</i> - 1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl <i>tert</i> - butyl Ether (MTBE)	BRL		ug/L	0.5
75-34-3	1,1-Dichloroethane	BRL		ug/L	0.5
594-20-7	2,2-Dichloropropane	BRL		ug/L	0.5
156-59-2	<i>cis</i> - 1,2-Dichloroethene	BRL		ug/L	0.5
78-93-3	2-Butanone (MEK)	BRL		ug/L	5
74-97-5	Bromochloromethane	BRL		ug/L	0.5
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	5
67-66-3	Chloroform	BRL		ug/L	0.5
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	0.5
56-23-5	Carbon Tetrachloride	BRL		ug/L	0.5
563-58-6	1,1-Dichloropropene	BRL		ug/L	0.5
71-43-2	Benzene	BRL		ug/L	0.5
107-06-2	1,2-Dichloroethane	BRL		ug/L	0.5
79-01-6	Trichloroethene	BRL		ug/L	0.5
78-87-5	1,2-Dichloropropane	BRL		ug/L	0.5
74-95-3	Dibromomethane	BRL		ug/L	0.5
75-27-4	Bromodichloromethane	BRL		ug/L	0.5
123-91-1	1,4-Dioxane	BRL		ug/L	500
10061-01-5	<i>cis</i> - 1,3-Dichloropropene	BRL		ug/L	0.4
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	BRL		ug/L	0.5
10061-02-6	<i>trans</i> - 1,3-Dichloropropene	BRL		ug/L	0.4
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	0.5
127-18-4	Tetrachloroethene	BRL		ug/L	0.5
142-28-9	1,3-Dichloropropane	BRL		ug/L	0.5
591-78-6	2-Hexanone	BRL		ug/L	5
124-48-1	Dibromochloromethane	BRL		ug/L	0.5
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.5
108-90-7	Chlorobenzene	BRL		ug/L	0.5
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	0.5
100-41-4	Ethylbenzene	BRL		ug/L	0.5
108-38-3/106-42-3	<i>meta</i> - Xylene and <i>para</i> - Xylene	BRL		ug/L	0.5
95-47-6	<i>ortho</i> - Xylene	BRL		ug/L	0.5
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5

**Quality Control Report
Method Blank**

Category: **EPA Method 8260B**
 QC Batch ID: **VM10-1171-W**
 Matrix: **Aqueous**

Instrument ID: **MS-10 HP 6890**
 Analyzed: **11-05-10 11:55**
 Analyst: **LMG**

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
98-82-8	Isopropylbenzene	BRL		ug/L	0.5
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
110-57-6	<i>trans</i> -1,4-Dichloro-2-butene	BRL		ug/L	25
103-65-1	<i>n</i> -Propylbenzene	BRL		ug/L	0.5
95-49-8	2-Chlorotoluene	BRL		ug/L	0.5
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	0.5
106-43-4	4-Chlorotoluene	BRL		ug/L	0.5
98-06-6	<i>tert</i> -Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	<i>sec</i> -Butylbenzene	BRL		ug/L	0.5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	0.5
99-87-6	4-Isopropyltoluene	BRL		ug/L	0.5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	0.5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	0.5
104-51-8	<i>n</i> -Butylbenzene	BRL		ug/L	0.5
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	0.5
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	0.5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
91-20-3	Naphthalene	BRL		ug/L	0.5
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	0.5
75-65-0	<i>tert</i> -Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl <i>tert</i> -butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	<i>tert</i> -Amyl Methyl Ether (TAME)	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	98 %	70 - 130 %
1,2-Dichloroethane-d ₄	10	11	108 %	70 - 130 %
Toluene-d ₈	10	9	93 %	70 - 130 %
4-Bromofluorobenzene	10	9	86 %	70 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Sample preparation performed by EPA Method 5030B.

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 Samples**

Category:	EPA 8270C (Part 2)	LCS	Instrument ID:	MS-6 HP 6890	LCSD	Instrument ID:	MS-6 HP 6890
QC Batch ID:	SV-2575-F		Extracted:	11-05-10 18:30		Extracted:	11-05-10 18:30
Matrix:	Aqueous		Analyzed:	11-24-10 05:29		Analyzed:	11-24-10 06:10
Units:	ug/L		Analyst:	MJB		Analyst:	MJB

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
91-20-3	Naphthalene	5.0	2.5	51 %	5.0	2.5	49 %	3 %	40 - 140 %	20%
91-57-6	2-Methylnaphthalene	5.0	2.8	57 %	5.0	2.7	54 %	5 %	40 - 140 %	20%
208-96-8	Acenaphthylene	5.0	3.8	76 %	5.0	3.6	72 %	6 %	40 - 140 %	20%
83-32-9	Acenaphthene	5.0	3.3	66 %	5.0	3.2	64 %	3 %	40 - 140 %	20%
86-73-7	Fluorene	5.0	3.7	75 %	5.0	3.5	71 %	6 %	40 - 140 %	20%
85-01-8	Phenanthrene	5.0	3.6	73 %	5.0	3.5	69 %	5 %	40 - 140 %	20%
120-12-7	Anthracene	5.0	4.3	86 %	5.0	4.0	81 %	6 %	40 - 140 %	20%
206-44-0	Fluoranthene	5.0	4.1	82 %	5.0	4.0	81 %	1 %	40 - 140 %	20%
129-00-0	Pyrene	5.0	3.9	78 %	5.0	3.7	75 %	4 %	40 - 140 %	20%
56-55-3	Benzo[a]anthracene	5.0	4.3	86 %	5.0	4.1	83 %	4 %	40 - 140 %	20%
218-01-9	Chrysene	5.0	3.8	76 %	5.0	3.7	75 %	2 %	40 - 140 %	20%
205-99-2	Benzo[b]fluoranthene	5.0	3.9	79 %	5.0	3.9	78 %	1 %	40 - 140 %	20%
207-08-9	Benzo[k]fluoranthene	5.0	3.9	78 %	5.0	3.8	76 %	2 %	40 - 140 %	20%
50-32-8	Benzo[a]pyrene	5.0	3.9	77 %	5.0	3.8	76 %	2 %	40 - 140 %	20%
193-39-5	Indeno[1,2,3-c,d]pyrene	5.0	3.7	74 %	5.0	3.6	72 %	2 %	40 - 140 %	20%
53-70-3	Dibenzo[a,h]anthracene	5.0	3.5	69 %	5.0	3.4	68 %	3 %	40 - 140 %	20%
191-24-2	Benzo[g,h,i]perylene	5.0	3.5	70 %	5.0	3.4	68 %	3 %	40 - 140 %	20%
87-68-3	Hexachlorobutadiene	5.0	2.0	41 %	5.0	1.9	39 % ^q	5 %	40 - 140 %	20%
118-74-1	Hexachlorobenzene	5.0	3.8	76 %	5.0	3.6	72 %	5 %	40 - 140 %	20%
87-86-5	Pentachlorophenol	5.0	4.6	93 %	5.0	4.7	94 %	1 %	30 - 130 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	7.9	40 %	20	7.6	38 %	15 - 110 %
Phenol-d5	20	7.6	38 %	20	7.0	35 %	15 - 110 %
Nitrobenzene-d5	10	6.5	65 %	10	6.8	68 %	30 - 130 %
2-Fluorobiphenyl	10	6.2	62 %	10	6.0	60 %	30 - 130 %
2,4,6-Tribromophenol	20	17	84 %	20	16	81 %	15 - 110 %
Terphenyl-d14	10	7.2	72 %	10	6.9	69 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
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.

q Recovery outside recommended limits.

**Quality Control Report
Method Blank**

Category: **EPA Method 8270C (Part 2)**
 QC Batch ID: **SV-2575-F**
 Matrix: **Aqueous**

Instrument ID: **MS-6 HP 6890**
 Extracted: **11-05-10 18:30**
 Analyzed: **11-24-10 06:50**
 Analyst: **MJB**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.2
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.2
208-96-8	Acenaphthylene	BRL		ug/L	0.2
83-32-9	Acenaphthene	BRL		ug/L	0.2
86-73-7	Fluorene	BRL		ug/L	0.2
85-01-8	Phenanthrene	BRL		ug/L	0.2
120-12-7	Anthracene	BRL		ug/L	0.2
206-44-0	Fluoranthene	BRL		ug/L	0.2
129-00-0	Pyrene	BRL		ug/L	0.2
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.1
218-01-9	Chrysene	BRL		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	BRL		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.1
87-68-3	Hexachlorobutadiene	BRL		ug/L	0.5
118-74-1	Hexachlorobenzene	BRL		ug/L	0.5
87-86-5	Pentachlorophenol	BRL		ug/L	1.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	8.3	42 %	15 - 110 %
Phenol-d5	20	7.8	39 %	15 - 110 %
Nitrobenzene-d5	10	8.0	80 %	30 - 130 %
2-Fluorobiphenyl	10	6.3	63 %	30 - 130 %
2,4,6-Tribromophenol	20	14	68 %	15 - 110 %
Terphenyl-d14	10	7.2	72 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 Method modified by use of selected ion monitoring (SIM) in accordance with Section 7.5.5 of the method.
 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 Samples

Category: **EPA 8270C (Part 1)**
 QC Batch ID: **SV-2575-F**
 Matrix: **Aqueous**
 Units: **ug/L**

LCS
 Instrument ID: **MS-3 HP 5890**
 Extracted: **11-05-10 18:30**
 Analyzed: **11-08-10 15:26**
 Analyst: **MJB**

LCSD
 Instrument ID: **MS-3 HP 5890**
 Extracted: **11-05-10 18:30**
 Analyzed: **11-08-10 16:07**
 Analyst: **MJB**

Page: 1 of 2

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
62-75-9	N-Nitrosodimethylamine	50	36	71 %	50	34	67 %	6 %	40 - 140 %	20%
110-86-1	Pyridine	50	25	51 %	50	29	57 %	12 %	40 - 140 %	20%
108-95-2	Phenol	50	25	50 %	50	25	49 %	1 %	30 - 130 %	20%
62-53-3	Aniline	50	38	77 %	50	40	80 %	4 %	40 - 140 %	20%
111-44-4	Bis(2-chloroethyl) ether	50	40	80 %	50	40	79 %	1 %	40 - 140 %	20%
95-57-8	2-Chlorophenol	50	35	70 %	50	34	67 %	4 %	30 - 130 %	20%
541-73-1	1,3-Dichlorobenzene	50	32	63 %	50	30	61 %	4 %	40 - 140 %	20%
106-46-7	1,4-Dichlorobenzene	50	31	63 %	50	30	60 %	4 %	40 - 140 %	20%
100-51-6	Benzyl Alcohol	50	42	84 %	50	42	84 %	1 %	30 - 130 %	20%
95-50-1	1,2-Dichlorobenzene	50	32	64 %	50	31	61 %	4 %	40 - 140 %	20%
95-48-7	2-Methylphenol	50	37	73 %	50	36	73 %	1 %	30 - 130 %	20%
108-60-1	Bis(2-chloroisopropyl) ether	50	44	87 %	50	43	86 %	2 %	40 - 140 %	20%
106-44-5	4-Methylphenol	50	39	78 %	50	39	78 %	1 %	30 - 130 %	20%
621-64-7	N-Nitrosodi-n-propylamine	50	45	89 %	50	44	87 %	2 %	40 - 140 %	20%
98-86-2	Acetophenone	50	42	85 %	50	42	84 %	2 %	40 - 140 %	20%
67-72-1	Hexachloroethane	50	32	64 %	50	31	62 %	3 %	40 - 140 %	20%
98-95-3	Nitrobenzene	50	40	80 %	50	39	78 %	2 %	40 - 140 %	20%
78-59-1	Isophorone	50	45	90 %	50	44	89 %	2 %	40 - 140 %	20%
88-75-5	2-Nitrophenol	50	39	79 %	50	39	79 %	0 %	30 - 130 %	20%
105-67-9	2,4-Dimethylphenol	50	40	80 %	50	38	77 %	4 %	30 - 130 %	20%
111-91-1	Bis(2-chloroethoxy) methane	50	45	89 %	50	44	88 %	2 %	40 - 140 %	20%
120-83-2	2,4-Dichlorophenol	50	40	80 %	50	40	80 %	0 %	30 - 130 %	20%
120-82-1	1,2,4-Trichlorobenzene	50	34	69 %	50	35	70 %	1 %	40 - 140 %	20%
106-47-8	4-Chloroaniline	50	44	87 %	50	42	85 %	3 %	40 - 140 %	20%
87-68-3	Hexachlorobutadiene	50	33	65 %	50	32	64 %	3 %	40 - 140 %	20%
59-50-7	4-Chloro-3-methylphenol	50	48	96 %	50	48	95 %	1 %	30 - 130 %	20%
77-47-4	Hexachlorocyclopentadiene	50	26	53 %	50	27	54 %	3 %	40 - 140 %	20%
88-06-2	2,4,6-Trichlorophenol	50	44	89 %	50	45	91 %	2 %	30 - 130 %	20%
95-95-4	2,4,5-Trichlorophenol	50	48	95 %	50	48	96 %	1 %	30 - 130 %	20%
91-58-7	2-Chloronaphthalene	50	41	82 %	50	42	85 %	3 %	40 - 140 %	20%
88-74-4	2-Nitroaniline	50	49	99 %	50	50	100 %	1 %	40 - 140 %	20%
100-25-4	1,4-Dinitrobenzene	50	49	99 %	50	49	97 %	2 %	40 - 140 %	20%
131-11-3	Dimethyl phthalate	50	48	95 %	50	47	94 %	1 %	40 - 140 %	20%
99-65-0	1,3-Dinitrobenzene	50	50	99 %	50	49	97 %	2 %	40 - 140 %	20%
606-20-2	2,6-Dinitrotoluene	50	48	96 %	50	48	96 %	0 %	40 - 140 %	20%
528-29-0	1,2-Dinitrobenzene	50	49	99 %	50	49	98 %	1 %	40 - 140 %	20%
99-09-2	3-Nitroaniline	50	48	96 %	50	48	96 %	0 %	40 - 140 %	20%
51-28-5	2,4-Dinitrophenol	50	42	84 %	50	41	82 %	2 %	30 - 130 %	20%
100-02-7	4-Nitrophenol	50	32	65 %	50	32	64 %	1 %	30 - 130 %	20%
132-64-9	Dibenzofuran	50	45	90 %	50	45	91 %	1 %	40 - 140 %	20%
121-14-2	2,4-Dinitrotoluene	50	49	97 %	50	49	97 %	0 %	40 - 140 %	20%
84-66-2	Diethyl phthalate	50	47	95 %	50	47	95 %	0 %	40 - 140 %	20%
7005-72-3	4-Chlorophenyl phenyl ether	50	46	91 %	50	45	90 %	1 %	40 - 140 %	20%
100-01-6	4-Nitroaniline	50	51	102 %	50	51	101 %	1 %	40 - 140 %	20%
534-52-1	4,6-Dinitro-2-methylphenol	50	48	97 %	50	47	94 %	3 %	30 - 130 %	20%
86-30-6	N-Nitrosodiphenylamine †	50	48	96 %	50	47	94 %	1 %	40 - 140 %	20%
122-66-7	1,2-Diphenylhydrazine à	50	51	102 %	50	50	99 %	2 %	40 - 140 %	20%
101-55-3	4-Bromophenyl phenyl ether	50	48	95 %	50	47	93 %	2 %	40 - 140 %	20%

**Quality Control Report
Laboratory Control Samples**

Category:	EPA 8270C (Part 1)	LCS	Instrument ID:	MS-3 HP 5890	LCSD	Instrument ID:	MS-3 HP 5890
QC Batch ID:	SV-2575-F		Extracted:	11-05-10 18:30		Extracted:	11-05-10 18:30
Matrix:	Aqueous		Analyzed:	11-08-10 15:26		Analyzed:	11-08-10 16:07
Units:	ug/L		Analyst:	MJB		Analyst:	MJB

Page: 2 of 2

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
86-74-8	Carbazole	50	50	99 %	50	48	95 %	4 %	40 - 140 %	20%
84-74-2	Di- <i>n</i> -butyl phthalate	50	50	100 %	50	48	97 %	3 %	40 - 140 %	20%
85-68-7	Butyl benzyl phthalate	50	50	101 %	50	49	99 %	2 %	40 - 140 %	20%
91-94-1	3,3'-Dichlorobenzidine	50	47	95 %	50	47	93 %	2 %	40 - 140 %	20%
117-81-7	Bis(2-ethylhexyl) phthalate	50	51	101 %	50	50	100 %	1 %	40 - 140 %	20%
117-84-0	Di- <i>n</i> -octyl phthalate	50	51	102 %	50	51	102 %	0 %	40 - 140 %	20%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	QC Limits
2-Fluorophenol	20	9.3	46 %	20	8.8	44 %		15 - 110 %
Phenol-d5	20	8.7	43 %	20	8.6	43 %		15 - 110 %
Nitrobenzene-d5	10	8.7	87 %	10	8.5	85 %		30 - 130 %
2-Fluorobiphenyl	10	9.7	97 %	10	10	101 %		30 - 130 %
2,4,6-Tribromophenol	20	20	99 %	20	19	95 %		15 - 110 %
Terphenyl-d14	10	11	114 %	10	11	110 %		30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
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.

- † Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.
- ◇ Analyzed as Azobenzene.

**Quality Control Report
Method Blank**

Category: **EPA Method 8270C (Part 1)**
 QC Batch ID: **SV-2575-F**
 Matrix: **Aqueous**

Instrument ID: **MS-3 HP 5890**
 Extracted: **11-05-10 18:30**
 Analyzed: **11-08-10 16:49**
 Analyst: **MJB**

Page: 1 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	5
110-86-1	Pyridine	BRL		ug/L	5
108-95-2	Phenol	BRL		ug/L	5
62-53-3	Aniline	BRL		ug/L	5
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	5
95-57-8	2-Chlorophenol	BRL		ug/L	5
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	5
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	5
100-51-6	Benzyl Alcohol	BRL		ug/L	5
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	5
95-48-7	2-Methylphenol	BRL		ug/L	5
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	5
108-39-4/106-44-5	3 and 4-Methylphenol *	BRL		ug/L	5
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/L	5
98-86-2	Acetophenone	BRL		ug/L	5
67-72-1	Hexachloroethane	BRL		ug/L	5
98-95-3	Nitrobenzene	BRL		ug/L	5
78-59-1	Isophorone	BRL		ug/L	5
88-75-5	2-Nitrophenol	BRL		ug/L	5
105-67-9	2,4-Dimethylphenol	BRL		ug/L	5
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	5
120-83-2	2,4-Dichlorophenol	BRL		ug/L	5
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	5
106-47-8	4-Chloroaniline	BRL		ug/L	5
87-68-3	Hexachlorobutadiene	BRL		ug/L	5
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	5
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	10
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	5
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	5
91-58-7	2-Chloronaphthalene	BRL		ug/L	5
88-74-4	2-Nitroaniline	BRL		ug/L	5
100-25-4	1,4-Dinitrobenzene	BRL		ug/L	5
131-11-3	Dimethyl phthalate	BRL		ug/L	5
99-65-0	1,3-Dinitrobenzene	BRL		ug/L	5
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	5
528-29-0	1,2-Dinitrobenzene	BRL		ug/L	5
99-09-2	3-Nitroaniline	BRL		ug/L	5
51-28-5	2,4-Dinitrophenol	BRL		ug/L	10
100-02-7	4-Nitrophenol	BRL		ug/L	5
132-64-9	Dibenzofuran	BRL		ug/L	5
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	5
84-66-2	Diethyl phthalate	BRL		ug/L	5
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	5
100-01-6	4-Nitroaniline	BRL		ug/L	5
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	10

Quality Control Report Method Blank

Category: **EPA Method 8270C (Part 1)**
 QC Batch ID: **SV-2575-F**
 Matrix: **Aqueous**

Instrument ID: **MS-3 HP 5890**
 Extracted: **11-05-10 18:30**
 Analyzed: **11-08-10 16:49**
 Analyst: **MJB**

Page: 2 of 2

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/L	5
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	5
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	5
86-74-8	Carbazole	BRL		ug/L	5
84-74-2	Di-n-butyl phthalate	BRL		ug/L	5
85-68-7	Butyl benzyl phthalate	BRL		ug/L	5
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	5
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	5
117-84-0	Di-n-octyl phthalate	BRL		ug/L	5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	10	48 %	15 - 110 %
Phenol-d5	20	9	44 %	15 - 110 %
Nitrobenzene-d5	10	9	87 %	30 - 130 %
2-Fluorobiphenyl	10	9	91 %	30 - 130 %
2,4,6-Tribromophenol	20	13	65 %	15 - 110 %
Terphenyl-d14	10	10	104 %	30 - 130 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
 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.

* Analyzed as 4-Methylphenol.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

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
Arsenic	EPA 200.8
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)	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
Haloacetic Acids	EPA 552.2
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
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
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
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	SM 2320-B
Alpha-BHC	EPA 608
Aluminum	EPA 200.7

Non-Potable Water (Wastewater)

Analyte	Method
Aluminum	EPA 200.8
Ammonia-N	Lachat 10-107-06-1-B
Antimony	EPA 200.7
Antimony	EPA 200.8
Arsenic	EPA 200.7
Arsenic	EPA 200.8
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
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
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
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
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
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
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