W-3322-20-01
August 19, 2009

Ms. Shelly Puleo
US Environmental Protection Agency
Industrial NPDES Permits (CIP)
1 Congress Street, Suite 1100
Boston, MA 02114

Re: **Notice of Intent for coverage under the Remediation General Permit**
Global Revco Terminal, LLC – Tank 20
101 Lee Burbank Highway
Revere, MA
RTN 3-27976

Dear Ms. Puleo:

On behalf of our client, Global Revco Terminal, L.L.C. (Global), we are submitting this Notice of Intent (NOI) for the proposed discharge of impacted groundwater at the above reference site. The NOI is included in Appendix B.

Global Revco is currently authorized to discharge treated stormwater from its facility from Outfalls 001 and 005 under NPDES Permit No. MA0003298, which was issued on January 21, 1998 and renewed on June 30, 2005. A copy of this permit is included in Appendix C. Global Revco is a bulk petroleum facility with operations consisting of receipt, storage, and distribution of petroleum products. The facility is located on the east shore of the Chelsea River in Revere, MA. The parcel of Global Revco's land located on the west side of the highway is addressed as 186/186A Lee Burbank Highway and the parcels located in the east side of the highway are addressed as 101/201 Lee Burbank Highway.

On September 12, 2008, during a routine facility inspection, Global personnel observed a small amount of product on standing water contained within the concrete ringwall containment. Global reported the release as a threat of release to MassDEP at 1056 hours on September 12, 2008, within 2-hours of knowledge of the condition as required by the MCP 310 CMR 40.0000. MassDEP verbally approved the proposed IRA activities on September 12, 2008, and assigned Release Tracking Number (RTN) 3-27976 to the release. Based on visual observations at the time of the release, Global has estimated approximately 200 gallons of product was released. Therefore, the condition was modified from a threat of a release to a sudden release greater than the reportable quantity.

This RGP is being requested to treat and discharge gasoline impacted water at Tank 20 at the Global facility. On August 11, 2009, Tighe & Bond collected two groundwater samples from recovery sumps installed within concrete foundation structure of the tank to evaluate potential contaminants of concern. The groundwater samples were submitted to Groundwater Analytical for total petroleum hydrocarbon (TPH), total suspended solids (TSS), total residual chlorine (TRC), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), cyanide, total phenols, polychlorinated biphenyls (PCBs) and metals (antimony, arsenic, cadmium, chromium [including trivalent and hexavalent chromium], copper, iron, lead, mercury, nickel, selenium, silver and zinc) analyses. The laboratory results are summarized on Table 1 in Appendix C. A complete copy of the laboratory report is included in Appendix D.

For the proposed remediation system, the contaminated groundwater from beneath the Tank will be initially pumped into a fractionation storage tank then pumped through a series

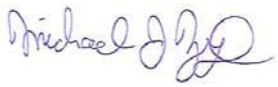
of bag filters to remove coarse solids, then finally through a granulated activated carbon (GAC) filter to removed oils. The treated contact water will then be discharged to the Tank 20 and/or Tank 17 earthen containment area. If needed, an oil water separator will be added to the treatment system for the recovery of free-phase product. From this point, the treated contact water will discharge to the facility's existing tank farm stormwater treatment system, consisting of a 350 gallon per minute oil and water separator (OWS), and will flow through Outfall 005 to the Sales Creek.

Attached for your information are the following: a flow schematic diagram, laboratory analytical results, a site locus map, a schematic of the proposed treatment system, and a copy of the facility's existing individual NPDES Permit (No. MA0003298).

Please contact the undersigned at 508-564-7285 or the site contact Tom Keefe at 781-398-4132 if you have any questions or require additional information. Thank you for your consideration of this matter.

Very truly yours,

TIGHE & BOND, INC.



Michael J. Zylich, LSP P.G.
Project Manager

Copy: Don Janik – Global Revco Terminal, LLC
Tom Keefe – Global Revco Terminal, LLC

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Appendices

Tighe&Bond

APPENDIX A

1:25,000

0 2,000

Feet

Based on USGS Topographic Map for
Boston North & Lynn, MA Quadrangle. Revised 1985
Circles indicate 500-foot and half-mile radii

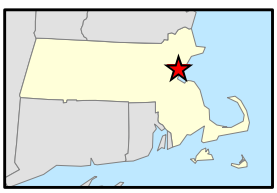
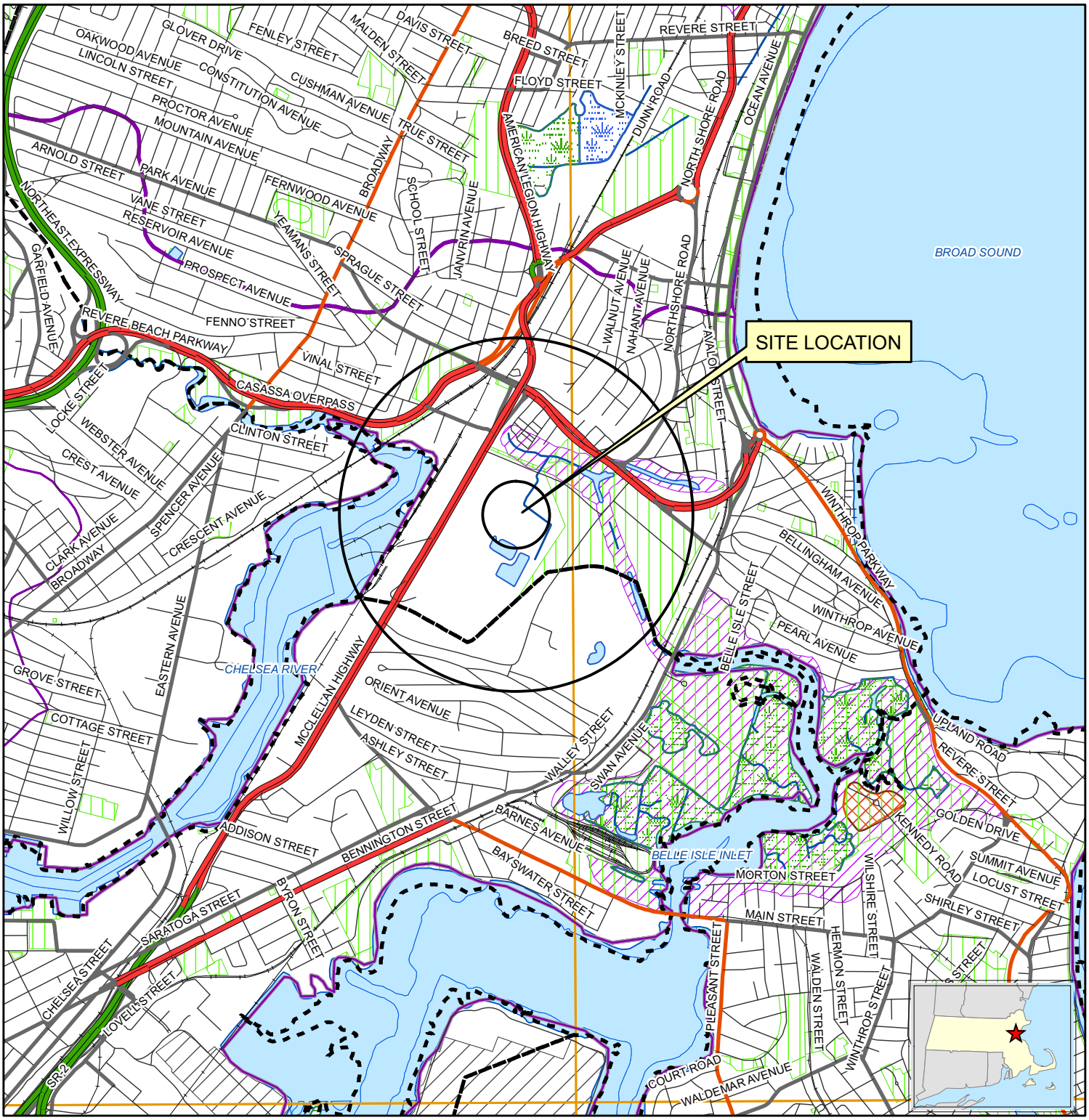


FIGURE 1
SITE LOCUS MAP

Global South and Revco Terminal L.L.C
Tank 20
101 Lee Burbank Highway
Revere, Massachusetts
RTN 3-27976

Tighe&Bond
November 2008



NHESP Certified Vernal Pools
Community Public Water Supply - Surface Water
Community Public Water Supply - Groundwater
Non-Community Non-Transient Public Water Supply
Non-Community Transient Public Water Supply
Non-Potential Drinking Water Source Area - High Yield
Non-Potential Drinking Water Source Area - Medium Yield
Potentially Productive Medium Yield Aquifer
Potentially Productive High Yield Aquifer
EPA Designated Sole Source Aquifer
DEP Approved Wellhead Protection Area (Zone II)
DEP Interim Wellhead Protection Area (IWPA)
NHESP Priority Habitats for Rare Species
NHESP Estimated Habitats for Rare Wildlife
Public Surface Water Supply Protection Area (Zone A)
Protected and Recreational Open Space
Area of Critical Environmental Concern (ACEC)
Solid Waste Landfill

Public Surface Water Supply (PSWS)
Fresh Water Non-Forested Wetland
Salt Water Wetland
Waterbodies
Major Drainage Basin
Sub Drainage Basin
Limited Access Highway
Multi-Lane Highway, NOT Limited Access
Other Numbered Highway
Major Road - Collector
Minor Street or Road
Town Boundary
County Boundary
Quad Sheet Boundary
Track or Trail
Train
Powerline
Pipeline
Aquaduct

1:25,000
0 2,000
Feet

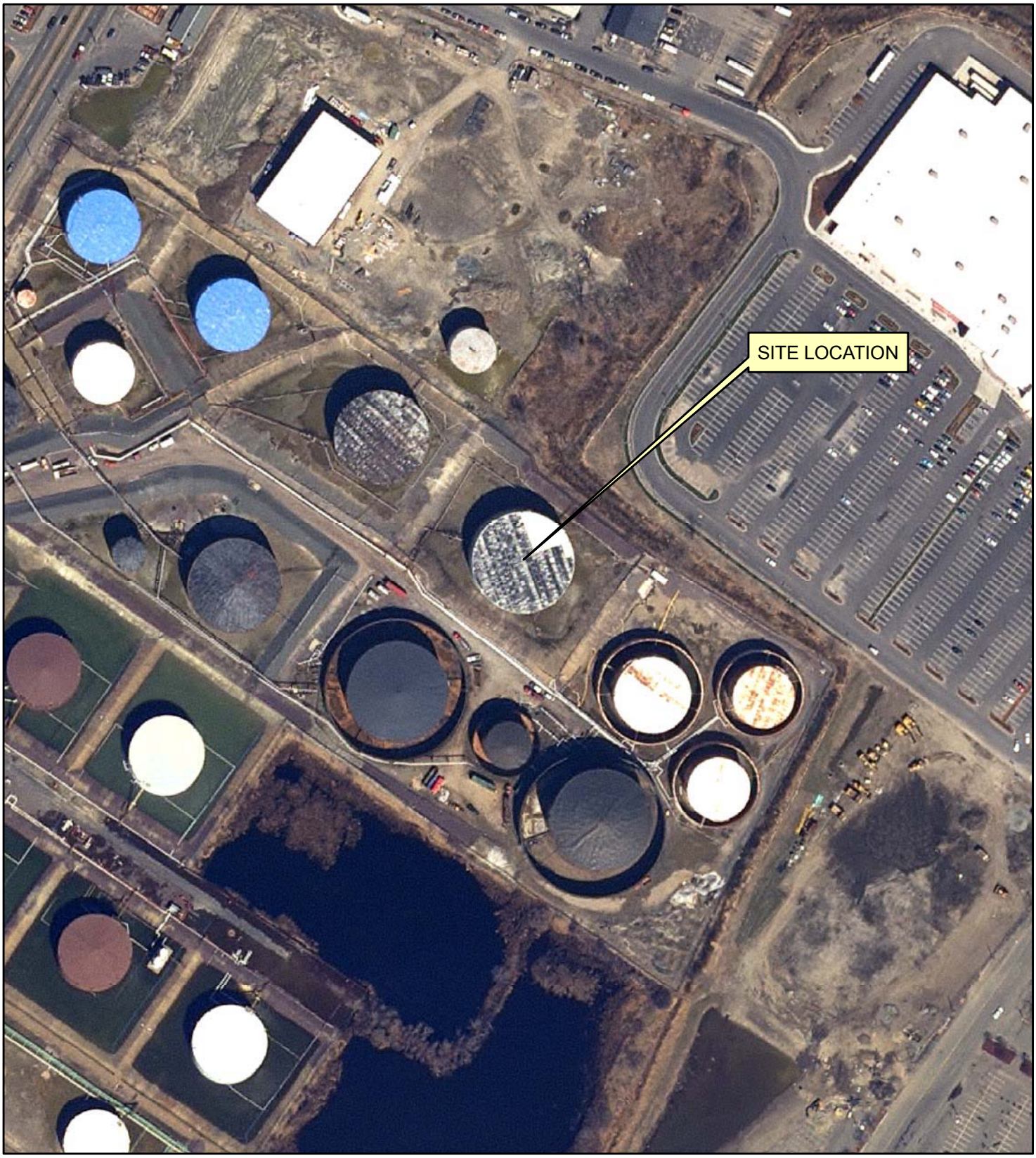
FIGURE 2
PRIORITY RESOURCE MAP

Global South and Revco Terminal L.L.C
Tank 20
101 Lee Burbank Highway
Revere, Massachusetts
RTN 3-27976

Tighe&Bond

November 2008

Data source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs.
Circles indicate 500-foot and half-mile radii.
Data valid as of October 2008.



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Feet

Based on MassGIS Color Orthophotography (April 2005)
Orthophoto Sheet ID # 245902

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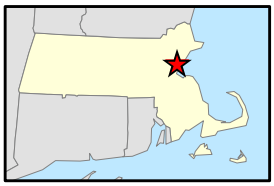


FIGURE 3
ORTHOPHOTOGRAPH
Global South and Revco Terminal L.L.C
Tank 20
101 Lee Burbank Highway
Revere, Massachusetts
RTN 3-27976
Tighe&Bond
November 2008

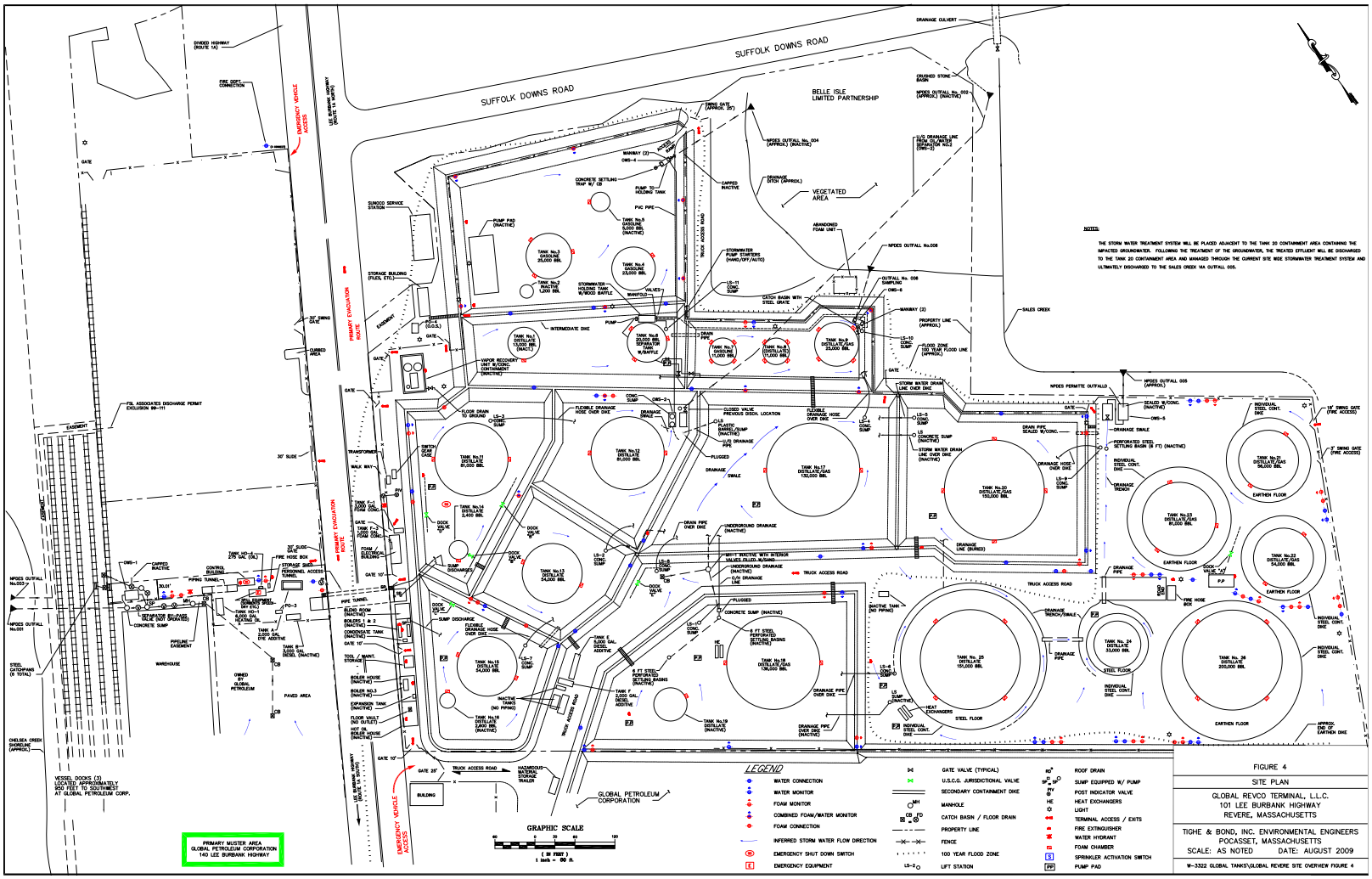


FIGURE 4

SITE PLAN

GLOBAL REVCO TERMINAL, L.L.C.
101 LEE BURBANK HIGHWAY
REVERE, MASSACHUSETTS

TIGHE & BOND, INC. ENVIRONMENTAL ENGINEERS
POCASSET, MASSACHUSETTS
SCALE: AS NOTED DATE: AUGUST 2009

W-3322 GLOBAL TANKS\GLOBAL REVERE SITE OVERVIEW FIGURE 4

Tighe&Bond

APPENDIX B

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General site information. Please provide the following information about the site:

a) Name of **facility/site**: Global Revco Terminal, LLC		**Facility/site** address:		
Location of **facility/site**: longitude: -71°00'10" latitude: 42°23'57"	Facility SIC code(s): 5171	Street: 101 Lee Burbank Highway		
b) Name of **facility/site owner:** Global Revco Terminal, LLC		Town: Revere		
Email address of owner: TKeefe@globalp.com		State: MA	Zip: 02151	County: Suffolk
Telephone no.of facility/site **owner**: (781) 398-4132				
Fax no. of facility/site **owner**: (781) 398-9212		**Owner** is (check one): 1. Federal____ 2. State/Tribal_____ 3. Private__✓___ 4. other, if so, describe:		
Address of **owner** (if different from site):				
Street: 800 South Street				
Town: Waltham	State: MA	Zip: 02454	County: Middlesex	
c) Legal name of **operator**: Global Revco Terminal, LLC	**Operator** telephone no: (781) 398-4132			
	Operator fax no.: (781) 398-9212		**Operator** email: TKeefe@globalp.com	
Operator contact name and title: Tom Keefe, Director of EH&S Operations				
Address of **operator** (if different from owner):	Street: 800 South Street			
Town: Waltham	State: MA	Zip: 02454	County: Middlesex	

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

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes ✓ No___ If "yes," please list: 1. site identification # assigned by the state of NH or MA: RTN 3-27976 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number: MassDEP BWSC	f) Is the site/facility covered by any other EPA permit, including: 1. multi-sector storm water general permit? Y___ N✓, if Y, number: 2. phase I or II construction storm water general permit? Y___ N✓, if Y, number: 3. individual NPDES permit? Y✓ N___, if Y, number: MA0003298 4. any other water quality related permit? Y___ N✓, if Y, number:

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

a) Describe the discharge activities for which the owner/applicant is seeking coverage: Gasoline impacted groundwater that will be treated via GAC filters to remove organics and bag filters to remove course solids. The treated groundwater will be discharged into the earthen containment area at Tank 20/17 and will be managed by the facility's stormwater treatment system, through an OWS and discharged to the Sales Creek via outfall 005.		
b) Provide the following information about each discharge:	1) Number of discharge points: 1	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft3/s)? Max. flow 0.22 Average flow 0.22 Is maximum flow a **design value**? Y___ N✓ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.
3) Latitude and longitude of each discharge within 100 feet: pt.1:long. -71°00'10" lat. 42°23'57"; pt.2: long._____ lat._____; pt.3: long._____ lat._____; pt.4:long._____ lat._____; pt.5: long._____ lat._____; pt.6:long._____ lat._____; pt.7: long._____ lat._____; pt.8:long._____ lat._____; etc.		
4) If hydrostatic testing, total volume of the discharge (gals):	5) Is the discharge intermittent ✓ or seasonal_____? Is discharge ongoing Yes ____ No ✓ ?	
c) Expected dates of discharge (mm/dd/yy): start 09/04/09 end 09/19/09		
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. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

Gasoline Only ✓	VOC Only	Primarily Metals	Urban Fill Sites	Contaminated Sumps	Mixed Contaminants	Aquifer Testing
Fuel Oils (and Other Oils) only	VOC with Other Contaminants	Petroleum with Other Contaminants	Listed Contaminated Sites	Contaminated Dredge Condensates	Hydrostatic Testing of Pipelines/Tanks	Well Development or Rehabilitation

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

PARAMETER	**Believe Absent**	**Believe Present**	**# of Samples (1 min-imum)**	**Type of Sample (e.g., grab)**	**Analytical Method Used (method #)**	**Minimum Level (ML) of Test Method**	**Maximum daily value**		**Avg. daily value**	
							concentration (ug/l)	**mass (kg)**	**concentration (ug/l)**	**mass (kg)**
1. Total Suspended Solids		✓	2	Grab	SM2540D	40,000	1,700,000		1,500,000	
2. Total Residual Chlorine		✓	2	Grab	SM4500	20	60		35	
3. Total Petroleum Hydrocarbons		✓	2	Grab	8015B	200	2,600		2,450	
4. Cyanide	✓		2	Grab	9012A	10	ND		ND	
5. Benzene		✓	2	Grab	8260B	1	4,600		2,304	
6. Toluene		✓	2	Grab	8260B	1	19,000		9,529	
7. Ethylbenzene		✓	2	Grab	8260B	1	1,200		609	
8. (m,p,o) Xylenes		✓	2	Grab	8260B	1	4,100		2,095	
9. Total BTEX[4]		✓	2	Grab	8260B	1	28,900		14,537	

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide [5] (1,2- Dibromo-methane)	✓		2	Grab	8011	0.02	ND		ND	
11. Methyl-tert-Butyl Ether (MtBE)		✓	2	Grab	8260B	1	210		105	
12. tert-Butyl Alcohol (TBA)	✓		2	Grab	8260B	40	ND		ND	
13. tert-Amyl Methyl Ether (TAME)	✓		2	Grab	8260B	1	ND		ND	
14. Naphthalene		✓	2	Grab	8260B	1	230		7	
15. Carbon Tetra-chloride	✓		2	Grab	8260B		ND		ND	
16. 1,4 Dichlorobenzene	✓		2	Grab	8260B		ND		ND	
17. 1,2 Dichlorobenzene	✓		2	Grab	8260B		ND		ND	
18. 1,3 Dichlorobenzene	✓		2	Grab	8260B		ND		ND	
19. 1,1 Dichloroethane	✓		2	Grab	8260B		ND		ND	
20. 1,2 Dichloroethane	✓		2	Grab	8260B		ND		ND	
21. 1,1 Dichloroethylene	✓		2	Grab	8260B		ND		ND	
22. cis-1,2 Dichloro-ethylene	✓		2	Grab	8260B		ND		ND	
23. Dichloromethane (Methylene Chloride)	✓		2	Grab	8260B	5	ND		ND	
24. Tetrachloroethylene	✓		2	Grab	8260B		ND		ND	

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane	✓		2	Grab	8260B	1	ND		ND	
26. 1,1,2 Trichloroethane	✓		2	Grab	8260B	1	ND		ND	
27. Trichloroethylene	✓		2	Grab	8260B	1	ND		ND	
28. Vinyl Chloride	✓		2	Grab	8260B	1	ND		ND	
29. Acetone	✓		2	Grab	8260B	20	ND		ND	
30. 1,4 Dioxane	✓		2	Grab	8260B	1,000	ND		ND	
31. Total Phenols	✓		2	Grab	8270C	5	ND		ND	
32. Pentachlorophenol	✓		2	Grab	8270C	1	ND		ND	
33. Total Phthalates [6] (Phthalate esthers)	✓		2	Grab	8270C	5	ND		ND	
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	✓		2	Grab	8270C	5	ND		ND	
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		✓	2	Grab	8270C	0.1	1.1		0.575	
a. Benzo(a) Anthracene		✓	2	Grab	8270C	0.1	0.2		0.125	
b. Benzo(a) Pyrene		✓	2	Grab	8270C	0.1	0.3		0.175	
c. Benzo(b)Fluoranthene		✓	2	Grab	8270C	0.1	0.3		0.175	
d. Benzo(k) Fluoranthene	✓		2	Grab	8270C	0.1	ND		ND	
e. Chrysene		✓	2	Grab	8270C	0.1	0.2		0.125	

[6]The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
f. Dibenzo(a,h) anthracene	✓		2	Grab	8270C	0.1	ND		0.5	
g. Indeno(1,2,3-cd) Pyrene	✓		2	Grab	8270C	0.1	0.1		0.075	
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		✓	2	Grab	8270C	0.5	99.5		49.9	
h. Acenaphthene	✓		2	Grab	8270C	0.5	0.5		0.5	
i. Acenaphthylene	✓		2	Grab	8270C	0.5	0.5		0.5	
j. Anthracene		✓	2	Grab	8270C	0.5	0.6		0.4	
k. Benzo(ghi) Perylene		✓	2	Grab	8270C	0.1	0.2		0.1	
l. Fluoranthene		✓	2	Grab	8270C	0.5	0.9		0.6	
m. Fluorene		✓	2	Grab	8270C	0.5	1.8		1.0	
n. Naphthalene-		✓	2	Grab	8270C	0.5	92		46	
o. Phenanthrene		✓	2	Grab	8270C	0.5	3.2		1.7	
p. Pyrene		✓	2	Grab	8270C	0.5	0.8		0.5	
37. Total Polychlorinated Biphenyls (PCBs)	✓		2	Grab	8082	0.2	ND		ND	
***3*8. Antimony**	✓		2	Grab	200.81	3	ND		ND	
39. Arsenic		✓	2	Grab	200.81	5	9		6	
40. Cadmium	✓		2	Grab	200.7	4	ND		ND	
41. Chromium III	✓		2	Grab	200.7	10	ND		ND	
42. Chromium VI	✓		2	Grab	7196A	10	ND		ND	

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper	✓		2	Grab	200.7	25	ND		ND	
44. Lead		✓	2	Grab	200.81	1	84		84	
45. Mercury	✓		2	Grab	245.1	0.2	ND		ND	
46. Nickel	✓		2	Grab	200.7	40	ND		ND	
47. Selenium	✓		2	Grab	200.81	5	ND		ND	
48. Silver	✓		2	Grab	200.81	7	ND		ND	
49. Zinc	✓		2	Grab	200.7	200	ND		ND	
50. Iron		✓	2	Grab	200.7	100	3,400		2,250	
Other (describe):										

c) For discharges where **metals** are believed present, please fill out the following:

Step 1: Do any of the metals in the influent have a **reasonable potential** to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y_✓_ N____	If yes, which metals? Iron and Lead
Step 2: For any metals which have **reasonable potential** to 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? Metals: Lead and Iron DF: 1.01	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 "Yes," 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: See attached Summary Letter						
b) Identify each applicable treatment unit (check all that apply):	Frac. tank ✓	Air stripper	Oil/water separator ✓	Equalization tanks	Bag filter ✓	GAC filter ✓
	Chlorination	Dechlorination	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 100 Maximum flow rate of treatment system 100 Design flow rate of treatment system 100						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets): N/A						

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

a) Identify the discharge pathway:	Direct_____	Within facility ✓	Storm drain____	River/brook____	Wetlands_____	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: The treated groundwater will be discharged following treatment to an adjacent containment area, where it will enter the existing facility system.						
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 SB,						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 0.00306 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? Yes____ No ✓ If yes, for which pollutant(s)? Is there a TMDL? Yes____ No____ If yes, for which pollutant(s)?						

6. Results of Consultation with Federal Services: Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes____ No ✓
Has any consultation with the federal services been completed ? Yes___ No ✓ or is consultation underway? Yes____ No ✓
What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one):
a "no jeopardy" opinion? _____or written concurrence____ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?

b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge?
Yes_____ No ✓ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes_____ No ✓

7. Supplemental information. :

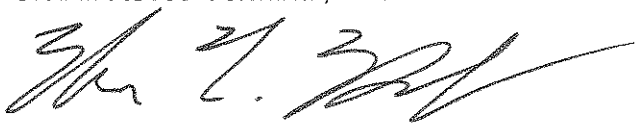
Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

A review of endangered habitat and historic properties was conducted when the NPDES permit was renewed and none where identified.

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: Global Revco Terminal, LLC

Operator signature: 

Title: Director of EHS Operations

Date: 08/19/2009

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APPENDIX C

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA", and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Global REVCO Terminal, LLC

is authorized to discharge from a facility located at

Global REVCO Terminal, LLC
101 and 186 Lee Burbank Highway
Revere, MA 02151

to receiving waters named

Chelsea River/Mystic River Watershed (MA71)
and
Sales Creek/Winthrop Harbor (MA70)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective sixty days from the date of signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on March 6, 1998.

This permit consists of 14 pages in Part I including effluent limitations, monitoring requirements, and 35 pages in Part II including General Conditions and Definitions.

Signed this 30 day of June, 2005

Linda M. Murphy, Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Glenn Haas, Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge treated storm water runoff from the Global REVCO Terminal, LLC facility through Outfall Serial Number 001 to the Chelsea River. Such discharge shall: 1) be limited and monitored by the permittee as specified below; and 2) not cause a violation of the State Water Quality Standards of the receiving water.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements [1]	
		Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow Rate[3]	gpm	----	75	When Discharging	Estimate
Total Flow [4]	Mgal/ Month	Report Monthly Total	----	When Discharging	Estimate
Total Suspended Solids (TSS)	mg/L	30	100	2/Month[2]	Grab
Oil and Grease (O&G) [5]	mg/L	----	15	2/Month[2]	Grab
pH	S.U.	----	6.5 to 8.5 [6]	2/Month[2]	Grab

See page 6 for explanation of footnotes

Part I.A.1, Continued

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements [1]	
		Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Polynuclear Aromatic Hydrocarbons (PAHs) [7]					
Benzo(a)anthracene	µg/L	----	Report	Quarterly[2]	Grab
Benzo(a)pyrene	µg/L	----	Report	Quarterly[2]	Grab
Benzo(b)fluoranthene	µg/L	----	Report	Quarterly[2]	Grab
Benzo(k)fluoranthene	µg/L	----	Report	Quarterly[2]	Grab
Chrysene	µg/L	----	Report	Quarterly[2]	Grab
Dibenzo(a,h)anthracene	µg/L	----	Report	Quarterly[2]	Grab
Indeno(1,2,3-cd)pyrene	µg/L	----	Report	Quarterly[2]	Grab
Naphthalene	µg/L	----	Report	Quarterly[2]	Grab
Volatile Organic Compounds (VOCs)					
Benzene	µg/L	----	51	Quarterly[2]	Grab
Toluene	µg/L	----	Report	Quarterly[2]	Grab
Ethylbenzene	µg/L	----	Report	Quarterly[2]	Grab
Total Xylenes	µg/L	----	Report	Quarterly[2]	Grab
Methyl Tertiary-Butyl Ether (MTBE)	µg/L	----	Report	Quarterly[2]	Grab

See page 6 for explanation of footnotes

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge treated storm water runoff from the Global REVCO Terminal, LLC facility through Outfall Serial Number 005 to Sales Creek. Such discharge shall: 1) be limited and monitored by the permittee as specified below; and 2) not cause a violation of the State Water Quality Standards of the receiving water.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements [1]	
		Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow Rate[3]	gpm	----	500	When Discharging	Estimate
Total Flow [4]	Mgal/ Month	Report Monthly Total	----	When Discharging	Estimate
Total Suspended Solids (TSS)	mg/L	30	100	2/Month[2]	Grab
Oil and Grease (O&G) [5]	mg/L	----	15	2/Month[2]	Grab
pH	S.U.	----	6.5 to 8.5 [6]	2/Month[2]	Grab

See page 6 for explanation of footnotes

Part I.A.2, Continued

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirements [1]	
		Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Polynuclear Aromatic Hydrocarbons (PAHs) [7]					
Benzo(a)anthracene	µg/L	----	Report	Quarterly[2]	Grab
Benzo(a)pyrene	µg/L	----	Report	Quarterly[2]	Grab
Benzo(b)fluoranthene	µg/L	----	Report	Quarterly[2]	Grab
Benzo(k)fluoranthene	µg/L	----	Report	Quarterly[2]	Grab
Chrysene	µg/L	----	Report	Quarterly[2]	Grab
Dibenzo(a,h)anthracene	µg/L	----	Report	Quarterly[2]	Grab
Indeno(1,2,3-cd)pyrene	µg/L	----	Report	Quarterly[2]	Grab
Naphthalene	µg/L	----	Report	Quarterly[2]	Grab
Volatile Organic Compounds (VOCs)					
Benzene	µg/L	----	51	Quarterly[2]	Grab
Toluene	µg/L	----	Report	Quarterly[2]	Grab
Ethylbenzene	µg/L	----	Report	Quarterly[2]	Grab
Total Xylenes	µg/L	----	Report	Quarterly[2]	Grab
Methyl Tertiary-Butyl Ether (MTBE)	µg/L	----	Report	Quarterly[2]	Grab

See page 6 for explanation of footnotes

Footnotes:

1. All samples shall be collected from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (i.e., greater than 0.1 inch rainfall) storm event. All samples are to be grab samples taken within thirty (30) minutes of the initiation of the discharge from the outfall(s) where practicable, but in no case later than within the first hour of discharge from the outfall(s). Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: after treatment in the Oil/Water (O/W) Separator but before the effluent is discharged into and/or mixes with the Chelsea River and/or Sales Creek.

2. Sampling frequency of 2/month is defined as the sampling of <u>two</u> (2) storm event (as defined above in Footnote No. 1) in each calendar month. Sampling frequency of quarterly is defined as the sampling of <u>one</u> (1) storm event (as defined above in Footnote No. 1) in each quarter. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive; and October through December, inclusive. **Quarterly sampling shall be performed concurrently with one of the monthly monitoring events.** The permittee shall submit the results to EPA and MADEP of any additional testing done to that required herein, if it is conducted in accordance with EPA approved methods consistent with the provisions of 40 CFR §122.41(l)(4)(ii).

3. For Flow Rate, the maximum daily value represents the estimated maximum instantaneous flow rate identified by the facility as passing through the Oil/Water (O/W) Separator for each day that storm water is discharged during the reporting period. The maximum instantaneous flow rate, which is to be reported in the units of gallons per minute (gpm), shall be based upon the estimated flow rate passing through the flow reduction device installed by the facility to control the rate of flow entering the O/W Separator.

4. For Total Flow, the value reported represents the estimated sum of the flow for each day that storm water is discharged during that month. The total monthly flow rate shall be determined based upon the estimated flow rate passing through the flow reduction device and the estimated total number of hours that storm water is discharged during the reporting period. Total Flow shall be reported in the units of millions of gallons/month (Mgal/month). The permittee shall also report the total number of days during the reporting period in which there was a discharge from the outfall(s) (to be noted on DMR form under "Event Total" parameter).

5. O&G is to be measured using EPA Method 1664

6. See Part I.A.4., Page 7

7. See Part I.A.17., Page 8

Part 1.A. (Continued)

3. The discharges either individually or in combination shall not cause a violation of State Water Quality Standards of the receiving waters.

4. The pH of the effluent shall not be less than 6.5 nor greater than 8.5 at any time unless these values are exceeded as a result of natural causes.

5. The discharge shall not cause objectionable discoloration of the receiving waters.

6. The discharge shall not contain a visible oil sheen, foam, nor floating solids at any time.

7. The discharge shall not contain materials in concentrations or combinations which are hazardous or toxic to human health, aquatic life of the receiving surface waters or which would impair the uses designated by its classification.

8. There shall be no discharge of tank bottom water and/or bilge water alone or in combination with storm water discharge or other wastewater.

9. The discharge shall not impart color, taste, turbidity, toxicity, radioactivity or other properties which cause those waters to be unsuitable for the designated uses and characteristics ascribed to their use.

10. Notwithstanding specific conditions of this permit, the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

11. The permittee shall inspect, operate, and maintain the O/W Separator(s) at the facility to ensure that the Effluent Limitations and Conditions contained in this permit are met. The permittee shall ensure that all components of the facility's Storm Water Pollution Prevention Plan including those which specifically address the operation and maintenance of the O/W Separator(s) and other components of the storm water conveyance system are complied with.

12. Chemicals (i.e. disinfecting agents, detergents, emulsifiers, etc.), bioremedial agents including microbes shall not be added to the collection and treatment systems without prior approval by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MADEP) to prevent hydrocarbon and/or particulate matter carryover into the Chelsea River and/or Sales Creek.

13. There shall be no discharge of any sludge and/or bottom deposits from any storage tank(s), basin(s), and/or diked area(s) to the receiving waters. Examples of storage tanks and/orbasins include, but are not limited to: primary catch basins, stilling basins, O/W Separators, petroleum product storage tanks, baffled storage tanks collecting spills, and tank truck loading rack sumps.

14. The bypass of storm water runoff, wash water, or water used at the facility is prohibited except where necessary to avoid loss of life, injury, or severe property damage. Each bypass shall be sampled for all of the effluent characteristics identified in Part I.A.1 and/or Part I.A.2 of this permit (i.e., monthly and quarterly) and the results reported to EPA within forty-five (45) days of the initiation of the bypass. These bypass reporting requirements are in addition to those already identified in 40 Code of Federal Regulations (CFR) §122.41(m).

15. EPA may modify this permit in accordance with EPA regulations in 40 Code of Federal Regulations (CFR) §122.62 and §122.63 to incorporate more stringent effluent limitations, increase the frequency of analyses, or impose additional sampling and analytical requirements.

16. The appearance of any size sheen attributable to the discharge from this facility shall be reported immediately by the permittee to the appropriate U.S. Coast Guard Officer in accordance with Section 311 of the Clean Water Act (CWA). This requirement is in addition to any reporting requirements contained in this National Pollutant Discharge Elimination System (NPDES) permit.

17. Reporting of Polynuclear Aromatic Hydrocarbons (PAHs) will be based on the Minimum Level (ML) of reporting. The ML is defined as the level at which the entire analytical system gives recognizable mass spectra and acceptable calibration points. This level corresponds to the lower points at which the calibration curve is determined based on the analysis of the pollutant(s) of concern in reagent water. PAH analysis shall include the following compounds and their respective MLs as identified in parenthesis for each compound: benzo(a)anthracene (<0.05 µg/L), benzo(a)pyrene (<2.0 µg/L), benzo(b)fluoranthene (<0.1 µg/L), benzo(k)fluoranthene (<2.0 µg/L), chrysene (<5.0 µg/L), dibenzo(a,h)anthracene (<0.1 µg/L), indeno(1,2,3-cd)pyrene (<0.15 µg/L), and naphthalene (0.2 µg/L).

18. The permittee shall attach a copy of the laboratory case narrative to the respective Discharge Monitoring Report Form submitted to EPA and MADEP for each sampling event reported. The laboratory case narrative shall include a copy of the laboratory data sheets for each analyses (identifying the test method, the analytical results, and the detection limits for each analyte) and provide a brief discussion of whether all appropriate QA/QC procedures were met and were within acceptable limits.

19. All existing manufacturing, commercial, mining and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

(1) One hundred micrograms per liter (100 ug/l);

(2) Two hundred micrograms per liter (200 ug/l)for acrolein and acrylonitrite; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R.§122.21(g)(7); or

(4) Any other notification level established by the Director in accordance with 40 C.F.R.§122.44(f).

b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

(1) Five hundred micrograms per liter (500 ug/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R.§122.21(g)(7).

(4) Any other notification level established by the Director in accordance with 40 C.F.R.§122.44(f).

c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

20. Wastewater Treatment System Flow Control

a. Written notification and approval by EPA and the MADEP shall be required, should the permittee propose changes to either the storm water conveyance or treatment systems which have the potential to cause the maximum design flow rate through the O/W Separator to be exceeded.

21. Toxics Control

a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

22. Hydrostatic Test Water Discharges

a. The hydrostatic test water shall be monitored as described below and treated through the O/W separator prior to being discharged through Outfall 005 to Sales Creek. In addition, the flow of hydrostatic test water into the O/W separator shall be controlled to prevent it from exceeding the maximum design flow rate of the separator.

b. At a minimum, four (4) representative samples shall be taken of the hydrostatic test water: one (1) grab sample of the influent test water; and three (3) serial-grab samples of the hydrostatic test water effluent. The influent grab sample shall be taken approximately midway through the fill segment of the hydrostatic test procedure. The three (3) effluent serial-grab samples shall be taken over the duration of the entire discharge segment of the hydrostatic test procedure. The first effluent serial-grab sample shall be taken during the initial phase of discharge; the second around the midpoint; and the third near the end of the discharge. The effluent serial-grab samples shall be obtained before discharge into the O/W Separator and/or mixing with any storm water or other non-storm water flow.

These influent and effluent samples shall be analyzed for the following parameters:

1. Total Suspended Solids (TSS)
2. Oil & Grease (O&G)
3. pH
4. Dissolved Oxygen (DO)
5. Total Residual Chlorine
6. Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX)
7. MTBE
8. PAHs

c. Testing for total residual chlorine is only required when potable water or a similar source of water which is likely to contain a residual chlorine concentration is used for hydrostatic testing. Testing for MTBE is only required if the tank undergoing testing was recently (i.e., within three years of the proposed testing date) used to store gasoline.

d. During discharge (i.e., approximately at the same time the three effluent grab samples are taken), the flow exiting through the O/W Separator or outfall should be observed in order to prevent the inadvertent release of hydrocarbons to the receiving water(s). In the event that there is evidence of such a release (e.g., visible oil sheen and/or noticeable increase in turbidity of discharge water), the permittee shall immediately halt the discharge of hydrostatic test water and take steps to correct the problem.

e. Any changes to these procedures must be approved by EPA and the MADEP prior to their implementation.

f. The permittee shall submit a letter/report to EPA, the MADEP, and the Director of Public Works of the municipality in which the facility is located, summarizing the results of the hydrostatic test within forty-five (45) days of completion of the test. This report shall contain: the date(s) during which the hydrostatic testing occurred; the volume of hydrostatic test water discharged; a copy of the laboratory data sheets for each analyses, providing the test method, the detection limits for each analyte, and a brief discussion of whether all appropriate QA/QC procedures were met and were within acceptable limits; and a brief discussion of the overall test results and how they relate to the Effluent Limitations in this permit.

g. The U.S. Environmental Protection Agency shall reserve the right to re-open the permit, in accordance with 40 CFR §122.62(a)(2), to examine hydrostatic test water discharges in the event that sampling results indicate that the standards for the assigned classification of Sales Creek might not be attained using only an O/W Separator for treatment of such discharges.

B. BEST MANAGEMENT PRACTICES/STORM WATER POLLUTION PREVENTION PLAN

1. The permittee shall maintain, update and implement the Storm Water Pollution Prevention Plan (SWPPP) to account for any changes that occur at the facility which could impact the plan. The permittee shall be required to provide annual certification to EPA and the MADEP documenting that the previous year's inspections and maintenance activities were conducted, results recorded, records maintained, and that the facility is in compliance with the SWPPP.

2. In order to reduce the transportation of particulate matter to storm water conveyance and treatment devices at this facility, the permittee shall amend its existing SWPPP to include sweeping of paved areas at a frequency of no less than twice per year. At least one of the sweeping events shall occur in the early spring (i.e., March to April) to maximize the removal of solids which may have accumulated at the facility over the winter.

3. The permittee shall reevaluate its Best Management Practices (BMPs) for preventing and controlling the discharge of TSS. The results of this evaluation shall be submitted to EPA concurrent with the first annual certification by each facility of its SWPPP. Specifically, as part of this evaluation each facility shall be required to discuss and identify whether any changes, modifications and/or improvements are needed at the facility for the following items: 1) the effectiveness of the existing BMPs for reducing TSS loading; 2) the effectiveness of the current operation and maintenance performed on storm water conveyance and treatment systems for reducing TSS loading; 3) the effectiveness of surface soil conditions in the tank farm areas for reducing TSS loading; 4) the effectiveness of the existing treatment technology (i.e., Oil/Water Separator) for reducing TSS loading; and 5) the effectiveness of additional treatment technologies (and cost) which could be implemented to further reduce TSS levels.

4. The permittee shall submit a letter to the EPA and the MADEP notifying these agencies of the facility's intent to store ethanol, if applicable. Such notification shall be sent to the EPA and the MADEP at least ninety (90) days prior to the date that the facility intends to begin storing ethanol. The permittee shall also amend its existing SWPPP to identify what special provisions and conditions the facility will use for containing and treating ethanol, should it be spilled. This amendment shall take into account the analytical challenges for monitoring of this compound and the limited effectiveness of an Oil/Water Separator in treating this compound. The portions of the amended SWPPP shall accompany the ethanol notification letter sent to the EPA and the MADEP.

5. The certification shall be signed in accordance with the requirements identified in 40 CFR §122.22 and a copy of the certification will be sent each year to EPA and MADEP as well as appended to the SWPPP within thirty (30) days of the annual anniversary of the effective date of the Draft Permit. The permittee shall keep a copy of the most recent SWPPP at the facility and shall make it available for inspection by EPA and MADEP.

6. A copy of the SWPPP shall be provided to the municipality in which the facility is located upon written request by such municipality to the facility.

C. REOPENER CLAUSES

1. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable standard or limitation promulgated or approved under sections 301(b)(2)(C) and (d), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

   a. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

   b. Controls any pollutants not limited in the permit.

2. This permit may be modified to incorporate new analytical methods and/or additional treatment for ethanol in the event that this facility elects to store ethanol in the future, and/or the changes to the SWPPP are not effective and protective in controlling the discharge of this compound to the receiving water.

D. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the month following the effective date of the permit.

Signed and dated originals of these, and all other reports and evaluations required herein, shall be submitted to EPA at the following address:

EPA New England - Region 1
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

In addition, a second copy of each hydrostatic testing letter/report submitted in accordance with this permit shall be sent to EPA at the following address:

EPA New England - Region 1
OEP/Industrial Permits Branch
1 Congress Street, Suite 1100 (CIP)
Boston, Massachusetts 02114

Signed and dated Discharge Monitoring Report Form(s) and all other reports required by this permit shall also be submitted to the State at the following addresses:

Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Waste Prevention
One Winter Street
Boston, MA 02108

and

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

E. STATE PERMIT CONDITIONS

1. This Discharge Permit is issued jointly by the EPA and the MADEP under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MA DEP pursuant to M.G.L. Chap.21, §43.

2. Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as a NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.

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APPENDIX D

TABLE 1 RGP - Groundwater Analytical Results
Global Revco Terminal, LLC - Tank 20
101 Lee Burbank Highway
Revere, MA

Analytical Test	Sample Identification	Sump-1	Sump-2		RGP Effluent
Compound	Sample Date	8/11/2009	8/11/2009	Ave. Concentration	Limits
TPH - ug/L	Total Petroleum Hydrocarbons	2,600	2,300	2,450	5,000
Metals - ug/L	Antimony, Total	< 3	< 3	ND	5.6
	Arsenic, Total	9	< 5	6	36
	Cadmium, Total	< 4	< 4	ND	8.9
	Chromium, Hexavalent	< 10	< 10	ND	50.3
	Chromium, Total	< 10	< 10	ND	100
	Copper, Total	< 25	< 25	ND	3.7
	Iron, Total	**3,400**	**1,100**	**2,250**	**1,000**
	Lead, Total	**84**	**84**	**84**	**8.5**
	Mercury, Total	< 0.2	< 0.2	ND	1.1
	Nickel, Total	< 40	< 40	ND	8.2
	Selenium, Total	< 5	< 5	ND	71
	Silver, Total	< 7	< 7	ND	2.2
	Zinc, Total	< 200	< 200	ND	85.6
EDB - ug/L	1,2-Dibromoethane (EDB)	< 0.02	< 0.02	ND	0.05
PCBs - ug/L	Aroclor 1016	< 0.2	< 0.2	ND	0.000064
	Aroclor 1221	< 0.2	< 0.2	ND	0.000064
	Aroclor 1232	< 0.2	< 0.2	ND	0.000064
	Aroclor 1242	< 0.2	< 0.2	ND	0.000064
	Aroclor 1248	< 0.2	< 0.2	ND	0.000064
	Aroclor 1254	< 0.2	< 0.2	ND	0.000064
	Aroclor 1260	< 0.2	< 0.2	ND	0.000064
	Aroclor 1262	< 0.2	< 0.2	ND	0.000064
	Aroclor 1268	< 0.2	< 0.2	ND	0.000064
	Total PCBs	< 0.2	< 0.2	ND	0.000064
VOCs - ug/L	Vinyl Chloride	< 100	< 1	ND	2.0
	1,1-Dichloroethene	< 100	< 1	ND	3.2
	Acetone	< 2000	< 20	ND	Monitor Only
	Methylene Chloride	< 500	< 5	ND	4.6
	Methyl tert-butyl Ether (MTBE)	**210**	< 1	**105**	**70**
	1,1-Dichloroethane	< 100	< 1	ND	70
	cis-1,2-Dichloroethene	< 100	< 1	ND	70
	1,1,1-Trichloroethane	< 100	< 1	ND	200
	Carbon Tetrachloride	< 100	< 1	ND	4.4
	1,2-Dichloroethane	< 100	< 1	ND	5.0
	Trichloroethene	< 100	< 1	ND	5.0
	1,4-Dioxane	< 100000	< 1000	ND	Monitor Only
	1,1,2-Trichloroethane	< 100	< 1	ND	5.0
	Tetrachloroethene	< 100	< 1	ND	5.0
	Styrene	250	2	126	NA
	Isopropylbenzene	< 100	2	26	NA
	1,2,4-Trimethylbenzene	360	32	196	NA
	1,3-Dichlorobenzene	< 100	< 1	ND	320
	1,4-Dichlorobenzene	< 100	< 1	ND	5.0
	1,2-Dichlorobenzene	< 100	< 1	ND	600
	Naphthalene	**230**	7	119	**20**
	1,2,3-Trichlorobenzene	< 100	< 1	ND	NA
	tert-Butyl Alcohol (TBA)	< 4000	< 40	ND	Monitor Only
	Ethyl tert-butyl Ether (ETBE)	210	< 1	105	NA
	tert-Amyl Methyl Ether (TAME)	< 100	< 1	ND	Monitor Only
	Benzene	**4,600**	**8**	**2,304**	**5.0**
	Toluene	19,000	58	**9,529**	NA
	Ethylbenzene	1,200	17	**609**	NA
	Total Xylenes	4,100	90	**2,095**	NA
	Total BTEX	**28,900**	**173**	**14,537**	**100**
SVOCs - ug/L	Pentachlorophenol	< 1	< 1	ND	1.0
	bis(2-Ethylhexyl)phthalate	< 5	< 50	ND	6.0
	Total Phenols	ND	ND	ND	300
	Total Phthalates	ND	ND	ND	3.0
PAHs - ug/L	Benzo[a]anthracene	< 0.1	**0.2**	**0.125**	**0.0038**
	Benzo[b]fluoranthene	< 0.1	**0.3**	**0.175**	**0.0038**
	Benzo[k]fluoranthene	< 0.1	< 0.1	ND	0.0038
	Benzo[a]pyrene	< 0.1	**0.3**	**0.175**	**0.0038**
	Chrysene	< 0.1	**0.2**	**0.125**	**0.0038**
	Indeno[1,2,3-c,d]pyrene	< 0.1	**0.1**	**0.075**	**0.0038**
	Dibenzo[a,h]anthracene	< 0.1	< 0.1	ND	0.0038
	Total Group I PAHs	ND	1.1	**0.575**	10.0
	Naphthalene	< 0.5	**92**	**46**	**20**
	Acenaphthylene	< 0.5	< 0.5	ND	NA
	Acenaphthene	< 0.5	< 0.5	ND	NA
	Fluorene	< 0.5	1.8	1.0	NA
	Phenanthrene	< 0.5	3.2	1.7	NA
	Anthracene	< 0.5	0.6	0.4	NA
	Fluoranthene	< 0.5	0.9	0.6	NA
	Pyrene	< 0.5	0.8	0.5	NA
	Benzo[g,h,i]perylene	< 0.1	0.2	0.1	NA
	Total Group II PAHs	nd	99.5	49.9	100
Cyanide - ug/L	Cyanide, Total	< 10	< 10	ND	1.0
TSS - ug/L	Total Suspended Solids	**1,300,000**	**1,700,000**	**1,500,000**	**30,000**
Residual Chlorine - ug/L	Total Residual Chlorine	**60**	< 20	**35**	**7.5**

Notes:
VOCs = Volatile organic compounds
PCBs = Polychlorinated Biphenyls
PAHs = Polycyclic Aromatic Hydrocarbons
ug/L = micrograms per liter (ppb)
< xx = not detected above the indicated laboratory method detection limit
NA = Not Applicable
Bordered = Method detection limit exceeds RGP Effluent Limit
***Bolded concentrations** = Result exceeds RGP Effluent Limit*

Groundwater Analytical, Inc.
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228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475
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August 17, 2009

Mr. Michael E. Martin
Tighe & Bond
4 Barlow's Landing Road
Unit #15
Pocasset, MA 02559

LABORATORY REPORT

Project: **Global Revco - Tank 20/W-3322-20-01**
Lab ID: **127243**
Received: **08-11-09**

Dear Mike:

Enclosed are the analytical results for the above referenced project. The project was processed for Rush 3 Business Day turnaround.

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

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

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

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

Sincerely,

Karyn E. Raymond

Karyn E. Raymond
Project Manager

KER/kh
Enclosures

GROUNDWATER ANALYTICAL

Sample Receipt Report

Project: **Global Revco - Tank 20/W-3322-20-01**
Client: **Tighe & Bond**
Lab ID: **127243**

Delivery: **Hand**
Airbill: **n/a**
Lab Receipt: **08-11-09**

Temperature: **6.0ºC**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-1	Sump-1		Aqueous	8/11/09 11:15	EPA 8260B Volatile Organics with Oxygenates				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1171841	40 mL VOA Vial	Proline	BX33804	HCL	R-5614B	07-22-09	n/a		
C1171840	40 mL VOA Vial	Proline	BX33804	HCL	R-5614B	07-22-09	n/a		
C1171839	40 mL VOA Vial	Proline	BX33804	HCL	R-5614B	07-22-09	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-2	Sump-2		Aqueous	8/11/09 11:45	EPA 8260B Volatile Organics with Oxygenates				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1171849	40 mL VOA Vial	Proline	BX33804	HCL	R-5614B	07-22-09	n/a		
C1171848	40 mL VOA Vial	Proline	BX33804	HCL	R-5614B	07-22-09	n/a		
C1171847	40 mL VOA Vial	Proline	BX33804	HCL	R-5614B	07-22-09	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-3	Sump-1		Aqueous	8/11/09 11:15	EPA 8011 EDB and DBCP by GC/ECD				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1070828	40 mL VOA Vial	Proline	BX29534	None	n/a	n/a	02-01-08		
C1070826	40 mL VOA Vial	Proline	BX29534	None	n/a	n/a	02-01-08		
C1171013	40 mL VOA Vial	Proline	BX33782	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-4	Sump-2		Aqueous	8/11/09 11:45	EPA 8011 EDB and DBCP by GC/ECD				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1070806	40 mL VOA Vial	Proline	BX29534	None	n/a	n/a	02-01-08		
C1070805	40 mL VOA Vial	Proline	BX29534	None	n/a	n/a	02-01-08		
C1171012	40 mL VOA Vial	Proline	BX33782	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-5	Sump-1		Aqueous	8/11/09 11:15	EPA 8270C Semivolatile Organics (Low Level)				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1175489	1 L Amber Glass	Proline	BX34383	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-6	Sump-2		Aqueous	8/11/09 11:45	EPA 8270C Semivolatile Organics (Low Level)				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1175486	1 L Amber Glass	Proline	BX34383	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-7	Sump-1		Aqueous	8/11/09 11:15	EPA 8082 PCBs				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1175484	1 L Amber Glass	Proline	BX34383	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-8	Sump-2		Aqueous	8/11/09 11:45	EPA 8082 PCBs				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1175487	1 L Amber Glass	Proline	BX34383	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-9	Sump-1		Aqueous	8/11/09 11:15	TPH by GC EPA 8015B Mod				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1175400	1 L Amber Glass	Proline	BX34386	H2SO4	R-5914A	07-31-09	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project: **Global Revco - Tank 20/W-3322-20-01**
Client: **Tighe & Bond**
Lab ID: **127243**

Delivery: **Hand**
Airbill: **n/a**
Lab Receipt: **08-11-09**

Temperature: **6.0ºC**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-10	Sump-2		Aqueous	8/11/09 11:45	TPH by GC EPA 8015B Mod				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1175403	1 L Amber Glass	Proline	BX34386	H2SO4	R-5914A	07-31-09	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-11	Sump-1		Aqueous	8/11/09 11:15	SM 4500-Cl G Total Residual Chlorine EPA 7196A Hexavalent Chromium SM 2540 D Total Suspended Solids				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C412737	1 L Plastic	Proline	BX34292	None	n/a	n/a	n/a		
C1168409	250 mL Plastic	Proline	BX34309	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-12	Sump-2		Aqueous	8/11/09 11:45	SM 4500-Cl G Total Residual Chlorine EPA 7196A Hexavalent Chromium SM 2540 D Total Suspended Solids				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C412738	1 L Plastic	Proline	BX34292	None	n/a	n/a	n/a		
C1168410	250 mL Plastic	Proline	BX34309	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-13	Sump-1		Aqueous	8/11/09 11:15	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1179748	500 mL Plastic	Proline	BX34306	NaOH	R-5653A	07-31-09	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-14	Sump-2		Aqueous	8/11/09 11:45	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1179736	500 mL Plastic	Proline	BX34306	NaOH	R-5653A	07-31-09	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-15	Sump-1		Aqueous	8/11/09 11:15	EPA 200.7 Ag Cd Cr Cu Fe Ni Se Zn Total EPA 200.8 As Pb Sb Total EPA 245.1 Hg Total				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1185180	250 mL Plastic	Proline	BX33914	HNO3	R-5790D	07-02-09	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
127243-16	Sump-2		Aqueous	8/11/09 11:45	EPA 200.7 Ag Cd Cr Cu Fe Ni Se Zn Total EPA 200.8 As Pb Sb Total EPA 245.1 Hg Total				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C1185198	250 mL Plastic	Proline	BX33914	HNO3	R-5790D	07-02-09	n/a		

GROUNDWATER ANALYTICAL

Data Certification

Project: **Global Revco - Tank 20/W-3322-20-01** Lab ID: **127243**
Client: **Tighe & Bond** Received: **08-11-09 13:56**

MA DEP Compendium of Analytical Methods						
Project Location: **n/a**				MA DEP RTN: **n/a**		
This Form provides certifications for the following data set:						
EPA 8260B: 127243-1,-2						
EPA 8270C: 127243-5,-6						
EPA 8082: 127243-7,-8						
EPA 9012A: 127243-13,-14						
EPA 7196A: 127243-11,-12						
Sample Matrices:	Groundwater (X)	Soil/Sediment ( )	Drinking Water ( )	Other ( )		
MCP SW-846 Methods Used	8260B (X)	8151A ( )	8330 ( )	6010B ( )	7470A/1A ( )	
	8270C (X)	8081A ( )	VPH ( )	6020A ( )	9012A[2] (X)	
As specified in MA DEP Compendium of Analytical Methods. (check all that apply)	8082 (X)	8021B ( )	EPH ( )	7000 S[3] (X)	Other ( )	
	1. List Release Tracking Number (RTN), if known.					
	2. SW-846 Method 9012A (Equivalent to 9014) or MA DEP Physiologically Available Cyanide (PAC) Method					
	3. S - SW-846 Methods 7000 Series. List individual method and analyte.					

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status.

A.	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?	Yes
B.	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	Yes
C.	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty," as described in Section 2.0 of the MA DEP document CAM VII A, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data* ?	Yes
D.	VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3?	n/a

A response to questions E and F below is required for "Presumptive Certainty" status.

E.	Were all QC performance standards and recommendations for the specified methods achieved?	No
F.	Were results for all analyte-list compounds/elements for the specified method(s) reported?	Yes

All No answers are addressed in the attached Project Narrative.

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

Signature: Karyn E. Raymond Position: Project Manager
Printed Name: Karyn E. Raymond Date: 08-17-09

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**Sump-1**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**40 mL VOA Vial**
Client:	**Tighe & Bond**	Preservation:	**HCl/ Cool**
Laboratory ID:	**127243-1**	QC Batch ID:	**VM7-3237-W**
Sampled:	**08-11-09 11:15**	Instrument ID:	**MS-7 HP 6890**
Received:	**08-11-09 13:56**	Sample Volume:	**25 mL**
Analyzed:	**08-13-09 14:47**	Dilution Factor:	**200**
Analyst:	**LMG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	100
74-87-3	Chloromethane	BRL		ug/L	100
75-01-4	Vinyl Chloride	BRL		ug/L	100
74-83-9	Bromomethane	BRL		ug/L	100
75-00-3	Chloroethane	BRL		ug/L	100
75-69-4	Trichlorofluoromethane	BRL		ug/L	100
60-29-7	Diethyl Ether	BRL		ug/L	400
75-35-4	1,1-Dichloroethene	BRL		ug/L	100
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	1,000
67-64-1	Acetone	BRL		ug/L	2,000
75-15-0	Carbon Disulfide	BRL		ug/L	1,000
75-09-2	Methylene Chloride	BRL		ug/L	500
107-13-1	Acrylonitrile	BRL		ug/L	100
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	100
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	**210**		ug/L	100
75-34-3	1,1-Dichloroethane	BRL		ug/L	100
594-20-7	2,2-Dichloropropane	BRL		ug/L	100
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	100
78-93-3	2-Butanone (MEK)	BRL		ug/L	1,000
74-97-5	Bromochloromethane	BRL		ug/L	100
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	1,000
67-66-3	Chloroform	BRL		ug/L	100
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	100
56-23-5	Carbon Tetrachloride	BRL		ug/L	100
563-58-6	1,1-Dichloropropene	BRL		ug/L	100
71-43-2	Benzene	**4,600**		ug/L	100
107-06-2	1,2-Dichloroethane	BRL		ug/L	100
79-01-6	Trichloroethene	BRL		ug/L	100
78-87-5	1,2-Dichloropropane	BRL		ug/L	100
74-95-3	Dibromomethane	BRL		ug/L	100
75-27-4	Bromodichloromethane	BRL		ug/L	100
123-91-1	1,4-Dioxane	BRL		ug/L	100,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	80
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	1,000
108-88-3	Toluene	**19,000**		ug/L	100
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	80
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	100
127-18-4	Tetrachloroethene	BRL		ug/L	100
142-28-9	1,3-Dichloropropane	BRL		ug/L	100
591-78-6	2-Hexanone	BRL		ug/L	1,000
124-48-1	Dibromochloromethane	BRL		ug/L	100
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	100
108-90-7	Chlorobenzene	BRL		ug/L	100
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	100
100-41-4	Ethylbenzene	**1,200**		ug/L	100
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	**2,900**		ug/L	100

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-1**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**40 mL VOA Vial**
Client:	**Tighe & Bond**	Preservation:	**HCl/ Cool**
Laboratory ID:	**127243-1**	QC Batch ID:	**VM7-3237-W**
Sampled:	**08-11-09 11:15**	Instrument ID:	**MS-7 HP 6890**
Received:	**08-11-09 13:56**	Sample Volume:	**25 mL**
Analyzed:	**08-13-09 14:47**	Dilution Factor:	**200**
Analyst:	**LMG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	**1,200**		ug/L	100
100-42-5	Styrene	**250**		ug/L	100
75-25-2	Bromoform	BRL		ug/L	100
98-82-8	Isopropylbenzene	BRL		ug/L	100
108-86-1	Bromobenzene	BRL		ug/L	100
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	100
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	100
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	5,000
103-65-1	*n*-Propylbenzene	BRL		ug/L	100
95-49-8	2-Chlorotoluene	BRL		ug/L	100
108-67-8	1,3,5-Trimethylbenzene	BRL		ug/L	100
106-43-4	4-Chlorotoluene	BRL		ug/L	100
98-06-6	*tert*-Butylbenzene	BRL		ug/L	100
95-63-6	1,2,4-Trimethylbenzene	**360**		ug/L	100
135-98-8	*sec*-Butylbenzene	BRL		ug/L	100
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	100
99-87-6	4-Isopropyltoluene	BRL		ug/L	100
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	100
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	100
104-51-8	*n*-Butylbenzene	BRL		ug/L	100
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	100
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	100
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	100
87-68-3	Hexachlorobutadiene	BRL		ug/L	100
91-20-3	Naphthalene	**230**		ug/L	100
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	100
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	4,000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	100
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	**210**		ug/L	100
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	100

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	10	**100** %	70 - 130 %
1,2-Dichloroethane-d_4	10	10	**102** %	70 - 130 %
Toluene-d_8	10	11	**106** %	70 - 130 %
4-Bromofluorobenzene	10	10	**104** %	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.

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**Sump-2**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**40 mL VOA Vial**
Client:	**Tighe & Bond**	Preservation:	**HCl/ Cool**
Laboratory ID:	**127243-2**	QC Batch ID:	**VM7-3237-W**
Sampled:	**08-11-09 11:45**	Instrument ID:	**MS-7 HP 6890**
Received:	**08-11-09 13:56**	Sample Volume:	**25 mL**
Analyzed:	**08-13-09 16:14**	Dilution Factor:	**2**
Analyst:	**LMG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	1
74-87-3	Chloromethane	BRL		ug/L	1
75-01-4	Vinyl Chloride	BRL		ug/L	1
74-83-9	Bromomethane	BRL		ug/L	1
75-00-3	Chloroethane	BRL		ug/L	1
75-69-4	Trichlorofluoromethane	BRL		ug/L	1
60-29-7	Diethyl Ether	BRL		ug/L	4
75-35-4	1,1-Dichloroethene	BRL		ug/L	1
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	10
67-64-1	Acetone	BRL		ug/L	20
75-15-0	Carbon Disulfide	BRL		ug/L	10
75-09-2	Methylene Chloride	BRL		ug/L	5
107-13-1	Acrylonitrile	BRL		ug/L	1
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	1
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	BRL		ug/L	1
75-34-3	1,1-Dichloroethane	BRL		ug/L	1
594-20-7	2,2-Dichloropropane	BRL		ug/L	1
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	1
78-93-3	2-Butanone (MEK)	BRL		ug/L	10
74-97-5	Bromochloromethane	BRL		ug/L	1
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	10
67-66-3	Chloroform	BRL		ug/L	1
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	1
56-23-5	Carbon Tetrachloride	BRL		ug/L	1
563-58-6	1,1-Dichloropropene	BRL		ug/L	1
71-43-2	Benzene	**8**		ug/L	1
107-06-2	1,2-Dichloroethane	BRL		ug/L	1
79-01-6	Trichloroethene	BRL		ug/L	1
78-87-5	1,2-Dichloropropane	BRL		ug/L	1
74-95-3	Dibromomethane	BRL		ug/L	1
75-27-4	Bromodichloromethane	BRL		ug/L	1
123-91-1	1,4-Dioxane	BRL		ug/L	1,000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	0.8
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	10
108-88-3	Toluene	**58**		ug/L	1
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	0.8
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	1
127-18-4	Tetrachloroethene	BRL		ug/L	1
142-28-9	1,3-Dichloropropane	BRL		ug/L	1
591-78-6	2-Hexanone	BRL		ug/L	10
124-48-1	Dibromochloromethane	BRL		ug/L	1
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	1
108-90-7	Chlorobenzene	BRL		ug/L	1
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	1
100-41-4	Ethylbenzene	**17**		ug/L	1
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	**61**		ug/L	1

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-2**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**40 mL VOA Vial**
Client:	**Tighe & Bond**	Preservation:	**HCl/ Cool**
Laboratory ID:	**127243-2**	QC Batch ID:	**VM7-3237-W**
Sampled:	**08-11-09 11:45**	Instrument ID:	**MS-7 HP 6890**
Received:	**08-11-09 13:56**	Sample Volume:	**25 mL**
Analyzed:	**08-13-09 16:14**	Dilution Factor:	**2**
Analyst:	**LMG**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
95-47-6	*ortho*-Xylene	**29**		ug/L	1
100-42-5	Styrene	**2**		ug/L	1
75-25-2	Bromoform	BRL		ug/L	1
98-82-8	Isopropylbenzene	**2**		ug/L	1
108-86-1	Bromobenzene	BRL		ug/L	1
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	1
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	1
110-57-6	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	50
103-65-1	*n*-Propylbenzene	**5**		ug/L	1
95-49-8	2-Chlorotoluene	BRL		ug/L	1
108-67-8	1,3,5-Trimethylbenzene	**9**		ug/L	1
106-43-4	4-Chlorotoluene	BRL		ug/L	1
98-06-6	*tert*-Butylbenzene	BRL		ug/L	1
95-63-6	1,2,4-Trimethylbenzene	**32**		ug/L	1
135-98-8	*sec*-Butylbenzene	BRL		ug/L	1
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	1
99-87-6	4-Isopropyltoluene	BRL		ug/L	1
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	1
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	1
104-51-8	*n*-Butylbenzene	BRL		ug/L	1
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	1
108-70-3	1,3,5-Trichlorobenzene	BRL		ug/L	1
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	1
87-68-3	Hexachlorobutadiene	BRL		ug/L	1
91-20-3	Naphthalene	**7**		ug/L	1
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	1
75-65-0	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	40
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	1
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	1
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	1

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	11	**106** %	70 - 130 %
1,2-Dichloroethane-d_4	10	11	**107** %	70 - 130 %
Toluene-d_8	10	11	**108** %	70 - 130 %
4-Bromofluorobenzene	10	10	**98** %	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.

GROUNDWATER ANALYTICAL

EPA Method 8011
EDB and DBCP by GC/ECD

Field ID:	**Sump-1**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**40 mL VOA Vial**
Client:	**Tighe & Bond**	Preservation:	**Cool**
Laboratory ID:	**127243-03**	QC Batch ID:	**PV-0964-E**
Sampled:	**08-11-09 11:15**	Instrument ID:	**GC-6 HP 5890**
Received:	**08-11-09 13:56**	Sample Volume:	**37 mL**
Extracted:	**08-12-09 16:00**	Final Volume:	**1 mL**
Analyzed:	**08-13-09 02:16**	Dilution Factor:	**1**
Analyst:	**JJT**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.02
96-12-8	1,2-Dibromo-3-Chloropropane (DBCP)	BRL		ug/L	0.02

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.

GROUNDWATER ANALYTICAL

EPA Method 8011
EDB and DBCP by GC/ECD

Field ID:	**Sump-2**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**40 mL VOA Vial**
Client:	**Tighe & Bond**	Preservation:	**Cool**
Laboratory ID:	**127243-04**	QC Batch ID:	**PV-0964-E**
Sampled:	**08-11-09 11:45**	Instrument ID:	**GC-6 HP 5890**
Received:	**08-11-09 13:56**	Sample Volume:	**36 mL**
Extracted:	**08-12-09 16:00**	Final Volume:	**1 mL**
Analyzed:	**08-13-09 03:17**	Dilution Factor:	**1**
Analyst:	**JJT**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.02
96-12-8	1,2-Dibromo-3-Chloropropane (DBCP)	BRL		ug/L	0.02

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.

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-1**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**1 L Amber Glass**
Client:	**Tighe & Bond**	Preservation:	**Cool**
Laboratory ID:	**127243-05**	QC Batch ID:	**SV-2413-F**
Sampled:	**08-11-09 11:15**	Instrument ID:	**MS-3 HP 5890**
Received:	**08-11-09 13:56**	Sample Volume:	**1,000 mL**
Extracted:	**08-13-09 13:00**	Final Volume:	**1 mL**
Analyzed:	**08-14-09 04:08**	Dilution Factor:	**1**
Analyst:	**MJB**		

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	5
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	5

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-1**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**1 L Amber Glass**
Client:	**Tighe & Bond**	Preservation:	**Cool**
Laboratory ID:	**127243-05**	QC Batch ID:	**SV-2413-F**
Sampled:	**08-11-09 11:15**	Instrument ID:	**MS-3 HP 5890**
Received:	**08-11-09 13:56**	Sample Volume:	**1,000 mL**
Extracted:	**08-13-09 13:00**	Final Volume:	**1 mL**
Analyzed:	**08-14-09 04:08**	Dilution Factor:	**1**
Analyst:	**MJB**		

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	**36** %	15 - 110 %
Phenol-d5	20	5	**25** %	15 - 110 %
Nitrobenzene-d5	10	6	**57** %	30 - 130 %
2-Fluorobiphenyl	10	6	**58** %	30 - 130 %
2,4,6-Tribromophenol	20	12	**59** %	15 - 110 %
Terphenyl-d14	10	3	**30** %	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.

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-1**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**1 L Amber Glass**
Client:	**Tighe & Bond**	Preservation:	**Cool**
Laboratory ID:	**127243-05**	QC Batch ID:	**SV-2413-F**
Sampled:	**08-11-09 11:15**	Instrument ID:	**MS-6 HP 6890**
Received:	**08-11-09 13:56**	Sample Volume:	**1,000 mL**
Extracted:	**08-13-09 13:00**	Final Volume:	**1 mL**
Analyzed:	**08-13-09 21:59**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
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	6.6	**33** %	15 - 110 %
Phenol-d5	20	5.5	**28** %	15 - 110 %
Nitrobenzene-d5	10	6.3	**63** %	30 - 130 %
2-Fluorobiphenyl	10	5.2	**52** %	30 - 130 %
2,4,6-Tribromophenol	20	13	**66** %	15 - 110 %
Terphenyl-d14	10	3.0	**30** %	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.

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-2**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**1 L Amber Glass**
Client:	**Tighe & Bond**	Preservation:	**Cool**
Laboratory ID:	**127243-06**	QC Batch ID:	**SV-2413-F**
Sampled:	**08-11-09 11:45**	Instrument ID:	**MS-3 HP 5890**
Received:	**08-11-09 13:56**	Sample Volume:	**1,000 mL**
Extracted:	**08-13-09 13:00**	Final Volume:	**1 mL**
Analyzed:	**08-14-09 11:02**	Dilution Factor:	**10**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	50
110-86-1	Pyridine	BRL		ug/L	50
108-95-2	Phenol	**250**		ug/L	50
62-53-3	Aniline	**81**		ug/L	50
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	50
95-57-8	2-Chlorophenol	BRL		ug/L	50
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	50
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	50
100-51-6	Benzyl Alcohol	BRL		ug/L	50
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	50
95-48-7	2-Methylphenol	**160**		ug/L	50
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	50
108-39-4/106-44-5	3 and 4-Methylphenol *	**160**		ug/L	50
621-64-7	N-Nitrosodi-n-propylamine	BRL		ug/L	50
98-86-2	Acetophenone	BRL		ug/L	50
67-72-1	Hexachloroethane	BRL		ug/L	50
98-95-3	Nitrobenzene	BRL		ug/L	50
78-59-1	Isophorone	BRL		ug/L	50
88-75-5	2-Nitrophenol	BRL		ug/L	50
105-67-9	2,4-Dimethylphenol	BRL		ug/L	50
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	50
120-83-2	2,4-Dichlorophenol	BRL		ug/L	50
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	50
106-47-8	4-Chloroaniline	BRL		ug/L	50
87-68-3	Hexachlorobutadiene	BRL		ug/L	50
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	50
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	50
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	50
95-95-4	2,4,5-Trichlorophenol	BRL		ug/L	50
91-58-7	2-Chloronaphthalene	BRL		ug/L	50
88-74-4	2-Nitroaniline	BRL		ug/L	50
100-25-4	1,4-Dinitrobenzene	BRL		ug/L	50
131-11-3	Dimethyl phthalate	BRL		ug/L	50
99-65-0	1,3-Dinitrobenzene	BRL		ug/L	50
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	50
528-29-0	1,2-Dinitrobenzene	BRL		ug/L	50
99-09-2	3-Nitroaniline	BRL		ug/L	50
51-28-5	2,4-Dinitrophenol	BRL		ug/L	100
100-02-7	4-Nitrophenol	BRL		ug/L	50
132-64-9	Dibenzofuran	BRL		ug/L	50
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	50
84-66-2	Diethyl phthalate	BRL		ug/L	50
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	50
100-01-6	4-Nitroaniline	BRL		ug/L	50
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	50

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-2**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**1 L Amber Glass**
Client:	**Tighe & Bond**	Preservation:	**Cool**
Laboratory ID:	**127243-06**	QC Batch ID:	**SV-2413-F**
Sampled:	**08-11-09 11:45**	Instrument ID:	**MS-3 HP 5890**
Received:	**08-11-09 13:56**	Sample Volume:	**1,000 mL**
Extracted:	**08-13-09 13:00**	Final Volume:	**1 mL**
Analyzed:	**08-14-09 11:02**	Dilution Factor:	**10**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
86-30-6	N-Nitrosodiphenylamine †	BRL		ug/L	50
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	50
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	50
86-74-8	Carbazole	BRL		ug/L	50
84-74-2	Di-*n*-butyl phthalate	BRL		ug/L	50
85-68-7	Butyl benzyl phthalate	BRL		ug/L	50
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	50
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	50
117-84-0	Di-*n*-octyl phthalate	BRL		ug/L	50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	n/a	d	15 - 110 %
Phenol-d5	20	n/a	d	15 - 110 %
Nitrobenzene-d5	10	n/a	d	30 - 130 %
2-Fluorobiphenyl	10	n/a	d	30 - 130 %
2,4,6-Tribromophenol	20	n/a	d	15 - 110 %
Terphenyl-d14	10	n/a	d	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.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-2**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**1 L Amber Glass**
Client:	**Tighe & Bond**	Preservation:	**Cool**
Laboratory ID:	**127243-06**	QC Batch ID:	**SV-2413-F**
Sampled:	**08-11-09 11:45**	Instrument ID:	**MS-6 HP 6890**
Received:	**08-11-09 13:56**	Sample Volume:	**1,000 mL**
Extracted:	**08-13-09 13:00**	Final Volume:	**1 mL**
Analyzed:	**08-13-09 22:39**	Dilution Factor:	**1**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**51**	e	ug/L	0.5
91-57-6	2-Methylnaphthalene	**54**	e	ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	**1.8**		ug/L	0.5
85-01-8	Phenanthrene	**2.6**		ug/L	0.5
120-12-7	Anthracene	**0.6**		ug/L	0.5
206-44-0	Fluoranthene	**0.9**		ug/L	0.5
129-00-0	Pyrene	**0.8**		ug/L	0.5
56-55-3	Benzo[a]anthracene	**0.2**		ug/L	0.1
218-01-9	Chrysene	**0.2**		ug/L	0.1
205-99-2	Benzo[b]fluoranthene	**0.3**		ug/L	0.1
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.1
50-32-8	Benzo[a]pyrene	**0.2**		ug/L	0.1
193-39-5	Indeno[1,2,3-c,d]pyrene	**0.1**		ug/L	0.1
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.1
191-24-2	Benzo[g,h,i]perylene	**0.2**		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	2.2	**11** %	m	15 - 110 %
Phenol-d5	20	5.8	**29** %		15 - 110 %
Nitrobenzene-d5	10	5.1	**51** %		30 - 130 %
2-Fluorobiphenyl	10	5.3	**53** %		30 - 130 %
2,4,6-Tribromophenol	20	14	**68** %		15 - 110 %
Terphenyl-d14	10	3.8	**38** %		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.

m Surrogate recovery outside recommended limits due to sample matrix interference.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-2**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**1 L Amber Glass**
Client:	**Tighe & Bond**	Preservation:	**Cool**
Laboratory ID:	**127243-06RA1**	QC Batch ID:	**SV-2413-F**
Sampled:	**08-11-09 11:45**	Instrument ID:	**MS-6 HP 6890**
Received:	**08-11-09 13:56**	Sample Volume:	**1,000 mL**
Extracted:	**08-13-09 13:00**	Final Volume:	**1 mL**
Analyzed:	**08-14-09 10:40**	Dilution Factor:	**5**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	**92**		ug/L	2.5
91-57-6	2-Methylnaphthalene	**62**		ug/L	2.5
208-96-8	Acenaphthylene	BRL		ug/L	2.5
83-32-9	Acenaphthene	BRL		ug/L	2.5
86-73-7	Fluorene	BRL		ug/L	2.5
85-01-8	Phenanthrene	**3.2**		ug/L	2.5
120-12-7	Anthracene	BRL		ug/L	2.5
206-44-0	Fluoranthene	BRL		ug/L	2.5
129-00-0	Pyrene	BRL		ug/L	2.5
56-55-3	Benzo[a]anthracene	BRL		ug/L	0.5
218-01-9	Chrysene	**0.2**		ug/L	0.5
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	0.5
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	0.5
50-32-8	Benzo[a]pyrene	**0.3**	BRL	ug/L	0.5
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	0.5
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	0.5
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	0.5
87-68-3	Hexachlorobutadiene	BRL		ug/L	2.5
118-74-1	Hexachlorobenzene	BRL		ug/L	2.5
87-86-5	Pentachlorophenol	BRL		ug/L	5.0

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	7.9	**40** %	15 - 110 %
Phenol-d5	20	6.2	**31** %	15 - 110 %
Nitrobenzene-d5	10	6.8	**68** %	30 - 130 %
2-Fluorobiphenyl	10	5.8	**58** %	30 - 130 %
2,4,6-Tribromophenol	20	16	**80** %	15 - 110 %
Terphenyl-d14	10	3.8	**38** %	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.

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-1**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**1 L Amber Glass**
Client:	**Tighe & Bond**	Preservation:	**Cool**
Laboratory ID:	**127243-07**	QC Batch ID:	**PB-2533-F**
Sampled:	**08-11-09 11:15**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**08-11-09 13:56**	Sample Weight:	**1000 mL**
Extracted:	**08-12-09 15:00**	Final Volume:	**10 mL**
Cleaned Up:	**08-13-09 10:00**	Dilution Factor:	**1**
Analyzed:	**08-13-09 14:41**		
Analyst:	**JJT**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.2
11104-28-2	Aroclor 1221	BRL		ug/L	0.2
11141-16-5	Aroclor 1232	BRL		ug/L	0.2
53469-21-9	Aroclor 1242	BRL		ug/L	0.2
12672-29-6	Aroclor 1248	BRL		ug/L	0.2
11097-69-1	Aroclor 1254	BRL		ug/L	0.2
11096-82-5	Aroclor 1260	BRL		ug/L	0.2
37324-23-5	Aroclor 1262 †	BRL		ug/L	0.2
11100-14-4	Aroclor 1268 †	BRL		ug/L	0.2

QC Surrogate Compound		Spiked	Measured	Recovery		QC Limits
First	Tetrachloro-*m*-xylene	0.20	0.05	**24** %	m	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.05	**24** %	m	30 - 150 %
Second	Tetrachloro-*m*-xylene	0.20	0.05	**23** %	m	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.05	**24** %	m	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.

m Surrogate recovery outside recommended limits due to sample matrix interference.

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-2**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**1 L Amber Glass**
Client:	**Tighe & Bond**	Preservation:	**Cool**
Laboratory ID:	**127243-08**	QC Batch ID:	**PB-2533-F**
Sampled:	**08-11-09 11:45**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**08-11-09 13:56**	Sample Weight:	**1000 mL**
Extracted:	**08-12-09 15:00**	Final Volume:	**10 mL**
Cleaned Up:	**08-13-09 10:00**	Dilution Factor:	**1**
Analyzed:	**08-13-09 15:04**		
Analyst:	**JJT**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.2
11104-28-2	Aroclor 1221	BRL		ug/L	0.2
11141-16-5	Aroclor 1232	BRL		ug/L	0.2
53469-21-9	Aroclor 1242	BRL		ug/L	0.2
12672-29-6	Aroclor 1248	BRL		ug/L	0.2
11097-69-1	Aroclor 1254	BRL		ug/L	0.2
11096-82-5	Aroclor 1260	BRL		ug/L	0.2
37324-23-5	Aroclor 1262 †	BRL		ug/L	0.2
11100-14-4	Aroclor 1268 †	BRL		ug/L	0.2

QC Surrogate Compound		Spiked	Measured	Recovery		QC Limits
First	Tetrachloro-*m*-xylene	0.20	0.04	**21** %	m	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.06	**28** %	m	30 - 150 %
Second	Tetrachloro-*m*-xylene	0.20	0.04	**19** %	m	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.06	**27** %	m	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.

m Surrogate recovery outside recommended limits due to sample matrix interference.

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-1**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**1 L Amber Glass**
Client:	**Tighe & Bond**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**127243-9**	QC Batch ID:	**HF-2144-F**
Sampled:	**08-11-09 11:15**	Instrument ID:	**GC4 HP 5890**
Received:	**08-11-09 13:56**	Sample Volume:	**1,000 mL**
Extracted:	**08-13-09 18:30**	Final Volume:	**1 mL**
Analyzed:	**08-14-09 07:30**	Dilution Factor:	**1**
Analyst:	**MB**		

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	**2.6**		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-Terphenyl	0.040	0.027	**68** %	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.

GROUNDWATER ANALYTICAL

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

Field ID:	**Sump-2**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**1 L Amber Glass**
Client:	**Tighe & Bond**	Preservation:	**H2SO4/ Cool**
Laboratory ID:	**127243-10**	QC Batch ID:	**HF-2144-F**
Sampled:	**08-11-09 11:45**	Instrument ID:	**GC4 HP 5890**
Received:	**08-11-09 13:56**	Sample Volume:	**1,000 mL**
Extracted:	**08-13-09 18:30**	Final Volume:	**1 mL**
Analyzed:	**08-14-09 08:24**	Dilution Factor:	**1**
Analyst:	**MB**		

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	**2.3**		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-Terphenyl	0.040	0.022	**56** %	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.

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **Sump-1** Matrix: **Aqueous**
Project: **Global Revco - Tank 20/W-3322-20-01** Received: **08-11-09 13:56**
Client: **Tighe & Bond**

Lab ID: **127243-11** Sampled: **08-11-09 11:15** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	**1,300**	mg/L	40	18	28 mL	08-12-09 17:11	TSS-1655-W	SM 2540 D	3	JR
Chlorine, Total Residual	**0.06**	mg/L	0.02	1	5 mL	08-12-09 08:00	TRC-0798-W	SM 4500-Cl G	2	DEB
Chromium, Hexavalent	BRL	mg/L	0.01	1	5 mL	08-11-09 15:00	HC-0162-W	EPA 7196A	2	JK

Lab ID: **127243-13** Sampled: **08-11-09 11:15** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	BRL	mg/L	0.01	1	50 mL	08-14-09 10:50	TCN-1514-W	EPA 9012A	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.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

2 Instrument ID: Thermo Electron Genesys 20

3 Instrument ID: Mettler AT 200 Balance

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **Sump-2** Matrix: **Aqueous**
Project: **Global Revco - Tank 20/W-3322-20-01** Received: **08-11-09 13:56**
Client: **Tighe & Bond**

Lab ID: **127243-12** Sampled: **08-11-09 11:45** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	**1,700**	mg/L	70	33	15 mL	08-12-09 17:11	TSS-1655-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.02	1	5 mL	08-12-09 08:00	TRC-0798-W	SM 4500-Cl G	2	DEB
Chromium, Hexavalent	BRL	mg/L	0.01	1	5 mL	08-11-09 15:00	HC-0162-W	EPA 7196A	2	JK

Lab ID: **127243-14** Sampled: **08-11-09 11:45** Container: **500 mL Plastic** Preservation: **NaOH/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Cyanide, Total	BRL	mg/L	0.01	1	50 mL	08-14-09 10:54	TCN-1514-W	EPA 9012A	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.

DF Dilution Factor.

1 Instrument ID: Lachat 8000 Autoanalyzer

2 Instrument ID: Thermo Electron Genesys 20

3 Instrument ID: Mettler AT 200 Balance

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**Sump-1**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**250 mL Plastic**
Client:	**Tighe & Bond**	Preservation:	**HNO3 / Cool**
Laboratory ID:	**127243-15**	Preserved:	**08-11-09 11:15**
Sampled:	**08-11-09 11:15**		
Received:	**08-11-09 13:56**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.8[1]	MB-3841-W	EPA 200.8	08-14-09 00:00	50 mL	ICPMS-1 ELAN 9000	MP
EPA 200.7[2]	MB-3841-W	EPA 200.7	08-14-09 00:00	50 mL	ICP-1 PE 3000	MP
EPA 245.1[3]	MP-2219-W	EPA 245.1	08-14-09 00:00	25 mL	PE- FIMS	JK

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-36-0	Antimony, Total	BRL		mg/L	0.003	1	08-17-09 11:56	EPA 200.8[1]
7440-38-2	Arsenic, Total	**0.009**		mg/L	0.005	1	08-17-09 11:56	EPA 200.8[1]
7440-43-9	Cadmium, Total	BRL		mg/L	0.004	1	08-17-09 12:02	EPA 200.7[2]
7440-47-3	Chromium, Total	BRL		mg/L	0.01	1	08-17-09 12:02	EPA 200.7[2]
7440-50-8	Copper, Total	BRL		mg/L	0.025	1	08-17-09 12:02	EPA 200.7[2]
7439-89-6	Iron, Total	**3.4**		mg/L	0.1	1	08-17-09 12:02	EPA 200.7[2]
7439-92-1	Lead, Total	**0.084**		mg/L	0.001	1	08-17-09 11:56	EPA 200.8[1]
7439-97-6	Mercury, Total	BRL		mg/L	0.0002	1	08-17-09 00:00	EPA 245.1[3]
7440-02-0	Nickel, Total	BRL		mg/L	0.04	1	08-17-09 12:02	EPA 200.7[2]
7782-49-2	Selenium, Total	BRL		mg/L	0.005	1	08-17-09 11:56	EPA 200.8[1]
7440-22-4	Silver, Total	BRL		mg/L	0.007	1	08-17-09 11:56	EPA 200.8[1]
7440-66-6	Zinc, Total	BRL		mg/L	0.2	1	08-17-09 12:02	EPA 200.7[2]

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

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

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**Sump-2**	Matrix:	**Aqueous**
Project:	**Global Revco - Tank 20/W-3322-20-01**	Container:	**250 mL Plastic**
Client:	**Tighe & Bond**	Preservation:	**HNO3 / Cool**
Laboratory ID:	**127243-16**	Preserved:	**08-11-09 11:45**
Sampled:	**08-11-09 11:45**		
Received:	**08-11-09 13:56**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 200.8[1]	MB-3841-W	EPA 200.8	08-14-09 00:00	50 mL	ICPMS-1 ELAN 9000	MP
EPA 200.7[2]	MB-3841-W	EPA 200.7	08-14-09 00:00	50 mL	ICP-1 PE 3000	MP
EPA 245.1[3]	MP-2219-W	EPA 245.1	08-14-09 00:00	25 mL	PE- FIMS	JK

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-36-0	Antimony, Total	BRL		mg/L	0.003	1	08-17-09 12:02	EPA 200.8[1]
7440-38-2	Arsenic, Total	BRL		mg/L	0.005	1	08-17-09 12:02	EPA 200.8[1]
7440-43-9	Cadmium, Total	BRL		mg/L	0.004	1	08-17-09 12:06	EPA 200.7[2]
7440-47-3	Chromium, Total	BRL		mg/L	0.01	1	08-17-09 12:06	EPA 200.7[2]
7440-50-8	Copper, Total	BRL		mg/L	0.025	1	08-17-09 12:06	EPA 200.7[2]
7439-89-6	Iron, Total	**1.1**		mg/L	0.1	1	08-17-09 12:06	EPA 200.7[2]
7439-92-1	Lead, Total	**0.084**		mg/L	0.001	1	08-17-09 12:02	EPA 200.8[1]
7439-97-6	Mercury, Total	BRL		mg/L	0.0002	1	08-17-09 00:00	EPA 245.1[3]
7440-02-0	Nickel, Total	BRL		mg/L	0.04	1	08-17-09 12:06	EPA 200.7[2]
7782-49-2	Selenium, Total	BRL		mg/L	0.005	1	08-17-09 12:02	EPA 200.8[1]
7440-22-4	Silver, Total	BRL		mg/L	0.007	1	08-17-09 12:02	EPA 200.8[1]
7440-66-6	Zinc, Total	BRL		mg/L	0.2	1	08-17-09 12:06	EPA 200.7[2]

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

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

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Project Narrative

Project:	**Global Revco - Tank 20/W-3322-20-01**	Lab ID:	**127243**
Client:	**Tighe & Bond**	Received:	**08-11-09 13:56**

A. Documentation and Client Communication

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

1 . Project 127243 was processed for Rush (3 business day) turnaround time, with a due date of 08-14-09, per Michael Martin, 08-12-09.

B. Method Modifications, Non-Conformances and Observations

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

1 . EPA 8260B Note: Sample 127243-1. Sample was diluted prior to analysis. Dilution was required to keep all target analytes within calibration.

2 . EPA 8260B Note: Sample 127243-2. Sample was diluted prior to analysis. Dilution was required due to observed foaming characteristics of sample. Sample foaming interfers with purge and trap sample concentration.

3 . EPA 8270C Modification: Samples 127243-5,-6. 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.

4 . EPA 8270C Non-conformance: Sample 127243-06. Sample had surrogate recovery outside recommended limits due to sample matrix interference.

5 . EPA 8270C Non-conformance: Samples 127243-05 and -06. Laboratory control sample duplicate (LCSD) analytes Hexachlorocyclopentadiene, Pyridine were below recommended recovery limits for QC batch SV-2413-F.

6 . EPA 8270C Note: Sample 127243-06. Sample was diluted prior to analysis. Dilution was required due to presence of non-target analyte interference. Sample was re-analyzed at a dilution with all surrogates within range.

7 . EPA 8270CNon-conformance: Sample 127243-06. Reported results for selected analyte exceeded the high standard of the associated calibration curve. Results are estimated. Sample was reanalyzed and reported with all analytes within calibration.

8 . EPA 8270C Non-conformance: Sample 127243-06. Sample had surrogate recovery outside recommended limits due to required sample dilution

9 . EPA 8082 Non-conformance: Sample 127243-07 and -08. Samples had surrogate recovery outside recommended limits due to sample matrix interference. No additional sample was available for re-analysis.

GROUNDWATER ANALYTICAL

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CHAIN-OF-CUSTODY RECORD AND WORK ORDER

EPA RGP Parameters (Appendix III)

Project Name: Global Revco - Tank 20	Firm: Tighe & Bond
Project Number: W-3322-20-01	Address: 4 Barlows Landing Rd, Unit 15
Sampler Name: Michael Martin	City / State / Zip:: Pocasset, MA 02559
Project Manager: Michael Martin	Telephone: 508-564-7225

INSTRUCTIONS: Use separate line for each container (except replicates).

TURNAROUND

- ☐ 10 Business Days
- ☒ 5 Business Days
- ☐ RUSH (RAN-_____)
  (Rush requires Rush Authorization Number)
- ☒ Please Email to: mmartin@tighebond.com
- ☐ Please FAX to: _____

BILLING

- ☐ Purchase Order No.: _____
- ☒ Third Party Billing: Global Revco -
- ☐ GWA Quote: Tom Keefe

ANALYSIS REQUEST

OPTIONS: ☐ TIC Search

Volatiles
- SDWA: ☐ 524.2
- NPDES: ☐ 624 ☐ 4021-MTBE
- RCRA/21E: ☐ 8260B TCL+MTBE ☒ 8260B ☐ 8260B Aromatics ☐ 8260B Halocarbons ☐ 8021B Vermont ☒ 8270C ☐ 8270C PAHs only ☐ 8081A/J Pesticides ☒ 8082 PCBs ☐ 8151A Herbicides ☐ 8011 EDB/DBCP

Semivolatiles
- ☐ Acid Only ☐ B/N Only ☐ TIC Search
- SDWA: ☐ 525.2
- NPDES: ☐ 625 ☐ 625 PAHs only
- RCRA/21E: ☒ 8270C

Pest/Herb/PCBs Extractable
- SDWA: ☐ 505 ☐ 508
- NPDES: ☐ 608 Pesticides ☐ 608 PCBs

Pest/Herb/PCBs Vol.
- SDWA: ☐ 501.1 ☐ 515.3 ☐ 504.1 EDB/DBCP
- NPDES: ☐ 8151

Metals
- SDWA: ☐ Lead and Copper
- NPDES: ☐ 13 Priority Pollutant
- RCRA/21E: ☐ 8 RCRA ☐ 5 RCRA ☐ 14 MA DEP Metals ☐ 23 TAL

Specify For Water Samples: ☒ Total ☐ Dissolved

☒ Specify: Sb, As, Ca, Cr, Cu, Pb, Hg, Ni, Se, Ag, Zn, Fe

Petroleum Hydrocarbon
- Ext. TPH: ☐ Diesel Range Organics (DRO) ☐ ME DRO ☐ CT ETPH ☐ MA DEP EPH w/all targets ☐ EPH C arbon Ranges only ☐ EPH w/4 PAHs ☐ Hydrocarbon Fingerprint (GC/FID by ASTM D3328-00 Mod.)
- Vol. TPH: ☒ TPH by GC/FID (8015B Mod) Quantitative Only ☐ Gasoline Range Organics (GRO) ☐ ME GRO ☐ MA DEP VPH w/all targets ☐ VPH Carbon ranges only

Haz. Waste
☐ TCLP ☐ SPLP ☐ 8 Metals ☐ Pb only ☐ VOA ☐ Semi VOA ☐ Pesticides ☐ Herbicides ☐ Corrosivity (as pH) ☐ Reactivity ☐ Ignitability ☐ Conductivity ☐ Paint Filter ☐ MA Base Discount: 8260B/TCL TPH, PCBs, 8 Metals, Corrosivity, Ignitability, Reactivity ☐ MA Extended Disposal 8260B, 8270C TPH, PCBs, 3 Metals, Corrosivity, Ignitability, Reactivity

General Chemistry
☐ Nitrate ☒ Nitrite ☐ Chloride ☐ Fluoride ☐ Sulfate ☐ Dissolved Phosphorus ☐ Ammonia ☐ TKN ☐ Total Phos./Nitrus ☐ Total N (as N02/N03/TKN) ☐ Oil & Grease ☐ COD ☐ TOC ☐ BOD ☐ CBOD ☐ TDS ☒ TSS ☐ TS ☐ Alkalinity ☐ Total Cyanide ☐ Physiologically Available Cyanide ☐ Available Cyanide

Other
☐ pH ☐ Dissolved Oxygen ☐ Turbidity ☐ Total Coliform ☐ Fecal Coliform ☐ HPC ☐ MA DEP Asbestos in Soil ☐ Asbestos (PLM)

Sampling DATE	Sampling TIME	SAMPLE IDENTIFICATION	Matrix	Type	Container(s)	Preservation	Filtered	LABORATORY NUMBER (Lab Use Only)
8/11/09	1115	Sump-1	GROUNDWATER	COMPOSITE ☐ GRAB ☒	NUMBER 11 · 40mL VOA Vial ☒	HCl ☒	YES ☒ NO ☐	
8/11/09	1145	Sump-2	GROUNDWATER	COMPOSITE ☐ GRAB ☒	NUMBER 11 · 40mL VOA Vial ☒	HCl ☒	YES ☒ NO ☐	

REMARKS / SPECIAL INSTRUCTIONS

- ☒ YES ☐ NO MCP Data Certification required.
- ☐ YES ☒ NO MCP Drinking Water Sample Included.
  (Volatile analyses require duplicate collection and Trip Blanks).
- ☐ Analyze Duplicates and Trips Blanks only if positive results.

☐ YES ☒ NO CT RCP Data Certification required.

Signature: _____

DATA QUALITY OBJECTIVES

Regulatory Program

State	Standard	Deliverables
☐ CT	☐ MCP GW-1/S-1	☐ PWS Form
☐ ME	☐ MCP GW-2/S-2	☐ MWRA
☒ MA	☐ NY STARS	☐ _____
☐ NH	☐ Drinking Water	
☐ NY	☐ Wastewater	
☐ RI	☐ Waste Disposal	
☐ VT	☐ Dredge Material	
☒ RCP	☒ EPA RGP Effluent Limits	

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. **Each MS, MSD and Sample Duplicate requires an additional sample aliquot.**

Project Specific QC Required
- ☐ Sample Duplicate
- ☐ Matrix Spike
- ☐ Matrix Spike Duplicate

Selection of QC Sample
- ☐ Please use sample: _____

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

	Date	Time		
Relinquished by Sampler:	8/11	1350	Received by:	Receipt Temperature: 6.0 ☒ Ice ☐ Refrigerated 2-6°C Recommended
Relinquished by:			Received by:	Container Count: 12
Relinquished by:			Received by Laboratory:	Shipping/Airbill Number:

Method of Shipment: ☐ GWA Courier ☐ Express Mail ☐ Federal Express ☐ UPS ☒ Hand ☐ _____

Custody Seal Number:

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.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category:	**EPA 8015B Mod TPH**	Instrument ID:	**GC4 HP 5890**
QC Batch ID:	**HF-2144-F**	Extracted:	**08-13-09 18:30**
Matrix:	**Aqueous**	Analyzed:	**08-14-09 08:18**
Units:	**mg/L**	Analyst:	**MB**

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

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-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.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA 8015B Mod TPH**	Instrument ID:	**GC4 HP 5890**
QC Batch ID:	**HF-2144-F**	Extracted:	**08-13-09 18:30**
Matrix:	**Aqueous**	Analyzed:	**08-14-09 07:28**
		Analyst:	**MB**

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

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-Terphenyl	0.040	0.035	**88** %	60 - 140 %

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

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

GROUNDWATER ANALYTICAL

Laboratory Control Samples

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

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 9012A	TCN-1514-W	EPA 9012A	8/14/2009 9:00	8/14/2009 10:47	Lachat 8000 Autoanalyzer	JR
LCSD	EPA 9012A	TCN-1514-W	EPA 9012A	8/14/2009 9:00	8/14/2009 10:49	Lachat 8000 Autoanalyzer	JR

Analyte	LCS			LCS Duplicate				QC Limits		Method
	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
Cyanide, Total	0.45	0.47	**104%**	0.45	0.46	**103%**	**1 %**	80-120%	20 %	EPA 9012A

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996). Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised (1983), and Methods for the Determination of Metals in Environmental Samples, Supplement I, EPA-600/R-94-111, (1994), and 40 C.F.R. 136, Appendix C (1990).

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

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

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

Analyte	Units	Spiked	Measured	Recovery	QC Limits	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	mg/L	79	74	**94 %**	80 - 120 %	08-12-09 17:11	TSS-1655-W	SM 2540 D	3	JR
Chlorine, Total Residual	mg/L	0.05	0.05	**100 %**	80 - 120 %	08-12-09 08:00	TRC-0798-W	SM 4500-Cl G	2	DEB
Chromium, Hexavalent	mg/L	0.1	0.1	**102 %**	80 - 120 %	10-17-01 00:00	HC-0162-W	EPA 7196A	2	AVB

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: Lachat 8000 Autoanalyzer

2 Instrument ID: Thermo Electron Genesys 20

3 Instrument ID: Mettler AT 200 Balance

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

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

Analyte	Result	Units	RL	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	BRL	mg/L	2	08-12-09 17:11	TSS-1655-W	SM 2540 D	3	JR
Chlorine, Total Residual	BRL	mg/L	0.02	08-12-09 08:00	TRC-0798-W	SM 4500-Cl G	2	DEB
Chromium, Hexavalent	BRL	mg/L	0.01	10-17-01 00:00	HC-0162-W	EPA 7196A	2	AVB
Cyanide, Total	BRL	mg/L	0.01	08-14-09 10:47	TCN-1514-W	EPA 9012A	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: Lachat 8000 Autoanalyzer

2 Instrument ID: Thermo Electron Genesys 20

3 Instrument ID: Mettler AT 200 Balance

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8082**	Instrument ID:	**GC-11 Agilent 6890**	Instrument ID:	**GC-11 Agilent 6890**
QC Batch ID:	**PB-2533-F**	Extracted:	**08-12-09 15:00**	Extracted:	**08-12-09 15:00**
Matrix:	**Aqueous**	Cleaned Up:	**08-13-09 10:00**	Cleaned Up:	**08-13-09 10:00**
Units:	**ug/L**	Analyzed:	**08-13-09 12:43**	Analyzed:	**08-13-09 13:06**
		Analyst:	**JJT**	Analyst:	**JJT**

CAS Number	Analyte	LCS					LCS Duplicate							QC Limits	
		Spiked	Measured		Recovery		Spiked	Measured		Recovery		RPD			
			1st Col	2nd Col	1st Col	2nd Col		1st Col	2nd Col	1st Col	2nd Col	1st Col	2nd Col	Spike	RPD
12674-11-2	Aroclor 1016	5.0	5.3	5.3	**107%**	**105%**	5.0	5.7	5.8	**114%**	**115%**	**7 %**	**9 %**	40 - 140%	30 %
11096-82-5	Aroclor 1260	5.0	3.7	3.7	**75%**	**75%**	5.0	5.5	5.7	**110%**	**113%**	**38 %** q	**41 %** q	40 - 140%	30 %

QC Surrogate Compound	Surrogate Recovery										QC Limits
Tetrachloro-*m* -xylene	0.20	0.20	0.20	**99%**	**100%**	0.20	0.21	0.21	**104%**	**103%**	30 - 150 %
Decachlorobiphenyl	0.20	0.19	0.19	**94%**	**94%**	0.20	0.21	0.21	**104%**	**107%**	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.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8082**	Instrument ID:	**GC-11 Agilent 6890**
QC Batch ID:	**PB-2533-F**	Extracted:	**08-12-09 15:00**
Matrix:	**Aqueous**	Cleaned Up:	**08-13-09 10:00**
		Analyzed:	**08-13-09 12:20**
		Analyst:	**JJT**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.2
11104-28-2	Aroclor 1221	BRL		ug/L	0.2
11141-16-5	Aroclor 1232	BRL		ug/L	0.2
53469-21-9	Aroclor 1242	BRL		ug/L	0.2
12672-29-6	Aroclor 1248	BRL		ug/L	0.2
11097-69-1	Aroclor 1254	BRL		ug/L	0.2
11096-82-5	Aroclor 1260	BRL		ug/L	0.2
37324-23-5	Aroclor 1262 †	BRL		ug/L	0.2
11100-14-4	Aroclor 1268 †	BRL		ug/L	0.2

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	0.20	0.18	**92** %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.20	**99** %	30 - 150 %
Second	Tetrachloro-*m*-xylene	0.20	0.19	**96** %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.20	**100** %	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.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category:	**EPA Method 8011**	Instrument ID:	**GC-6 HP 5890**
QC Batch ID:	**PV-0964-E**	Extracted:	**08-12-09 16:00**
Matrix:	**Aqueous**	Analyzed:	**08-12-09 20:40**
Units:	**ug/L**	Analyst:	**JJT**

CAS Number	Analyte	Spiked	Measured		Recovery		QC Limits
			1st Column	2nd Column	1st Column	2nd Column	
106-93-4	1,2-Dibromoethane (EDB)	0.20	0.19	0.20	**96** %	**101** %	70 - 130 %
96-12-8	1,2-Dibromo-3-Chloropropane (DBCP)	0.20	0.19	0.20	**95** %	**98** %	70 - 130 %

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.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8011**	Instrument ID:	**GC-6 HP 5890**
QC Batch ID:	**PV-0964-E**	Extracted:	**08-12-09 16:00**
Matrix:	**Aqueous**	Analyzed:	**08-12-09 22:12**
		Analyst:	**JJT**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	0.02
96-12-8	1,2-Dibromo-3-Chloropropane (DBCP)	BRL		ug/L	0.02

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.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA Method 8260B**	Instrument ID:	**MS-7 HP 6890**	Instrument ID:	**MS-7 HP 6890**
QC Batch ID:	**VM7-3237-W**	Analyzed:	**08-13-09 13:00**	Analyzed:	**08-13-09 13:29**
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	8.1	**81** %	10	8.1	**81** %	**1** %	70 - 130 %	25%
74-87-3	Chloromethane	10	8.6	**86** %	10	9.0	**90** %	**4** %	70 - 130 %	25%
75-01-4	Vinyl Chloride	10	9.3	**93** %	10	9.7	**97** %	**5** %	70 - 130 %	25%
74-83-9	Bromomethane	10	9.6	**96** %	10	9.7	**97** %	**1** %	70 - 130 %	25%
75-00-3	Chloroethane	10	9.8	**98** %	10	10	**102** %	**4** %	70 - 130 %	25%
75-69-4	Trichlorofluoromethane	10	10	**101** %	10	9.6	**96** %	**5** %	70 - 130 %	25%
60-29-7	Diethyl Ether	20	21	**106** %	20	20	**100** %	**5** %	70 - 130 %	25%
75-35-4	1,1-Dichloroethene	10	8.9	**89** %	10	9.1	**91** %	**2** %	70 - 130 %	25%
76-13-1	1,1,2-Trichlorotrifluoroethane	20	20	**101** %	20	20	**98** %	**3** %	70 - 130 %	25%
67-64-1	Acetone	20	18	**92** %	20	19	**94** %	**3** %	70 - 130 %	25%
75-15-0	Carbon Disulfide	20	19	**94** %	20	19	**94** %	**1** %	70 - 130 %	25%
75-09-2	Methylene Chloride	10	9.5	**95** %	10	9.9	**99** %	**5** %	70 - 130 %	25%
107-13-1	Acrylonitrile	10	10	**104** %	10	9.9	**99** %	**5** %	70 - 130 %	25%
156-60-5	*trans*-1,2-Dichloroethene	10	9.7	**97** %	10	9.7	**97** %	**1** %	70 - 130 %	25%
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	10	9.8	**98** %	10	9.7	**97** %	**1** %	70 - 130 %	25%
75-34-3	1,1-Dichloroethane	10	10	**100** %	10	9.4	**94** %	**6** %	70 - 130 %	25%
594-20-7	2,2-Dichloropropane	10	11	**111** %	10	10	**100** %	**11** %	70 - 130 %	25%
156-59-2	*cis*-1,2-Dichloroethene	10	9.8	**98** %	10	10	**100** %	**2** %	70 - 130 %	25%
78-93-3	2-Butanone (MEK)	20	22	**110** %	20	19	**94** %	**16** %	70 - 130 %	25%
74-97-5	Bromochloromethane	10	9.8	**98** %	10	9.5	**95** %	**3** %	70 - 130 %	25%
109-99-9	Tetrahydrofuran (THF)	20	20	**102** %	20	18	**89** %	**14** %	70 - 130 %	25%
67-66-3	Chloroform	10	9.7	**97** %	10	9.4	**94** %	**4** %	70 - 130 %	25%
71-55-6	1,1,1-Trichloroethane	10	11	**105** %	10	9.6	**96** %	**9** %	70 - 130 %	25%
56-23-5	Carbon Tetrachloride	10	9.5	**95** %	10	9.1	**91** %	**5** %	70 - 130 %	25%
563-58-6	1,1-Dichloropropene	10	9.5	**95** %	10	9.1	**91** %	**5** %	70 - 130 %	25%
71-43-2	Benzene	10	10	**102** %	10	9.7	**97** %	**5** %	70 - 130 %	25%
107-06-2	1,2-Dichloroethane	10	9.7	**97** %	10	9.1	**91** %	**6** %	70 - 130 %	25%
79-01-6	Trichloroethene	10	9.3	**93** %	10	9.0	**90** %	**3** %	70 - 130 %	25%
78-87-5	1,2-Dichloropropane	10	10	**101** %	10	10	**100** %	**1** %	70 - 130 %	25%
74-95-3	Dibromomethane	10	9.7	**97** %	10	9.6	**96** %	**0** %	70 - 130 %	25%
75-27-4	Bromodichloromethane	10	10	**104** %	10	9.9	**99** %	**5** %	70 - 130 %	25%
123-91-1	1,4-Dioxane	200	200	**98** %	200	160	**82** %	**17** %	70 - 130 %	25%
10061-01-5	*cis*-1,3-Dichloropropene	10	9.7	**97** %	10	9.4	**94** %	**3** %	70 - 130 %	25%
108-10-1	4-Methyl-2-Pentanone (MIBK)	20	19	**95** %	20	19	**95** %	**1** %	70 - 130 %	25%
108-88-3	Toluene	10	10	**101** %	10	9.9	**99** %	**2** %	70 - 130 %	25%
10061-02-6	*trans*-1,3-Dichloropropene	10	8.8	**88** %	10	8.7	**87** %	**1** %	70 - 130 %	25%
79-00-5	1,1,2-Trichloroethane	10	10	**102** %	10	10	**101** %	**1** %	70 - 130 %	25%
127-18-4	Tetrachloroethene	10	9.8	**98** %	10	9.4	**94** %	**5** %	70 - 130 %	25%
142-28-9	1,3-Dichloropropane	10	10	**101** %	10	9.8	**98** %	**3** %	70 - 130 %	25%
591-78-6	2-Hexanone	20	20	**99** %	20	21	**107** %	**8** %	70 - 130 %	25%
124-48-1	Dibromochloromethane	10	10	**100** %	10	9.8	**98** %	**2** %	70 - 130 %	25%
106-93-4	1,2-Dibromoethane (EDB)	10	10	**102** %	10	9.9	**99** %	**3** %	70 - 130 %	25%
108-90-7	Chlorobenzene	10	10	**102** %	10	10	**100** %	**2** %	70 - 130 %	25%
630-20-6	1,1,1,2-Tetrachloroethane	10	10	**101** %	10	9.6	**96** %	**5** %	70 - 130 %	25%
100-41-4	Ethylbenzene	10	11	**105** %	10	10	**103** %	**3** %	70 - 130 %	25%
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	20	21	**107** %	20	21	**104** %	**2** %	70 - 130 %	25%
95-47-6	*ortho*-Xylene	10	10	**103** %	10	10	**104** %	**1** %	70 - 130 %	25%
100-42-5	Styrene	10	10	**103** %	10	9.8	**98** %	**5** %	70 - 130 %	25%
75-25-2	Bromoform	10	8.5	**85** %	10	8.4	**84** %	**1** %	70 - 130 %	25%

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA Method 8260B**	Instrument ID:	**MS-7 HP 6890**	Instrument ID:	**MS-7 HP 6890**
QC Batch ID:	**VM7-3237-W**	Analyzed:	**08-13-09 13:00**	Analyzed:	**08-13-09 13:29**
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
98-82-8	Isopropylbenzene	10	9.4	**94** %	10	8.9	**89** %	**5** %	70 - 130 %	25%
108-86-1	Bromobenzene	10	10	**102** %	10	9.9	**99** %	**3** %	70 - 130 %	25%
79-34-5	1,1,2,2-Tetrachloroethane	10	9.7	**97** %	10	9.7	**97** %	**0** %	70 - 130 %	25%
96-18-4	1,2,3-Trichloropropane	10	10	**101** %	10	11	**106** %	**4** %	70 - 130 %	25%
110-57-6	*trans*-1,4-Dichloro-2-butene	200	210	**104** %	200	200	**102** %	**2** %	70 - 130 %	25%
103-65-1	*n*-Propylbenzene	10	11	**108** %	10	10	**101** %	**6** %	70 - 130 %	25%
95-49-8	2-Chlorotoluene	10	11	**105** %	10	10	**100** %	**5** %	70 - 130 %	25%
108-67-8	1,3,5-Trimethylbenzene	10	11	**114** %	10	11	**108** %	**6** %	70 - 130 %	25%
106-43-4	4-Chlorotoluene	10	11	**108** %	10	10	**103** %	**5** %	70 - 130 %	25%
98-06-6	*tert*-Butylbenzene	10	11	**106** %	10	10	**100** %	**5** %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	10	11	**111** %	10	11	**106** %	**5** %	70 - 130 %	25%
135-98-8	*sec*-Butylbenzene	10	11	**108** %	10	10	**101** %	**7** %	70 - 130 %	25%
541-73-1	1,3-Dichlorobenzene	10	11	**106** %	10	10	**100** %	**6** %	70 - 130 %	25%
99-87-6	4-Isopropyltoluene	10	11	**109** %	10	10	**102** %	**7** %	70 - 130 %	25%
106-46-7	1,4-Dichlorobenzene	10	10	**102** %	10	10	**100** %	**2** %	70 - 130 %	25%
95-50-1	1,2-Dichlorobenzene	10	11	**105** %	10	10	**100** %	**4** %	70 - 130 %	25%
104-51-8	*n*-Butylbenzene	10	11	**112** %	10	10	**104** %	**8** %	70 - 130 %	25%
96-12-8	1,2-Dibromo-3-chloropropane	10	9.9	**99** %	10	9.6	**96** %	**3** %	70 - 130 %	25%
108-70-3	1,3,5-Trichlorobenzene	10	11	**108** %	10	9.8	**98** %	**10** %	70 - 130 %	25%
120-82-1	1,2,4-Trichlorobenzene	10	9.7	**97** %	10	9.0	**90** %	**8** %	70 - 130 %	25%
87-68-3	Hexachlorobutadiene	10	8.6	**86** %	10	7.5	**75** %	**14** %	70 - 130 %	25%
91-20-3	Naphthalene	10	9.8	**98** %	10	9.6	**96** %	**2** %	70 - 130 %	25%
87-61-6	1,2,3-Trichlorobenzene	10	9.9	**99** %	10	8.9	**89** %	**11** %	70 - 130 %	25%
75-65-0	*tert*-Butyl Alcohol (TBA)	200	210	**105** %	200	200	**98** %	**7** %	70 - 130 %	25%
108-20-3	Di-isopropyl Ether (DIPE)	10	9.2	**92** %	10	9.1	**91** %	**0** %	70 - 130 %	25%
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	10	9.7	**97** %	10	9.3	**93** %	**4** %	70 - 130 %	25%
994-05-8	*tert*-Amyl Methyl Ether (TAME)	10	9.5	**95** %	10	9.0	**90** %	**5** %	70 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
Dibromofluoromethane	10	11	**109** %	10	10	**103** %		70 - 130 %
1,2-Dichloroethane-d_4	10	12	**120** %	10	10	**100** %		70 - 130 %
Toluene-d_8	10	12	**116** %	10	11	**111** %		70 - 130 %
4-Bromofluorobenzene	10	11	**114** %	10	11	**108** %		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.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM7-3237-W**
Matrix: **Aqueous**
Instrument ID: **MS-7 HP 6890**
Analyzed: **08-13-09 14:15**
Analyst: **LMG**

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	0.5
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	0.5
1634-04-4	Methyl *tert*-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	*cis*-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	*cis*-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	*trans*-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	*meta*-Xylene and *para*-Xylene	BRL		ug/L	0.5
95-47-6	*ortho*-Xylene	BRL		ug/L	0.5
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8260B**
QC Batch ID: **VM7-3237-W**
Matrix: **Aqueous**
Instrument ID: **MS-7 HP 6890**
Analyzed: **08-13-09 14:15**
Analyst: **LMG**

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	*trans*-1,4-Dichloro-2-butene	BRL		ug/L	25
103-65-1	*n*-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	*tert*-Butylbenzene	BRL		ug/L	0.5
95-63-6	1,2,4-Trimethylbenzene	BRL		ug/L	0.5
135-98-8	*sec*-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	*n*-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	*tert*-Butyl Alcohol (TBA)	BRL		ug/L	20
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	0.5
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	0.5
994-05-8	*tert*-Amyl Methyl Ether (TAME)	BRL		ug/L	0.5

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	11	**106** %	70 - 130 %
1,2-Dichloroethane-d_4	10	11	**105** %	70 - 130 %
Toluene-d_8	10	11	**109** %	70 - 130 %
4-Bromofluorobenzene	10	11	**105** %	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.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8270C (Part 2)**	Instrument ID:	**MS-6 HP 6890**	Instrument ID:	**MS-6 HP 6890**
QC Batch ID:	**SV-2413-F**	Extracted:	**08-13-09 13:00**	Extracted:	**08-13-09 13:00**
Matrix:	**Aqueous**	Analyzed:	**08-13-09 19:59**	Analyzed:	**08-13-09 20:39**
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	3.3	**67** %	5.0	3.3	**67** %	**0** %	40 - 140 %	25%
91-57-6	2-Methylnaphthalene	5.0	3.6	**73** %	5.0	3.7	**74** %	**1** %	40 - 140 %	25%
208-96-8	Acenaphthylene	5.0	4.0	**80** %	5.0	3.9	**78** %	**4** %	40 - 140 %	25%
83-32-9	Acenaphthene	5.0	3.9	**77** %	5.0	3.7	**74** %	**4** %	40 - 140 %	25%
86-73-7	Fluorene	5.0	3.9	**79** %	5.0	3.8	**77** %	**3** %	40 - 140 %	25%
85-01-8	Phenanthrene	5.0	3.8	**77** %	5.0	3.9	**78** %	**2** %	40 - 140 %	25%
120-12-7	Anthracene	5.0	4.2	**83** %	5.0	4.3	**85** %	**3** %	40 - 140 %	25%
206-44-0	Fluoranthene	5.0	4.0	**79** %	5.0	4.1	**81** %	**3** %	40 - 140 %	25%
129-00-0	Pyrene	5.0	3.7	**75** %	5.0	3.8	**77** %	**3** %	40 - 140 %	25%
56-55-3	Benzo[a]anthracene	5.0	4.2	**84** %	5.0	4.2	**85** %	**2** %	40 - 140 %	25%
218-01-9	Chrysene	5.0	4.1	**82** %	5.0	4.1	**83** %	**0** %	40 - 140 %	25%
205-99-2	Benzo[b]fluoranthene	5.0	4.5	**90** %	5.0	4.3	**87** %	**4** %	40 - 140 %	25%
207-08-9	Benzo[k]fluoranthene	5.0	4.5	**91** %	5.0	4.2	**85** %	**7** %	40 - 140 %	25%
50-32-8	Benzo[a]pyrene	5.0	4.6	**92** %	5.0	4.4	**89** %	**4** %	40 - 140 %	25%
193-39-5	Indeno[1,2,3-c,d]pyrene	5.0	3.9	**77** %	5.0	3.6	**71** %	**8** %	40 - 140 %	25%
53-70-3	Dibenzo[a,h]anthracene	5.0	3.9	**77** %	5.0	3.5	**71** %	**9** %	40 - 140 %	25%
191-24-2	Benzo[g,h,i]perylene	5.0	3.5	**70** %	5.0	3.2	**63** %	**10** %	40 - 140 %	25%
87-68-3	Hexachlorobutadiene	5.0	3.4	**69** %	5.0	3.4	**69** %	**0** %	40 - 140 %	25%
118-74-1	Hexachlorobenzene	5.0	4.3	**86** %	5.0	4.3	**85** %	**0** %	40 - 140 %	25%
87-86-5	Pentachlorophenol	5.0	5.6	**112** %	5.0	5.7	**113** %	**1** %	30 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
2-Fluorophenol	20	10	**52** %	20	8.7	**44** %		15 - 110 %
Phenol-d5	20	9.1	**46** %	20	7.6	**38** %		15 - 110 %
Nitrobenzene-d5	10	8.2	**82** %	10	7.6	**76** %		30 - 130 %
2-Fluorobiphenyl	10	7.7	**77** %	10	7.4	**74** %		30 - 130 %
2,4,6-Tribromophenol	20	19	**94** %	20	18	**92** %		15 - 110 %
Terphenyl-d14	10	7.3	**73** %	10	6.7	**67** %		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.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8270C (Part 2)**	Instrument ID:	**MS-6 HP 6890**
QC Batch ID:	**SV-2413-F**	Extracted:	**08-13-09 13:00**
Matrix:	**Aqueous**	Analyzed:	**08-13-09 21:19**
		Analyst:	**MJB**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
91-20-3	Naphthalene	BRL		ug/L	0.5
91-57-6	2-Methylnaphthalene	BRL		ug/L	0.5
208-96-8	Acenaphthylene	BRL		ug/L	0.5
83-32-9	Acenaphthene	BRL		ug/L	0.5
86-73-7	Fluorene	BRL		ug/L	0.5
85-01-8	Phenanthrene	BRL		ug/L	0.5
120-12-7	Anthracene	BRL		ug/L	0.5
206-44-0	Fluoranthene	BRL		ug/L	0.5
129-00-0	Pyrene	BRL		ug/L	0.5
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	9.9	**49** %	15 - 110 %
Phenol-d5	20	9.2	**46** %	15 - 110 %
Nitrobenzene-d5	10	7.2	**73** %	30 - 130 %
2-Fluorobiphenyl	10	7.9	**79** %	30 - 130 %
2,4,6-Tribromophenol	20	18	**91** %	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.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8270C (Part 1)**	Instrument ID:	**MS-3 HP 5890**	Instrument ID:	**MS-3 HP 5890**
QC Batch ID:	**SV-2413-F**	Extracted:	**08-13-09 13:00**	Extracted:	**08-13-09 13:00**
Matrix:	**Aqueous**	Analyzed:	**08-14-09 00:42**	Analyzed:	**08-14-09 01:23**
Units:	**ug/L**	Analyst:	**MJB**	Analyst:	**MJB**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
62-75-9	N-Nitrosodimethylamine	50	28	**56** %	50	23	**46** %	**20** %	40 - 140 %	25%
110-86-1	Pyridine	50	21	**42** %	50	18	**35** % q	**18** %	40 - 140 %	25%
108-95-2	Phenol	50	22	**43** %	50	18	**36** %	**17** %	30 - 130 %	25%
62-53-3	Aniline	50	35	**70** %	50	29	**59** %	**17** %	40 - 140 %	25%
111-44-4	Bis(2-chloroethyl) ether	50	41	**82** %	50	31	**62** %	**27** %	40 - 140 %	25%
95-57-8	2-Chlorophenol	50	34	**68** %	50	29	**58** %	**16** %	30 - 130 %	25%
541-73-1	1,3-Dichlorobenzene	50	38	**76** %	50	30	**60** %	**24** %	40 - 140 %	25%
106-46-7	1,4-Dichlorobenzene	50	39	**78** %	50	29	**58** %	**29** %	40 - 140 %	25%
100-51-6	Benzyl Alcohol	50	40	**80** %	50	31	**62** %	**26** %	30 - 130 %	25%
95-50-1	1,2-Dichlorobenzene	50	40	**79** %	50	30	**60** %	**28** %	40 - 140 %	25%
95-48-7	2-Methylphenol	50	36	**72** %	50	29	**57** %	**22** %	30 - 130 %	25%
108-60-1	Bis(2-chloroisopropyl) ether	50	39	**78** %	50	29	**58** %	**29** %	40 - 140 %	25%
106-44-5	4-Methylphenol	50	29	**57** %	50	24	**48** %	**18** %	30 - 130 %	25%
621-64-7	N-Nitrosodi-n-propylamine	50	42	**84** %	50	31	**63** %	**30** %	40 - 140 %	25%
98-86-2	Acetophenone	50	43	**86** %	50	32	**65** %	**29** %	40 - 140 %	25%
67-72-1	Hexachloroethane	50	37	**73** %	50	29	**59** %	**22** %	40 - 140 %	25%
98-95-3	Nitrobenzene	50	42	**84** %	50	33	**67** %	**23** %	40 - 140 %	25%
78-59-1	Isophorone	50	41	**82** %	50	32	**64** %	**24** %	40 - 140 %	25%
88-75-5	2-Nitrophenol	50	42	**84** %	50	32	**64** %	**28** %	30 - 130 %	25%
105-67-9	2,4-Dimethylphenol	50	39	**78** %	50	31	**62** %	**23** %	30 - 130 %	25%
111-91-1	Bis(2-chloroethoxy) methane	50	45	**89** %	50	35	**70** %	**24** %	40 - 140 %	25%
120-83-2	2,4-Dichlorophenol	50	39	**77** %	50	32	**63** %	**20** %	30 - 130 %	25%
120-82-1	1,2,4-Trichlorobenzene	50	40	**79** %	50	31	**62** %	**25** %	40 - 140 %	25%
106-47-8	4-Chloroaniline	50	41	**83** %	50	33	**65** %	**24** %	40 - 140 %	25%
87-68-3	Hexachlorobutadiene	50	38	**77** %	50	30	**60** %	**24** %	40 - 140 %	25%
59-50-7	4-Chloro-3-methylphenol	50	38	**77** %	50	32	**65** %	**17** %	30 - 130 %	25%
77-47-4	Hexachlorocyclopentadiene	50	24	**48** %	50	18	**37** % q	**26** %	40 - 140 %	25%
88-06-2	2,4,6-Trichlorophenol	50	45	**90** %	50	34	**68** %	**28** %	30 - 130 %	25%
95-95-4	2,4,5-Trichlorophenol	50	43	**86** %	50	35	**70** %	**21** %	30 - 130 %	25%
91-58-7	2-Chloronaphthalene	50	46	**92** %	50	34	**69** %	**29** %	40 - 140 %	25%
88-74-4	2-Nitroaniline	50	49	**98** %	50	37	**74** %	**28** %	40 - 140 %	25%
100-25-4	1,4-Dinitrobenzene	50	52	**103** %	50	37	**75** %	**32** %	40 - 140 %	25%
131-11-3	Dimethyl phthalate	50	48	**95** %	50	38	**76** %	**23** %	40 - 140 %	25%
99-65-0	1,3-Dinitrobenzene	50	52	**105** %	50	41	**82** %	**24** %	40 - 140 %	25%
606-20-2	2,6-Dinitrotoluene	50	48	**95** %	50	36	**73** %	**27** %	40 - 140 %	25%
528-29-0	1,2-Dinitrobenzene	50	49	**98** %	50	38	**76** %	**24** %	40 - 140 %	25%
99-09-2	3-Nitroaniline	50	48	**96** %	50	38	**76** %	**23** %	40 - 140 %	25%
51-28-5	2,4-Dinitrophenol	50	43	**85** %	50	36	**72** %	**17** %	30 - 130 %	25%
100-02-7	4-Nitrophenol	50	27	**54** %	50	23	**46** %	**15** %	30 - 130 %	25%
132-64-9	Dibenzofuran	50	48	**95** %	50	36	**72** %	**28** %	40 - 140 %	25%
121-14-2	2,4-Dinitrotoluene	50	51	**101** %	50	37	**75** %	**30** %	40 - 140 %	25%
84-66-2	Diethyl phthalate	50	49	**99** %	50	36	**73** %	**30** %	40 - 140 %	25%
7005-72-3	4-Chlorophenyl phenyl ether	50	48	**97** %	50	37	**73** %	**28** %	40 - 140 %	25%
100-01-6	4-Nitroaniline	50	52	**105** %	50	39	**79** %	**28** %	40 - 140 %	25%
534-52-1	4,6-Dinitro-2-methylphenol	50	45	**89** %	50	36	**72** %	**21** %	30 - 130 %	25%
86-30-6	N-Nitrosodiphenylamine †	50	59	**119** %	50	46	**92** %	**26** %	40 - 140 %	25%
122-66-7	1,2-Diphenylhydrazine à	50	48	**97** %	50	38	**77** %	**23** %	40 - 140 %	25%
101-55-3	4-Bromophenyl phenyl ether	50	46	**93** %	50	36	**72** %	**25** %	40 - 140 %	25%

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8270C (Part 1)**	Instrument ID:	**MS-3 HP 5890**	Instrument ID:	**MS-3 HP 5890**
QC Batch ID:	**SV-2413-F**	Extracted:	**08-13-09 13:00**	Extracted:	**08-13-09 13:00**
Matrix:	**Aqueous**	Analyzed:	**08-14-09 00:42**	Analyzed:	**08-14-09 01:23**
Units:	**ug/L**	Analyst:	**MJB**	Analyst:	**MJB**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
86-74-8	Carbazole	50	52	**104** %	50	40	**80** %	**26** %	40 - 140 %	25%
84-74-2	Di-*n*-butyl phthalate	50	50	**99** %	50	40	**80** %	**22** %	40 - 140 %	25%
85-68-7	Butyl benzyl phthalate	50	51	**101** %	50	42	**83** %	**20** %	40 - 140 %	25%
91-94-1	3,3'-Dichlorobenzidine	50	51	**101** %	50	41	**81** %	**22** %	40 - 140 %	25%
117-81-7	Bis(2-ethylhexyl) phthalate	50	44	**88** %	50	41	**81** %	**8** %	40 - 140 %	25%
117-84-0	Di-*n*-octyl phthalate	50	46	**93** %	50	42	**84** %	**10** %	40 - 140 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
2-Fluorophenol	20	9.6	**48** %	20	8.7	**43** %		15 - 110 %
Phenol-d5	20	7.7	**39** %	20	6.4	**32** %		15 - 110 %
Nitrobenzene-d5	10	7.9	**79** %	10	5.8	**58** %		30 - 130 %
2-Fluorobiphenyl	10	9.2	**92** %	10	6.8	**68** %		30 - 130 %
2,4,6-Tribromophenol	20	18	**90** %	20	13	**67** %		15 - 110 %
Terphenyl-d14	10	7.0	**70** %	10	6.5	**65** %		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.

q Recovery outside recommended limits.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8270C (Part 1)**
QC Batch ID: **SV-2413-F**
Matrix: **Aqueous**

Instrument ID: **MS-3 HP 5890**
Extracted: **08-13-09 13:00**
Analyzed: **08-14-09 02:04**
Analyst: **MJB**

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	5
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	5

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: **EPA Method 8270C (Part 1)**
QC Batch ID: **SV-2413-F**
Matrix: **Aqueous**

Instrument ID: **MS-3 HP 5890**
Extracted: **08-13-09 13:00**
Analyzed: **08-14-09 02:04**
Analyst: **MJB**

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	**49** %	15 - 110 %
Phenol-d5	20	8	**40** %	15 - 110 %
Nitrobenzene-d5	10	7	**67** %	30 - 130 %
2-Fluorobiphenyl	10	8	**84** %	30 - 130 %
2,4,6-Tribromophenol	20	15	**75** %	15 - 110 %
Terphenyl-d14	10	8	**77** %	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.

GROUNDWATER ANALYTICAL

Certifications and Approvals

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

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

CONNECTICUT

Department of Health Services, PH-0586 — Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental health/environmental laboratories/pdf/Out State.pdf

MASSACHUSETTS

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

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

NEW HAMPSHIRE

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

NEW YORK

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

RHODE ISLAND

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

U.S. DEPARTMENT OF AGRICULTURE

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

VERMONT

Department of Health, VT-87643 — Potable Water
http://healthvermont.gov/enviro/ph lab/water test.aspx#cert

GROUNDWATER ANALYTICAL

Certifications and Approvals

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

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

Potable Water (Drinking Water)

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

Non-Potable Water (Wastewater)

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

Non-Potable Water (Wastewater)

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

GROUNDWATER ANALYTICAL

Certifications and Approvals

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

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

Non-Potable Water (Wastewater)

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