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:

<table>
<tr><td colspan="2">a) Name of facility/site:
Cumberland Farms Service Station # 2439</td><td colspan="4">Facility/site address:
220 Pleasant Street
Attleboro, Ma., 02703</td></tr>
<tr><td>Location of facility/site:
longitude: 71.27 latitude: 41.95</td><td>Facility SIC code(s):
N/A</td><td colspan="4">Street:
Pleasant Street</td></tr>
<tr><td colspan="2">b) Name of facility/site owner: Oliver Udemba (Cumberland Farms)</td><td colspan="4">Town: Attleboro</td></tr>
<tr><td colspan="2" rowspan="2">Email address of owner:
OUdemba@cumberlandfarms.com</td><td rowspan="2">State:
MA</td><td rowspan="2">Zip:
02703</td><td colspan="2" rowspan="2">County:
Bristol County</td></tr>
<tr><td colspan="2">Telephone no.of facility/site owner: (781) 828-4900</td></tr>
<tr><td colspan="2">Fax no. of facility/site owner: (781) 575-9536</td><td colspan="4" rowspan="2">Owner is (check one): 1. Federal ___ 2. State/Tribal ___
3. Private ✔ 4. other, if so, describe:</td></tr>
<tr><td colspan="2">Address of owner (if different from site):</td></tr>
<tr><td colspan="6">Street: 777 Dedham Street</td></tr>
<tr><td colspan="2">Town: Canton</td><td>State: MA</td><td>Zip: 02021</td><td colspan="2">County: Norfolk</td></tr>
<tr><td colspan="2" rowspan="2">c) Legal name of operator:
ENSR Corporation</td><td colspan="4">Operator telephone no: (978) 589-3165</td></tr>
<tr><td colspan="2">Operator fax no.: (978) 589-3705</td><td colspan="2">Operator email:
scrowell@ensr.aecom.com</td></tr>
<tr><td colspan="6">Operator contact name and title: Sean Corwell, Project Engineer/Waster Water Treatment Operator (#12970)</td></tr>
</table>

Address of **operator** (if different from owner):	Street: ENSR Corporation 2 Technology Park Drive		
Town: Westford	State: MA	Zip: 01886	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: 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number:	f) Is the site/facility covered by any other EPA permit, including: 1. multi-sector 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: 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:

Dewatering for the reinstallation of the sites Underground Storage Tank (UST') system. Excavation construction and dewatering will be performed within a continuously interlocking steel sheet pile wall which will encompass the UST area. Dewatering from the excavation is anticipated to be completed by direct pumping with surface mounted centrifugal pumps. The groundwater will be pumped into frac-tanks, pump through bag filters, and treated with liquid phase granular activate carbon units, prior to discharge. The base of the excavation is approximately 14' below grade (bg), with an average static water level of ~6-8' bg.

b) Provide the following information about each discharge:	1) Number of discharge points: 1	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)? Max. flow 0.44 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. 100 GPM average based on soil types and backround infromation is anticipated System will be desinged to handle 200 GPM as a precautionary measure.

3) Latitude and longitude of each discharge within 100 feet: pt.1:long. 71.27 lat. 41.95 ; 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): NA	5) Is the discharge intermittent ✓ or seasonal _____? Is discharge ongoing Yes ____ No ✓ ?
c) Expected dates of discharge (mm/dd/yy): start 09/25/06 end 10/13/06	
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		✓	1	grab	2540D	50000	3.7 M	0	3.7 m	0
2. Total Residual Chlorine	✓		1	grab	4500	200	ND	0	ND	0
3. Total Petroleum Hydrocarbons		✓	1	grab	8015B	200	0.4	0.44	0.4	0.22
4. Cyanide	✓		1	grab	9012A	10	ND	0	ND	0
5. Benzene		✓	1	grab	8260B	0.5	ND	0	ND	0
6. Toluene		✓	1	grab	8260B	0.5	0.7	0.0008	0.7	0.0004
7. Ethylbenzene		✓	1	grab	8260B	1	0.5	0.0005	0.5	0.0003
8. (m,p,o) Xylenes		✓	1	grab	8260B	1	2.8	0.003	2.8	0.002
9. Total BTEX[4]		✓	1	grab	8260B	3	4	0.004	4	0.002

[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 (1,2- Dibromo-methane)	✓		1	grab	504.1	0.02	ND	0	ND	0
11. Methyl-tert-Butyl Ether (MtBE)		✓	1	grab	8260B	1	10	0.01	1	0.005
12. tert-Butyl Alcohol (TBA)		✓	1	grab	8260B	20	ND	0	ND	0
13. tert-Amyl Methyl Ether (TAME)		✓	1	grab	8260B	0.5	ND	0	ND	0
14. Naphthalene		✓	1	grab	8260B	0.5	ND	0	ND	0
15. Carbon Tetra-chloride	✓		1	grab	8260B	0.5	ND	0	ND	0
16. 1,4 Dichlorobenzene	✓		1	grab	8260B	0.5	ND	0	ND	0
17. 1,2 Dichlorobenzene	✓		1	grab	8260B	0.5	ND	0	ND	0
18. 1,3 Dichlorobenzene	✓		1	grab	8260B	0.5	ND	0	ND	0
19. 1,1 Dichloroethane	✓		1	grab	8260B	0.5	ND	0	ND	0
20. 1,2 Dichloroethane	✓		1	grab	8260B	0.5	ND	0	ND	0
21. 1,1 Dichloroethylene	✓		1	grab	8260B	0.5	ND	0	ND	0
22. cis-1,2 Dichloro-ethylene	✓		1	grab	8260B	54	0.058	0	54	0.29
23. Dichloromethane (Methylene Chloride)	✓		1	grab	8260B	5	ND	0	ND	0
24. Tetrachloroethylene	✓		1	grab	8260B	0.5	ND	0	ND	0

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	✓		1	grab	8260B	1	ND	0	ND	0
26. 1,1,2 Trichloroethane	✓		1	grab	8260B	1	ND	0	ND	0
27. Trichloroethylene		✓	1	grab	8260B	1	2	0.002	2	0.001
28. Vinyl Chloride		✓	1	grab	8260B	1	14	0.015	14	0.008
29. Acetone	✓		1	grab	8260B	20	ND	0	ND	0
30. 1,4 Dioxane	✓		1	grab	8260B	1000	ND	0	ND	0
31. Total Phenols	✓		1	grab	8270C	5	ND	0	ND	0
32. Pentachlorophenol	✓		1	grab	8270C	1.0	ND	0	ND	0
33. Total Phthalates [5] (Phthalate esthers)	✓		1	grab	8270C	25	ND	0	ND	0
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	✓		1	grab	8270C	5	ND	0	ND	0
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		✓	1	grab	8270C	0.1	0.1	0.0001	0.1	0.00005
a. Benzo(a) Anthracene	✓		1	grab	8270C	0.1	ND	0	ND	0
b. Benzo(a) Pyrene	✓		1	grab	8270C	0.1	ND	0	ND	0
c. Benzo(b)Fluoranthene		✓	1	grab	8270C	0.1	0.1	0.0001	0.1	0.00005
d. Benzo(k) Fluoranthene	✓		1	grab	8270C	0.1	ND	0	ND	0
e. Chrysene	✓		1	grab	8270C	0.1	ND	0	ND	0

[5] 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	✓		1	grab	8270C	0.1	ND	0	ND	0
g. Indeno(1,2,3-cd) Pyrene	✓		1	grab	8270C	0.1	ND	0	ND	0
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	✓		1	grab	8270C	0.5	ND	0	ND	0
h. Acenaphthene	✓		1	grab	8270C	0.5	ND	0	ND	0
i. Acenaphthylene	✓		1	grab	8270C	0.5	ND	0	ND	0
j. Anthracene	✓		1	grab	8270C	0.5	ND	0	ND	0
k. Benzo(ghi) Perylene	✓		1	grab	8270C	0.1	ND	0	ND	0
l. Fluoranthene	✓		1	grab	8270C	0.5	ND	0	ND	0
m. Fluorene	✓		1	grab	8270C	0.5	ND	0	ND	0
n. Naphthalene-	✓		1	grab	8270C	0.5	ND	0	ND	0
o. Phenanthrene	✓		1	grab	8270C	0.5	ND	0	ND	0
p. Pyrene	✓		1	grab	8270C	0.5	ND	0	ND	0
37. Total Polychlorinated Biphenyls (PCBs)		✓	1	grab	8082	0.2	0.95	0.001	0.95	0.0005
38. Antimony	✓		1	grab	7041	6	ND	0	ND	0
39. Arsenic		✓	1	grab	7060A	5	6	0.0065	6	0.0033
40. Cadmium	✓		1	grab	6010B	4	ND	0	ND	0
41. Chromium III		✓	1	grab	6010B	10	30	0.0326	30	0.016
42. Chromium VI	✓		1	grab	7196A	10	ND	0	ND	0

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		✓	1	grab	6010B	25	53	0.058	53	0.0288
44. Lead		✓	1	grab	7421	50	100	0.108	100	0.054
45. Mercury		✓	1	grab	7470	0.2	0.3	0.0003	0.3	0.00016
46. Nickel	✓		1	grab	6010B	40	ND	0	ND	0
47. Selenium	✓		1	grab	NM	NM	NM	NM	NM	NM
48. Silver	✓		1	grab	6010B	7	ND	0	ND	0
49. Zinc		✓	1	grab	200.7	200	1000	1.08	1000	0.544
50. Iron		✓	1	grab	200.7	100	28000	30.48	2800	15.24
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? During the filtration process iron, copper, lead, and zinc will be removed to levels below the applicable discharge limits.
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: Iron, Copper, lead, and zinc DF: 1.52	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:

Groundwater from the excavation will pumped, via surface mounted centrifugal pumps, into 20,000 gallon frac-tanks. The groundwater from the frac-tanks will be pumped out, via a transfer pump, thorugh two set of bag filter plumbed in series, each with 20 micron bag filters, with each set consisting of two bag filters in series, for the remove of suspended solids. The groundwater will then be treated by two sets of 2,000 pound Liquid Phase Granular Activated Carbon units (LGACs) plumed in parallel, with each set consisting of two LGACs plumbed in series, prior reaching the discharge to a catch basin.

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 200 Design flow rate of treatment system 200

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

NA

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 directly into a catch basin located on Pleasant Street, located in front of the site. Treated groundwater will then travel from the catch basin through a 12-inch conveyance piping to an unnamed wetland/Bungay River located immediately to the North of the subject site.

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 B,

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 0.24 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 ? 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.

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:

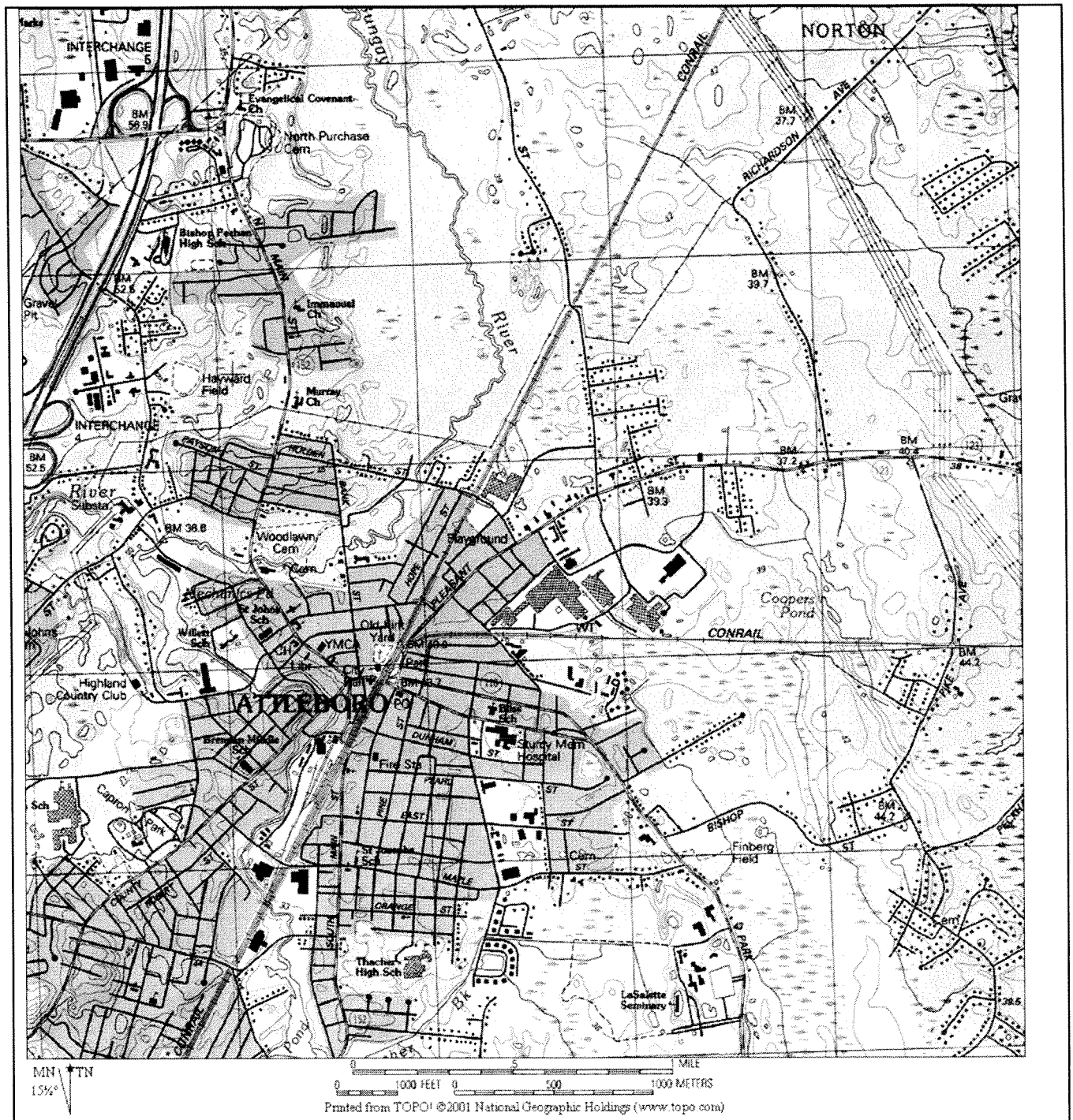
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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: Cumberland Farms Service Station #2439

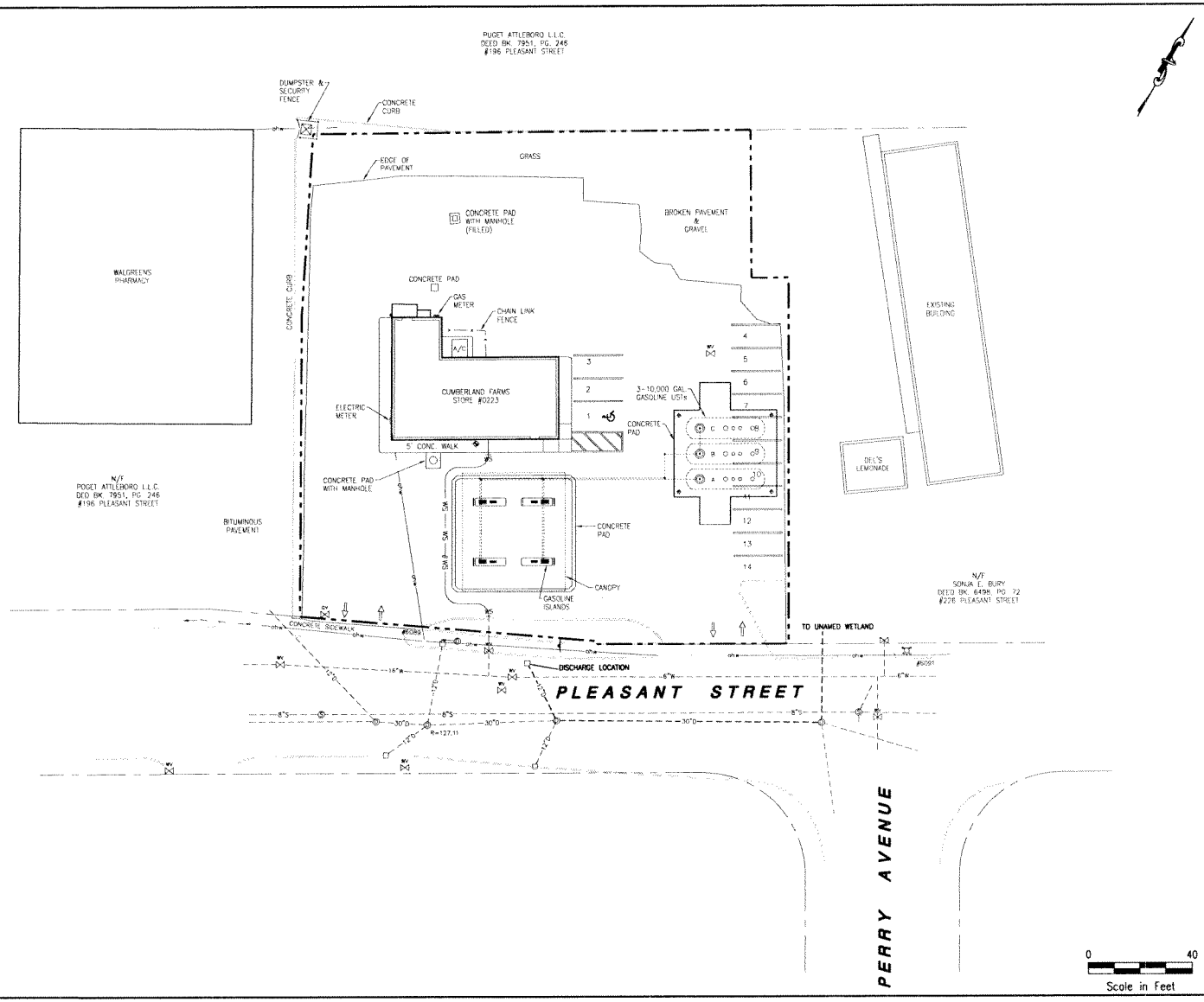
Operator signature: 

Title: Project Engineer

Date: 09/13/06



1:15,375	**Cumberland Farms, Inc.** **777 Dedham Street** **Canton, MA**	**Site Locus** Cumberland Farms Facility # 220 Pleasant Street Atttleboro, MA September 2006 Job No. 2140-354	Figure 1 www.ensr.aecom.com



LEGEND:

- Property Boundary
- Underground Gas Line
- Underground Sewer Line
- Underground Drain Line
- Underground Water Line
- Aboveground Electric and Telephone Line
- Catch Basin
- Drain Manhole
- Sewer Manhole
- Monitoring Well

CLIENT

Cumberland Farms
777 Dedham Street
Canton, Massachusetts

PROJECT TITLE

Cumberland Farms #0223
220 Pleasant Street
Attleboro, Massachusetts

FIGURE TITLE

Site Plan

APPROVED BY	REVIEWED BY
S. Crowell	S. Crowell
DRAWN BY	SCALE
K. Barry	1" = 40'
JOB NUMBER	DATE
02140-354	September 2006

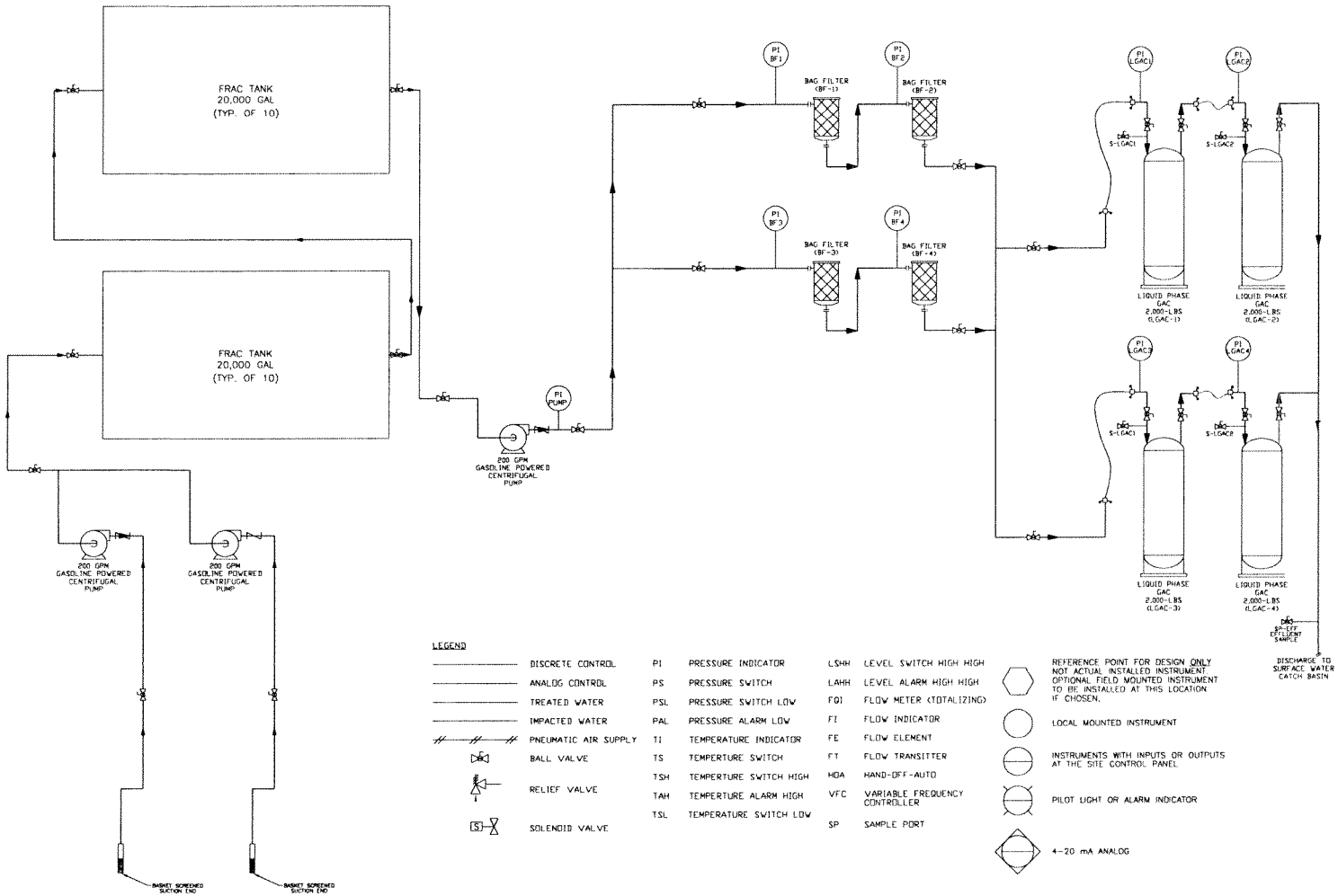
ENSR
2 Technology Park Drive
Westford, Massachusetts
(978) 589-3000

Figure 2

SHEET

ENSR | AECOM

02140-354-01B.DWG



LEGEND

DISCRETE CONTROL	PI	PRESSURE INDICATOR	LSHH	LEVEL SWITCH HIGH HIGH	REFERENCE POINT FOR DESIGN ONLY NOT ACTUAL INSTALLED INSTRUMENT. OPTIONAL FIELD MOUNTED INSTRUMENT TO BE INSTALLED AT THIS LOCATION IF CHOSEN.
ANALOG CONTROL	PS	PRESSURE SWITCH	LAHH	LEVEL ALARM HIGH HIGH	
TREATED WATER	PSL	PRESSURE SWITCH LOW	FQI	FLOW METER (TOTALIZING)	
IMPACTED WATER	PAL	PRESSURE ALARM LOW	FI	FLOW INDICATOR	LOCAL MOUNTED INSTRUMENT
PNEUMATIC AIR SUPPLY	TI	TEMPERATURE INDICATOR	FE	FLOW ELEMENT	
BALL VALVE	TS	TEMPERTURE SWITCH	FT	FLOW TRANSITTER	INSTRUMENTS WITH INPUTS OR OUTPUTS AT THE SITE CONTROL PANEL
RELIEF VALVE	TSH	TEMPERTURE SWITCH HIGH	HOA	HAND-OFF-AUTO	
	TAH	TEMPERTURE ALARM HIGH	VFC	VARIABLE FREQUENCY CONTROLLER	PILOT LIGHT OR ALARM INDICATOR
SOLENOID VALVE	TSL	TEMPERATURE SWITCH LOW	SP	SAMPLE PORT	4-20 mA ANALOG

LEGEND:

CLIENT

Cumberland Farms
777 Dedham Street
Canton, Massachusetts

PROJECT TITLE

Cumberland Farms #852439
220 PLEASANT STREET
Attleboro, Massachusetts

FIGURE TITLE

PROPOSED PROCESS AND INSTRUMENTATION DIAGRAM

APPROVED BY	REVIEWED BY
D. Espy	D. Macone
DRAWN BY	SCALE
S.A.C.	NTS
JOB NUMBER	DATE
02140-354	September 2006

ENSR
2 Technology Park Drive
Westford, MA 01886
(978) 589-3000

FIGURE 3

SHEET

ENSR | AECOM

FILENAME: 02140-271-02PID.DWG

GROUNDWATER ANALYTICAL

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

Telephone (508) 759-4441
FAX (508) 759-4475
www.groundwateranalytical.com

September 11, 2006

Mr. Derek Margarit
ENSR International
95 State Road
Sagamore Beach, MA 02562

LABORATORY REPORT

Project: **CFI# 2439 Attleboro/02140-XXX**
Lab ID: **98529**
Received: **09-06-06**

Dear Derek:

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 standards, except as may be specifically noted, or described in the project narrative. This report may only be used or reproduced in its entirety.

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

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

Sincerely,

Eric H. Jensen
Operations Manager

EHJ/jmp
Enclosures

GROUNDWATER ANALYTICAL

Sample Receipt Report

Project: **CFI# 2439 Attleboro/02140-XXX**
Client: **ENSR International**
Lab ID: **98529**

Delivery: **Hand**
Airbill: **n/a**
Lab Receipt: **09-06-06**

Temperature: **2.8'C**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
98529-1	GW		Aqueous	9/6/06 6:20	EPA 504.1 EDB and DBCP				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C814934	40 mL VOA Vial	Proline	BX22501	None	n/a	n/a	n/a		
C814925	40 mL VOA Vial	Proline	BX22501	None	n/a	n/a	n/a		
C814901	40 mL VOA Vial	Proline	BX22501	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
98529-2	GW		Aqueous	9/6/06 6:20	EPA 8260B Volatile Organics with Oxygenates				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C891361	40 mL VOA Vial	Proline	BX22377	HCl	R-4913G	08-09-06	n/a		
C891349	40 mL VOA Vial	Proline	BX22377	HCl	R-4913G	08-09-06	n/a		
C891337	40 mL VOA Vial	Proline	BX22377	HCl	R-4913G	08-09-06	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
98529-3	GW		Aqueous	9/6/06 6:20	EPA 6010B Cu Cd Fe Ni Ag Cr Zn Total EPA 7041 Antimony by GFAA Sb EPA 7060A Arsenic by GFAA As EPA 7421 Lead by GFAA Lead by GFAA EPA 7470A Hg Total EPA 7740 Selenium by GFAA Selenium by GFAA				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C862575	250 mL Plastic	Proline	BX23029	HNO3	R-4808D	08-15-06	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
98529-4	GW		Aqueous	9/6/06 6:20	EPA 8270C Semivolatile Organics (Low Level)				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C868067	1 L Amber Glass	Proline	BX23130	None	n/a	n/a	n/a		
C868061	1 L Amber Glass	Proline	BX23130	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
98529-5	GW		Aqueous	9/6/06 6:20	EPA 8082 PCBs				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C868066	1 L Amber Glass	Proline	BX23130	None	n/a	n/a	n/a		
C868104	1 L Amber Glass	Proline	BX23131	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
98529-6	GW		Aqueous	9/6/06 6:20	TPH by GC EPA 8015B Mod				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C868341	1 L Amber Glass	Proline	BX23112	H2SO4	R-4914A	09-01-06	n/a		
C868338	1 L Amber Glass	Proline	BX23112	H2SO4	R-4914A	09-01-06	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
98529-7	GW		Aqueous	9/6/06 6:20	SM 2540 D Total Suspended Solids				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C868829	1 L Plastic	Greenwood	BX23267	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
98529-8	GW		Aqueous	9/6/06 6:20	SM 4500-Cl G Total Residual Chlorine EPA 7196A Hexavalent Chromium				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C819217	250 mL Plastic	Greenwood	BX23265	None	n/a	n/a	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project: **CFI# 2439 Attleboro/02140-XXX**
Client: **ENSR International**
Lab ID: **98529**

Delivery: **Hand**
Airbill: **n/a**
Lab Receipt: **09-06-06**

Temperature: **2.8'C**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
98529-9	GW		Aqueous	9/6/06 6:20	EPA 9012A Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C839290	500 mL Plastic	Proline	BX22154	NaOH	R-4816B	06-29-06	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
98529-10	Trip		Aqueous	9/6/06 0:00	EPA 504.1 EDB and DBCP				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C814945	40 mL VOA Vial	Proline	BX22501	None	n/a	n/a	n/a		
C814933	40 mL VOA Vial	Proline	BX22501	None	n/a	n/a	n/a		

GROUNDWATER ANALYTICAL

Data Certification

Project:	**CFI# 2439 Attleboro/02140-XXX**	Lab ID:	**98529**
Client:	**ENSR International**	Received:	**09-06-06 08:55**

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:	98529-02
EPA 8270C:	98529-04,-04,-04
EPA 8082:	98529-05
EPA 6010B:	98529-03
EPA 7470A/1A:	98529-03
EPA 9012A:	98529-09
EPA 7196A:	98529-08

Sample Matrices:	Groundwater (X)	Soil/Sediment ( )	Drinking Water ( )	Other ( )	
MCP SW-846 Methods Used	8260B (X)	8151A ( )	8330 ( )	6010B (X)	7470A/1A (X)
	8270C (X)	8081A ( )	VPH ( )	6020 ( )	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?	No

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: Position: Operations Manager

Printed Name: Eric H. Jensen Date: 09-11-06

GROUNDWATER ANALYTICAL

EPA Method 504.1
EDB and DBCP by GC/ECD

Field ID:	**GW**	Matrix:	**Aqueous**
Project:	**Pleasant Attleboro/02140-XXX**	Container:	**40 mL VOA Vial**
Client:	**ENSR International**	Preservation:	**Cool**
Laboratory ID:	**98529-01**	QC Batch ID:	**PV-0840-E**
Sampled:	**09-06-06 06:20**	Instrument ID:	**GC-5 HP 5890**
Received:	**09-06-06 08:55**	Sample Volume:	**32 mL**
Extracted:	**09-06-06 17:30**	Final Volume:	**1 mL**
Analyzed:	**09-06-06 21:25**	Dilution Factor:	**1**
Analyst:	**CRL**		

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: Methods for the Determination of Organic Compounds in Drinking Water, Supplement III, US EPA, EPA-600/R-95/131 (1995). Method Revision 1.1.

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:	**GW**	Matrix:	**Aqueous**
Project:	**Pleasant Attleboro/02140-XXX**	Container:	**40 mL VOA Vial**
Client:	**ENSR International**	Preservation:	**HCl/Cool**
Laboratory ID:	**98529-02**	QC Batch ID:	**VM7-2243-W**
Sampled:	**09-06-06 06:20**	Instrument ID:	**MS-7 Agilent 6890**
Received:	**09-06-06 08:55**	Sample Volume:	**25 mL**
Analyzed:	**09-06-06 20:45**	Dilution Factor:	**1**
Analyst:	**KMC**		

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	**14**		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	2.5
156-60-5	*trans*-1,2-Dichloroethene	**0.7**		ug/L	0.5
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	**10**		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	**60**	e	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	**2**		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	0.5
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	5
108-88-3	Toluene	**0.7**		ug/L	0.5
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	0.5
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	**0.5**		ug/L	0.5
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	**2**		ug/L	0.5
95-47-6	*ortho*-Xylene	**0.8**		ug/L	0.5

GROUNDWATER ANALYTICAL

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

Field ID:	**GW**	Matrix:	**Aqueous**
Project:	**Pleasant Attleboro/02140-XXX**	Container:	**40 mL VOA Vial**
Client:	**ENSR International**	Preservation:	**HCl/Cool**
Laboratory ID:	**98529-02**	QC Batch ID:	**VM7-2243-W**
Sampled:	**09-06-06 06:20**	Instrument ID:	**MS-7 Agilent 6890**
Received:	**09-06-06 08:55**	Sample Volume:	**25 mL**
Analyzed:	**09-06-06 20:45**	Dilution Factor:	**1**
Analyst:	**KMC**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/L	0.5
75-25-2	Bromoform	BRL		ug/L	0.5
98-82-8	Isopropylbenzene	BRL		ug/L	0.5
108-86-1	Bromobenzene	BRL		ug/L	0.5
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	0.5
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	0.5
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	**2**		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
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	12	**116** %	70 - 130 %
1,2-Dichloroethane-d_4	10	11	**106** %	70 - 130 %
Toluene-d_8	10	10	**105** %	70 - 130 %
4-Bromofluorobenzene	10	10	**101** %	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.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	**GW**	Matrix:	**Aqueous**
Project:	**Pleasant Attleboro/02140-XXX**	Container:	**40 mL VOA Vial**
Client:	**ENSR International**	Preservation:	**HCl/Cool**
Laboratory ID:	**98529-02RA1**	QC Batch ID:	**VM7-2243-W**
Sampled:	**09-06-06 06:20**	Instrument ID:	**MS-7 Agilent 6890**
Received:	**09-06-06 08:55**	Sample Volume:	**25 mL**
Analyzed:	**09-06-06 21:44**	Dilution Factor:	**2**
Analyst:	**KMC**		

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	**11**		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
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	1
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	**10**		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	**54**		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	BRL		ug/L	1
107-06-2	1,2-Dichloroethane	BRL		ug/L	1
79-01-6	Trichloroethene	**1**		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	1000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	1
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	10
108-88-3	Toluene	BRL		ug/L	1
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	1
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	BRL		ug/L	1
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	**1**		ug/L	1
95-47-6	*ortho*-Xylene	BRL		ug/L	1

GROUNDWATER ANALYTICAL

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

Field ID:	**GW**	Matrix:	**Aqueous**
Project:	**Pleasant Attleboro/02140-XXX**	Container:	**40 mL VOA Vial**
Client:	**ENSR International**	Preservation:	**HCl/Cool**
Laboratory ID:	**98529-02RA1**	QC Batch ID:	**VM7-2243-W**
Sampled:	**09-06-06 06:20**	Instrument ID:	**MS-7 Agilent 6890**
Received:	**09-06-06 08:55**	Sample Volume:	**25 mL**
Analyzed:	**09-06-06 21:44**	Dilution Factor:	**2**
Analyst:	**KMC**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/L	1
75-25-2	Bromoform	BRL		ug/L	1
98-82-8	Isopropylbenzene	BRL		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
103-65-1	*n*-Propylbenzene	BRL		ug/L	1
95-49-8	2-Chlorotoluene	BRL		ug/L	1
108-67-8	1,3,5-Trimethylbenzene	BRL		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	**1**		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
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	1
87-68-3	Hexachlorobutadiene	BRL		ug/L	1
91-20-3	Naphthalene	BRL		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	12	**118** %	70 - 130 %
1,2-Dichloroethane-d_4	10	11	**109** %	70 - 130 %
Toluene-d_8	10	10	**103** %	70 - 130 %
4-Bromofluorobenzene	10	10	**102** %	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

Trace Metals

Field ID:	**GW**	Matrix:	**Aqueous**
Project:	**Pleasant Attleboro/02140-XXX**	Container:	**250 mL Plastic**
Client:	**ENSR International**	Preservation:	**HNO3 / Cool**
Laboratory ID:	**98529-03**	Preserved:	**09-06-06 06:20**
Sampled:	**09-06-06 06:20**		
Received:	**09-06-06 08:55**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 7041[1]	MB-2268-W	EPA 3010A	09-06-06 07:54	50 mL	GFAA-1 PE 5100	MWR
EPA 7060A[2]	MB-2268-W	EPA 3010A	09-06-06 07:54	50 mL	GFAA-2 PE 5100	MWR
EPA 6010B[3]	MB-2268-W	EPA 3010A	09-06-06 07:54	50 mL	ICP-2 PE 3300	MWR
EPA 7421[4]	MB-2268-W	EPA 3010A	09-06-06 07:54	50 mL	GFAA-2 PE 5100	MWR
EPA 7470A[5]	MP-1880-W	EPA 7470A	09-07-06 07:30	25 mL	CVAA-1 PE FIMS	JBH

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-36-0	Antimony, Total	BRL		mg/L	0.006	1	09-07-06 21:11	EPA 7041[1]
7440-38-2	Arsenic, Total	**0.006**		mg/L	0.005	1	09-07-06 11:03	EPA 7060A[2]
7440-43-9	Cadmium, Total	BRL		mg/L	0.004	1	09-06-06 15:26	EPA 6010B[3]
7440-47-3	Chromium, Total	**0.03**		mg/L	0.01	1	09-06-06 15:26	EPA 6010B[3]
7440-50-8	Copper, Total	**0.053**		mg/L	0.025	1	09-06-06 15:25	EPA 6010B[3]
7439-89-6	Iron, Total	**28**		mg/L	0.1	1	09-06-06 15:25	EPA 6010B[3]
7439-92-1	Lead, Total	**0.10**		mg/L	0.05	10	09-07-06 15:29	EPA 7421[4]
7439-97-6	Mercury, Total	**0.0003**		mg/L	0.0002	1	09-07-06 11:54	EPA 7470A[5]
7440-02-0	Nickel, Total	BRL		mg/L	0.04	1	09-06-06 15:26	EPA 6010B[3]
7440-22-4	Silver, Total	BRL		mg/L	0.007	1	09-06-06 15:25	EPA 6010B[3]
7440-66-6	Zinc, Total	**1.0**		mg/L	0.2	1	09-06-06 15:25	EPA 6010B[3]

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

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

DF Dilution Factor.

GROUNDWATER ANALYTICAL

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

Field ID:	**GW**	Matrix:	**Aqueous**
Project:	**Pleasant Attleboro/02140-XXX**	Container:	**1 L Amber Glass**
Client:	**ENSR International**	Preservation:	**Cool**
Laboratory ID:	**98529-04**	QC Batch ID:	**SV-1952-F**
Sampled:	**09-06-06 06:20**	Instrument ID:	**MS-3 HP 5890**
Received:	**09-06-06 08:55**	Sample Volume:	**1000 mL**
Extracted:	**09-07-06 08:00**	Final Volume:	**1 mL**
Analyzed:	**09-08-06 11:16**	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	5
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:	**GW**	Matrix:	**Aqueous**
Project:	**Pleasant Attleboro/02140-XXX**	Container:	**1 L Amber Glass**
Client:	**ENSR International**	Preservation:	**Cool**
Laboratory ID:	**98529-04**	QC Batch ID:	**SV-1952-F**
Sampled:	**09-06-06 06:20**	Instrument ID:	**MS-3 HP 5890**
Received:	**09-06-06 08:55**	Sample Volume:	**1000 mL**
Extracted:	**09-07-06 08:00**	Final Volume:	**1 mL**
Analyzed:	**09-08-06 11:16**	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	10	**48** %	15 - 110 %
Phenol-d5	20	7	**36** %	15 - 110 %
Nitrobenzene-d5	10	6	**58** %	30 - 130 %
2-Fluorobiphenyl	10	6	**59** %	30 - 130 %
2,4,6-Tribromophenol	20	15	**74** %	15 - 110 %
Terphenyl-d14	10	6	**60** %	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:	**GW**	Matrix:	**Aqueous**
Project:	**Pleasant Attleboro/02140-XXX**	Container:	**1 L Amber Glass**
Client:	**ENSR International**	Preservation:	**Cool**
Laboratory ID:	**98529-04**	QC Batch ID:	**SV-1952-F**
Sampled:	**09-06-06 06:20**	Instrument ID:	**MS-6 HP 6890**
Received:	**09-06-06 08:55**	Sample Volume:	**1000 mL**
Extracted:	**09-07-06 08:00**	Final Volume:	**1 mL**
Analyzed:	**09-09-06 16:54**	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	**0.1**		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	**47** %	15 - 110 %
Phenol-d5	20	8	**37** %	15 - 110 %
Nitrobenzene-d5	10	6	**61** %	30 - 130 %
2-Fluorobiphenyl	10	5	**54** %	30 - 130 %
2,4,6-Tribromophenol	20	14	**72** %	15 - 110 %
Terphenyl-d14	10	6	**59** %	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:	**GW**	Matrix:	**Aqueous**
Project:	**Pleasant Attleboro/02140-XXX**	Container:	**1 L Amber Glass**
Client:	**ENSR International**	Preservation:	**Cool**
Laboratory ID:	**98529-05**	QC Batch ID:	**PB-2268-F**
Sampled:	**09-06-06 06:20**	Instrument ID:	**GC-13 Agilent 6890**
Received:	**09-06-06 08:55**	Sample Weight:	**1000 mL**
Extracted:	**09-06-06 23:00**	Final Volume:	**1 mL**
Cleaned Up:	**09-07-06 14:00**	Dilution Factor:	**1**
Analyzed:	**09-07-06 19:35**		
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.2
11104-28-2	Aroclor 1221	BRL		ug/L	0.2
11141-16-5	Aroclor 1232	BRL		ug/L	0.2
53469-21-9	Aroclor 1242	BRL		ug/L	0.2
12672-29-6	Aroclor 1248	**0.95**	2C (0.73)*	ug/L	0.2
11097-69-1	Aroclor 1254	BRL		ug/L	0.2
11096-82-5	Aroclor 1260	BRL		ug/L	0.2
37324-23-5	Aroclor 1262 †	BRL		ug/L	0.2
11100-14-4	Aroclor 1268 †	BRL		ug/L	0.2

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	0.20	0.16	**81** %	30 - 150 %
	Decachlorobiphenyl	0.20	0.20	**98** %	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	0.20	0.16	**82** %	30 - 150 %
	Decachlorobiphenyl	0.20	0.18	**91** %	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.
* Confirmatory column quantification.
2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

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

Field ID:	**GW**	Matrix:	**Aqueous**
Project:	**Pleasant Attleboro/02140-XXX**	Container:	**1 L Amber Glass**
Client:	**ENSR International-Sagamore**	Preservation:	**H2SO4/Cool**
Laboratory ID:	**98529-06**	QC Batch ID:	**HF-1806-F**
Sampled:	**09-06-06 06:20**	Instrument ID:	**GC-4 HP 5890**
Received:	**09-06-06 08:55**	Sample Volume:	**1000 mL**
Extracted:	**09-06-06 16:30**	Final Volume:	**1 mL**
Analyzed:	**09-07-06 20:35**	Dilution Factor:	**1**
Analyst:	**SC**		

Analyte	Concentration	Notes	Units	Reporting Limit
Total Petroleum Hydrocarbons	**0.4**		mg/L	0.2

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-Terphenyl	0.04	0.039	**97** %	60 - 140 %

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

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

Inorganic Chemistry

Field ID: **GW** Matrix: **Aqueous**
Project: **CFI# 2439 Attleboro/02140-XXX** Received: **09-06-06 08:55**
Client: **ENSR International**

Lab ID: **98529-07** Sampled: **09-06-06 06:20** Container: **1 L Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	**3,700**	mg/L	50	25	20 mL	09-11-06 08:15	TSS-1269-W	SM 2540 D	3	MW

Lab ID: **98529-08** Sampled: **09-06-06 06:20** Container: **250 mL Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Chlorine, Total Residual	BRL	mg/L	0.2	1	5 mL	09-06-06 19:59	TRC-0475-W	SM 4500-Cl G	2	AG
Chromium, Hexavalent	BRL	mg/L	0.01	1	5 mL	09-07-06 15:55	HC-0278-W	EPA 7196A	1	DDW

Lab ID: **98529-09** Sampled: **09-06-06 06:20** 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	09-08-06 10:24	TCN-1248-W	EPA 9012A	1	DDW

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: Milton Roy Spectronic 401

3 Instrument ID: Mettler AT 200 Balance

GROUNDWATER ANALYTICAL

EPA Method 504.1
EDB and DBCP by GC/ECD

Field ID:	**Trip**	Matrix:	**Aqueous**
Project:	**Pleasant Attleboro/02140-XXX**	Container:	**40 mL VOA Vial**
Client:	**ENSR International**	Preservation:	**Cool**
Laboratory ID:	**98529-10**	QC Batch ID:	**PV-0840-E**
Sampled:	**09-06-06 00:00**	Instrument ID:	**GC-5 HP 5890**
Received:	**09-06-06 08:55**	Sample Volume:	**35 mL**
Extracted:	**09-06-06 17:30**	Final Volume:	**1 mL**
Analyzed:	**09-06-06 23:42**	Dilution Factor:	**1**
Analyst:	**CRL**		

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: Methods for the Determination of Organic Compounds in Drinking Water, Supplement III, US EPA, EPA-600/R-95/131 (1995). Method Revision 1.1.

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

Project Narrative

Project:	**CFI# 2439 Attleboro/02140-XXX**	Lab ID:	**98529**
Client:	**ENSR International**	Received:	**09-06-06 08:55**

A. Documentation and Client Communication

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

1. Sample 98529-10 identified as 'Trip Blank' was analyzed by EPA Method 504 as discussed with Derek Margarit, 09-06-06.

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 Non-conformance: Sample 98529-02. 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.
2. EPA 8260B Non-conformance: Samples 98529-02. Laboratory control sample (LCS) analyte Dichlorodifluoromethane was above recommended recovery limits for QC batch VM7-2243-W.
3. EPA 8260B Note: Sample 98529-02. Sample was diluted prior to analysis. Dilution was required to keep all target analytes within calibration.
4. EPA 8270C Modification: Samples 98529-04. 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.

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CHAIN-OF-CUSTODY RECORD AND WORK ORDER

№ 215920

Field	Value
Project Name:	[illegible] Pleasant Attleboro
Firm:	ENSR
Project Number:	02140-XXX
Address:	95 State Rd.
Sampler Name:	LBB
City / State / Zip:	Sagamore Beach, MA 02562
Project Manager:	D. Margarit
Telephone:	508 888 3900

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

TURNAROUND

- ☐ STANDARD (10 Business Days)
- ☐ PRIORITY (5 Business Days)
- ☑ RUSH (RAN- 506) (Rush requires Rush Authorization Number)
- ☑ Please Email to: DMargarit@ensr.aecom.com
- ☐ Please FAX to:

BILLING

- ☐ Purchase Order No.:
- ☐ Third Party Billing:
- ☐ GWA Quote:

ANALYSIS REQUEST

Volatiles | Semivolatiles | Pest/Herb/PCBs (Extractable, Vol.) | Metals | Petroleum Hydrocarbon (Ext. TPH, Vol. TPH) | Haz. Waste | General Chemistry | Other

Handwritten analysis entries: 8260B (X); 8270C Phenols, phthalates (X); 608 PCBs (X); 1668A (X); 504.1 EDB/DBCP (X); 200.7 (X); Total (Metals) (X); TSS (X); Cyanide, Total (X); BOD/COD (X); Total Residual Chlorine 330.5 (X); Hex Chromium 218.6 (X)

Sampling Date	Sampling Time	Sample Identification	Matrix	Type	Container(s)	Preservation	Filtered	Laboratory Number (Lab Use Only)	Analyses
9/6/06	06:20	GW	Groundwater (X)	Grab (X)	Number 17; 40mL VOA 6; 950mL/32 oz Glass 7; 1L/32 oz Amber Glass 2; 250mL Plastic 1; 500mL Plastic 1	HCl 3; HNO3 1; H2SO4 2; NaOH 1; Ice X	No X		X (Volatiles); X (Semivolatiles); X (PCBs); X (504.1); X (Metals); X X (Petroleum Hydrocarbon); X X (General Chemistry); X X (Other)
		Trip	Lab (X)		Number 2; 40mL VOA X				X (Volatiles)

REMARKS / SPECIAL INSTRUCTIONS

MA DEP MCP Data Enhancement Affirmation

- ☐ YES ☒ NO MCP Data Certification required.
- ☐ YES ☒ NO MCP Drinking Water Sample included. (Require collection of contingent duplicate sample. Trip blanks are also required, if VOA sample collected).

Signature: [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	
☐	☐	

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.

Relinquished by	Date	Time	Received by	
Relinquished by Sampler: [signature]	9/6/06	08:25	Received by: [signature]	Receipt Temperature: 2.8 (☐ Ice ☐ Refrigerated 2-6°C Recommended)
Relinquished by:	Date	Time	Received by:	Container Count: 19
Relinquished by:	Date	Time	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:	**GC-4 HP 5890**
QC Batch ID:	**HF-1806-F**	Extracted:	**09-06-06 16:30**
Matrix:	**Aqueous**	Analyzed:	**09-07-06 17:50**
Units:	**mg/L**	Analyst:	**SC**

Analyte	Spiked	Measured	Recovery	QC Limits
Fuel Oil No. 2	2.0	1.2	**60** %	60 - 140 %

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
ortho-Terphenyl	0.040	0.040	**101** %	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:	**GC-4 HP 5890**
QC Batch ID:	**HF-1806-F**	Extracted:	**09-06-06 16:30**
Matrix:	**Aqueous**	Analyzed:	**09-07-06 16:55**
		Analyst:	**SC**

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	0.037	**93** %	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

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	89	80	**90 %**	80 - 120 %	09-11-06 08:15	TSS-1269-W	SM 2540 D	3	MW
Chlorine, Total Residual	mg/L	1	1.1	**110 %**	80 - 120 %	09-06-06 19:59	TRC-0475-W	SM 4500-Cl G	2	AG

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: Milton Roy Spectronic 401

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	09-11-06 08:15	TSS-1269-W	SM 2540 D	3	MW
Chlorine, Total Residual	BRL	mg/L	0.2	09-06-06 19:59	TRC-0475-W	SM 4500-Cl G	2	AG
Chromium, Hexavalent	BRL	mg/L	0.01	09-07-06 15:52	HC-0278-W	EPA 7196A	1	DDH
Cyanide, Total	BRL	mg/L	0.01	09-08-06 10:21	TCN-1248-W	EPA 9012A	1	DDH

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: Milton Roy Spectronic 401

3 Instrument ID: Mettler AT 200 Balance

GROUNDWATER ANALYTICAL

Quality Control Report
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 7196A	HC-0278-W	EPA 7196A	9/7/2006 15:30	9/7/2006 15:52	Lachat 8000 Autoanalyzer	DDH
LCSD	EPA 7196A	HC-0278-W	EPA 7196A	9/7/2006 15:30	9/7/2006 15:54	Lachat 8000 Autoanalyzer	DDH

Analyte	LCS			LCS Duplicate				QC Limits		Method
	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
Chromium, Hexavalent	0.10	0.11	**110%**	0.10	0.09	**94%**	**8 %**	80-120%	20 %	EPA 7196A

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

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-1287-W	EPA 9012A	9/7/2006 13:40	9/8/2006 10:21	Lachat 8000 Autoanalyzer	DDH
LCSD	EPA 9012A	TCN-1287-W	EPA 9012A	9/7/2006 13:40	9/8/2006 10:23	Lachat 8000 Autoanalyzer	DDH

Analyte	LCS			LCS Duplicate				QC Limits		Method
	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
Cyanide, Total	0.45	0.48	**106%**	0.45	0.49	**108%**	**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 Samples

		LCS		LCSD	
Category:	**EPA 8082**	Instrument ID:	**GC-6 HP 5890**	Instrument ID:	**GC-6 HP 5890**
QC Batch ID:	**PB-2268-X**	Extracted:	**09-22-05 10:30**	Extracted:	**09-22-05 10:30**
Matrix:	**Soil**	Cleaned Up:	**09-23-05 12:00**	Cleaned Up:	**09-23-05 12:00**
Units:	**ug/Kg**	Analyzed:	**09-26-05 10:44**	Analyzed:	**09-26-05 11:19**
		Analyst:	**CRL**	Analyst:	**CRL**

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	170	150	160	**93%**	**98%**	170	170	190	**101%**	**112%**	**8 %**	**14 %**	40 - 140%	30 %
11096-82-5	Aroclor 1260	170	160	180	**95%**	**110%**	170	170	200	**100%**	**117%**	**5 %**	**6 %**	40 - 140%	30 %

QC Surrogate Compound	Surrogate Recovery										QC Limits
Tetrachloro-*m*-xylene	6.7	5.7	5.8	**86%**	**87%**	6.7	6.3	7.2	**93%**	**107%**	30 - 150 %
Decachlorobiphenyl	6.7	6.4	6.7	**95%**	**99%**	6..7	6.6	7	**99%**	**104%**	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 3540C. 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-6 HP 5890**
QC Batch ID:	**PB-2268-X**	Extracted:	**09-22-05 10:30**
Matrix:	**Soil**	Cleaned Up:	**09-23-05 12:00**
		Analyzed:	**09-23-05 21:02**
		Analyst:	**CRL**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	40
11104-28-2	Aroclor 1221	BRL		ug/Kg	40
11141-16-5	Aroclor 1232	BRL		ug/Kg	40
53469-21-9	Aroclor 1242	BRL		ug/Kg	40
12672-29-6	Aroclor 1248	BRL		ug/Kg	40
11097-69-1	Aroclor 1254	BRL		ug/Kg	40
11096-82-5	Aroclor 1260	BRL		ug/Kg	40
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	40
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	40

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	6.7	4.8	**71** %	30 - 150 %
	Decachlorobiphenyl	6.7	7.1	**107** %	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	6.7	5.3	**80** %	30 - 150 %
	Decachlorobiphenyl	6.7	6.8	**103** %	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 3540C. 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 504.1**	Instrument ID:	**GC-5 HP 5890**
QC Batch ID:	**PV-0840-E**	Extracted:	**09-06-06 11:00**
Matrix:	**Aqueous**	Analyzed:	**09-06-06 14:43**
Units:	**ug/L**	Analyst:	**CRL**

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	0.22	0.20	**108** %	**102** %	70 - 130 %
96-12-8	1,2-Dibromo-3-Chloropropane (DBC	0.20	0.21	0.20	**107** %	**102** %	70 - 130 %

Method Reference: Methods for the Determination of Organic Compounds in Drinking Water, Supplement III, US EPA, EPA-600/R-95/131 (1995). Method Revision 1.1.

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 504.1**	Instrument ID:	**GC-5 HP 5890**
QC Batch ID:	**PV-0840-E**	Extracted:	**09-06-06 11:00**
Matrix:	**Aqueous**	Analyzed:	**09-06-06 16:26**
		Analyst:	**CRL**

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: Methods for the Determination of Organic Compounds in Drinking Water, Supplement III, US EPA, EPA-600/R-95/131 (1995). Method Revision 1.1.

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

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

Sample Type	Method	QC Batch ID	Prep Method	Prepared	Analyzed	Instrument ID	Analyst
LCS	EPA 7041	MB-2268-WL	EPA 3010A	09-06-06 07:54	09-07-06 20:58	GFAA-1 PE 5100 Zeeman	MWR
LCS	EPA 6010B	MB-2268-WL	EPA 3010A	09-06-06 07:54	09-07-06 10:26	GFAA-1 PE 5100 Zeeman	MWR
LCS	EPA 7470A	MP-1880-WL	EPA 7470A	09-07-06 07:30	09-07-06 11:48	CVAA-1 PE FIMS	JBH
LCSD	EPA 7041	MB-2268-WL	EPA 3010A	09-06-06 07:54	09-07-06 11:51	GFAA-1 PE 5100 Zeeman	MWR
LCSD	EPA 6010B	MB-2268-WL	EPA 3010A	09-06-06 07:54	09-07-06 14:08	GFAA-1 PE 5100 Zeeman	MWR
LCSD	EPA 7470A	MP-1880-WL	EPA 7470A	09-07-06 07:30	09-07-06 11:51	CVAA-1 PE FIMS	JBH

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-36-0	Antimony	0.050	0.053	**106%**	0.050	0.05	**96%**	**5 %**	80-120 %	20 %	EPA 7041
7440-38-2	Arsenic	0.050	0.043	**85%**	0.050	0.044	**89%**	**2 %**	80-120 %	20 %	EPA 6010B
7440-43-9	Cadmium	1.0	0.9	**89%**	1.0	0.9	**95%**	**3 %**	80-120 %	20 %	EPA 6010B
7440-47-3	Chromium	1.0	0.9	**88%**	1.0	0.9	**94%**	**3 %**	80-120 %	20 %	EPA 6010B
7440-50-8	Copper	1.0	0.9	**90%**	1.0	1.0	**97%**	**4 %**	80-120 %	20 %	EPA 6010B
7439-89-6	Iron	5.0	4.9	**98%**	5.0	4.9	**99%**	**1 %**	80-120 %	20 %	EPA 6010B
7439-92-1	Lead	0.050	0.043	**86%**	0.050	0.044	**87%**	**1 %**	80-120 %	20 %	EPA 6010B
7439-97-6	Mercury	0.0010	0.0010	**102%**	0.0010	0.0010	**98%**	**2 %**	80-120 %	20 %	EPA 7470A
7440-02-0	Nickel	1.0	0.9	**90%**	1.0	1.0	**98%**	**4 %**	80-120 %	20 %	EPA 6010B
7440-22-4	Silver	1.0	0.9	**91%**	1.0	1.0	**98%**	**4 %**	80-120 %	20 %	EPA 6010B
7440-66-6	Zinc	1.0	0.9	**87%**	1.0	0.9	**93%**	**3 %**	80-120 %	20 %	EPA 6010B

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

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

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

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

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 7041	MB-2268-WB	EPA 3010A	09-06-06 07:54	50 mL	GFAA-1 PE 5100 Zeeman	MWR
EPA 6010B	MB-2268-WB	EPA 3010A	09-06-06 07:54	50 mL	GFAA-1 PE 5100 Zeeman	MWR
EPA 7470A	MP-1880-WB	EPA 7470A	09-07-06 07:30	25 mL	CVAA-1 PE FIMS	JBH

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-36-0	Antimony	BRL		mg/L	0.006	1	09-07-06 20:51	EPA 7041
7440-38-2	Arsenic	BRL		mg/L	0.005	1	09-07-06 10:18	EPA 6010B
7440-43-9	Cadmium	BRL		mg/L	0.005	1	09-06-06 15:23	EPA 6010B
7440-47-3	Chromium	BRL		mg/L	0.01	1	09-06-06 15:23	EPA 6010B
7440-50-8	Copper	BRL		mg/L	0.025	1	09-06-06 15:23	EPA 6010B
7439-89-6	Iron	BRL		mg/L	0.1	1	09-07-06 13:16	EPA 6010B
7439-92-1	Lead	BRL		mg/L	0.005	1	09-07-06 13:58	EPA 6010B
7439-97-6	Mercury	BRL		mg/L	0.0002	1	09-07-06 11:48	EPA 7470A
7440-02-0	Nickel	BRL		mg/L	0.04	1	09-06-06 15:23	EPA 6010B
7440-22-4	Silver	BRL		mg/L	0.007	1	09-06-06 15:23	EPA 6010B
7440-66-6	Zinc	BRL		mg/L	0.2	1	09-06-06 15:23	EPA 6010B

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

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

DF Dilution Factor.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA Method 8260B**	Instrument ID:	**MS-7 Agilent 6890**	Instrument ID:	**MS-7 Agilent 6890**
QC Batch ID:	**VM7-2243-WL**	Analyzed:	**09-06-06 11:20**	Analyzed:	**09-06-06 11:50**
Matrix:	**Aqueous**	Analyst:	**KMC**	Analyst:	**KMC**
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	13	**131** % q	10	14	**138** % q	**5** %	70 - 130 %	25%
74-87-3	Chloromethane	10	9.8	**98** %	10	11	**108** %	**10** %	70 - 130 %	25%
75-01-4	Vinyl Chloride	10	10	**103** %	10	12	**115** %	**11** %	70 - 130 %	25%
74-83-9	Bromomethane	10	8.9	**89** %	10	9.8	**98** %	**10** %	70 - 130 %	25%
75-00-3	Chloroethane	10	10	**100** %	10	11	**109** %	**8** %	70 - 130 %	25%
75-69-4	Trichlorofluoromethane	10	11	**107** %	10	11	**111** %	**4** %	70 - 130 %	25%
60-29-7	Diethyl Ether	20	22	**108** %	20	23	**115** %	**6** %	70 - 130 %	25%
75-35-4	1,1-Dichloroethene	10	10	**103** %	10	11	**112** %	**8** %	70 - 130 %	25%
76-13-1	1,1,2-Trichlorotrifluoroethane	20	22	**110** %	20	24	**118** %	**7** %	70 - 130 %	25%
67-64-1	Acetone	20	18	**89** %	20	16	**80** %	**11** %	70 - 130 %	25%
75-15-0	Carbon Disulfide	20	21	**104** %	20	22	**111** %	**6** %	70 - 130 %	25%
75-09-2	Methylene Chloride	10	12	**124** %	10	13	**126** %	**1** %	70 - 130 %	25%
156-60-5	*trans*-1,2-Dichloroethene	10	11	**107** %	10	11	**114** %	**6** %	70 - 130 %	25%
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	10	10	**104** %	10	11	**111** %	**6** %	70 - 130 %	25%
75-34-3	1,1-Dichloroethane	10	11	**114** %	10	12	**119** %	**4** %	70 - 130 %	25%
594-20-7	2,2-Dichloropropane	10	10	**101** %	10	11	**106** %	**4** %	70 - 130 %	25%
156-59-2	*cis*-1,2-Dichloroethene	10	11	**112** %	10	11	**114** %	**3** %	70 - 130 %	25%
78-93-3	2-Butanone (MEK)	20	21	**107** %	20	22	**110** %	**2** %	70 - 130 %	25%
74-97-5	Bromochloromethane	10	12	**122** %	10	12	**121** %	**1** %	70 - 130 %	25%
109-99-9	Tetrahydrofuran (THF)	20	21	**105** %	20	22	**109** %	**4** %	70 - 130 %	25%
67-66-3	Chloroform	10	12	**117** %	10	12	**118** %	**1** %	70 - 130 %	25%
71-55-6	1,1,1-Trichloroethane	10	11	**105** %	10	11	**111** %	**5** %	70 - 130 %	25%
56-23-5	Carbon Tetrachloride	10	11	**108** %	10	11	**114** %	**6** %	70 - 130 %	25%
563-58-6	1,1-Dichloropropene	10	10	**101** %	10	11	**108** %	**7** %	70 - 130 %	25%
71-43-2	Benzene	10	10	**104** %	10	11	**107** %	**4** %	70 - 130 %	25%
107-06-2	1,2-Dichloroethane	10	12	**117** %	10	12	**116** %	**1** %	70 - 130 %	25%
79-01-6	Trichloroethene	10	11	**106** %	10	11	**110** %	**4** %	70 - 130 %	25%
78-87-5	1,2-Dichloropropane	10	11	**111** %	10	11	**113** %	**2** %	70 - 130 %	25%
74-95-3	Dibromomethane	10	12	**118** %	10	12	**118** %	**1** %	70 - 130 %	25%
75-27-4	Bromodichloromethane	10	12	**118** %	10	12	**119** %	**0** %	70 - 130 %	25%
123-91-1	1,4-Dioxane	200	180	**91** %	200	210	**105** %	**14** %	70 - 130 %	25%
10061-01-5	*cis*-1,3-Dichloropropene	10	10	**103** %	10	11	**106** %	**3** %	70 - 130 %	25%
108-10-1	4-Methyl-2-Pentanone (MIBK)	20	23	**113** %	20	23	**113** %	**0** %	70 - 130 %	25%
108-88-3	Toluene	10	11	**107** %	10	11	**110** %	**2** %	70 - 130 %	25%
10061-02-6	*trans*-1,3-Dichloropropene	10	9.8	**98** %	10	9.9	**99** %	**1** %	70 - 130 %	25%
79-00-5	1,1,2-Trichloroethane	10	11	**115** %	10	11	**113** %	**1** %	70 - 130 %	25%
127-18-4	Tetrachloroethene	10	10	**103** %	10	11	**107** %	**4** %	70 - 130 %	25%
142-28-9	1,3-Dichloropropane	10	11	**115** %	10	11	**113** %	**1** %	70 - 130 %	25%
591-78-6	2-Hexanone	20	22	**111** %	20	22	**111** %	**0** %	70 - 130 %	25%
124-48-1	Dibromochloromethane	10	11	**114** %	10	11	**112** %	**2** %	70 - 130 %	25%
106-93-4	1,2-Dibromoethane (EDB)	10	11	**112** %	10	11	**109** %	**3** %	70 - 130 %	25%
108-90-7	Chlorobenzene	10	11	**106** %	10	11	**107** %	**1** %	70 - 130 %	25%
630-20-6	1,1,1,2-Tetrachloroethane	10	11	**110** %	10	11	**112** %	**2** %	70 - 130 %	25%
100-41-4	Ethylbenzene	10	11	**106** %	10	11	**109** %	**3** %	70 - 130 %	25%
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	20	21	**107** %	20	22	**110** %	**3** %	70 - 130 %	25%
95-47-6	*ortho*-Xylene	10	11	**107** %	10	11	**109** %	**2** %	70 - 130 %	25%
100-42-5	Styrene	10	10	**105** %	10	11	**106** %	**2** %	70 - 130 %	25%
75-25-2	Bromoform	10	12	**118** %	10	12	**116** %	**2** %	70 - 130 %	25%
98-82-8	Isopropylbenzene	10	10	**100** %	10	11	**106** %	**6** %	70 - 130 %	25%

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA Method 8260B**	Instrument ID:	**MS-7 Agilent 6890**	Instrument ID:	**MS-7 Agilent 6890**
QC Batch ID:	**VM7-2243-WL**	Analyzed:	**09-06-06 11:20**	Analyzed:	**09-06-06 11:50**
Matrix:	**Aqueous**	Analyst:	**KMC**	Analyst:	**KMC**
Units:	**ug/L**				

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
108-86-1	Bromobenzene	10	10	**104** %	10	11	**108** %	**3** %	70 - 130 %	25%
79-34-5	1,1,2,2-Tetrachloroethane	10	11	**112** %	10	11	**112** %	**1** %	70 - 130 %	25%
96-18-4	1,2,3-Trichloropropane	10	12	**124** %	10	13	**125** %	**1** %	70 - 130 %	25%
103-65-1	*n*-Propylbenzene	10	10	**104** %	10	11	**110** %	**6** %	70 - 130 %	25%
95-49-8	2-Chlorotoluene	10	10	**104** %	10	11	**108** %	**4** %	70 - 130 %	25%
108-67-8	1,3,5-Trimethylbenzene	10	10	**103** %	10	11	**109** %	**5** %	70 - 130 %	25%
106-43-4	4-Chlorotoluene	10	10	**103** %	10	11	**107** %	**4** %	70 - 130 %	25%
98-06-6	*tert*-Butylbenzene	10	10	**101** %	10	11	**108** %	**6** %	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	10	10	**104** %	10	11	**109** %	**5** %	70 - 130 %	25%
135-98-8	*sec*-Butylbenzene	10	10	**100** %	10	11	**108** %	**7** %	70 - 130 %	25%
541-73-1	1,3-Dichlorobenzene	10	10	**105** %	10	11	**107** %	**2** %	70 - 130 %	25%
99-87-6	4-Isopropyltoluene	10	10	**102** %	10	11	**108** %	**6** %	70 - 130 %	25%
106-46-7	1,4-Dichlorobenzene	10	10	**102** %	10	11	**105** %	**3** %	70 - 130 %	25%
95-50-1	1,2-Dichlorobenzene	10	10	**104** %	10	11	**106** %	**2** %	70 - 130 %	25%
104-51-8	*n*-Butylbenzene	10	10	**103** %	10	11	**109** %	**6** %	70 - 130 %	25%
96-12-8	1,2-Dibromo-3-chloropropane	10	11	**111** %	10	11	**113** %	**2** %	70 - 130 %	25%
120-82-1	1,2,4-Trichlorobenzene	10	10	**101** %	10	10	**105** %	**4** %	70 - 130 %	25%
87-68-3	Hexachlorobutadiene	10	10	**101** %	10	11	**107** %	**6** %	70 - 130 %	25%
91-20-3	Naphthalene	10	10	**104** %	10	11	**106** %	**2** %	70 - 130 %	25%
87-61-6	1,2,3-Trichlorobenzene	10	11	**111** %	10	11	**113** %	**2** %	70 - 130 %	25%
75-65-0	*tert*-Butyl Alcohol (TBA)	200	230	**117** %	200	250	**124** %	**6** %	70 - 130 %	25%
108-20-3	Di-isopropyl Ether (DIPE)	10	10	**105** %	10	11	**109** %	**4** %	70 - 130 %	25%
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	10	9.8	**98** %	10	10	**101** %	**3** %	70 - 130 %	25%
994-05-8	*tert*-Amyl Methyl Ether (TAME)	10	8.7	**87** %	10	8.9	**89** %	**2** %	70 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
Dibromofluoromethane	10	12	**116** %	10	11	**114** %		70 - 130 %
1,2-Dichloroethane-d_4	10	11	**114** %	10	11	**112** %		70 - 130 %
Toluene-d_8	10	11	**110** %	10	11	**110** %		70 - 130 %
4-Bromofluorobenzene	10	10	**104** %	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: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8260B**	Instrument ID:	**MS-7 Agilent 6890**
QC Batch ID:	**VM7-2243-WB**	Analyzed:	**09-06-06 12:19**
Matrix:	**Aqueous**	Analyst:	**KMC**

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	2.5
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	0.5
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	0.5
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
98-82-8	Isopropylbenzene	BRL		ug/L	0.5

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8260B**	Instrument ID:	**MS-7 Agilent 6890**
QC Batch ID:	**VM7-2243-WB**	Analyzed:	**09-06-06 12:19**
Matrix:	**Aqueous**	Analyst:	**KMC**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
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
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
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	12	**118** %	70 - 130 %
1,2-Dichloroethane-d_4	10	11	**111** %	70 - 130 %
Toluene-d_8	10	11	**108** %	70 - 130 %
4-Bromofluorobenzene	10	11	**106** %	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 1)**	Instrument ID:	**MS-3 HP 5890**	Instrument ID:	**MS-3 HP 5890**
QC Batch ID:	**SV-1952-F**	Extracted:	**09-07-06 08:00**	Extracted:	**09-07-06 08:00**
Matrix:	**Aqueous**	Analyzed:	**09-08-06 09:11**	Analyzed:	**09-08-06 09:52**
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	24	**48** %	50	21	**42** %	**12** %	40 - 140 %	25%
110-86-1	Pyridine	50	26	**53** %	50	18	**35** % q	**39** % q	40 - 140 %	25%
108-95-2	Phenol	50	16	**32** %	50	16	**32** %	**2** %	30 - 130 %	25%
62-53-3	Aniline	50	34	**69** %	50	26	**52** %	**29** % q	40 - 140 %	25%
111-44-4	Bis(2-chloroethyl) ether	50	25	**49** %	50	24	**47** %	**5** %	40 - 140 %	25%
95-57-8	2-Chlorophenol	50	23	**46** %	50	22	**44** %	**4** %	30 - 130 %	25%
541-73-1	1,3-Dichlorobenzene	50	23	**47** %	50	22	**43** %	**7** %	40 - 140 %	25%
106-46-7	1,4-Dichlorobenzene	50	23	**45** %	50	21	**43** %	**6** %	40 - 140 %	25%
100-51-6	Benzyl Alcohol	50	27	**53** %	50	26	**53** %	**1** %	30 - 130 %	25%
95-50-1	1,2-Dichlorobenzene	50	24	**47** %	50	22	**44** %	**7** %	40 - 140 %	25%
95-48-7	2-Methylphenol	50	24	**47** %	50	24	**48** %	**1** %	30 - 130 %	25%
108-60-1	Bis(2-chloroisopropyl) ether	50	26	**51** %	50	25	**50** %	**2** %	40 - 140 %	25%
106-44-5	4-Methylphenol	50	24	**47** %	50	25	**49** %	**4** %	30 - 130 %	25%
621-64-7	N-Nitrosodi-n-propylamine	50	28	**55** %	50	29	**58** %	**5** %	40 - 140 %	25%
98-86-2	Acetophenone	50	29	**58** %	50	30	**60** %	**3** %	40 - 140 %	25%
67-72-1	Hexachloroethane	50	23	**46** %	50	21	**42** %	**8** %	40 - 140 %	25%
98-95-3	Nitrobenzene	50	25	**51** %	50	26	**52** %	**3** %	40 - 140 %	25%
78-59-1	Isophorone	50	24	**49** %	50	27	**54** %	**10** %	40 - 140 %	25%
88-75-5	2-Nitrophenol	50	25	**50** %	50	27	**54** %	**8** %	30 - 130 %	25%
105-67-9	2,4-Dimethylphenol	50	26	**51** %	50	28	**56** %	**9** %	30 - 130 %	25%
111-91-1	Bis(2-chloroethoxy) methane	50	25	**51** %	50	27	**54** %	**6** %	40 - 140 %	25%
120-83-2	2,4-Dichlorophenol	50	25	**50** %	50	27	**55** %	**8** %	30 - 130 %	25%
120-82-1	1,2,4-Trichlorobenzene	50	25	**50** %	50	26	**52** %	**4** %	40 - 140 %	25%
106-47-8	4-Chloroaniline	50	36	**72** %	50	29	**57** %	**23** %	40 - 140 %	25%
87-68-3	Hexachlorobutadiene	50	23	**46** %	50	24	**48** %	**5** %	40 - 140 %	25%
59-50-7	4-Chloro-3-methylphenol	50	28	**56** %	50	32	**64** %	**12** %	30 - 130 %	25%
77-47-4	Hexachlorocyclopentadiene	50	22	**44** %	50	24	**47** %	**6** %	40 - 140 %	25%
88-06-2	2,4,6-Trichlorophenol	50	27	**54** %	50	30	**59** %	**9** %	30 - 130 %	25%
95-95-4	2,4,5-Trichlorophenol	50	29	**57** %	50	30	**60** %	**4** %	30 - 130 %	25%
91-58-7	2-Chloronaphthalene	50	27	**54** %	50	29	**59** %	**8** %	40 - 140 %	25%
88-74-4	2-Nitroaniline	50	31	**63** %	50	34	**67** %	**7** %	40 - 140 %	25%
100-25-4	1,4-Dinitrobenzene	50	28	**55** %	50	30	**61** %	**9** %	40 - 140 %	25%
131-11-3	Dimethyl phthalate	50	31	**62** %	50	34	**69** %	**10** %	40 - 140 %	25%
99-65-0	1,3-Dinitrobenzene	50	30	**61** %	50	33	**67** %	**9** %	40 - 140 %	25%
606-20-2	2,6-Dinitrotoluene	50	32	**63** %	50	34	**69** %	**8** %	40 - 140 %	25%
528-29-0	1,2-Dinitrobenzene	50	29	**57** %	50	30	**60** %	**4** %	40 - 140 %	25%
99-09-2	3-Nitroaniline	50	34	**68** %	50	34	**69** %	**0** %	40 - 140 %	25%
51-28-5	2,4-Dinitrophenol	50	31	**61** %	50	34	**69** %	**12** %	30 - 130 %	25%
100-02-7	4-Nitrophenol	50	22	**43** %	50	23	**46** %	**5** %	30 - 130 %	25%
132-64-9	Dibenzofuran	50	30	**60** %	50	33	**65** %	**8** %	40 - 140 %	25%
121-14-2	2,4-Dinitrotoluene	50	33	**66** %	50	35	**70** %	**6** %	40 - 140 %	25%
84-66-2	Diethyl phthalate	50	32	**64** %	50	35	**70** %	**9** %	40 - 140 %	25%
7005-72-3	4-Chlorophenyl phenyl ether	50	31	**62** %	50	33	**66** %	**7** %	40 - 140 %	25%
100-01-6	4-Nitroaniline	50	36	**72** %	50	38	**76** %	**5** %	40 - 140 %	25%
534-52-1	4,6-Dinitro-2-methylphenol	50	34	**68** %	50	36	**71** %	**5** %	30 - 130 %	25%
86-30-6	N-Nitrosodiphenylamine †	50	30	**60** %	50	32	**65** %	**8** %	40 - 140 %	25%
122-66-7	1,2-Diphenylhydrazine à,	50	33	**66** %	50	34	**69** %	**4** %	40 - 140 %	25%
101-55-3	4-Bromophenyl phenyl ether	50	35	**69** %	50	37	**74** %	**7** %	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-1952-F**	Extracted:	**09-07-06 08:00**	Extracted:	**09-07-06 08:00**
Matrix:	**Aqueous**	Analyzed:	**09-08-06 09:11**	Analyzed:	**09-08-06 09:52**
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	36	**72** %	50	37	**75** %	**3** %	40 - 140 %	25%
84-74-2	Di-*n*-butyl phthalate	50	36	**73** %	50	38	**76** %	**4** %	40 - 140 %	25%
85-68-7	Butyl benzyl phthalate	50	37	**74** %	50	39	**79** %	**7** %	40 - 140 %	25%
91-94-1	3,3'-Dichlorobenzidine	50	37	**74** %	50	41	**81** %	**9** %	40 - 140 %	25%
117-81-7	Bis(2-ethylhexyl) phthalate	50	39	**78** %	50	41	**82** %	**6** %	40 - 140 %	25%
117-84-0	Di-*n*-octyl phthalate	50	39	**78** %	50	41	**82** %	**4** %	40 - 140 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
2-Fluorophenol	20	8	**39** %	20	7	**35** %		15 - 110 %
Phenol-d5	20	6	**31** %	20	6	**29** %		15 - 110 %
Nitrobenzene-d5	10	5	**50** %	10	5	**46** %		30 - 130 %
2-Fluorobiphenyl	10	5	**49** %	10	5	**53** %		30 - 130 %
2,4,6-Tribromophenol	20	13	**64** %	20	14	**70** %		15 - 110 %
Terphenyl-d14	10	7	**69** %	10	7	**73** %		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)**	Instrument ID:	**MS-3 HP 5890**
QC Batch ID:	**SV-1952-F**	Extracted:	**09-07-06 08:00**
Matrix:	**Aqueous**	Analyzed:	**09-08-06 10:34**
		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	5
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)**	Instrument ID:	**MS-3 HP 5890**
QC Batch ID:	**SV-1952-F**	Extracted:	**09-07-06 08:00**
Matrix:	**Aqueous**	Analyzed:	**09-08-06 10:34**
		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	**51** %	15 - 110 %
Phenol-d5	20	7	**37** %	15 - 110 %
Nitrobenzene-d5	10	6	**59** %	30 - 130 %
2-Fluorobiphenyl	10	6	**61** %	30 - 130 %
2,4,6-Tribromophenol	20	14	**69** %	15 - 110 %
Terphenyl-d14	10	7	**71** %	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

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8270C (Part 2)**	Instrument ID:	**MS-3 HP 5890**	Instrument ID:	**MS-6 HP 6890**
QC Batch ID:	**SV-1952-F**	Extracted:	**09-07-06 08:00**	Extracted:	**09-07-06 08:00**
Matrix:	**Aqueous**	Analyzed:	**09-09-06 14:54**	Analyzed:	**09-09-06 15:34**
Units:	**ug/L**	Analyst:	**MJB**	Analyst:	**MJB**

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits	
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	Spike	RPD
91-20-3	Naphthalene	5.0	2.9	**59** %	5.0	3.0	**60** %	**2** %	40 - 140 %	25%
91-57-6	2-Methylnaphthalene	5.0	3.3	**65** %	5.0	3.4	**68** %	**5** %	40 - 140 %	25%
208-96-8	Acenaphthylene	5.0	3.2	**64** %	5.0	3.3	**66** %	**3** %	40 - 140 %	25%
83-32-9	Acenaphthene	5.0	3.1	**63** %	5.0	3.3	**66** %	**4** %	40 - 140 %	25%
86-73-7	Fluorene	5.0	3.3	**66** %	5.0	3.4	**69** %	**4** %	40 - 140 %	25%
85-01-8	Phenanthrene	5.0	3.6	**72** %	5.0	3.7	**73** %	**1** %	40 - 140 %	25%
120-12-7	Anthracene	5.0	3.8	**76** %	5.0	4.0	**79** %	**3** %	40 - 140 %	25%
206-44-0	Fluoranthene	5.0	3.7	**74** %	5.0	3.9	**78** %	**5** %	40 - 140 %	25%
129-00-0	Pyrene	5.0	3.6	**73** %	5.0	3.9	**78** %	**7** %	40 - 140 %	25%
56-55-3	Benzo[a]anthracene	5.0	4.0	**80** %	5.0	4.2	**84** %	**6** %	40 - 140 %	25%
218-01-9	Chrysene	5.0	3.9	**77** %	5.0	4.1	**82** %	**5** %	40 - 140 %	25%
205-99-2	Benzo[b]fluoranthene	5.0	4.3	**85** %	5.0	4.4	**87** %	**2** %	40 - 140 %	25%
207-08-9	Benzo[k]fluoranthene	5.0	4.2	**83** %	5.0	4.2	**84** %	**1** %	40 - 140 %	25%
50-32-8	Benzo[a]pyrene	5.0	4.2	**84** %	5.0	4.3	**86** %	**2** %	40 - 140 %	25%
193-39-5	Indeno[1,2,3-c,d]pyrene	5.0	3.9	**78** %	5.0	4.0	**80** %	**3** %	40 - 140 %	25%
53-70-3	Dibenzo[a,h]anthracene	5.0	3.8	**76** %	5.0	3.9	**79** %	**4** %	40 - 140 %	25%
191-24-2	Benzo[g,h,i]perylene	5.0	4.1	**81** %	5.0	4.2	**83** %	**2** %	40 - 140 %	25%
87-68-3	Hexachlorobutadiene	5.0	2.6	**52** %	5.0	2.7	**54** %	**3** %	40 - 140 %	25%
118-74-1	Hexachlorobenzene	5.0	3.4	**69** %	5.0	3.5	**70** %	**3** %	40 - 140 %	25%
87-86-5	Pentachlorophenol	5.0	4.6	**91** %	5.0	4.7	**94** %	**3** %	30 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
2-Fluorophenol	20	9	**44** %	20	9	**45** %		15 - 110 %
Phenol-d5	20	7	**35** %	20	7	**36** %		15 - 110 %
Nitrobenzene-d5	10	6	**63** %	10	7	**67** %		30 - 130 %
2-Fluorobiphenyl	10	6	**56** %	10	6	**58** %		30 - 130 %
2,4,6-Tribromophenol	20	15	**75** %	20	15	**77** %		15 - 110 %
Terphenyl-d14	10	7	**73** %	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: 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-1952-F**	Extracted:	**09-07-06 08:00**
Matrix:	**Aqueous**	Analyzed:	**09-09-06 16:14**
		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

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	20	10	**48** %	15 - 110 %
Phenol-d5	20	8	**38** %	15 - 110 %
Nitrobenzene-d5	10	6	**63** %	30 - 130 %
2-Fluorobiphenyl	10	6	**58** %	30 - 130 %
2,4,6-Tribromophenol	20	15	**74** %	15 - 110 %
Terphenyl-d14	10	7	**70** %	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

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

Categories: Potable Water, Wastewater, Solid Waste and Soil
http://www.dph.state.ct.us/BRS/Environmental_Lab/OutStateLabList.htm

FLORIDA, Department of Health, Bureau of Laboratories, E87643

Categories: SDWA, CWA, RCRA/CERCLA
http://www.floridadep.org/labs/qa/dohforms.htm

MAINE, Department of Human Services, MA103

Categories: Drinking Water and Wastewater
http://www.state.me.us/dhs/eng/water/Compliance.htm

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

Categories: Potable Water and Non-Potable Water
http://www.state.ma.us/dep/bspt/wes/files/certlabs.pdf

NEW HAMPSHIRE, Department of Environmental Services, 202703

Categories: Drinking Water and Wastewater
http://www.des.state.nh.us/asp/NHELAP/labsview.asp

NEW YORK, Department of Health, 11754

Categories: Potable Water, Non-Potable Water and Solid Waste
http://www.wadsworth.org/labcert/elap/comm.html

PENNSYLVANIA, Department of Environmental Protection, 68-665

Environmental Laboratory Registration (Non-drinking water and Non-wastewater)
http://www.dep.state.pa.us/Labs/Registered/

RHODE ISLAND, Department of Health, 54

Categories: Surface Water, Air, Wastewater, Potable Water, Sewage
http://www.healthri.org/labs/labsCT_MA.htm

U.S. Department of Agriculture, Soil Permit, S-53921

Foreign soil import permit

VERMONT, Department of Environmental Conservation, Water Supply Division

Category: Drinking Water
http://www.vermontdrinkingwater.org/wsops/labtable.PDF

Title	Date	Dwg.	Project	Proposal
Bungay River - Dilution Factor	9/13/06	—	CFI #2439	- DM

Dilution Factor → Bungay River, MA

$$DF = (Qd + Qs) / Qd$$

DF = Dilution Factor
Qd = Max Flow Rate of Discharge (cfs)
Qs = Receiving Water 7Q10 Flow (cfs) where,
7Q10 = the min flow (cfs) for 7 consecutive days with a recurrence interval of 10 yr.

Therefore

200 gpm = 0.46 cfs = Qd

Qs = 0.24 cfs

Value obtained from "Streamflow Statistics Report" Provided by U.S Department of Interior, US Geologic Survey 10 Bearfoot Road, Northborough MA 01532
(SEE ATTACHED REPORT)

$$DF = \frac{(0.46 + 0.24)}{0.46} = 1.52$$

Streamflow Statistics Report

Date: Tue Sep 12 11:59:05 2006
Latitude: 41.9535
Longitude: -71.28
Measured Basin Characteristics:
Drainage Area (square miles): 6.21
Stratified Drift Area (square miles): 4.71
Stream Length (miles): 13.55
Slope (percent): 0.85
Region: 0

Statistic	Estimated streamflow, ft^3/s	90% Prediction interval	
		Minimum	Maximum
99-percent duration flow	0.26	0.06	0.99
98-percent duration flow	0.37	0.10	1.27
95-percent duration flow	0.55	0.17	1.69
90-percent duration flow	1.00	0.36	2.73
85-percent duration flow	1.38	0.51	3.66
80-percent duration flow	1.95	0.77	4.91
75-percent duration flow	2.59	1.13	5.84
70-percent duration flow	3.22	1.38	7.45
60-percent duration flow	4.70	1.79	12.28
50-percent duration flow	6.15	3.20	11.76
7-day, 2-year low flow	0.65	0.20	2.06
7-day, 10-year low flow	0.24	0.06	0.94
August median flow	1.60	0.58	4.39

U.S. Department of the Interior, U.S. Geological Survey
10 Bearfoot Road
Northborough, MA 01532
(508) 490-5000

Maintainer: http://ststdmamrl.er.usgs.gov/streamstats/web_page_form.htm