MIDSTATE OFFICE PARK
27 MIDSTATE DRIVE, SUITE 218
AUBURN, MA 01501
508-832-6022
FAX: 508-832-4603
WWW.ECSCONSULT.COM

December 29, 2006
File No. 93-200006.55

United States Environmental
Protection Agency, Region 1
RPG-NOC Processing
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Attn: Mr. Victor Alvarez

RE: Exxon Station
160 Andover Street
Danvers, Massachusetts
MassDEP RTN 3-797

Dear Mr. Alvarez:

Environmental Compliance Services, Inc. (ECS) is pleased to provide supporting documentation for the Notice of Intent (NOI) for the Remediation General Permit (RGP) on behalf of Cumberland Farms, Inc. (CFI). This NOI is submitted in order to obtain a permit for the dewatering of an underground storage tank excavation which is part of a raze and rebuild of the existing gasoline station at the above reference location. A Site Locus and a Site Plan is provided as Figures 1 and 2, respectively. A copy of the NOI form is provided as Attachment I.

System Design

Recovered groundwater from the excavation will be pumped into frac tanks to allow silt and sediments to settle out of the water. The water will then be pumped from the frac tank though a bag filter to further reduce any suspended solids in the water. The water will then pass through two 500lb liquid phase granular activated carbon units, piped in series, to remove contaminants prior to discharging to Crane Brook. The anticipated maximum flow rate of the system is approximately 25 gallons per minute (gpm). A schematic sketch of the proposed system design can be found on page 12 of the NOI form in Attachment I.

Influent Sample Analysis

A sample was collected from monitoring well MW-15 (shown on Figure 2) on December 11, 2006. The sample was submitted to Groundwater Analytical of Buzzards Bay, Massachusetts under standard chain of custody protocol for analysis of semivolatile organic compounds (SVOCs) by USEPA Method 625, volatile organic compounds (VOCs) by USEPA Method 8260B, polychlorinated biphenyls (PCBs) by USEPA Method 608, total petroleum hydrocarbons (TPH) by USEPA Method 1664, ethylene dibromide (EDB) by USEPA Method 504.1, total metals (silver, arsenic, cadmium, chromium, copper, iron, nickel, lead, antimony, selenium, and zinc) by USEPA Method 6010B, mercury by USEPA Method 245.1/7470A, cyanide by USEPA Method 335.3, total residual chloride

by SM 4500 CIG, and total suspended solids by SM2540D. A copy of the laboratory report and chain of custody record are provided as Attachment II.

Comparison to the Appendix III effluent limitations (http://www.epa.gov/region1/npdes/remediation/Appendix-III.pdf, accessed December 29, 2006) indicates that the untreated influent sample contained iron and lead at a concentration that exceeds the effluent limitations for zero dilution. No other metals exceeded the effluent limitations listed in Appendix III. A calculation dilution factor to evaluate the potential concentrations of iron and lead is provided below.

Receiving Waters Information

The receiving water for the treated groundwater discharge is Crane Brook. Crane Brook abuts the 160 Andover Street property to the west. Flow direction of Crane Brook at the proposed discharge location is southerly.

ECS consulted the online United States Geological Survey (USGS) publication "*Streamflow Measurements, Basin Characteristics, and Streamflow Statistics for Low-flow Partial Record Stations Operated in Massachusetts from 1989 through 1996*"(Ries, 1999). Data obtained from this resource indicated that the 7Q10 flow rate for Crane Brook is 0.47 cubic feet per second (cfs).

Based upon an estimated maximum flow rate of the discharge from the groundwater treatment system of 25 gpm, the dilution factor was calculated as:

Equation 1: $DF = (Qd + Qs)/Qd$

Where:
DF = DilutionFactor
Qd = Maximum flow rate of the discharge in cfs
Qs = Receiving water 7Q10 flow (cfs), where,
7Q10 = The minimum flow (cfs) for 7 consecutive days with a recurrence interval of 10 years

$Qd = 25 \text{ gpm} \times 0.00223 \text{ cfs/gpm} = 0.05575 \text{ cfs}$

$DF = (0.05575 + 0.47)/(0.05575)$
$DF = 9.4$

The concentration of iron reported present in the untreated sample (1,900 micrograms per liter (µg/L) was compared to the column corresponding to a dilution factor of 9.4 (5-10) in Appendix IV table. The discharge limit listed in the Appendix IV table is 5,000 µg/L; therefore, iron should not be subject to permit limitations or monitoring requirements for this discharge. However, the concentration of total lead reported present in the untreated sample (28 µg/L) was compared to the dilution factor of 9.4 (between 5-10) in Appendix IV table. The discharge limit listed in the Appendix IV table is 6.5 µg/L; therefore, lead should be subject to permit limitations of monitoring requirements for this discharge.

Receiving Water Classification

ECS consulted the Massachusetts Department of Environmental Protection (MassDEP) Division of Watershed Management Integrated List of Waters (http://www.mass.gov/dep/water/resources/2004il4.pdf) to determine the classification for the receiving waters. The list indicates that the section of the Crane Brook from the headwaters (west of Interstate 95) to the inlet at Mill Pond is classified as Category 5 (waters requiring a Total Maximum Daily Load (TMDL)). A TMDL is listed for the pollutants unionized ammonia, organic enrichment/low DO, other habitat alterations, pathogens, suspended solids, and turbidity.

Evaluation of Threatened or Endangered Species or Critical Habitat Located within Receiving Waters

According to the MassDEP Bureau of Waste Site Cleanup Map, No Areas of Critical Environmental Concern (ACECs), habitats of species of special concern, or threatened or endangered species were identified within 500 feet of the point of discharge.

Review of National Register of Historic Places

A listing of all Historic Places within the town of Danvers was obtained from the online database at www.nr.nps.gov/nrloc1.htm (accessed December 29, 2006). The list indicated that no registered historic places are located in close proximity to the discharge location.

Should you have any questions or concerns regarding the contents of this letter or the NOI for the RGP, please do not hesitate to contact the undersigned at (508)-832-6022.

Sincerely,
ENVIRONMENTAL COMPLIANCE SERVICES, INC.

Stuart W. Saine
Environmental Scientist
Project Manager

SWS

Attachments

Cc: Angela Pimental-CFI
Bill Simmons-ECS
Auburn General File and Reimbursement File

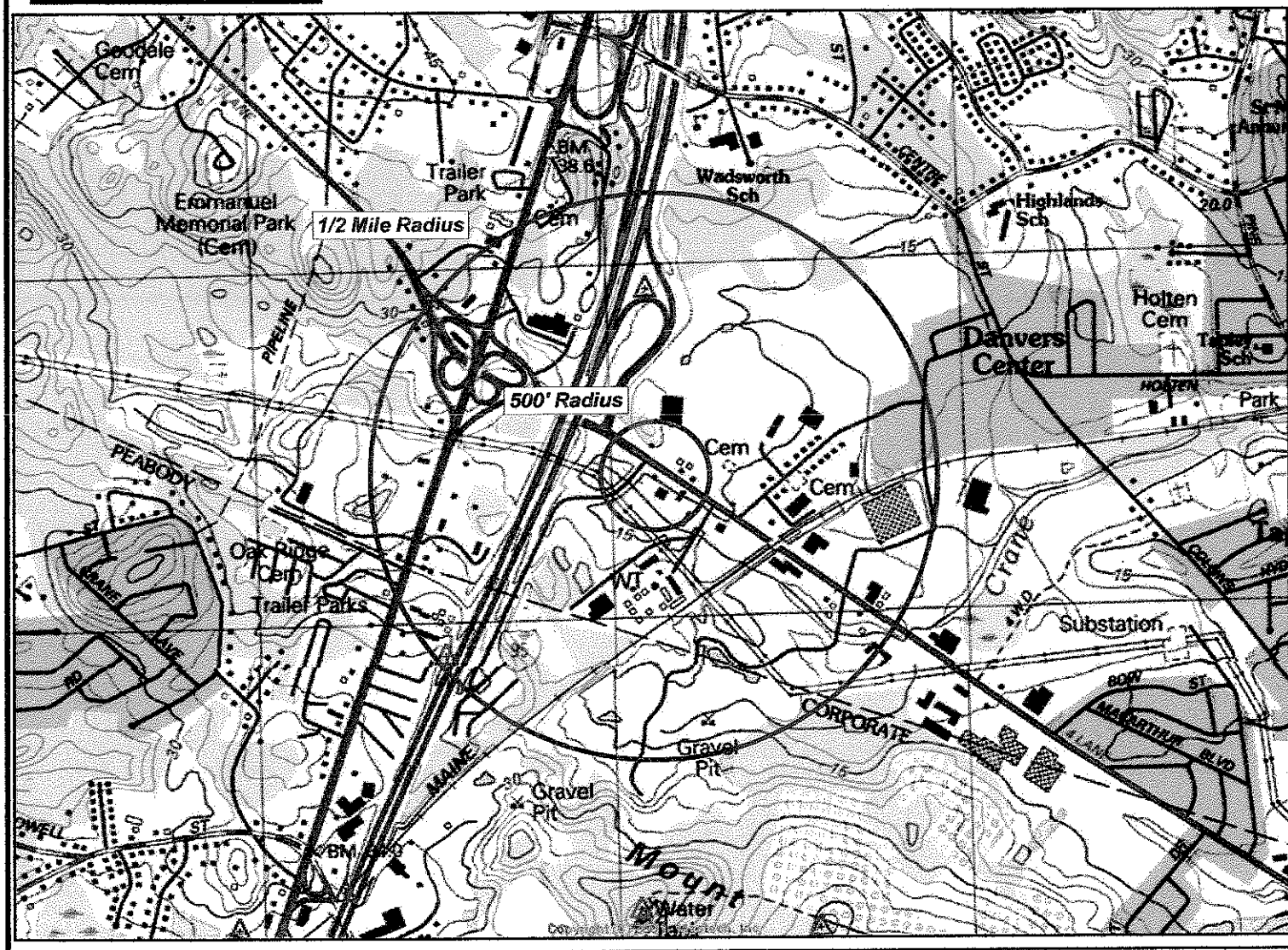
Environmental Compliance Services, Inc.
27A Midstate Drive Suite 218, Auburn, MA 01501
Phone (508)-832-6022 Fax (508)-832-4603
www.ecsconsult.com

SITE LOCUS

Figure: 1

Exxon Division of CFI
160 Andover Street
Danvers, MA
01923

Job Number: 93-200006.00



1 1/2 0 1 Mile

1 inch = 1500 feet

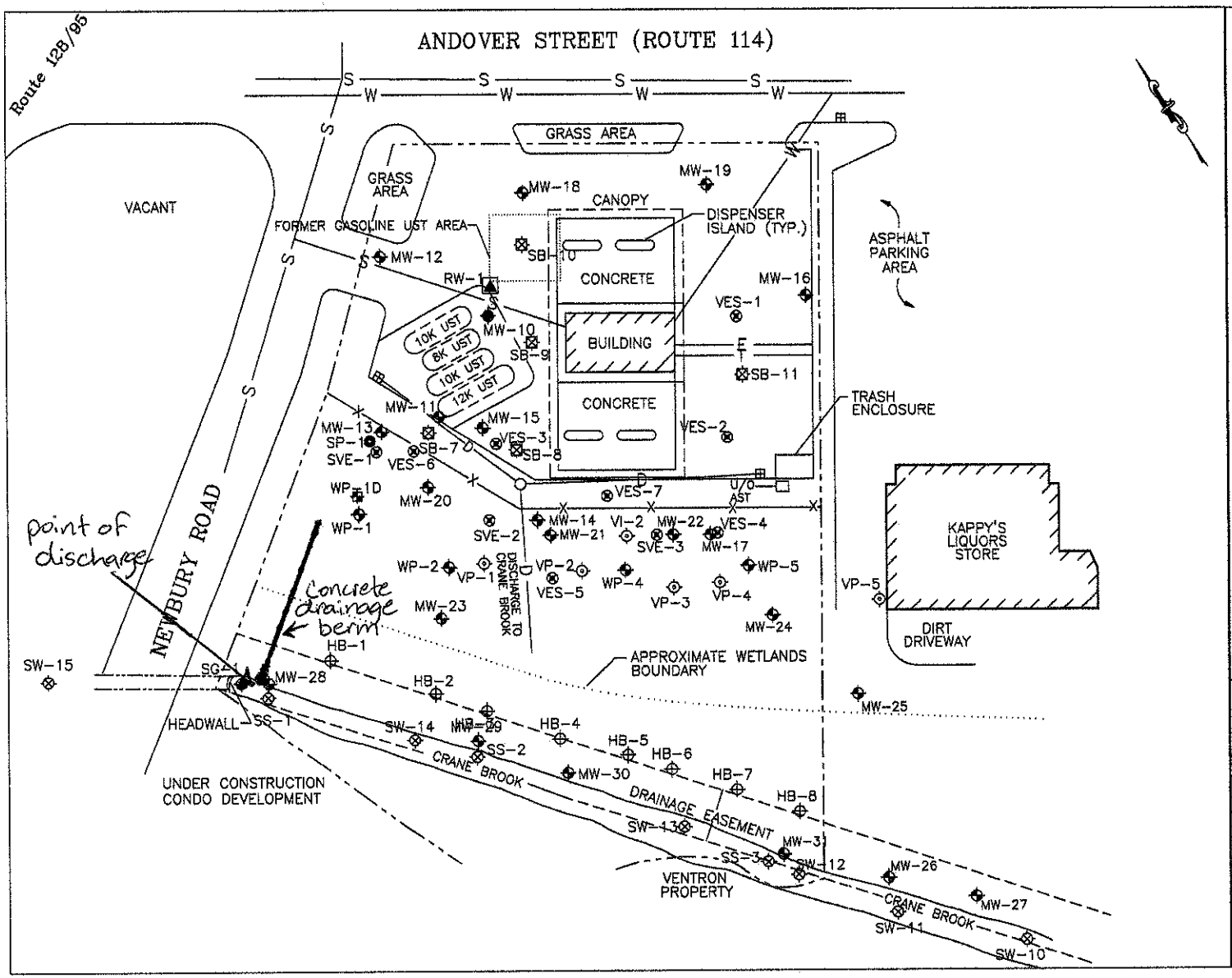
Contour Interval: 3 Meters

North

Base Map: U.S. Geological Survey; Quadrangle Location: Salem, MA

UTM Coordinates: 19 338111 East / 47 13386 North

Map Edited: 1985 ***Map Revised: NA*** ***Generated By: CJ***



Legend

- Approximate Property Line
- MONITORING WELL
- DEEP MONITORING WELL
- HAND BORING
- PROPOSED TEMP WELL
- SOIL BORING
- STAFF GAUGE/PIEZOMETER
- ABANDONED RECOVERY WELL
- VAPOR MONITORING POINT
- WELL ABANDONED
- CATCH BASIN
- MANHOLE
- AIR SPARGE POINT
- VAPOR EXTRACTION POINT
- SURFACE WATER SAMPLE
- UST UNDERGROUND STORAGE TANK
- FENCE
- SEWER MAIN
- WATER MAIN
- ELETRIC LINE
- TELEPHONE LINE
- DRAIN LINE

General Notes:

All locations, dimensions, and property lines depicted on this plan are approximate. This plan should not be used for construction or land conveyance purposes.

Base map compiled from Geologic Services Corp. site plan and the Town of Danvers Assessor's Map.

ecs

585 Silver Street • Agawam, MA 01001
Phone: 1-800-759-3536 Fax: 413-789-3776

PROJECT: EXXON DIV. of CFI FACILITY #70014
160 Andover Street
Danvers, Massachusetts

TITLE: SITE PLAN

CLIENT: Cumberland Farms, Inc.

GRAPHIC SCALE: 50 25 0 25 50

COMPUTER GRAPHIC: 200006C.DWG

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
RRW/JH	CJ	CJ	ML
SCALE:	DATE:	JOB NO:	FIGURE NO:
1"=50'	Jan 2004	200006	2

ATTACHMENT I

NOI FOR THE RGP

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

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

a) Name of **facility/site**: Exxon Station		**Facility/site** address: 160 Andover Street		
Location of **facility/site**: longitude:_____ latitude:_____ 70° 58" 20.49" 42° 33' 27.65"	Facility SIC code(s): 5541	Street: 160 Andover Street		
b) Name of **facility/site owner:** Cumberland Farms, Inc.		Town: Danvers		
Email address of owner: apimental@cumberlandfarms.com		State: MA	Zip: 01923	County: Essex
Telephone no.of facility/site **owner**: (781) 828-4900				
Fax no. of facility/site **owner**: (781) 575-9536		**Owner** is (check one): 1. Federal____ 2. State/Tribal_____ 3. Private_✔_ 4. other, if so, describe:		
Address of **owner** (if different from site):				
Street: 777 Dedham Street				
Town: Canton	State: MA	Zip: 02021	County: Norfolk	
c) Legal name of **operator**: Environmental Compliance Services, Inc.	**Operator** telephone no: (508) 832-6022			
	Operator fax no.: (508) 832-4603	**Operator** email: ssaine@ecsconsult.com		
Operator contact name and title: Stuart Saine - Environmental Scientist/Project Manager				

Address of **operator** (if different from owner):	Street: 27A Midstate Drive Suite 218		
Town: Auburn	State: MA	Zip: 01501	County: Worcester

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

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes✔ No___ If "yes," please list: 1. site identification # assigned by the state of NH or MA: RTN 3-0797 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number: MassDEP BWSC Northeast Regional Office-Wilmington, MA	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:

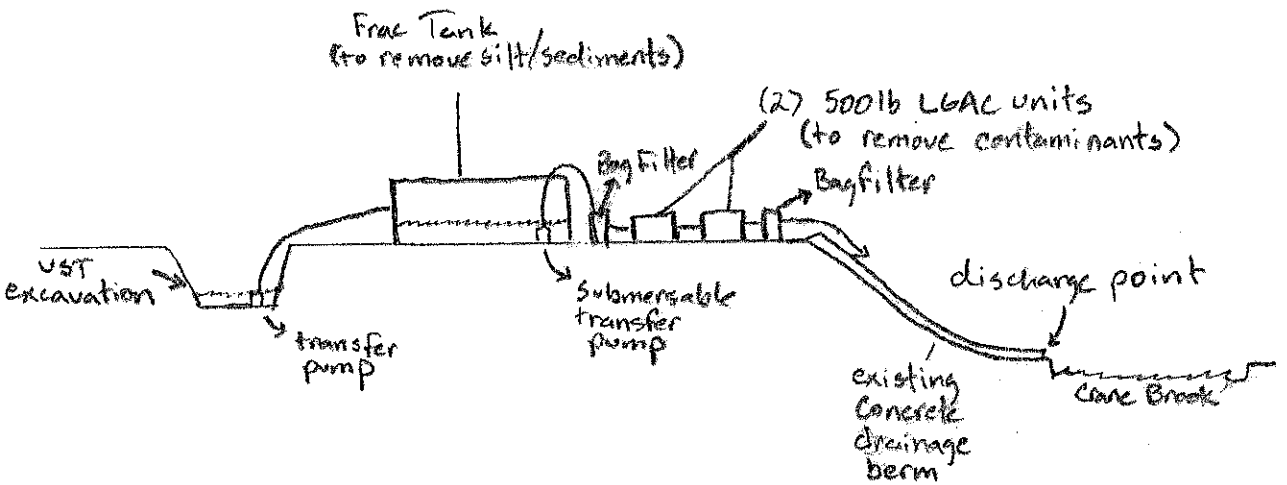
a) Describe the discharge activities for which the owner/applicant is seeking coverage:

Gas station is being re-developed and includes underground storage tank (UST) removal/replacement. UST excavation activities will include de-watering due to the shallow groundwater table and will require the discharge permit.

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 0.056 Average flow 0.056 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. average flow is an estimated value measured in cfs

3) Latitude and longitude of each discharge within 100 feet: pt.1:long. 70° 58' 20.49" lat. 42° 33' 27.65"; 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 01/15/06 end 02/28/07	
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 minimum)	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	SM 2540D	10,000 ug/L	630,000		630,000	
2. Total Residual Chlorine	✓		1	grab	SM 4500CL G	200 ug/L	< 200		< 200	
3. Total Petroleum Hydrocarbons	✓		1	grab	EPA 1664	5,000 ug/L	< 5,000		< 5,000	
4. Cyanide	✓		1	grab	EPA 335.3	10 ug/L	< 10		< 10	
5. Benzene		✓	1	grab	8260B	25 ug/L	63		63	
6. Toluene	✓		1	grab	8260B	25 ug/L	< 25		< 25	
7. Ethylbenzene		✓	1	grab	8260B	25 ug/L	210		210	
8. (m,p,o) Xylenes		✓	1	grab	8260B	50 ug/L	1,060		1,060	
9. Total BTEX[4]		✓	1	grab	8260B	125 ug/L	1,333		1,333	

[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	EPA 504.1	0.02 ug/L	<0.02		<0.02	
11. Methyl-tert-Butyl Ether (MtBE)		✓	1	grab	8260B	25 ug/L	1,700		1,700	
12. tert-Butyl Alcohol (TBA)		✓	1	grab	8260B	1,000 ug/L	2,100		2,100	
13. tert-Amyl Methyl Ether (TAME)		✓	1	grab	8260B	25 ug/L	86		86	
14. Naphthalene		✓	1	grab	8260B	25 ug/L	77		77	
15. Carbon Tetra-chloride	✓		1	grab	8260B	25 ug/L	<25		<25	
16. 1,4 Dichlorobenzene	✓		1	grab	8260B	25 ug/L	<25		<25	
17. 1,2 Dichlorobenzene	✓		1	grab	8260B	25 ug/L	<25		<25	
18. 1,3 Dichlorobenzene	✓		1	grab	8260B	25 ug/L	<25		<25	
19. 1,1 Dichloroethane	✓		1	grab	8260B	25 ug/L	<25		<25	
20. 1,2 Dichloroethane	✓		1	grab	8260B	25 ug/L	<25		<25	
21. 1,1 Dichloroethylene	✓		1	grab	8260B	25 ug/L	<25		<25	
22. cis-1,2 Dichloro-ethylene	✓		1	grab	8260B	25 ug/L	<25		<25	
23. Dichloromethane (Methylene Chloride)	✓		1	grab	8260B	130 ug/L	<130		<130	
24. Tetrachloroethylene	✓		1	grab	8260B	25 ug/L	<25		<25	

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	25 ug/L	<25		<25	
26. 1,1,2 Trichloroethane	✓		1	grab	8260B	25 ug/L	<25		<25	
27. Trichloroethylene	✓		1	grab	8260B	25 ug/L	<25		<25	
28. Vinyl Chloride	✓		1	grab	8260B	25 ug/L	<25		<25	
29. Acetone	✓		1	grab	8260B	500 ug/L	<500		<500	
30. 1,4 Dioxane	✓		1	grab	8260B	25,000 ug/L	<25,000		<25,000	
31. Total Phenols	✓		1	grab	625	50 ug/L	<50		<50	
32. Pentachlorophenol	✓		1	grab	625	50 ug/L	<50		<50	
33. Total Phthalates [5] (Phthalate esthers)	✓		1	grab	625	50 ug/L	<50		<50	
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	✓		1	grab	625	50 ug/L	<50		<50	
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	✓		1	grab	625	50 ug/L	<50		<50	
a. Benzo(a) Anthracene	✓		1	grab	625	50 ug/L	<50		<50	
b. Benzo(a) Pyrene	✓		1	grab	625	50 ug/L	<50		<50	
c. Benzo(b)Fluoranthene	✓		1	grab	625	50 ug/L	<50		<50	
d. Benzo(k) Fluoranthene	✓		1	grab	625	50 ug/L	<50		<50	
e. Chrysene	✓		1	grab	625	50 ug/L	<50		<50	

[5] The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	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	625	50 ug/L	< 50		<50	
g. Indeno(1,2,3-cd) Pyrene	✓		1	grab	625	50 ug/L	<50		<50	
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	✓		1	grab	625	50 ug/L	<50		<50	
h. Acenaphthene	✓		1	grab	625	50 ug/L	<50		<50	
i. Acenaphthylene	✓		1	grab	625	50 ug/L	<50		<50	
j. Anthracene	✓		1	grab	625	50 ug/L	<50		<50	
k. Benzo(ghi) Perylene	✓		1	grab	625	50 ug/L	<50		<50	
l. Fluoranthene	✓		1	grab	625	50 ug/L	<50		<50	
m. Fluorene	✓		1	grab	625	50 ug/L	<50		<50	
n. Naphthalene-		✓	1	grab	625	50 ug/L	280		280	
o. Phenanthrene	✓		1	grab	625	50 ug/L	<50		<50	
p. Pyrene	✓		1	grab	625	50 ug/L	<50		<50	
37. Total Polychlorinated Biphenyls (PCBs)	✓		1	grab	608	0.2 ug/L	<0.2		<0.2	
38. Antimony	✓		1	grab	6020A	6 ug/L	<6 ug/L		<6 ug/L	
39. Arsenic		✓	1	grab	6020A	5 ug/L	10 ug/L		10 ug/L	
40. Cadmium	✓		1	grab	6010B	4 ug/L	<4 ug/L		<4 ug/L	
41. Chromium III		✓	1	grab	6010B	10 ug/L	10 ug/L		10 ug/L	
42. Chromium VI	✓		1	grab	7196A	10 ug/L	<10 ug/L		<10 ug/L	

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	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 ug/L	<25		<25	
44. Lead		✓	1	grab	6010B	5 ug/L	28		28	
45. Mercury	✓		1	grab	7470A	0.2 ug/L	<0.2		<0.2	
46. Nickel	✓		1	grab	6010B	40 ug/L	<40		<40	
47. Selenium	✓		1	grab	6010B	50 ug/L	<50		<50	
48. Silver	✓		1	grab	6010B	7 ug/L	<7		<7	
49. Zinc	✓		1	grab	6010B	200 ug/L	<200		<200	
50. Iron		✓	1	grab	6010B	100 ug/L	1,900		1,900	
Other (describe):										

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

Step 1: Do any of the metals in the influent have a **reasonable potential** to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y ✓ N____	If yes, which metals? Iron Lead
Step 2: For any metals which have **reasonable potential** to exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals: Iron DF: 9.4 see section 7 for calculation	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 x N____ If "Yes," list which metals: Total lead

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:

Gasoline impacted groundwater will be pumped from the UST excavation to a frac. tank (to remove silts/sediments). The water will then be pumped from the frac. tanks through two 1,000 lb LGAC units (to remove contaminants).

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 30 Maximum flow rate of treatment system 60 Design flow rate of treatment system NA

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

None

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:

Treated groundwater will be discharged to an existing concrete drainage berm which discharges to Crane Brook (see Figure 2).

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water Class B,

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 0.47 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)?
unionized ammonia, organic enrichment/low DO, other habitat alterations, pathogens, suspended soids, turbidity

Is there a TMDL? Yes ✔ No____ If yes, for which pollutant(s)?
unionized ammonia, organic enrichment/low DO, other habitat alterations, pathogens, suspended soids, turbidity

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.

The laboratory analytical report recieved from Groundwater Analytical is attached to this NOI.

Section 3C of NOI:
Dilution Factor Calculation: DF=(Qd+Qs)/Qd where;
Qd = The maximum flow rate of discharge in cfs
Qs = The recieving water 7Q10 flow (cfs) where
7Q10 = The minimum flow (cfs) for 7 consecutive days with a recurrence interval of 10 years

Qd =25gpm x 0.00223cfs/gpm=0.05575
Qs = 0.47cfs
(Qs value obtained from USGS Publication titled "Streamflow Measurements, Basin Characteristics, and Streamflow Statistics for Low-Flow Partial Record Stations Operated in Massachusetts from 1989 through 1996" by Kernell G. Ries, III) see attached sheet taken from Table 3 of this publication.
DF=(0.05575+0.47)/0.05575
DF=9.4

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: Exxon Station - 160 Andover Street, Danvers, MA

Operator signature: Sidney Simme

Title: Environmental Scientist/Project Manager

Date: 12/29/2006

ATTACHMENT II

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

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

December 19, 2006

Mr. Stuart Saine
Environmental Compliance Services, Inc.
27 Midstate Dr.
Suite 218
Auburn, MA 01501

LABORATORY REPORT

Project:	**CFI Danvers/93-200006**
Lab ID:	**102042**
Received:	**12-12-06**

Dear Stuart:

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

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

The analytical results contained in this report meet all applicable NELAC standards, except as may be specifically noted, or described in the project narrative. 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/jll
Enclosures

GROUNDWATER ANALYTICAL

Sample Receipt Report

Project: **CFI Danvers/93-200006**
Client: **Environmental Compliance Services, Inc.**
Lab ID: **102042**

Delivery: **GWA Courier**
Airbill: **n/a**
Lab Receipt: **12-12-06**

Temperature: **2.0'C**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
102042-1	MW-15		Aqueous	12/11/06 10:00	EPA 8260B Volatile Organics with Oxygenates				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C822483	40 mL VOA Vial	Proline	BX22675	HCl	R-4868D	10-06-06	n/a		
C822482	40 mL VOA Vial	Proline	BX22675	HCl	R-4868D	10-06-06	n/a		
C822471	40 mL VOA Vial	Proline	BX22675	HCl	R-4868D	10-06-06	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
102042-2	MW-15		Aqueous	12/11/06 10:00	EPA 504.1 EDB and DBCP				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C306741	40 mL VOA Vial	Industrial	BX10523	None	n/a	n/a	n/a		
C306740	40 mL VOA Vial	Industrial	BX10523	None	n/a	n/a	n/a		
C306734	40 mL VOA Vial	Industrial	BX10523	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
102042-3	MW-15		Aqueous	12/11/06 10:00	EPA 625 Semivolatile Organics				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C803865	1 L Amber Glass	n/a	n/a	None	n/a	n/a	n/a		
C803868	1 L Amber Glass	n/a	n/a	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
102042-4	MW-15		Aqueous	12/11/06 10:00	EPA 608 PCBs				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C803866	1 L Amber Glass	n/a	n/a	None	n/a	n/a	n/a		
C803867	1 L Amber Glass	n/a	n/a	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
102042-5	MW-15		Aqueous	12/11/06 10:00	EPA 6010B Cd Cr Cu Fe Pb Ni Se Ag Zn Total EPA 6020A Antimony EPA 6020A Arsenic EPA 7470A Hg Total EPA 7196/EPA 6010 Trivalent Chromium				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C554165	250 mL Plastic	Greenwood	BX14786	HNO3	R-4184C	11-02-04	12-02-04		
C554121	250 mL Plastic	Greenwood	BX14786	HNO3	R-4184C	11-02-04	12-02-04		
C554101	250 mL Plastic	Greenwood	BX14786	HNO3	R-4184C	11-02-04	12-02-04		
C554063	250 mL Plastic	Greenwood	BX14786	HNO3	R-4184C	11-02-04	12-02-04		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
102042-6	MW-15		Aqueous	12/11/06 10:00	SM 2540 D Total Suspended Solids				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C826592	1L Plastic	Proline	BX23601	None	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
102042-7	MW-15		Aqueous	12/11/06 10:00	Lachat 10-204-00-1-A (EPA 335.3) Total Cyanide				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C539734	500 mL Plastic	Proline	BX15545	NaOH	R-4197A	02-23-05	04-05-05		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
102042-8	MW-15		Aqueous	12/11/06 10:00	EPA 1664 Hexane Extractable Material				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C881889	1 L Amber Glass	Proline	BX23509	H2SO4	R-4914A	09-28-06	n/a		
C881886	1 L Amber Glass	Proline	BX23509	H2SO4	R-4914A	09-28-06	n/a		

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

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project:	**CFI Danvers/93-200006**	Delivery:	**GWA Courier**	Temperature:	**2.0'C**
Client:	**Environmental Compliance Services, Inc.**	Airbill:	**n/a**	Chain of Custody:	**Present**
Lab ID:	**102042**	Lab Receipt:	**12-12-06**	Custody Seal(s):	**n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
102042-9	MW-15		Aqueous	12/11/06 10:00	SM 4500-Cl G Total Residual Chlorine EPA 7196A Hexavalent Chromium				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
C803869	500 mL Plastic	n/a	n/a	None	n/a	n/a	n/a		

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

GROUNDWATER ANALYTICAL

EPA Method 8260B
Volatile Organics by GC/MS

Field ID:	MW-15	Matrix:	Aqueous
Project:	CFI Danvers/93-200006	Container:	40 mL VOA Vial
Client:	Environmental Compliance Services, Inc.	Preservation:	HCl/Cool
Laboratory ID:	102042-01	QC Batch ID:	VM4-3733-W
Sampled:	12-11-06 10:00	Instrument ID:	MS-4 HP 6890
Received:	12-12-06 18:00	Sample Volume:	25 mL
Analyzed:	12-15-06 13:38	Dilution Factor:	50
Analyst:	KMC		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
75-71-8	Dichlorodifluoromethane	BRL		ug/L	25
74-87-3	Chloromethane	BRL		ug/L	25
75-01-4	Vinyl Chloride	BRL		ug/L	25
74-83-9	Bromomethane	BRL		ug/L	25
75-00-3	Chloroethane	BRL		ug/L	25
75-69-4	Trichlorofluoromethane	BRL		ug/L	25
60-29-7	Diethyl Ether	BRL		ug/L	100
75-35-4	1,1-Dichloroethene	BRL		ug/L	25
76-13-1	1,1,2-Trichlorotrifluoroethane	BRL		ug/L	250
67-64-1	Acetone	BRL		ug/L	500
75-15-0	Carbon Disulfide	BRL		ug/L	250
75-09-2	Methylene Chloride	BRL		ug/L	130
156-60-5	*trans*-1,2-Dichloroethene	BRL		ug/L	25
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	**1,700**		ug/L	25
75-34-3	1,1-Dichloroethane	BRL		ug/L	25
594-20-7	2,2-Dichloropropane	BRL		ug/L	25
156-59-2	*cis*-1,2-Dichloroethene	BRL		ug/L	25
78-93-3	2-Butanone (MEK)	BRL		ug/L	250
74-97-5	Bromochloromethane	BRL		ug/L	25
109-99-9	Tetrahydrofuran (THF)	BRL		ug/L	250
67-66-3	Chloroform	BRL		ug/L	25
71-55-6	1,1,1-Trichloroethane	BRL		ug/L	25
56-23-5	Carbon Tetrachloride	BRL		ug/L	25
563-58-6	1,1-Dichloropropene	BRL		ug/L	25
71-43-2	Benzene	**63**		ug/L	25
107-06-2	1,2-Dichloroethane	BRL		ug/L	25
79-01-6	Trichloroethene	BRL		ug/L	25
78-87-5	1,2-Dichloropropane	BRL		ug/L	25
74-95-3	Dibromomethane	BRL		ug/L	25
75-27-4	Bromodichloromethane	BRL		ug/L	25
123-91-1	1,4-Dioxane	BRL		ug/L	25000
10061-01-5	*cis*-1,3-Dichloropropene	BRL		ug/L	25
108-10-1	4-Methyl-2-Pentanone (MIBK)	BRL		ug/L	250
108-88-3	Toluene	BRL		ug/L	25
10061-02-6	*trans*-1,3-Dichloropropene	BRL		ug/L	25
79-00-5	1,1,2-Trichloroethane	BRL		ug/L	25
127-18-4	Tetrachloroethene	BRL		ug/L	25
142-28-9	1,3-Dichloropropane	BRL		ug/L	25
591-78-6	2-Hexanone	BRL		ug/L	250
124-48-1	Dibromochloromethane	BRL		ug/L	25
106-93-4	1,2-Dibromoethane (EDB)	BRL		ug/L	25
108-90-7	Chlorobenzene	BRL		ug/L	25
630-20-6	1,1,1,2-Tetrachloroethane	BRL		ug/L	25
100-41-4	Ethylbenzene	**210**		ug/L	25
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	**780**		ug/L	25
95-47-6	*ortho*-Xylene	**280**		ug/L	25

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

GROUNDWATER ANALYTICAL

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

Field ID:	MW-15	Matrix:	Aqueous
Project:	CFI Danvers/93-200006	Container:	40 mL VOA Vial
Client:	Environmental Compliance Services, Inc.	Preservation:	HCl/Cool
Laboratory ID:	102042-01	QC Batch ID:	VM4-3733-W
Sampled:	12-11-06 10:00	Instrument ID:	MS-4 HP 6890
Received:	12-12-06 18:00	Sample Volume:	25 mL
Analyzed:	12-15-06 13:38	Dilution Factor:	50
Analyst:	KMC		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
100-42-5	Styrene	BRL		ug/L	25
75-25-2	Bromoform	BRL		ug/L	25
98-82-8	Isopropylbenzene	BRL		ug/L	25
108-86-1	Bromobenzene	BRL		ug/L	25
79-34-5	1,1,2,2-Tetrachloroethane	BRL		ug/L	25
96-18-4	1,2,3-Trichloropropane	BRL		ug/L	25
103-65-1	*n*-Propylbenzene	**42**		ug/L	25
95-49-8	2-Chlorotoluene	BRL		ug/L	25
108-67-8	1,3,5-Trimethylbenzene	**150**		ug/L	25
106-43-4	4-Chlorotoluene	BRL		ug/L	25
98-06-6	*tert*-Butylbenzene	BRL		ug/L	25
95-63-6	1,2,4-Trimethylbenzene	**590**		ug/L	25
135-98-8	*sec*-Butylbenzene	BRL		ug/L	25
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	25
99-87-6	4-Isopropyltoluene	BRL		ug/L	25
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	25
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	25
104-51-8	*n*-Butylbenzene	BRL		ug/L	25
96-12-8	1,2-Dibromo-3-chloropropane	BRL		ug/L	25
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	25
87-68-3	Hexachlorobutadiene	BRL		ug/L	25
91-20-3	Naphthalene	77		ug/L	25
87-61-6	1,2,3-Trichlorobenzene	BRL		ug/L	25
75-65-0	*tert*-Butyl Alcohol (TBA)	**2,100**		ug/L	1000
108-20-3	Di-isopropyl Ether (DIPE)	BRL		ug/L	25
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	BRL		ug/L	25
994-05-8	*tert*-Amyl Methyl Ether (TAME)	**86**		ug/L	25

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
Dibromofluoromethane	10	9.8	**98** %	70 - 130 %
1,2-Dichloroethane-d_4	10	8.9	**89** %	70 - 130 %
Toluene-d_8	10	11	**110** %	70 - 130 %
4-Bromofluorobenzene	10	9.3	**93** %	70 - 130 %

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

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

GROUNDWATER ANALYTICAL

EPA Method 504.1
EDB and DBCP by GC/ECD

Field ID:	**MW-15**	Matrix:	**Aqueous**
Project:	**CFI Danvers/93-200006**	Container:	**40 mL VOA Vial**
Client:	**Environmental Compliance Services, Inc.**	Preservation:	**Cool**
Laboratory ID:	**102042-02**	QC Batch ID:	**PV-0853-E**
Sampled:	**12-11-06 10:00**	Instrument ID:	**GC-5 HP 5890**
Received:	**12-12-06 18:00**	Sample Volume:	**35 mL**
Extracted:	**12-15-06 16:30**	Final Volume:	**1 mL**
Analyzed:	**12-15-06 19:19**	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	0.04

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

GROUNDWATER ANALYTICAL

EPA Method 625
Semivolatile Organics by GC/MS

Field ID:	MW-15	Matrix:	Aqueous
Project:	CFI Danvers/93-200006	Container:	1 L Amber Glass
Client:	Environmental Compliance Services, Inc.	Preservation:	Cool
Laboratory ID:	102042-03	QC Batch ID:	SV-2009-F
Sampled:	12-11-06 10:00	Instrument ID:	MS-3 HP 5890
Received:	12-12-06 18:00	Sample Volume:	1000 mL
Extracted:	12-14-06 15:00	Final Volume:	1 mL
Analyzed:	12-15-06 10:45	Dilution Factor:	1
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	10
110-86-1	Pyridine	BRL		ug/L	10
108-95-2	Phenol	BRL		ug/L	10
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	10
95-57-8	2-Chlorophenol	BRL		ug/L	10
62-53-3	Aniline	BRL		ug/L	10
124-18-5	n-Decane (C10)	BRL		ug/L	10
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	10
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	10
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	10
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	10
95-48-7	2-Methylphenol	BRL		ug/L	10
621-64-7	N-Nitrosodi-*n*-propylamine	BRL		ug/L	10
108-39-4/106-44-5	3 and 4-Methylphenol	BRL		ug/L	10
67-72-1	Hexachloroethane	BRL		ug/L	10
98-86-2	Acetophenone	BRL		ug/L	10
98-95-3	Nitrobenzene	BRL		ug/L	10
78-59-1	Isophorone	BRL		ug/L	10
88-75-5	2-Nitrophenol	BRL		ug/L	10
105-67-9	2,4-Dimethylphenol	**10**		ug/L	10
65-85-0	Benzoic Acid	BRL		ug/L	10
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	10
120-83-2	2,4-Dichlorophenol	BRL		ug/L	10
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	10
98-55-5	alpha-Terpineol	BRL		ug/L	10
91-20-3	Naphthalene	**270**	e	ug/L	10
87-68-3	Hexachlorobutadiene	BRL		ug/L	10
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	10
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	10
608-27-5	2,3-Dichloroaniline	BRL		ug/L	10
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	10
91-58-7	2-Chloronaphthalene	BRL		ug/L	10
131-11-3	Dimethyl phthalate	BRL		ug/L	10
208-96-8	Acenaphthylene	BRL		ug/L	10
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	10
83-32-9	Acenaphthene	BRL		ug/L	10
51-28-5	2,4-Dinitrophenol	BRL		ug/L	10
100-02-7	4-Nitrophenol	BRL		ug/L	10
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	10
84-66-2	Diethyl phthalate	BRL		ug/L	10
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	10
86-73-7	Fluorene	BRL		ug/L	10
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	10
86-30-6	N-Nitrosodiphenylamine†	BRL		ug/L	10
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	10

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GROUNDWATER ANALYTICAL

EPA Method 625 (Continued)
Semivolatile Organics by GC/MS

Field ID:	MW-15	Matrix:	Aqueous
Project:	CFI Danvers/93-200006	Container:	1 L Amber Glass
Client:	Environmental Compliance Services, Inc.	Preservation:	Cool
Laboratory ID:	102042-03	QC Batch ID:	SV-2009-F
Sampled:	12-11-06 10:00	Instrument ID:	MS-3 HP 5890
Received:	12-12-06 18:00	Sample Volume:	1000 mL
Extracted:	12-14-06 15:00	Final Volume:	1 mL
Analyzed:	12-15-06 10:45	Dilution Factor:	1
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	10
118-74-1	Hexachlorobenzene	BRL		ug/L	10
87-86-5	Pentachlorophenol	BRL		ug/L	10
593-45-3	n-Octadecane (C18)	BRL		ug/L	10
85-01-8	Phenanthrene	BRL		ug/L	10
120-12-7	Anthracene	BRL		ug/L	10
86-74-8	Carbazole	BRL		ug/L	10
84-74-2	Di-*n*-butyl phthalate	BRL		ug/L	10
206-44-0	Fluoranthene	BRL		ug/L	10
92-87-5	Benzidine	BRL		ug/L	10
129-00-0	Pyrene	BRL		ug/L	10
85-68-7	Butyl benzyl phthalate	BRL		ug/L	10
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	10
56-55-3	Benzo[a]anthracene	BRL		ug/L	10
218-01-9	Chrysene	BRL		ug/L	10
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	10
117-84-0	Di-*n*-octyl phthalate	BRL		ug/L	10
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	10
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	10
50-32-8	Benzo[a]pyrene	BRL		ug/L	10
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	10
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	10
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	10

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	200	120	**61** %	15 - 110 %
Phenol-d5	200	89	**45** %	15 - 110 %
Nitrobenzene-d5	100	64	**64** %	30 - 130 %
2-Fluorobiphenyl	100	81	**81** %	30 - 130 %
2,4,6-Tribromophenol	200	190	**94** %	15 - 110 %
Terphenyl-d14	100	75	**75** %	30 - 130 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).

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.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

e Indicates concentration exceeded calibration range for the analyte.

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

GROUNDWATER ANALYTICAL

EPA Method 625
Semivolatile Organics by GC/MS

Field ID:	**MW-15**	Matrix:	**Aqueous**
Project:	**CFI Danvers/93-200006**	Container:	**1 L Amber Glass**
Client:	**Environmental Compliance Services, Inc.**	Preservation:	**Cool**
Laboratory ID:	**102042-03RA1**	QC Batch ID:	**SV-2009-F**
Sampled:	**12-11-06 10:00**	Instrument ID:	**MS-3 HP 5890**
Received:	**12-12-06 18:00**	Sample Volume:	**1000 mL**
Extracted:	**12-14-06 15:00**	Final Volume:	**1 mL**
Analyzed:	**12-15-06 14:55**	Dilution Factor:	**5**
Analyst:	**MJB**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	50
110-86-1	Pyridine	BRL		ug/L	50
108-95-2	Phenol	BRL		ug/L	50
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	50
95-57-8	2-Chlorophenol	BRL		ug/L	50
62-53-3	Aniline	BRL		ug/L	50
124-18-5	n-Decane (C10)	BRL		ug/L	50
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	50
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	50
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	50
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	50
95-48-7	2-Methylphenol	BRL		ug/L	50
621-64-7	N-Nitrosodi-*n*-propylamine	BRL		ug/L	50
108-39-4/106-44-5	3 and 4-Methylphenol	BRL		ug/L	50
67-72-1	Hexachloroethane	BRL		ug/L	50
98-86-2	Acetophenone	BRL		ug/L	50
98-95-3	Nitrobenzene	BRL		ug/L	50
78-59-1	Isophorone	BRL		ug/L	50
88-75-5	2-Nitrophenol	BRL		ug/L	50
105-67-9	2,4-Dimethylphenol	BRL		ug/L	50
65-85-0	Benzoic Acid	BRL		ug/L	50
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	50
120-83-2	2,4-Dichlorophenol	BRL		ug/L	50
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	50
98-55-5	alpha-Terpineol	BRL		ug/L	50
91-20-3	Naphthalene	**280**		ug/L	50
87-68-3	Hexachlorobutadiene	BRL		ug/L	50
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	50
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	50
608-27-5	2,3-Dichloroaniline	BRL		ug/L	50
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	50
91-58-7	2-Chloronaphthalene	BRL		ug/L	50
131-11-3	Dimethyl phthalate	BRL		ug/L	50
208-96-8	Acenaphthylene	BRL		ug/L	50
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	50
83-32-9	Acenaphthene	BRL		ug/L	50
51-28-5	2,4-Dinitrophenol	BRL		ug/L	50
100-02-7	4-Nitrophenol	BRL		ug/L	50
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	50
84-66-2	Diethyl phthalate	BRL		ug/L	50
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	50
86-73-7	Fluorene	BRL		ug/L	50
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	50
86-30-6	N-Nitrosodiphenylamine[†]	BRL		ug/L	50
122-66-7	1,2-Diphenylhydrazine[◊]	BRL		ug/L	50

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

GROUNDWATER ANALYTICAL

EPA Method 625 (Continued)
Semivolatile Organics by GC/MS

Field ID:	MW-15	Matrix:	Aqueous
Project:	CFI Danvers/93-200006	Container:	1 L Amber Glass
Client:	Environmental Compliance Services, Inc.	Preservation:	Cool
Laboratory ID:	102042-03RA1	QC Batch ID:	SV-2009-F
Sampled:	12-11-06 10:00	Instrument ID:	MS-3 HP 5890
Received:	12-12-06 18:00	Sample Volume:	1000 mL
Extracted:	12-14-06 15:00	Final Volume:	1 mL
Analyzed:	12-15-06 14:55	Dilution Factor:	5
Analyst:	MJB		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	50
118-74-1	Hexachlorobenzene	BRL		ug/L	50
87-86-5	Pentachlorophenol	BRL		ug/L	50
593-45-3	n-Octadecane (C18)	BRL		ug/L	50
85-01-8	Phenanthrene	BRL		ug/L	50
120-12-7	Anthracene	BRL		ug/L	50
86-74-8	Carbazole	BRL		ug/L	50
84-74-2	Di-*n*-butyl phthalate	BRL		ug/L	50
206-44-0	Fluoranthene	BRL		ug/L	50
92-87-5	Benzidine	BRL		ug/L	50
129-00-0	Pyrene	BRL		ug/L	50
85-68-7	Butyl benzyl phthalate	BRL		ug/L	50
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	50
56-55-3	Benzo[a]anthracene	BRL		ug/L	50
218-01-9	Chrysene	BRL		ug/L	50
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	50
117-84-0	Di-*n*-octyl phthalate	BRL		ug/L	50
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	50
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	50
50-32-8	Benzo[a]pyrene	BRL		ug/L	50
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	50
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	50
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	50

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	200	95	**48** %	15 - 110 %
Phenol-d5	200	69	**34** %	15 - 110 %
Nitrobenzene-d5	100	69	**69** %	30 - 130 %
2-Fluorobiphenyl	100	84	**84** %	30 - 130 %
2,4,6-Tribromophenol	200	210	**104** %	15 - 110 %
Terphenyl-d14	100	80	**80** %	30 - 130 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).

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.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

GROUNDWATER ANALYTICAL

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

Field ID:	**MW-15**	Matrix:	**Aqueous**
Project:	**CFI Danvers/93-200006**	Container:	**1 L Amber Glass**
Client:	**Environmental Compliance Services, Inc.**	Preservation:	**Cool**
Laboratory ID:	**102042-04**	QC Batch ID:	**PB-2295-F**
Sampled:	**12-11-06 10:00**	Instrument ID:	**GC-13 Agilent 6890**
Received:	**12-12-06 18:00**	Sample Weight:	**1000 mL**
Extracted:	**12-14-06 16:00**	Final Volume:	**1 mL**
Cleaned Up:	**12-15-06 14:00**	Dilution Factor:	**1**
Analyzed:	**12-15-06 17:46**		
Analyst:	**CRL**		

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

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	0.20	0.17	**83** %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.22	**111** %	30 - 150 %
Second	Tetrachloro-*m*-xylene	0.20	0.17	**87** %	30 - 150 %
Column	Decachlorobiphenyl	0.20	0.19	**96** %	30 - 150 %

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

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

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GROUNDWATER ANALYTICAL

Trace Metals

Field ID:	**MW-15**	Matrix:	**Aqueous**
Project:	**CFI Danvers/93-200006**	Container:	**250 mL Plastic**
Client:	**Environmental Compliance Services, Inc.**	Preservation:	**HNO3 / Cool**
Laboratory ID:	**102042-5**	Preserved:	**12-11-06 10:00**
Sampled:	**12-11-06 10:00**		
Received:	**12-12-06 18:00**		

Analysis Method	QC Batch ID	Prep Method	Prepared	Sample Volume	Instrument ID	Analyst
EPA 6020A[1]	MB-2446-W	EPA 3010A	12-13-06 08:06	50 mL	ICP-1 PE 3000	MFP
EPA 6010B[2]	MB-2446-W	EPA 3010A	12-13-06 08:06	50 mL	ICP-1 PE 3000	MWR
EPA 7470A[3]	MP-1918-W	EPA 7470A	12-14-06 10:00	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	12-14-06 16:09	EPA 6020A[1]
7440-38-2	Arsenic, Total	**0.010**		mg/L	0.005	1	12-14-06 16:09	EPA 6020A[1]
7440-43-9	Cadmium, Total	BRL		mg/L	0.004	1	12-14-06 10:46	EPA 6010B[2]
7440-47-3	Chromium, Total	**0.01**		mg/L	0.01	1	12-14-06 10:46	EPA 6010B[2]
7440-50-8	Copper, Total	BRL		mg/L	0.025	1	12-14-06 10:46	EPA 6010B[2]
7439-89-6	Iron, Total	**19**		mg/L	0.1	1	12-14-06 10:46	EPA 6010B[2]
7439-92-1	Lead, Total	**0.028**		mg/L	0.005	1	12-14-06 10:46	EPA 6010B[2]
7439-97-6	Mercury, Total	BRL		mg/L	0.0002	1	12-14-06 13:18	EPA 7470A[3]
7440-02-0	Nickel, Total	BRL		mg/L	0.04	1	12-14-06 10:46	EPA 6010B[2]
7782-49-2	Selenium, Total	BRL		mg/L	0.05	1	12-14-06 10:46	EPA 6010B[2]
7440-22-4	Silver, Total	BRL		mg/L	0.007	1	12-14-06 10:46	EPA 6010B[2]
7440-66-6	Zinc, Total	BRL		mg/L	0.2	1	12-14-06 10:46	EPA 6010B[2]
7440-47-3	Chromium, Trivalent	**0.01**		mg/L	0.01	1	12-14-06 10:46	EPA 6010B[2]

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

GROUNDWATER ANALYTICAL

Inorganic Chemistry

Field ID: **MW-15** Matrix: **Aqueous**
Project: **CFI Danvers/93-200006** Received: **12-12-06 18:00**
Client: **Environmental Compliance Services, Inc.**

Lab ID: **102042-06** Sampled: **12-11-06 10:00** Container: **1L Plastic** Preservation: **Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Solids, Total Suspended	**630**	mg/L	10	5	100 mL	12-13-06 10:33	TSS-1307-W	SM 2540 D	3	MW

Lab ID: **102042-07** Sampled: **12-11-06 10:00** 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	12-15-06 09:18	TCN-1285-W	Lachat 10-204-00-1-A (EPA 335.3)	1	DDW

Lab ID: **102042-08** Sampled: **12-11-06 10:00** Container: **1 L Amber Glass** Preservation: **H2SO4/Cool**

Analyte	Result	Units	RL	DF	Volume	Analyzed	QC Batch	Method	Inst	Analyst
Oil and Grease, Total	BRL	mg/L	5	1	1000 mL	12-13-06 08:00	HO-0230-W	EPA 1664	3	JBH

Lab ID: **102042-09** Sampled: **12-11-06 10:00** Container: **500 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	12-12-06 21:27	TRC-0510-W	SM 4500-Cl G	2	AG
Chromium, Hexavalent	BRL	mg/L	0.01	1	5 mL	12-13-06 11:44	HC-0287-W	EPA 7196A	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, Inc., P.O. Box 1200, 228 Main Street, Buzzards Bay, MA 02532

GROUNDWATER ANALYTICAL

Project Narrative

Project:	**CFI Danvers/93-200006**	Lab ID:	**102042**
Client:	**Environmental Compliance Services, Inc.**	Received:	**12-12-06 18:00**

A. Documentation and Client Communication

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

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

B. Method Modifications, Non-Conformances and Observations

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

1. EPA 625 Non-conformance: Sample 102042-03. Laboratory control sample (LCS) analyte Benzidine was below recommended recovery limits for QC batch SV-2009-F.
2. EPA 625 Non-conformance: Sample 102042-03. 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.
3. EPA 625 Note: Sample 102042-03. Sample was diluted prior to analysis. Dilution was required to keep all target analytes within calibration.
4. EPA 8260B Non-conformance: Sample 102042-01. Laboratory control sample (LCS) analyte 1,4-Dioxane was above recommended recovery limits for QC batch VM4-3733-W.
5. EPA 8260B Note: Sample 102042-01. Sample was diluted prior to analysis. Dilution was required to keep all target analytes within calibration.

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

GROUNDWATER ANALYTICAL

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

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

Nº 203244

Project Name: CFI Danvers	Firm: ECS
Project Number: 93-200006	Address: 27 Mid State Dr. Suite 215
Sampler Name: C. Johnson	City / State / Zip: Auburn MA 01501
Project Manager: S. Saine	Telephone: 508-832-6022

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

TURNAROUND

- ☐ STANDARD (10 Business Days)
- ✓ PRIORITY (5 Business Days)
- ☐ RUSH (RAN- ______) (Rush requires Rush Authorization Number)
- ✓ Please Email to: ssaine@ecsconsult.com
- ☐ Please FAX to: ______

BILLING

- ✓ Purchase Order No.: CFI PO# C4801
- ✓ Third Party Billing: CFI # 170014
- ☐ GWA Quote: ______

ANALYSIS REQUEST

Marked: Metals (RCRA 8), X Total Recoverable; Selected metals: Antimony, Copper, Pb, Mercury, Nickel, Selenium, Silver, Zinc, Fe; 8082 PCBs; 8260 (Volatiles); Cyanide; Other: Hex Chromium (Cr6), Residual Chlorine, TPH 1664

Sampling Date	Sampling Time	Sample Identification	Matrix	Type	Container(s)	Preservation	Filtered	Laboratory Number (Lab Use Only)
12/11	1000	MW-15	X Groundwater	X Grab	19 X; X X X X	X X X X	X	

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]	12/12/06	11:33	Alan Maddigan
Alan Maddigan	12/12/06	16:00	[signature]
			Received by Laboratory:

Receipt Temperature: 2.0°C

Container Count:

Shipping/Airbill Number:

Custody Seal Number:

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

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

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	92	90	**98 %**	80 - 120 %	12-13-06 10:30	TSS-1307-W	SM 2540 D	3	MW
Chlorine, Total Residual	mg/L	1	0.9	**94 %**	80 - 120 %	12-12-06 21:27	TRC-0510-W	SM 4500-Cl G	2	AG
Chromium, Hexavalent	mg/L	0.1	0.1	**102 %**	80 - 120 %	12-13-06 11:42	HC-0287-W	EPA 7196A	1	DDW
Oil and Grease, Total	mg/L	40	35	**88 %**	78 - 114 %	12-13-06 08:00	HO-0230-W	EPA 1664	3	JBH
Cyanide, Total	mg/L	0.45	0.51	**113 %**	80 - 120 %	12-15-06 08:58	TCN-1285-W	Lachat 10-204-00-1-A (EPA 335.3)	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: 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, Inc., P.O. Box 1200, 228 Main Street, Buzzards Bay, MA 02532

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-0287-W	EPA 7196A	12/13/2006 11:00	12/13/2006 11:42	Lachat 8000 Autoanalyzer	DDW
LCSD	EPA 7196A	HC-0287-W	EPA 7196A	12/13/2006 11:00	12/13/2006 11:43	Lachat 8000 Autoanalyzer	DDW

Analyte	LCS			LCS Duplicate				QC Limits		Method
	Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
Chromium, Hexavalent	0.10	0.10	**102%**	0.10	0.10	**104%**	**1 %**	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, Inc., P.O. Box 1200, 228 Main Street, Buzzards Bay, MA 02532

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	12-13-06 10:30	TSS-1307-W	SM 2540 D	3	MW
Chlorine, Total Residual	BRL	mg/L	0.2	12-12-06 21:27	TRC-0510-W	SM 4500-Cl G	2	AG
Chromium, Hexavalent	BRL	mg/L	0.01	12-13-06 11:42	HC-0287-W	EPA 7196A	1	DDW
Oil and Grease, Total	BRL	mg/L	5	12-13-06 08:00	HO-0230-W	EPA 1664	3	JBH
Cyanide, Total	BRL	mg/L	0.01	12-15-06 08:58	TCN-1285-W	Lachat 10-204-00-1-A (EPA 335.3)	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.

1 Instrument ID: Lachat 8000 Autoanalyzer

2 Instrument ID: Milton Roy Spectronic 401

3 Instrument ID: Mettler AT 200 Balance

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

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category:	**EPA Method 608 PCBs**	Instrument ID:	**GC-13 Agilent 6890**
QC Batch ID:	**PB-2295-F**	Extracted:	**12-14-06 16:00**
Matrix:	**Aqueous**	Cleaned Up:	**12-15-06 14:00**
Units:	**ug/L**	Analyzed:	**12-15-06 20:55**
		Analyst:	**CRL**

CAS Number	Analyte	Spiked	Measured		Recovery		QC Limits
			1st Column	2nd Column	1st Column	2nd Column	
12674-11-2	Aroclor 1016	5.0	5.7	5.3	**114 %**	**107 %**	40 - 140 %
11096-82-5	Aroclor 1260	5.0	5.7	5.0	**114 %**	**99 %**	40 - 140 %

QC Surrogate Compound	Spiked	Measured		Recovery		QC Limits
Tetrachloro-*m*-xylene	0.20	0.19	0.19	**94 %**	**96 %**	30 - 150 %
Decachlorobiphenyl	0.20	0.21	0.19	**107 %**	**94 %**	30 - 150 %

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

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

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

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 608 PCBs**	Instrument ID:	**GC-13 Agilent 6890**
QC Batch ID:	**PB-2295-F**	Extracted:	**12-14-06 16:00**
Matrix:	**Aqueous**	Cleaned Up:	**12-15-06 14:00**
		Analyzed:	**12-15-06 20:08**
		Analyst:	**CRL**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/L	0.20
11104-28-2	Aroclor 1221	BRL		ug/L	0.20
11141-16-5	Aroclor 1232	BRL		ug/L	0.20
53469-21-9	Aroclor 1242	BRL		ug/L	0.20
12672-29-6	Aroclor 1248	BRL		ug/L	0.20
11097-69-1	Aroclor 1254	BRL		ug/L	0.20
11096-82-5	Aroclor 1260	BRL		ug/L	0.20

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	0.20	0.20	**98** %	30 - 150 %
	Decachlorobiphenyl	0.20	0.21	**107** %	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	0.20	0.20	**100** %	30 - 150 %
	Decachlorobiphenyl	0.20	0.18	**91** %	30 - 150 %

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

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

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

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category:	**EPA Method 504.1**	Instrument ID:	**GC-5 HP 5890**
QC Batch ID:	**PV-0853-E**	Extracted:	**12-15-06 10:00**
Matrix:	**Aqueous**	Analyzed:	**12-15-06 14:05**
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	0.19	0.20	**94 %**	**100 %**	70 - 130 %
96-12-8	1,2-Dibromo-3-Chloropropane (DBC	0.20	0.19	0.21	**95 %**	**103 %**	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, Inc., P.O. Box 1200, 228 Main Street, Buzzards Bay, MA 02532

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 504.1**	Instrument ID:	**GC-5 HP 5890**
QC Batch ID:	**PV-0853-E**	Extracted:	**12-15-06 10:00**
Matrix:	**Aqueous**	Analyzed:	**12-15-06 15:49**
		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, Inc., P.O. Box 1200, 228 Main Street, Buzzards Bay, MA 02532

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 6010B	MB-2446-WL	EPA 3010A	12-13-06 08:06	12-14-06 10:22	ICP-1 PE 3000	MWR
LCS	EPA 7470A	MP-1918-WL	EPA 7470A	12-14-06 10:00	12-14-06 13:12	CVAA-1 PE FIMS	JBH
LCSD	EPA 6010B	MB-2446-WL	EPA 3010A	12-13-06 08:06	12-14-06 10:25	ICP-1 PE 3000	MWR
LCSD	EPA 7470A	MP-1918-WL	EPA 7470A	12-14-06 10:00	12-14-06 13:15	CVAA-1 PE FIMS	JBH

CAS Number	Analyte	LCS			LCS Duplicate				QC Limits		Method
		Spiked	Measured	Recovery	Spiked	Measured	Recovery	RPD	LCS	RPD	
7440-43-9	Cadmium	1.0	1.0	**97%**	1.0	1.0	**99%**	**1 %**	80-120 %	20 %	EPA 6010B
7440-47-3	Chromium	1.0	1.0	**96%**	1.0	1.0	**99%**	**2 %**	80-120 %	20 %	EPA 6010B
7440-50-8	Copper	1.0	1.0	**96%**	1.0	1.0	**98%**	**1 %**	80-120 %	20 %	EPA 6010B
7439-89-6	Iron	5.0	4.8	**95%**	5.0	4.9	**98%**	**2 %**	80-120 %	20 %	EPA 6010B
7439-92-1	Lead	5.0	4.7	**94%**	5.0	4.8	**96%**	**1 %**	80-120 %	20 %	EPA 6010B
7439-97-6	Mercury	0.0010	0.0011	**105%**	0.0010	0.0011	**105%**	**0 %**	80-120 %	20 %	EPA 7470A
7440-02-0	Nickel	1.0	0.9	**95%**	1.0	1.0	**97%**	**1 %**	80-120 %	20 %	EPA 6010B
7782-49-2	Selenium	5.0	4.8	**96%**	5.0	4.9	**99%**	**2 %**	80-120 %	20 %	EPA 6010B
7440-22-4	Silver	1.0	1.0	**99%**	1.0	1.0	**102%**	**1 %**	80-120 %	20 %	EPA 6010B
7440-66-6	Zinc	1.0	0.9	**93%**	1.0	1.0	**95%**	**1 %**	80-120 %	20 %	EPA 6010B

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

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

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

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 6010B	MB-2446-WB	EPA 3010A	12-13-06 08:06	50 mL	ICP-1 PE 3000	MWR
EPA 7470A	MP-1918-WB	EPA 7470A	12-14-06 10:00	25 mL	CVAA-1 PE FIMS	JBH

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit	DF	Analyzed	Method
7440-43-9	Cadmium	BRL		mg/L	0.005	1	12-14-06 10:20	EPA 6010B
7440-47-3	Chromium	BRL		mg/L	0.01	1	12-14-06 10:20	EPA 6010B
7440-50-8	Copper	BRL		mg/L	0.025	1	12-14-06 10:19	EPA 6010B
7439-89-6	Iron	BRL		mg/L	0.1	1	12-14-06 10:20	EPA 6010B
7439-92-1	Lead	BRL		mg/L	0.005	1	12-14-06 10:20	EPA 6010B
7439-97-6	Mercury	BRL		mg/L	0.0002	1	12-14-06 13:12	EPA 7470A
7440-02-0	Nickel	BRL		mg/L	0.04	1	12-14-06 10:20	EPA 6010B
7782-49-2	Selenium	BRL		mg/L	0.05	1	12-14-06 10:20	EPA 6010B
7440-22-4	Silver	BRL		mg/L	0.007	1	12-14-06 10:19	EPA 6010B
7440-66-6	Zinc	BRL		mg/L	0.2	1	12-14-06 10:20	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, Inc., P.O. Box 1200, 228 Main Street, Buzzards Bay, MA 02532

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8260B	Instrument ID:	MS-4 HP 6890	Instrument ID:	MS-4 HP 6890
QC Batch ID:	VM4-3733-WL	Analyzed:	12-15-06 10:36	Analyzed:	12-15-06 11:06
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	8.1	81 %	10	7.4	74 %	9 %	70 - 130 %	25%
74-87-3	Chloromethane	10	8.5	85 %	10	8	80 %	6 %	70 - 130 %	25%
75-01-4	Vinyl Chloride	10	8.8	88 %	10	8.2	82 %	6 %	70 - 130 %	25%
74-83-9	Bromomethane	10	9.6	96 %	10	9.3	93 %	3 %	70 - 130 %	25%
75-00-3	Chloroethane	10	10	101 %	10	9.2	92 %	9 %	70 - 130 %	25%
75-69-4	Trichlorofluoromethane	10	8.3	83 %	10	7.3	73 %	13 %	70 - 130 %	25%
60-29-7	Diethyl Ether	20	18	91 %	20	17	86 %	6 %	70 - 130 %	25%
75-35-4	1,1-Dichloroethene	10	10	104 %	10	10	101 %	4 %	70 - 130 %	25%
76-13-1	1,1,2-Trichlorotrifluoroethane	20	17	84 %	20	15	77 %	9 %	70 - 130 %	25%
67-64-1	Acetone	20	18	92 %	20	16	79 %	15 %	70 - 130 %	25%
75-15-0	Carbon Disulfide	20	18	90 %	20	17	83 %	7 %	70 - 130 %	25%
75-09-2	Methylene Chloride	10	10	102 %	10	10	103 %	1 %	70 - 130 %	25%
156-60-5	*trans*-1,2-Dichloroethene	10	10	103 %	10	9.5	95 %	7 %	70 - 130 %	25%
1634-04-4	Methyl *tert*-butyl Ether (MTBE)	10	10	100 %	10	9.3	93 %	7 %	70 - 130 %	25%
75-34-3	1,1-Dichloroethane	10	10	103 %	10	10	100 %	3 %	70 - 130 %	25%
594-20-7	2,2-Dichloropropane	10	9.1	91 %	10	8.8	88 %	3 %	70 - 130 %	25%
156-59-2	*cis*-1,2-Dichloroethene	10	11	108 %	10	10	103 %	5 %	70 - 130 %	25%
78-93-3	2-Butanone (MEK)	20	19	93 %	20	16	78 %	18 %	70 - 130 %	25%
74-97-5	Bromochloromethane	10	11	109 %	10	11	107 %	2 %	70 - 130 %	25%
109-99-9	Tetrahydrofuran (THF)	20	19	94 %	20	16	79 %	17 %	70 - 130 %	25%
67-66-3	Chloroform	10	10	100 %	10	9.7	97 %	3 %	70 - 130 %	25%
71-55-6	1,1,1-Trichloroethane	10	9.3	93 %	10	8.9	89 %	4 %	70 - 130 %	25%
56-23-5	Carbon Tetrachloride	10	9.5	95 %	10	9.1	91 %	4 %	70 - 130 %	25%
563-58-6	1,1-Dichloropropene	10	9.3	93 %	10	9	90 %	3 %	70 - 130 %	25%
71-43-2	Benzene	10	10	102 %	10	9.8	98 %	4 %	70 - 130 %	25%
107-06-2	1,2-Dichloroethane	10	9.5	95 %	10	8.9	89 %	7 %	70 - 130 %	25%
79-01-6	Trichloroethene	10	9.6	96 %	10	9.7	97 %	1 %	70 - 130 %	25%
78-87-5	1,2-Dichloropropane	10	9.9	99 %	10	9.6	96 %	3 %	70 - 130 %	25%
74-95-3	Dibromomethane	10	9.5	95 %	10	9	90 %	6 %	70 - 130 %	25%
75-27-4	Bromodichloromethane	10	10	101 %	10	10	102 %	1 %	70 - 130 %	25%
123-91-1	1,4-Dioxane	200	210	103 %	200	200	98 %	6 %	70 - 130 %	25%
10061-01-5	*cis*-1,3-Dichloropropene	10	9.9	99 %	10	9.5	95 %	4 %	70 - 130 %	25%
108-10-1	4-Methyl-2-Pentanone (MIBK)	20	19	94 %	20	17	85 %	10 %	70 - 130 %	25%
108-88-3	Toluene	10	10	101 %	10	9.7	97 %	4 %	70 - 130 %	25%
10061-02-6	*trans*-1,3-Dichloropropene	10	9.6	96 %	10	9.4	94 %	2 %	70 - 130 %	25%
79-00-5	1,1,2-Trichloroethane	10	11	109 %	10	9.9	99 %	10 %	70 - 130 %	25%
127-18-4	Tetrachloroethene	10	10	102 %	10	10	103 %	1 %	70 - 130 %	25%
142-28-9	1,3-Dichloropropane	10	10	101 %	10	9.9	99 %	2 %	70 - 130 %	25%
591-78-6	2-Hexanone	20	20	98 %	20	18	89 %	10 %	70 - 130 %	25%
124-48-1	Dibromochloromethane	10	11	110 %	10	11	109 %	1 %	70 - 130 %	25%
106-93-4	1,2-Dibromoethane (EDB)	10	11	109 %	10	9.8	98 %	11 %	70 - 130 %	25%
108-90-7	Chlorobenzene	10	11	105 %	10	11	106 %	0 %	70 - 130 %	25%
630-20-6	1,1,1,2-Tetrachloroethane	10	11	110 %	10	11	109 %	1 %	70 - 130 %	25%
100-41-4	Ethylbenzene	10	10	103 %	10	10	101 %	2 %	70 - 130 %	25%
108-38-3/106-42-3	*meta*-Xylene and *para*-Xylene	20	22	108 %	20	21	106 %	2 %	70 - 130 %	25%
95-47-6	*ortho*-Xylene	10	11	105 %	10	10	103 %	2 %	70 - 130 %	25%
100-42-5	Styrene	10	11	108 %	10	10	105 %	3 %	70 - 130 %	25%
75-25-2	Bromoform	10	10	101 %	10	9.7	97 %	3 %	70 - 130 %	25%
98-82-8	Isopropylbenzene	10	9.3	93 %	10	9.1	91 %	2 %	70 - 130 %	25%

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

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	EPA Method 8260B	Instrument ID:	MS-4 HP 6890	Instrument ID:	MS-4 HP 6890
QC Batch ID:	VM4-3733-WL	Analyzed:	12-15-06 10:36	Analyzed:	12-15-06 11:06
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	10	**102 %**	**2 %**	70 - 130 %	25%
79-34-5	1,1,2,2-Tetrachloroethane	10	9.2	**92 %**	10	8.5	**85 %**	**8 %**	70 - 130 %	25%
96-18-4	1,2,3-Trichloropropane	10	11	**108 %**	10	9.9	**99 %**	**9 %**	70 - 130 %	25%
103-65-1	*n*-Propylbenzene	10	9.3	**93 %**	10	9.2	**92 %**	**2 %**	70 - 130 %	25%
95-49-8	2-Chlorotoluene	10	10	**102 %**	10	9.9	**99 %**	**3 %**	70 - 130 %	25%
108-67-8	1,3,5-Trimethylbenzene	10	9.9	**99 %**	10	9.6	**96 %**	**2 %**	70 - 130 %	25%
106-43-4	4-Chlorotoluene	10	9.7	**97 %**	10	9.7	**97 %**	**0 %**	70 - 130 %	25%
98-06-6	*tert*-Butylbenzene	10	9.6	**96 %**	10	9.3	**93 %**	**3 %**	70 - 130 %	25%
95-63-6	1,2,4-Trimethylbenzene	10	10	**101 %**	10	9.8	**98 %**	**3 %**	70 - 130 %	25%
135-98-8	*sec*-Butylbenzene	10	9.5	**95 %**	10	9.2	**92 %**	**3 %**	70 - 130 %	25%
541-73-1	1,3-Dichlorobenzene	10	10	**100 %**	10	9.8	**98 %**	**2 %**	70 - 130 %	25%
99-87-6	4-Isopropyltoluene	10	9.8	**98 %**	10	9.4	**94 %**	**4 %**	70 - 130 %	25%
106-46-7	1,4-Dichlorobenzene	10	10	**100 %**	10	9.7	**97 %**	**3 %**	70 - 130 %	25%
95-50-1	1,2-Dichlorobenzene	10	9.9	**99 %**	10	9.7	**97 %**	**2 %**	70 - 130 %	25%
104-51-8	*n*-Butylbenzene	10	9.6	**96 %**	10	9.3	**93 %**	**4 %**	70 - 130 %	25%
96-12-8	1,2-Dibromo-3-chloropropane	10	8.6	**86 %**	10	7.3	**73 %**	**16 %**	70 - 130 %	25%
120-82-1	1,2,4-Trichlorobenzene	10	10	**100 %**	10	9.6	**96 %**	**4 %**	70 - 130 %	25%
87-68-3	Hexachlorobutadiene	10	9.4	**94 %**	10	9.1	**91 %**	**3 %**	70 - 130 %	25%
91-20-3	Naphthalene	10	10	**102 %**	10	9.3	**93 %**	**9 %**	70 - 130 %	25%
87-61-6	1,2,3-Trichlorobenzene	10	10	**103 %**	10	9.7	**97 %**	**7 %**	70 - 130 %	25%
75-65-0	*tert*-Butyl Alcohol (TBA)	200	150	**77 %**	200	150	**75 %**	**3 %**	70 - 130 %	25%
108-20-3	Di-isopropyl Ether (DIPE)	10	8.7	**87 %**	10	8.4	**84 %**	**3 %**	70 - 130 %	25%
637-92-3	Ethyl *tert*-butyl Ether (ETBE)	10	8.5	**85 %**	10	8.1	**81 %**	**5 %**	70 - 130 %	25%
994-05-8	*tert*-Amyl Methyl Ether (TAME)	10	9.2	**92 %**	10	8.6	**86 %**	**7 %**	70 - 130 %	25%

QC Surrogate Compound	Spiked	Measured	Recovery	Spiked	Measured	Recovery		QC Limits
Dibromofluoromethane	10	10	**101 %**	10	10	**102 %**		70 - 130 %
1,2-Dichloroethane-d_4	10	9.5	**95 %**	10	9.9	**99 %**		70 - 130 %
Toluene-d_8	10	11	**109 %**	10	11	**110 %**		70 - 130 %
4-Bromofluorobenzene	10	9.1	**91 %**	10	8.9	**89 %**		70 - 130 %

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

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

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

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8260B**	Instrument ID:	**MS-4 HP 6890**
QC Batch ID:	**VM4-3733-WB**	Analyzed:	**12-15-06 11:35**
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, Inc., P.O. Box 1200, 228 Main Street, Buzzards Bay, MA 02532

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	EPA Method 8260B	Instrument ID:	MS-4 HP 6890
QC Batch ID:	VM4-3733-WB	Analyzed:	12-15-06 11:35
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	10	**104 %**	70 - 130 %
1,2-Dichloroethane-d_4	10	9.3	**93 %**	70 - 130 %
Toluene-d_8	10	11	**107 %**	70 - 130 %
4-Bromofluorobenzene	10	8.9	**89 %**	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, Inc., P.O. Box 1200, 228 Main Street, Buzzards Bay, MA 02532

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category:	**EPA Method 625**	Instrument ID:	**MS-3 HP 5890**
QC Batch ID:	**SV-2009-F**	Extracted:	**12-14-06 15:00**
Matrix:	**Aqueous**	Analyzed:	**12-15-06 08:40**
Units:	**ug/L**	Analyst:	**MJB**

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits
62-75-9	N-Nitrosodimethylamine	50	32	**64 %**	40 - 140 %
110-86-1	Pyridine	50	27	**55 %**	40 - 140 %
108-95-2	Phenol	50	22	**44 %**	30 - 130 %
111-44-4	Bis(2-chloroethyl) ether	50	36	**71 %**	40 - 140 %
95-57-8	2-Chlorophenol	50	35	**70 %**	30 - 130 %
62-53-3	Aniline	50	44	**88 %**	40 - 140 %
124-18-5	n-Decane (C10)	50	36	**72 %**	40 - 140 %
541-73-1	1,3-Dichlorobenzene	50	38	**76 %**	40 - 140 %
106-46-7	1,4-Dichlorobenzene	50	38	**76 %**	40 - 140 %
95-50-1	1,2-Dichlorobenzene	50	37	**75 %**	40 - 140 %
108-60-1	Bis(2-chloroisopropyl) ether	50	40	**81 %**	40 - 140 %
95-48-7	2-Methylphenol	50	36	**72 %**	30 - 130 %
621-64-7	N-Nitrosodi-*n*-propylamine	50	44	**87 %**	40 - 140 %
108-39-4/106-44-5	3 and 4-Methylphenol	50	37	**74 %**	30 - 130 %
67-72-1	Hexachloroethane	50	37	**74 %**	40 - 140 %
98-86-2	Acetophenone	50	47	**94 %**	40 - 140 %
98-95-3	Nitrobenzene	50	39	**78 %**	40 - 140 %
78-59-1	Isophorone	50	38	**75 %**	40 - 140 %
88-75-5	2-Nitrophenol	50	41	**82 %**	30 - 130 %
105-67-9	2,4-Dimethylphenol	50	35	**70 %**	30 - 130 %
65-85-0	Benzoic Acid	50	24	**49 %**	30 - 130 %
111-91-1	Bis(2-chloroethoxy) methane	50	39	**77 %**	40 - 140 %
120-83-2	2,4-Dichlorophenol	50	39	**77 %**	30 - 130 %
120-82-1	1,2,4-Trichlorobenzene	50	41	**81 %**	40 - 140 %
98-55-5	alpha-Terpineol	50	41	**82 %**	40 - 140 %
91-20-3	Naphthalene	50	39	**78 %**	40 - 140 %
87-68-3	Hexachlorobutadiene	50	39	**77 %**	40 - 140 %
59-50-7	4-Chloro-3-methylphenol	50	41	**82 %**	30 - 130 %
77-47-4	Hexachlorocyclopentadiene	50	41	**82 %**	40 - 140 %
608-27-5	2,3-Dichloroaniline	50	48	**96 %**	40 - 140 %
88-06-2	2,4,6-Trichlorophenol	50	42	**84 %**	30 - 130 %
91-58-7	2-Chloronaphthalene	50	42	**84 %**	40 - 140 %
131-11-3	Dimethyl phthalate	50	45	**90 %**	40 - 140 %
208-96-8	Acenaphthylene	50	44	**88 %**	40 - 140 %
606-20-2	2,6-Dinitrotoluene	50	45	**91 %**	40 - 140 %
83-32-9	Acenaphthene	50	44	**89 %**	40 - 140 %
51-28-5	2,4-Dinitrophenol	50	47	**95 %**	30 - 130 %
100-02-7	4-Nitrophenol	50	24	**48 %**	30 - 130 %
121-14-2	2,4-Dinitrotoluene	50	44	**87 %**	40 - 140 %
84-66-2	Diethyl phthalate	50	44	**88 %**	40 - 140 %
7005-72-3	4-Chlorophenyl phenyl ether	50	46	**91 %**	40 - 140 %
86-73-7	Fluorene	50	42	**84 %**	40 - 140 %
534-52-1	4,6-Dinitro-2-methylphenol	50	47	**95 %**	30 - 130 %
86-30-6	N-Nitrosodiphenylamine†	50	45	**89 %**	40 - 140 %
122-66-7	1,2-Diphenylhydrazine ◊	50	45	**90 %**	40 - 140 %

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

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category:	**EPA Method 625**	Instrument ID:	**MS-3 HP 5890**
QC Batch ID:	**SV-2009-F**	Extracted:	**12-14-06 15:00**
Matrix:	**Aqueous**	Analyzed:	**12-15-06 08:40**
Units:	**ug/L**	Analyst:	**MJB**

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits
101-55-3	4-Bromophenyl phenyl ether	50	52	**104** %	40 - 140 %
118-74-1	Hexachlorobenzene	50	45	**89** %	40 - 140 %
87-86-5	Pentachlorophenol	50	48	**95** %	30 - 130 %
593-54-3	n-Octadecane (C18)	50	44	**89** %	40 - 140 %
85-01-8	Phenanthrene	50	43	**87** %	40 - 140 %
120-12-7	Anthracene	50	43	**87** %	40 - 140 %
86-74-8	Carbazole	50	44	**89** %	40 - 140 %
84-74-2	Di-*n*-butyl phthalate	50	43	**87** %	40 - 140 %
206-44-0	Fluoranthene	50	43	**86** %	40 - 140 %
92-87-5	Benzidine	50	0	**0** % q	40 - 140 %
129-00-0	Pyrene	50	42	**84** %	40 - 140 %
85-68-7	Butyl benzyl phthalate	50	41	**82** %	40 - 140 %
91-94-1	3,3'-Dichlorobenzidine	50	37	**73** %	40 - 140 %
56-55-3	Benzo[a]anthracene	50	42	**84** %	40 - 140 %
218-01-9	Chrysene	50	43	**87** %	40 - 140 %
117-81-7	Bis(2-ethylhexyl) phthalate	50	42	**85** %	40 - 140 %
117-84-0	Di-*n*-octyl phthalate	50	44	**88** %	40 - 140 %
205-99-2	Benzo[b]fluoranthene	50	43	**86** %	40 - 140 %
207-08-9	Benzo[k]fluoranthene	50	45	**91** %	40 - 140 %
50-32-8	Benzo[a]pyrene	50	43	**86** %	40 - 140 %
193-39-5	Indeno[1,2,3-c,d]pyrene	50	43	**86** %	40 - 140 %
53-70-3	Dibenzo[a,h]anthracene	50	44	**88** %	40 - 140 %
191-24-2	Benzo[g,h,i]perylene	50	44	**88** %	40 - 140 %

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	200	110	**53** %	15 - 110 %
Phenol-d5	200	81	**40** %	15 - 110 %
Nitrobenzene-d5	100	71	**71** %	30 - 130 %
2-Fluorobiphenyl	100	79	**79** %	30 - 130 %
2,4,6-Tribromophenol	200	170	**86** %	15 - 110 %
Terphenyl-d14	100	79	**79** %	30 - 130 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).

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

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	EPA Method 625	Instrument ID:	MS-3 HP 5890
QC Batch ID:	SV-2009-F	Extracted:	12-14-06 15:00
Matrix:	Aqueous	Analyzed:	12-15-06 10:03
		Analyst:	MJB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
62-75-9	N-Nitrosodimethylamine	BRL		ug/L	10
110-86-1	Pyridine	BRL		ug/L	10
108-95-2	Phenol	BRL		ug/L	10
111-44-4	Bis(2-chloroethyl) ether	BRL		ug/L	10
95-57-8	2-Chlorophenol	BRL		ug/L	10
62-53-3	Aniline	BRL		ug/L	10
124-18-5	n-Decane (C10)	BRL		ug/L	10
541-73-1	1,3-Dichlorobenzene	BRL		ug/L	10
106-46-7	1,4-Dichlorobenzene	BRL		ug/L	10
95-50-1	1,2-Dichlorobenzene	BRL		ug/L	10
108-60-1	Bis(2-chloroisopropyl) ether	BRL		ug/L	10
95-48-7	2-Methylphenol	BRL		ug/L	10
621-64-7	N-Nitrosodi-*n*-propylamine	BRL		ug/L	10
108-39-4/106-44-5	3 and 4-Methylphenol	BRL		ug/L	10
67-72-1	Hexachloroethane	BRL		ug/L	10
98-86-2	Acetophenone	BRL		ug/L	10
98-95-3	Nitrobenzene	BRL		ug/L	10
78-59-1	Isophorone	BRL		ug/L	10
88-75-5	2-Nitrophenol	BRL		ug/L	10
105-67-9	2,4-Dimethylphenol	BRL		ug/L	10
65-85-0	Benzoic Acid	BRL		ug/L	10
111-91-1	Bis(2-chloroethoxy) methane	BRL		ug/L	10
120-83-2	2,4-Dichlorophenol	BRL		ug/L	10
120-82-1	1,2,4-Trichlorobenzene	BRL		ug/L	10
98-55-5	alpha-Terpineol	BRL		ug/L	10
91-20-3	Naphthalene	BRL		ug/L	10
87-68-3	Hexachlorobutadiene	BRL		ug/L	10
59-50-7	4-Chloro-3-methylphenol	BRL		ug/L	10
77-47-4	Hexachlorocyclopentadiene	BRL		ug/L	10
608-27-5	2,3-Dichloroaniline	BRL		ug/L	10
88-06-2	2,4,6-Trichlorophenol	BRL		ug/L	10
91-58-7	2-Chloronaphthalene	BRL		ug/L	10
131-11-3	Dimethyl phthalate	BRL		ug/L	10
208-96-8	Acenaphthylene	BRL		ug/L	10
606-20-2	2,6-Dinitrotoluene	BRL		ug/L	10
83-32-9	Acenaphthene	BRL		ug/L	10
51-28-5	2,4-Dinitrophenol	BRL		ug/L	10
100-02-7	4-Nitrophenol	BRL		ug/L	10
121-14-2	2,4-Dinitrotoluene	BRL		ug/L	10
84-66-2	Diethyl phthalate	BRL		ug/L	10
7005-72-3	4-Chlorophenyl phenyl ether	BRL		ug/L	10
86-73-7	Fluorene	BRL		ug/L	10
534-52-1	4,6-Dinitro-2-methylphenol	BRL		ug/L	10
86-30-6	N-Nitrosodiphenylamine†	BRL		ug/L	10
122-66-7	1,2-Diphenylhydrazine ◊	BRL		ug/L	10

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

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	EPA Method 625	Instrument ID:	MS-3 HP 5890
QC Batch ID:	SV-2009-F	Extracted:	12-14-06 15:00
Matrix:	Aqueous	Analyzed:	12-15-06 10:03
		Analyst:	MJB

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
101-55-3	4-Bromophenyl phenyl ether	BRL		ug/L	10
118-74-1	Hexachlorobenzene	BRL		ug/L	10
87-86-5	Pentachlorophenol	BRL		ug/L	10
593-45-3	n-Octadecane	BRL		ug/L	10
85-01-8	Phenanthrene	BRL		ug/L	10
120-12-7	Anthracene	BRL		ug/L	10
86-74-8	Carbazole	BRL		ug/L	10
84-74-2	Di-*n*-butyl phthalate	BRL		ug/L	10
206-44-0	Fluoranthene	BRL		ug/L	10
92-87-5	Benzidine	BRL		ug/L	10
129-00-0	Pyrene	BRL		ug/L	10
85-68-7	Butyl benzyl phthalate	BRL		ug/L	10
91-94-1	3,3'-Dichlorobenzidine	BRL		ug/L	10
56-55-3	Benzo[a]anthracene	BRL		ug/L	10
218-01-9	Chrysene	BRL		ug/L	10
117-81-7	Bis(2-ethylhexyl) phthalate	BRL		ug/L	10
117-84-0	Di-*n*-octyl phthalate	BRL		ug/L	10
205-99-2	Benzo[b]fluoranthene	BRL		ug/L	10
207-08-9	Benzo[k]fluoranthene	BRL		ug/L	10
50-32-8	Benzo[a]pyrene	BRL		ug/L	10
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL		ug/L	10
53-70-3	Dibenzo[a,h]anthracene	BRL		ug/L	10
191-24-2	Benzo[g,h,i]perylene	BRL		ug/L	10

QC Surrogate Compound	Spiked	Measured	Recovery	QC Limits
2-Fluorophenol	200	93	**46** %	15 - 110 %
Phenol-d5	200	70	**35** %	15 - 110 %
Nitrobenzene-d5	100	59	**59** %	30 - 130 %
2-Fluorobiphenyl	100	70	**70** %	30 - 130 %
2,4,6-Tribromophenol	200	170	**85** %	15 - 110 %
Terphenyl-d14	100	75	**75** %	30 - 130 %

Method Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, US EPA, 40 C.F.R. 136, Appendix A, (1986).

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.

† Reported as sum of N-Nitrosodiphenylamine and Diphenylamine.

◊ Analyzed as Azobenzene.

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

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

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