CORPORATE ENVIRONMENTAL ADVISORS, INC.

MA6910144

PROUDLY CELEBRATING 20 YEARS Of Outstanding Service 1985 - 2005

October 21, 2005

US Environmental Protection Agency
RGP – NOI Processing
Municipal Assistance Unit (CMU)
One Congress Street, Suite 1100
Boston, MA 02114-2023

RE: NOI Submittal
[redacted]
400 South Franklin Street
Holbrook, Massachusetts 02343
DEP Release Tracking No. 3-1021
NPDES Exclusion # MA 05I-008

OCT 24

To Whom It May Concern:

On behalf of C.K. Smith & Co., Inc., Corporate Environmental Advisors, Inc. (CEA) is submitting this Notice of Intent (NOI) for the above-referenced site. The NOI is being submitted in accordance with the new Remediation General Permit (RGP). The above-referenced site is discharging treated water from a high vacuum extraction (HVE) system under NPDES Number MA 05I-008. Please note analytes in the influent sample that exceeded discharge limits shall be tested for in the effluent of the treatment system and the results forwarded to the EPA.

If you have any questions, please feel free to contact me at 508-835-8822 (Ext. 260).

Sincerely,

Adam J. Last

Adam J. Last, P.E., LSP
Principal Engineer

Pc: Ms. Judith I. Smith, C.K. Smith & Co., Inc.
Bureau of Waste Site Cleanup, MADEP NERO
CEA File No. 3005-96

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**: United Service Station		**Facility/site** address:		
Location of **facility/site**: longitude: 71° 00' 34.5" latitude: 42° 08' 34.8"	Facility SIC code(s):	Street: 400 South Franklin St		
b) Name of **facility/site owner**: C.K. Smith & Co., Inc		Town: Holbrook		
Email address of owner:		State: MA	Zip: 02343	County: Norfolk
Telephone no.of facility/site **owner**: 508-753-1475		**Owner** is (check one): 1. Federal___ 2. State/Tribal___ 3. Private ✓ 4. other, if so, describe:		
Fax no. of facility/site **owner**:				
Address of **owner** (if different from site):				
Street: 99 Crescent St.				
Town: Worcester	State: MA	Zip: 01605	County: Worcester	
c) Legal name of **operator**: Corporate Environmental Advisors, Inc.	**Operator** telephone no: 508-835-8822			
	Operator fax no.: 508-835-8812	**Operator** email: ALAST@CEA-INC.COM		
Operator contact name and title: Adam Last, LSP				
Address of **operator** (if different from owner):	Street: 127 Hartwell St			
Town: West Boylston, MA	State: MA	Zip: 01583	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: MA DEP RTN # 3-1021 1. site identification # assigned by the state of NH or MA: 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number: DEP, Boston, MA 617-654-6500	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: HVE Remedial System Discharge		
b) Provide the following information about each discharge:	1) Number of discharge points: 1	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft3/s)? Max. flow 0.0275 Average flow 0.003 Is maximum flow a **design value**? Y ___ N ___ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.
3) Latitude and longitude of each discharge within 100 feet: pt.1:long. 71°00'31.5" lat. 42°06'31.8" pt.2: long._____ lat._____; pt.3: long._____ lat._____; pt.4:long._____ lat._____; pt.5: long._____ lat._____; pt.6:long._____ lat._____; pt.7: long._____ lat._____; pt.8:long._____ lat._____; etc.		
4) If hydrostatic testing, total volume of the discharge (gals):	5) Is the discharge intermittent NO or seasonal NO ? Is discharge ongoing Yes ✓ No _____?	
c) Expected dates of discharge (mm/dd/yy): start 8/10/05 end Indefinite		
d) Please attach a line drawing or flow schematic showing water flow through the facility including: 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).		

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for **all** of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

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

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

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids		X	1	Grab	SM2540D	5000 ug/l	207,000	11.46		
2. Total Residual Chlorine	X		1	"	Hach 8167	500 ug/l	<500	<0.03		
3. Total Petroleum Hydrocarbons	X		1	"	EPA 1664	1000 ug/l	<1000	<0.06		
4. Cyanide	X		1	"	SW846 9014	10 ug/l	<10	<6E-4		
5. Benzene	X		1	"	SW8468260B	10 ug/l	<10	<6E-4		
6. Toluene		X	1	"	"	0.5 ug/l	9.5	5E-4		
7. Ethylbenzene		X	1	"	"	0.5 ug/l	11.7	6E-4		
8. (m,p,o) Xylenes		X	1	"	"	1.5 ug/l	134.1	7.4E-3		
9. Total BTEX[4]		X	1	"	"	12.5 ug/l	155.3	8.6E-3		

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide [5] (1,2- Dibromo-methane)	X		1	Grab	EPA 504.1	0.01 ug/l	<0.01	<1E-6		
11. Methyl-tert-Butyl Ether (MtBE)		X	1	"	SW8260B	0.5 ug/l	90.5	5E-3		
12. tert-Butyl Alcohol (TBA)		X	1	"	"	10 ug/l	220	0.01		
13. tert-Amyl Methyl Ether (TAME)		X	1	"	"	1.0 ug/l	2.8	2E-4		
14. Naphthalene		X	1	"	"	1.0 ug/l	13	7E-4		
15. Carbon Tetra-chloride	X		1	"	"	0.5 ug/l	<0.5	<2.8E-5		
16. 1,4 Dichlorobenzene	X		1	"	"	0.5 ug/l	<0.5	<2.8E-5		
17. 1,2 Dichlorobenzene	X		1	"	"	0.5 ug/l	<0.5	<2.8E-5		
18. 1,3 Dichlorobenzene	X		1	"	"	0.5 ug/l	<0.5	<2.8E-5		
19. 1,1 Dichloroethane	X		1	"	"	0.5 ug/l	<0.5	<2.8E-5		
20. 1,2 Dichloroethane	X		1	"	"	0.5 ug/l	<0.5	<2.8E-5		
21. 1,1 Dichloroethylene	X		1	"	"	0.5 ug/l	<0.5	<2.8E-5		
22. cis-1,2 Dichloro-ethylene	X		1	"	"	0.5 ug/l	<0.5	<2.8E-5		
23. Dichloromethane (Methylene Chloride)	X		1	"	"	1.0 ug/l	<1.0	<5.5E-5		
24. Tetrachloroethylene	X		1	"	"	0.5 ug/l	0.6	3.3E-5		

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily Value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
25. 1,1,1 Trichloroethane	X		1	Grab	SW846 8260B	0.5 ug/l	<0.5	<2.8E-5		
26. 1,1,2 Trichloroethane	X		1	"	"	0.5 ug/l	<0.5	<2.8E-5		
27. Trichloroethylene	X		1	"	"	0.5 ug/l	<0.5	<2.8E-5		
28. Vinyl Chloride	X		1	"	"	0.5 ug/l	<0.5	<2.8E-5		
29. Acetone	X		1	"	"	10 ug/l	<10	55.4E-4		
30. 1,4 Dioxane	X		1	"	"	20 ug/l	<20	0.001		
31. Total Phenols	X		1	"	EPA 625	10 ug/l	<10	<55.4E-4		
32. Pentachlorophenol	X		1	"	"	10 ug/l	<10	<55.4E-5		
33. Total Phthalates [6] (Phthalate esthers)	X		1	"	"	30 ug/l	<30	<1.6E-3		
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	X		1	"	"	5 ug/l	<5	<2.8E-4		
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	X		1	"	"	35 ug/l	<35	<1.9E-3		
a. Benzo(a) Anthracene	X		1	"	"	5 ug/l	<5	<2.8E-4		
b. Benzo(a) Pyrene	X		1	"	"	5 ug/l	<5	<2.8E-4		
c. Benzo(b)Fluoranthene	X		1	"	"	5 ug/l	<5	<2.8E-4		
d. Benzo(k) Fluoranthene	X		1	"	"	5 ug/l	<5	<2.8E-4		
e. Chrysene	X		1	"	"	5 ug/l	<5	<2.8E-4		

[6] The sum of individual phthalate compounds.

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
f. Dibenzo(a,h) anthracene	X		1	Grab	EPA 625	5 ug/l	<5	<2.8E-4		
g. Indeno(1,2,3-cd) Pyrene	X		1	"	"	5 ug/l	<5	<2.8E-4		
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	X		1	"	"	34 ug/l	<34	<1.9E-3		
h. Acenaphthene	X		1	"	"	1.0 ug/l	<1.0	<55.4E-5		
i. Acenaphthylene	X		1	"	"	5 ug/l	<5	<2.8E-4		
j. Anthracene	X		1	"	"	5 ug/l	<5	<2.8E-4		
k. Benzo(ghi) Perylene	X		1	"	"	5 ug/l	<5	<2.8E-4		
l. Fluoranthene	X		1	"	"	1.0 ug/l	<1.0	<55.4E-5		
m. Fluorene	X		1	"	"	5 ug/l	<5	<2.8E-4		
n. Naphthalene-	X		1	"	"	2 ug/l	<2	<1.1E-4		
o. Phenanthrene	X		1	"	"	5 ug/l	<5	<2.8E-4		
p. Pyrene	X		1	"	"	5 ug/l	<5	<2.8E-4		
37. Total Polychlorinated Biphenyls (PCBs)	X		1	"	EPA 608	2.25 ug/l	<2.25	<1.3E-4		
38. Antimony	X		1	"	EPA 200.7	6 ug/l	<6	<3.3E-4		
39. Arsenic	X		1	"	"	4 ug/l	<4	<2.2E-4		
40. Cadmium	X		1	"	"	1.2 ug/l	<1.2	<6.6E-5		
41. Chromium III		X	1	"	"	2.5 ug/l	6.3	<3.5E-4		
42. Chromium VI	X		1	"	9.6A	10 ug/l	<10	<5.5E-4		

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	X		1	Grab	EPA 200.7	2.5 ug/l	< 2.5	<1.4E-4		
44. Lead		X	1	"	"	3.8 ug/l	8.6	4.8E-4		
45. Mercury	X		1	"	"	0.2 ug/l	< 0.2	<1.1E-5		
46. Nickel	X		1	"	"	2.5 ug/l	< 2.5	<1.4E-4		
47. Selenium	X		1	"	"	7.5 ug/l	< 7.5	<4.2E-4		
48. Silver	X		1	"	"	5 ug/l	< 5	<2.7E-4		
49. Zinc		X	1	"	"	10 ug/l	209	0.1		
50. Iron		X	1	"	"	2.5 ug/l	72,500	4.02		
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 X N ___	If yes, which metals? Iron, Zinc, 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: NA - intermittent brook DF: NA	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y___ N___ If "Yes," list which metals:

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:						
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 1.5 Maximum flow rate of treatment system 12.36 Design flow rate of treatment system 25						
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: Drainage manhole → unnamed intermittent brook → unnamed brook → trout brook → lake Holbrook						
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 N/A cfs Please attach any calculation sheets used to support stream flow and dilution calculations. intermittent brook						
f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes____ No X If yes, for which pollutant(s)? Is there a TMDL? Yes No____ If yes, for which pollutant(s)?						

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

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes___ No X
Has any consultation with the federal services been completed ? No X or is consultation underway? Yes No X
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 X Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes_____ No X

7. Supplemental information. :

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

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

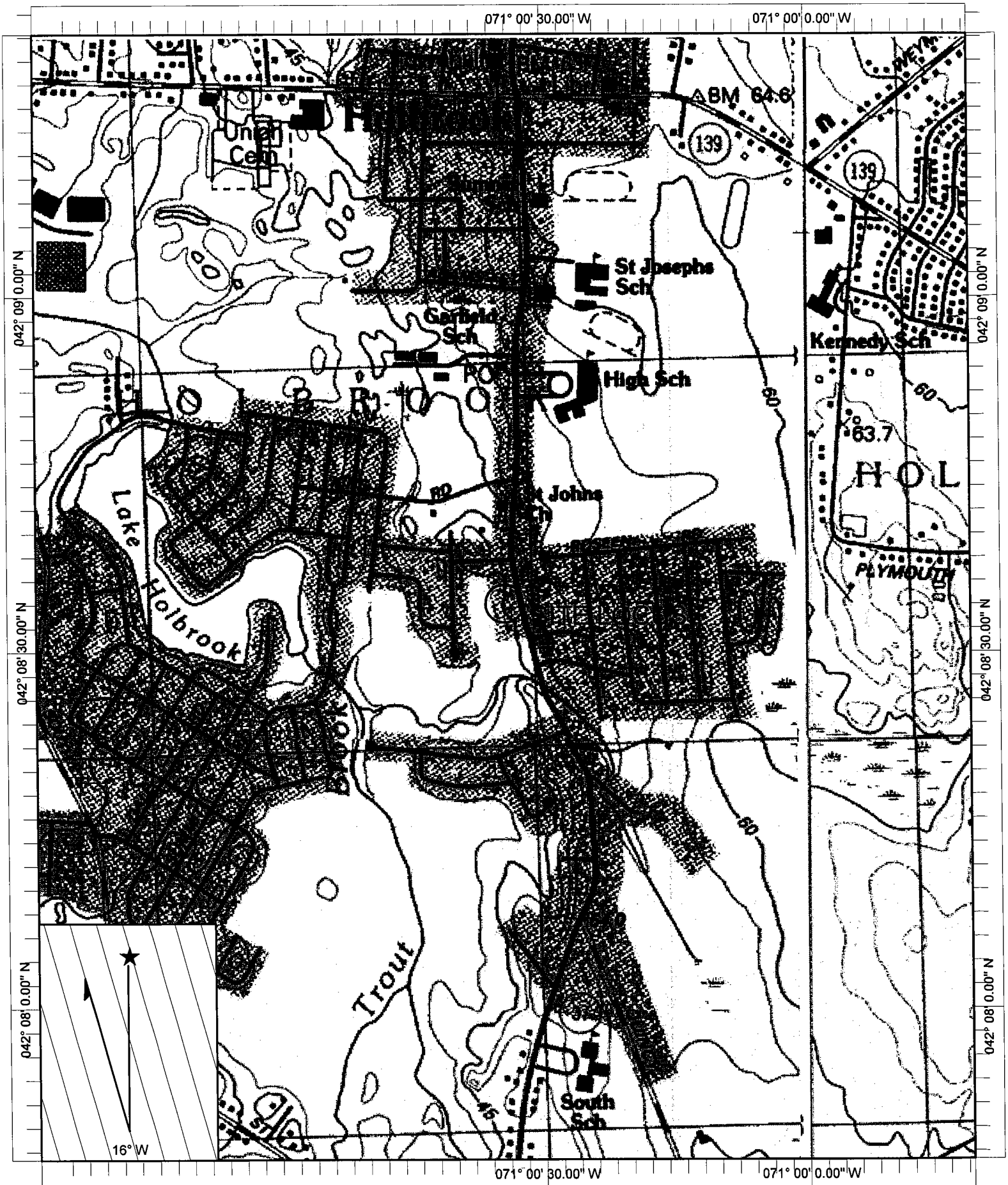
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name: United Service Station – Holbrook

Operator signature: Adam J. Last as an Agent of CCA

Title: Principal Engineer

Date: October 21, 2005



Name: NORWOOD
Date: 11/18/2004
Scale: 1 inch equals 1000 feet

Location: 042° 08' 34.8" N 071° 00' 34.5" W
Caption: FIGURE - 1
SITE LOCUS MAP
NOTE: 3 METER CONTOURS

MA DEP - Bureau of Waste Site Cleanup

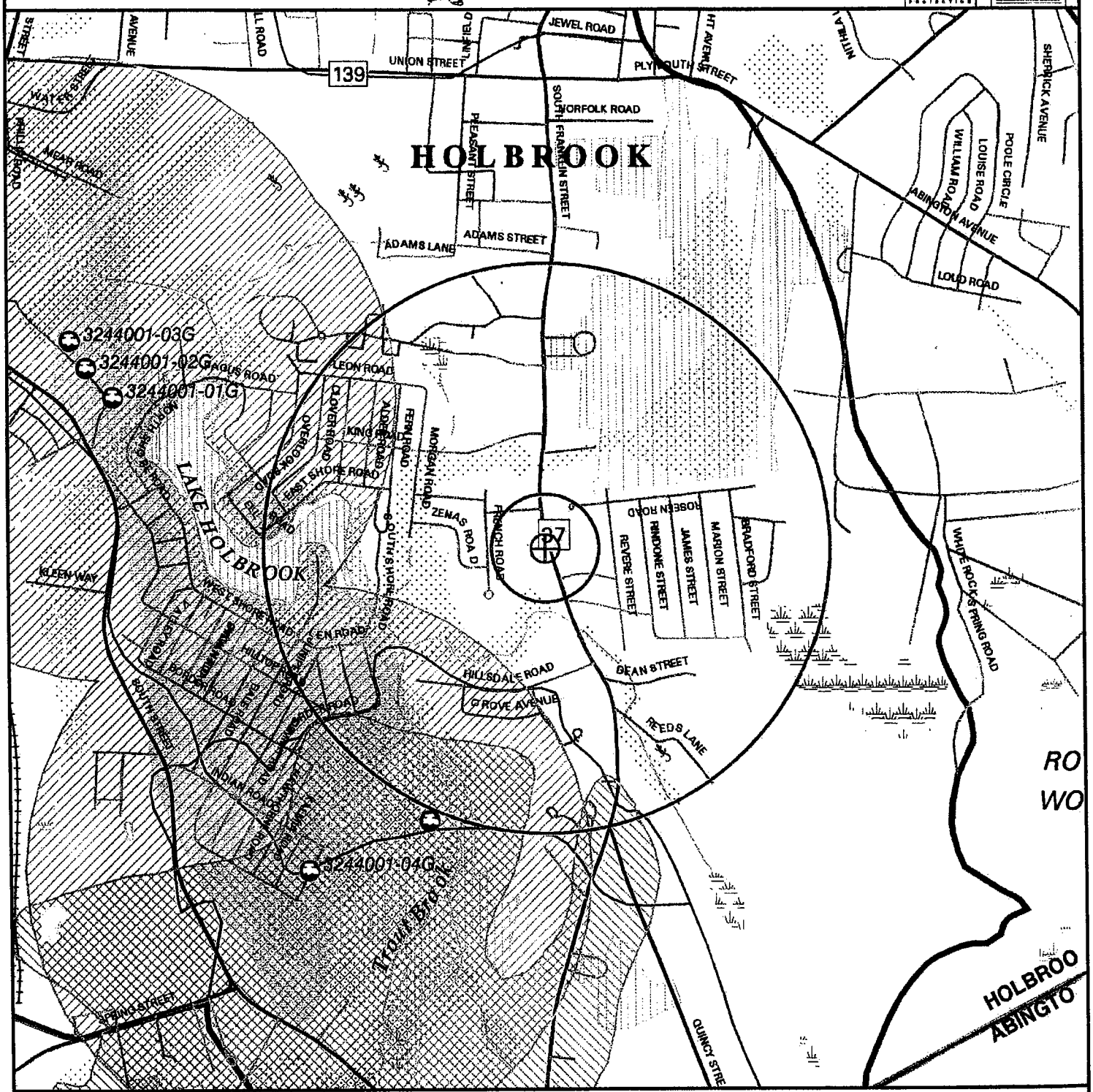
Site Scoring Map: 500 feet & 0.5 Mile Radii

SITE NAME:
United Service Station
400 South Franklin Street
HOLBROOK, MA 02343
877050n 240610ew

Site Location

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

MASS GIS — Massachusetts Geographic Information System
Massachusetts Executive Office of Environmental Affairs - 2004



Roads: Limited Access, Divided, Major Road, Connector, Street, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, Sub; Streams: Perennial, Intermittent, Man Made Shore, Dams
Potentially Productive Aquifers: Medium,High Yield .....
Non-Potential Drinking Water Source Area: Medium,High Yield

EPA Sole Source Aquifer; FEMA 100-year floodplain .....
Public Water Supplies: Ground,Surface,Non Community
Approved Zone2; IWPA; Surface Water Supply Zone A
Hydrography: Water Features,Public Surface Water Supply ...
Wetlands: Fresh,Salt,NHESP Wetlands Habitat .....
Protected Open Space; ACEC .....
DEP Permitted Solid Waste Facilities; Certified Vernal Pools ..

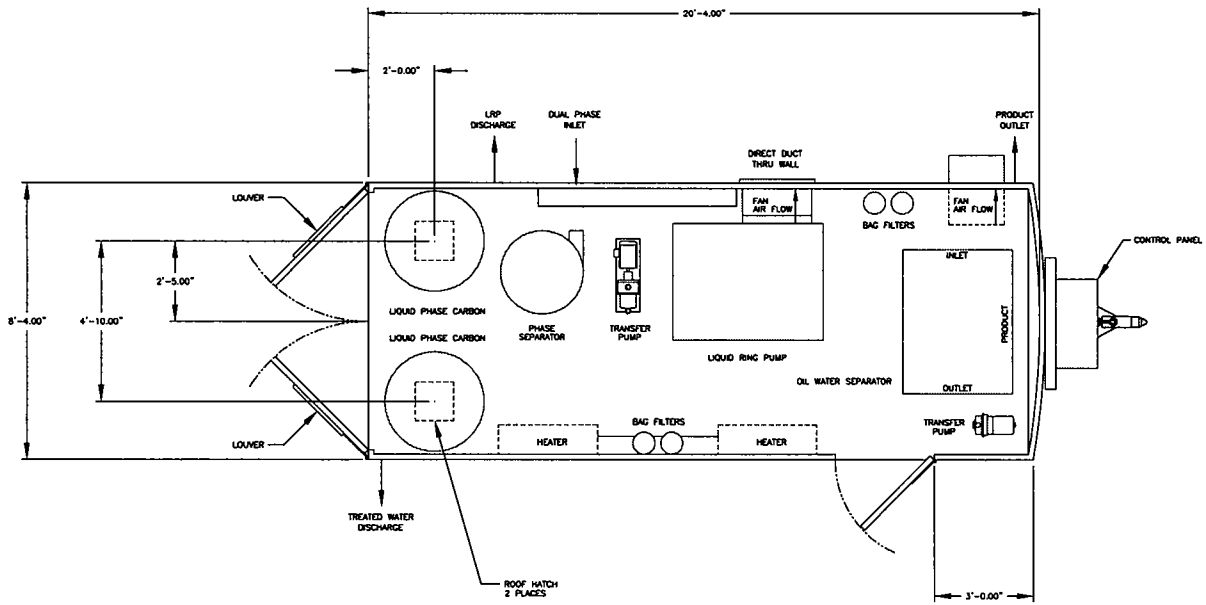
N W E S

SCALE 1:15000

0 1/2 0 1/2 MILES
0 KILOMETERS 1

November 19, 2004

REVISIONS			
REV	DESCRIPTION	DATE	APPR



BISCO Environmental
Soil & Groundwater Remediation Equipment
Randolph, Massachusetts 02368

DRWN BY	PRS
DATE	2/16/05
CHK BY	
DATE	
APPR BY	JEH
DATE	2/28/05

TITLE: DUAL PHASE EXTRACTION SYSTEM TRAILER LAYOUT

CEA, INC. UNITED SERVICE STATION - HOLBROOK, MA

JOB NO. 11926

SCALE	SIZE	DWG NO.	SHEET	REV
1"=30"	C	11926JHL	1 OF 1	

Report Date:
17-Oct-05 16:32

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

CEA, Inc.
127 Hartwell Street
West Boylston, MA 01583
Attn: Adam Last

Project: CK Smith - Holbrook MA
Project #: 3005-96-20

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA35667-01	INF	Ground Water	12-Oct-05 13:25	13-Oct-05 13:40

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. All applicable NELAC requirements have been met.
Please note that this report contains 18 pages of analytical data plus Chain of Custody document(s).
This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Massachusetts Certification # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538/2972
New York # 11393/11840
Rhode Island # 98
USDA # S-51435
Vermont # VT-11393

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method indicated. Please refer to our "Quality" webpage at www.spectrum-analytical.com for a full listing of our current certifications.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
INF SA35667-01	3005-96-20	Ground Water	12-Oct-05 13:25	13-Oct-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
Volatile Organic Compounds			Prepared by method SW846 5030 Water MS							
67-64-1	Acetone	BRL	10.0 µg/l	1	SW 846 8260B	17-Oct-05	17-Oct-05	5100979	KL	
71-43-2	Benzene	BRL	0.5 µg/l	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	BRL	0.5 µg/l	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	BRL	0.5 µg/l	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	BRL	0.5 µg/l	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	BRL	0.5 µg/l	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	BRL	0.5 µg/l	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	BRL	0.5 µg/l	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	BRL	0.5 µg/l	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	BRL	0.5 µg/l	1	"	"	"	"	"	
100-41-4	Ethylbenzene	11.7	0.5 µg/l	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	90.5	0.5 µg/l	1	"	"	"	"	"	
75-09-2	Methylene chloride	BRL	1.0 µg/l	1	"	"	"	"	"	
91-20-3	Naphthalene	13.0	1.0 µg/l	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	0.6	0.5 µg/l	1	"	"	"	"	"	
108-88-3	Toluene	9.5	0.5 µg/l	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL	0.5 µg/l	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	BRL	0.5 µg/l	1	"	"	"	"	"	
79-01-6	Trichloroethene	BRL	0.5 µg/l	1	"	"	"	"	"	
75-01-4	Vinyl chloride	BRL	0.5 µg/l	1	"	"	"	"	"	
1330-20-7	m,p-Xylene	85.3	1.0 µg/l	1	"	"	"	"	"	
95-47-6	o-Xylene	48.8	0.5 µg/l	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	2.8	1.0 µg/l	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	220	10.0 µg/l	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	BRL	20.0 µg/l	1	"	"	"	"	"	
Surrogate recoveries:										
460-00-4	*4-Bromofluorobenzene*	*101*	*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*101*	*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*112*	*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*106*	*70-130 %*		"	"	"	"	"	
Microextractable Organic Compounds										
106-93-4	1,2-Dibromoethane (EDB)	BRL	0.0100 µg/l	1	EPA 504.1	14-Oct-05	17-Oct-05	5100845	SM	
Extractable Petroleum Hydrocarbons										
	Non-polar material (SGT-HEM)	BRL	1.0 mg/l	1	EPA 1664	14-Oct-05	16-Oct-05	5100891	JK	
Semivolatile Organic Compounds by GC										
Polychlorinated Biphenyls by EPA 608			Prepared by method SW846 3535							
12674-11-2	PCB 1016	BRL	0.250 µg/l	1	EPA 608	14-Oct-05	15-Oct-05	5100843	KG	
11104-28-2	PCB 1221	BRL	0.250 µg/l	1	"	"	"	"	"	
11141-16-5	PCB 1232	BRL	0.250 µg/l	1	"	"	"	"	"	
53469-21-9	PCB 1242	BRL	0.250 µg/l	1	"	"	"	"	"	
12672-29-6	PCB 1248	BRL	0.250 µg/l	1	"	"	"	"	"	
11097-69-1	PCB 1254	BRL	0.250 µg/l	1	"	"	"	"	"	
11096-82-5	PCB 1260	BRL	0.250 µg/l	1	"	"	"	"	"	
37324-23-5	PCB 1262	BRL	0.250 µg/l	1	"	"	"	"	"	
11100-14-4	PCB 1268	BRL	0.250 µg/l	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
INF SA35667-01	3005-96-20	Ground Water	12-Oct-05 13:25	13-Oct-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Semivolatile Organic Compounds by GC										
Polychlorinated Biphenyls by EPA 608			Prepared by method SW846 3535							
Surrogate recoveries:										
10386-84-2	*4,4-DB-Octafluorobiphenyl (Sr)*	*60.0*	*30-150 %*		EPA 608	14-Oct-05	15-Oct-05	5100843	KG	
2051-24-3	*Decachlorobiphenyl (Sr)*	*75.2*	*30-150 %*		"	"	"	"	"	
Semivolatile Organic Compounds by GCMS										
Semivolatile Organic Compounds by EPA 625			Prepared by method SW846 3535							
83-32-9	Acenaphthene	BRL	1.00 µg/l	1	EPA 625	14-Oct-05	17-Oct-05	5100844	M.B	
208-96-8	Acenaphthylene	BRL	5.00 µg/l	1	"	"	"	"	"	
120-12-7	Anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
56-55-3	Benzo (a) anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
50-32-8	Benzo (a) pyrene	BRL	5.00 µg/l	1	"	"	"	"	"	
205-99-2	Benzo (b) fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	
191-24-2	Benzo (g,h,i) perylene	BRL	5.00 µg/l	1	"	"	"	"	"	
207-08-9	Benzo (k) fluoranthene	BRL	5.00 µg/l	1	"	"	"	"	"	
117-81-7	Bis(2-ethylhexyl)phthalate	BRL	5.00 µg/l	1	"	"	"	"	"	
85-68-7	Butyl benzyl phthalate	BRL	5.00 µg/l	1	"	"	"	"	"	
59-50-7	4-Chloro-3-methylphenol	BRL	1.00 µg/l	1	"	"	"	"	"	
95-57-8	2-Chlorophenol	BRL	1.00 µg/l	1	"	"	"	"	"	
218-01-9	Chrysene	BRL	5.00 µg/l	1	"	"	"	"	"	
53-70-3	Dibenzo (a,h) anthracene	BRL	5.00 µg/l	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	BRL	2.00 µg/l	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	BRL	2.00 µg/l	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	BRL	2.00 µg/l	1	"	"	"	"	"	
120-83-2	2,4-Dichlorophenol	BRL	1.00 µg/l	1	"	"	"	"	"	
84-66-2	Diethyl phthalate	BRL	5.00 µg/l	1	"	"	"	"	"	
131-11-3	Dimethyl phthalate	BRL	5.00 µg/l	1	"	"	"	"	"	
105-67-9	2,4-Dimethylphenol	BRL	1.00 µg/l	1	"	"	"	"	"	
84-74-2	Di-n-butyl phthalate	BRL	5.00 µg/l	1	"	"	"	"	"	
534-52-1	4,6-Dinitro-2-methylphenol	BRL	1.00 µg/l	1	"	"	"	"	"	
51-28-5	2,4-Dinitrophenol	BRL	1.00 µg/l	1	"	"	"	"	"	
117-84-0	Di-n-octyl phthalate	BRL	5.00 µg/l	1	"	"	"	"	"	
206-44-0	Fluoranthene	BRL	1.00 µg/l	1	"	"	"	"	"	
86-73-7	Fluorene	BRL	5.00 µg/l	1	"	"	"	"	"	
193-39-5	Indeno (1,2,3-cd) pyrene	BRL	5.00 µg/l	1	"	"	"	"	"	
78-59-1	Isophorone	BRL	5.00 µg/l	1	"	"	"	"	"	
91-57-6	2-Methylnaphthalene	BRL	5.00 µg/l	1	"	"	"	"	"	
95-48-7	2-Methylphenol	BRL	1.00 µg/l	1	"	"	"	"	"	
108-39-4,106-	3,4-Methylphenol	BRL	1.00 µg/l	1	"	"	"	"	"	
91-20-3	Naphthalene	BRL	2.00 µg/l	1	"	"	"	"	"	
88-75-5	2-Nitrophenol	BRL	1.00 µg/l	1	"	"	"	"	"	
100-02-7	4-Nitrophenol	BRL	1.00 µg/l	1	"	"	"	"	"	
87-86-5	Pentachlorophenol	BRL	1.00 µg/l	1	"	"	"	"	"	
85-01-8	Phenanthrene	BRL	5.00 µg/l	1	"	"	"	"	"	
108-95-2	Phenol	BRL	1.00 µg/l	1	"	"	"	"	"	
129-00-0	Pyrene	BRL	5.00 µg/l	1	"	"	"	"	"	
110-86-1	Pyridine	BRL	5.00 µg/l	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
INF SA35667-01	3005-96-20	Ground Water	12-Oct-05 13:25	13-Oct-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Semivolatile Organic Compounds by GCMS										
Semivolatile Organic Compounds by EPA 625			Prepared by method SW846 3535							
95-95-4	2,4,5-Trichlorophenol	BRL	1.00 µg/l	1	EPA 625	14-Oct-05	17-Oct-05	5100844	M,B	
88-06-2	2,4,6-Trichlorophenol	BRL	1.00 µg/l	1	"	"	"	"	"	
Surrogate recoveries:										
321-60-8	*2-Fluorobiphenyl*	*59.2*	*30-130 %*		"	"	"	"	"	
367-12-4	*2-Fluorophenol*	*57.0*	*15-110 %*		"	"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*51.2*	*30-130 %*		"	"	"	"	"	
4165-62-2	*Phenol-d5*	*49.4*	*15-110 %*		"	"	"	"	"	
1718-51-0	*Terphenyl-dl4*	*48.8*	*30-130 %*		"	"	"	"	"	
118-79-6	*2,4,6-Tribromophenol*	*55.4*	*15-110 %*		"	"	"	"	"	
Total Metals by EPA 200 Series Methods										
7440-22-4	Silver	BRL	0.0050 mg/l	1	EPA 200.7	14-Oct-05	17-Oct-05	5100812	RE	
7440-38-2	Arsenic	BRL	0.0040 mg/l	1	"	"	"	"	"	
7440-43-9	Cadmium	BRL	0.0012 mg/l	1	"	"	"	"	"	
7440-47-3	Chromium	0.0063	0.0025 mg/l	1	"	"	"	"	"	
7440-50-8	Copper	BRL	0.0025 mg/l	1	"	"	"	"	"	
7439-89-6	Iron	72.5	0.0025 mg/l	1	"	"	"	"	"	
7439-97-6	Mercury	BRL	0.00020 mg/l	1	EPA 245.2/7470A	"	17-Oct-05	5100814	YP	
7440-02-0	Nickel	BRL	0.0025 mg/l	1	EPA 200.7	"	17-Oct-05	5100812	RE	
7439-92-1	Lead	0.0086	0.0038 mg/l	1	"	"	"	"	"	
7440-36-0	Antimony	BRL	0.0060 mg/l	1	"	"	"	"	"	
7782-49-2	Selenium	BRL	0.0075 mg/l	1	"	"	"	"	"	
7440-66-6	Zinc	0.209	0.0100 mg/l	1	"	"	"	"	"	
General Chemistry Parameters										
1854-029-9	Hexavalent Chromium	BRL	0.010 mg/l	2	SM3500CrD/7196A	13-Oct-05 17:30	13-Oct-05	5100869	ES	
57-12-5	Cyanide (total)	BRL	0.0100 mg/l	1	10-204-00-1-A / SW-846 9012A	17-Oct-05	17-Oct-05	5101029	JAK	
7782-50-5	Total Residual Chlorine	BRL	0.500 mg/l	25	Hach 8167	13-Oct-05 18:30	13-Oct-05	5100872	ES	
	Total Suspended Solids	207	5.00 mg/l	1	SM2540D	14-Oct-05	17-Oct-05	5100937	EK	

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100979 - SW846 5030 Water MS										
Blank (5100979-BLK1)				Prepared & Analyzed: 17-Oct-05						
Acetone	BRL	10.0	µg/l							
Acrylonitrile	BRL	1.0	µg/l							
Benzene	BRL	0.5	µg/l							
Bromobenzene	BRL	1.0	µg/l							
Bromochloromethane	BRL	1.0	µg/l							
Bromodichloromethane	BRL	1.0	µg/l							
Bromoform	BRL	1.0	µg/l							
Bromomethane	BRL	2.0	µg/l							
2-Butanone (MEK)	BRL	10.0	µg/l							
n-Butylbenzene	BRL	1.0	µg/l							
sec-Butylbenzene	BRL	1.0	µg/l							
tert-Butylbenzene	BRL	1.0	µg/l							
Carbon disulfide	BRL	5.0	µg/l							
Carbon tetrachloride	BRL	0.5	µg/l							
Chlorobenzene	BRL	1.0	µg/l							
Chloroethane	BRL	2.0	µg/l							
Chloroform	BRL	1.0	µg/l							
Chloromethane	BRL	2.0	µg/l							
2-Chlorotoluene	BRL	1.0	µg/l							
4-Chlorotoluene	BRL	1.0	µg/l							
1,2-Dibromo-3-chloropropane	BRL	2.0	µg/l							
Dibromochloromethane	BRL	1.0	µg/l							
1,2-Dibromoethane (EDB)	BRL	1.0	µg/l							
Dibromomethane	BRL	1.0	µg/l							
1,2-Dichlorobenzene	BRL	0.5	µg/l							
1,3-Dichlorobenzene	BRL	0.5	µg/l							
1,4-Dichlorobenzene	BRL	0.5	µg/l							
Dichlorodifluoromethane (Freon12)	BRL	2.0	µg/l							
1,1-Dichloroethane	BRL	0.5	µg/l							
1,2-Dichloroethane	BRL	0.5	µg/l							
1,1-Dichloroethene	BRL	0.5	µg/l							
cis-1,2-Dichloroethene	BRL	0.5	µg/l							
trans-1,2-Dichloroethene	BRL	1.0	µg/l							
1,2-Dichloropropane	BRL	1.0	µg/l							
1,3-Dichloropropane	BRL	1.0	µg/l							
2,2-Dichloropropane	BRL	1.0	µg/l							
1,1-Dichloropropene	BRL	1.0	µg/l							
cis-1,3-Dichloropropene	BRL	1.0	µg/l							
trans-1,3-Dichloropropene	BRL	1.0	µg/l							
Ethylbenzene	BRL	0.5	µg/l							
Hexachlorobutadiene	BRL	1.0	µg/l							
2-Hexanone (MBK)	BRL	10.0	µg/l							
Isopropylbenzene	BRL	1.0	µg/l							
4-Isopropyltoluene	BRL	1.0	µg/l							
Methyl tert-butyl ether	BRL	0.5	µg/l							
4-Methyl-2-pentanone (MIBK)	BRL	10.0	µg/l							
Methylene chloride	1.0	1.0	µg/l							VOC3
Naphthalene	BRL	1.0	µg/l							
n-Propylbenzene	BRL	1.0	µg/l							
Styrene	BRL	1.0	µg/l							
1,1,1,2-Tetrachloroethane	BRL	1.0	µg/l							
1,1,2,2-Tetrachloroethane	BRL	1.0	µg/l							
Tetrachloroethene	BRL	0.5	µg/l							
Toluene	BRL	0.5	µg/l							

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100979 - SW846 5030 Water MS										
Blank (5100979-BLK1)				Prepared & Analyzed: 17-Oct-05						
1,2,3-Trichlorobenzene	BRL	1.0	µg/l							
1,2,4-Trichlorobenzene	BRL	1.0	µg/l							
1,1,1-Trichloroethane	BRL	0.5	µg/l							
1,1,2-Trichloroethane	BRL	0.5	µg/l							
Trichloroethene	BRL	0.5	µg/l							
Trichlorofluoromethane (Freon 11)	BRL	1.0	µg/l							
1,2,3-Trichloropropane	BRL	1.0	µg/l							
1,2,4-Trimethylbenzene	BRL	1.0	µg/l							
1,3,5-Trimethylbenzene	BRL	1.0	µg/l							
Vinyl chloride	BRL	0.5	µg/l							
m,p-Xylene	BRL	1.0	µg/l							
o-Xylene	BRL	0.5	µg/l							
Tetrahydrofuran	BRL	10.0	µg/l							
Ethyl ether	BRL	1.0	µg/l							
Tert-amyl methyl ether	BRL	1.0	µg/l							
Ethyl tert-butyl ether	BRL	1.0	µg/l							
Di-isopropyl ether	BRL	1.0	µg/l							
Tert-Butanol / butyl alcohol	BRL	10.0	µg/l							
1,4-Dioxane	BRL	20.0	µg/l							
Surrogate: 4-Bromofluorobenzene	*47.9*		µg/l	*50.0*		*95.8*	*70-130*			
Surrogate: Toluene-d8	*51.3*		µg/l	*50.0*		*103*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*54.8*		µg/l	*50.0*		*110*	*70-130*			
Surrogate: Dibromofluoromethane	*52.2*		µg/l	*50.0*		*104*	*70-130*			
LCS (5100979-BS1)				Prepared & Analyzed: 17-Oct-05						
Acetone	21.4		µg/l	20.0		107	2.17-194			
Acrylonitrile	22.2		µg/l	20.0		111	70-130			
Benzene	20.3		µg/l	20.0		102	70-130			
Bromobenzene	20.6		µg/l	20.0		103	70-130			
Bromochloromethane	22.0		µg/l	20.0		110	70-130			
Bromodichloromethane	21.6		µg/l	20.0		108	70-130			
Bromoform	24.0		µg/l	20.0		120	70-130			
Bromomethane	20.7		µg/l	20.0		104	61.9-145			
2-Butanone (MEK)	20.2		µg/l	20.0		101	14.9-165			
n-Butylbenzene	19.9		µg/l	20.0		99.5	70-130			
sec-Butylbenzene	21.7		µg/l	20.0		108	70-130			
tert-Butylbenzene	21.6		µg/l	20.0		108	70-130			
Carbon disulfide	19.4		µg/l	20.0		97.0	70-130			
Carbon tetrachloride	20.6		µg/l	20.0		103	70-130			
Chlorobenzene	20.3		µg/l	20.0		102	70-130			
Chloroethane	21.4		µg/l	20.0		107	64.4-134			
Chloroform	21.7		µg/l	20.0		108	70-130			
Chloromethane	24.8		µg/l	20.0		124	70-130			
2-Chlorotoluene	19.2		µg/l	20.0		96.0	70-130			
4-Chlorotoluene	20.8		µg/l	20.0		104	70-130			
1,2-Dibromo-3-chloropropane	25.7		µg/l	20.0		128	70-130			
Dibromochloromethane	20.5		µg/l	20.0		102	45.3-146			
1,2-Dibromoethane (EDB)	21.9		µg/l	20.0		110	70-130			
Dibromomethane	21.8		µg/l	20.0		109	70-130			
1,2-Dichlorobenzene	20.8		µg/l	20.0		104	70-130			
1,3-Dichlorobenzene	21.1		µg/l	20.0		106	70-130			
1,4-Dichlorobenzene	19.9		µg/l	20.0		99.5	70-130			
Dichlorodifluoromethane (Freon12)	27.2		µg/l	20.0		136	49.6-201			
1,1-Dichloroethane	21.2		µg/l	20.0		106	70-130			
1,2-Dichloroethane	21.8		µg/l	20.0		109	70-130			

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100979 - SW846 5030 Water MS										
LCS (5100979-BS1)				Prepared & Analyzed: 17-Oct-05						
1,1-Dichloroethene	20.4		µg/l	20.0		102	70-130			
cis-1,2-Dichloroethene	21.4		µg/l	20.0		107	70-130			
trans-1,2-Dichloroethene	20.1		µg/l	20.0		100	70-130			
1,2-Dichloropropane	20.9		µg/l	20.0		104	70-130			
1,3-Dichloropropane	21.0		µg/l	20.0		105	70-130			
2,2-Dichloropropane	18.6		µg/l	20.0		93.0	70-130			
1,1-Dichloropropene	20.0		µg/l	20.0		100	70-130			
cis-1,3-Dichloropropene	19.5		µg/l	20.0		97.5	70-130			
trans-1,3-Dichloropropene	20.9		µg/l	20.0		104	70-130			
Ethylbenzene	20.5		µg/l	20.0		102	70-130			
Hexachlorobutadiene	19.0		µg/l	20.0		95.0	68.6-137			
2-Hexanone (MBK)	21.7		µg/l	20.0		108	70-130			
Isopropylbenzene	19.8		µg/l	20.0		99.0	70-130			
4-Isopropyltoluene	21.0		µg/l	20.0		105	70-130			
Methyl tert-butyl ether	22.1		µg/l	20.0		110	70-130			
4-Methyl-2-pentanone (MIBK)	21.0		µg/l	20.0		105	48.6-137			
Methylene chloride	20.5		µg/l	20.0		102	70-130			
Naphthalene	21.9		µg/l	20.0		110	70-130			
n-Propylbenzene	20.0		µg/l	20.0		100	70-130			
Styrene	21.8		µg/l	20.0		109	70-130			
1,1,1,2-Tetrachloroethane	21.1		µg/l	20.0		106	70-130			
1,1,2,2-Tetrachloroethane	22.3		µg/l	20.0		112	70-130			
Tetrachloroethene	19.8		µg/l	20.0		99.0	70-130			
Toluene	19.8		µg/l	20.0		99.0	70-130			
1,2,3-Trichlorobenzene	20.7		µg/l	20.0		104	70-130			
1,2,4-Trichlorobenzene	20.0		µg/l	20.0		100	70-130			
1,1,1-Trichloroethane	20.8		µg/l	20.0		104	70-130			
1,1,2-Trichloroethane	21.6		µg/l	20.0		108	70-130			
Trichloroethene	20.0		µg/l	20.0		100	70-130			
Trichlorofluoromethane (Freon 11)	22.7		µg/l	20.0		114	67.9-143			
1,2,3-Trichloropropane	22.1		µg/l	20.0		110	70-130			
1,2,4-Trimethylbenzene	21.6		µg/l	20.0		108	70-130			
1,3,5-Trimethylbenzene	21.2		µg/l	20.0		106	70-130			
Vinyl chloride	27.9		µg/l	20.0		140	70-130			QC-2
m,p-Xylene	41.1		µg/l	40.0		103	70-130			
o-Xylene	21.2		µg/l	20.0		106	70-130			
Tetrahydrofuran	21.0		µg/l	20.0		105	70-130			
Ethyl ether	22.0		µg/l	20.0		110	70-136			
Tert-amyl methyl ether	20.2		µg/l	20.0		101	70-130			
Ethyl tert-butyl ether	22.7		µg/l	20.0		114	70-130			
Di-isopropyl ether	21.9		µg/l	20.0		110	70-130			
Tert-Butanol / butyl alcohol	208		µg/l	200		104	70-130			
1,4-Dioxane	217		µg/l	200		108	36.5-156			
Surrogate: 4-Bromofluorobenzene	*50.5*		µg/l	*50.0*		*101*	*70-130*			
Surrogate: Toluene-d8	*50.4*		µg/l	*50.0*		*101*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.0*		µg/l	*50.0*		*106*	*70-130*			
Surrogate: Dibromofluoromethane	*50.8*		µg/l	*50.0*		*102*	*70-130*			
LCS Dup (5100979-BSD1)				Prepared & Analyzed: 17-Oct-05						
Acetone	19.8		µg/l	20.0		99.0	2.17-194	7.77	50	
Acrylonitrile	20.1		µg/l	20.0		100	70-130	10.4	25	
Benzene	20.2		µg/l	20.0		101	70-130	0.985	25	
Bromobenzene	20.0		µg/l	20.0		100	70-130	2.96	25	
Bromochloromethane	21.9		µg/l	20.0		110	70-130	0.00	25	
Bromodichloromethane	21.6		µg/l	20.0		108	70-130	0.00	25	

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100979 - SW846 5030 Water MS										
LCS Dup (5100979-BSD1)				Prepared & Analyzed: 17-Oct-05						
Bromoform	23.5		µg/l	20.0		118	70-130	1.68	25	
Bromomethane	17.9		µg/l	20.0		89.5	61.9-145	15.0	50	
2-Butanone (MEK)	19.1		µg/l	20.0		95.5	14.9-165	5.60	50	
n-Butylbenzene	19.8		µg/l	20.0		99.0	70-130	0.504	25	
sec-Butylbenzene	21.3		µg/l	20.0		106	70-130	1.87	25	
tert-Butylbenzene	21.1		µg/l	20.0		106	70-130	1.87	25	
Carbon disulfide	20.3		µg/l	20.0		102	70-130	5.03	25	
Carbon tetrachloride	21.2		µg/l	20.0		106	70-130	2.87	25	
Chlorobenzene	19.7		µg/l	20.0		98.5	70-130	3.49	25	
Chloroethane	20.5		µg/l	20.0		102	64.4-134	4.78	50	
Chloroform	21.6		µg/l	20.0		108	70-130	0.00	25	
Chloromethane	24.9		µg/l	20.0		124	70-130	0.00	25	
2-Chlorotoluene	18.9		µg/l	20.0		94.5	70-130	1.57	25	
4-Chlorotoluene	20.1		µg/l	20.0		100	70-130	3.92	25	
1,2-Dibromo-3-chloropropane	24.8		µg/l	20.0		124	70-130	3.17	25	
Dibromochloromethane	20.2		µg/l	20.0		101	45.3-146	0.985	50	
1,2-Dibromoethane (EDB)	20.3		µg/l	20.0		102	70-130	7.55	25	
Dibromomethane	21.2		µg/l	20.0		106	70-130	2.79	25	
1,2-Dichlorobenzene	19.8		µg/l	20.0		99.0	70-130	4.93	25	
1,3-Dichlorobenzene	20.6		µg/l	20.0		103	70-130	2.87	25	
1,4-Dichlorobenzene	19.4		µg/l	20.0		97.0	70-130	2.54	25	
Dichlorodifluoromethane (Freon12)	26.7		µg/l	20.0		134	49.6-201	1.48	50	
1,1-Dichloroethane	21.2		µg/l	20.0		106	70-130	0.00	25	
1,2-Dichloroethane	21.6		µg/l	20.0		108	70-130	0.922	25	
1,1-Dichloroethene	19.6		µg/l	20.0		98.0	70-130	4.00	25	
cis-1,2-Dichloroethene	21.5		µg/l	20.0		108	70-130	0.930	25	
trans-1,2-Dichloroethene	19.8		µg/l	20.0		99.0	70-130	1.01	25	
1,2-Dichloropropane	21.0		µg/l	20.0		105	70-130	0.957	25	
1,3-Dichloropropane	19.6		µg/l	20.0		98.0	70-130	6.90	25	
2,2-Dichloropropane	20.2		µg/l	20.0		101	70-130	8.25	25	
1,1-Dichloropropene	20.4		µg/l	20.0		102	70-130	1.98	25	
cis-1,3-Dichloropropene	19.8		µg/l	20.0		99.0	70-130	1.53	25	
trans-1,3-Dichloropropene	20.5		µg/l	20.0		102	70-130	1.94	25	
Ethylbenzene	20.3		µg/l	20.0		102	70-130	0.00	25	
Hexachlorobutadiene	19.2		µg/l	20.0		96.0	68.6-137	1.05	50	
2-Hexanone (MBK)	18.7		µg/l	20.0		93.5	70-130	14.4	25	
Isopropylbenzene	19.8		µg/l	20.0		99.0	70-130	0.00	25	
4-Isopropyltoluene	21.0		µg/l	20.0		105	70-130	0.00	25	
Methyl tert-butyl ether	21.3		µg/l	20.0		106	70-130	3.70	25	
4-Methyl-2-pentanone (MIBK)	18.5		µg/l	20.0		92.5	48.6-137	12.7	50	
Methylene chloride	20.0		µg/l	20.0		100	70-130	1.98	25	
Naphthalene	19.6		µg/l	20.0		98.0	70-130	11.5	25	
n-Propylbenzene	20.3		µg/l	20.0		102	70-130	1.98	25	
Styrene	19.4		µg/l	20.0		97.0	70-130	11.7	25	
1,1,1,2-Tetrachloroethane	21.8		µg/l	20.0		109	70-130	2.79	25	
1,1,2,2-Tetrachloroethane	21.6		µg/l	20.0		108	70-130	3.64	25	
Tetrachloroethene	18.5		µg/l	20.0		92.5	70-130	6.79	25	
Toluene	19.1		µg/l	20.0		95.5	70-130	3.60	25	
1,2,3-Trichlorobenzene	19.4		µg/l	20.0		97.0	70-130	6.97	25	
1,2,4-Trichlorobenzene	19.0		µg/l	20.0		95.0	70-130	5.13	25	
1,1,1-Trichloroethane	21.1		µg/l	20.0		106	70-130	1.90	25	
1,1,2-Trichloroethane	20.7		µg/l	20.0		104	70-130	3.77	25	
Trichloroethene	19.2		µg/l	20.0		96.0	70-130	4.08	25	
Trichlorofluoromethane (Freon 11)	22.8		µg/l	20.0		114	67.9-143	0.00	50	

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100979 - SW846 5030 Water MS										
LCS Dup (5100979-BSD1)				Prepared & Analyzed: 17-Oct-05						
1,2,3-Trichloropropane	20.5		µg/l	20.0		102	70-130	7.55	25	
1,2,4-Trimethylbenzene	21.6		µg/l	20.0		108	70-130	0.00	25	
1,3,5-Trimethylbenzene	20.9		µg/l	20.0		104	70-130	1.90	25	
Vinyl chloride	28.8		µg/l	20.0		144	70-130	2.82	25	QC-2
m,p-Xylene	40.1		µg/l	40.0		100	70-130	2.96	25	
o-Xylene	21.8		µg/l	20.0		109	70-130	2.79	25	
Tetrahydrofuran	19.6		µg/l	20.0		98.0	70-130	6.90	25	
Ethyl ether	21.2		µg/l	20.0		106	70-136	3.70	50	
Tert-amyl methyl ether	20.0		µg/l	20.0		100	70-130	0.995	25	
Ethyl tert-butyl ether	22.1		µg/l	20.0		110	70-130	3.57	25	
Di-isopropyl ether	21.2		µg/l	20.0		106	70-130	3.70	25	
Tert-Butanol / butyl alcohol	184		µg/l	200		92.0	70-130	12.2	25	
1,4-Dioxane	203		µg/l	200		102	36.5-156	5.71	25	
Surrogate: 4-Bromofluorobenzene	*49.9*		µg/l	*50.0*		*99.8*	*70-130*			
Surrogate: Toluene-d8	*49.3*		µg/l	*50.0*		*98.6*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*53.2*		µg/l	*50.0*		*106*	*70-130*			
Surrogate: Dibromofluoromethane	*51.6*		µg/l	*50.0*		*103*	*70-130*			

Microextractable Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100845 - Microextr. by 504.1										
Blank (5100845-BLK1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
1,2-Dibromoethane (EDB)	BRL	0.0100	µg/l							
LCS (5100845-BS1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
1,2-Dibromoethane (EDB)	0.200	0.0100	µg/l	0.200		100	50-150			
Duplicate (5100845-DUP1)		**Source: SA35665-02**		Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
1,2-Dibromoethane (EDB)	BRL	0.0100	µg/l		BRL				30	

Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100891 - SW846 3510C										
Blank (5100891-BLK1)				Prepared: 14-Oct-05 Analyzed: 16-Oct-05						
Non-polar material (SGT-HEM)	BRL	1.0	mg/l							
LCS (5100891-BS1)				Prepared: 14-Oct-05 Analyzed: 16-Oct-05						
Non-polar material (SGT-HEM)	29.7		mg/l	33.0		90.0	0-200			

Semivolatile Organic Compounds by GC - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100843 - SW846 3535										
Blank (5100843-BLK1)				Prepared: 14-Oct-05 Analyzed: 15-Oct-05						
PCB 1016	BRL	0.200	µg/l							
PCB 1221	BRL	0.200	µg/l							
PCB 1232	BRL	0.200	µg/l							
PCB 1242	BRL	0.200	µg/l							
PCB 1248	BRL	0.200	µg/l							
PCB 1254	BRL	0.200	µg/l							
PCB 1260	BRL	0.200	µg/l							
PCB 1262	BRL	0.200	µg/l							
PCB 1268	BRL	0.200	µg/l							
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.120*		µg/l	*0.200*		*60.0*	*30-150*			
Surrogate: Decachlorobiphenyl (Sr)	*0.140*		µg/l	*0.200*		*70.0*	*30-150*			
LCS (5100843-BS1)				Prepared: 14-Oct-05 Analyzed: 15-Oct-05						
PCB 1016	1.51	0.200	µg/l	2.50		60.4	40-140			
PCB 1260	1.58	0.200	µg/l	2.50		63.2	40-140			
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.110*		µg/l	*0.200*		*55.0*	*30-150*			
Surrogate: Decachlorobiphenyl (Sr)	*0.120*		µg/l	*0.200*		*60.0*	*30-150*			

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100844 - SW846 3535										
Blank (5100844-BLK1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Acenaphthene	BRL	1.00	µg/l							
Acenaphthylene	BRL	5.00	µg/l							
Aniline	BRL	5.00	µg/l							
Anthracene	BRL	5.00	µg/l							
Azobenzene/Diphenyldiazine	BRL	5.00	µg/l							
Benzidine	BRL	5.00	µg/l							
Benzo (a) anthracene	BRL	5.00	µg/l							
Benzo (a) pyrene	BRL	5.00	µg/l							
Benzo (b) fluoranthene	BRL	5.00	µg/l							
Benzo (g,h,i) perylene	BRL	5.00	µg/l							
Benzo (k) fluoranthene	BRL	5.00	µg/l							
Benzoic acid	BRL	5.00	µg/l							
Benzyl alcohol	BRL	5.00	µg/l							
Bis(2-chloroethoxy)methane	BRL	5.00	µg/l							
Bis(2-chloroethyl)ether	BRL	5.00	µg/l							
Bis(2-chloroisopropyl)ether	BRL	5.00	µg/l							
Bis(2-ethylhexyl)phthalate	BRL	5.00	µg/l							
4-Bromophenyl phenyl ether	BRL	5.00	µg/l							
Butyl benzyl phthalate	BRL	5.00	µg/l							
Carbazole	BRL	5.00	µg/l							
4-Chloro-3-methylphenol	BRL	1.00	µg/l							
4-Chloroaniline	BRL	5.00	µg/l							
2-Chloronaphthalene	BRL	5.00	µg/l							
2-Chlorophenol	BRL	1.00	µg/l							
4-Chlorophenyl phenyl ether	BRL	5.00	µg/l							
Chrysene	BRL	5.00	µg/l							
Dibenzo (a,h) anthracene	BRL	5.00	µg/l							
Dibenzofuran	BRL	5.00	µg/l							
1,2-Dichlorobenzene	BRL	2.00	µg/l							
1,3-Dichlorobenzene	BRL	2.00	µg/l							
1,4-Dichlorobenzene	BRL	2.00	µg/l							
3,3'-Dichlorobenzidine	BRL	5.00	µg/l							
2,4-Dichlorophenol	BRL	1.00	µg/l							
Diethyl phthalate	BRL	5.00	µg/l							
Dimethyl phthalate	BRL	5.00	µg/l							
2,4-Dimethylphenol	BRL	1.00	µg/l							
Di-n-butyl phthalate	BRL	5.00	µg/l							
4,6-Dinitro-2-methylphenol	BRL	1.00	µg/l							
2,4-Dinitrophenol	BRL	1.00	µg/l							
2,4-Dinitrotoluene	BRL	5.00	µg/l							
2,6-Dinitrotoluene	BRL	5.00	µg/l							
Di-n-octyl phthalate	BRL	5.00	µg/l							
Fluoranthene	BRL	1.00	µg/l							
Fluorene	BRL	5.00	µg/l							
Hexachlorobenzene	BRL	5.00	µg/l							
Hexachlorobutadiene	BRL	5.00	µg/l							
Hexachlorocyclopentadiene	BRL	5.00	µg/l							
Hexachloroethane	BRL	5.00	µg/l							
Indeno (1,2,3-cd) pyrene	BRL	5.00	µg/l							
Isophorone	BRL	5.00	µg/l							
2-Methylnaphthalene	BRL	5.00	µg/l							
2-Methylphenol	BRL	1.00	µg/l							
3,4-Methylphenol	BRL	1.00	µg/l							
Naphthalene	BRL	2.00	µg/l							

Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100844 - SW846 3535										
Blank (5100844-BLK1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
2-Nitroaniline	BRL	5.00	µg/l							
3-Nitroaniline	BRL	5.00	µg/l							
4-Nitroaniline	BRL	5.00	µg/l							
Nitrobenzene	BRL	5.00	µg/l							
2-Nitrophenol	BRL	1.00	µg/l							
4-Nitrophenol	BRL	1.00	µg/l							
N-Nitrosodimethylamine	BRL	5.00	µg/l							
N-Nitrosodi-n-propylamine	BRL	5.00	µg/l							
N-Nitrosodiphenylamine	BRL	5.00	µg/l							
Pentachlorophenol	BRL	1.00	µg/l							
Phenanthrene	BRL	5.00	µg/l							
Phenol	BRL	1.00	µg/l							
Pyrene	BRL	5.00	µg/l							
Pyridine	BRL	5.00	µg/l							
1,2,4-Trichlorobenzene	BRL	5.00	µg/l							
2,4,5-Trichlorophenol	BRL	1.00	µg/l							
2,4,6-Trichlorophenol	BRL	1.00	µg/l							
Surrogate: 2-Fluorobiphenyl	*9.77*		µg/l	*25.0*		*39.1*	*30-130*			
Surrogate: 2-Fluorophenol	*9.39*		µg/l	*25.0*		*37.6*	*15-110*			
Surrogate: Nitrobenzene-d5	*8.31*		µg/l	*25.0*		*33.2*	*30-130*			
Surrogate: Phenol-d5	*7.46*		µg/l	*25.0*		*29.8*	*15-110*			
Surrogate: Terphenyl-dl4	*8.59*		µg/l	*25.0*		*34.4*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*8.87*		µg/l	*25.0*		*35.5*	*15-110*			
LCS (5100844-BS1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Acenaphthene	53.2	1.00	µg/l	100		53.2	40-140			
Acenaphthylene	52.0	5.00	µg/l	100		52.0	40-140			
Aniline	83.9	5.00	µg/l	100		83.9	40-140			
Anthracene	54.3	5.00	µg/l	100		54.3	40-140			
Azobenzene/Diphenyldiazine	52.4	5.00	µg/l	100		52.4	40-140			
Benzidine	10.6	5.00	µg/l	100		10.6	40-140			QC-1
Benzo (a) anthracene	57.9	5.00	µg/l	100		57.9	40-140			
Benzo (a) pyrene	59.2	5.00	µg/l	100		59.2	40-140			
Benzo (b) fluoranthene	59.9	5.00	µg/l	100		59.9	40-140			
Benzo (g,h,i) perylene	52.2	5.00	µg/l	100		52.2	40-140			
Benzo (k) fluoranthene	57.8	5.00	µg/l	100		57.8	40-140			
Benzoic acid	71.8	5.00	µg/l	100		71.8	30-130			
Benzyl alcohol	70.2	5.00	µg/l	100		70.2	40-140			
Bis(2-chloroethoxy)methane	50.4	5.00	µg/l	100		50.4	40-140			
Bis(2-chloroethyl)ether	50.9	5.00	µg/l	100		50.9	40-140			
Bis(2-chloroisopropyl)ether	63.0	5.00	µg/l	100		63.0	40-140			
Bis(2-ethylhexyl)phthalate	51.7	5.00	µg/l	100		51.7	40-140			
4-Bromophenyl phenyl ether	56.2	5.00	µg/l	100		56.2	40-140			
Butyl benzyl phthalate	52.0	5.00	µg/l	100		52.0	40-140			
Carbazole	54.2	5.00	µg/l	100		54.2	0-200			
4-Chloro-3-methylphenol	68.5	1.00	µg/l	100		68.5	30-130			
4-Chloroaniline	43.0	5.00	µg/l	100		43.0	40-140			
2-Chloronaphthalene	49.8	5.00	µg/l	100		49.8	40-140			
2-Chlorophenol	66.8	1.00	µg/l	100		66.8	30-130			
4-Chlorophenyl phenyl ether	55.6	5.00	µg/l	100		55.6	40-140			
Chrysene	56.0	5.00	µg/l	100		56.0	40-140			
Dibenzo (a,h) anthracene	58.6	5.00	µg/l	100		58.6	40-140			
Dibenzofuran	54.4	5.00	µg/l	100		54.4	40-140			
1,2-Dichlorobenzene	58.6	2.00	µg/l	100		58.6	40-140			
1,3-Dichlorobenzene	56.0	2.00	µg/l	100		56.0	40-140			

Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100844 - SW846 3535										
LCS (5100844-BS1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
1,4-Dichlorobenzene	62.1	2.00	µg/l	100		62.1	40-140			
3,3'-Dichlorobenzidine	60.8	5.00	µg/l	100		60.8	40-140			
2,4-Dichlorophenol	55.5	1.00	µg/l	100		55.5	30-130			
Diethyl phthalate	59.6	5.00	µg/l	100		59.6	40-140			
Dimethyl phthalate	59.2	5.00	µg/l	100		59.2	40-140			
2,4-Dimethylphenol	52.6	1.00	µg/l	100		52.6	30-130			
Di-n-butyl phthalate	53.8	5.00	µg/l	100		53.8	40-140			
4,6-Dinitro-2-methylphenol	71.5	1.00	µg/l	100		71.5	30-130			
2,4-Dinitrophenol	90.8	1.00	µg/l	100		90.8	30-130			
2,4-Dinitrotoluene	71.4	5.00	µg/l	100		71.4	40-140			
2,6-Dinitrotoluene	69.5	5.00	µg/l	100		69.5	40-140			
Di-n-octyl phthalate	52.6	5.00	µg/l	100		52.6	40-140			
Fluoranthene	59.6	1.00	µg/l	100		59.6	40-140			
Fluorene	55.7	5.00	µg/l	100		55.7	40-140			
Hexachlorobenzene	56.6	5.00	µg/l	100		56.6	40-140			
Hexachlorobutadiene	41.3	5.00	µg/l	100		41.3	40-140			
Hexachlorocyclopentadiene	15.2	5.00	µg/l	100		15.2	40-140			QC-1
Hexachloroethane	57.4	5.00	µg/l	100		57.4	40-140			
Indeno (1,2,3-cd) pyrene	55.5	5.00	µg/l	100		55.5	40-140			
Isophorone	53.8	5.00	µg/l	100		53.8	40-140			
2-Methylnaphthalene	50.4	5.00	µg/l	100		50.4	40-140			
2-Methylphenol	72.0	1.00	µg/l	100		72.0	40-140			
3,4-Methylphenol	63.3	1.00	µg/l	100		63.3	40-140			
Naphthalene	45.7	2.00	µg/l	100		45.7	40-140			
2-Nitroaniline	66.0	5.00	µg/l	100		66.0	40-140			
3-Nitroaniline	64.2	5.00	µg/l	100		64.2	40-140			
4-Nitroaniline	70.2	5.00	µg/l	100		70.2	40-140			
Nitrobenzene	44.6	5.00	µg/l	100		44.6	40-140			
2-Nitrophenol	52.7	1.00	µg/l	100		52.7	30-130			
4-Nitrophenol	52.0	1.00	µg/l	100		52.0	30-130			
N-Nitrosodimethylamine	52.2	5.00	µg/l	100		52.2	40-140			
N-Nitrosodi-n-propylamine	74.3	5.00	µg/l	100		74.3	40-140			
N-Nitrosodiphenylamine	59.3	5.00	µg/l	100		59.3	40-140			
Pentachlorophenol	78.6	1.00	µg/l	100		78.6	30-130			
Phenanthrene	53.9	5.00	µg/l	100		53.9	40-140			
Phenol	69.5	1.00	µg/l	100		69.5	30-130			
Pyrene	46.8	5.00	µg/l	100		46.8	40-140			
Pyridine	50.3	5.00	µg/l	100		50.3	40-140			
1,2,4-Trichlorobenzene	42.8	5.00	µg/l	100		42.8	40-140			
2,4,5-Trichlorophenol	60.1	1.00	µg/l	100		60.1	30-130			
2,4,6-Trichlorophenol	56.9	1.00	µg/l	100		56.9	30-130			
Surrogate: 2-Fluorobiphenyl	*48.4*		µg/l	*100*		*48.4*	*30-130*			
Surrogate: 2-Fluorophenol	*60.8*		µg/l	*100*		*60.8*	*15-110*			
Surrogate: Nitrobenzene-d5	*44.6*		µg/l	*100*		*44.6*	*30-130*			
Surrogate: Phenol-d5	*54.6*		µg/l	*100*		*54.6*	*15-110*			
Surrogate: Terphenyl-dl4	*48.2*		µg/l	*100*		*48.2*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*66.0*		µg/l	*100*		*66.0*	*15-110*			

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100812 - EPA 200 Series										
Blank (5100812-BLK1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Nickel	BRL	0.0025	mg/l							
Iron	BRL	0.0700	mg/l							
Zinc	BRL	0.0100	mg/l							
Selenium	BRL	0.0075	mg/l							
Antimony	BRL	0.0060	mg/l							
Lead	BRL	0.0038	mg/l							
Silver	BRL	0.0050	mg/l							
Arsenic	BRL	0.0040	mg/l							
Chromium	BRL	0.0025	mg/l							
Cadmium	BRL	0.0012	mg/l							
Copper	BRL	0.0025	mg/l							
LCS (5100812-BS1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Zinc	0.0980	0.0025	mg/l	0.100		98.0	85-115			
Lead	0.101	0.0038	mg/l	0.100		101	85-115			
Antimony	0.0895	0.0060	mg/l	0.100		89.5	85-115			
Nickel	0.0990	0.0025	mg/l	0.100		99.0	85-115			
Selenium	0.0924	0.0075	mg/l	0.100		92.4	85-115			
Iron	0.108	0.0025	mg/l	0.100		108	85-115			
Chromium	0.0972	0.0025	mg/l	0.100		97.2	85-115			
Cadmium	0.0965	0.0012	mg/l	0.100		96.5	85-115			
Copper	0.101	0.0025	mg/l	0.100		101	85-115			
Arsenic	0.0943	0.0040	mg/l	0.100		94.3	85-115			
Silver	0.0476	0.0050	mg/l	0.0500		95.2	85-115			
Duplicate (5100812-DUP1)		**Source: SA35566-01**		Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Zinc	BRL	0.0100	mg/l		0.0073			6.62	20	
Nickel	BRL	0.0025	mg/l		BRL				20	
Iron	9.55	0.0025	mg/l		9.20			3.73	20	
Lead	BRL	0.0038	mg/l		BRL				20	
Antimony	BRL	0.0060	mg/l		BRL				20	
Selenium	BRL	0.0075	mg/l		BRL				20	
Arsenic	0.0215	0.0040	mg/l		0.0236			9.31	20	
Silver	BRL	0.0050	mg/l		BRL				20	
Cadmium	BRL	0.0012	mg/l		BRL				20	
Copper	BRL	0.0025	mg/l		BRL				20	
Chromium	BRL	0.0025	mg/l		BRL				20	
Matrix Spike (5100812-MS1)		**Source: SA35255-04**		Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Selenium	0.0686	0.0075	mg/l	0.100	BRL	68.6	70-130			QM-07
Zinc	0.125	0.0025	mg/l	0.100	0.0668	58.2	70-130			QM-07
Nickel	0.0644	0.0025	mg/l	0.100	0.0021	62.3	70-130			QM-07
Lead	0.0612	0.0038	mg/l	0.100	BRL	61.2	70-130			QM-07
Iron	0.128	0.0025	mg/l	0.100	0.0683	59.7	70-130			QM-07
Antimony	0.0572	0.0060	mg/l	0.100	BRL	57.2	70-130			QM-07
Copper	0.0652	0.0025	mg/l	0.100	0.0008	64.4	70-130			QM-07
Silver	0.0305	0.0050	mg/l	0.0500	BRL	61.0	70-130			QM-07
Arsenic	0.0700	0.0040	mg/l	0.100	BRL	70.0	70-130			
Cadmium	0.0647	0.0012	mg/l	0.100	BRL	64.7	70-130			QM-07
Chromium	0.0651	0.0025	mg/l	0.100	BRL	65.1	70-130			QM-07
Matrix Spike Dup (5100812-MSD1)		**Source: SA35255-04**		Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Zinc	0.130	0.0025	mg/l	0.100	0.0668	63.2	70-130	3.92	20	QM-07
Selenium	0.0771	0.0075	mg/l	0.100	BRL	77.1	70-130	11.7	20	QM-07
Antimony	0.0609	0.0060	mg/l	0.100	BRL	60.9	70-130	6.27	20	QM-07
Lead	0.0663	0.0038	mg/l	0.100	BRL	66.3	70-130	8.00	20	QM-07

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100812 - EPA 200 Series										
Matrix Spike Dup (5100812-MSD1)		**Source: SA35255-04**		Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Nickel	0.0676	0.0025	mg/l	0.100	0.0021	65.5	70-130	4.85	20	QM-07
Iron	0.138	0.0025	mg/l	0.100	0.0683	69.7	70-130	7.52	20	QM-07
Cadmium	0.0678	0.0012	mg/l	0.100	BRL	67.8	70-130	4.68	20	QM-07
Chromium	0.0686	0.0025	mg/l	0.100	BRL	68.6	70-130	5.24	20	QM-07
Arsenic	0.0738	0.0040	mg/l	0.100	BRL	73.8	70-130	5.29	20	
Silver	0.0340	0.0050	mg/l	0.0500	BRL	68.0	70-130	10.9	20	QM-07
Copper	0.0692	0.0025	mg/l	0.100	0.0008	68.4	70-130	5.95	20	QM-07
Batch 5100814 - EPA200/SW7000 Series										
Blank (5100814-BLK1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Mercury	BRL	0.00020	mg/l							
LCS (5100814-BS1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Mercury	0.00291	0.00020	mg/l	0.00250		116	80-120			
Duplicate (5100814-DUP1)		**Source: SA35263-08**		Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Mercury	BRL	0.00020	mg/l		0.00010				20	
Matrix Spike (5100814-MS1)		**Source: SA35567-01**		Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Mercury	0.00329	0.00020	mg/l	0.00250	BRL	132	75-125			QM-07
Matrix Spike Dup (5100814-MSD1)		**Source: SA35567-01**		Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Mercury	0.00322	0.00020	mg/l	0.00250	BRL	129	75-125	2.15	20	QM-07

General Chemistry Parameters - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100869 - General Preparation										
Blank (5100869-BLK1)				Prepared & Analyzed: 13-Oct-05						
Hexavalent Chromium	BRL	0.005	mg/l							
LCS (5100869-BS1)				Prepared & Analyzed: 13-Oct-05						
Hexavalent Chromium	0.050	0.005	mg/l	0.0500		100	90-110			
Duplicate (5100869-DUP1)		**Source: SA35665-02**		Prepared & Analyzed: 13-Oct-05						
Hexavalent Chromium	BRL	0.010	mg/l		BRL				20	
Matrix Spike (5100869-MS1)		**Source: SA35665-02**		Prepared & Analyzed: 13-Oct-05						
Hexavalent Chromium	0.104	0.010	mg/l	0.100	BRL	104	80-120			
Reference (5100869-SRM1)				Prepared & Analyzed: 13-Oct-05						
Hexavalent Chromium	0.026	0.005	mg/l	0.0250		104	85-115			
Batch 5100872 - General Preparation										
Blank (5100872-BLK1)				Prepared & Analyzed: 13-Oct-05						
Total Residual Chlorine	BRL	0.020	mg/l							
LCS (5100872-BS1)				Prepared & Analyzed: 13-Oct-05						
Total Residual Chlorine	0.052	0.020	mg/l	0.0500		104	90-110			
Duplicate (5100872-DUP1)		**Source: SA35665-02**		Prepared & Analyzed: 13-Oct-05						
Total Residual Chlorine	BRL	0.040	mg/l		BRL				20	
Matrix Spike (5100872-MS1)		**Source: SA35665-02**		Prepared & Analyzed: 13-Oct-05						
Total Residual Chlorine	0.110	0.040	mg/l	0.100	BRL	110	80-120			
Reference (5100872-SRM1)				Prepared & Analyzed: 13-Oct-05						
Total Residual Chlorine	0.118	0.020	mg/l	0.107		110	85-115			
Batch 5100937 - General Preparation										
Blank (5100937-BLK1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Total Suspended Solids	BRL	5.00	mg/l							
Duplicate (5100937-DUP1)		**Source: SA35667-01**		Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Total Suspended Solids	212	5.00	mg/l		207			2.39	20	
Reference (5100937-SRM1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Total Suspended Solids	100	10.0	mg/l	95.3		105	90-110			
Batch 5101029 - General Preparation										
Blank (5101029-BLK1)				Prepared & Analyzed: 17-Oct-05						
Cyanide (total)	BRL	0.0100	mg/l							
LCS (5101029-BS1)				Prepared & Analyzed: 17-Oct-05						
Cyanide (total)	0.320	0.0100	mg/l	0.300		107	90-110			
Matrix Spike (5101029-MS1)		**Source: SA35665-02**		Prepared & Analyzed: 17-Oct-05						
Cyanide (total)	0.302	0.0100	mg/l	0.300	0.0640	79.3	75-125			
Matrix Spike Dup (5101029-MSD1)		**Source: SA35665-02**		Prepared & Analyzed: 17-Oct-05						
Cyanide (total)	0.300	0.0100	mg/l	0.300	0.0640	78.7	75-125	0.664	20	
Reference (5101029-SRM1)				Prepared & Analyzed: 17-Oct-05						
Cyanide (total)	0.330	0.0100	mg/l	0.333		99.1	75.7-125			

Notes and Definitions

HT-1 Sample submitted with insufficient time to prepare within the method recommended holding time.

HT-2 This sample was received outside the EPA recommended holding time for the analysis specified.

QC-1 Analyte out of acceptance range.

QC-2 Analyte out of acceptance range in QC spike but no reportable concentration present in sample.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.

VOC3 Methylene Chloride concentration reflects normal average laboratory background.

BRL Below Reporting Limit - Analyte NOT DETECTED at or above the reporting limit

dry Sample results reported on a dry weight basis

NR Not Reported

RPD Relative Percent Difference

A plus sign (+) in the Method Reference column indicates the method is not accredited by NELAC.

Interpretation of Total Petroleum Hydrocarbon Report

Petroleum identification is determined by comparing the GC fingerprint obtained from the sample with a library of GC fingerprints obtained from analyses of various petroleum products. Possible match categories are as follows:

Gasoline - includes regular, unleaded, premium, etc.
Fuel Oil #2 - includes home heating oil, #2 fuel oil, and diesel
Fuel Oil #4 - includes #4 fuel oil
Fuel Oil #6 - includes #6 fuel oil and bunker "C" oil
Motor Oil - includes virgin and waste automobile oil
Ligroin - includes mineral spirits, petroleum naphtha, vm&p naphtha
Aviation Fuel - includes kerosene, Jet A and JP-4
Other Oil - includes lubricating and cutting oil, and silicon oil

At times, the unidentified petroleum product is quantified using a calibration that most closely approximates the distribution of compounds in the sample. When this occurs, the result is qualified as *TPH (Calculated as).

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and

Validated by:
Hanibal C. Tayeh, Ph.D.
Nicole Brown

SA35467 RD

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Page _____ of _____

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 48 HR
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: C E A

Project Mgr.: _____

Invoice To: C.W. SMITH
IN#50144990 QH

P.O. No.: _____ RQN: _____

Project No.: 3005-96-20
Site Name: C.W. SMITH
Location: HOLBROOK State: MA
Sampler(s): CHARLIE TANNER

1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8= $NaHSO_4$ 9=_____ 10=_____

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1=_____ X2=_____ X3=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses:	QA Reporting Notes: (check if needed)
SA35467-01	~~SP005~~	~~10/12/05~~	~~1:25~~	G	GW		4	3		3		State specific reporting standards *If applicable, please list below.*
↓	~~Inlet~~ 55	55	55									☐ Provide MCP CAM Report Were all field QC requirements met as per MADEP CAM Section 2.0? ☐ Yes ☐ No *(Response required for CAM report)*
												Sample for NPDES Parameters See attached sheet.
												residual chlorine Cr the run past
												hold per client fax

☐ Fax results when available to (____) _____
☐ E-mail to ALASTER@CEA-INC.COM
EDD Format _____
Condition upon receipt: ☐ Iced ☐ Ambient ☐ °C 5-0 FAS

Relinquished by:	Received by:	Date:	Time:
		10-12	2:00
		10-12	4:50
		10/13/05	1020
		10/13/05	1400