CORPORATE ENVIRONMENTAL ADVISORS, INC.

PROUDLY CELEBRATING 20 YEARS Of Outstanding Service 1985 - 2005

October 21, 2005

MA09I0146

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

OCT 24

RE: NOI Submittal
81 Tyngsboro Road
Chelmsford, Massachusetts 01863
DEP RTN 3-1490
NPDES Exclusion #MA-03I-102

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-03I-102. 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. 4351-00

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:** Former Gulf Service Station		**Facility/site** address:		
Location of **facility/site:** longitude: 71:23:25 latitude: 42:38:36	Facility SIC code(s): 4471	Street: 81 Tyngsboro Road		
b) Name of **facility/site owner:** C. K. Smith & Co., Inc.		Town: Chelmsford		
Email address of owner:		State: MA	Zip: 01863	County: Middlesex
Telephone no.of facility/site **owner:** 508-753-1475				
Fax no. of facility/site **owner:** 508-799-7974		**Owner** is (check one): 1. Federal____ 2. State/Tribal____ 3. Private__X__ 4. other, if so, describe:		
Address of **owner** (if different from site):				
Street: 99 Crescent Street				
Town: Worcester	State: MA	Zip: 01605	County: Worcester	
c) Legal name of **operator:** CEA	**Operator** telephone no: 508-835-8822			
	Operator fax no.: 508-835-8812	**Operator** email:		
Operator contact name and title: Adam Last, LSP				
Address of **operator** (if different from owner):	Street: 127 Hartwell Street			
Town: West Boylston	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 x No___, if "yes," number: MA-03I-102
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes___ No x, if "yes," date and tracking #:
3. Is the discharge a "new discharge"as defined by 40 CFR 122.2? Yes No x
4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes x No__

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes x No___ If "yes," please list: MA DEP 1. site identification # assigned by the state of NH or MA: RTN#3-1490 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number: MA 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_x, if Y, number: 2. phase I or II construction storm water general permit? Y___ N_x, if Y, number: 3. individual NPDES permit? Y___ N_x, if Y, number: 4. any other water quality related permit? Y___ Nx, 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 0.045 Average flow 0.04 Is maximum flow a **design value**? Yx 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. 71:23:21W lat. 42:38:36N; 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 N/A or seasonal N/A ? Is discharge ongoing Yes ✓ No_____?	
c) Expected dates of discharge (mm/dd/yy): start 05-09-05 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	SM25400	5 mg/1	26,000	1.96		
2. Total Residual Chlorine	X		1	Grab	HACH8167	40 ug/1	< 40	<0.003		
3. Total Petroleum Hydrocarbons	X		1	Grab	EPA1664	1000 ug/1	<1000	<0.0754		
4. Cyanide		X	1	Grab	10-204-00-1 SW-846-9012A	10 ug/1	64	0.0048		
5. Benzene	X		1	Grab	SW-846-8260B	10 ug/1	<10	<0.0008		
6. Toluene	X		1	Grab	SW-846-8260B	20 ug/1	<20	<0.0015		
7. Ethylbenzene	X		1	Grab	SW846-8260B	10 ug/1	<10	<0.0008		
8. (m,p,o) Xylenes	X		1	Grab	SW846-8260B	30 ug/1	<30	<0.0023		
9. Total BTEX[4]	X		1	Grab	SW846-8260B	80 ug/1	<80	<0.006		

[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	SW846-8260B	10 ug/1	<10	<0.0008		
11. Methyl-tert-Butyl Ether (MtBE)		X	1	grab	SW846-8260B	10 ug/1	2750	0.21		
12. tert-Butyl Alcohol (TBA)		X	1	grab	SW846-8260B	200 ug/1	2390	0.18		
13. tert-Amyl Methyl Ether (TAME)	X		1	grab	SW846-8260B	20 ug/1	< 20	<0.0015		
14. Naphthalene	X		1	grab	SW846-8260B	20 ug/1	< 20	<0.0015		
15. Carbon Tetra-chloride	X		1	grab	SW846-8260B	10 ug/1	<10	<0.0008		
16. 1,4 Dichlorobenzene	X		1	grab	EPA 625	2 ug/1	< 2	<0.0002		
17. 1,2 Dichlorobenzene	X		1	grab	EPA 625	2 ug/1	< 2	<0.0002		
18. 1,3 Dichlorobenzene	X		1	grab	EPA 625	2 ug/1	< 2	<0.0002		
19. 1,1 Dichloroethane	X		1	grab	SW846-8260B	10 ug/1	< 10	<0.0008		
20. 1,2 Dichloroethane	X		1	grab	SW846-8260B	10 ug/1	< 10	<0.0008		
21. 1,1 Dichloroethylene	X		1	grab	SW846-8260B	10 ug/1	< 10	<0.0008		
22. cis-1,2 Dichloro-ethylene	X		1	grab	SW846-8260B	10 ug/1	< 10	<0.0008		
23. Dichloromethane (Methylene Chloride)		X	1	grab	SW846-8260B	20 ug/1	23.6	0.0018		
24. Tetrachloroethylene	X		1	grab	SW846-8260B	10 ug/1	<10	<0.0008		

[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	10 ug/1	<10	<0.0008		
26. 1,1,2 Trichloroethane	X		1	grab	SW846 8260B	10 ug/1	<10	<0.0008		
27. Trichloroethylene	X		1	grab	SW846 8260B	10 ug/1	<10	<0.0008		
28. Vinyl Chloride	X		1	grab	SW846 8260B	10 ug/1	<10	<0.0008		
29. Acetone	X		1	grab	SW846 8260B	200 ug/1	<200	<0.151		
30. 1,4 Dioxane	X		1	grab	SW846 8260B	400 ug/1	<400	<0.03		
31. Total Phenols	X		1	grab	EPA 625	10 ug/1	<1.0	<0.0001		
32. Pentachlorophenol	X		1	grab	EPA 625	30 ug/1	<30	<0.0023		
33. Total Phthalates [6] (Phthalate esthers)	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	X		1	grab	EPA 625	35 ug/1	<35	<0.0026		
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
a. Benzo(a) Anthracene	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
b. Benzo(a) Pyrene	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
c. Benzo(b)Fluoranthene	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
d. Benzo(k) Fluoranthene	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
e. Chrysene	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		

[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/1	< 5	<0.0004		
g. Indeno(1,2,3-cd) Pyrene	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	X		1	grab	EPA 625	34 ug/1	<5	<0.0026		
h. Acenaphthene	X		1	grab	EPA 625	1.0 ug/1	<1.0	<0.0001		
i. Acenaphthylene	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
j. Anthracene	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
k. Benzo(ghi) Perylene	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
l. Fluoranthene	X		1	grab	EPA 625	1.0 ug/1	<1.	<0.0001		
m. Fluorene	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
n. Naphthalene-	X		1	grab	EPA 625	2 ug/1	<2	<0.0002		
o. Phenanthrene	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
p. Pyrene	X		1	grab	EPA 625	5 ug/1	<5	<0.0004		
37. Total Polychlorinated Biphenyls (PCBs)	X		1	grab	EPA 608	2.25ug/1	<2.25	<0.0002		
38. Antimony	X		1	grab	EPA 200.7	6 ug/1	<6	<0.0005		
39. Arsenic	X		1	grab	EPA 200.7	4 ug/1	<4	<0.0003		
40. Cadmium	X		1	grab	EPA 200.7	2.5ug/1	<2.5	<0.0002		
41. Chromium III	X		1	grab	EPA 200.7	10 ug/1	<10	<0.0008		
42. Chromium VI	X		1	grab	EPA 200.7	2.5 ug/1	<2.5	<0.0002		

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper		X	1	Grab	EPA 200.7	2.5 ug/1	19.8	0.0015		
44. Lead		X	1	Grab	EPA 200.7	3.8 ug/1	7.4	0.0006		
45. Mercury	X		1	Grab	EPA 200.7	0.2 ug/1	< 0.2	< 0		
46. Nickel		X	1	Grab	EPA 200.7	2.5 ug/1	10.1	0.0008		
47. Selenium	X		1	Grab	EPA 200.7	7.5 ug/1	< 7.5	<0.0006		
48. Silver	X		1	Grab	EPA 200.7	5 ug/1	< 5	<0.0004		
49. Zinc		X	1	Grab	EPA 200.7	10 ug/1	704	0.0531		
50. Iron		X	1	Grab	EPA 200.7	2.5 ug/1	4100	0.309		
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? Copper, Lead, Zinc, Iron
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: Not Applicable DF: _____	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 X	GAC filter X
	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 20 Maximum flow rate of treatment system 20 Design flow rate of treatment system 20						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets):						

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

a) Identify the discharge pathway:	Direct	Within facility	Storm drain X	River/brook	Wetlands X	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: Storm drain to detention pond to wetlands						
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. Sanitary Sewer on-site						
d) Provide the state water quality classification of the receiving water Not Applicable ,						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water Not Applicable 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 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____
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:

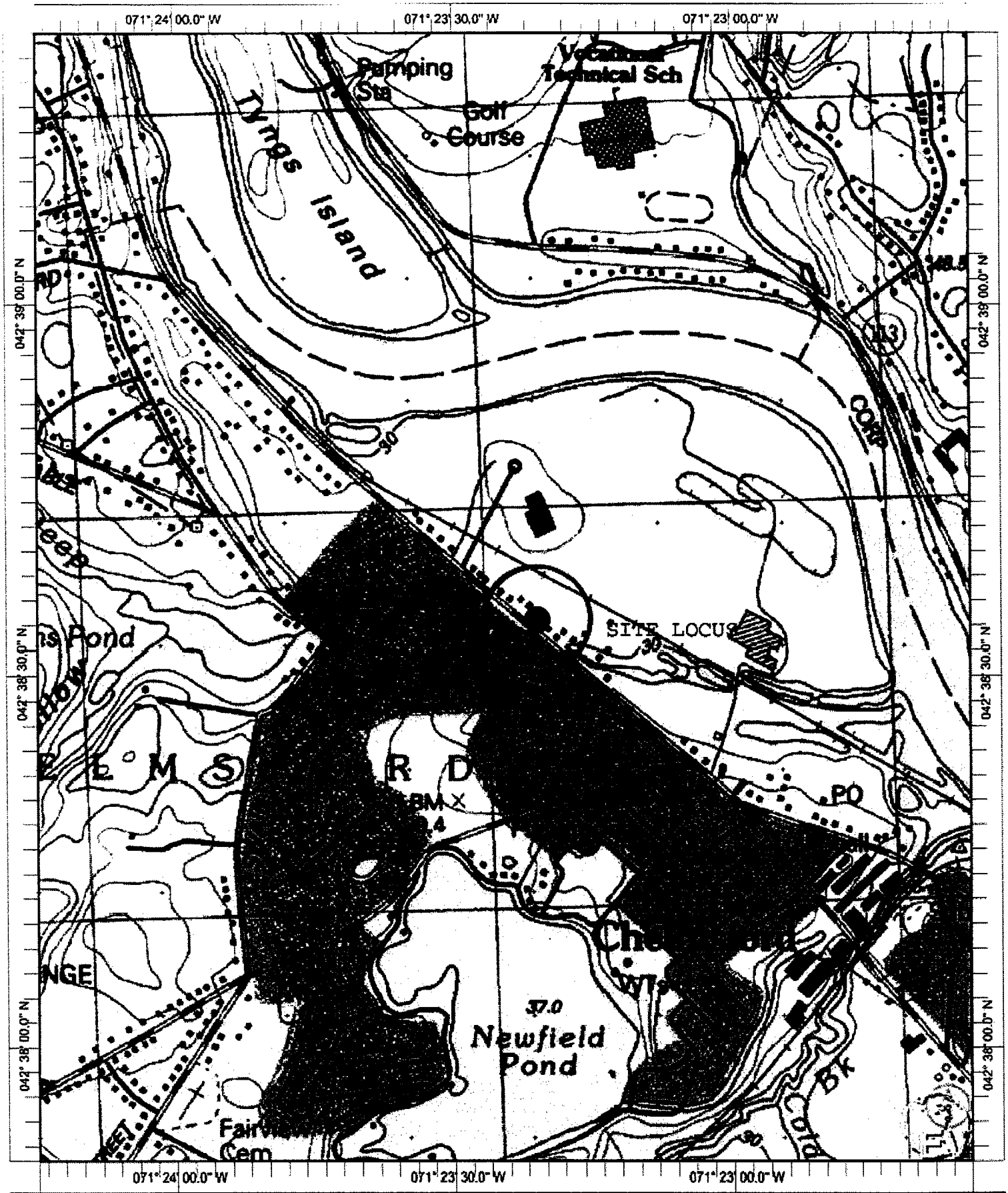
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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: 81 Tyngsboro Road, Chelmsford, MA

Operator signature: Adam J. Last as an agent of CEA

Title: Principal Engineer

Date: October 21, 2005



Name: LOWELL
Date: 9/26/100
Scale: 1 inch equals 1002 feet

Location: 042° 38' 36.5" N 071° 23' 24.6" W
Caption: FIGURE - 1
SITE LOCUS MAP
JOB NO. 4351-00

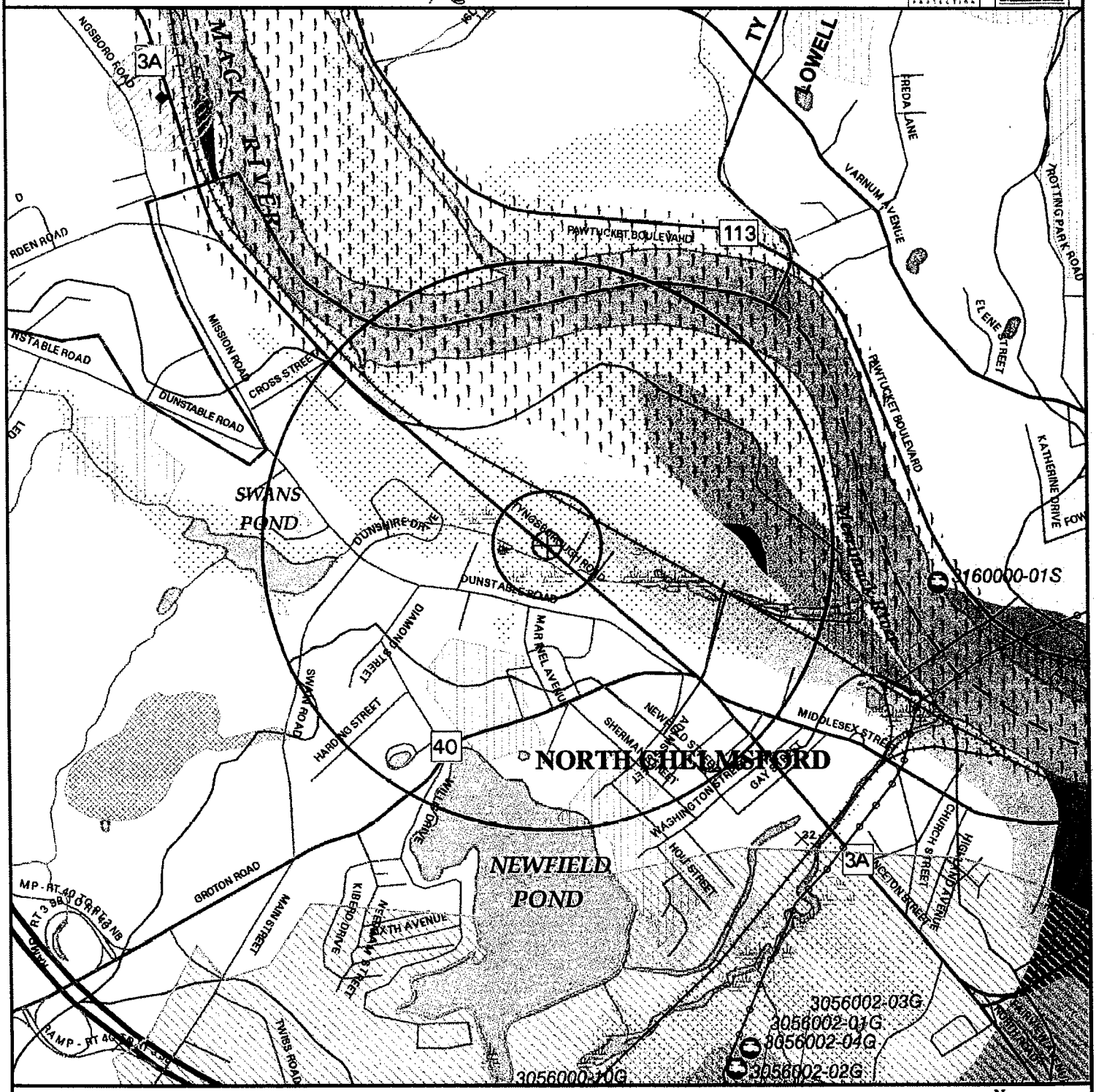
MA DEP - Bureau of Waste Site Cleanup

Site Scoring Map: 500 feet & 0.5 Mile Radii

SITE NAME:
Former Gulf Service Station
DEP RTN 3 1490
Chelmsford, MA 01863
4723705n 304126ew

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

MASSGIS Massachusetts Geographic Information System
Massachusetts Executive Office of Environmental Affairs - 2002



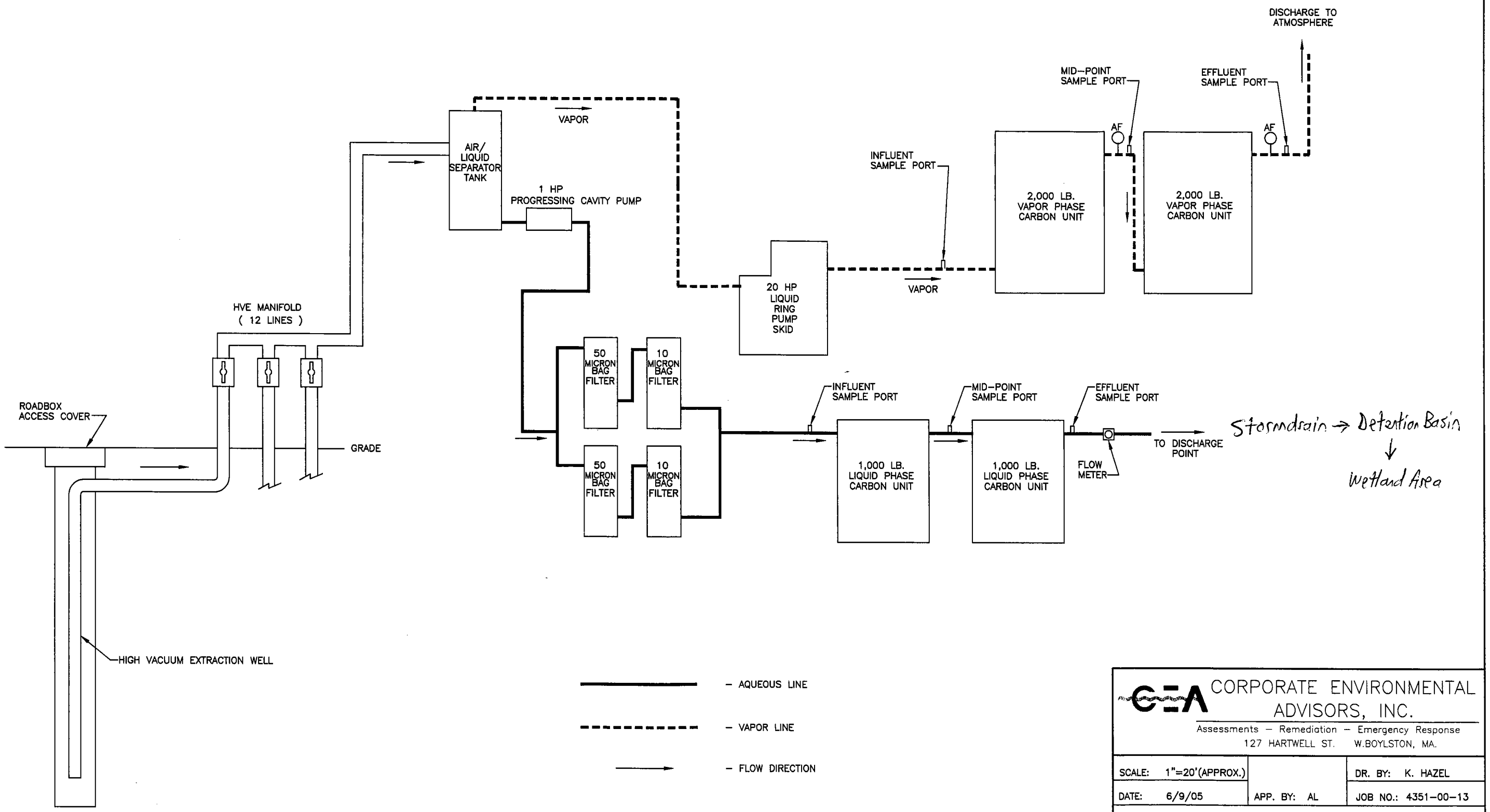
Roads: Limited Access, Divided, Major Road, Connector, Street, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, Sub; Streams: Perennial, Intermittent, Man Made Shore, Dams
Potentially Productive Aquifers: Medium,High Yield
Non-Potential Drinking Water 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 MILES
0 1/2 KILOMETERS

December 24, 2002



CORPORATE ENVIRONMENTAL ADVISORS, INC.

Assessments – Remediation – Emergency Response

127 HARTWELL ST. W.BOYLSTON, MA.

SCALE: 1"=20'(APPROX.)		DR. BY: K. HAZEL
DATE: 6/9/05	APP. BY: AL	JOB NO.: 4351-00-13

PROCESS AND INSTRUMENTATION DIAGRAM

CK SMITH

81 TYNGSBORO RD. CHELMSFORD, MA.

FIGURE-8

Report Date:
17-Oct-05 16:28

☑ Final Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

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

Project: CK Smith - Chelmsford MA
Project #: 4351-00-14

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA35665-01	EFF	Ground Water	12-Oct-05 15:30	13-Oct-05 13:40
SA35665-02	INF	Aqueous	12-Oct-05 15:05	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 20 pages of analytical data including 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
EFF SA35665-01	4351-00-14	Ground Water	12-Oct-05 15:30	13-Oct-05

CAS No.	Analyte(s)	Result	*RDL/Units	Dilution	Method Ref.	Prepared	Analyzed	Batch	Analyst	Flag
Volatile Organic Compounds										
Volatile Organic Aromatics by SW846 8260B			Prepared by method	Volatiles						
71-43-2	Benzene	BRL	1.0 µg/l	1	SW 846 8260B	17-Oct-05	17-Oct-05	5100990	krl	
100-41-4	Ethylbenzene	BRL	1.0 µg/l	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	8.2	1.0 µg/l	1	"	"	"	"	"	
91-20-3	Naphthalene	BRL	1.0 µg/l	1	"	"	"	"	"	
108-88-3	Toluene	BRL	1.0 µg/l	1	"	"	"	"	"	
1330-20-7	m,p-Xylene	BRL	2.0 µg/l	1	"	"	"	"	"	
95-47-6	o-Xylene	BRL	1.0 µg/l	1	"	"	"	"	"	
Surrogate recoveries:										
460-00-4	*4-Bromofluorobenzene*	*103*	*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*93.0*	*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*104*	*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*103*	*70-130 %*		"	"	"	"	"	
Extractable Petroleum Hydrocarbons										
	Total Petroleum Hydrocarbons	BRL	0.500 mg/l	1	EPA 418.1	16-Oct-05	17-Oct-05	5100944	JK	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
INF SA35665-02	4351-00-14	Aqueous	12-Oct-05 15:05	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	200 µg/l	20	SW 846 8260B	17-Oct-05	17-Oct-05	5100979	KL	
71-43-2	Benzene	BRL	10.0 µg/l	20	"	"	"	"	"	
56-23-5	Carbon tetrachloride	BRL	10.0 µg/l	20	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	BRL	10.0 µg/l	20	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	BRL	10.0 µg/l	20	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	BRL	10.0 µg/l	20	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	BRL	10.0 µg/l	20	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	BRL	10.0 µg/l	20	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	BRL	10.0 µg/l	20	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	BRL	10.0 µg/l	20	"	"	"	"	"	
100-41-4	Ethylbenzene	BRL	10.0 µg/l	20	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	2,750	10.0 µg/l	20	"	"	"	"	"	
75-09-2	Methylene chloride	23.6	20.0 µg/l	20	"	"	"	"	"	VOC3
91-20-3	Naphthalene	BRL	20.0 µg/l	20	"	"	"	"	"	
127-18-4	Tetrachloroethene	BRL	10.0 µg/l	20	"	"	"	"	"	
108-88-3	Toluene	BRL	10.0 µg/l	20	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL	10.0 µg/l	20	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	BRL	10.0 µg/l	20	"	"	"	"	"	
79-01-6	Trichloroethene	BRL	10.0 µg/l	20	"	"	"	"	"	
75-01-4	Vinyl chloride	BRL	10.0 µg/l	20	"	"	"	"	"	
1330-20-7	m,p-Xylene	BRL	20.0 µg/l	20	"	"	"	"	"	
95-47-6	o-Xylene	BRL	10.0 µg/l	20	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	BRL	20.0 µg/l	20	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	2,390	200 µg/l	20	"	"	"	"	"	
123-91-1	1,4-Dioxane	BRL	400 µg/l	20	"	"	"	"	"	
Surrogate recoveries:										
460-00-4	*4-Bromofluorobenzene*	*94.6*	*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*100*	*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*110*	*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*107*	*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 SA35665-02	4351-00-14	Aqueous	12-Oct-05 15:05	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)*	*55.2*	*30-150 %*		EPA 608	14-Oct-05	15-Oct-05	5100843	KG	
2051-24-3	*Decachlorobiphenyl (Sr)*	*70.0*	*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	"	"	"	"	"	
108-39-4,106-4	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 SA35665-02	4351-00-14	Aqueous	12-Oct-05 15:05	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*	*45.2*	*30-130 %*		"	"	"	"	"	
367-12-4	*2-Fluorophenol*	*47.3*	*15-110 %*		"	"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*40.1*	*30-130 %*		"	"	"	"	"	
4165-62-2	*Phenol-d5*	*43.9*	*15-110 %*		"	"	"	"	"	
1718-51-0	*Terphenyl-dl4*	*41.7*	*30-130 %*		"	"	"	"	"	
118-79-6	*2,4,6-Tribromophenol*	*49.8*	*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	BRL	0.0025 mg/l	1	"	"	"	"	"	
7440-50-8	Copper	0.0198	0.0025 mg/l	1	"	"	"	"	"	
7439-89-6	Iron	4.10	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	0.0101	0.0025 mg/l	1	EPA 200.7	"	17-Oct-05	5100812	RE	
7439-92-1	Lead	0.0074	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	0.704	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)	0.0640	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	0.040 mg/l	2	Hach 8167	13-Oct-05 18:30	13-Oct-05	5100872	ES	
	Total Suspended Solids	26.0	5.00 mg/l	1	SM2540D	14-Oct-05	17-Oct-05	5100937	EK	

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						
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			

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 (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*			
Batch 5100990 - Volatiles										
Blank (5100990-BLK1)				Prepared & Analyzed: 17-Oct-05						
Benzene	BRL	1.0	µg/l							
Ethylbenzene	BRL	1.0	µg/l							
Methyl tert-butyl ether	BRL	1.0	µg/l							
Toluene	BRL	1.0	µg/l							
m,p-Xylene	BRL	2.0	µg/l							
o-Xylene	BRL	1.0	µg/l							
Surrogate: 4-Bromofluorobenzene	*29.6*		µg/l	*30.0*		*98.7*	*70-130*			
Surrogate: Toluene-d8	*28.6*		µg/l	*30.0*		*95.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*29.7*		µg/l	*30.0*		*99.0*	*70-130*			
Surrogate: Dibromofluoromethane	*29.0*		µg/l	*30.0*		*96.7*	*70-130*			
LCS (5100990-BS1)				Prepared & Analyzed: 17-Oct-05						
Benzene	22.0		µg/l	20.0		110	70-130			
Ethylbenzene	21.2		µg/l	20.0		106	70-130			
Methyl tert-butyl ether	17.8		µg/l	20.0		89.0	70-130			
Toluene	19.0		µg/l	20.0		95.0	70-130			
m,p-Xylene	44.1		µg/l	40.0		110	70-130			
o-Xylene	22.0		µg/l	20.0		110	70-130			
Surrogate: 4-Bromofluorobenzene	*29.4*		µg/l	*30.0*		*98.0*	*70-130*			
Surrogate: Toluene-d8	*26.8*		µg/l	*30.0*		*89.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*28.1*		µg/l	*30.0*		*93.7*	*70-130*			
Surrogate: Dibromofluoromethane	*28.6*		µg/l	*30.0*		*95.3*	*70-130*			
LCS Dup (5100990-BSD1)				Prepared & Analyzed: 17-Oct-05						
Benzene	21.2		µg/l	20.0		106	70-130	3.70	25	
Ethylbenzene	21.2		µg/l	20.0		106	70-130	0.00	25	
Methyl tert-butyl ether	19.0		µg/l	20.0		95.0	70-130	6.52	25	
Toluene	18.2		µg/l	20.0		91.0	70-130	4.30	25	
m,p-Xylene	44.0		µg/l	40.0		110	70-130	0.00	25	
o-Xylene	22.1		µg/l	20.0		110	70-130	0.00	25	
Surrogate: 4-Bromofluorobenzene	*29.9*		µg/l	*30.0*		*99.7*	*70-130*			
Surrogate: Toluene-d8	*26.5*		µg/l	*30.0*		*88.3*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*29.0*		µg/l	*30.0*		*96.7*	*70-130*			
Surrogate: Dibromofluoromethane	*29.3*		µg/l	*30.0*		*97.7*	*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			
Batch 5100944 - SW846 3510C										
Blank (5100944-BLK1)				Prepared: 16-Oct-05 Analyzed: 17-Oct-05						
Total Petroleum Hydrocarbons	BRL	0.500	mg/l							
LCS (5100944-BS1)				Prepared: 16-Oct-05 Analyzed: 17-Oct-05						
Total Petroleum Hydrocarbons	22.9		mg/l	23.0		99.6	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*			

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						
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						
Lead	BRL	0.0038	mg/l							
Nickel	BRL	0.0025	mg/l							
Antimony	BRL	0.0060	mg/l							
Selenium	BRL	0.0075	mg/l							
Zinc	BRL	0.0100	mg/l							
Iron	BRL	0.0700	mg/l							
Cadmium	BRL	0.0012	mg/l							
Silver	BRL	0.0050	mg/l							
Chromium	BRL	0.0025	mg/l							
Arsenic	BRL	0.0040	mg/l							
Copper	BRL	0.0025	mg/l							
LCS (5100812-BS1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Selenium	0.0924	0.0075	mg/l	0.100		92.4	85-115			
Antimony	0.0895	0.0060	mg/l	0.100		89.5	85-115			
Lead	0.101	0.0038	mg/l	0.100		101	85-115			
Nickel	0.0990	0.0025	mg/l	0.100		99.0	85-115			
Iron	0.108	0.0025	mg/l	0.100		108	85-115			
Zinc	0.0980	0.0025	mg/l	0.100		98.0	85-115			
Silver	0.0476	0.0050	mg/l	0.0500		95.2	85-115			
Copper	0.101	0.0025	mg/l	0.100		101	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			
Arsenic	0.0943	0.0040	mg/l	0.100		94.3	85-115			
Duplicate (5100812-DUP1)	**Source: SA35566-01**			Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Nickel	BRL	0.0025	mg/l		BRL				20	
Iron	9.55	0.0025	mg/l		9.20			3.73	20	
Antimony	BRL	0.0060	mg/l		BRL				20	
Zinc	BRL	0.0100	mg/l		0.0073			6.62	20	
Selenium	BRL	0.0075	mg/l		BRL				20	
Lead	BRL	0.0038	mg/l		BRL				20	
Silver	BRL	0.0050	mg/l		BRL				20	
Copper	BRL	0.0025	mg/l		BRL				20	
Chromium	BRL	0.0025	mg/l		BRL				20	
Cadmium	BRL	0.0012	mg/l		BRL				20	
Arsenic	0.0215	0.0040	mg/l		0.0236			9.31	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
Antimony	0.0572	0.0060	mg/l	0.100	BRL	57.2	70-130			QM-07
Lead	0.0612	0.0038	mg/l	0.100	BRL	61.2	70-130			QM-07
Nickel	0.0644	0.0025	mg/l	0.100	0.0021	62.3	70-130			QM-07
Iron	0.128	0.0025	mg/l	0.100	0.0683	59.7	70-130			QM-07
Zinc	0.125	0.0025	mg/l	0.100	0.0668	58.2	70-130			QM-07
Copper	0.0652	0.0025	mg/l	0.100	0.0008	64.4	70-130			QM-07
Chromium	0.0651	0.0025	mg/l	0.100	BRL	65.1	70-130			QM-07
Cadmium	0.0647	0.0012	mg/l	0.100	BRL	64.7	70-130			QM-07
Arsenic	0.0700	0.0040	mg/l	0.100	BRL	70.0	70-130			
Silver	0.0305	0.0050	mg/l	0.0500	BRL	61.0	70-130			QM-07
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
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

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						
Lead	0.0663	0.0038	mg/l	0.100	BRL	66.3	70-130	8.00	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

SA3546 5m

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Page ____ of ____

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 5 day 72
- 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.C.A.

Invoice To: CW SMITH

Project No.: 4351-00-14

Site Name: CW SMITH

Location: CHELMSFORD State: MA

Project Mgr.: A CAST

P.O. No.: _____ RQN: _____

Sampler(s): JOHN BAILEY

1=$Na_2S_2O_3$ 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: TPH 418.1	Other state requirements	QA Reporting Notes: (check if needed)
SA3546-01	~~EFF~~ EFF (SS)	10-12	3:30	G	GW	2	2	1			X	X	5 DAY RUSH
	~~INF~~ (SS)												residual chlorine + Cl2
02	~~INFLUENT~~ SEC ATT						4	3		3			run past hold per lab
	INF	10-12	3:05 (SS)										SAMPLE-to-SAMPLE
													See attached Sheet

☐ Fax results when available to (____) _____

☐ E-mail to A CAST@CEA-INC.COM

EDD Format _____

Condition upon receipt: ☐ Iced ☐ Ambient ☐ °C 5.0

Relinquished by:	Received by:	Date:	Time:
	10/13/05 1030	10-12	4:45
		10/13/05	140

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FAX