CEA

CORPORATE ENVIRONMENTAL ADVISORS, INC.

MAG910142

PROUDLY CELEBRATING 20 YEARS Of Outstanding Service 1985 - 2005

October 21, 2005

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
298 Hartford Turnpike
Shrewsbury, Massachusetts 01545
DEP Release Tracking No. 2-0672
NPDES Temporary Number MA-03I-029

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 groundwater from a high vacuum extraction (HVE) system under NPDES Number MA-03I-029. 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 CERO
CEA File No. 3711-98

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:**		**Facility/site** address:		
Location of **facility/site:** longitude: 71:43:00 latitude: 42:14:54	Facility SIC code(s): 4471	Street: 298 Hartford Turnpike		
b) Name of **facility/site owner:** C. K. Smith & Co., Inc.		Town: Shrewsbury		
Email address of owner:		State: AM	Zip: 01545	County: Worcester
Telephone no.of facility/site **owner:** 508-753-1475				
Fax no. of facility/site **owner:**		**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:** 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 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-031-029
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#2-0672 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number: MA DEP, Worcester, MA 508-792-7650	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___ N_x_, 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 0.11 Average flow 0.02 Is maximum flow a **design value**? Y_x_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. 71:42:57 lat. 42:14:57; pt.2: long._____ lat._____; pt.3: long._____ lat._____; pt.4:long._____ lat._____; pt.5: long._____ lat._____; pt.6:long._____ lat._____; pt.7: long._____ lat._____; pt.8:long._____ lat._____; etc.		
4) If hydrostatic testing, total volume of the discharge (gals):	5) Is the discharge intermittent_____ or seasonal_____? Is discharge ongoing Yes _x_ No_____?	
c) Expected dates of discharge (mm/dd/yy): start 05/21/03 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/1	< 5000	< 0.92		
2. Total Residual Chlorine	X		1	Grab	Hach 8167	20 ug/1	< 20	<0.0037		
3. Total Petroleum Hydrocarbons	X		1	Grab	EPA 1664	1000 ug/1	<1000	<0.1842		
4. Cyanide	X		1	Grab	SW846 9012A	100 ug/1	<100	<0.0084		
5. Benzene	X		1	Grab	SW846 8260B	2.5ug/1	< 2.5	<0.0005		
6. Toluene	X		1	Grab	SW846 8260B	2.5 ug/1	<2.5	<0.0005		
7. Ethylbenzene	X		1	Grab	SW846 8260B	2.5 ug/1	<2.5	<0.0005		
8. (m,p,o) Xylenes	X		1	Grab	SW846 8260B	7.5 ug/1	<7.5	<0.0014		
9. Total BTEX[4]	X		1	Grab	SW846 8260B	15 ug/1	<15	<0.002		

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
10. Ethylene Dibromide [5] (1,2- Dibromo-methane)	X		1	Grab	EPA 504.1	0.01 ug/l	0.01			
11. Methyl-tert-Butyl Ether (MtBE)		X	1	Grab	SW8465 8260B	2.5 ug/l	167	0.0308		
12. tert-Butyl Alcohol (TBA)	X		1	Grab	SW846 8260B	50 ug/l	< 50	<0.0092		
13. tert-Amyl Methyl Ether (TAME)		X	1	Grab	SW846 8260B	2.5 ug/l	4.1	0.0008		
14. Naphthalene	X		1	Grab	SW846 8260B	2.5 ug/l	< 2.5	<0.0005		
15. Carbon Tetra-chloride	X		1	Grab	SW846 8260B	2.5 ug/l	< 2	<0.0004		
16. 1,4 Dichlorobenzene	X		1	Grab	EPA 625	2 ug/l	< 2	<0.0004		
17. 1,2 Dichlorobenzene	X		1	Grab	EPA 625	2 ug/l	< 2	<0.0004		
18. 1,3 Dichlorobenzene	X		1	Grab	EPA 625	2 ug/l	< 2	<0.0004		
19. 1,1 Dichloroethane	X		1	Grab	SW846 8260B	2.5 ug/l	< 2.5	<0.0005		
20. 1,2 Dichloroethane	X		1	Grab	SW846 8260B	2.5 ug/l	< 2.5	<0.0005		
21. 1,1 Dichloroethylene	X		1	Grab	SW846 8260B	2.5 ug/l	< 2.5	<0.0005		
22. cis-1,2 Dichloro-ethylene	X		1	Grab	SW846 8260B	2.5 ug/l	< 2.5	<0.0005		
23. Dichloromethane (Methylene Chloride)	X		1	Grab	SW846 8260B	5 ug/l	< 5	<0.0009		
24. Tetrachloroethylene	X		1	Grab	SW846 8260B	2.5 ug/l	< 2.5	<0.0005		

[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	2.5 ug/1	< 2.5	<0.0005		
26. 1,1,2 Trichloroethane	X		1	Grab	SW846 8260B	2.5 ug/1	< 2.5	<0.0005		
27. Trichloroethylene	X		1	Grab	SW846 8260B	2.5 ug/1	< 2.5	<0.0005		
28. Vinyl Chloride	X		1	Grab	SW846 8260B	2.5 ug/1	< 2.5	<0.0005		
29. Acetone	X		1	Grab	SW846 8260B	50 ug/1	< 50	<0.0092		
30. 1,4 Dioxane	X		1	Grab	SW846 8260B	100 ug/1	<100	<0.0184		
31. Total Phenols	X		1	Grab	EPA 625	10 ug/1	< 10	<0.0018		
32. Pentachlorophenol	X		1	Grab	EPA 625	1.0 ug/1	< 1.	<0.0002		
33. Total Phthalates [6] (Phthalate esthers)	X		1	Grab	EPA 625	30 ug/1	< 30	<0.0055		
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	X		1	Grab	EPA 625	5 ug/1	< 5	<0.0009		
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	X		1	Grab	EPA 625	35 ug/1	<35	<0.0064		
a. Benzo(a) Anthracene	X		1	Grab	EPA 625	5 ug/1	<5	<0.0009		
b. Benzo(a) Pyrene	X		1	Grab	EPA 625	5 ug/1	< 5	<0.0009		
c. Benzo(b)Fluoranthene	X		1	Grab	EPA 625	5 ug/1	< 5	<0.0009		
d. Benzo(k) Fluoranthene	X		1	Grab	EPA 625	5 ug/1	< 5	<0.0009		
e. Chrysene	X		1	Grab	EPA 625	5 ug/1	< 5	<0.0009		

[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	<0.0009		
g. Indeno(1,2,3-cd) Pyrene	X		1	Grab	EPA 625	5 ug/l	< 5	<0.0009		
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	X		1	Grab	EPA 625	34 ug/l	< 34	<0.0063		
h. Acenaphthene	X		1	Grab	EPA 625	1.0 ug/l	< 1.0	<0.0002		
i. Acenaphthylene	X		1	Grab	EPA 625	5 ug/l	< 5	<0.0009		
j. Anthracene	X		1	Grab	EPA 625	5 ug/l	< 5	<0.0009		
k. Benzo(ghi) Perylene	X		1	Grab	EPA 625	5 ug/l	< 5	<0.0009		
l. Fluoranthene	X		1	Grab	EPA 625	1.0 ug/l	<1.0	<0.0002		
m. Fluorene	X		1	Grab	EPA 625	5 ug/l	< 5	<0.0009		
n. Naphthalene-	X		1	Grab	EPA 625	2 ug/l	< 2	<0.0004		
o. Phenanthrene	X		1	Grab	EPA 625	5 ug/l	< 5	<0.0009		
p. Pyrene	X		1	Grab	EPA 625	5 ug/l	< 5	<0.0009		
37. Total Polychlorinated Biphenyls (PCBs)	X		1	Grab	EPA 625	2.25 ug/l	< 2.25	<0.0004		
38. Antimony	X		1	Grab	EPA 200.7	6 ug/l	< 6	<0.0011		
39. Arsenic	X		1	Grab	EPA 200.7	4 ug/l	5	0.0005		
40. Cadmium	X		1	Grab	EPA 200.7	1.2 ug/l	<1.2	<0.0002		
41. Chromium III	X		1	Grab	EPA 200.7	2.5 ug/l	<2.5	< 0.0005		
42. Chromium VI	X		1	Grab	96A [illegible].7	5 ug/l	< 5	<0.0009		

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	< 2.5	< 0.0005		
44. Lead	X		1	Grab	EPA 200.7	3.8 ug/1	< 3.8	< 0.0007		
45. Mercury	X		1	Grab	EPA 200.7	0.2 ug/1	< 0.2	< 0.0004		
46. Nickel	X		1	Grab	EPA 200.7	2.5 ug/1	12.4	0.0023		
47. Selenium	X		1	Grab	EPA 200.7	7.5 ug/1	< 7.5	< 0.0014		
48. Silver	X		1	Grab	EPA 200.7	5 ug/1	< 5	< 0.0009		
49. Zinc	X		1	Grab	EPA 200.7	10 ug/1	< 10	< 0.0018		
50. Iron	X		1	Grab	EPA 200.7	2.5ug/1	857	0.1579		
Other (describe):										

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

Step 1: Do any of the metals in the influent have a **reasonable potential** to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y___ N x	If yes, which metals?
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:_____ 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 x	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 9 Maximum flow rate of treatment system 12 Design flow rate of treatment system 10						
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_____	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: Storm drain to Big Bummet Brook						
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. No Sanitary Sewer						
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.						
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__x__ 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:

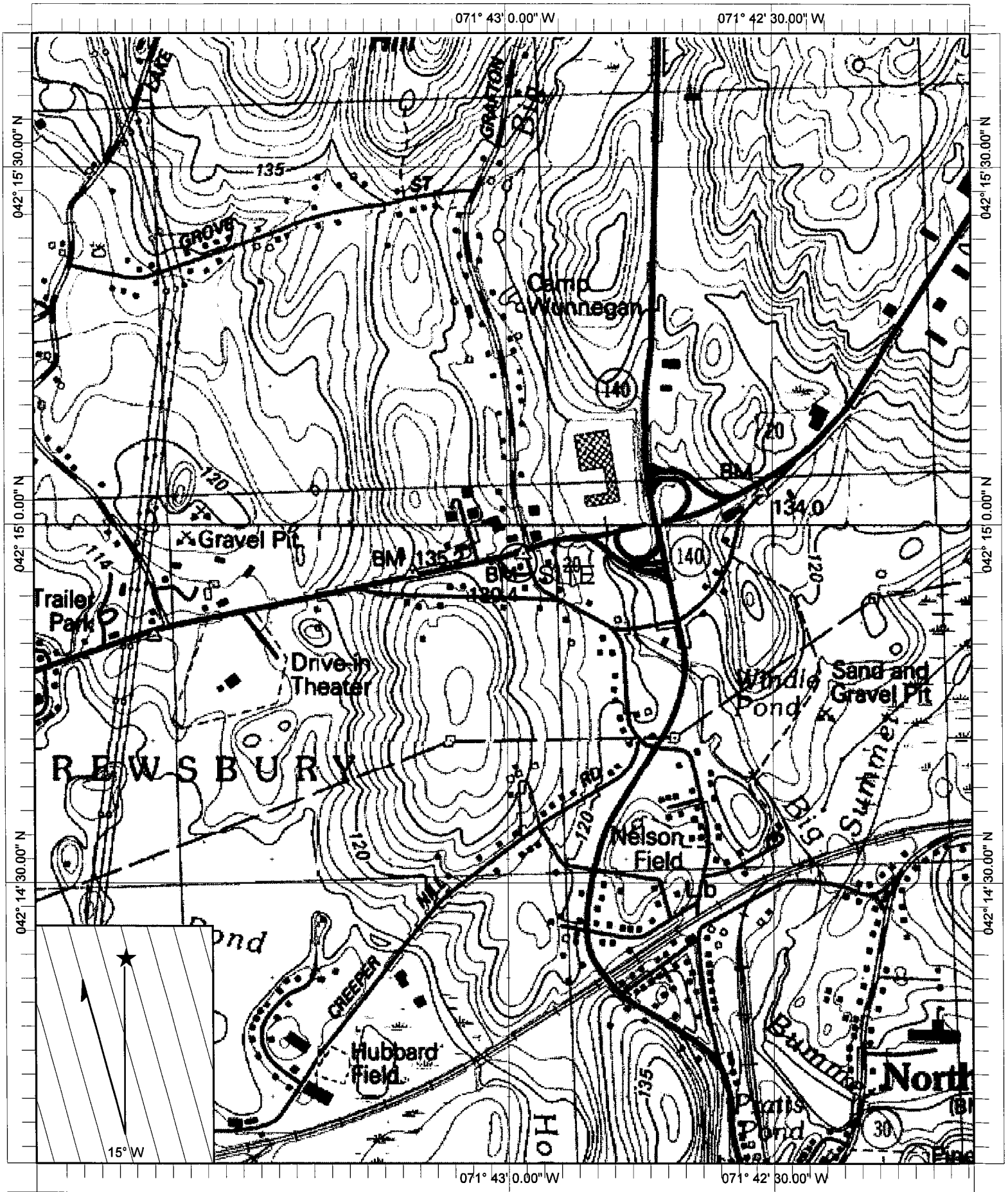
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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: 298 Hartford Turnpike, Shrewsbury, MA

Operator signature: Adam J. Hast as an Agent of CEA

Title:

Date:



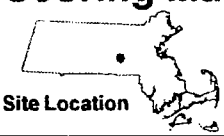
Name: MILFORD
Date: 1/28/2004
Scale: 1 inch equals 1000 feet

Location: 042° 14' 53.9" N 071° 43' 00.4" W
Caption: FIGURE 1
SITE LOCUS MAP

MA DEP - Bureau of Waste Site Cleanup

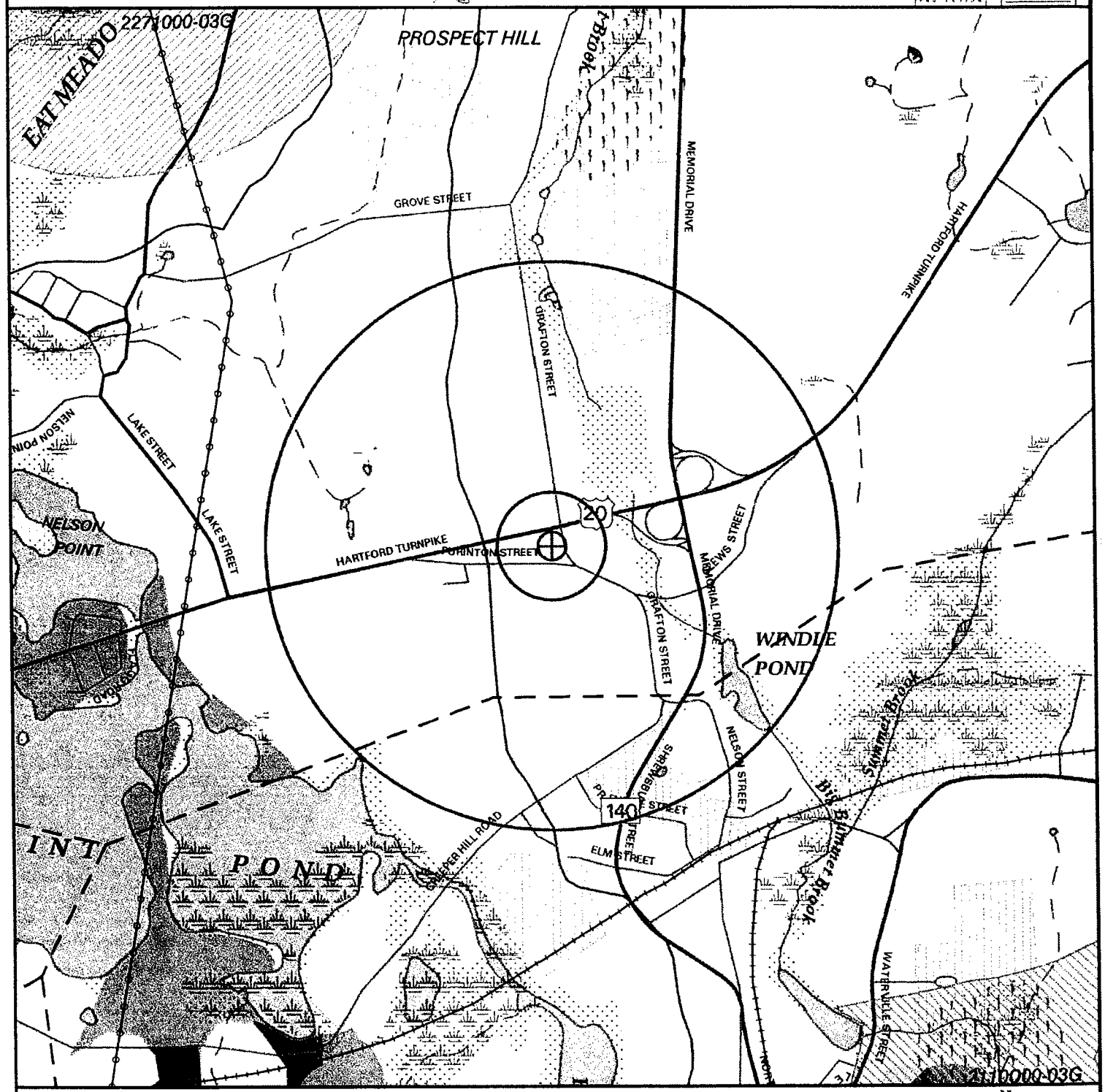
Site Scoring Map: 500 feet & 0.5 Mile Radii

SITE NAME:
C.K. Smith Shrewsbury
298 Hartford Turnpike
SHREWSBURY, MA 01545
421456n 714259ew



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

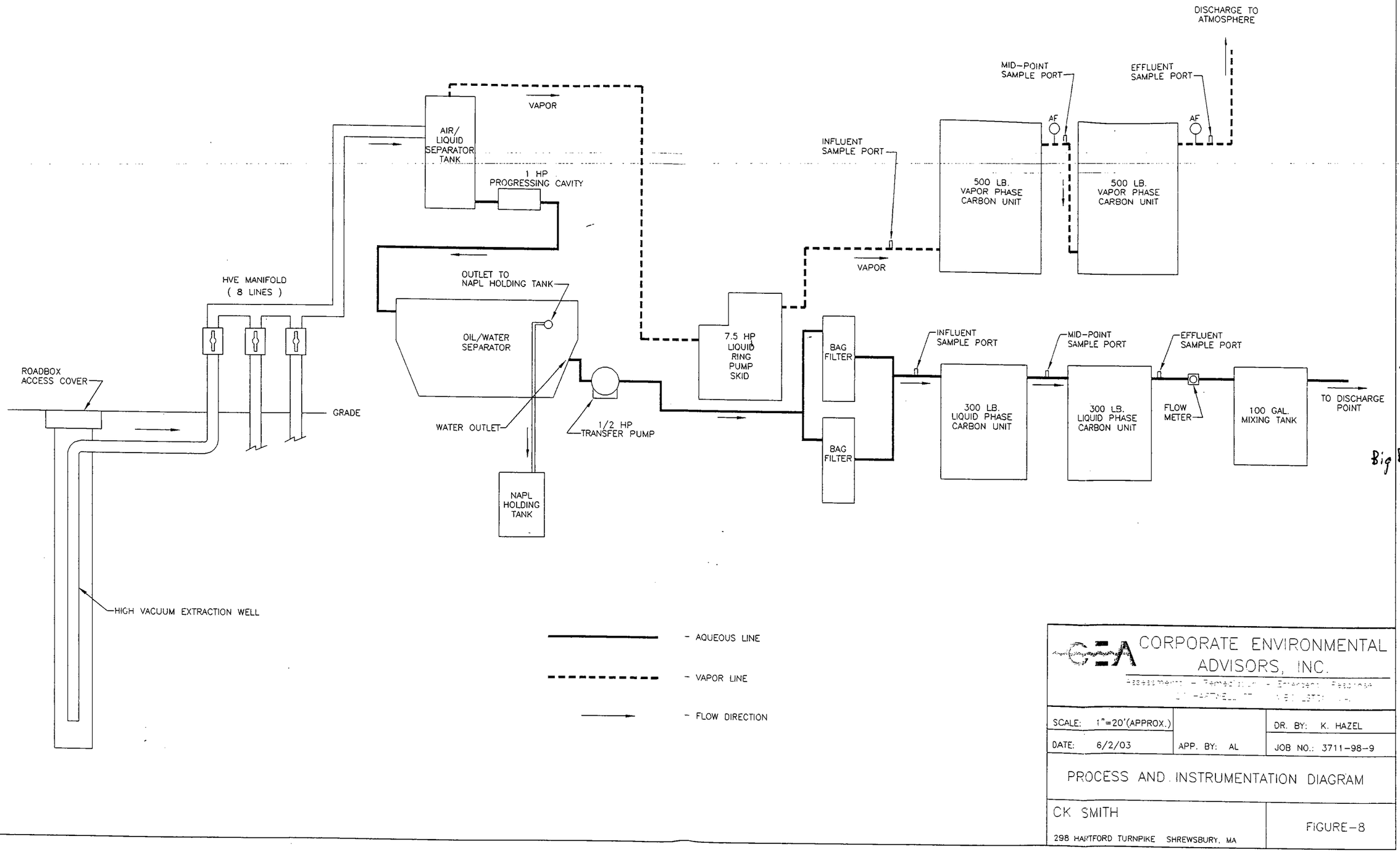
DEP Permitted Solid Waste Facilities; Certified Vernal Pools

N W E S

SCALE 1:15000

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

January 30, 2004



storm drain ↓ Big Bummet Brook

CORPORATE ENVIRONMENTAL ADVISORS, INC.

Assessment - Remediation - Emergency Response

SCALE: 1"=20'(APPROX.)		DR. BY: K. HAZEL
DATE: 6/2/03	APP. BY: AL	JOB NO.: 3711-98-9

PROCESS AND INSTRUMENTATION DIAGRAM

CK SMITH

298 HARTFORD TURNPIKE SHREWSBURY, MA

FIGURE-8

Report Date:
17-Oct-05 16:56

☑ 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-Shrewsbury, MA
Project #: 3711-98-

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA35567-01	INF	Ground Water	12-Oct-05 10:40	12-Oct-05 14:19

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 17 pages of analytical data including Chain of Custody document(s).

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	3711-98-	Ground Water	12-Oct-05 10:40	12-Oct-05
SA35567-01				

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	50.0 µg/l	5	SW 846 8260B	14-Oct-05	14-Oct-05	5100867	RLJ	
71-43-2	Benzene	BRL	2.5 µg/l	5	"	"	"	"	"	
56-23-5	Carbon tetrachloride	BRL	2.5 µg/l	5	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	BRL	2.5 µg/l	5	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	BRL	2.5 µg/l	5	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	BRL	2.5 µg/l	5	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	BRL	2.5 µg/l	5	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	BRL	2.5 µg/l	5	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	BRL	2.5 µg/l	5	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	BRL	2.5 µg/l	5	"	"	"	"	"	
100-41-4	Ethylbenzene	BRL	2.5 µg/l	5	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	167	2.5 µg/l	5	"	"	"	"	"	
75-09-2	Methylene chloride	BRL	5.0 µg/l	5	"	"	"	"	"	
91-20-3	Naphthalene	BRL	2.5 µg/l	5	"	"	"	"	"	
127-18-4	Tetrachloroethene	BRL	2.5 µg/l	5	"	"	"	"	"	
108-88-3	Toluene	BRL	2.5 µg/l	5	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	BRL	2.5 µg/l	5	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	BRL	2.5 µg/l	5	"	"	"	"	"	
79-01-6	Trichloroethene	BRL	2.5 µg/l	5	"	"	"	"	"	
75-01-4	Vinyl chloride	BRL	2.5 µg/l	5	"	"	"	"	"	
1330-20-7	m,p-Xylene	BRL	5.0 µg/l	5	"	"	"	"	"	
95-47-6	o-Xylene	BRL	2.5 µg/l	5	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	4.1	2.5 µg/l	5	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	BRL	50.0 µg/l	5	"	"	"	"	"	
123-91-1	1,4-Dioxane	BRL	100 µg/l	5	"	"	"	"	"	
Surrogate recoveries:										
460-00-4	*4-Bromofluorobenzene*	*102*	*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*118*	*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*115*	*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*118*	*70-130 %*		"	"	"	"	"	
Microextractable Organic Compounds										
106-93-4	1,2-Dibromoethane (EDB)	BRL	0.0100 µg/l	1	EPA 504.1	13-Oct-05	14-Oct-05	5100742	MB	
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	13-Oct-05	14-Oct-05	5100743	MP	
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 SA35567-01	3711-98-	Ground Water	12-Oct-05 10:40	12-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)*	*95.2*	*30-150 %*		EPA 608	13-Oct-05	14-Oct-05	5100743	MP	
2051-24-3	*Decachlorobiphenyl (Sr)*	*84.8*	*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	13-Oct-05	14-Oct-05	5100744	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	"	"	"	"	"	
108-39-4,106-44	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 SA35567-01	3711-98-	Ground Water	12-Oct-05 10:40	12-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	13-Oct-05	14-Oct-05	5100744	M.B	
88-06-2	2,4,6-Trichlorophenol	BRL	1.00 µg/l	1	"	"	"	"	"	
Surrogate recoveries:										
321-60-8	*2-Fluorobiphenyl*	*54.5*	*30-130 %*		"	"	"	"	"	
367-12-4	*2-Fluorophenol*	*53.0*	*15-110 %*		"	"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*47.7*	*30-130 %*		"	"	"	"	"	
4165-62-2	*Phenol-d5*	*47.9*	*15-110 %*		"	"	"	"	"	
1718-51-0	*Terphenyl-dl4*	*53.5*	*30-130 %*		"	"	"	"	"	
118-79-6	*2,4,6-Tribromophenol*	*63.0*	*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	0.0050	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	BRL	0.0025 mg/l	1	"	"	"	"	"	
7439-89-6	Iron	0.857	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	0.0124	0.0025 mg/l	1	EPA 200.7	"	17-Oct-05	5100812	RE	
7439-92-1	Lead	BRL	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	BRL	0.0100 mg/l	1	"	"	"	"	"	
General Chemistry Parameters										
1854-029-9	Hexavalent Chromium	BRL	0.005 mg/l	1	SM3500CrD/7196A	12-Oct-05 18:15	12-Oct-05	5100740	ES	
57-12-5	Cyanide (total)	BRL	0.0100 mg/l	1	10-204-00-1-A / SW-846 9012A	13-Oct-05	13-Oct-05	5100828	JAK	
7782-50-5	Total Residual Chlorine	BRL	0.020 mg/l	1	Hach 8167	12-Oct-05 17:15	12-Oct-05	5100764	ES	
	Total Suspended Solids	BRL	5.00 mg/l	1	SM2540D	13-Oct-05	13-Oct-05	5100781	EK	

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100867 - SW846 5030 Water MS										
Blank (5100867-BLK1)				Prepared & Analyzed: 14-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	BRL	1.0	µg/l							
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 5100867 - SW846 5030 Water MS										
Blank (5100867-BLK1)				Prepared & Analyzed: 14-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	0.5	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	*50.0*		µg/l	*50.0*		*100*	*70-130*			
Surrogate: Toluene-d8	*56.1*		µg/l	*50.0*		*112*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*56.0*		µg/l	*50.0*		*112*	*70-130*			
Surrogate: Dibromofluoromethane	*57.2*		µg/l	*50.0*		*114*	*70-130*			
LCS (5100867-BS1)				Prepared & Analyzed: 14-Oct-05						
Acetone	12.3		µg/l	20.0		61.5	2.17-194			
Acrylonitrile	22.3		µg/l	20.0		112	70-130			
Benzene	25.6		µg/l	20.0		128	70-130			
Bromobenzene	20.2		µg/l	20.0		101	70-130			
Bromochloromethane	25.8		µg/l	20.0		129	70-130			
Bromodichloromethane	26.3		µg/l	20.0		132	70-130			QC-1
Bromoform	18.3		µg/l	20.0		91.5	70-130			
Bromomethane	22.0		µg/l	20.0		110	61.9-145			
2-Butanone (MEK)	14.4		µg/l	20.0		72.0	14.9-165			
n-Butylbenzene	16.6		µg/l	20.0		83.0	70-130			
sec-Butylbenzene	19.4		µg/l	20.0		97.0	70-130			
tert-Butylbenzene	18.6		µg/l	20.0		93.0	70-130			
Carbon disulfide	23.8		µg/l	20.0		119	70-130			
Carbon tetrachloride	26.3		µg/l	20.0		132	70-130			QC-1
Chlorobenzene	20.4		µg/l	20.0		102	70-130			
Chloroethane	25.6		µg/l	20.0		128	64.4-134			
Chloroform	25.6		µg/l	20.0		128	70-130			
Chloromethane	27.5		µg/l	20.0		138	70-130			QC-1
2-Chlorotoluene	21.5		µg/l	20.0		108	70-130			
4-Chlorotoluene	21.1		µg/l	20.0		106	70-130			
1,2-Dibromo-3-chloropropane	17.9		µg/l	20.0		89.5	70-130			
Dibromochloromethane	26.6		µg/l	20.0		133	45.3-146			
1,2-Dibromoethane (EDB)	25.8		µg/l	20.0		129	70-130			
Dibromomethane	25.4		µg/l	20.0		127	70-130			
1,2-Dichlorobenzene	19.2		µg/l	20.0		96.0	70-130			
1,3-Dichlorobenzene	20.9		µg/l	20.0		104	70-130			
1,4-Dichlorobenzene	18.5		µg/l	20.0		92.5	70-130			
Dichlorodifluoromethane (Freon12)	33.8		µg/l	20.0		169	49.6-201			
1,1-Dichloroethane	25.0		µg/l	20.0		125	70-130			
1,2-Dichloroethane	25.0		µg/l	20.0		125	70-130			

Volatile Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100867 - SW846 5030 Water MS										
LCS (5100867-BS1)				Prepared & Analyzed: 14-Oct-05						
1,1-Dichloroethene	23.6		µg/l	20.0		118	70-130			
cis-1,2-Dichloroethene	26.0		µg/l	20.0		130	70-130			
trans-1,2-Dichloroethene	22.5		µg/l	20.0		112	70-130			
1,2-Dichloropropane	25.6		µg/l	20.0		128	70-130			
1,3-Dichloropropane	25.8		µg/l	20.0		129	70-130			
2,2-Dichloropropane	24.2		µg/l	20.0		121	70-130			
1,1-Dichloropropene	25.1		µg/l	20.0		126	70-130			
cis-1,3-Dichloropropene	25.4		µg/l	20.0		127	70-130			
trans-1,3-Dichloropropene	24.8		µg/l	20.0		124	70-130			
Ethylbenzene	20.9		µg/l	20.0		104	70-130			
Hexachlorobutadiene	19.4		µg/l	20.0		97.0	68.6-137			
2-Hexanone (MBK)	17.2		µg/l	20.0		86.0	70-130			
Isopropylbenzene	20.5		µg/l	20.0		102	70-130			
4-Isopropyltoluene	18.7		µg/l	20.0		93.5	70-130			
Methyl tert-butyl ether	25.4		µg/l	20.0		127	70-130			
4-Methyl-2-pentanone (MIBK)	24.7		µg/l	20.0		124	48.6-137			
Methylene chloride	24.3		µg/l	20.0		122	70-130			
Naphthalene	17.8		µg/l	20.0		89.0	70-130			
n-Propylbenzene	18.5		µg/l	20.0		92.5	70-130			
Styrene	17.9		µg/l	20.0		89.5	70-130			
1,1,1,2-Tetrachloroethane	20.5		µg/l	20.0		102	70-130			
1,1,2,2-Tetrachloroethane	19.8		µg/l	20.0		99.0	70-130			
Tetrachloroethene	25.4		µg/l	20.0		127	70-130			
Toluene	25.1		µg/l	20.0		126	70-130			
1,2,3-Trichlorobenzene	19.7		µg/l	20.0		98.5	70-130			
1,2,4-Trichlorobenzene	18.6		µg/l	20.0		93.0	70-130			
1,1,1-Trichloroethane	25.5		µg/l	20.0		128	70-130			
1,1,2-Trichloroethane	25.7		µg/l	20.0		128	70-130			
Trichloroethene	25.5		µg/l	20.0		128	70-130			
Trichlorofluoromethane (Freon 11)	26.0		µg/l	20.0		130	67.9-143			
1,2,3-Trichloropropane	19.9		µg/l	20.0		99.5	70-130			
1,2,4-Trimethylbenzene	18.6		µg/l	20.0		93.0	70-130			
1,3,5-Trimethylbenzene	18.3		µg/l	20.0		91.5	70-130			
Vinyl chloride	25.8		µg/l	20.0		129	70-130			
m,p-Xylene	40.1		µg/l	40.0		100	70-130			
o-Xylene	20.1		µg/l	20.0		100	70-130			
Tetrahydrofuran	23.2		µg/l	20.0		116	70-130			
Ethyl ether	23.7		µg/l	20.0		118	70-136			
Tert-amyl methyl ether	25.0		µg/l	20.0		125	70-130			
Ethyl tert-butyl ether	26.3		µg/l	20.0		132	70-130			QC-1
Di-isopropyl ether	25.7		µg/l	20.0		128	70-130			
Tert-Butanol / butyl alcohol	225		µg/l	200		112	70-130			
1,4-Dioxane	225		µg/l	200		112	36.5-156			
Surrogate: 4-Bromofluorobenzene	*53.1*		µg/l	*50.0*		*106*	*70-130*			
Surrogate: Toluene-d8	*56.8*		µg/l	*50.0*		*114*	*70-130*			
Surrogate: 1,2-Dichloroethane-d4	*51.7*		µg/l	*50.0*		*103*	*70-130*			
Surrogate: Dibromofluoromethane	*54.8*		µg/l	*50.0*		*110*	*70-130*			

Microextractable Organic Compounds - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5100742 - Microextr. by 504.1										
Blank (5100742-BLK1)				Prepared: 13-Oct-05 Analyzed: 14-Oct-05						
1,2-Dibromoethane (EDB)	BRL	0.0100	µg/l							
LCS (5100742-BS1)				Prepared: 13-Oct-05 Analyzed: 14-Oct-05						
1,2-Dibromoethane (EDB)	0.190	0.0100	µg/l	0.200		95.0	50-150			
Duplicate (5100742-DUP1)		**Source: SA35509-01**		Prepared: 13-Oct-05 Analyzed: 14-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 5100743 - SW846 3535										
Blank (5100743-BLK1)				Prepared & Analyzed: 13-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)	*0.140*		µg/l	*0.200*		*70.0*	*30-150*			
Surrogate: Decachlorobiphenyl (Sr)	*0.190*		µg/l	*0.200*		*95.0*	*30-150*			
LCS (5100743-BS1)				Prepared & Analyzed: 13-Oct-05						
PCB 1016	2.48	0.200	µg/l	2.50		99.2	40-140			
PCB 1260	2.36	0.200	µg/l	2.50		94.4	40-140			
Surrogate: 4,4-DB-Octafluorobiphenyl (Sr)	*0.120*		µg/l	*0.200*		*60.0*	*30-150*			
Surrogate: Decachlorobiphenyl (Sr)	*0.210*		µg/l	*0.200*		*105*	*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 5100744 - SW846 3535										
Blank (5100744-BLK1)				Prepared & Analyzed: 13-Oct-05						
Acenaphthene	BRL	5.00	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	5.00	µg/l							
4-Chloroaniline	BRL	5.00	µg/l							
2-Chloronaphthalene	BRL	5.00	µg/l							
2-Chlorophenol	BRL	5.00	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	5.00	µg/l							
1,3-Dichlorobenzene	BRL	5.00	µg/l							
1,4-Dichlorobenzene	BRL	5.00	µg/l							
3,3'-Dichlorobenzidine	BRL	5.00	µg/l							
2,4-Dichlorophenol	BRL	5.00	µg/l							
Diethyl phthalate	BRL	5.00	µg/l							
Dimethyl phthalate	BRL	5.00	µg/l							
2,4-Dimethylphenol	BRL	5.00	µg/l							
Di-n-butyl phthalate	BRL	5.00	µg/l							
4,6-Dinitro-2-methylphenol	BRL	5.00	µg/l							
2,4-Dinitrophenol	BRL	5.00	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	5.00	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	5.00	µg/l							
3,4-Methylphenol	BRL	10.0	µg/l							
Naphthalene	BRL	5.00	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 5100744 - SW846 3535										
Blank (5100744-BLK1)				Prepared & Analyzed: 13-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	5.00	µg/l							
4-Nitrophenol	BRL	5.00	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	5.00	µg/l							
Phenanthrene	BRL	5.00	µg/l							
Phenol	BRL	5.00	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	5.00	µg/l							
2,4,6-Trichlorophenol	BRL	5.00	µg/l							
Surrogate: 2-Fluorobiphenyl	*68.0*		µg/l	*100*		*68.0*	*30-130*			
Surrogate: 2-Fluorophenol	*67.5*		µg/l	*100*		*67.5*	*15-110*			
Surrogate: Nitrobenzene-d5	*61.5*		µg/l	*100*		*61.5*	*30-130*			
Surrogate: Phenol-d5	*59.9*		µg/l	*100*		*59.9*	*15-110*			
Surrogate: Terphenyl-dl4	*79.2*		µg/l	*100*		*79.2*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*68.3*		µg/l	*100*		*68.3*	*15-110*			
LCS (5100744-BS1)				Prepared & Analyzed: 13-Oct-05						
Acenaphthene	69.6	5.00	µg/l	100		69.6	40-140			
Acenaphthylene	68.6	5.00	µg/l	100		68.6	40-140			
Aniline	49.9	5.00	µg/l	100		49.9	40-140			
Anthracene	72.4	5.00	µg/l	100		72.4	40-140			
Azobenzene/Diphenyldiazine	66.4	5.00	µg/l	100		66.4	40-140			
Benzidine	33.0	5.00	µg/l	100		33.0	40-140			QC-2
Benzo (a) anthracene	75.2	5.00	µg/l	100		75.2	40-140			
Benzo (a) pyrene	79.3	5.00	µg/l	100		79.3	40-140			
Benzo (b) fluoranthene	76.7	5.00	µg/l	100		76.7	40-140			
Benzo (g,h,i) perylene	81.1	5.00	µg/l	100		81.1	40-140			
Benzo (k) fluoranthene	76.9	5.00	µg/l	100		76.9	40-140			
Benzoic acid	68.2	5.00	µg/l	100		68.2	30-130			
Benzyl alcohol	57.2	5.00	µg/l	100		57.2	40-140			
Bis(2-chloroethoxy)methane	66.7	5.00	µg/l	100		66.7	40-140			
Bis(2-chloroethyl)ether	47.4	5.00	µg/l	100		47.4	40-140			
Bis(2-chloroisopropyl)ether	57.1	5.00	µg/l	100		57.1	40-140			
Bis(2-ethylhexyl)phthalate	82.1	5.00	µg/l	100		82.1	40-140			
4-Bromophenyl phenyl ether	73.0	5.00	µg/l	100		73.0	40-140			
Butyl benzyl phthalate	80.0	5.00	µg/l	100		80.0	40-140			
Carbazole	69.3	5.00	µg/l	100		69.3	0-200			
4-Chloro-3-methylphenol	80.4	5.00	µg/l	100		80.4	30-130			
4-Chloroaniline	63.8	5.00	µg/l	100		63.8	40-140			
2-Chloronaphthalene	65.2	5.00	µg/l	100		65.2	40-140			
2-Chlorophenol	60.9	5.00	µg/l	100		60.9	30-130			
4-Chlorophenyl phenyl ether	72.2	5.00	µg/l	100		72.2	40-140			
Chrysene	75.4	5.00	µg/l	100		75.4	40-140			
Dibenzo (a,h) anthracene	88.2	5.00	µg/l	100		88.2	40-140			
Dibenzofuran	71.0	5.00	µg/l	100		71.0	40-140			
1,2-Dichlorobenzene	57.7	5.00	µg/l	100		57.7	40-140			
1,3-Dichlorobenzene	56.1	5.00	µg/l	100		56.1	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 5100744 - SW846 3535										
LCS (5100744-BS1)				Prepared & Analyzed: 13-Oct-05						
1,4-Dichlorobenzene	55.5	5.00	µg/l	100		55.5	40-140			
3,3'-Dichlorobenzidine	77.4	5.00	µg/l	100		77.4	40-140			
2,4-Dichlorophenol	70.6	5.00	µg/l	100		70.6	30-130			
Diethyl phthalate	78.5	5.00	µg/l	100		78.5	40-140			
Dimethyl phthalate	76.0	5.00	µg/l	100		76.0	40-140			
2,4-Dimethylphenol	68.8	5.00	µg/l	100		68.8	30-130			
Di-n-butyl phthalate	73.5	5.00	µg/l	100		73.5	40-140			
4,6-Dinitro-2-methylphenol	99.7	5.00	µg/l	100		99.7	30-130			
2,4-Dinitrophenol	99.0	5.00	µg/l	100		99.0	30-130			
2,4-Dinitrotoluene	90.0	5.00	µg/l	100		90.0	40-140			
2,6-Dinitrotoluene	88.6	5.00	µg/l	100		88.6	40-140			
Di-n-octyl phthalate	81.7	5.00	µg/l	100		81.7	40-140			
Fluoranthene	74.1	5.00	µg/l	100		74.1	40-140			
Fluorene	72.8	5.00	µg/l	100		72.8	40-140			
Hexachlorobenzene	73.4	5.00	µg/l	100		73.4	40-140			
Hexachlorobutadiene	62.1	5.00	µg/l	100		62.1	40-140			
Hexachlorocyclopentadiene	47.7	5.00	µg/l	100		47.7	40-140			
Hexachloroethane	56.5	5.00	µg/l	100		56.5	40-140			
Indeno (1,2,3-cd) pyrene	80.0	5.00	µg/l	100		80.0	40-140			
Isophorone	69.5	5.00	µg/l	100		69.5	40-140			
2-Methylnaphthalene	68.1	5.00	µg/l	100		68.1	40-140			
2-Methylphenol	63.9	5.00	µg/l	100		63.9	40-140			
3,4-Methylphenol	53.6	10.0	µg/l	100		53.6	40-140			
Naphthalene	64.7	5.00	µg/l	100		64.7	40-140			
2-Nitroaniline	77.5	5.00	µg/l	100		77.5	40-140			
3-Nitroaniline	77.0	5.00	µg/l	100		77.0	40-140			
4-Nitroaniline	81.9	5.00	µg/l	100		81.9	40-140			
Nitrobenzene	62.2	5.00	µg/l	100		62.2	40-140			
2-Nitrophenol	71.7	5.00	µg/l	100		71.7	30-130			
4-Nitrophenol	63.7	5.00	µg/l	100		63.7	30-130			
N-Nitrosodimethylamine	63.8	5.00	µg/l	100		63.8	40-140			
N-Nitrosodi-n-propylamine	63.8	5.00	µg/l	100		63.8	40-140			
N-Nitrosodiphenylamine	76.5	5.00	µg/l	100		76.5	40-140			
Pentachlorophenol	101	5.00	µg/l	100		101	30-130			
Phenanthrene	71.2	5.00	µg/l	100		71.2	40-140			
Phenol	62.5	5.00	µg/l	100		62.5	30-130			
Pyrene	72.6	5.00	µg/l	100		72.6	40-140			
Pyridine	48.9	5.00	µg/l	100		48.9	40-140			
1,2,4-Trichlorobenzene	62.4	5.00	µg/l	100		62.4	40-140			
2,4,5-Trichlorophenol	74.0	5.00	µg/l	100		74.0	30-130			
2,4,6-Trichlorophenol	71.0	5.00	µg/l	100		71.0	30-130			
Surrogate: 2-Fluorobiphenyl	*64.9*		µg/l	*100*		*64.9*	*30-130*			
Surrogate: 2-Fluorophenol	*55.0*		µg/l	*100*		*55.0*	*15-110*			
Surrogate: Nitrobenzene-d5	*61.6*		µg/l	*100*		*61.6*	*30-130*			
Surrogate: Phenol-d5	*47.8*		µg/l	*100*		*47.8*	*15-110*			
Surrogate: Terphenyl-dl4	*77.3*		µg/l	*100*		*77.3*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*85.6*		µg/l	*100*		*85.6*	*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							
Arsenic	BRL	0.0040	mg/l							
Silver	BRL	0.0050	mg/l							
Chromium	BRL	0.0025	mg/l							
Copper	BRL	0.0025	mg/l							
Cadmium	BRL	0.0012	mg/l							
LCS (5100812-BS1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Iron	0.108	0.0025	mg/l	0.100		108	85-115			
Nickel	0.0990	0.0025	mg/l	0.100		99.0	85-115			
Antimony	0.0895	0.0060	mg/l	0.100		89.5	85-115			
Selenium	0.0924	0.0075	mg/l	0.100		92.4	85-115			
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			
Chromium	0.0972	0.0025	mg/l	0.100		97.2	85-115			
Copper	0.101	0.0025	mg/l	0.100		101	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			
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						
Iron	9.55	0.0025	mg/l		9.20			3.73	20	
Antimony	BRL	0.0060	mg/l		BRL				20	
Selenium	BRL	0.0075	mg/l		BRL				20	
Zinc	BRL	0.0100	mg/l		0.0073			6.62	20	
Nickel	BRL	0.0025	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	
Arsenic	0.0215	0.0040	mg/l		0.0236			9.31	20	
Cadmium	BRL	0.0012	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						
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
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
Iron	0.128	0.0025	mg/l	0.100	0.0683	59.7	70-130			QM-07
Silver	0.0305	0.0050	mg/l	0.0500	BRL	61.0	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			
Copper	0.0652	0.0025	mg/l	0.100	0.0008	64.4	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
Iron	0.138	0.0025	mg/l	0.100	0.0683	69.7	70-130	7.52	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

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
Antimony	0.0609	0.0060	mg/l	0.100	BRL	60.9	70-130	6.27	20	QM-07
Copper	0.0692	0.0025	mg/l	0.100	0.0008	68.4	70-130	5.95	20	QM-07
Chromium	0.0686	0.0025	mg/l	0.100	BRL	68.6	70-130	5.24	20	QM-07
Cadmium	0.0678	0.0012	mg/l	0.100	BRL	67.8	70-130	4.68	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
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 5100740 - General Preparation										
Blank (5100740-BLK1)				Prepared & Analyzed: 12-Oct-05						
Hexavalent Chromium	BRL	0.005	mg/l							
LCS (5100740-BS1)				Prepared & Analyzed: 12-Oct-05						
Hexavalent Chromium	0.049	0.005	mg/l	0.0500		98.0	90-110			
Duplicate (5100740-DUP1)		Source: SA35567-01		Prepared & Analyzed: 12-Oct-05						
Hexavalent Chromium	BRL	0.005	mg/l		BRL				20	
Matrix Spike (5100740-MS1)		Source: SA35567-01		Prepared & Analyzed: 12-Oct-05						
Hexavalent Chromium	0.050	0.005	mg/l	0.0500	BRL	100	80-120			
Reference (5100740-SRM1)				Prepared & Analyzed: 12-Oct-05						
Hexavalent Chromium	0.027	0.005	mg/l	0.0250		108	85-115			
Batch 5100764 - General Preparation										
Blank (5100764-BLK1)				Prepared & Analyzed: 12-Oct-05						
Total Residual Chlorine	BRL	0.020	mg/l							
LCS (5100764-BS1)				Prepared & Analyzed: 12-Oct-05						
Total Residual Chlorine	0.048	0.020	mg/l	0.0500		96.0	90-110			
Duplicate (5100764-DUP1)		Source: SA35567-01		Prepared & Analyzed: 12-Oct-05						
Total Residual Chlorine	BRL	0.020	mg/l		0.005			0.00	20	
Matrix Spike (5100764-MS1)		Source: SA35567-01		Prepared & Analyzed: 12-Oct-05						
Total Residual Chlorine	0.049	0.020	mg/l	0.0500	0.005	88.0	80-120			
Reference (5100764-SRM1)				Prepared & Analyzed: 12-Oct-05						
Total Residual Chlorine	0.103	0.020	mg/l	0.107		96.3	85-115			
Batch 5100781 - General Preparation										
Blank (5100781-BLK1)				Prepared & Analyzed: 13-Oct-05						
Total Suspended Solids	BRL	5.00	mg/l							
Duplicate (5100781-DUP1)		Source: SA35495-02		Prepared & Analyzed: 13-Oct-05						
Total Suspended Solids	496	20.0	mg/l		488			1.63	20	
Duplicate (5100781-DUP2)		Source: SA35566-01		Prepared & Analyzed: 13-Oct-05						
Total Suspended Solids	49.0	5.00	mg/l		49.0			0.00	20	
Reference (5100781-SRM1)				Prepared & Analyzed: 13-Oct-05						
Total Suspended Solids	92.0	10.0	mg/l	95.3		96.5	90-110			
Batch 5100828 - General Preparation										
Blank (5100828-BLK1)				Prepared & Analyzed: 13-Oct-05						
Cyanide (total)	BRL	0.0100	mg/l							
Blank (5100828-BLK2)				Prepared & Analyzed: 13-Oct-05						
Cyanide (total)	BRL	0.0100	mg/l							
LCS (5100828-BS1)				Prepared & Analyzed: 13-Oct-05						
Cyanide (total)	0.302	0.0100	mg/l	0.300		101	90-110			
LCS (5100828-BS2)				Prepared & Analyzed: 13-Oct-05						
Cyanide (total)	0.299	0.0100	mg/l	0.300		99.7	90-110			
Matrix Spike (5100828-MS1)		Source: SA35338-01		Prepared & Analyzed: 13-Oct-05						
Cyanide (total)	0.301	0.0100	mg/l	0.300	BRL	100	75-125			
Matrix Spike Dup (5100828-MSD1)		Source: SA35338-01		Prepared & Analyzed: 13-Oct-05						
Cyanide (total)	0.296	0.0100	mg/l	0.300	BRL	98.7	75-125	1.68	20	
Reference (5100828-SRM1)				Prepared & Analyzed: 13-Oct-05						
Cyanide (total)	0.337	0.0100	mg/l	0.333		101	75.7-125			

Notes and Definitions

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.

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

SA 35567 R

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Page 1 of 1

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 72 hour
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: CEA INC
127 Hartwell St
West Boylston MA

Project Mgr.: A. Last

Invoice To: CK Smith
99 Cresent St
Worcester MA

P.O. No.: _____ RQN: _____

Project No.: 3711-98-
Site Name: CK Smith
Location: Shrewsbury State: MA
Sampler(s): Jonathan Briggs

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: NPDES Parameters	QA Reporting Notes: (check if needed)
35567-01	INF	10-12	10:40	G	GW		4	3		3		
												See attached list

State specific reporting standards *If applicable, please list below.*

☐ Provide MCP CAM Report
Were all field QC requirements met as per MADEP CAM Section 2.0?
☐ Yes ☐ No
(Response required for CAM report)

☐ Fax results when available to (____) _____
☒ E-mail to jmyers@cea-inc.com
EDD Format _____

Condition upon receipt: ☐ Iced ☐ Ambient ☒ °C 5 Rec

Relinquished by:	Received by:	Date:	Time:
		10/12/05	1225
		10/13/05	1419

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