Via USPS
Delivery Confirmation

CORPORATE ENVIRONMENTAL ADVISORS, INC.

PROUDLY CELEBRATING 20 YEARS Of Outstanding Service 1985 - 2005

OC
MAG910147

October 21, 2005

US-EPA Region 1
RGP-NOC Processing
Municipal Assistance Unit (CMU)
One Congress Street
Boston, Massachusetts 02114-2023

RE: EPA Remediation General Permit Notice of Intent
[redacted]
218 Columbia Road
Hanover, Massachusetts
DUNS No. 0005-3595
RTN 4-0965; CEA Ref # 4776-01-4

OCT 24

To Whom It May Concern:

On behalf of Sunoco Inc., (R & M) (Sunoco), Corporate Environmental Advisors, Inc. (CEA) is submitting this Notice of Intent (NOI) for an EPA Remediation General Permit (RGP) to treat and discharge petroleum-impacted groundwater at the above referenced site. This work is being conducted as part of Phase V Remedial Actions at the site under 310 CMR 40.00 of the Massachusetts Contingency Plan (MCP). **Figure 1,** Site Locus Map, shows the property location with respect to surrounding topography. **Figure 2**, Site Layout, depicts pertinent site features.

On August 20, 2004, the U.S. Environmental Protection Agency (EPA) issued National Pollutant Discharge Elimination System (NPDES) Permit Exclusion Number MA-04I-074 to Sunoco, authorizing the discharge of treated groundwater to a wetlands area located to the west of Columbia Road via a street drainage catch basin. Treated groundwater discharge commenced under the NPES Permit Exclusion on October 13, 2004 following completion of the discharge connection to the catch basin. However, based on the requirements set forth in the RGP, a NOI is required to be filed with the EPA.

Compounds identified in groundwater at the Site are consistent with gasoline and include C5-C12 aliphatic and C9-C22 aromatic petroleum hydrocarbons and relatively low concentrations of MTBE. Extracted groundwater is processed directly from up to four recovery wells using a high vacuum extraction (HVE) system through a 100-gallon knockout tank to allow separation of vapor and liquid phases. Groundwater is currently pumped through one bag filter units to remove solids and then pumped through two (2) 100-pound, pressurized, liquid phase, granulated activated carbon adsorption (GACA) vessels, piped in series, prior to discharge to the subsurface via a reinjection trench. The maximum instantaneous groundwater flow rate is less than 10 gallons per minute (gpm). The average groundwater discharge flow rate is less than 1.0 gpm.

Groundwater removed from the recovery wells is pumped through a groundwater filtration and treatment system prior to reinjection to the subsurface and discharge into the catchbasin located immediately adjacent to the Site. The catch basin discharges ultimately to a forested wetland, approximately 400 feet

southwest of the Site. The wetland drains into Iron Mine Brook, approximately 100 feet west of the point of discharge. Iron Mine Brook flows into Indian Head River approximately one-mile south of the site. Refer to the attached Figures.

Groundwater discharge will be monitored according to the guidelines described in the RGP. In-line sample ports for sample collection will be installed at the GACA influent, midpoint 1, midpoint 2, and effluent discharge points. In addition, a totalizer and flow meter will be installed along the discharge line for proper recording of groundwater discharge volume and flow rates. The HVE system is anticipated to be operated for a period of approximately two years. A system schematic is provided in **Figure 3**. The NOI forms and supporting documentation are attached.

If you have any questions or require additional information, please do not hesitate to contact me at (508) 835-8822, Extension 224.

Sincerely,
CORPORATE ENVIRONMENTAL ADVISORS, INC.

Matthew J. Dowling
Senior Hydrogeologist

Scott E. VanderSea, L.S.P., L.E.P.
Principal Hydrogeologist

cc: Mr. William Brochu – Sunoco, Inc. (R & M), 4 Bellows Road, PO Box 1262 Westborough, MA 01581

NOTICE OF INTENT FORM
FOR THE
REMEDIATION GENERAL PERMIT

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**: Capeway Sunoco			**Facility/site** address: ~~218~~		
Location of **facility/site**: longitude: 70°49'6" latitude: 42°6'50"	Facility SIC code(s): 5541 & 7538		Street: 218 Columbia Road		
b) Name of **facility/site owner:** Capeway Sunoco			Town: Hanover		
Email address of owner: —			State: MA	Zip: 02339	County: Plymouth
Telephone no. of facility/site **owner**: 781-826-2051					
Fax no. of facility/site **owner**: 781-826-0152			**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:					
Town:	State:	Zip:	County:		
c) Legal name of **operator**: Corporate Environmental Advisors, Inc.	**Operator** telephone no: 508-835-8822				
	Operator fax no.: 508-835-8812		**Operator** email:		
Operator contact name and title:					
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__✓__ No___, if "yes," number: MA-041-074
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes___ No__✓__, if "yes," date and tracking #:
3. Is the discharge a "new discharge"as defined by 40 CFR 122.2? Yes___ No__✓__
4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes__✓__ No__

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes X No If "yes," please list: 1. site identification # assigned by the state of NH or MA: MADEP RTN#4-0965 2. permit or license # assigned: 3. state agency contact information: name, location, and telephone number: MADEP Southeast Regional office, 20 Riverside Dr, Lakeville, MA	f) Is the site/facility covered by any other EPA permit, including: 1. multi-sector storm water general permit? Y___ N✓, if Y, number: 2. phase I or II construction storm water general permit? Y___ N✓, if Y, number: 3. individual NPDES permit? Y___ N✓, if Y, number: 4. any other water quality related permit? Y___ N✓, if Y, number:

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage: Remediation of Groundwater under MCP.

b) Provide the following information about each discharge:	1) Number of discharge points: One	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft3/s)? Max. flow 0.022 Average flow 0.003 's maximum flow a **design value**? Y___ N✓ For average flow, include the units and appropriate notation if this value is a design value or estimate if not available.

3) Latitude and longitude of each discharge within 100 feet: pt.1:long. 70° 49' 9.17" LAT: 42°6' 47.51" 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): N/A	5) Is the discharge intermittent NO or seasonal NO ? Is discharge ongoing Yes ✓ No_____?

c) Expected dates of discharge (mm/dd/yy): start Oct 2004 end Dec. 2008

d) Please attach a line drawing or flow schematic showing water flow through the facility including: See Attached
1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).

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

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

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

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

PARAMETER	Believe Absent	Believe Present	# of Samples (1 min-imum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids		✓	1	Grab	SM 2540D	5.00 mg/l	16,000	-	—	—
2. Total Residual Chlorine		✓	1		SW846 7196A	0.010 mg/l	1,800	-	—	—
3. Total Petroleum Hydrocarbons		✓	18		EPA 418.1	0.61 mg/l	3.2	-	<0.61	✓
4. Cyanide	✓		1		SW-846-9014	0.0100 mg/l	—	—	—	—
5. Benzene		✓	19		EPA 624	0.001 mg/l	623	—	11.5	
6. Toluene		✓	19				297	—	32.6	
7. Ethylbenzene		✓	19				63.1	-	14.1	
8. (m,p,o) Xylenes		✓	19				302	-	61.3	
9. Total BTEX[4]		✓	19				724.4	-	119.5	

[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)	✓		1	Grab	EPA 504.1	0.010 ug/l	—	—	—	—
11. Methyl-tert-Butyl Ether (MtBE)		✓	19		EPA 624	0.001 mg/l	10,500 ug/l		1,935 ug/l	
12. tert-Butyl Alcohol (TBA)		✓	1		EPA 8260B	0.050 mg/l	329		—	—
13. tert-Amyl Methyl Ether (TAME)	✓		1			5.0 ug/l	—	—	—	—
14. Naphthalene		✓	19		EPA 624	1.0 ug/l	86		15.5	
15. Carbon Tetra-chloride			1		EPA 8260B	2.5 ug/l	—	—	—	—
16. 1,4 Dichlorobenzene			1			2.5 ug/l	—	—	—	—
17. 1,2 Dichlorobenzene			1			2.5 ug/l	—	—	—	—
18. 1,3 Dichlorobenzene			1			2.5 ug/l	—	—	—	—
19. 1,1 Dichloroethane			1			2.5 ug/l	—	—	—	—
20. 1,2 Dichloroethane			1			2.5 ug/l	—	—	—	—
21. 1,1 Dichloroethylene			1			2.5 ug/l	—	—	—	—
22. cis-1,2 Dichloro-ethylene			1			2.5 ug/l	—	—	—	—
23. Dichloromethane (Methylene Chloride)			1			5.0 ug/l	—	—	—	—
24. Tetrachloroethylene	✓		1			2.5 ug/l	—	—	—	—

[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	√		1	GRAB	8260B	2.5 ug/l				
26. 1,1,2 Trichloroethane	√		1	"	"	2.5 ug/l				
27. Trichloroethylene	√		1	"	"	2.5 ug/l				
28. Vinyl Chloride	√		1	"	"	2.5 ug/l				
29. Acetone	√		1	"	"	50 ug/l				
30. 1,4 Dioxane	√		1	"	8260B	100 ug/l				
31. Total Phenols	√		1	"	EPA 608					
32. Pentachlorophenol	√		1	"	"	1.0 ug/l				
33. Total Phthalates [6] (Phthalate esthers)	√		1	"	"	5.0 ug/l				
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	√		1	"	"	5.0 ug/l				
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	√		1	"	"	1.0-5.0 ug/l				
a. Benzo(a) Anthracene	√		1	"	"	5.0 ug/l				
b. Benzo(a) Pyrene	√		1	"	"	5.0 ug/l				
c. Benzo(b)Fluoranthene	√		1	"	"	5.0 ug/l				
d. Benzo(k) Fluoranthene	√		1	"	"	5.0 ug/l				
e. Chrysene	√		1	"	"	5.0 ug/l				

[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	✓		1	Grab	EPA 625	5.0 ug/l	—	—	—	—
g. Indeno(1,2,3-cd) Pyrene	✓		1			5.0 ug/l	—	—	—	—
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	✓		1			5.0 ug/l	—	—	—	—
h. Acenaphthene		✓	1			~~1.12~~ 1.0 ug/l	1.12		—	—
i. Acenaphthylene	✓		1			5.0 ug/l	—	—	—	—
j. Anthracene	✓		1			5.0 ug/l	—	—	—	—
k. Benzo(ghi) Perylene	✓		1			5.0 ug/l	—	—	—	—
l. Fluoranthene		✓	1			1.0	1.0		—	—
m. Fluorene	✓		1			5.0 ug/l	—	—	—	—
n. Naphthalene-		✓	1		EPA 624	1.0 ug/l	86		15.5	
o. Phenanthrene	✓		1			5.0 ug/l	—	—	—	—
p. Pyrene	✓		1			5.0 ug/l	—	—	—	—
37. Total Polychlorinated Biphenyls (PCBs)	✓		1		EPA 608	0.235 ug/l	—	—	—	—
38. Antimony	✓		1		EPA 200 Series	0.006 mg/l	—	—	—	—
39. Arsenic	✓		1			0.0040 mg/l	—	—	—	—
40. Cadmium	✓		1			0.0012 mg/l	—	—	—	—
41. Chromium III		✓	1			0.005 mg/l	6.6		—	—
42. Chromium VI	✓		1	—	EPA 3500	0.010 mg/l	—	—	—	—

PARAMETER	Believe Absent	Believe Present	# of Samples (1 minimum)	Type of Sample (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Avg. daily value	
							concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
43. Copper	✓		1	GRAB	EPA 200 series	0.0025 mg/l	—	—	—	—
44. Lead	✓		1			0.0038 mg/l	—	—	—	—
45. Mercury	✓		1			0.00020 mg/l	—	—	—	—
46. Nickel		✓	1			0.0025 mg/l	3.4		—	✓
47. Selenium	✓		1			0.0075 mg/l	—	—	—	—
48. Silver	✓		1			0.005 mg/l	—	—	—	✓
49. Zinc		✓	1			0.010 mg/l	755		—	—
50. Iron		✓	1	↓	↓	0.0025 mg/l	7,210		—	—
Other (describe):										

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

Step 1: Do any of the metals in the influent have a **reasonable potential** to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y X N ___	If yes, which metals? Iron
Step 2: For any metals which have **reasonable potential** to exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals: Iron = 5,000 DF: 0-5	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y X N ___ If "Yes," list which metals: Iron *

However, the treatment system filtration components (bag filters & carbon vessles) are anticipated to remove Iron concentrations to below the EPA Effluent Standards using a 0-5 dilution factor.

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: Attached						
b) Identify each applicable treatment unit (check all that apply):	Frac. tank	Air stripper	Oil/water separator	Equalization tanks	Bag filter √	GAC filter √
	Chlorination	Dechlorination	Other (please describe):			
c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system: Average flow rate of discharge 1.3 Maximum flow rate of treatment system 10 Design flow rate of treatment system _____						
d) A description of chemical additives being used or planned to be used (attach MSDS sheets): No additives used						

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 X	Wetlands X	Other (describe):
b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters: Attached						
c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water: Attached 1. For multiple discharges, number the discharges sequentially. 2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.						
d) Provide the state water quality classification of the receiving water Class B (Indian Head River).						
e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 1.66 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 X No____ If yes, for which pollutant(s)? Metals, Nutrients, organic enrichment, Low DO Is there a TMDL? Yes No____ If yes, for which pollutant(s)?						

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

a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes____ No_✓_
Has any consultation with the federal services been completed ? No_✗_ or is consultation underway? Yes____ No_✗_
What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (~~check~~ one):
a "no jeopardy" opinion? _____or written concurrence____ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?

b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge?
Yes_____ No_____✓_____ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes_____ No_____

7. Supplemental information. :

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

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

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

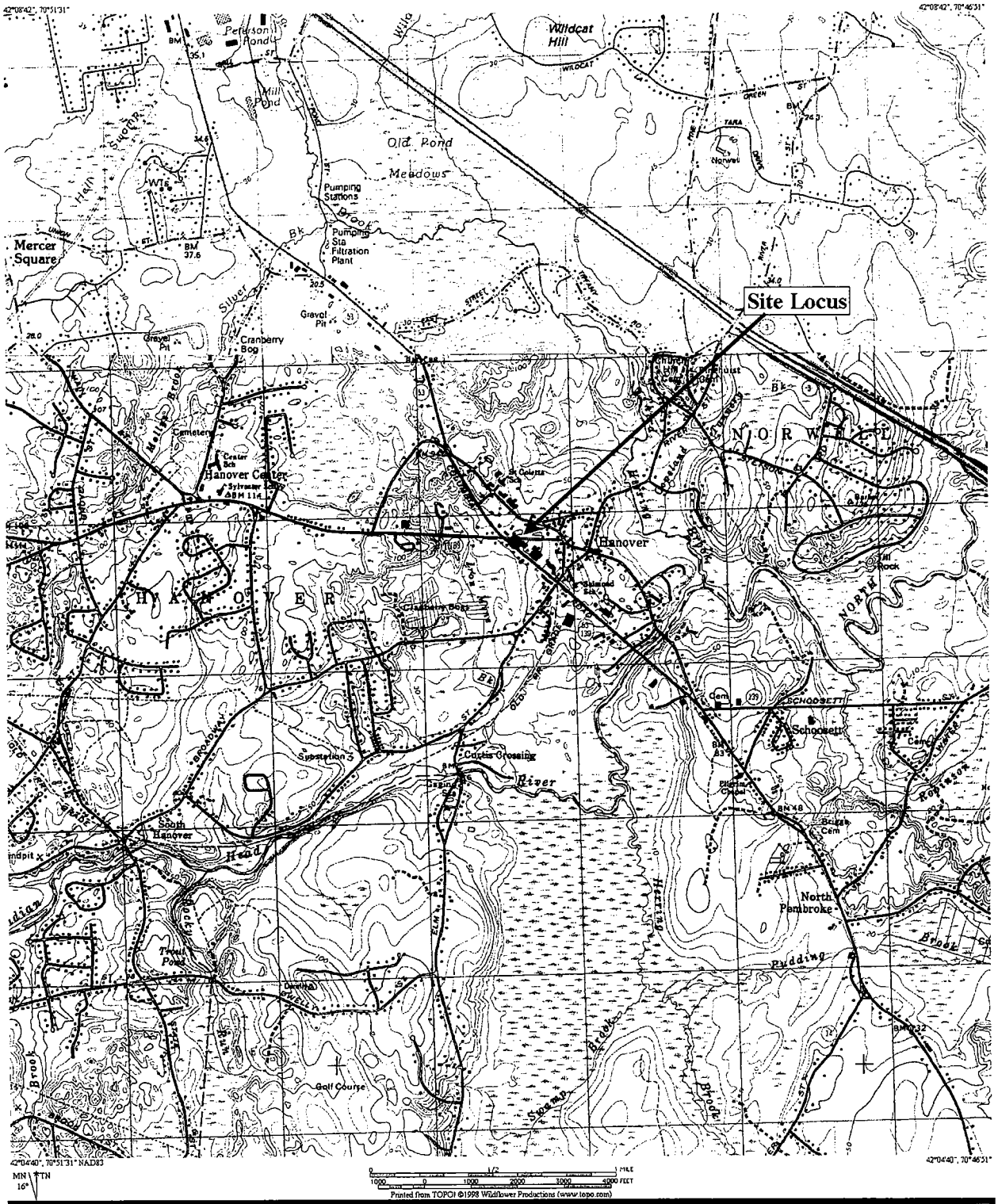
Facility/Site Name: Sunoco Service Station
218 Columbia Road, Hanover, MA

Operator signature:

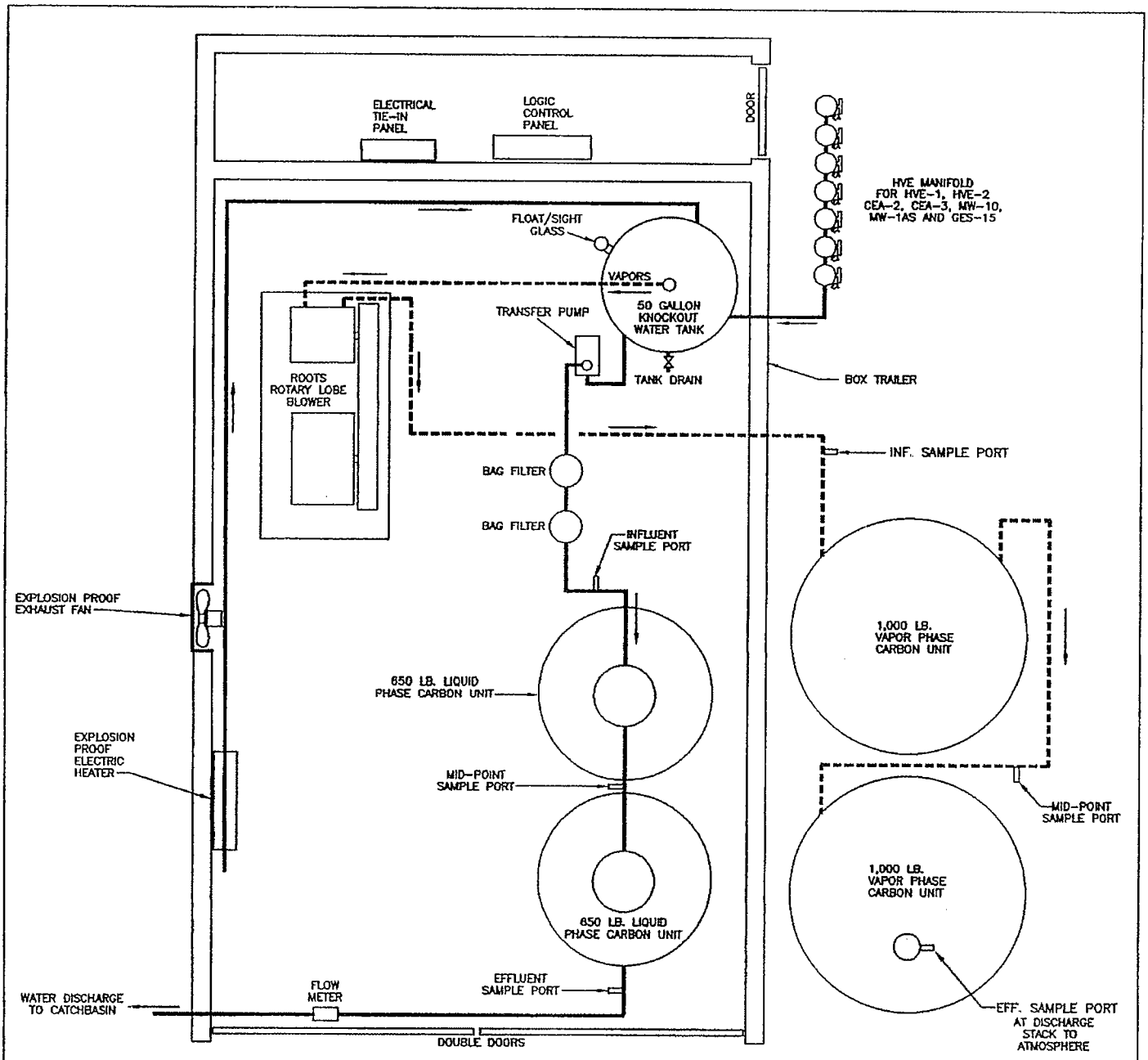
Title: Principal Hydrogeologist / Consultant for Sunoco
Corporate Environmental Advisors, Inc.

Date: 10/21/05

FIGURES



Coordinates: **Longitude:** **70° 49' 06"** **Latitude:** **42° 06' 50"**	**Address: 218 Columbia Road** **Hanover, MA** **Quad: Hanover, MA** **N4200 – W7145/7.5** **1978**	**Figure 1** **Site Locus** CORPORATE ENVIRONMENTAL ADVISORS, INC.



LEGEND

— LIQUID PHASE LINE

- - - - - - - - VAPOR PHASE LINE

→ FLOW DIRECTION

CORPORATE ENVIRONMENTAL ADVISORS, INC.

Assessments – Remediation – Emergency Response

127 HARTWELL ST. W.BOYLSTON, MA.

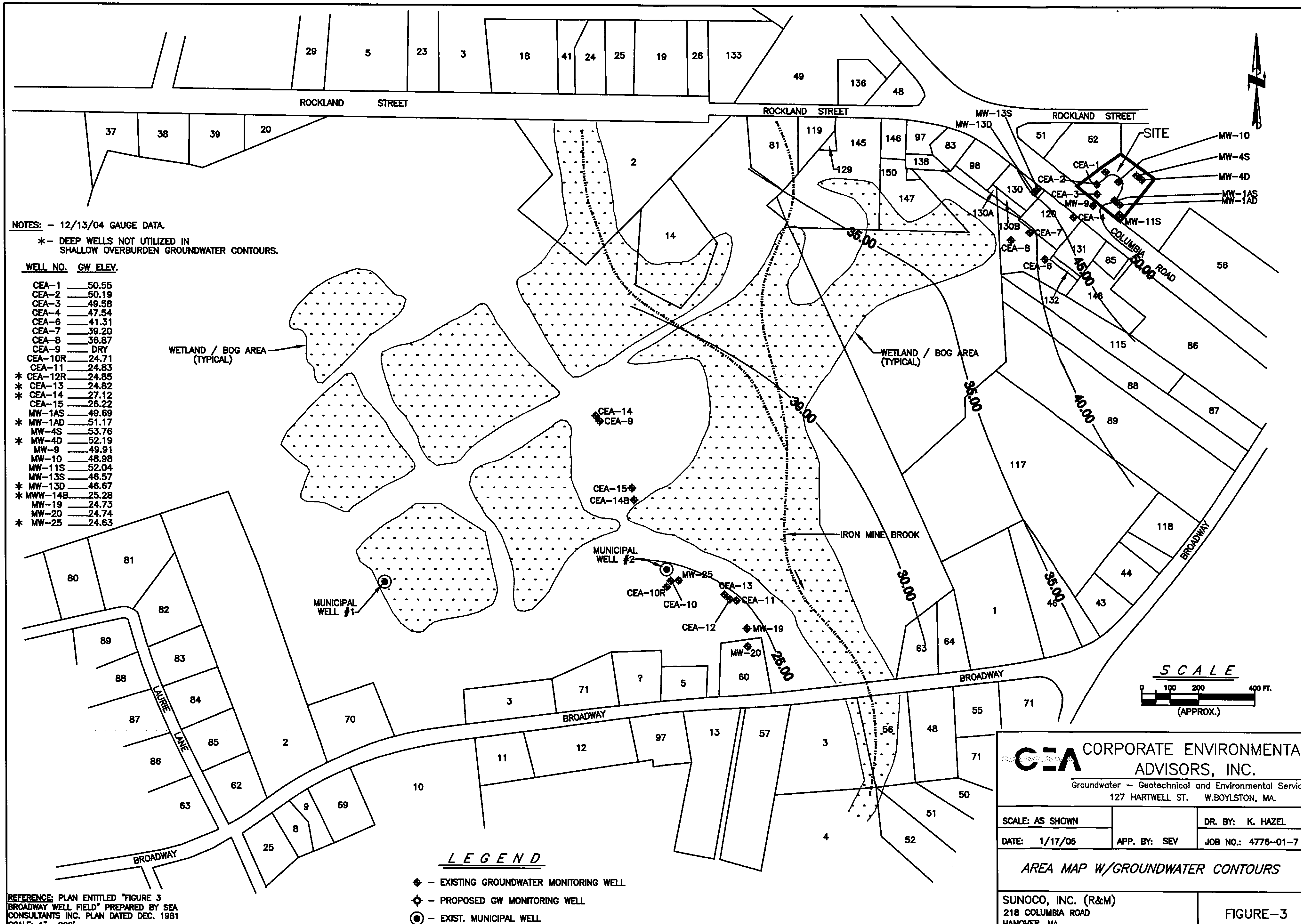
SCALE: NOT TO SCALE		DR. BY: K. HAZEL
DATE: 9/29/05	APP. BY: SEV	JOB NO.: 4776-01-9

PROCESS & INSTRUMENTATION DIAGRAM SYSTEM LAYOUT

SUNOCO

218 COLUMBIA ROAD (RTE. 53) HANOVER, MA.

FIGURE – 3



NOTES: – 12/13/04 GAUGE DATA.
*– DEEP WELLS NOT UTILIZED IN SHALLOW OVERBURDEN GROUNDWATER CONTOURS.

WELL NO.	GW ELEV.
CEA-1	50.55
CEA-2	50.19
CEA-3	49.58
CEA-4	47.54
CEA-6	41.31
CEA-7	39.20
CEA-8	36.87
CEA-9	DRY
CEA-10R	24.71
CEA-11	24.83
* CEA-12R	24.85
* CEA-13	24.82
* CEA-14	27.12
CEA-15	26.22
MW-1AS	49.69
* MW-1AD	51.17
MW-4S	53.76
* MW-4D	52.19
MW-9	49.91
MW-10	48.98
MW-11S	52.04
MW-13S	46.57
* MW-13D	46.67
* MWW-14B	25.28
MW-19	24.73
MW-20	24.74
* MW-25	24.63

LEGEND

- EXISTING GROUNDWATER MONITORING WELL
- PROPOSED GW MONITORING WELL
- EXIST. MUNICIPAL WELL

REFERENCE: PLAN ENTITLED "FIGURE 3 BROADWAY WELL FIELD" PREPARED BY SEA CONSULTANTS INC. PLAN DATED DEC. 1981
SCALE: 1"= 200'.

CEA CORPORATE ENVIRONMENTAL ADVISORS, INC.
Groundwater – Geotechnical and Environmental Services
127 HARTWELL ST. W.BOYLSTON, MA.

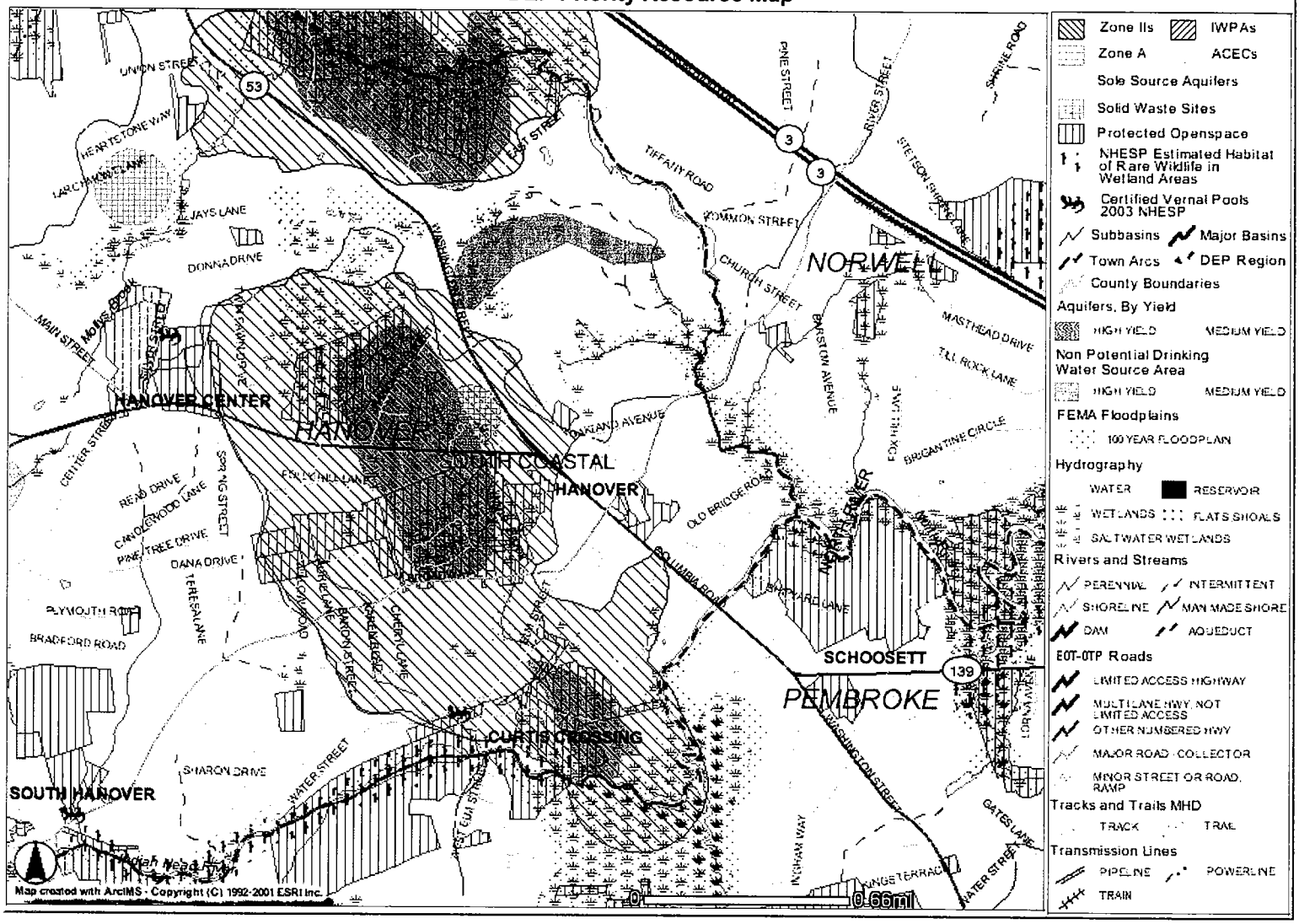
SCALE: AS SHOWN		DR. BY: K. HAZEL
DATE: 1/17/05	APP. BY: SEV	JOB NO.: 4776-01-7

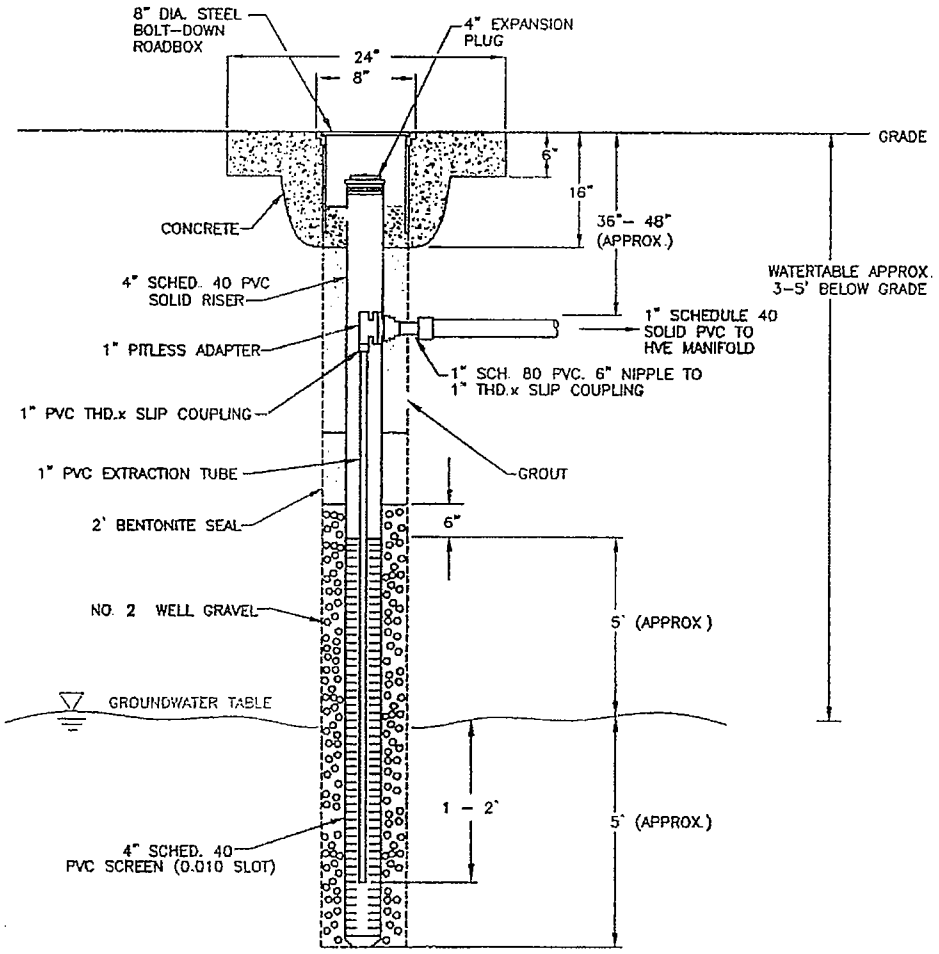
AREA MAP W/GROUNDWATER CONTOURS

SUNOCO, INC. (R&M)
218 COLUMBIA ROAD
HANOVER, MA.

FIGURE-3

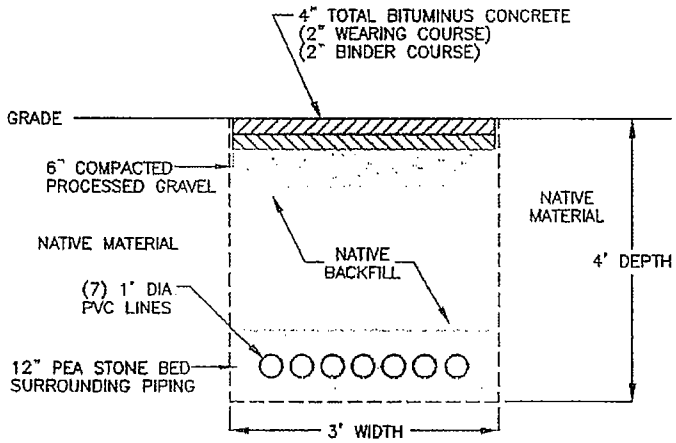
DEP Priority Resource Map





HVE WELL CONSTRUCTION DETAIL

NOT TO SCALE



TRENCH X-SECTION DETAIL

NOT TO SCALE

CEA CORPORATE ENVIRONMENTAL ADVISORS, INC.

Assessments - Remediation - Emergency Response

127 HARTWELL ST. W.BOYLSTON, MA.

SCALE: NOT TO SCALE		DR. BY: K. HAZEL
DATE: 9/27/05	APP. BY: SEV	JOB NO.: 4776-01-9

HVE WELL CONSTRUCTION DETAIL & TRENCH X-SECTION DETAIL

SUNOCO

218 COLUMBIA ROAD HANOVER, MA.

FIGURE-4

TABLES

ATTACHMENTS

Table 4.
Groundwater Sampling Results - VPH, EDB and Lead
Capeway Sunoco
218 Columbia Road
Hanover, MA

Sample I.D.	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethyl-Benzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	C5-C8 Aliphatics (ug/l)	C9-C12 Aliphatics (ug/l)	C9-C10 Aromatics (ug/l)	(EDB) (ug/l)	Dissolved Lead (ug/l)
MW-1AS	25-Nov-98	7.5	<5.0	<5.0	<5.0	6,500	108	<100	<100	<100		
	19-Apr-99	<5.0	<5.0	<5.0	<5.0	2,830	9.93	2,070	<100	<100		
	22-Mar-00	<5.0	<5.0	<5.0	<5.0	1,170	<5.0	<100	<100	<100		
	06-Sep-00	<5.0	<5.0	<5.0	<5.0	866	<5.0	<100	<100	<100		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	375	<5.0	<100	<100	75.6		
	13-Dec-01	<5.0	<5.0	<5.0	<5.0	320	<5.0	<7.5	26	59	<0.01	<7.5
	08-Jul-02	<5.0	<5.0	<5.0	<5.0	183	<5.0	<50	<50	<50		NA
	24-Oct-02	<2.0	<2.0	2.7	6.5	89	4.2	60.1	50	71		
	11-Mar-03	<2.0	<2.0	2.3	<2.0	43	19	<50	<50	<50		
	07-Jul-03	<2	<2	<2	<2	25	<3	<50	<50	<50		
	09-Oct-03	<5	<5	<5	<5	103	<5	<70	<20	30		
	03-Nov-04	<2.0	<2.0	<2.0	<2.0	1,170	<3.0	177	<50	<50		
	25-Feb-05	2.3	<2.0	<2.0	<2.0	2,670	<3.0	<50	<50	<50		
	11-Mar-05	<4.0	<4.0	<4.0	<4.0	4,470	<6.0	<100	<100	<100		
MW-1AD	19-Apr-99	<5.0	<5.0	<5.0	<5.0	28	<5.0	<100	<100	<100		
	22-Mar-00	<5.0	<5.0	<5.0	<5.0	13	<5.0	<100	<100	<100		
	06-Sep-00	<5.0	<5.0	<5.0	<5.0	12	<5.0	<100	<100	<100		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	13-Dec-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
MW-4D	19-Apr-99	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	13-Dec-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	27-Jul-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
MW-4S	19-Apr-99	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	08-Jul-02	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		NA
	24-Oct-02	<2.0	<2.0	<2.0	3.2	<2.0	<3.0	<50	<50	<50		
	11-Mar-03	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	07-Jul-03	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	09-Oct-03	<5	<5	<5	<5	<5	<5	<70	<20	<20		
	27-Jul-05	<5	<5	<5	<5	14.9	<5	<70	<20	<20		
MW-7	28-Nov-98	<1,200	<1,200	<1,200	<2,400	12,600	<1,200	<25,000	<25,000	<25,000		
	19-Apr-99	131	<5.0	<25	<5.0	1,660	<25	<500	<500	<500		
	06-Sep-00	51	<5.0	19	<10	662	9.1	<50	51.5	157		
	05-Apr-01	20.9	<5.0	<5.0	7	204	27.4	<50	<50	142		
	Well Destroyed											
MW-8S	28-Nov-98	<5.0	<5.0	<5.0	<5.0	7.5	<5.0	<100	<100	<100		
	19-Apr-99	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	06-Sep-00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	Well Destroyed											
MW-8D	19-Apr-99	<5.0	<5.0	<5.0	<5.0	20.7	<5.0	<100	<100	<100		
	06-Sep-00	<5.0	<5.0	<5.0	<5.0	23.5	<5.0	<100	<100	<100		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	Well Destroyed											
MW-9	25-Nov-98	177	<5.0	56	218	1,420	14.4	5,480	410	140		
	19-Apr-99	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	22-Mar-00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	06-Sep-00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	13-Dec-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<25		NA
	08-Jul-02	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	09-Oct-03	<5	<5	<5	<5	<5	<5	<70	<20	<20		
	03-Nov-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	25-Feb-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	27-Jul-05	<2.0	<2.0	10.4	21.2	7.5	<3.0	165	<50	84.1		
MW-10 (GW-2)	25-Nov-98	<4.4	<2.0	5	9.2	148	21.9	<100	<100	216		
	19-Apr-99	12.8	2.6	25.6	24.2	97.5	341	<100	<100	849		
	22-Mar-00	9.1	<5.0	32.7	37.3	103	290	<100	107	1,070		
	06-Sep-00	8.8	<5.0	29	75.5	66.8	457	69.5	481	1,400		
	05-Apr-01	<25	<25	35.3	93.7	540	342	<250	268	<50		
	13-Dec-01	<20	<20	41	110	180	410	<300	14,000	15,000		NA
	08-Jul-02	8.7	<5	14	16	318	144	88	631	973		
	24-Oct-02	9.1	<2.0	5	2	636	47.4	<50	184	264		
	11-Mar-03	<2.0	<2.0	<2.0	<2.0	35	<3.0	<50	115	147		
	07-Jul-03	3.8	<2	<2	<2	134	22.3	<50	<50	94		
	09-Oct-03	5	<5	6	<5	118	43	<70	154	311		
	13-Feb-04	4.2	<2	<2	<2	118	15	<50	<50	124		
	08-Jun-04	3	<2	7	4	13	70	<50	<50	239		
	22-Sep-04	<2	<2	4	<2	14	34	<50	89	110		
	03-Nov-04	<2.0	<2.0	<2.0	<2.0	299	<3.0	78	<50	<50		
GW-1 Standards		5	1,000	700	10,000	70	20	400	4,000	200	0.02	15
GW-2 Standards		2,000	6,000	30,000	6,000	50,000	6,000	1,000	1,000	5,000	3	-

Table 4.
Groundwater Sampling Results
Capeway Sunoco
218 Columbia Road
Hanover, MA

Sample I.D.	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethyl-Benzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	C5-C8 Aliphatics (ug/l)	C9-C12 Aliphatics (ug/l)	C9-C10 Aromatics (ug/l)	(EDB) (ug/l)	Dissolved Lead (ug/l)
MW-11S	19-Apr-99	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	22-Mar-00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	06-Sep-00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	13-Dec-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<25		NA
	08-Jul-02	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	09-Oct-03	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	13-Dec-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	27-Jul-05	<2.0	<2.0	<2.0	<2.0	11.8	<3.0	<50	<50	<50		
MW-12S	19-Apr-99	<5.0	<5.0	<5.0	<5.0	366	5.38	1,050	<100	<100		
	06-Sep-00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	31-Oct-00	<5.0	<5.0	<5.0	<5.0	57.9	<5.0	<50	<50	<50		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	Well Destroyed											
MW-12D	19-Apr-99	<5.0	<5.0	<5.0	<5.0	107	<5.0	<100	<100	<100		
	06-Sep-00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	31-Oct-00	<5.0	<5.0	<5.0	<5.0	57.9	<5.0	<50	<50	<50		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	Well Destroyed											
MW-13S	19-Apr-99	<5.0	<5.0	<5.0	7.6	41.2	<5.0	<100	<100	<100		
	22-Mar-00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	06-Sep-00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	13-Dec-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<25		NA
	08-Jul-02	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	27-Jul-05	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
MW-13D	19-Apr-99	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	22-Mar-00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<100	<100	<100		
	06-Sep-00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	13-Dec-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<25		NA
	08-Jul-02	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	13-Dec-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	27-Jul-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
MW-14S	19-Apr-99	<5.0	<5.0	<5.0	<5.0	86.3	<5.0	<100	<100	<100		
	22-Mar-00	<5.0	<5.0	<5.0	<5.0	42.3	<5.0	<100	<100	<100		
	06-Sep-00	<5.0	<5.0	<5.0	<5.0	96.4	<5.0	<50	<50	<50		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	105	<5.0	<50	<50	<50		
	13-Dec-01	<5.0	<5.0	<5.0	<5.0	10.8	<5.0	<75	<25	<25		NA
	08-Jul-02	<5.0	<5.0	<5.0	<5.0	203	<5.0	<50	<50	<50		
	24-Oct-02	<2.0	2.3	<2.0	<2.0	341	<3.0	<50	<50	<50		
	07-Jul-03	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	09-Oct-03	<5	<5	<5	<5	<5	<5	<70	<20	<20		
	13-Feb-04	<2	<2	<2	<2	148	<3	<50	<50	<50		
	Well Destroyed											
MW-14D	19-Apr-99	<5.0	<5.0	<5.0	<5.0	86.3	<5.0	<100	<100	<100		
	22-Mar-00	<5.0	<5.0	<5.0	<5.0	42.3	<5.0	<100	<100	<100		
	06-Sep-00	<5.0	<5.0	<5.0	<5.0	96.4	<5.0	<50	<50	<50		
	05-Apr-01	<5.0	<5.0	<5.0	<5.0	105	<5.0	<50	<50	<50		
	13-Dec-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<25		NA
	08-Jul-02	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<50	<50		
	Well Destroyed											
GES-15	23-Apr-01	70	5.6	162	236	494	177	<100	<100	<100		
	13-Dec-01	37	<5.0	91	160	87	92	540	370	930		NA
	08-Jul-02	20	<5.0	33	43	375	39	350	183	326		
	24-Oct-02	5.6	<2.0	19.4	28.8	28	24	447	247	379		
	11-Mar-03	<2.0	<2.0	<2.0	<2.0	25	<3.0	<50	<50	<50		
	07-Jul-03	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	09-Oct-03	<5	<5	<5	<5	<5	<5	<70	<20	<20		
	13-Feb-04	<2	<2	<2	<2	806	<3	<50	<50	<50		
	09-Mar-04	<2	<2	4	9	755	4.4	<50	<50	60		
	08-Jun-04	<2	<2	<2	<2	419	<3	<50	<50	<50		
GW-1 Standards		5	1,000	700	10,000	70	20	400	4,000	200	0.02	15
GW-2 Standards		2,000	6,000	30,000	6,000	50,000	6,000	1,000	1,000	5,000	3	*
GW-3 Standards		7,000	50,000	4,000	50,000	50,000	6,000	4,000	20,000	4,000	50,000	30

NOTES: ug/l - Micrograms per liter or parts per billion (ppb).
NL Indicates well not located.

Table 4.
Groundwater Sampling Results
Capeway Sunoco
218 Columbia Road
Hanover, MA

Sample I.D.	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethyl-Benzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	C5-C8 Aliphatics (ug/l)	C9-C12 Aliphatics (ug/l)	C9-C10 Aromatics (ug/l)	(EDB) (ug/l)	Dissolved Lead (ug/l)
CEA-1 (GW-2)	13-Dec-01	6.9	16	18	<5.0	85	5	470	50	120		NA
	08-Jul-02	37.5	<5.0	197	33	52	157	1,170	353	465		
	24-Oct-02	14.1	<2.0	38.5	<2.0	30	15	750	178	233		
	11-Mar-03	33	4	172	44	38	106	1,030	201	466		
	07-Jul-03	5.4	<2	39	7.9	3	26	105	<50	109		
	09-Oct-03	31	<5	148	<5	23	8	1,400	201	457		
	13-Feb-04	13	3	129	47	35	83	586	<50	593		
	08-Jun-04	11	2	168	36	8	105	564	<50	609		
	22-Sep-04	15	<2	89	5	12	53	857	303	370		
	03-Nov-04	13	<2	41	4	9	9	705	183	222		
	25-Feb-05	9.7	2.1	71.5	16.7	55.8	39.0	310	70.8	288		
CEA-2 (GW-2)	13-Dec-01	13	<5.0	26	20	110	10	150	80	150		
	08-Jul-02	25	<5.0	70	6	73	9	226	115	148		
	24-Oct-02	64	2	100	2	119	8	237	198	211		
	11-Mar-03	17	3	30	<2	79	<3	76	<50	65		
	07-Jul-03	<2	<2	<2	<2	3	<3	<50	<50	<50		
	09-Oct-03	53	<5	94	<5	89	<5	217	68	156		
	13-Feb-04	8	<2	3	<2	227	<3	<50	<50	<50		
	09-Mar-04	14	<2	<2	<2	181	<3	<50	<50	<50		
	08-Jun-04	<2	<2	<2	<2	93	<3	<50	<50	<50		
	22-Sep-04	19	<2	35	3	181	<3	192	98	86		
	03-Nov-04	2	<2	4	<2	119	<3	56	<50	<50		
	25-Feb-05	3.2	<2.0	4.0	<2.0	1,770	<3.0	<50	<50	<50		
	11-Mar-05	<2.0	<2.0	<2.0	<2.0	1,710	<3.0	<50	<50	<50		
CEA-3	13-Dec-01	240	230	260	1,110	2,000	240	150	80	150		
	08-Jul-02	8	<5	14	22	10	7	92	<50	75		
	24-Oct-02	39	51	72	289	100	55	372	486	468		
	11-Mar-03	14	12	40	189	56	21	89	101	184		
	07-Jul-03	<2	<2	<2	<2	<2	<3	<50	<50	<50		
	09-Oct-03	<5	<5	<5	<5	<5	<5	<70	<20	<20		
	13-Feb-04	<2	<2	<2	<2	194	<3	<50	<50	<50		
	09-Mar-04	<2	<2	5	24	120	<3	<50	<50	<50		
	08-Jun-04	4	<2	6	<2	1,000	<3	<50	<50	<50		
	22-Sep-04	62	111	182	839	167	161	802	1,650	1,260		
	03-Nov-04	23	17	55	178	173	52	440	543	559		
	25-Feb-05	6.6	4.9	18.1	44.3	10,700	9.5	<50	<50	104		
	11-Mar-05	<20	<20	42.0	67.7	9,670	<30	<500	<500	<500		
	27-Jul-05	58	22.2	115	442	1,080	81.6	95	118	860		
CEA-4	13-Dec-01	<5.0	<5.0	<5.0	<5.0	450	<5.0	<75	<25	<25	<0.01	<7.5
	08-Jul-02	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL
	23-Jul-03	<2	<2	<2	<2	9	<3	<50	<50	<50		
	09-Oct-03	<5	<5	<5	<5	13	<5	85	<20	<20		
	09-Mar-04	<2	<2	<2	<2	<2	<3	<50	<50	<50		
	08-Jun-04	<2	<2	<2	<2	<2	<3	<50	<50	<50		
	22-Sep-04	<2	<2	<2	5	7	<3	<50	<50	<50		
	03-Nov-04	<2.0	<2.0	<2.0	<2.0	13	<3.0	<50	<50	<50		
	11-Mar-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	27-Jul-05	<2.0	<2.0	<2.0	<2.0	6.4	<3.0	<50	<50	<50		
CEA-5	13-Dec-01	<5.0	<5.0	<5.0	<5.0	440	<5.0	<75	<25	<25	NA	NA
	08-Jul-02	<5.0	<5.0	<5.0	<5.0	452	<5.0	<50	<50	<50	NA	NA
CEA-6	09-Dec-02	<2	<2	<2	<2	2.1	<3	<50	<50	<50	NA	NA
	11-Mar-03	<2	<2	<2	<2	<2	<3	<50	<50	<50		
	23-Jul-03	<2	<2	<2	<2	<2	<3	<50	<50	<50		
	09-Oct-03	Well Dry. Not Sampled										
	13-Feb-04	<2	<2	<2	<2	<2	<3	<50	<50	<50		
	08-Jun-04	<2	<2	<2	<2	2	<3	<50	<50	<50		
	22-Sep-04	Well Dry. Not Sampled										
	03-Nov-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	25-Feb-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	11-Mar-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
GW-1 Standards		5	1,000	700	10,000	70	20	400	4,000	200	0.02	15
GW-2 Standards		2,000	6,000	30,000	6,000	50,000	6,000	1,000	1,000	3,000	3	-
GW-3 Standards		7,000	50,000	4,000	50,000	50,000	6,000	4,000	20,000	4,000	50,000	30

NOTES: ug/l - Micrograms per liter or parts per billion (ppb).
NL Indicates well not located.

Table 4.
Groundwater Sampling Results
Capeway Sunoco
218 Columbia Road
Hanover, MA

Sample I.D.	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethyl-Benzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	C5-C8 Aliphatics (ug/l)	C9-C12 Aliphatics (ug/l)	C9-C10 Aromatics (ug/l)	(EDB) (ug/l)	Dissolved Lead (ug/l)
CEA-7	09-Dec-02	<2	<2	<2	<2	270	<3	<50	222	142	NA	NA
	11-Mar-03	<2	<2	<2	<2	393	<3	<50	<50	<50		
	28-Jul-03	<2	<2	<2	<2	113	<3	<50	<50	<50		
	09-Oct-03	<5	<5	<5	<5	166	<5	<70	<20	<20		
	13-Feb-04	<5	<5	<5	<5	208	<5	<70	<20	<20		
	08-Jun-04	<2	<2	<2	<2	395	<2	<50	<50	<50		
	22-Sep-04	<2	<2	3	13	125	<3	<50	<50	<50		
	03-Nov-04	<2.0	<2.0	<2.0	<2.0	264	<3.0	<50	<50	<50		
	25-Feb-05	<2.0	<2.0	<2.0	<2.0	329	<3.0	<50	<50	<50		
	11-Mar-05	<2.0	<2.0	<2.0	<2.0	291	<3.0	<50	<50	<50		
CEA-8	09-Dec-02	<2	<2	<2	<2	4	<3	<50	<50	<50	NA	NA
	11-Mar-03	<2	<2	<2	<2	3	<3	<50	<50	<50		
	28-Jul-03	<2	<2	<2	<2	5	<3	<50	<50	<50		
	09-Oct-03	<5	<5	<5	<5	<5	<5	<70	<20	<20		
	13-Feb-04	<2	<2	<2	<2	11	<3	<50	<50	<50		
	08-Jun-04	<2	<2	<2	<2	11	<3	<50	<50	<50		
	22-Sep-04	<2	<2	<2	<2	4.0	<3	<50	<50	<50		
	03-Nov-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	25-Feb-05	<2.0	<2.0	<2.0	<2.0	8.2	<3.0	<50	<50	<50		
	11-Mar-05	<2.0	<2.0	<2.0	<2.0	7.1	<3.0	<50	<50	<50		
CEA-10	17-Nov-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
CEA-10R	13-Dec-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	09-Mar-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	27-Jul-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
CEA-11	17-Nov-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	09-Mar-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	27-Jul-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
CEA-12	17-Nov-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	27-Jul-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
CEA-12R	13-Dec-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
CEA-13	17-Nov-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	09-Mar-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	27-Jul-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
CEA-14	03-Nov-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	17-Nov-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	72	<50	<50		
(Accutest)	16-Dec-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
(Spectrum)	16-Dec-04	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<25		
	09-Mar-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	27-Jul-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
CEA-15	17-Nov-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	13-Dec-04	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	9-Mar-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
	27-Jul-05	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<50	<50	<50		
GW-1 Standards		5	1,000	700	10,000	70	20	400	4,000	200	0.02	15
GW-2 Standards		2,000	6,000	30,000	6,000	50,000	6,000	1,000	1,000	5,000	3	*
GW-3 Standards		7,000	50,000	4,000	50,000	50,000	6,000	4,000	20,000	4,000	50,000	30

NOTES: ug/l - Micrograms per liter or parts per billion (ppb).
NL Indicates well not located.

Table 4
Groundwater Sampling Results - EPH, detected compounds only
Capeway Sunoco
218 Columbia Road
Hanover, MA
October 20, 2003

Sample I.D.	Sample Date	C9-C18 Aliphatics (ug/l)	C19-C36 Aliphatics (ug/l)	C11-C22 Aromatics (ug/l)	Acenaphthene (ug/l)	Fluorene (ug/l)	2-Methyl Naphthalene (ug/l)	Naphthalene (ug/l)	Phenanthrene (ug/l)
MW-1AS	13-Dec-01	<200	<200	<200	9.5	6.1	<5.0	<5.0	<5.0
MW-10	24-Oct-02	213	<100	319	<5.0	<5.0	18.6	25.6	<5.0
	12-Mar-03	463	<100	337	<5	<5	23.5	47.4	<5
	7-Jul-03	<110	<110	<110	<5.6	<5.6	<5.6	<5.6	<5.6
	13-Feb-04	162	131	257	<5.3	<5.3	<5.3	<5.3	<5.3
	8-Jun-04	279	<110	228	<5.6	<5.6	6.1	9.6	<5.6
	22-Sep-04	<100	<100	<100	<5.1	<5.1	<5.1	8.0	<5.1
CEA-2	13-Dec-01	<200	<200	310	11	12	36	17	17
	24-Oct-02	<100	<100	193	10	8	<5.0	<5.0	9
	12-Mar-03	134	<100	129	<5	<5	<5	<5	9
	7-Jul-03	<110	<110	<110	<5.6	<5.6	<5.6	<5.6	<5.6
CEA-3	13-Dec-01	<200	<200	390	<5.0	<5.0	20	73	6
	24-Oct-02	<100	<100	168	<5.0	<5.0	6.9	54.1	<5.0
	12-Mar-03	155	<100	123	<5	<5	<5	<5	<5
	7-Jul-03	<100	<100	<100	<5.4	<5.4	5.4	8.4	<5.4
CEA-4	13-Dec-01	<200	<200	<200	<5.0	<5.0	<5.0	<5.0	<5.0
METHOD I GROUNDWATER STANADARDS									
GW-1 Standards		**4,000**	**5,000**	**200**	**20**	**300**	**10**	**20**	**300**
GW-2 Standards		**1,000**	*	**50,000**	*	*	**10,000**	**6,000**	*
GW-3 Standards		**20,000**	**20,000**	**30,000**	**5,000**	**3,000**	**3,000**	**6,000**	**50**

Notes: * - Indicates Method 1 Groundwater Standards are not available.
ug/l - Micrograms per liter or part per billion (ppb).

Dilution Factor Calculations and Backup

INDIAN HEAD RIVER AT HANOVER, MA

General Information

USGS Station Number:	01105730
Station Type:	Gaging Station, continuous record
Period of Record:	1966-present
Latitude (d/m/s):	420602
Longitude (d/m/s):	704923
Location:	Elm Street
Hydrologic Unit Code:	01090002
Basin Name:	South Coastal
Remarks:	Some regulation by mills and ponds. Water-quality records 1970-71. Some regulation by mills and dams upstream

Basin Characteristics

Drainage Area(sq.miles):	30.2
Stratified Drift Area(sq.miles):	68.3
Waterbody Area(sq.miles):	
Wetland Area(sq.miles):	
Total Stream Length(miles):	
Mean Basin Slope(percent):	
Minimum Elevation(ft):	

Mean Elevation(ft):

Maximum Elevation(ft):

Streamflow Statistics

(All statistics in cubic feet per second)

Flood-Flow Frequencies

Citations	1	2	3
Mean Annual Flood:	271		
10 Year Flood:	1020		
25 Year Flood:	1250		
50 Year Flood:	1430		
100 Year Flood:	1620		
500 Year Flood:	2120		

Flow Durations

1%:			
2%:			
3%:			
5%:			
7%:			
10%:		137	
15%:			
20%:			
25%:			
30%:			
35%:			
40%:			

45%:	
50%:	41.0
55%:	36.0
60%:	31.0
65%:	26.0
70%:	21.0
75%:	16.6
80%:	13.0
85%:	9.70
90%:	7.30
93%:	5.96
95%:	5.00
97%:	3.88
98%:	3.20
99%:	2.40
August Median Flow	
August Median Flow:	11.0
Low-Flow Frequencies	
7-day, 2-year low flow:	4.83
7-day, 10-year low flow:	1.66

[1] Murphy,P.J., in press, Evaluation of mixed-population flood-frequency analysis: American Society of Civil Engineers, Journal of Hydrologic Engineering, Paper 96-98-HE.

[2] Socolow, R.S, Leighton,C.R, Zanca, J.L., and Ramsbey, L.R., 1998, Water Resources Data Massachusetts and Rhode Island Water Year 1997: U.S. Geological Survey Water-Data Report MA-RI-97-1, 334 p.

[3] Ries, K.G., III, 1998, Streamflow measurements, basin characteristics, and streamflow statistics for low-flow partial record stations operated in Massachusetts from 1989 through 1996: USGS Water Resources Investigations Report 98-4006, 162 p.

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

Maintainer: webmaster@mass1.er.usgs.gov

Dillution Factor Calculation
Former Sunoco Station
671 Main Street
Winchester, MA

DF=(Qd+Qs)/Qd

DF = Dillution factor	**84**	
Qd = Max flow rate of discharge in cubic feet per second		0.02
Qs = receiving water flow in cubic feet per seconds 7Q10 flow rate		1.66
7Q10 = min flow for seven consecutive days with a recurrence interval of 10 years		1.66 *

* 7Q10 flow based on data obtained from USGS Gauging Station Number 01102500
Data attached

Laboratory Analytical Report
Groundwater Sampling

New England ACCUTEST. Laboratories

10/19/05

Technical Report for

Corporate Environmental Advisors

Capeway Sunoco, 281 Columbia Rd. (RTE 53) Hanover Ma

4776-01

Accutest Job Number: M51771

Sampling Date: 10/17/05

Report to:

Corporate Environmental Advisors, Inc.
127 Hartwell Street
West Boylston, MA 01583
dazukauskas@cea-inc.com

ATTN: Debbie Zukauskas

Total number of pages in report: 6

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Reza Pand
Lab Director

Certifications: MA (M-MA136) CT (PH-0109) NH (250204) RI (00071) ME (MA136) FL (E87579) NY (23346) NJ (MA926) NAVY USACE

Sections: 1 2 3

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Accutest Laboratories

Sample Summary

Corporate Environmental Advisors

Job No: M51771

Capeway Sunoco, 281 Columbia Rd. (RTE 53) Hanover Ma
Project No: 4776-01

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
M51771-1	10/17/05	10:00	CAT	10/17/05	AQ	Ground Water	INF

Accutest Laboratories

Report of Analysis

Client Sample ID:	INF		
Lab Sample ID:	M51771-1	Date Sampled:	10/17/05
Matrix:	AQ - Ground Water	Date Received:	10/17/05
		Percent Solids:	n/a
Project:	Capeway Sunoco, 281 Columbia Rd. (RTE 53) Hanover Ma		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	<0.010	0.010	mg/l	1	10/18/05 08:35	MA	SW846 7196A
Total Residual Chlorine	1.8	0.050	mg/l	1	10/18/05 08:58	MA	EPA 330.4

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

495 TECHNOLOGY CENTER WEST • BUILDING ONE
MARLBOROUGH, MA 01752
TEL: 508-481-6200 • FAX: 508-481-7753

ACCUTEST JOB #: M51771
ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: CEA
ADDRESS: 127 Hartwell St
CITY, STATE, ZIP: W. Boylston MA
SEND REPORT TO: Scott Bouthillier
PHONE #: 508 835 8822

FACILITY INFORMATION

PROJECT NAME: Sunoco Inc.
LOCATION: Hanover MA
PROJECT NO.: 4776-01
FAX #: 508 835 8812

ANALYTICAL INFORMATION

CEA + Chlorine

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	PRESERVATION NaOH	PRESERVATION HNO3	PRESERVATION H2SO4	PRESERVATION NONE
M51771-1	INF	10-17	10AM	[illegible]	GW	1					X
	INF	10-17	10 Am	[illegible]	GW	1				X	

LAB USE ONLY

DATA TURNAROUND INFORMATION

- ☐ 14 DAYS STANDARD
- ☐ 7 DAYS *RUSH*
- ☐ 48 HOUR EMERGENCY
- ☐ OTHER Rush ASAP NJPDES

APPROVED BY: _____

14 DAY TURNAROUND HARDCOPY. EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- ☐ STANDARD
- ☐ COMMERCIAL "B"
- ☐ DISK DELIVERABLE
- ☐ STATE FORMS
- ☐ OTHER (SPECIFY) _____

COMMENTS/REMARKS

SAMPLES RECEIVED DIRECTLY FROM FIELD SAMPLING

Lou QC

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY/SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. [signature]	10/17/05 3:30	1. MA	2.		2.
RELINQUISHED BY:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
3.		3.	4.		4.
RELINQUISHED BY:	DATE TIME:	RECEIVED BY:	SEAL #	PRESERVE WHERE APPLICABLE ☐	ON ICE ☐ TEMPERATURE 19.2 C
5.		5.			

3.1 3

M51771: Chain of Custody
Page 1 of 1

ACCUTEST Laboratories M51771

Report Date:
17-Oct-05 17:11

☐ Final Report
☐ Re-Issued Report
☐ Revised Report

Laboratory Report

CEA, Inc.
127 Hartwell Street
West Boylston, MA 01583
Attn: Scott Vandersea

Project: Capeway Sunoco-218 Columbia Rd
Project #: 4776-01-9

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SA35726-01	Influent	Water	13-Oct-05 10:00	14-Oct-05 13:15

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 plus Chain of Custody document(s).
This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

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

Authorized by:

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

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

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Influent	4776-01-9	Water	13-Oct-05 10:00	14-Oct-05
SA35726-01				

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	17-Oct-05	17-Oct-05	5100979	KL	
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	797	2.5 µg/l	5	"	"	"	"	"	
75-09-2	Methylene chloride	BRL	5.0 µg/l	5	"	"	"	"	"	
91-20-3	Naphthalene	17.9	5.0 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	BRL	5.0 µg/l	5	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	329	50.0 µg/l	5	"	"	"	"	"	
123-91-1	1,4-Dioxane	BRL	100 µg/l	5	"	"	"	"	"	
Surrogate recoveries:										
460-00-4	*4-Bromofluorobenzene*	*95.4*	*70-130 %*		"	"	"	"	"	
2037-26-5	*Toluene-d8*	*98.2*	*70-130 %*		"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*105*	*70-130 %*		"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*104*	*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	0.235 µg/l	1	EPA 608	14-Oct-05	15-Oct-05	5100843	KG	
11104-28-2	PCB 1221	BRL	0.235 µg/l	1	"	"	"	"	"	
11141-16-5	PCB 1232	BRL	0.235 µg/l	1	"	"	"	"	"	
53469-21-9	PCB 1242	BRL	0.235 µg/l	1	"	"	"	"	"	
12672-29-6	PCB 1248	BRL	0.235 µg/l	1	"	"	"	"	"	
11097-69-1	PCB 1254	BRL	0.235 µg/l	1	"	"	"	"	"	
11096-82-5	PCB 1260	BRL	0.235 µg/l	1	"	"	"	"	"	
37324-23-5	PCB 1262	BRL	0.235 µg/l	1	"	"	"	"	"	
11100-14-4	PCB 1268	BRL	0.235 µg/l	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Influent SA35726-01	4776-01-9	Water	13-Oct-05 10:00	14-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)*	*80.0*	*30-150 %*		EPA 608	14-Oct-05	15-Oct-05	5100843	KG	
2051-24-3	*Decachlorobiphenyl (Sr)*	*95.3*	*30-150 %*		"	"	"	"	"	
Semivolatile Organic Compounds by GCMS										
Semivolatile Organic Compounds by EPA 625			Prepared by method	SW846 3535						
83-32-9	Acenaphthene	1.12	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	1.00	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
Influent	4776-01-9	Water	13-Oct-05 10:00	14-Oct-05
SA35726-01				

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*	*50.7*	*30-130 %*		"	"	"	"	"	
367-12-4	*2-Fluorophenol*	*56.3*	*15-110 %*		"	"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*46.1*	*30-130 %*		"	"	"	"	"	
4165-62-2	*Phenol-d5*	*44.7*	*15-110 %*		"	"	"	"	"	
1718-51-0	*Terphenyl-dl4*	*44.9*	*30-130 %*		"	"	"	"	"	
118-79-6	*2,4,6-Tribromophenol*	*52.7*	*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	5100910	RE	
7440-38-2	Arsenic	BRL	0.0040 mg/l	1	"	"	17-Oct-05	"	"	
7440-43-9	Cadmium	BRL	0.0012 mg/l	1	"	"	17-Oct-05	"	"	
7440-47-3	Chromium	0.0066	0.0025 mg/l	1	"	"	"	"	"	
7440-50-8	Copper	BRL	0.0025 mg/l	1	"	"	"	"	"	
7439-89-6	Iron	7.21	0.0025 mg/l	1	"	"	"	"	"	
7439-97-6	Mercury	BRL	0.00020 mg/l	1	EPA 245.2/7470A	"	17-Oct-05	5100912	YP	
7440-02-0	Nickel	0.0034	0.0025 mg/l	1	EPA 200.7	"	17-Oct-05	5100910	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	0.755	0.0100 mg/l	1	"	17-Oct-05	17-Oct-05	5101019	HB	
General Chemistry Parameters										
57-12-5	Cyanide (total)	BRL	0.0100 mg/l	1	10-204-00-1-A / SW-846 9012A	17-Oct-05	17-Oct-05	5101029	JAK	
	Total Suspended Solids	16.0	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*			

Microextractable Organic Compounds - Quality Control

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

Extractable Petroleum Hydrocarbons - Quality Control

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

Semivolatile Organic Compounds by GC - Quality Control

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

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 5100910 - EPA 200 Series										
Blank (5100910-BLK1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Iron	0.0229	0.0025	mg/l							QB-01
Nickel	BRL	0.0025	mg/l							
Lead	BRL	0.0038	mg/l							
Antimony	BRL	0.0060	mg/l							
Selenium	BRL	0.0075	mg/l							
Chromium	BRL	0.0025	mg/l							
Silver	BRL	0.0050	mg/l							
Arsenic	BRL	0.0040	mg/l							
Cadmium	BRL	0.0012	mg/l							
Copper	BRL	0.0025	mg/l							
LCS (5100910-BS1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Iron	0.106	0.0010	mg/l	0.100		106	85-115			
Nickel	0.0982	0.0025	mg/l	0.100		98.2	85-115			
Lead	0.0981	0.0038	mg/l	0.100		98.1	85-115			
Antimony	0.0888	0.0060	mg/l	0.100		88.8	85-115			
Selenium	0.0944	0.0075	mg/l	0.100		94.4	85-115			
Silver	0.0536	0.0020	mg/l	0.0500		107	85-115			
Cadmium	0.0938	0.0012	mg/l	0.100		93.8	85-115			
Arsenic	0.0924	0.0040	mg/l	0.100		92.4	85-115			
Copper	0.100	0.0025	mg/l	0.100		100	85-115			
Chromium	0.0954	0.0025	mg/l	0.100		95.4	85-115			
Duplicate (5100910-DUP1)	**Source: SA35726-01**			Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Nickel	0.0031	0.0025	mg/l		0.0034			9.23	20	
Lead	BRL	0.0038	mg/l		BRL				20	
Antimony	BRL	0.0060	mg/l		BRL				20	
Selenium	BRL	0.0075	mg/l		BRL				20	
Iron	6.79	0.0025	mg/l		7.21			6.00	20	
Chromium	0.0061	0.0025	mg/l		0.0066			7.87	20	
Arsenic	0.0040	0.0040	mg/l		0.0032			22.2	20	QR-05
Cadmium	BRL	0.0012	mg/l		BRL				20	
Silver	BRL	0.0050	mg/l		BRL				20	
Copper	BRL	0.0025	mg/l		BRL				20	
Matrix Spike (5100910-MS1)	**Source: SA35726-01**			Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Selenium	0.0767	0.0075	mg/l	0.100	BRL	76.7	70-130			
Iron	6.78	0.0025	mg/l	0.100	7.21	NR	70-130			QM-4X
Nickel	0.0768	0.0025	mg/l	0.100	0.0034	73.4	70-130			
Lead	0.0665	0.0038	mg/l	0.100	BRL	66.5	70-130			QM-07
Antimony	0.0748	0.0060	mg/l	0.100	BRL	74.8	70-130			
Cadmium	0.0724	0.0012	mg/l	0.100	BRL	72.4	70-130			
Silver	0.0096	0.0050	mg/l	0.0500	BRL	19.2	70-130			QM-07
Copper	0.0754	0.0025	mg/l	0.100	BRL	75.4	70-130			
Chromium	0.0822	0.0025	mg/l	0.100	0.0066	75.6	70-130			
Arsenic	0.0858	0.0040	mg/l	0.100	0.0032	82.6	70-130			
Matrix Spike Dup (5100910-MSD1)	**Source: SA35726-01**			Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Selenium	0.0792	0.0075	mg/l	0.100	BRL	79.2	70-130	3.21	20	
Iron	6.55	0.0025	mg/l	0.100	7.21	NR	70-130	3.45	20	QM-4X
Antimony	0.0718	0.0060	mg/l	0.100	BRL	71.8	70-130	4.09	20	
Nickel	0.0762	0.0025	mg/l	0.100	0.0034	72.8	70-130	0.784	20	
Lead	0.0663	0.0038	mg/l	0.100	BRL	66.3	70-130	0.301	20	QM-07
Copper	0.0757	0.0025	mg/l	0.100	BRL	75.7	70-130	0.397	20	
Chromium	0.0815	0.0025	mg/l	0.100	0.0066	74.9	70-130	0.855	20	
Cadmium	0.0722	0.0012	mg/l	0.100	BRL	72.2	70-130	0.277	20	

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 5100910 - EPA 200 Series										
Matrix Spike Dup (5100910-MSD1)	**Source: SA35726-01**			Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Arsenic	0.0822	0.0040	mg/l	0.100	0.0032	79.0	70-130	4.29	20	
Silver	0.0080	0.0050	mg/l	0.0500	BRL	16.0	70-130	18.2	20	QM-07
Batch 5100912 - EPA200/SW7000 Series										
Blank (5100912-BLK1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Mercury	BRL	0.00020	mg/l							
LCS (5100912-BS1)				Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Mercury	0.00264	0.00010	mg/l	0.00250		106	80-120			
Duplicate (5100912-DUP1)	**Source: SA35726-01**			Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Mercury	BRL	0.00020	mg/l		BRL				20	
Matrix Spike (5100912-MS1)	**Source: SA35726-01**			Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Mercury	0.00310	0.00020	mg/l	0.00250	BRL	124	75-125			
Matrix Spike Dup (5100912-MSD1)	**Source: SA35726-01**			Prepared: 14-Oct-05 Analyzed: 17-Oct-05						
Mercury	0.00314	0.00020	mg/l	0.00250	BRL	126	75-125	1.28	20	QM-07
Batch 5101019 - EPA 200 Series										
Blank (5101019-BLK1)				Prepared & Analyzed: 17-Oct-05						
Zinc	0.0662	0.0100	mg/l							QB-01
LCS (5101019-BS1)				Prepared & Analyzed: 17-Oct-05						
Zinc	0.384	0.0040	mg/l	0.400		96.0	85-115			

General Chemistry Parameters - Quality Control

Analyte(s)	Result	*RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
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

QB-01	The method blank contains analyte at a concentration above the MRL; however, concentration is less than 10% of the sample result, which is negligible according to method criteria.
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.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
QR-05	RPD out of acceptance range.
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

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CHAIN OF CUSTODY RECORD

SA 35726

Page 1 of 1

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☒ Rush TAT - Date Needed: 10/17/05
- 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, 137 Hartwell St., W. Boylston, MA 01583

Invoice To: CEA, Accts Payable

Project No.: 4776-01-9

Site Name: Speedway SUNOCO

Location: 918 Columbia Rd, Hanover State: MA

Sampler(s): C Tanner

Project Mgr.: Scott VanderSea

P.O. No.: 4776-01-9 RQN:

1=Na2S2O3 2=HCl 3=H2SO4 4=HNO3 5=NaOH 6=Ascorbic Acid 7=CH3OH 8=NaHSO4 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	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VPHDES Parameters
35726-01	Influent	10/17/05	10 PM		GW		4	3		3	✓
			10 PM								
			10 PM								
			10 AM								
			10 AM								

Analyses:

QA Reporting Notes: (check if needed)

State-specific reporting standards: [illegible]

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

Cannot create TIC. See attached.

matrix per Runkey

Relinquished by:	Received by:	Date:	Time:
Tanner	[signature]	10/17/05	10:29
[signature]	[signature]	10/17/05	115

☐ Fax results when available to ( )

☒ E-mail to svandersea@cea-inc.com

EDD Format

Condition upon receipt: ☐ Iced ☐ Ambient ☐ °C

11 Almgren Drive • Agawam, Massachusetts 01001 • 413-789-9018 • Fax 413-789-4076 • www.spectrum-analytical.com

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SA 35726

Page 1 of 1

Special Handling:
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Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: CEA
107 Hartwell St.
W. Boylston, MA 01583

Invoice To: CEA
Accts Payable

Project No.: 4776-01-9
Site Name: Cumberland SUNOCO
Location: 218 Columbia Rd, Hanover State: MA
Sampler(s): C. Tanner

Project Mgr.: Scott Vanderlsea

P.O. No.: 4776-01-9 RQN:

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	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analyses: NPDES Requirements	~~TPH~~
35726-01	Influent	10/13/05	10 AM		GW		4	3		3	✓	
			10 AM									
			10 PM									
			10 AM									
			10 AM									

QA Reporting Notes:
(check if needed)

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
(Required for CAM reports)

matrix per Rush Req.

~~Standard~~

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

Condition upon receipt: ☐ Iced ☐ Ambient ☐ °C

Relinquished by:	Received by:	Date:	Time:
C. Tanner	[signature]	10/14/05	10:29
[signature]	[signature]	10/14/05	11:5

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