

APR 22 1998

APR 22 10 33 AM '98

CASELLA WASTE MANAGEMENT

Greens Hill Lane
Rutland, Vermont

VTDEC Site #97-2268

SITE STATUS REPORT

SITE INVESTIGATION AND SAMPLING

KDAI PROJECT NO. B118-010

13 APRIL, 1998

 **KD** ASSOCIATES, INC.
Environmental Consulting & Laboratory Services

1350 Shelburne Road, Suite 209 South Burlington, Vermont 05403 (802) 862-7490

Introduction

The following is a report on the results of the investigative and sampling activities completed by K-D Associates, Inc. (KDAI) at the Casella Waste Management (Casella) site in Rutland, Vermont. This Casella site is located at the intersection of Greens Hill Lane and Belden Road on the west side of the City of Rutland (see U.S.G.S. Topographic Map Section in Appendix).

On 23 October, 1997, seven UST's and associated piping were removed from this site. Four of the seven tanks removed from this site contained heavy oils. In accordance with the Vermont UST Regulations, soil samples were collected from the tank bed area and submitted for laboratory analysis. The results of this testing found detectable levels of Total Petroleum Hydrocarbons (TPH) ranging from <5.0 mg/kg to 4,750 mg/kg, but no detectable Volatile Organic Hydrocarbons (VOC's).

In a 13 January, 1998 letter to Casella, the Vermont Department of Environmental Conservation - Sites Management Section (VT DEC-SMS) requested that additional work be performed to determine the severity of contamination. KDAI submitted a Site Investigation Expressway Notification on 26 January, 1998 to address the VT DEC-SMS concerns. Acknowledgement from Bob Butler (VT DEC-SMS) was received on 17 February, 1998. This report summarizes the investigative work performed by KDAI.

Soil Boring & Sampling

To determine the extent of contamination and potential for groundwater contamination, three soil borings were advanced in the vicinity of the former UST's. (see Site Map and Driller's soil logs in Appendix). Approximately 50 feet from the UST excavation area in the predicted "downstream" groundwater flow direction, the first soil boring (SB-1) was sited. Using a 4 inch hollow-stem drill rig (by Tri-State Drilling & Boring, Inc.), SB-1 was advanced to 10 feet below ground surface (bgs) before collecting split spoon soil samples. The auger spoils were screened using a PID calibrated on site to 100 ppm isobutylene and a 10.6 eV lamp. No PID response (<0.1 ppm), odor or visual staining was noted. Below the 6 inches of compacted gravel at grade, the soil type was described as tan, medium to fine sands. Continuous split-spoon samples were collected from 10 to 18 feet bgs, producing light tan, fine to medium sands which also had no PID response. Samples representing 10 to 11 feet bgs, 12 to 13 feet bgs, and 14 to 16 feet bgs were collected for laboratory analysis by EPA 8260 and TPH by Modified 8100. The auger was then advanced further to access the water table.

Saturated soil was noted beginning at 29.5 feet and auger refusal on bedrock was reached at 31 feet bgs. A soil sample from 30 to 31 feet was collected for laboratory analysis as a substitute for a groundwater sample, as no water was collecting in the bore hole to indicate that the installation of a permanent well was feasible.

The second boring (SB-2) was located approximately 30 feet from the former tanks and approximately 20 feet from the southern limits of the UST excavation. This boring was advanced to 8 feet bgs (approximate depth of former tank bottoms) prior to split-spoon sampling. Soil types encountered were brown, medium sand and tan, fine sand. No odor, staining or PID response was detected. Discreet samples from 10 to 11 feet bgs, 13 to 14 feet bgs, and 16 feet bgs were collected for laboratory analysis. Groundwater was not encountered and no permanent well was installed.

The third boring (SB-3) was sited approximately 10 feet from the southern limits of the UST excavation. In similar fashion as SB-2, this boring was advanced to 8 feet bgs prior to split-spoon sampling. Discreet samples from 10 to 11 feet bgs, 12 to 13 feet bgs, and 14 to 16 feet bgs were collected for laboratory analysis. Groundwater was not encountered and no permanent well was installed. No odor, staining or PID response was detected.

Sampling Results

The EPA Method 8260 assays indicate that all soil samples from all boring locations and depths do not contain detectable levels of contaminants for any of the Method parameters. Similarly, the TPH results did not detect contamination above the quantification limits.

Copies of the laboratory reports are included in the Appendix.

Sensitive Receptor Survey

The only receptor exhibiting visible impact at the site was approximately 3 cubic yards of soil directly below the former concrete slab covering the UST's. This soil exhibited a PID reading of 2.4 ppm at the time of UST removal and was segregated and currently is polyencapsulated on site. KDAI conducted a PID survey within the Casella building which is constructed on a poured concrete slab with no basement or crawlspaces. No PID vapors were detected and no discernible petroleum odors were noted. The nearest neighboring structure is a storage/garage owned by National Propane,

approximately 150 feet west of the former tank site. KDAI could not get permission to gain access to this building, however considering it is also built on a concrete slab, its distance from the tank site, and is not regularly occupied, the potential for vapor infiltration is unlikely.

There are no known water supply wells in the vicinity of the site and the city is served by a municipal water system, the reservoir intake being greater than one mile from the former tank site. The closest surface water body is the East Creek, a tributary to Otter Creek, which is approximately 700 feet south and east of the site. On the basis of surface topography, groundwater is inferred to flow to the south. The shallow water table was proven to lie in excess of 30 feet bgs. The soil collected from the saturated zone of SB-1 lies between the tank site and East Creek, potentially intercepting any transported contaminants, however none were detected. Therefore, it is unlikely that this site has had any impact or poses any future risk to the groundwater or surface water.

Human exposure is not likely to have occurred, and the soil presumed to be affected has since been covered by asphalt pavement. Also no underground utilities or corridors exist in the vicinity to provide a conduit for contamination migration.

Stockpiled Soils

Two separate stockpiles of contaminated soils are present on site. The first is approximately 4 cubic yards of diesel contaminated soil from the removal of the former 10,000 gallon diesel tank on the east side of the site. The peak PID reading measured during removal was 85 ppm. This soil was re-measured on 25 February, 1998 by collecting six samples from all depths of the pile which were screened by PID using bagged headspace techniques. Readings ranging between 12.7 ppm to 36.4 ppm were measured.

The second stockpile is the approximately 3 cubic yards of cover material from the heavy oils USTs which produced a peak reading of 2.4 ppm during the UST pulls. This soil was also re-measured using bagged headspace techniques. The PID results indicated a range of 1.2 ppm to 3.8 ppm.

Because of the limited areas on site that would be suitable for long-term monitoring of the soil, KDAI proposed that both stockpiles be sampled for potential acceptance at the Waste USA facility in Newport, VT for disposal. Stockpile 1 (diesel contamination) would meet the acceptance criteria with the recently measured PID readings alone

being <40 ppm. Stockpile 2 (heavy/waste oil contamination) was sampled on 06 April, 1998 for volatiles via EPA 8260, for total petroleum hydrocarbons via modified 8100, for Priority Pollutant Metals, ignitability, corrosivity and reactivity. The results of this testing are due around 24 April, 1998.

Conclusions and Recommendations

The results of the surrounding soil borings found no visible, olfactory or laboratory detectable evidence of contamination beyond the immediate area of the former tank beds. Soil samples collected from depths equal to the bottom of the former USTs down an additional 23 feet to the water table produced no volatile or TPH contamination above the method detection limits.

Previously estimated at 25 feet bgs, the water table was reached at 29.5 feet bgs shortly before auger refusal on bedrock at 31 feet bgs. No groundwater samples were collected due to poor yield, however a soil sample from the saturated zone at 30 feet bgs was submitted for laboratory analysis. No detectable volatiles or TPH contamination was noted above the method detection limits.

A receptor survey found the nearest surface water body to be the East Branch River approximately 700 feet from the site. The municipal water supply reservoir is greater than one mile from the site. The potential threat of contamination from the Casella site is believed to be negligible as the soil/groundwater sampling previously described was located to intercept any migration from the UST's. None of the adjacent buildings have basements or crawlspaces which might allow vapor infiltration, and no noticeable petroleum odor or PID-detectable readings were noted within the Casella building.

The stockpiled contaminated soil generated from the UST removals has initially met acceptance criteria for disposal at the Waste USA facility in Newport, VT. KDAI will request permission for the off-site transportation and disposal of the 7 total cubic yards on site under a separate correspondence. Once removed, the only remaining area of contamination would be limited to the soil in the immediate area of the former heavy/waste oil USTs. This area was backfilled following the tank removals and has since been re-paved with blacktop, limiting water percolation and future contamination migration.

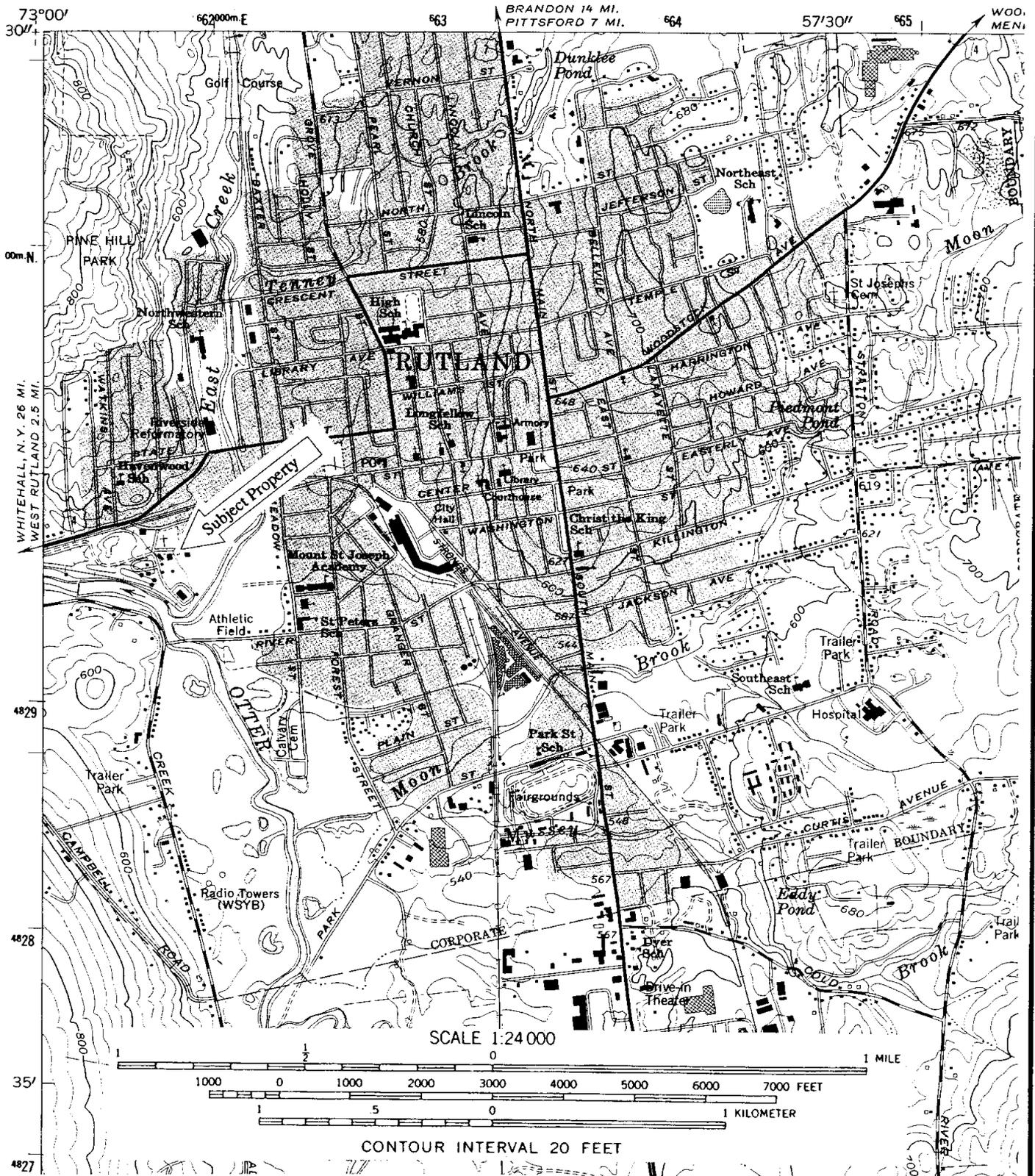
KDAI believes that any remaining contamination does not pose a human health threat and has little potential for migration both off site and/or to the groundwater. Therefore, no remedial actions are proposed.

Respectfully submitted,

Bryan Schultz

cc: Larry Lackey, Casella Waste Management
file B118-010

Vicinity Map



Site: Casella Waste Management

Greens Hill Lane
Rutland, Vermont

KDAI Project No. B118-010

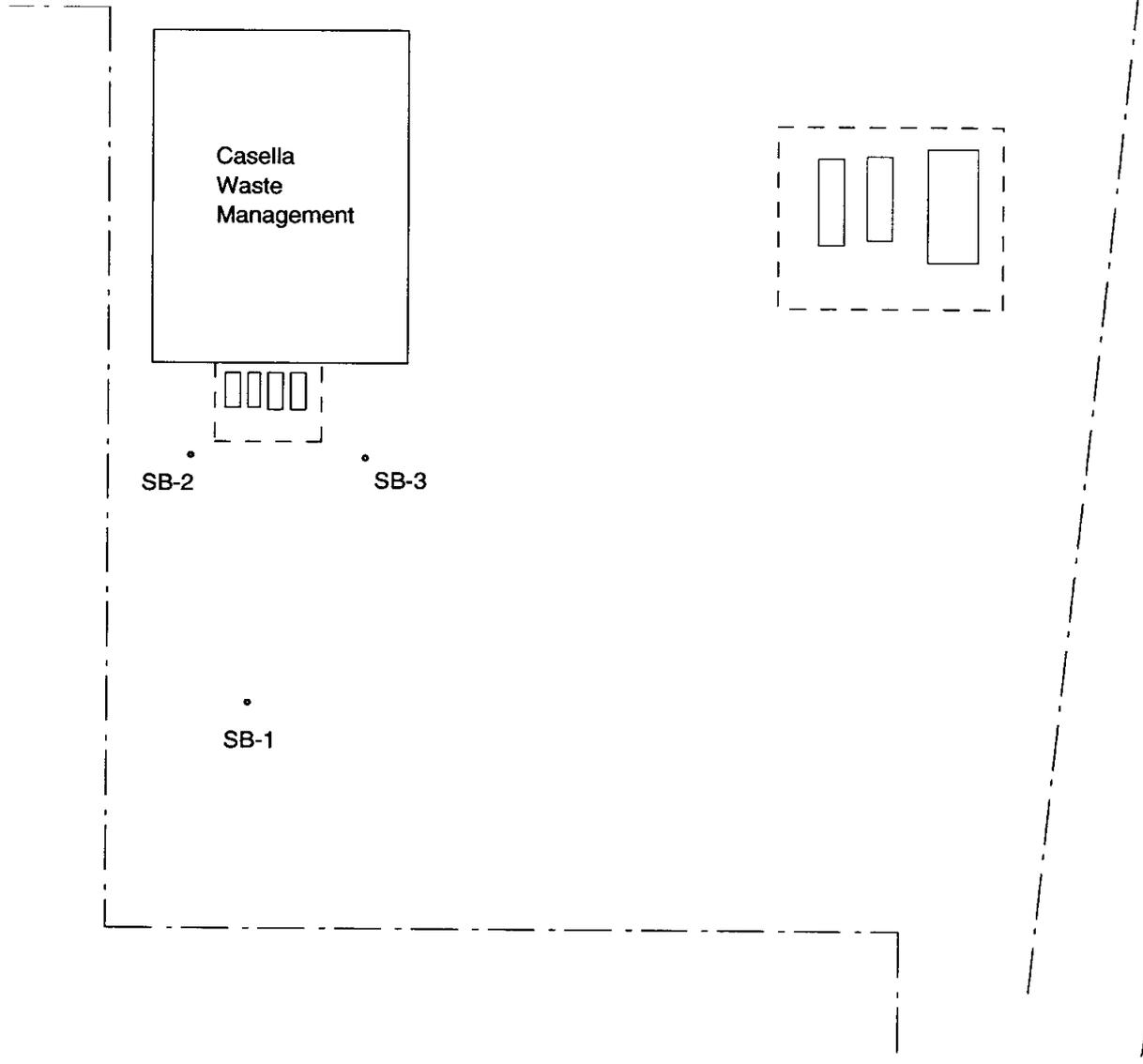
Date: 10/24/97

Initial: BS

Scale: 1:24,000

Source: U.S.G.S. 7.5 minute topo
Rutland, VT Quadrangle

Belden Road



Site Map	VT DEC Site No. 97-2268	KDAI proj. No. B118-010
Project Name: Casella Waste Management Greens Hill Lane Rutland, Vermont	Initial BS	Date 4-8-98

Sampling Key

<u>Station</u>	<u>Sample Depth</u>
SB-1A	10'-11'
SB-1B	12'-13'
SB-1C	14'-16'
SB-1D	30'-31'
SB-2A	10'-11'
SB-2B	13'-14'
SB-2C	16'
SB-3A	10'-12'
SB-3B	12'-14'
SB-3C	14'-16'

GREEN MOUNTAIN LABORATORIES, INC.

RR 3, BOX 5210
Montpelier, Vermont 05602

Phone (802) 223 - 1468

Fax (802) 223 - 8688

LABORATORY RESULTS

CLIENT NAME:	KD Associates, Inc.	REFERENCE NO.:	3442
ADDRESS:	1350 Shelburne Road S. Burlington, VT 05401	PROJECT NO.:	NA
SAMPLE LOCATION:	B118-010	DATE OF SAMPLE:	02/25/98
SAMPLER:	B. Schultz	DATE OF RECEIPT:	03/02/98
ATTENTION:	B. Schultz	DATE OF ANALYSIS:	03/13/98
		DATE OF REPORT:	03/17/98

Pertaining to the analyses of specimens submitted under the accompanying chain of custody form, please note the following:

- Specimens were processed and examined according to the procedures outlined in the specified method.
- Instruments were appropriately tuned and calibrations were checked with the frequencies required in the specified method.
- Blank contamination was not observed at levels interfering with the analytical results.
- Continuing Calibration standards were monitored at intervals indicated in the specified method. The resulting analytical precision and accuracy were determined to be within method QA/QC acceptance limits.
- The efficiency of analyte recovery for individual samples was monitored by the addition of surrogate analyte to all samples, standards, and blanks. Surrogate recoveries were found to be within laboratory QA/QC acceptance limits, unless noted otherwise.

Reviewed by:



Raul Sanchez
Chemical Services

Green Mountain Laboratories, Inc.

RR 3, Box 5210
Montpelier, Vermont 05602

Phone (802) 223-1468

Fax (802) 223-8688

GML REF. # : 3442
STATION: SB-1A
ANALYSIS DATE: 03/13/98
DATE SAMPLED: 02/25/98
SAMPLE TYPE: SOIL (98.8% DRY WT.)

PARAMETERS	PQL	µg/kg	PARAMETERS	PQL	µg/kg
Benzene	200	ND	cis-1,3-Dichloropropene	200	ND
Bromobenzene	200	ND	Ethylbenzene	200	ND
Bromochloromethane	500	ND	Hexachlorobutadiene	500	ND
Bromodichloromethane	200	ND	Isopropylbenzene	200	ND
Bromoform	500	ND	p-Isopropyltoluene	200	ND
Bromomethane	500	ND	Methylene Chloride	500	ND
n-Butylbenzene	200	ND	Methyl-t-butyl-ether (MTBE)	500	ND
sec-Butylbenzene	200	ND	Naphthalene	500	ND
tert-Butylbenzene	200	ND	n-Propylbenzene	200	ND
Carbon Tetrachloride	200	ND	Styrene	200	ND
Chlorobenzene	200	ND	1,1,1,2-Tetrachloroethane	200	ND
Chloroethane	500	ND	1,1,2,2-Tetrachloroethane	500	ND
Chloroform	500	ND	Tetrachloroethylene	200	ND
Chloromethane	200	ND	Toluene	200	ND
o-Chlorotoluene	200	ND	1,2,3-Trichlorobenzene	500	ND
p-Chlorotoluene	200	ND	1,2,4-Trichlorobenzene	500	ND
1,2-Dibromo-3-chloropropan	500	ND	1,1,1-Trichloroethane	500	ND
Dibromochloromethane	200	ND	1,1,2-Trichloroethane	200	ND
1,2-Dibromoethane (EDB)	200	ND	Trichloroethylene (TCE)	200	ND
Dibromomethane	200	ND	Trichlorofluoromethane	500	ND
o-Dichlorobenzene	200	ND	1,2,3-Trichloropropane	500	ND
m-Dichlorobenzene	200	ND	1,2,4-Trimethylbenzene	200	ND
p-Dichlorobenzene	200	ND	1,3,5-Trimethylbenzene	200	ND
Dichlorodifluoromethane	500	ND	Vinyl Chloride	500	ND
1,1-Dichloroethane	500	ND	o-Xylene	200	ND
1,2-Dichloroethane	200	ND	m + p-Xylene	400	ND
1,1-Dichloroethylene	500	ND			
cis-1,2-Dichloroethylene	500	ND	Surrogates:		
trans-1,2-Dichloroethylene	500	ND	Dibromofluoromethane	98.6 %	
1,2-Dichloropropane	200	ND	Toluene-D8	97.3 %	
1,3-Dichloropropane	200	ND	4-Bromofluorobenzene	85.7 %	
2,2-Dichloropropane	500	ND			
1,1-Dichloropropene	500	ND	ND - Not Detected		
trans-1,3-Dichloropropene	200	ND	Concentration units = µg/kg		

Green Mountain Laboratories, Inc.

RR 3, Box 5210
Montpelier, Vermont 05602

Phone (802) 223-1468

Fax (802) 223-8688

GML REF. #: 3442
STATION: SB-1B
ANALYSIS DATE: 03/13/98
DATE SAMPLED: 02/25/98
SAMPLE TYPE: SOIL (99.8% DRY WT.)

PARAMETERS	PQL	µg/kg	PARAMETERS	PQL	µg/kg
Benzene	180	ND	cis-1,3-Dichloropropene	180	ND
Bromobenzene	180	ND	Ethylbenzene	180	ND
Bromochloromethane	450	ND	Hexachlorobutadiene	450	ND
Bromodichloromethane	180	ND	Isopropylbenzene	180	ND
Bromoform	450	ND	p-Isopropyltoluene	180	ND
Bromomethane	450	ND	Methylene Chloride	450	ND
n-Butylbenzene	180	ND	Methyl-t-butyl-ether (MTBE)	450	ND
sec-Butylbenzene	180	ND	Naphthalene	450	ND
tert-Butylbenzene	180	ND	n-Propylbenzene	180	ND
Carbon Tetrachloride	180	ND	Styrene	180	ND
Chlorobenzene	180	ND	1,1,1,2-Tetrachloroethane	180	ND
Chloroethane	450	ND	1,1,2,2-Tetrachloroethane	450	ND
Chloroform	450	ND	Tetrachloroethylene	180	ND
Chloromethane	180	ND	Toluene	180	ND
o-Chlorotoluene	180	ND	1,2,3-Trichlorobenzene	450	ND
p-Chlorotoluene	180	ND	1,2,4-Trichlorobenzene	450	ND
1,2-Dibromo-3-chloropropan	450	ND	1,1,1-Trichloroethane	450	ND
Dibromochloromethane	180	ND	1,1,2-Trichloroethane	180	ND
1,2-Dibromoethane (EDB)	180	ND	Trichloroethylene (TCE)	180	ND
Dibromomethane	180	ND	Trichlorofluoromethane	450	ND
o-Dichlorobenzene	180	ND	1,2,3-Trichloropropane	450	ND
m-Dichlorobenzene	180	ND	1,2,4-Trimethylbenzene	180	ND
p-Dichlorobenzene	180	ND	1,3,5-Trimethylbenzene	180	ND
Dichlorodifluoromethane	450	ND	Vinyl Chloride	450	ND
1,1-Dichloroethane	450	ND	o-Xylene	180	ND
1,2-Dichloroethane	180	ND	m + p-Xylene	360	ND
1,1-Dichloroethylene	450	ND			
cis-1,2-Dichloroethylene	450	ND	Surrogates:		
trans-1,2-Dichloroethylene	450	ND	Dibromofluoromethane	101 %	
1,2-Dichloropropane	180	ND	Toluene-D8	98.3 %	
1,3-Dichloropropane	180	ND	4-Bromofluorobenzene	86.6 %	
2,2-Dichloropropane	450	ND			
1,1-Dichloropropene	450	ND	ND - Not Detected		
trans-1,3-Dichloropropene	180	ND	Concentration units = µg/kg		

Green Mountain Laboratories, Inc.

RR 3, Box 5210
Montpelier, Vermont 05602

Phone (802) 223-1468

Fax (802) 223-8688

GML REF. # : 3442
STATION: SB-1C
ANALYSIS DATE: 03/13/98
DATE SAMPLED: 02/25/98
SAMPLE TYPE: SOIL (99.6% DRY WT.)

PARAMETERS	PQL	µg/kg	PARAMETERS	PQL	µg/kg
Benzene	200	ND	cis-1,3-Dichloropropene	200	ND
Bromobenzene	200	ND	Ethylbenzene	200	ND
Bromochloromethane	500	ND	Hexachlorobutadiene	500	ND
Bromodichloromethane	200	ND	Isopropylbenzene	200	ND
Bromoform	500	ND	p-Isopropyltoluene	200	ND
Bromomethane	500	ND	Methylene Chloride	500	ND
n-Butylbenzene	200	ND	Methyl-t-butyl-ether (MTBE)	500	ND
sec-Butylbenzene	200	ND	Naphthalene	500	ND
tert-Butylbenzene	200	ND	n-Propylbenzene	200	ND
Carbon Tetrachloride	200	ND	Styrene	200	ND
Chlorobenzene	200	ND	1,1,1,2-Tetrachloroethane	200	ND
Chloroethane	500	ND	1,1,2,2-Tetrachloroethane	500	ND
Chloroform	500	ND	Tetrachloroethylene	200	ND
Chloromethane	200	ND	Toluene	200	ND
o-Chlorotoluene	200	ND	1,2,3-Trichlorobenzene	500	ND
p-Chlorotoluene	200	ND	1,2,4-Trichlorobenzene	500	ND
1,2-Dibromo-3-chloropropan	500	ND	1,1,1-Trichloroethane	500	ND
Dibromochloromethane	200	ND	1,1,2-Trichloroethane	200	ND
1,2-Dibromoethane (EDB)	200	ND	Trichloroethylene (TCE)	200	ND
Dibromomethane	200	ND	Trichlorofluoromethane	500	ND
o-Dichlorobenzene	200	ND	1,2,3-Trichloropropane	500	ND
m-Dichlorobenzene	200	ND	1,2,4-Trimethylbenzene	200	ND
p-Dichlorobenzene	200	ND	1,3,5-Trimethylbenzene	200	ND
Dichlorodifluoromethane	500	ND	Vinyl Chloride	500	ND
1,1-Dichloroethane	500	ND	o-Xylene	200	ND
1,2-Dichloroethane	200	ND	m + p-Xylene	400	ND
1,1-Dichloroethylene	500	ND			
cis-1,2-Dichloroethylene	500	ND	Surrogates:		
trans-1,2-Dichloroethylene	500	ND	Dibromofluoromethane	103 %	
1,2-Dichloropropane	200	ND	Toluene-D8	99.3 %	
1,3-Dichloropropane	200	ND	4-Bromofluorobenzene	87.0 %	
2,2-Dichloropropane	500	ND			
1,1-Dichloropropene	500	ND	ND - Not Detected		
trans-1,3-Dichloropropene	200	ND	Concentration units = µg/kg		

Green Mountain Laboratories, Inc.

RR 3, Box 5210
Montpelier, Vermont 05602

Phone (802) 223-1468

Fax (802) 223-8688

GML REF. # : 3442
STATION: SB-1D
ANALYSIS DATE: 03/13/98
DATE SAMPLED: 02/25/98
SAMPLE TYPE: SOIL (89.2% DRY WT.)

PARAMETERS	PQL	µg/kg	PARAMETERS	PQL	µg/kg
Benzene	220	ND	cis-1,3-Dichloropropene	220	ND
Bromobenzene	220	ND	Ethylbenzene	220	ND
Bromochloromethane	550	ND	Hexachlorobutadiene	550	ND
Bromodichloromethane	220	ND	Isopropylbenzene	220	ND
Bromoform	550	ND	p-Isopropyltoluene	220	ND
Bromomethane	550	ND	Methylene Chloride	550	ND
n-Butylbenzene	220	ND	Methyl-t-butyl-ether (MTBE)	550	ND
sec-Butylbenzene	220	ND	Naphthalene	550	ND
tert-Butylbenzene	220	ND	n-Propylbenzene	220	ND
Carbon Tetrachloride	220	ND	Styrene	220	ND
Chlorobenzene	220	ND	1,1,1,2-Tetrachloroethane	220	ND
Chloroethane	550	ND	1,1,2,2-Tetrachloroethane	550	ND
Chloroform	550	ND	Tetrachloroethylene	220	ND
Chloromethane	220	ND	Toluene	220	ND
o-Chlorotoluene	220	ND	1,2,3-Trichlorobenzene	550	ND
p-Chlorotoluene	220	ND	1,2,4-Trichlorobenzene	550	ND
1,2-Dibromo-3-chloropropan	550	ND	1,1,1-Trichloroethane	550	ND
Dibromochloromethane	220	ND	1,1,2-Trichloroethane	220	ND
1,2-Dibromoethane (EDB)	220	ND	Trichloroethylene (TCE)	220	ND
Dibromomethane	220	ND	Trichlorofluoromethane	550	ND
o-Dichlorobenzene	220	ND	1,2,3-Trichloropropane	550	ND
m-Dichlorobenzene	220	ND	1,2,4-Trimethylbenzene	220	ND
p-Dichlorobenzene	220	ND	1,3,5-Trimethylbenzene	220	ND
Dichlorodifluoromethane	550	ND	Vinyl Chloride	550	ND
1,1-Dichloroethane	550	ND	o-Xylene	220	ND
1,2-Dichloroethane	220	ND	m + p-Xylene	440	ND
1,1-Dichloroethylene	550	ND			
cis-1,2-Dichloroethylene	550	ND	Surrogates:		
trans-1,2-Dichloroethylene	550	ND	Dibromofluoromethane	103 %	
1,2-Dichloropropane	220	ND	Toluene-D8	98.1 %	
1,3-Dichloropropane	220	ND	4-Bromofluorobenzene	87.2 %	
2,2-Dichloropropane	550	ND			
1,1-Dichloropropene	550	ND	ND - Not Detected		
trans-1,3-Dichloropropene	220	ND	Concentration units = µg/kg		

Green Mountain Laboratories, Inc.

RR 3, Box 5210
Montpelier, Vermont 05602

Phone (802) 223-1468

Fax (802) 223-8688

GML REF. # : 3442
STATION: SB-2A
ANALYSIS DATE: 03/13/98
DATE SAMPLED: 02/25/98
SAMPLE TYPE: SOIL (97.2% DRY WT.)

PARAMETERS	PQL	µg/kg	PARAMETERS	PQL	µg/kg
Benzene	200	ND	cis-1,3-Dichloropropene	200	ND
Bromobenzene	200	ND	Ethylbenzene	200	ND
Bromochloromethane	500	ND	Hexachlorobutadiene	500	ND
Bromodichloromethane	200	ND	Isopropylbenzene	200	ND
Bromoform	500	ND	p-Isopropyltoluene	200	ND
Bromomethane	500	ND	Methylene Chloride	500	ND
n-Butylbenzene	200	ND	Methyl-t-butyl-ether (MTBE)	500	ND
sec-Butylbenzene	200	ND	Naphthalene	500	ND
tert-Butylbenzene	200	ND	n-Propylbenzene	200	ND
Carbon Tetrachloride	200	ND	Styrene	200	ND
Chlorobenzene	200	ND	1,1,1,2-Tetrachloroethane	200	ND
Chloroethane	500	ND	1,1,2,2-Tetrachloroethane	500	ND
Chloroform	500	ND	Tetrachloroethylene	200	ND
Chloromethane	200	ND	Toluene	200	ND
o-Chlorotoluene	200	ND	1,2,3-Trichlorobenzene	500	ND
p-Chlorotoluene	200	ND	1,2,4-Trichlorobenzene	500	ND
1,2-Dibromo-3-chloropropan	500	ND	1,1,1-Trichloroethane	500	ND
Dibromochloromethane	200	ND	1,1,2-Trichloroethane	200	ND
1,2-Dibromoethane (EDB)	200	ND	Trichloroethylene (TCE)	200	ND
Dibromomethane	200	ND	Trichlorofluoromethane	500	ND
o-Dichlorobenzene	200	ND	1,2,3-Trichloropropane	500	ND
m-Dichlorobenzene	200	ND	1,2,4-Trimethylbenzene	200	ND
p-Dichlorobenzene	200	ND	1,3,5-Trimethylbenzene	200	ND
Dichlorodifluoromethane	500	ND	Vinyl Chloride	500	ND
1,1-Dichloroethane	500	ND	o-Xylene	200	ND
1,2-Dichloroethane	200	ND	m + p-Xylene	400	ND
1,1-Dichloroethylene	500	ND			
cis-1,2-Dichloroethylene	500	ND	Surrogates:		
trans-1,2-Dichloroethylene	500	ND	Dibromofluoromethane	102 %	
1,2-Dichloropropane	200	ND	Toluene-D8	98.2 %	
1,3-Dichloropropane	200	ND	4-Bromofluorobenzene	86.7 %	
2,2-Dichloropropane	500	ND			
1,1-Dichloropropene	500	ND	ND - Not Detected		
trans-1,3-Dichloropropene	200	ND	Concentration units = µg/kg		

Green Mountain Laboratories, Inc.

RR 3, Box 5210
Montpelier, Vermont 05602

Phone (802) 223-1468

Fax (802) 223-8688

GML REF. # : 3442
STATION: SB-2B
ANALYSIS DATE: 03/13/98
DATE SAMPLED: 02/25/98
SAMPLE TYPE: SOIL (97.9% DRY WT.)

PARAMETERS	PQL	µg/kg	PARAMETERS	PQL	µg/kg
Benzene	200	ND	cis-1,3-Dichloropropene	200	ND
Bromobenzene	200	ND	Ethylbenzene	200	ND
Bromochloromethane	500	ND	Hexachlorobutadiene	500	ND
Bromodichloromethane	200	ND	Isopropylbenzene	200	ND
Bromoform	500	ND	p-Isopropyltoluene	200	ND
Bromomethane	500	ND	Methylene Chloride	500	ND
n-Butylbenzene	200	ND	Methyl-t-butyl-ether (MTBE)	500	ND
sec-Butylbenzene	200	ND	Naphthalene	500	ND
tert-Butylbenzene	200	ND	n-Propylbenzene	200	ND
Carbon Tetrachloride	200	ND	Styrene	200	ND
Chlorobenzene	200	ND	1,1,1,2-Tetrachloroethane	200	ND
Chloroethane	500	ND	1,1,2,2-Tetrachloroethane	500	ND
Chloroform	500	ND	Tetrachloroethylene	200	ND
Chloromethane	200	ND	Toluene	200	ND
o-Chlorotoluene	200	ND	1,2,3-Trichlorobenzene	500	ND
p-Chlorotoluene	200	ND	1,2,4-Trichlorobenzene	500	ND
1,2-Dibromo-3-chloropropan	500	ND	1,1,1-Trichloroethane	500	ND
Dibromochloromethane	200	ND	1,1,2-Trichloroethane	200	ND
1,2-Dibromoethane (EDB)	200	ND	Trichloroethylene (TCE)	200	ND
Dibromomethane	200	ND	Trichlorofluoromethane	500	ND
o-Dichlorobenzene	200	ND	1,2,3-Trichloropropane	500	ND
m-Dichlorobenzene	200	ND	1,2,4-Trimethylbenzene	200	ND
p-Dichlorobenzene	200	ND	1,3,5-Trimethylbenzene	200	ND
Dichlorodifluoromethane	500	ND	Vinyl Chloride	500	ND
1,1-Dichloroethane	500	ND	o-Xylene	200	ND
1,2-Dichloroethane	200	ND	m + p-Xylene	400	ND
1,1-Dichloroethylene	500	ND			
cis-1,2-Dichloroethylene	500	ND	Surrogates:		
trans-1,2-Dichloroethylene	500	ND	Dibromofluoromethane	106 %	
1,2-Dichloropropane	200	ND	Toluene-D8	99.1 %	
1,3-Dichloropropane	200	ND	4-Bromofluorobenzene	86.8 %	
2,2-Dichloropropane	500	ND			
1,1-Dichloropropene	500	ND	ND - Not Detected		
trans-1,3-Dichloropropene	200	ND	Concentration units = µg/kg		

Green Mountain Laboratories, Inc.

RR 3, Box 5210
Montpelier, Vermont 05602

Phone (802) 223-1468

Fax (802) 223-8688

GML REF. #: 3442
STATION: SB-2C
ANALYSIS DATE: 03/13/98
DATE SAMPLED: 02/25/98
SAMPLE TYPE: SOIL (96.0% DRY WT.)

PARAMETERS	PQL	µg/kg	PARAMETERS	PQL	µg/kg
Benzene	200	ND	cis-1,3-Dichloropropene	200	ND
Bromobenzene	200	ND	Ethylbenzene	200	ND
Bromochloromethane	500	ND	Hexachlorobutadiene	500	ND
Bromodichloromethane	200	ND	Isopropylbenzene	200	ND
Bromoform	500	ND	p-Isopropyltoluene	200	ND
Bromomethane	500	ND	Methylene Chloride	500	ND
n-Butylbenzene	200	ND	Methyl-t-butyl-ether (MTBE)	500	ND
sec-Butylbenzene	200	ND	Naphthalene	500	ND
tert-Butylbenzene	200	ND	n-Propylbenzene	200	ND
Carbon Tetrachloride	200	ND	Styrene	200	ND
Chlorobenzene	200	ND	1,1,1,2-Tetrachloroethane	200	ND
Chloroethane	500	ND	1,1,2,2-Tetrachloroethane	500	ND
Chloroform	500	ND	Tetrachloroethylene	200	ND
Chloromethane	200	ND	Toluene	200	ND
o-Chlorotoluene	200	ND	1,2,3-Trichlorobenzene	500	ND
p-Chlorotoluene	200	ND	1,2,4-Trichlorobenzene	500	ND
1,2-Dibromo-3-chloropropan	500	ND	1,1,1-Trichloroethane	500	ND
Dibromochloromethane	200	ND	1,1,2-Trichloroethane	200	ND
1,2-Dibromoethane (EDB)	200	ND	Trichloroethylene (TCE)	200	ND
Dibromomethane	200	ND	Trichlorofluoromethane	500	ND
o-Dichlorobenzene	200	ND	1,2,3-Trichloropropane	500	ND
m-Dichlorobenzene	200	ND	1,2,4-Trimethylbenzene	200	ND
p-Dichlorobenzene	200	ND	1,3,5-Trimethylbenzene	200	ND
Dichlorodifluoromethane	500	ND	Vinyl Chloride	500	ND
1,1-Dichloroethane	500	ND	o-Xylene	200	ND
1,2-Dichloroethane	200	ND	m + p-Xylene	400	ND
1,1-Dichloroethylene	500	ND			
cis-1,2-Dichloroethylene	500	ND	Surrogates:		
trans-1,2-Dichloroethylene	500	ND	Dibromofluoromethane	105 %	
1,2-Dichloropropane	200	ND	Toluene-D8	99.0 %	
1,3-Dichloropropane	200	ND	4-Bromofluorobenzene	87.5 %	
2,2-Dichloropropane	500	ND			
1,1-Dichloropropene	500	ND	ND - Not Detected		
trans-1,3-Dichloropropene	200	ND	Concentration units = µg/kg		

Green Mountain Laboratories, Inc.

RR 3, Box 5210
Montpelier, Vermont 05602

Phone (802) 223-1468

Fax (802) 223-8688

GML REF. # : 3442
STATION: SB-3A
ANALYSIS DATE: 03/13/98
DATE SAMPLED: 02/25/98
SAMPLE TYPE: SOIL (94.7% DRY WT.)

PARAMETERS	PQL	µg/kg	PARAMETERS	PQL	µg/kg
Benzene	190	ND	cis-1,3-Dichloropropene	190	ND
Bromobenzene	190	ND	Ethylbenzene	190	ND
Bromochloromethane	480	ND	Hexachlorobutadiene	480	ND
Bromodichloromethane	190	ND	Isopropylbenzene	190	ND
Bromoform	480	ND	p-Isopropyltoluene	190	ND
Bromomethane	480	ND	Methylene Chloride	480	ND
n-Butylbenzene	190	ND	Methyl-t-butyl-ether (MTBE)	480	ND
sec-Butylbenzene	190	ND	Naphthalene	480	ND
tert-Butylbenzene	190	ND	n-Propylbenzene	190	ND
Carbon Tetrachloride	190	ND	Styrene	190	ND
Chlorobenzene	190	ND	1,1,1,2-Tetrachloroethane	190	ND
Chloroethane	480	ND	1,1,2,2-Tetrachloroethane	480	ND
Chloroform	480	ND	Tetrachloroethylene	190	ND
Chloromethane	190	ND	Toluene	190	ND
o-Chlorotoluene	190	ND	1,2,3-Trichlorobenzene	480	ND
p-Chlorotoluene	190	ND	1,2,4-Trichlorobenzene	480	ND
1,2-Dibromo-3-chloropropan	480	ND	1,1,1-Trichloroethane	480	ND
Dibromochloromethane	190	ND	1,1,2-Trichloroethane	190	ND
1,2-Dibromoethane (EDB)	190	ND	Trichloroethylene (TCE)	190	ND
Dibromomethane	190	ND	Trichlorofluoromethane	480	ND
o-Dichlorobenzene	190	ND	1,2,3-Trichloropropane	480	ND
m-Dichlorobenzene	190	ND	1,2,4-Trimethylbenzene	190	ND
p-Dichlorobenzene	190	ND	1,3,5-Trimethylbenzene	190	ND
Dichlorodifluoromethane	480	ND	Vinyl Chloride	480	ND
1,1-Dichloroethane	480	ND	o-Xylene	190	ND
1,2-Dichloroethane	190	ND	m + p-Xylene	380	ND
1,1-Dichloroethylene	480	ND			
cis-1,2-Dichloroethylene	480	ND	Surrogates:		
trans-1,2-Dichloroethylene	480	ND	Dibromofluoromethane	105 %	
1,2-Dichloropropane	190	ND	Toluene-D8	98.5 %	
1,3-Dichloropropane	190	ND	4-Bromofluorobenzene	86.3 %	
2,2-Dichloropropane	480	ND			
1,1-Dichloropropene	480	ND	ND - Not Detected		
trans-1,3-Dichloropropene	190	ND	Concentration units = µg/kg		

Green Mountain Laboratories, Inc.

RR 3, Box 5210
Montpelier, Vermont 05602

Phone (802) 223-1468

Fax (802) 223-8688

GML REF. # : 3442
STATION: SB-3B
ANALYSIS DATE: 03/13/98
DATE SAMPLED: 02/25/98
SAMPLE TYPE: SOIL (87.5% DRY WT.)

PARAMETERS	PQL	µg/kg	PARAMETERS	PQL	µg/kg
Benzene	220	ND	cis-1,3-Dichloropropene	220	ND
Bromobenzene	220	ND	Ethylbenzene	220	ND
Bromochloromethane	550	ND	Hexachlorobutadiene	550	ND
Bromodichloromethane	220	ND	Isopropylbenzene	220	ND
Bromoform	550	ND	p-Isopropyltoluene	220	ND
Bromomethane	550	ND	Methylene Chloride	550	ND
n-Butylbenzene	220	ND	Methyl-t-butyl-ether (MTBE)	550	ND
sec-Butylbenzene	220	ND	Naphthalene	550	ND
tert-Butylbenzene	220	ND	n-Propylbenzene	220	ND
Carbon Tetrachloride	220	ND	Styrene	220	ND
Chlorobenzene	220	ND	1,1,1,2-Tetrachloroethane	220	ND
Chloroethane	550	ND	1,1,2,2-Tetrachloroethane	550	ND
Chloroform	550	ND	Tetrachloroethylene	220	ND
Chloromethane	220	ND	Toluene	220	ND
o-Chlorotoluene	220	ND	1,2,3-Trichlorobenzene	550	ND
p-Chlorotoluene	220	ND	1,2,4-Trichlorobenzene	550	ND
1,2-Dibromo-3-chloropropan	550	ND	1,1,1-Trichloroethane	550	ND
Dibromochloromethane	220	ND	1,1,2-Trichloroethane	220	ND
1,2-Dibromoethane (EDB)	220	ND	Trichloroethylene (TCE)	220	ND
Dibromomethane	220	ND	Trichlorofluoromethane	550	ND
o-Dichlorobenzene	220	ND	1,2,3-Trichloropropane	550	ND
m-Dichlorobenzene	220	ND	1,2,4-Trimethylbenzene	220	ND
p-Dichlorobenzene	220	ND	1,3,5-Trimethylbenzene	220	ND
Dichlorodifluoromethane	550	ND	Vinyl Chloride	550	ND
1,1-Dichloroethane	550	ND	o-Xylene	220	ND
1,2-Dichloroethane	220	ND	m + p-Xylene	440	ND
1,1-Dichloroethylene	550	ND			
cis-1,2-Dichloroethylene	550	ND	Surrogates:		
trans-1,2-Dichloroethylene	550	ND	Dibromofluoromethane	108 %	
1,2-Dichloropropane	220	ND	Toluene-D8	99.2 %	
1,3-Dichloropropane	220	ND	4-Bromofluorobenzene	87.0 %	
2,2-Dichloropropane	550	ND			
1,1-Dichloropropene	550	ND	ND - Not Detected		
trans-1,3-Dichloropropene	220	ND	Concentration units = µg/kg		

Green Mountain Laboratories, Inc.

RR 3, Box 5210
Montpelier, Vermont 05602

Phone (802) 223-1468

Fax (802) 223-8688

GML REF. #: 3442
STATION: SB-3C
ANALYSIS DATE: 03/13/98
DATE SAMPLED: 02/25/98
SAMPLE TYPE: SOIL (96.8% DRY WT.)

PARAMETERS	PQL	µg/kg	PARAMETERS	PQL	µg/kg
Benzene	200	ND	cis-1,3-Dichloropropene	200	ND
Bromobenzene	200	ND	Ethylbenzene	200	ND
Bromochloromethane	500	ND	Hexachlorobutadiene	500	ND
Bromodichloromethane	200	ND	Isopropylbenzene	200	ND
Bromoform	500	ND	p-Isopropyltoluene	200	ND
Bromomethane	500	ND	Methylene Chloride	500	ND
n-Butylbenzene	200	ND	Methyl-t-butyl-ether (MTBE)	500	ND
sec-Butylbenzene	200	ND	Naphthalene	500	ND
tert-Butylbenzene	200	ND	n-Propylbenzene	200	ND
Carbon Tetrachloride	200	ND	Styrene	200	ND
Chlorobenzene	200	ND	1,1,1,2-Tetrachloroethane	200	ND
Chloroethane	500	ND	1,1,2,2-Tetrachloroethane	500	ND
Chloroform	500	ND	Tetrachloroethylene	200	ND
Chloromethane	200	ND	Toluene	200	ND
o-Chlorotoluene	200	ND	1,2,3-Trichlorobenzene	500	ND
p-Chlorotoluene	200	ND	1,2,4-Trichlorobenzene	500	ND
1,2-Dibromo-3-chloropropan	500	ND	1,1,1-Trichloroethane	500	ND
Dibromochloromethane	200	ND	1,1,2-Trichloroethane	200	ND
1,2-Dibromoethane (EDB)	200	ND	Trichloroethylene (TCE)	200	ND
Dibromomethane	200	ND	Trichlorofluoromethane	500	ND
o-Dichlorobenzene	200	ND	1,2,3-Trichloropropane	500	ND
m-Dichlorobenzene	200	ND	1,2,4-Trimethylbenzene	200	ND
p-Dichlorobenzene	200	ND	1,3,5-Trimethylbenzene	200	ND
Dichlorodifluoromethane	500	ND	Vinyl Chloride	500	ND
1,1-Dichloroethane	500	ND	o-Xylene	200	ND
1,2-Dichloroethane	200	ND	m + p-Xylene	400	ND
1,1-Dichloroethylene	500	ND			
cis-1,2-Dichloroethylene	500	ND	Surrogates:		
trans-1,2-Dichloroethylene	500	ND	Dibromofluoromethane	110 %	
1,2-Dichloropropane	200	ND	Toluene-D8	100 %	
1,3-Dichloropropane	200	ND	4-Bromofluorobenzene	86.6 %	
2,2-Dichloropropane	500	ND			
1,1-Dichloropropene	500	ND			
trans-1,3-Dichloropropene	200	ND			

ND - Not Detected

Concentration units = µg/kg

Green Mountain Laboratories, Inc.

RR#3 Box 5210

Montpelier, Vermont 05602

Phone (802) 223-1468

Fax (802) 223-8688

LABORATORY RESULTS

CLIENT NAME:	KD Associates, Inc.	REF #:	3442
CLIENT ADDRESS:	1350 Box Shelburne Road	PROJECT NO.:	B118-010
	S. Burlington, VT 05401	DATE OF SAMPLE:	02/25/98
SAMPLE LOCATION:	SB	DATE OF RECEIPT:	03/02/98
SAMPLER:	B. Schultz	DATE OF ANALYSIS:	03/06/98
ATTENTION:	B. Schultz	DATE OF REPORT:	03/13/98

Total Petroleum Hydrocarbons (TPH) Results by EPA Modified 8100

Sample	Result (mg/kg-ppm)*
SB-1A	<50
SB-1B	<50
SB-1C	<50
SB-2A	<50
SB-2B	<50
SB-2C	<50
SB-2C	<50
SB-3A	<50
SB-3B	<50
SB-3C	<50

Reviewed by:



Raul Sanchez
Chemical Services

G M L S A M P L E #	Green Mountain Laboratories, Inc.						Analysis Requested										Page <u>1</u> of <u>1</u>					
	RR #3, Box 5210 Montpelier, VT 05602 Phone (802) 223-1468 Fax (802) 223-8688 E-mail: GML@together.net																GML # 3 4 4 2					
	Client Name <u>KD ASSOCIATES, INC.</u>						EPA 8260 Mod. 8100 TPH										Remarks					
	Address <u>1350 SHELburne RD, STE 209, S. BURLINGTON</u>																					
	Phone/Fax <u>862-7490</u> FAX <u>660-2462</u>																					
	Project Name <u>B118-010</u>																					
	Project Number																					
	Project Manager																					
	Sampler <u>B SCHULTZ</u>																					
	Sample Location																					
Date																						
Time																						
# of Cont.																						
Pres.																						
Sample Type																						
1	<u>SB-1A</u>					<u>2-25-98</u>	<u>0910</u>	<u>2</u>	<u>COOL</u>	<u>SOIL</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
2	<u>IB</u>						<u>0915</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
3	<u>IC</u>						<u>0930</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
4	<u>ID</u>						<u>0950</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
5	<u>SB-2A</u>						<u>1020</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
6	<u>2B</u>						<u>1025</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
7	<u>2C</u>						<u>1035</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
8	<u>SB-3A</u>						<u>1055</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
9	<u>3B</u>						<u>1100</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
10	<u>3C</u>						<u>1120</u>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										

Chain of Custody

Relinquished By: <u>[Signature]</u>	Date / Time: <u>2/27/98 4:20</u>	Received By: <u>[Signature]</u>	Date / Time: <u>2/27/98 4:30</u>
Relinquished By:	Date / Time:	Received By: <u>[Signature]</u>	Date / Time: <u>2/27/98 4:30</u>
Relinquished By:	Date / Time:	Received By:	Date / Time:
Lot Temperature:	Vial Lot ID #:	Accepted By:	Date / Time: