



January 31, 1997

Mr. Chuck Schwer
Sites Management Section
Department of Environmental Conservation
103 South Main Street/West Building
Waterbury, VT 05671-0404

RE: Lake Parker Country Store, West Glover, VT
Site: #96-1633
4

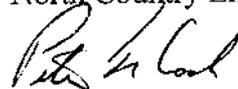
NCES Project # 1192

Dear Mr. Schwer:

Enclosed please find the Initial Site Investigation report for the above referenced property. The report has been prepared on behalf of S. B. Collins, Inc., by North Country Environmental Services, Inc. (NCES).

Should you have any questions regarding this submittal, please contact me at (508) 634-9800.

Respectfully,
North Country Environmental Services, Inc.


Peter F. Cook
Operations Manager

PFC/mm

attachment

cc: Mr. Carl Ruprecht, S. B. Collins, Inc.

Corporate Office:
100 Medway Street, Suite 403, Milford, MA 01757
(508) 634-9800 Fax (508) 634-8259

Vermont Office:
11 Mill Street, Barre, VT 05641
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FEB 3 10 33 AM '97



Phase (check one)	Type (check one)
<input checked="" type="checkbox"/> Initial Site Investigation	Work Scope
Corrective Action Feasibility Investigation	<input checked="" type="checkbox"/> Technical Report
Corrective Action Plan	PCF Reimbursement Request
Corrective Action Summary Report	General Correspondence

INITIAL SITE INVESTIGATION

Lake Parker Country Store
West Glover, VT

SMS Site # ~~96~~1633
4

Prepared For:

Mr. Carl Ruprecht
S.B. Collins, Inc.
P.O. Box 671
St. Albans, VT 05478
(802) 527-0116

Prepared By:

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(508) 634-9800
Contact: Peter F. Cook
NCES Project #: 1192

January 23, 1997

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Feb 3 10 33 AM '97

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EXECUTIVE SUMMARY

An Initial Site Assessment has been performed at the Lake Parker Country Store, West Glover, Vermont (the Site). The investigation was performed to define the degree and extent of soil and/or groundwater contamination as a result of a release of gasoline from two (2) underground storage tanks (UST's) removed from the site in September of 1996. A summary of the field activities conducted during the UST removal was documented in the UST Closure Report prepared by North Country Environmental Services, Inc., and submitted to the Vermont Department of Environmental Conservation (VT-DEC), on September 12, 1996. The closure report describes the presence of petroleum contamination based on olfactory observations and photoionization detector (PID) soil screening results.

Five (5) soil borings were advanced and two (2) shallow groundwater monitoring wells were installed on the site on December 12, 1996. Soils were screened in the field for total organic vapor (TOV) by jar headspace method with a photoionization detector. Groundwater was collected and analyzed from five on-site monitoring wells for VOC's with MTBE by EPA Method 8020.

Detectable TOV results were recorded from each downgradient boring location. The most significant results were recorded in borings, NC-2 and NC-3. The soil sample which resulted in the highest PID reading from NC-2 and NC-3 was submitted to the laboratory for EPA Method 8020 and MTBE analysis. The analytical testing reported detectable concentrations of benzene, toluene, ethylbenzene, and xylenes at both locations from samples collected from 5 to 7 feet below grade.

Groundwater analysis reported detectable EPA Method 602 compounds in samples collected from MW-1, MW-2, MW-3, and NC-2. No detectable EPA Method 602 compounds were reported from a sample of the on-site drinking water well, field blank, or trip blank.

A comparison of the groundwater analytical results was conducted with Groundwater Quality Standards and Health Advisory Guidelines established by the State of Vermont. This comparison identified the following constituents above the respective guidelines: benzene at MW-1, MW-2, MW-3 and NC-2; toluene and ethylbenzene at NC-2; and MTBE exceeded the Vermont Health Advisory at MW-1, MW-2, and NC-2.

Hydrogeologic conditions indicate groundwater to be present approximately 4 to 6 feet below grade, and that groundwater was established to be traveling in a northeast direction across the site. An assessment of potential receptors identified one private drinking water well potentially downgradient of the site release. This well is located behind the residence to the northeast of the subject site. There is no current evidence that this well has been impacted.

On the basis of this investigation, NCES recommends that monitoring wells, MW-1, MW-2, MW-3, and NC-2 be re-sampled for analytical testing in the spring high water table (April). These samples would be analyzed by EPA Method 602 and MTBE. It is also recommended that in-situ hydraulic conductivity testing be performed at MW-2, MW-3, and NC-2 to calculate a groundwater flowrate across the impacted area of the site. This data would be utilized to further assess the potential impact to downgradient receptors.

INTRODUCTION

It is the purpose of this report to outline the scope of work and results of an Initial Site Investigation which was performed at the property identified as the Lake Parker Country Store, West Glover, Vermont.

On September 9, 1996 a closure assessment for the removal of two (2) 2000 gallon gasoline underground storage tanks (UST's) was performed by Michael McCarley of North Country Environmental Services, Inc., (NCES). During the UST removal process, a total of sixteen (16) soil samples were collected from the overburden soils for headspace analysis by photoionization detector (PID). Thirteen (13) of the sixteen samples produced headspace readings above 10 ppm, with an average of 50 ppm. A pocket of free phase petroleum product was also encountered at a depth of approximately seven (7) feet below the west end of Tank #2 (regular unleaded). In general, groundwater was encountered at an approximate depth of eight (8) feet below grade. No visible petroleum sheen was noted during the UST removal.

On September 13, 1996 NCES returned to the site to oversee the removal of approximately 70 linear feet of underground gas fuel lines. The lines had been pumped of any residual product during the September 9, 1996 tank removal. Eight (8) soil samples were taken from the piping excavation at a depth of twelve (12) inches below grade. Headspace analysis by PID revealed that two (2) of the samples, both taken below the former fuel dispenser, reported PID readings above 10 ppm.

WORK PLAN

On November 1, 1996, S. B. Collins, Inc., received a request from the Sites Management Section of the Vermont DEC to conduct an Initial Site Investigation at the subject site. As a result of this request, NCES was retained and a scope of work was developed by NCES based on the discussions with S. B. Collins, Inc., and the VT-DEC. This preliminary scope of work and schedule was described in a NCES letter to the VT-DEC dated November 15, 1996.

Following verbal approval five (5) soil borings were advanced on the site, one (1) upgradient and four (4) downgradient of the former location of the UST's. Three of the borings were advanced to the water table approximately seven (7) feet below ground surface. Two of the soil borings (NC-1 and NC-2) were advanced through the water table to a depth of twelve (12) feet and converted to monitoring wells.

During the advancement of soil borings, soil samples were collected using 24 inch long by 2 inch ID split spoon samplers. The spoon samples were collected at 5 foot intervals and screened in the field for total organic vapor (TOV) using a PID. The two most contaminated samples from borings NC-2 and NC-3 were sent to Geolabs, Inc., of Rockland, MA., to be analyzed for volatile aromatic compounds and MTBE by EPA Method 8020.

SITE DESCRIPTION

The site consists of a two story wood-framed structure with basement and an attached barn/garage. The area between the store and the road is a gravel driveway/parking lot. To the immediate south and east are vegetated areas. The interior of the subject building is used as a general store and post office, as well as a single-family private residence. The two former underground storage tanks were located approximately 15 feet to the west of the store. This area is a gravel driveway/parking area.

The release, which was identified during UST removal in September of 1996 occurred on the west side of the Lake Parker Country Store building. The store and attached house/garage are on the south side of West Glover Road. Refer to the Site Maps in Appendix A for site location.

The land use in the vicinity of the subject site is primary residential. The site is bordered to the south by a grass field, and to the west, north and east by single family residences.

The site area topography slopes moderately from west to east. The gravel area between the building and road is graded slightly from north to south.

SITE HISTORY

According to interviews with the current property owner and officials at the Glover Town Clerk's Office, the site was developed in the 1860's. The location has reportedly been utilized as a country store since development. On the basis of a records review at the Vermont DEC, the two (2) UST's which were removed from the site in September of 1996 were installed by S. B. Collins, Inc., in 1964.

SOIL BORING ADVANCEMENT AND MONITORING WELL INSTALLATION

Five (5) soil borings were advanced at the site on December 12, 1996 as outlined in the scope of work. The borings were designated NC-1 through NC-5. The borings were advanced by Green Mountain Boring under the direct supervision of NCES personnel. The borings were advanced in the gravel parking and driveway areas to establish site soil characteristics, collect samples for on-site screening and analytical testing, and to install groundwater monitoring wells in selected locations.

All borings were advanced utilizing a truck mounted hydraulic rotary drill rig utilizing continuous flight 4.25 inch ID hollow stem augers. All down hole drilling equipment and tools were decontaminated prior to use at each boring location to prevent potential cross contamination. These borings were advanced in the overburden soils to depths ranging from approximately 7 to 12 feet below grade. Copies of all soil boring logs are available in Appendix C. Specifically, NC-1 was advanced to a depth of 12 feet south (upgradient) of the current UST location. NC-2 was advanced to a depth of 12 feet approximately 30 feet northeast of the northwest corner of the store. NC-3 was advanced to a depth of 7 feet approximately 50 feet north of the house section. NC-4 was advanced to a depth of 7 feet approximately 20 feet north of the current fuel dispenser, and NC-5 was advanced to a depth of 7 feet approximately 25 feet west of the northwest store corner.

Of the above soil borings, NC-1 and NC-2 were completed as groundwater monitoring wells. These wells were installed to compliment existing on-site monitoring wells, to determine groundwater elevations across the work area, and to collect groundwater samples for analytical testing. The locations of all soil borings and monitoring wells are presented on the Site Map in Appendix A.

All monitoring wells were constructed of 2 inch ID schedule 40 PVC pipe with flush threads and end caps. The screen sections of each well were constructed of .020-inch slotted, 2 inch ID schedule 40 PVC pipe with flush threads. The well screen in each well was installed to intercept the elevation of the upper level groundwater. The annular space was filled with washed silica sand to a level approximately two feet above the well screen following placement of the riser pipe and screen section of each well. A bentonite seal was then installed above the sand pack. The remainder of the annular space was then filled with natural materials. Watertight roadway boxes were placed at grade and sealed with concrete to complete installation. The table below outlines the monitoring well construction details.

MONITORING WELL CONSTRUCTION DETAILS

<u>Well Number</u>	<u>Date Installed</u>	<u>Total Depth</u>	<u>Well Screen Location</u>
NC-1	12/12/96	12 feet	2 - 12 feet
NC-2	12/12/96	12 feet	2 - 12 feet

During the advancement of soil borings on the site, soil samples were collected from each location utilizing 24 inch long by 2 inch ID split spoon samplers. Split spoon samples were collected at five foot intervals or strata change utilizing the Standard Penetration Test Method. Following all sampling, each split spoon was decontaminated in the field with an alconox solution and deionized water. The standard blow counts per 6 inch penetration are listed on the Soil Boring Logs in Appendix C. All soil samples were classified in the field in accordance with the Modified Burmister Soil Classification System. Please refer to the Soil Boring Logs for the detailed soil characteristics at each sampling location.

All soil samples collected from the borings were screened in the field for the presence of total organic vapor (TOV) by jar headspace method utilizing a pre-calibrated HNu Photoionization Detector, Model PI 101. The table on the following page outlines the results of the TOV field tests.

SOIL SCREEN TOV RESULTS

<u>Boring Location</u>	<u>Sample Number</u>	<u>Sample Depth</u>	<u>TOV Result</u>
NC-1	S-A	0 feet - 2 feet	0.0 ppm
	S-1	5 feet - 7 feet	5.4 ppm
	S-2	10 feet - 10'8" feet	0.4 ppm
NC-2	S-A	0 feet - 3 feet	325 ppm
	*S-1	5 feet - 7 feet	425 ppm
	S-2	10 feet - 11'2" feet	62 ppm
NC-3	S-A	0 feet - 2 feet	42 ppm
	*S-1	5 feet - 7 feet	325 ppm
NC-4	S-A	0 feet - 3 feet	20 ppm
	S-1	5 feet - 7 feet	75 ppm
NC-5	S-A	0 feet - 3 feet	15 ppm
	S-1	5 feet - 7 feet	52 ppm

- Notes:** 1. HNu calibrated with isobutylene on-site prior to use.
2. TOV results expressed as ppm (v/v benzene).
3. * - Soil samples sent for analytical testing.

SOIL SAMPLING AND ANALYTICAL TESTING

Detectable TOV results were recorded from each boring location, however the most significant results were recorded in borings, NC-2 through NC-5. The soil sample which resulted in the highest PID reading from NC-2 and NC-3 was submitted to the laboratory for EPA Method 8020 and MTBE analysis.

The analytical testing reported significant detectable concentrations of benzene, toluene, ethylbenzene, and xylenes from soil samples collected from 5 to 7 feet below grade at NC-2 and NC-3. The specific results are presented in the table on the following page.

DETECTABLE SOIL ANALYTICAL RESULTS

<u>Sample Number</u>	<u>Sample Location</u>	<u>Constituent</u>	<u>Result</u>
49677	NC-2, S-1	Benzene	16,800 ug/Kg
		Toluene	27,800 ug/Kg
		Ethylbenzene	6,110 ug/Kg
		Xylenes	32,600 ug/Kg
49678	NC-3, S-1	Benzene	606 ug/Kg
		Toluene	6,530 ug/Kg
		Ethylbenzene	2,290 ug/Kg
		Xylenes	12,100 ug/Kg

Notes: 1. Only detectable results from EPA Method 8020 analysis were listed in the table.
2. ug/Kg - parts per billion.

GROUNDWATER MONITORING WELL SAMPLING AND ANALYTICAL RESULTS

On January 3, 1997 groundwater samples were collected from three (3) previously installed on-site monitoring wells, identified as MW-1, MW-2, and MW-3, as well as the NCES installed monitoring wells, NC-1 and NC-2. The depth to groundwater and total well depth was measured to the nearest 0.01 foot with an ORS Interface Probe prior to sample collection. The groundwater depth measurement, as well as a description of the odor and appearance of the groundwater was logged in the field. Groundwater samples collected from monitoring wells, MW-2, MW-3, and NC-2 were noted as having a strong petroleum odor. The sample from NC-2 exhibited a heavy oil sheen. A minimum of three (3) well volumes of groundwater was removed from each well. Each well was then allowed to recharge prior to sample collection. All groundwater samples collected from the site were properly packaged and preserved pending delivery to GeoLabs, Inc., for analysis under a signed chain of custody.

In addition to the well samples, one grab sample was collected from the on-site drinking water well for EPA Method 602 analysis. A trip blank prepared by the laboratory and a field blank prepared by NCES personnel using distilled water in a fresh single-use bailer was also analyzed.

The results of the analysis reported no readings above a detection limit of 5.0 ug/l in the trip blank, field blank, tap water sample, or the sample from NC-1. Detectable concentrations of benzene, toluene, ethylbenzene, xylenes and MTBE were reported from MW-1, MW-2, and NC-2. Detectable concentrations of benzene, toluene, ethylbenzene, and xylenes were detected in the groundwater sample collected from MW-3. Copies of the laboratory reports are available in Appendix C. All detectable laboratory results are presented in the table on the following page.

A comparison of the groundwater analytical results was conducted with Groundwater Quality Standards and Health Advisory Guidelines established by the State of Vermont. This comparison identified the following constituents above the respective guidelines: benzene at MW-1, MW-2, MW-3 and NC-2; toluene and ethylbenzene at NC-2; and MTBE exceeded the Vermont Health Advisory at MW-1, MW-2, and NC-2.

DETECTABLE GROUNDWATER ANALYTICAL RESULTS

<u>Sample Number</u>	<u>Sample Location</u>	<u>Constituent</u>	<u>Result</u>
50193	NC-1	EPA Method 602	ND
50200	MW-1	Benzene	2,260 ug/L
		Toluene	898 ug/L
		Ethylbenzene	31.4 ug/L
		Xylenes	375 ug/L
		MTBE	398 ug/L
50194	MW-2	Benzene	802 ug/L
		Toluene	246 ug/L
		Ethylbenzene	150 ug/L
		Xylenes	484 ug/L
		MTBE	449 ug/L
50195	MW-3	Benzene	1,270 ug/L
		Toluene	290 ug/L
		Ethylbenzene	87.1 ug/L
		Xylenes	3,280 ug/L
50196	NC-2	Benzene	15,400 ug/L
		Toluene	12,500 ug/L
		Ethylbenzene	1,030 ug/L
		Xylenes	5,850 ug/L
		MTBE	1,440 ug/L
50197	Store Tap	EPA Method 602	ND
50198	Field Blank	EPA Method 602	ND
50199	Trip Blank	EPA Method 602	ND

Notes: 1. Only detectable results from EPA Method 8020 analysis were listed in the table.
2. ND - Not Detected

SITE GEOLOGY

Based on an inspection of the soil samples obtained by split spoon at the site during the advancement of soil borings, the upper surficial geology at the site consists of a mixture of medium to fine brown silty sand with some small stones and some glacial till. Detailed descriptions of soil samples from each boring are contained in the soil boring logs available in Appendix B.

Bedrock on the site has been identified as part of the Pinney Hollow Formation according to published Bedrock Geology Maps for the State of Vermont. This formation consists of greenstone and actinolitic greenstone.

SITE HYDROGEOLOGY

Groundwater at the site has been measured to be present at depths ranging from approximately 4 to 6 feet below grade across the work area. In addition to the groundwater depth measurements, the wellhead elevation of each monitoring well was established utilizing a surveying level, and the location of each well was established with reference to the site. This information was collected to establish the upper level groundwater flow across the site.

From the triangulation of the groundwater elevation from the on-site wells, the groundwater has been identified to be flowing in a northeasterly direction. The data utilized to calculate the groundwater flow direction is presented in the following table.

WELLHEAD ELEVATION AND GROUNDWATER DEPTH MEASUREMENTS

<u>Well Number</u>	<u>Wellhead Elevation</u>	<u>Depth to Groundwater</u>	<u>Groundwater Elevation</u>
MW-1	95.58 feet	3.95 feet	91.63 feet
MW-2	94.64 feet	4.66 feet	89.98 feet
MW-3	93.17 feet	5.66 feet	87.51 feet
NC-1	96.31 feet	3.58 feet	92.73 feet
NC-2	91.31 feet	6.25 feet	85.06 feet

Notes:

1. Measurements taken on January 3, 1997.
2. Ground elevations surveyed relative to an arbitrary reference datum of 100.00 feet.

POTENTIAL RECEPTORS

As part of this initial investigation, an assessment of relevant sensitive receptors at the subject site was performed. This receptor assessment included public and private water supplies, surface waters, wetlands, sensitive ecological areas, outdoor and indoor air, enclosed spaces, and utilities.

On the basis of a site reconnaissance of the subject site, the property receives drinking water from an on-site drinking water well. The on-site well is located to the south of the barn. Private drinking water wells within 500 feet were also identified on abutting properties to the north, northeast, and east. No information was available regarding the construction or depth of these wells. Based on the calculated groundwater flow direction, the private well to the northeast (across the road and behind the residence) was identified as the only potential receptor to dissolved components of gasoline identified at the site via bulk groundwater flow. There is no evidence to indicate this potential downgradient well has been impacted by the release on the subject site.

Lake Parker is located approximately 1500 feet to the southwest of the site. Roaring Brook and the West Glover town leach field is located approximately 550 feet east of the site. The brook flows in a northerly direction and is an outlet of Lake Parker. Following an inspection of the brook, no evidence of adverse impact or petroleum sheen was noted.

Ambient air screenings were performed in the basement of the country store with a photoionization detector during the investigation of the site. No detectable total organic vapor (TOV) readings were recorded from the basement.

SUMMARY AND RECOMMENDATIONS

On November 1, 1996 S. B. Collins, Inc., received a request by the Vermont DEC to perform an Initial Site Investigation at the Lake Parker Country Store in West Glover, VT. The request was prompted by the discovery of petroleum contaminated soil and groundwater following the removal of two (2) underground storage tanks on September 9, 1996.

In order to investigate the potential impact to on-site soil and groundwater, five (5) soil borings were advanced and two (2) shallow groundwater monitoring wells were installed on the site on December 12, 1996. Soils were screened in the field for total organic vapor (TOV) by jar headspace method with a photoionization detector. Groundwater was collected and analyzed from five on-site monitoring wells for VOC's with MTBE by EPA Method 8020.

Detectable TOV results were recorded from each downgradient boring location. The most significant results were recorded in borings, NC-2 and NC-3. The soil sample which resulted in the highest PID reading from NC-2 and NC-3 was submitted to the laboratory for EPA Method 8020 and MTBE analysis. The analytical testing reported detectable concentrations of benzene, toluene, ethylbenzene, and xylenes at both locations from samples collected from 5 to 7 feet below grade.

Groundwater analysis reported detectable EPA Method 602 compounds in samples collected from MW-1, MW-2, MW-3, and NC-2. No detectable EPA Method 602 compounds were reported from a sample of the on-site drinking water well, field blank, or trip blank.

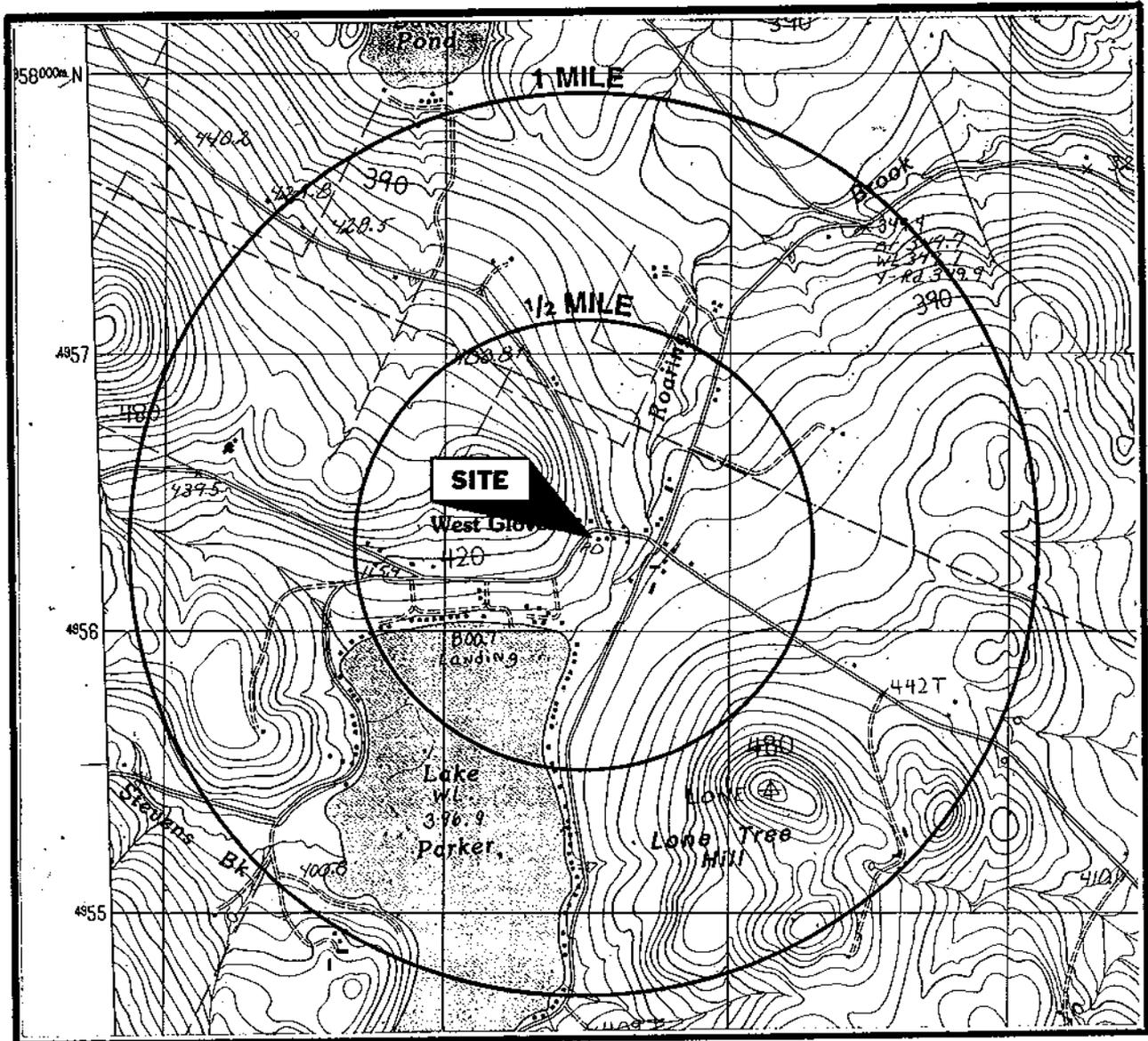
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Hydrogeologic conditions indicate groundwater to be present approximately 4 to 6 feet below grade, and that groundwater was established to be traveling in a northeast direction across the site. An assessment of potential receptors identified one private drinking water well potentially downgradient of the site release. This well is located behind the residence to the northeast of the subject site. There is no current evidence that this well has been impacted.

On the basis of this investigation, NCES recommends that monitoring wells, MW-1, MW-2, MW-3, and NC-2 be re-sampled for analytical testing in the spring high water table (April). These samples would be analyzed by EPA Method 602 and MTBE. It is also recommended that in-situ hydraulic conductivity testing be performed at MW-2, MW-3, and NC-2 to calculate a groundwater flowrate across the impacted area of the site. This data would be utilized to further assess the potential impact to downgradient receptors.

APPENDIX A

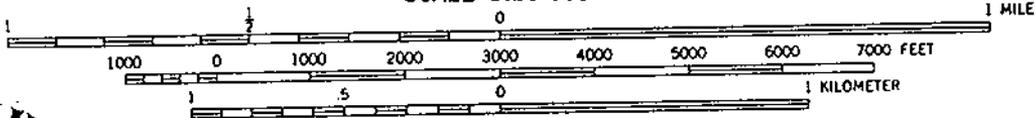
Site Maps



Lake Parker Country Store
West Glover, Vermont

Locus Map

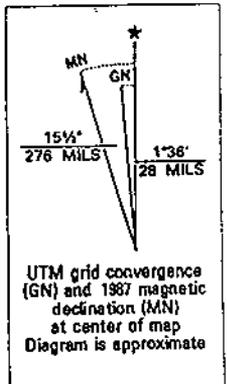
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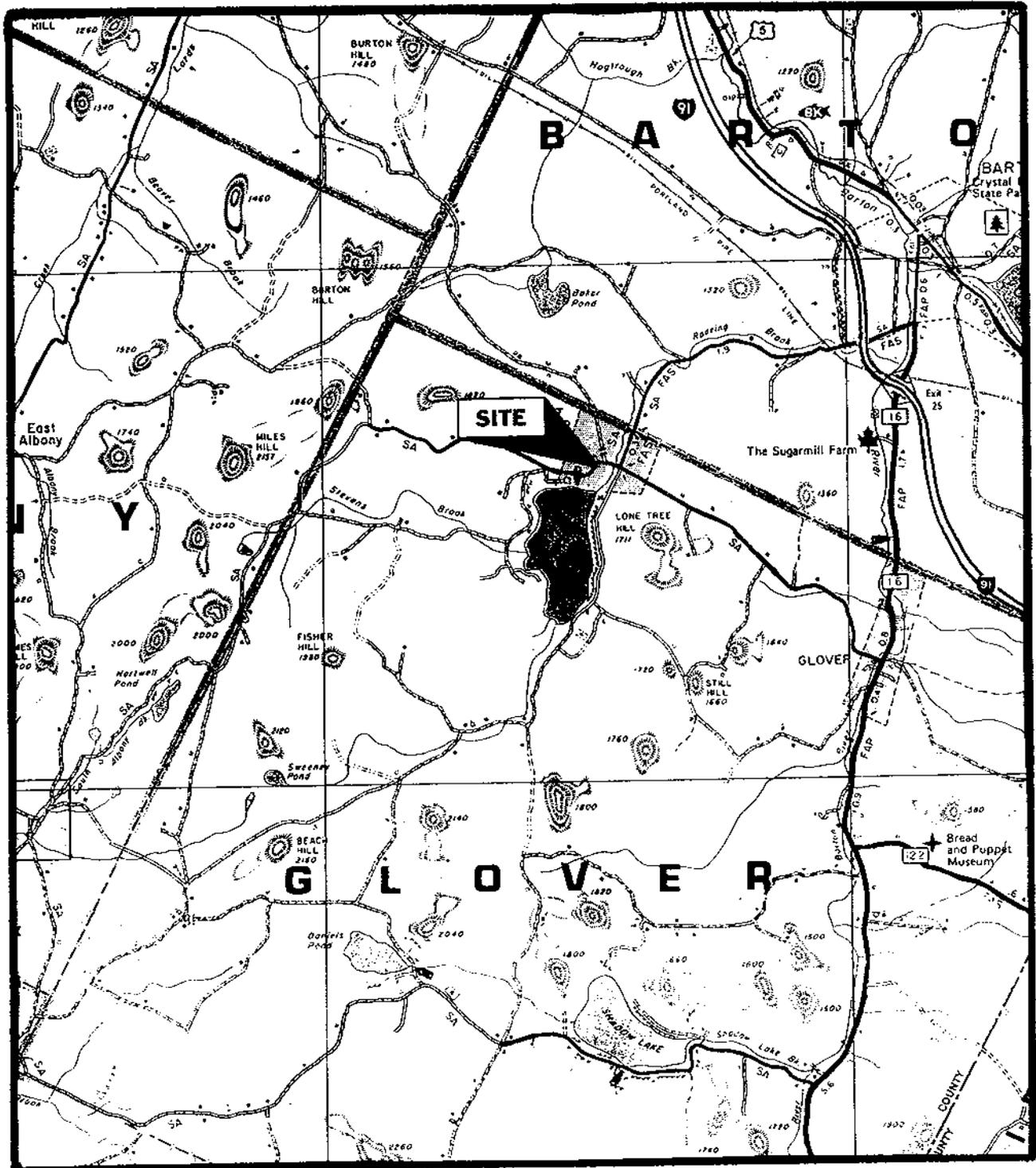


CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS MEAN LOW WATER



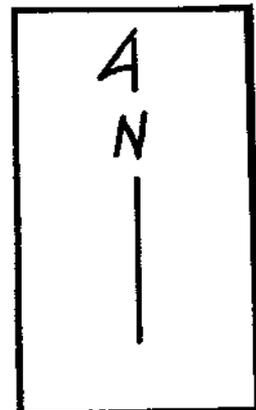
DECLINATION DIAGRAM

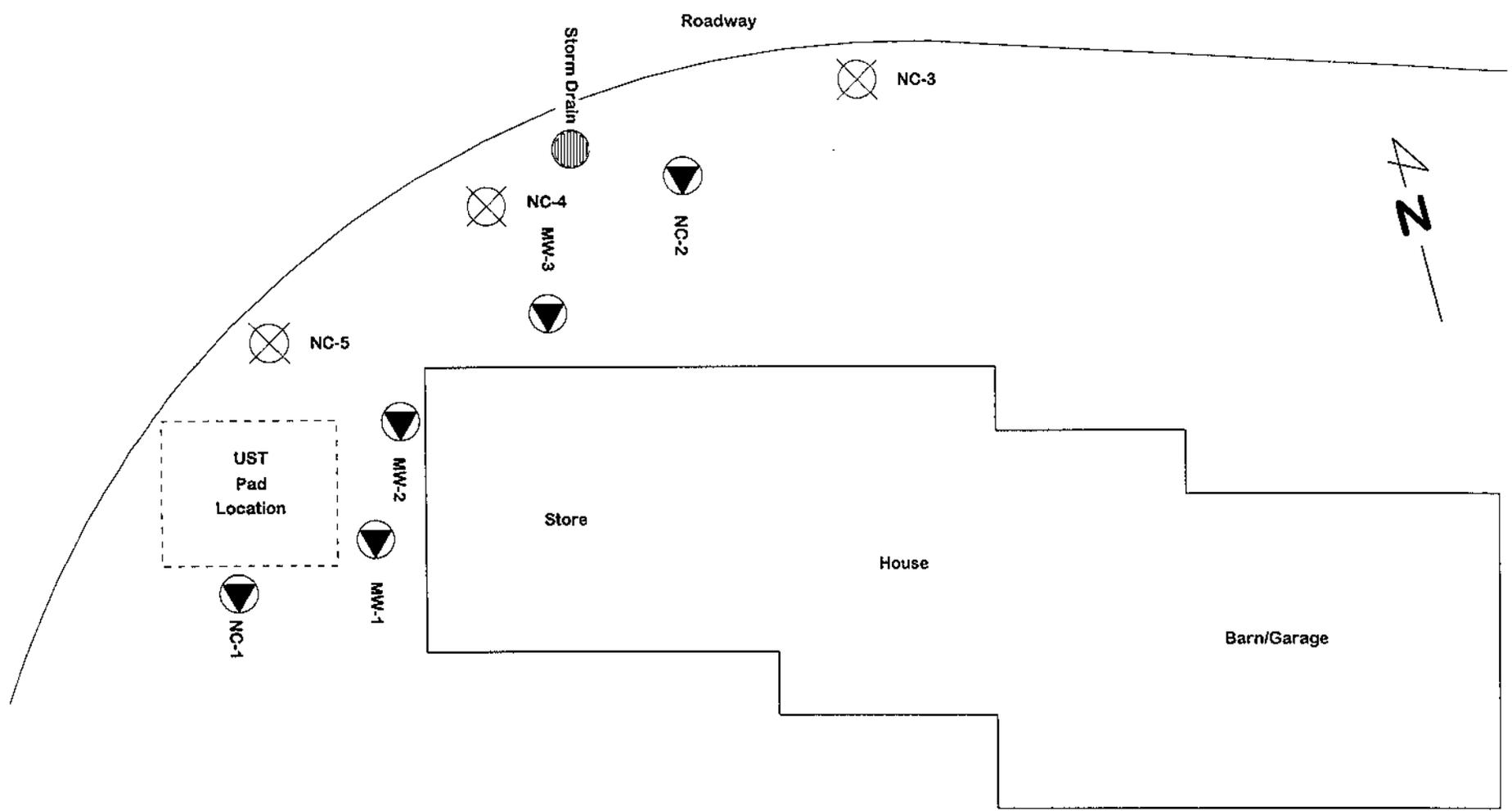




Lake Parker Country Store
West Glover, Vermont

Area Map

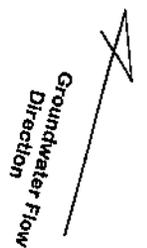




KEY	
	Monitoring Well
	Boring

Lake Parker Country Store West Glover, Vermont Site Map
North Country Environmental Services, Inc. 100 Medway Street, Suite 403, Milford, Massachusetts
Approximate Scale: 1" = 25' DRAWINGS: 1192_ESA.DWG

Roadway



85.06

87.51

89.98

91.63

91.00

92.00

92.73

KEY



Monitoring Well



Boring

Lake Parker Country Store
West Glover, Vermont
Groundwater Flow Direction/Hydraulic Gradient

North Country Environmental Services, Inc.
100 Medway Street, Suite 403, Milford, Massachusetts

DRAWINGS: 1192_ESA.DWG
Approximate Scale: 1" = 25'

APPENDIX B

Soil Boring Logs

GREEN MOUNTAIN BORING

PO Box 218 ° East Barre, Vermont 05649 ° 802 476-5073

TO: North Country Environmental
100 Medway Street
Suite 403
Milford, MA 01757
Attn.: Rick Mansfield

PROJECT NAME: Lake Parker General Store
LOCATION: West Glover, VT
GMB JOB #: 96-161

SHEET:	1
DATE:	12/12/96
HOLE #:	NC-1
LINE & STA.	
OFFSET:	none

Ground Water Observations	Type			Surface Elev.:
	At none at 0 hours	Augers	Split Spoon	Date Started: 12/12/96
At at hours	Size I.D.	4.25"	13/8"	Date Completed: 12/12/96
	Hammer Wt.		140#	Boring Foreman: Ron Garneau
	Hammer Fall		30"	Inspector:
				Soils Eng.:

LOCATION OF BORING: As staked

Depth	Casing Blows Per Foot	Sample Depths From/To	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample		
								No. Rec.	Pen	
		5'-7'	SS	2/24/34/38	wet		Brown silty sand with some small pebbles and stones	1	24"	13"
		10'-10'8"	SS	73/100 for 2"	dry		Hard packed brown silt with some small pebbles till like material	2	8"	8"
							Drilled to 12' installed well			
							Materials used:			
							10' .020 screen			
							1.5' PVC riser			
							1 set of top locking and bottom cone caps			
							2 bags of sand			
							1 bag of benseal			
							1 bag of cement			
							1 road box			

Ground Surface to 12' Used 3.25" Augers: Then Installed well

SUMMARY:	Earth Boring	12'	Rock Coring	Samples	2	HOLE #	NC-1
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GREEN MOUNTAIN BORING

PO Box 218 ° East Barre, Vermont 05649 ° 802 476-5073

TO: North Country Environmental
 100 Medway Street
 Suite 403
 Milford, MA 01757
 Attn.: Rick Mansfield

PROJECT NAME: Lake Parker General Store
 LOCATION: West Glover, VT
 GMB JOB #: 96-161

SHEET:	3
DATE:	12/12/96
HOLE #:	NC-3
LINE & STA.	
OFFSET:	none

Ground Water Observations	Type Size I.D. Hammer Wt. Hammer Fall	Augers 4.25" 13/8" 140# 30"	Split Spoon 13/8" 140# 30"	Surface Elev.: Date Started: 12/12/96 Date Completed: 12/12/96 Boring Foreman: Ron Garneau Inspector: Soils Eng.:
At none at 0 hours				
At _____ at _____ hours				

LOCATION OF BORING: As staked

Depth	Casing Blows Per Foot	Sample Depths From/To	Type of Sample	Blows per 8" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample		
								No. Rec.	Pen	
		5'-7'	SS	24/10/17/22	damp		Brown silt with small pebbles	1	24"	10"

Ground Surface to 5' Used 3.25" Augers: Then SS to 7'

SUMMARY: Earth Boring 7' Rock Coring Samples 1 HOLE # NC-3

GREEN MOUNTAIN BORING

PO Box 218 ° East Barre, Vermont 05649 ° 802 476-5073

TO: North Country Environmental
100 Medway Street
Suite 403
Milford, MA 01757
Attn.: Rick Mansfield

PROJECT NAME: Lake Parker General Store
LOCATION: West Glover, VT
GMB JOB #: 96-161

SHEET:	4
DATE:	12/12/96
HOLE #:	NC-4
LINE & STA.	
OFFSET:	none

Ground Water Observations	Type	Augers	Split Spoon	Surface Elev.:
	At none at 0 hours	Size I.D. 4.25"	13/8"	Date Started: 12/12/96
At at hours	Hammer Wt.	Hammer Fall	30"	Date Completed: 12/12/96
				Boring Foreman: Ron Garneau
				Inspector:
				Soils Eng.:

LOCATION OF BORING: As staked

Depth	Casing Blows Per Foot	Sample Depths From/To	Type of Sample	Blows per 6" on Sampler	Moisture Density or Consist.	Strata Change Elev.	Soil Identification	Sample		
								No. Rec.	Pen	
		5'-7'	SS	11/7/8/17	damp		Brown silt with small pebbles	1	24"	15"

Ground Surface to 5' Used 3.25" Augers: Then SS to 7'

SUMMARY: Earth Boring 7' Rock Coring Samples 1 HOLE # NC-4

APPENDIX C

Analytical Reports

GeoLabs, Inc.

Environmental Laboratories

Phone: (617) 878-1346 Fax: (617) 871-7069

PREPARED FOR: North Country Environmental Services, Inc.
100 Medway Street
Suite 403
Milford, MA 01757

Attn: R. Mansfield

PROJECT ID: NCES Job #1192
S.B. Collins-W. Glover, VT

GEOLABS CLIENT #: 1325-95

SAMPLE NUMBER: 49677-49678

DATE PREPARED: December 19, 1996

PREPARED BY: Lynda Davis

APPROVED BY:


Jim Chen, Laboratory Director/Date

Location: 400 Hingham St.
Rockland, MA 02370

Mailing Address:

PO Box 254
Accord, MA 02018

GEOLABS, INC.
P.O. BOX 254
ACCORD, MA 02018
(617) 878-1346

CLIENT NAME: NORTH COUNTRY ENV. PROJECT ID: NCES #1192
SAMPLE TYPE: SOIL REPORT DATE: 12/19/96
COLLECTION DATE: 12/12/96 ANALYZED BY: ZYZ 12/18/96
REC'D BY LAB: 12/13/96 EXTRACTION DATE: N/A
COLLECTED BY: CLIENT DIGESTION DATE: N/A

VOLATILE AROMATIC COMPOUNDS

SAMPLE NUMBER: 49677
SAMPLE LOCATION: NC2-S1

	RESULTS (ug/Kg)	DETECTION LIMIT (ug/Kg)
Benzene	16800	500
Toluene	27800	2500
Ethylbenzene	6110	500
Xylenes	32600	500
1,2-Dichlorobenzene	ND	500
1,3-Dichlorobenzene	ND	500
1,4-Dichlorobenzene	ND	500
Chlorobenzene	ND	500
Methyl tert-butyl ether	ND	500

ND = NOT DETECTED

Method Reference:

EPA Method 8020 by 8240 (1) (GC/MS)

1) U.S. EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 1986, 3rd Edition.

GEOLABS, INC.
P.O. BOX 254
ACCORD, MA 02018
(617) 878-1346

CLIENT NAME: NORTH COUNTRY ENV. PROJECT ID: NCES #1192
SAMPLE TYPE: SOIL REPORT DATE: 12/19/96
COLLECTION DATE: 12/12/96 ANALYZED BY: ZYZ 12/18/96
REC'D BY LAB: 12/13/96 EXTRACTION DATE: N/A
COLLECTED BY: CLIENT DIGESTION DATE: N/A

VOLATILE AROMATIC COMPOUNDS

SAMPLE NUMBER: 49678
SAMPLE LOCATION: NC3-S1

	RESULTS (ug/Kg)	DETECTION LIMIT (ug/Kg)
Benzene	606	500
Toluene	6530	500
Ethylbenzene	2290	500
Xylenes	12100	500
1,2-Dichlorobenzene	ND	500
1,3-Dichlorobenzene	ND	500
1,4-Dichlorobenzene	ND	500
Chlorobenzene	ND	500
Methyl tert-butyl ether	ND	500

ND = NOT DETECTED

Method Reference:

EPA Method 8020 by 8240 (1) (GC/MS)

1) U.S. EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 1986, 3rd Edition.

**GEOLABS, INC.
P.O. BOX 254
ACCORD, MA 02018**

LIMITATIONS & EXCLUSIONS

All the professional opinions presented in this report are based solely on the scope of work conducted and sources referred to in our report. The data presented by GeoLabs in this report was collected and analyzed using generally accepted industry methods and practices at the time the report was generated. This report represents the conditions, locations and materials that were observed at the time the work was conducted. No inferences regarding other conditions, locations or materials, at a later or earlier time may be made based on the contents of the report. No other warranty, express or implied is made.

This report was prepared for the sole use of our client. Portions of the report may not be used independent of the entire report.

All analyses were performed within required holding times, in accordance with EPA protocols and using accepted QA/QC procedures. The information contained in this report is, to the best of my knowledge, accurate and complete.

GeoLabs, Inc.
Environmental Laboratories
Phone: (617) 878-1346 Fax: (617) 871-7069

PREPARED FOR: North Country Environmental Services, Inc.
100 Medway Street
Suite 403
Milford, MA 01757

Attn: Rob Berger

PROJECT ID: NCES Job# 1192
S.B. Collins-L. Parker, VT

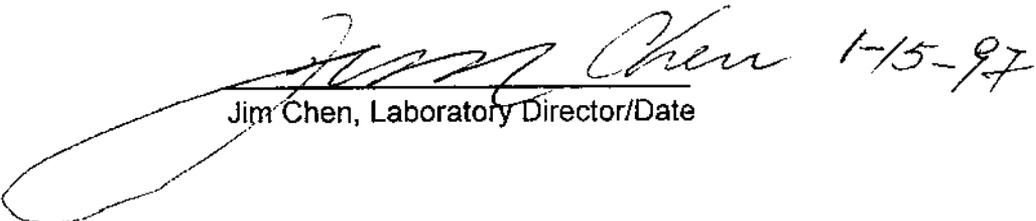
GEOLABS CLIENT #: 1325-95

SAMPLE NUMBER: 50193-50200

DATE PREPARED: January 14, 1997

PREPARED BY: Suzanne Pidgeon

APPROVED BY:


Jim Chen, Laboratory Director/Date 1-15-97

GEOLABS, INC.
P.O. BOX 254
ACCORD, MA 02018
(617) 878-1346

CLIENT NAME:	NORTH COUNTRY	PROJECT ID:	NCES JOB# 1192
SAMPLE TYPE:	GROUNDWATER	REPORT DATE:	01/14/97
COLLECTION DATE:	01/03/97	ANALYZED BY:	ZYZ 01/10/97
REC'D BY LAB:	01/09/97	EXTRACTION DATE:	N/A
COLLECTED BY:	CLIENT	DIGESTION DATE:	N/A

VOLATILE AROMATIC COMPOUNDS

SAMPLE NUMBER: 50193
SAMPLE LOCATION: NC-1

	RESULTS (ug/L)	DETECTION LIMIT (ug/L)
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
Xylenes	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
Chlorobenzene	ND	5.0
Methyl tert-butyl ether	ND	5.0

ND = NOT DETECTED

Method Reference:

EPA Method 8020 by 8240 (1) (GC/MS)

1) U.S. EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 1986, 3rd Edition.

GEOLABS, INC.
P.O. BOX 254
ACCORD, MA 02018
(617) 878-1346

CLIENT NAME:	NORTH COUNTRY	PROJECT ID:	NCES JOB# 1192
SAMPLE TYPE:	GROUNDWATER	REPORT DATE:	01/14/97
COLLECTION DATE:	01/03/97	ANALYZED BY:	ZYZ 01/10/97
REC'D BY LAB:	01/09/97	EXTRACTION DATE:	N/A
COLLECTED BY:	CLIENT	DIGESTION DATE:	N/A

VOLATILE AROMATIC COMPOUNDS

SAMPLE NUMBER:	50194
SAMPLE LOCATION:	MW-2

	RESULTS (ug/L)	DETECTION LIMIT (ug/L)
Benzene	802	50.0
Toluene	246	50.0
Ethylbenzene	150	5.0
Xylenes	484	5.0
1,2-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
Chlorobenzene	ND	5.0
Methyl tert-butyl ether	449	50.0

ND = NOT DETECTED

Method Reference:

EPA Method 8020 by 8240 (1) (GC/MS)

1) U.S. EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 1986, 3rd Edition.

GEO LABS, INC.
P.O. BOX 254
ACCORD, MA 02018
(617) 878-1346

CLIENT NAME: NORTH COUNTRY PROJECT ID: NCES JOB# 1192
SAMPLE TYPE: GROUNDWATER REPORT DATE: 01/14/97
COLLECTION DATE: 01/03/97 ANALYZED BY: ZYZ 01/10/97
REC'D BY LAB: 01/09/97 EXTRACTION DATE: N/A
COLLECTED BY: CLIENT DIGESTION DATE: N/A

VOLATILE AROMATIC COMPOUNDS

SAMPLE NUMBER: 50195
SAMPLE LOCATION: MW-3

	RESULTS (ug/L)	DETECTION LIMIT (ug/L)
Benzene	1270	50.0
Toluene	290	50.0
Ethylbenzene	87.1	50.0
Xylenes	3280	50.0
1,2-Dichlorobenzene	ND	50.0
1,3-Dichlorobenzene	ND	50.0
1,4-Dichlorobenzene	ND	50.0
Chlorobenzene	ND	50.0
Methyl tert-butyl ether	ND	50.0

ND = NOT DETECTED

Method Reference:

EPA Method 8020 by 8240 (1) (GC/MS)

1) U.S. EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 1986, 3rd Edition.

GEOLABS, INC.
P.O. BOX 254
ACCORD, MA 02018
(617) 878-1346

CLIENT NAME: NORTH COUNTRY PROJECT ID: NCES JOB# 1192
SAMPLE TYPE: GROUNDWATER REPORT DATE: 01/14/97
COLLECTION DATE: 01/03/97 ANALYZED BY: ZYZ 01/10/97
REC'D BY LAB: 01/09/97 EXTRACTION DATE: N/A
COLLECTED BY: CLIENT DIGESTION DATE: N/A

VOLATILE AROMATIC COMPOUNDS

SAMPLE NUMBER: 50196
SAMPLE LOCATION: NC-2

	RESULTS (ug/L)	DETECTION LIMIT (ug/L)
Benzene	15400	500
Toluene	12500	500
Ethylbenzene	1030	500
Xylenes	5850	500
1,2-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
Chlorobenzene	ND	5.0
Methyl tert-butyl ether	1440	500

ND = NOT DETECTED

Method Reference:

EPA Method 8020 by 8240 (1) (GC/MS)

1) U.S. EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 1986, 3rd Edition.

GEOLABS, INC.
P.O. BOX 254
ACCORD, MA 02018
(617) 878-1346

CLIENT NAME:	NORTH COUNTRY	PROJECT ID:	NCES JOB# 1192
SAMPLE TYPE:	TAP WATER	REPORT DATE:	01/14/97
COLLECTION DATE:	01/03/97	ANALYZED BY:	ZYZ 01/10/97
REC'D BY LAB:	01/09/97	EXTRACTION DATE:	N/A
COLLECTED BY:	CLIENT	DIGESTION DATE:	N/A

VOLATILE AROMATIC COMPOUNDS

SAMPLE NUMBER: 50197
SAMPLE LOCATION: TAP

	RESULTS (ug/L)	DETECTION LIMIT (ug/L)
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
Xylenes	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
Chlorobenzene	ND	5.0
Methyl tert-butyl ether	ND	5.0

ND = NOT DETECTED

Method Reference:

EPA Method 8020 by 8240 (1) (GC/MS)

1) U.S. EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 1986, 3rd Edition.

GEOLABS, INC.
P.O. BOX 254
ACCORD, MA 02018
(617) 878-1346

CLIENT NAME: NORTH COUNTRY PROJECT ID: NCES JOB# 1192
SAMPLE TYPE: DISTILLED WATER REPORT DATE: 01/14/97
COLLECTION DATE: 01/03/97 ANALYZED BY: ZYZ 01/10/97
REC'D BY LAB: 01/09/97 EXTRACTION DATE: N/A
COLLECTED BY: CLIENT DIGESTION DATE: N/A

VOLATILE AROMATIC COMPOUNDS

SAMPLE NUMBER: 50198
SAMPLE LOCATION: FS1192

	RESULTS (ug/L)	DETECTION LIMIT (ug/L)
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
Xylenes	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
Chlorobenzene	ND	5.0
Methyl tert-butyl ether	ND	5.0

ND = NOT DETECTED

Method Reference:

EPA Method 8020 by 8240 (1) (GC/MS)

1) U.S. EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846,
1986, 3rd Edition.

GEOLABS, INC.
P.O. BOX 254
ACCORD, MA 02018
(617) 878-1346

CLIENT NAME:	NORTH COUNTRY	PROJECT ID:	NCES JOB# 1192
SAMPLE TYPE:	DISTILLED WATER	REPORT DATE:	01/14/97
COLLECTION DATE:	01/03/97	ANALYZED BY:	ZYZ 01/10/97
REC'D BY LAB:	01/09/97	EXTRACTION DATE:	N/A
COLLECTED BY:	CLIENT	DIGESTION DATE:	N/A

VOLATILE AROMATIC COMPOUNDS

SAMPLE NUMBER: 50199
SAMPLE LOCATION: TRIP

	RESULTS (ug/L)	DETECTION LIMIT (ug/L)
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
Xylenes	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
Chlorobenzene ‡	ND	5.0
Methyl tert-butyl ether	ND	5.0

ND = NOT DETECTED

Method Reference:

EPA Method 8020 by 8240 (1) (GC/MS)

1) U.S. EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 1986, 3rd Edition.

GEOLABS, INC.
P.O. BOX 254
ACCORD, MA 02018
(617) 878-1346

CLIENT NAME:	NORTH COUNTRY	PROJECT ID:	NCES JOB# 1192
SAMPLE TYPE:	GROUNDWATER	REPORT DATE:	01/14/97
COLLECTION DATE:	01/03/97	ANALYZED BY:	ZYZ 01/10/97
REC'D BY LAB:	01/09/97	EXTRACTION DATE:	N/A
COLLECTED BY:	CLIENT	DIGESTION DATE:	N/A

VOLATILE AROMATIC COMPOUNDS

SAMPLE NUMBER: 50200
SAMPLE LOCATION: MW-1

	RESULTS (ug/L)	DETECTION LIMIT (ug/L)
Benzene	2260	100
Toluene	898	100
Ethylbenzene	31.4	5.0
Xylenes	375	5.0
1,2-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
Chlorobenzene	ND	5.0
Methyl tert-butyl ether	398	100

ND = NOT DETECTED

Method Reference:

EPA Method 8020 by 8240 (1) (GC/MS)

1) U.S. EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 1986, 3rd Edition.

GEOLABS, INC.
P.O. BOX 254
ACCORD, MA 02018

LIMITATIONS & EXCLUSIONS

All the professional opinions presented in this report are based solely on the scope of work conducted and sources referred to in our report. The data presented by GeoLabs in this report was collected and analyzed using generally accepted industry methods and practices at the time the report was generated. This report represents the conditions, locations and materials that were observed at the time the work was conducted. No inferences regarding other conditions, locations or materials, at a later or earlier time may be made based on the contents of the report. No other warranty, express or implied is made.

This report was prepared for the sole use of our client. Portions of the report may not be used independent of the entire report.

All analyses were performed within required holding times, in accordance with EPA protocols and using accepted QA/QC procedures. The information contained in this report is, to the best of my knowledge, accurate and complete.

GeoLabs, INC.

ENVIRONMENTAL LABORATORIES

Location:

400 Hingham Street, Rockland, MA 02370

Mailing Address:

P.O. Box 254, Accord, MA 02018

(617) 878-1346 OFFICE (617) 871-7069 FAX

CHAIN OF CUSTODY

TURNAROUND SCHEDULE:

RUSH STANDARD

CLIENT DUE DATE:

LAB CLIENT ID#:

GeoLabs Client: North Country Env. Serv.
 Address: 100 Medway St - Box 6403
Milford, VT 05757
 Phone: 508-634-9800
 Fax: 508-634-8259
 Contact Name: R. Mansfield

CLIENT PROJECT INFORMATION:
 Project Name/ID: NCES # 1192
S.B. Collins - L. Parker, VT
 Purchase Order #: 97-026
 Sample Collector: TOM.S.

COMMENTS:

page 1 of 1

ANALYSES REQUESTED

FIELD SAMPLE ID #	COLLECTION		SOURCE/ LOCATION/ STATION	CONTAINER		M A T R I X	C O M P.	G R A B	P R E S.	GEOLABS SAMPLE ID NUMBER	EPA 802.0 w/MTBE									
	D A T E	T I M E		T Y P E	#															
✓ NC1	1-3	AM	gw from well NC1	V	2	GW		X	X	50193	X									
✓ MW-2			gw from well MW2							50194										
✓ MW-3			gw from well MW3							50195										
NC2			gw from well NC2							50196										
✓ TAP			tap water from store							50197										
FS1192			Field sample							50198										
✓ Trip			Trip Blank							50199										
✓ MW-1			gw from well MW-1			GW				50200										

CONTAINER TYPE CODES: A=Amber B=Bag G=Glass P=Plastic V=VOA S=Sterile O=Other

MATRIX CODES: WW=Wastewater GW=Groundwater DW=Drinking Water S=Soil O=Oil SL=Sludge OT=Other

PRESERVATIVE CODES 1=HCl 2=HNO₃ 3=H₂SO₄ 4=Na₂S₂O₃ 5=NaOH 6=4C 7=Ascorbic Acid

RELINQUISHED BY: DATE/TIME

Tom Scould 1-8-97

RELINQUISHED BY: DATE/TIME

[Signature] 1-9-97

RELINQUISHED BY: DATE/TIME

[Signature]

RECEIVED BY: DATE/TIME

[Signature] 1-8-97

RECEIVED BY: DATE/TIME

[Signature] 1/9/97 950

RECEIVED BY GeoLabs: DATE/TIME

[Signature] 1/9/97 1535