

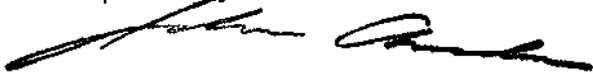
EAST CALAIS GENERAL STORE  
East Calais, Vermont  
VDEC Site # 92-1283

Results of Preliminary Site Investigation

Prepared by:

Lincoln Applied Geology, Inc.  
January 4, 1993

Prepared by:



John Amadon, CPSS

Reviewed and Approved by:



Stephen Revell, C.P.G.S.



Lincoln Applied Geology, Inc.  
Environmental Consultants

RD # 1 Box 710 • Bristol, Vermont 05443 • (802) 453-4384 • FAX (802) 453-5399

## Introduction and Site History

Lincoln Applied Geology, Inc. (LAG) has completed the preliminary site investigation and characterization of the East Calais General Store site outlined in our September 24, 1992 proposed work plan submitted on behalf of the Northern Petroleum Company (NPC). The work plan was developed in response to a letter dated September 14, 1992 from Mr. Chuck Schwer of the Vermont Department of Environmental Conservation (VDEC). The general location of the property is shown on **Figure 1**, labeled General Location Map. The East Calais General Store is located in the Village of East Calais as shown on **Figure 2** and **Figure 3**. The basemap for these figures was obtained by digitizing critical features from available ortho-photography as well as other features identified through field reconnaissance. Across Route 14 from the General Store is a residence that was a former service station and petroleum product supplier. South of this residence is the site of a former furniture mill which has been demolished and filled. Significant amounts of debris had been historically disposed over the eastern embankment leading down to the Kingsbury Branch of the Winooski River.

The East Calais Store has been the site of six documented underground storage tank (UST) removals performed at two times in 1989 and 1992. In September 1989 three USTs were removed from the site. The State tank closure forms have been included in **Appendix A**. Included were a 2,000 gasoline tank, a 1,000 kerosene tank, and a previously decommissioned 500 gallon kerosene tank. These three tanks were owned and removed by John Gall, the current store owner. During the 1989 tank removals the State of Vermont inspector reported the gas tank to be in poor condition, the kerosene tank to be in excellent condition, and did not report the condition of the 500 gallon tank. Three more USTs were removed on August 25, 1992 by the NPC. Two of the tanks were 3,000 gallon gasoline tanks owned by the Bradford Oil Company. The other tank was a 1,000 gallon tank of unknown origin or use. At the time of the 1992 excavation, the 3,000 gallon tanks pulled were reported to be in excellent shape. The third 1,000 gallon tank was reported to be pitted on the bottom of the tank. During the 1992 tank removals photoionization detector (PID) readings ranging from 8 to 325 parts per million (ppm) were measured in the soils surrounding the tank and underneath the pump island. At the time of the 1992 tank pull, the soils were overexcavated and removed from the site to a location in Lyndon (see **Appendix D**). The soils were excavated to the ground water at that time and a 4" monitoring well was installed in the excavation. The site was then backfilled with clean sandy fill brought in from an off-site source. Ground water and soil samples were collected by NPC staff and analyzed for BTEX and MTBE. The results of the analysis indicated the presence of significant amounts of petroleum related contamination.

The NPC tank closure report is also included in **Appendix A**. NPC identified several potential sources of the contamination in the 1992 tank closure forms they submitted to the State. The potential sources were identified as follows:



1. a broken meter housing,
2. remnants of piping from former UST removals which were loose and contained free product, and
3. an 80 gallon gas spill which occurred the previous spring.

Based on the NPC report, the VDEC issued the September 14, 1992 letter requesting further investigation of the site and the potential of any contaminant migration.

#### Location, Site Geology, and Hydrogeology

Based on the 1961 Vermont Geologic Survey Bulletin No. 16, the bedrock geology of this area is mapped as the Waits River formation. The surficial geology is a glaciolacustrine deposit overlying a layer of basal till over the bedrock. The surficial geologic mapping was confirmed by the recent monitoring well/boring logs included in **Appendix B**. Bedrock was not encountered in the borings to a maximum depth of 23 feet. The boring logs generally indicate layered fine sandy soils and fine gravely sand to a depth of 8 to 10 feet. Below the stratified sands the soil becomes increasingly dense with basal till characteristics. Locations of the borings are depicted on **Figure 3**. A stadia survey of the site and the monitoring wells was performed so that relative water table elevations could be measured for developing ground water contour maps and determining ground water flow directions and gradients. Water level measurements and depths to any free floating product were recorded on November 17, 1992. As seen in **Table 1**, no free phase product was detected. The water level data was utilized in the Surfer contour program (Golden Software, Inc.) to generate the contour map presented as **Figure 4**. Ground water flow is to the west from the general store to the Kingsbury Branch. Discharges and seeps along the eastern embankment provide verification of the ground water flow direction (**Figure 3**).

#### Receptor Assessment

A combination of Agency file review, on-site reconnaissance, monitor well installation, and monitoring and ground water quality monitoring were used to determine potential receptors of petroleum product contamination in the area of the East Calais General Store. Those potential receptors include:

1. ground water,
2. unsaturated soils (i.e. vadose zone),
3. downgradient sewer and utility lines,
4. basements of area building, and
5. the surface waters of the Kingsbury Branch.

The Village of East Calais is served by a spring based public community water supply which is located approximately 5000 feet upgradient of the General Store. No



public or private water supplies were identified in the area of East Calais Village which could be negatively impacted by any petroleum product contaminants identified to date. There is one basement located across Route 14 and downgradient from the General Store and contaminated area. The basement of that former service station was surveyed with a PID instrument and all readings obtained were at background levels of 0.0 ppm. Along the Kingsbury Branch petroleum odors were noticed and three surface water samples were collected and analyzed for BTEX and MTBE. The results, which are included in **Appendix C**, indicated low levels of BTEX and MTBE contamination present in the surface water downgradient of site.

During the installation of monitoring wells MW-2 and MW-3 petroleum odors were noted in the soil samples from the vadose zone (**Appendix B**). This indicates that in the area where the sandy fill was placed during the 1992 backfilling, the vadose zone has since been impacted. This impact is probably associated with volatilization of some of the dissolved phase plume which has now been identified beneath the site. No positive PID readings have been recorded in the storm drain system. As seen in **Figure 3**, the storm drain system and the service water lines run parallel to Route 14 but do not appear to be sufficiently deep to be impacted as preferential conduits. The wastewater disposal system for the store and residence across the road are located on the open land just north of the former mill site. The disposal system for the General Store is reported to be set approximately 3 feet deep.

#### Degree and Extent of Contamination

Based on our initial characterization of the site, the installation of four monitoring wells were proposed and approved by the VDEC. One of the wells was to be placed on the southwestern corner of the Store property. Due to overhead wires the well could not be placed there and was relocated across Route 14 in the only location where permission could be obtained at that time.

As indicated and detailed in the boring logs of November 10, 1992, significant vapors were encountered in the vadose zone soils in the vicinity of the former tanks. During the November 17th monitoring and sampling survey, PID assays of the monitor well headspaces were performed. Those results are included in **Table 2** and confirm the presence of vapor phase contaminants. It should be noted that the upgradient well, MW-5, did provide a positive reading of 9.4 ppm although no gasoline odor was detected by olfactory senses.

Copies of the analytical results of the November 17th ground water sampling are included in **Appendix A**. The results are summarized in **Table 3** along with the November 12th stream sampling summaries. They indicate that ground water is contaminated with petroleum product constituents which are flowing westerly and are measurably impacting the Kingsbury Branch.



The highest concentration of soluble phase contaminants (42,000 parts per billion (ppb) BTEX) was found in MW-1, the original monitoring well installed in the excavation by NPC during the 1992 UST removal. Despite this high concentration, no free phase product has yet been detected. Distribution of the ground water BTEX constituents is depicted on **Figure 3**. The extent of soluble phase contamination southwest of MW-1 cannot yet be fully defined.

As previously mentioned, during our field investigation it was noticed the embankment along the western edge of the stream and adjacent to the former mill site previously was used as an on-site dump, including scrap metal and at least one 55 gallon drum. Also seeping from the bank in this area is untreated sewage effluent. Further north along the embankment there are discarded auto parts including lead batteries, brake calipers, etc. As a result of those observations, three samples were obtained for BTEX analysis from the Kingsbury Branch on November 12th at the locations depicted on **Figure 3**. These results (included in **Appendix C**) indicate that a measurable impact to the Kingsbury Branch has occurred and we anticipate that further impacts will continue to be measured. A review of analytical reports indicates that a significant number of unidentified peaks were detected on many of the chromatograms including the upgradient well and the upstream location C. This indicates that sources other than the NPC tanks are also contributing to the impact on the Kingsbury Branch.

### Conclusions

1. The soils stockpiled by NPC in Lyndon are now adequately covered at a location meeting the VDEC criteria for stockpiled soils (**Appendix D**).
2. The soil borings in the 'clean' backfill material in the UST area demonstrated vadose zone vapor contamination.
3. Ground water quality monitoring has demonstrated soluble phase contamination of the ground waters although no free phase product has been detected.
4. Ground water flow direction is westerly towards the Kingsbury Branch of the Winooski River and soluble phase impacts are evident in ground water downgradient of the former UST location and in the Kingsbury Branch.
5. Other impacts and potential sources of contamination to both ground water and the Kingsbury Branch are apparent.
6. At this time, with limited information southwest of MW-1, there appears to be no imminent threat to human health although there is an impact to the environment as a result of the gasoline contamination.



## Recommendations

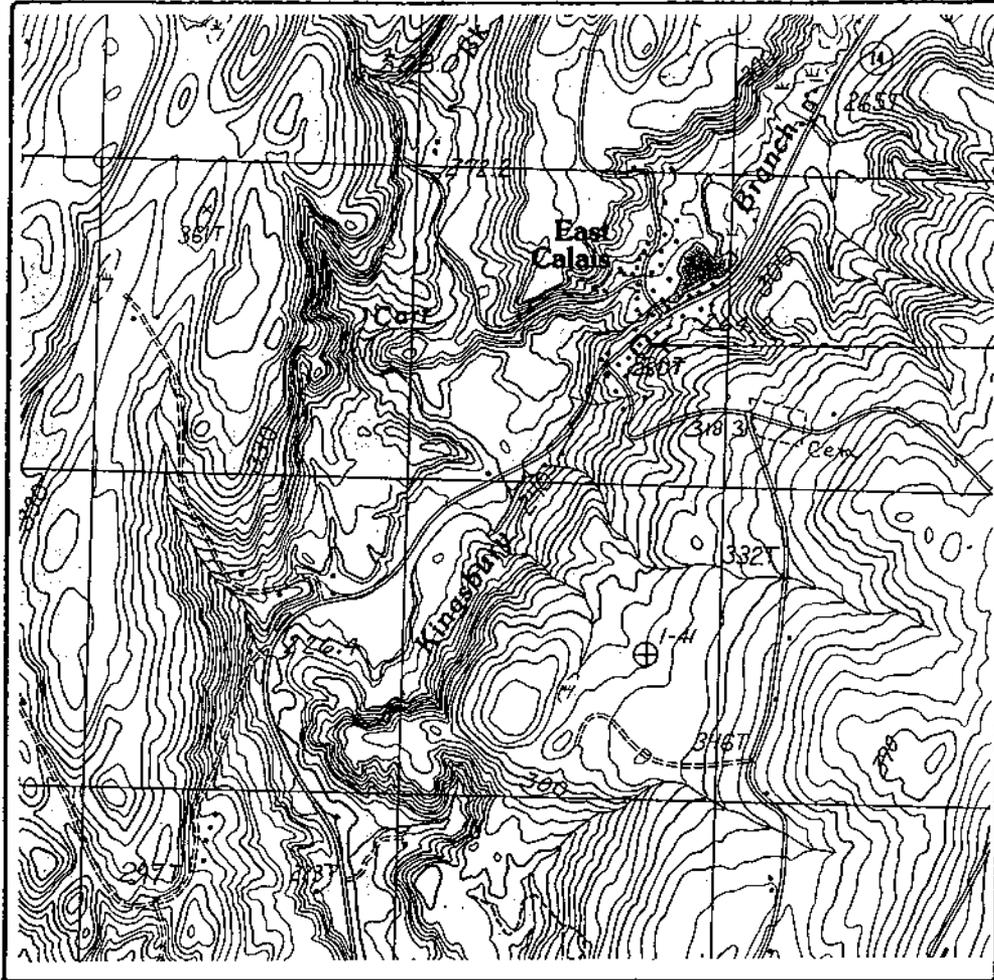
1. Maintain appropriate polyencapsulation of the stockpiled soils until spring thaw when they can be re-evaluated for degree of contamination and further treatment, if warranted, prior to ultimate disposition.
2. Initiate monthly East Calais site monitoring to include water level/free product measurements, PID headspace assays, and BTEX chromatographic water quality analyses from the 8 current sampling locations plus an additional downstream sample below location A.
3. Coordinate with adjacent property owners to locate and install additional soil borings and ground water monitoring wells southwest of MW-1 and MW-4 to more accurately define the extent of UST contamination.
3. Following well installation, perform a stadia survey for use in ground water contour mapping, and sample all wells for chromatographic water quality analyses.
5. Based on the results of the above prepare a long term remedial action and/or monitoring plan to be implemented.



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### East Calais General Store GENERAL LOCATION MAP



East Calais  
General Store

Source: U.S.G.S. 7.5 min.  
Topo Series  
Plainfield Quad

Scale: 1" = 2000'

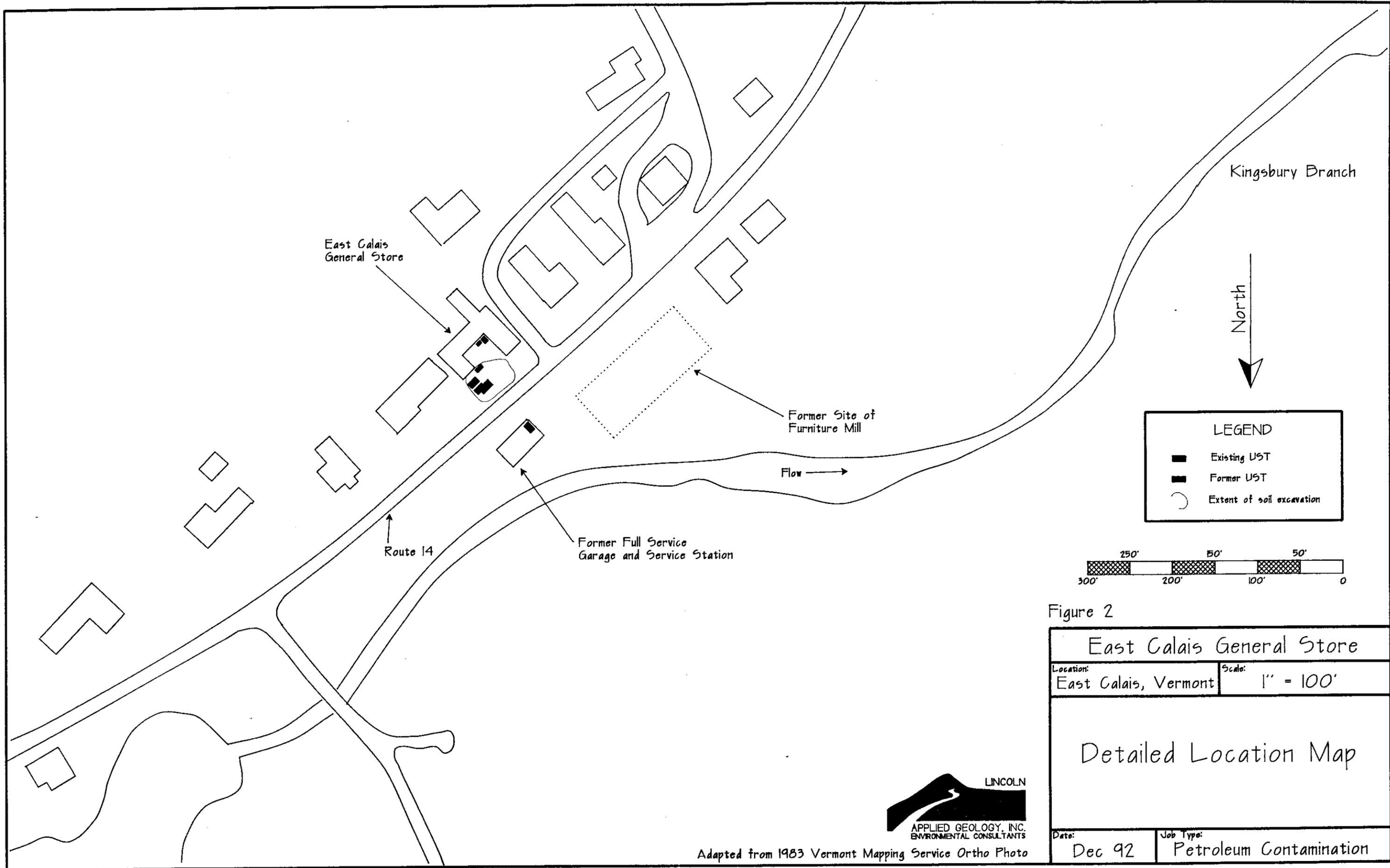
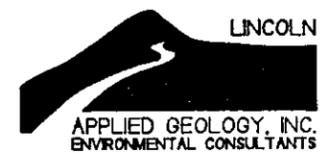
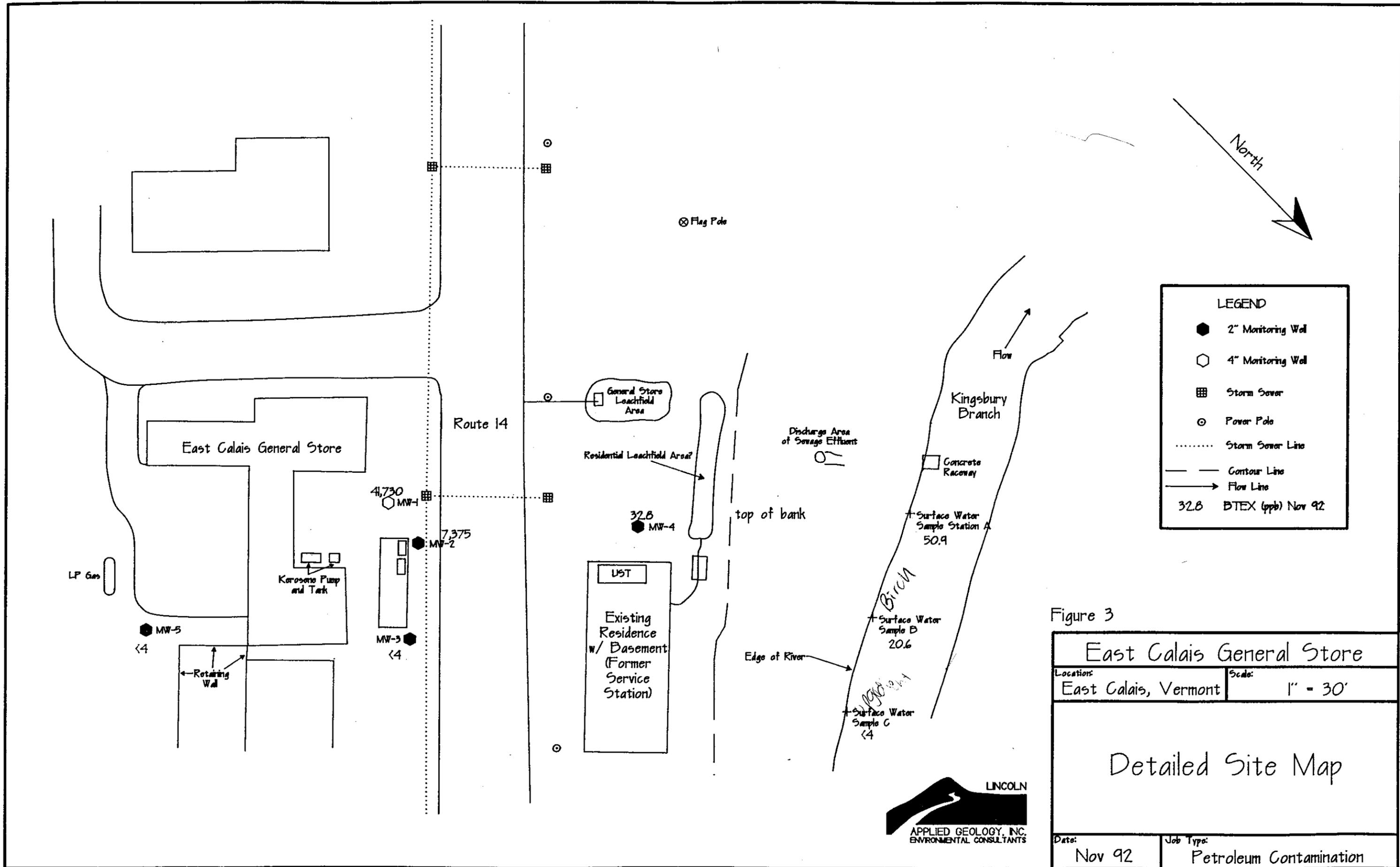


Figure 2

East Calais General Store	
Location:	Scale:
East Calais, Vermont	1" = 100'
Detailed Location Map	
Date:	Job Type:
Dec 92	Petroleum Contamination



Adapted from 1983 Vermont Mapping Service Ortho Photo



LEGEND	
●	2" Monitoring Well
○	4" Monitoring Well
■	Storm Sewer
⊙	Power Pole
.....	Storm Sewer Line
—	Contour Line
→	Flow Line
32.8	BTEX (ppb) Nov 92

Figure 3

<b>East Calais General Store</b>	
Location: East Calais, Vermont	Scale: 1" = 30'
<b>Detailed Site Map</b>	
Date: Nov 92	Job Type: Petroleum Contamination



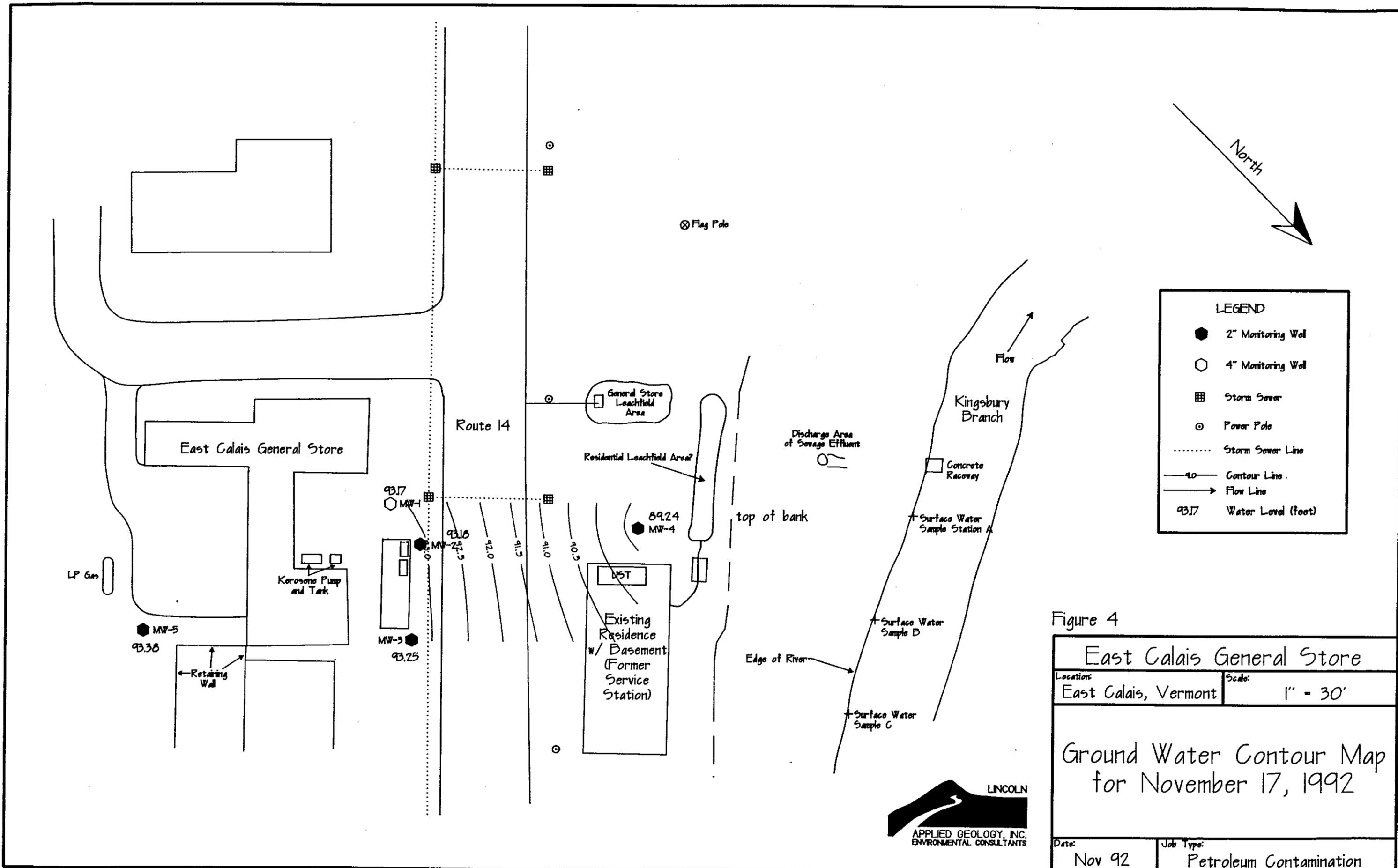


Figure 4

East Calais General Store	
Location: East Calais, Vermont	Scale: 1" = 30'
Ground Water Contour Map for November 17, 1992	
Date: Nov 92	Job Type: Petroleum Contamination



Table 1

Project: East Calais General Store  
 Location: East Calais, Vermont

Job # 9129-217  
 Sheet # 1 of 1

**Ground Water Elevation/Product Thickness (feet)**

Data Point	<sup>1</sup> TOC	<sup>2</sup> 11-17-92							
MW-1	99.97	93.17							
MW-2	100.03	93.18							
MW-3	100.00	93.25							
MW-4	98.84	89.24							
MW-5	111.53	93.38							

Notes: 1) Elevation Datum Assumed  
 2) Reference Elevation is elevation of top of PVC well casing





APPENDIX A

Pertinent File Review Documents





EXCAVATION PERIMETER

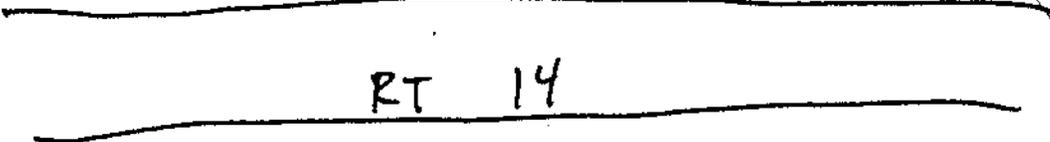
REMAINING BRADFORD OIL TANKS

SUPERS  
UNL

KERO

GAS

RT 14



NOV 22 1989  
OCT 28 1989

# Vermont Underground Storage Tank Form

Read instruction sheet carefully before completing this form. Please type or print in ink all items except for the "signature." For additional information call The Vermont Underground Storage Tank Program at (802) 244-8702.

### I. OWNERSHIP OF TANKS

Name John G. Gall DBA  
(CORPORATION, INDIVIDUAL, PUBLIC AGENCY, OR OTHER ENTITY)  
Mailing Address P.O. Box 61  
  
City E. Calais State VT Zip 05650  
  
Phone (802) 456-8861

### V. SITE LEAK HISTORY (if applicable)

a) Year of Tank or Piping Leak \_\_\_\_\_  
Substance Leaked \_\_\_\_\_  
  
b) For Overfill or Spill in excess of 25 gallons:  
Year of Overfill/Spill \_\_\_\_\_  
Substance Overfilled/Spilled \_\_\_\_\_

### II. OPERATOR OF TANKS (if different than owner)

Name \_\_\_\_\_  
(CORPORATION, INDIVIDUAL, PUBLIC AGENCY, OR OTHER ENTITY)  
Mailing Address \_\_\_\_\_  
  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
  
Phone (\_\_\_\_) \_\_\_\_\_

### VI. TYPE OF FACILITY (check one)

- Institutional  State
- Bulk Plant  Town
- Retail  Federal
- Commercial  Farm
- Service Station  Residential

### III. CONTACT PERSON

(person responsible for the day to day operation of tanks)

Check if same as owner  
 Check if same as operator  
If different than owner or operator:  
Name \_\_\_\_\_  
Mailing Address \_\_\_\_\_  
  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
  
Phone (\_\_\_\_) \_\_\_\_\_

### VII. PERMITTEE

(person filing for Category One Tank Permit)

- Check if same as owner
- Check if same as operator

### VIII. NUMBER OF TANKS AT THIS LOCATION

0 Number owned by person named in I. above  
2 Number owned by another party

Owned by: Bradford Oil Co

### IV. LOCATION OF THE TANKS

Name General Store of East Calais  
(TRADE NAME, COMPANY NAME OR DBA)  
Street Address Route 14  
(ROAD NAME, HIGHWAY #)  
City/Town Calais VT Zip 05650  
County Washington  
  
Phone (802) 456-8861

### IX. LANDOWNER

Name John Gall

CERTIFICATION: I certify under penalty of law that the information provided on this form and all attached documents, is true, accurate, and complete to the best of my knowledge.

JOHN C. GALL OWNER  
Printed name and title of owner or owner's authorized representative

Printed name and title of permittee if different than owner

John C. Gall  
Signature of owner or owners representative

Date

10/25/89

Signature of permittee

Date

### LOCAL USE ONLY

Date recorded Nov. 6, 1989  
Book Number 31  
Page Number 402  
Town of Calais Land Records  
Eric M. Moore  
Signature of Town or City Clerk

Amends VT form of record in Book No. 31, Page 200

### STATE USE ONLY

First  Amended  
 Change of Ownership  
 Change of Tank Information  
Number of COTs 0 Permit Fee \$ \_\_\_\_\_  
Check # \_\_\_\_\_ Amount \$ \_\_\_\_\_  
Date Received \_\_\_\_\_ Date Issued \_\_\_\_\_

(Notification Approval)

Cancelled

(Permit Approval)

LUST Site Number \_\_\_\_\_  
Date Permit Expires \_\_\_\_\_  
Facility ID Number 1001574  
Assessment Number \_\_\_\_\_

AMENDED: NEW OWNER

# VERMONT NOTIFICATION FOR UNDERGROUND STORAGE TANKS

- READ INSTRUCTION PAGE CAREFULLY BEFORE COMPLETING THIS FORM -

PLEASE TYPE OR PRINT IN INK ALL ITEMS EXCEPT "SIGNATURE" IN SECTION VI ON PAGE 2. SEPARATE NOTIFICATION MUST BE FILED FOR TANKS OWNED AT A DIFFERENT LOCATION. FOR ADDITIONAL INFORMATION, CALL THE VERMONT UNDERGROUND STORAGE TANK PROGRAM AT (802) 828-3395.

## I. OWNERSHIP OF TANKS

NAME (CORPORATION, INDIVIDUAL, PUBLIC AGENCY OR OTHER ENTITY)  
JOHN G. GALL DBA

STREET ADDRESS  
P.O. BOX 61

TOWN OR CITY  
E. Calais

COUNTY  
Washington

STATE  
VT

ZIP CODE  
05650

AREA CODE  
( 802 )

PHONE NUMBER  
456-8861

## III. SITE LEAK HISTORY (COMPLETE THIS SECTION ONLY IF APPLICABLE)

YEAR OF LEAK \_\_\_\_\_ ESTIMATE OF QUANTITY  
LEAKED IN GALLONS \_\_\_\_\_

SUBSTANCE LEAKED \_\_\_\_\_

SOURCE OF LEAK (CHECK ALL THAT APPLY)

TANK       PUMP       OVERFILL

PIPING       TRANSFER       OTHER \_\_\_\_\_

CONTAMINATION (CHECK ALL THAT APPLY)

	YES	NO	DON'T KNOW
SOIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GROUNDWATER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SURFACE WATER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CORRECTIVE ACTION (CHECK ALL THAT APPLY)

PRODUCT RECOVERY WELLS INSTALLED

SURFACE WATER CONTAINMENT USED

CONTAMINATED SOIL EXCAVATED

TANK REPLACED

PIPING REPLACED

NO ACTION TAKEN

OTHER (SPECIFY) \_\_\_\_\_

## II. CONTACT PERSON (PERSON RESPONSIBLE FOR DAY-TO-DAY OPERATION OF TANKS)

NAME (IF SAME AS IN SECTION I, CHECK BOX HERE)   
JOHN G. GALL

JOB TITLE  
OWNER

AREA CODE \_\_\_\_\_ PHONE NUMBER \_\_\_\_\_

MAILING ADDRESS (IF DIFFERENT FROM SECTION I)

STREET ADDRESS \_\_\_\_\_

TOWN OR CITY \_\_\_\_\_

COUNTY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_

## IV. LOCATION OF TANKS

FACILITY NAME OR OTHER SITE IDENTIFIER, AS APPLICABLE  
GENERAL STORE OF EAST CALAIS

STREET ADDRESS, STATE ROAD, R.R. #, AS APPLICABLE  
ROUTE 14

TOWN OR CITY  
CALAIS

COUNTY  
WASHINGTON

STATE  
VERMONT

ZIP CODE  
05650

NUMBER OF TANKS AT THIS LOCATION  
3

NAME OF LANDOWNER  
JOHN C GALL

TYPE OF FACILITY (CHECK ONE)

INSTITUTIONAL       RETAIL/CONVENIENCE STORE

BULK PLANT       INDUSTRIAL/COMMERCIAL

STATE       RESIDENTIAL

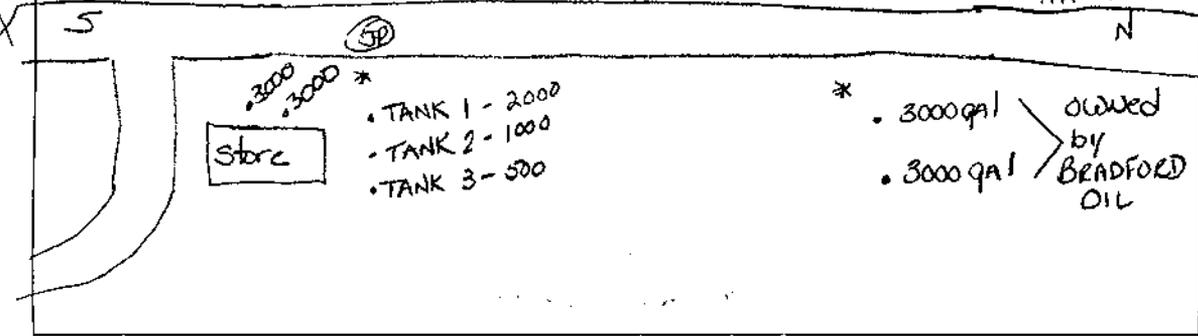
TOWN       SERVICE STATION

FARM

FEDERAL (GIVE FACILITY I.D. NO. \_\_\_\_\_)

OTHER (SPECIFY) \_\_\_\_\_

USE THIS SPACE TO SKETCH AND/OR VERBALLY DESCRIBE FACILITY LOCATION. INCLUDE ESTIMATED DISTANCES TO CENTER LINE OF ROADS, BUILDINGS, STREAMS AND OTHER LANDMARKS. USE DIRECTIONAL DESCRIPTORS (NORTH, SOUTH, ETC.) WHERE APPLICABLE.



## LOCAL USE ONLY

FACILITY I.D. NO. 1001579 WAS

RECORDED ON Nov. 29, 1988 IN

BOOK NO. 31, PAGE 200

OF THE Calais (TOWN) LAND RECORDS.

SIGNATURE OF TOWN OR CITY OFFICER  
C. M. [Signature]

## STATE USE ONLY

FIRST       AMENDED new owner

FACILITY IDENTIFICATION NUMBER  
888 1001579

DATE RECEIVED 11-10-88 APPROVED 11/28/88

RECEIVED BY Julie Prindiville

Amends Notification recorded on 6/28/86  
Book No. 30, page 294, Calais Land Records

OWNER NAME JOHN C GALL  
(FROM SECTION I)

INDICATE NUMBER OF COPIES OF PAGE 2 ATTACHED 1

**V. TANK INFORMATION (COMPLETE FOR EACH TANK AT THIS LOCATION)**

NUMBER TANKS SEQUENTIALLY (START WITH TANK CLOSEST TO BUILDING, IF POSSIBLE)	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
	<u>1</u>	<u>2</u>	<u>3</u>		
1. STATUS OF TANK (CHECK ONE)	CURRENTLY IN USE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	TEMPORARILY OUT OF USE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	PERMANENTLY OUT OF USE	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. ESTIMATED AGE IN YEARS	<u>20</u>	<u>20</u>	<u>20</u>		
3. TOTAL CAPACITY (GALLONS)	<u>2000</u>	<u>1000</u>	<u>500</u>		
4. MATERIAL OF CONSTRUCTION (CHECK ONE)	STEEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	CONCRETE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	FIBERGLASS REINFORCED PLASTIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)				
5. INTERNAL PROTECTION (CHECK ALL THAT APPLY)	LINING (E.G. EPOXY RESINS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)				
	NONE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. EXTERNAL PROTECTION (CHECK ALL THAT APPLY)	CATHODIC PROTECTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	PAINTED COATING (E.G. ASPHALTIC)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	FIBERGLASS REINFORCED PLASTIC COATED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)				
	NONE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. SECONDARY CONTAINMENT (CHECK ONE)	DOUBLE-WALL TANK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	CONCRETE VAULT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	IMPERVIOUS LINER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)				
	NONE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. LEAK DETECTION (CHECK ALL THAT APPLY)	DAILY INVENTORY CONTROL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	CONTINUOUS SENSOR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ELECTRONIC IN-TANK SYSTEM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	GROUNDWATER MONITORING WELL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	* PRECISION TEST (ENTER MO./YR. IF WITHIN LAST 5 YRS.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)				
9. PIPING (CHECK ALL THAT APPLY)	BARE STEEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	GALVANIZED STEEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	BLACK IRON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	FIBERGLASS REINFORCED PLASTIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	CATHODICALLY PROTECTED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)				
10. SUBSTANCE CURRENTLY OR LAST STORED IN GREATEST QUANTITY BY VOLUME (CHECK ALL THAT APPLY)	GASOLINE (INCL. ALCOHOL BLENDS)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIESEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	NOS. 2 OR 4 FUEL OIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	NOS. 5 OR 6 FUEL OIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	AVIATION FUEL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	KEROSENE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	USED OIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER PETROLEUM SUBSTANCE (SPECIFY)				
11. ADDITIONAL INFORMATION FOR TANKS TAKEN PERMA- NENTLY OUT OF SERVICE	(A) ESTIMATED DATE LAST USED (MO./YR.)	<u>1</u>	<u>1</u>	<u>LINCOLN</u>	<u>1</u>
	(B) ESTIMATED QUANTITY LEFT STORED (GAL.)			<u>- 0 -</u>	

**VI. SIGNATURE** I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION PROVIDED ON THIS FORM AND ALL ATTACHED DOCUMENTS IS TRUE, ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

JOHN GALL OWNER  
PRINTED NAME AND OFFICIAL TITLE OF OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

John Gall  
SIGNATURE

11-9-88  
DATE SIGNED

# State of Vermont

Department of Fish and Wildlife  
Department of Forests, Parks and Recreation  
Department of Environmental Conservation  
State Geologist  
Natural Resources Conservation Council



AGENCY OF NATURAL RESOURCES  
103 SOUTH MAIN STREET  
Waterbury, Vermont 05676

Department of Environmental Conservation

Hazardous Materials Management Division  
Underground Storage Tank Program

November 7, 1988

John G. Gall  
dba General Store of East Calais  
P.O. Box 61  
Calais, VT 05650

Re: ID# 1001578 General Store of East Calais

Dear Mr. Gall:

I refer to my telephone conversation of this morning and reiterate that it is now a matter of urgency that we get the underground storage tanks transferred from Sayers & Sayers, Inc. into your name. Enclosed is a Notification form which I have partially completed on your behalf. Please read the form carefully and fill in the blanks which I have marked with a pencil cross. Also you are required to obtain a permit to operate the tank which is over 1100 gallons. A permit application is also enclosed which I have partially completed for you.

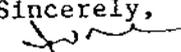
Part of the permit application requires the owner of tanks or operator to provide satisfactory evidence of pollution liability insurance. Unfortunately, pollution liability insurance is either unavailable or unaffordable in the state of Vermont and because of this the State of Vermont established the Petroleum Cleanup Fund. Because there are two other tanks at the facility which belong to Bradford Oil, Bradford Oil must also either produce evidence of insurance or pay the assessment fee levied by the Petroleum Cleanup Fund. You state that the total retail sales from all tanks at the facility is less than 20,000 gallons per month and therefore the total assessment fee for all the tanks is \$200 per year. Bradford Oil intend to join the Petroleum Cleanup Fund and if they pay the \$200 then the state will consider that the assessment fee for all tanks at the facility is paid. If your total retail sales exceeds the 20,000 gallons per month, then the assessment fee is \$100 per permitted tank (a total of three at your facility) which will make a total assessment fee of \$300. I do hope that I have explained this so that you understand the state's requirements. If you have questions, please do not hesitate to call me at (802) 244-8702.

Please let me hear from you with the completed forms before November 15, 1988.

Fees required from you with the forms are as follows:

Recording fee to the Town Clerk of Calais in the amount of \$6.00  
Permit fee payable to the Treasurer, State of Vermont in the amount of \$25.00.

Sincerely,

  
June Middleton, Permit Administrator

Regional Offices - Barre/Essex Jct./Pittsford/N. Springfield/St. Johnsbury

RETURNED  
11-2  
Wilson

2-16-88  
No lead  
returning forms

New owner John Galt  
Noted & returned mail  
11/3/88  
456-8861  
PAGE 1

# VERMONT NOTIFICATION FOR UNDERGROUND STORAGE TANKS

- READ INSTRUCTION PAGE CAREFULLY BEFORE COMPLETING THIS FORM -

PLEASE TYPE OR PRINT IN INK ALL ITEMS EXCEPT "SIGNATURE" IN SECTION XI ON PAGE 2.  
SEPARATE NOTIFICATION MUST BE FILED FOR TANKS OWNED AT A DIFFERENT LOCATION.  
FOR ADDITIONAL INFORMATION, CALL THE VERMONT UNDERGROUND STORAGE TANK PROGRAM AT (802) 828-3395.

## I. OWNERSHIP OF TANKS

NAME (OF CORPORATION, INDIVIDUAL, PUBLIC AGENCY OR OTHER ENTITY)  
Sayers + Sayers inc  
STREET ADDRESS  
Rte 14  
TOWN OR CITY  
EAST CALAIS COUNTY  
WASHINGTON  
STATE  
Vermont ZIP CODE  
05650 AREA CODE  
(802) PHONE NUMBER  
456-8861

## III. SITE LEAK HISTORY (COMPLETE THIS SECTION ONLY IF APPLICABLE)

YEAR OF LEAK \_\_\_\_\_ ESTIMATE OF QUANTITY \_\_\_\_\_  
LEAKED IN GALLONS \_\_\_\_\_  
SUBSTANCE LEAKED \_\_\_\_\_  
SOURCE OF LEAK (CHECK ALL THAT APPLY)  
 TANK  PUMP  OVERFILL  
 PIPING  TRANSFER  OTHER \_\_\_\_\_

## II. CONTACT PERSON (PERSON RESPONSIBLE FOR DAY-TO-DAY OPERATION OF TANKS)

NAME (IF SAME AS IN SECTION I, CHECK BOX HERE )  
Willie Sayers  
JOB TITLE  
owner AREA CODE  
(802) PHONE NUMBER  
456-8861  
MAILING ADDRESS (IF DIFFERENT FROM SECTION I)  
STREET ADDRESS \_\_\_\_\_  
TOWN OR CITY \_\_\_\_\_  
COUNTY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_

## CONTAMINATION (CHECK ALL THAT APPLY)

SOIL YES  NO  DON'T KNOW   
GROUNDWATER YES  NO  DON'T KNOW   
SURFACE WATER YES  NO  DON'T KNOW

## CORRECTIVE ACTION (CHECK ALL THAT APPLY)

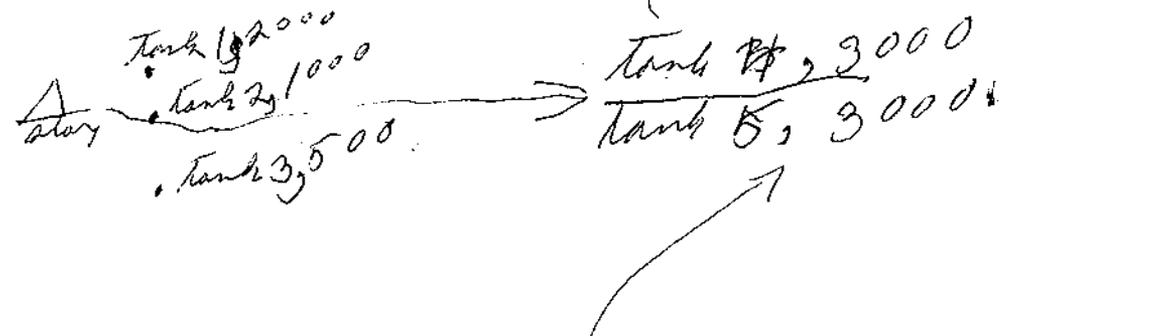
PRODUCT RECOVERY WELLS INSTALLED  
 SURFACE WATER CONTAINMENT USED  
 CONTAMINATED SOIL EXCAVATED  
 TANK REPLACED  
 PIPING REPLACED  
 NO ACTION TAKEN  
 OTHER (SPECIFY) \_\_\_\_\_

## IV. LOCATION OF TANKS

FACILITY NAME OR OTHER SITE IDENTIFIER, AS APPLICABLE  
Sayers Store JP Gen. Store of East Calais  
STREET ADDRESS, STATE ROAD, R. R. #, AS APPLICABLE  
Rte 14  
TOWN OR CITY  
EAST CALAIS COUNTY  
WASHINGTON  
STATE  
Vermont ZIP CODE  
05650 NUMBER OF TANKS  
AT THIS LOCATION  
JP 3  
NAME OF LANDOWNER  
Willie Sayers

TYPE OF FACILITY (CHECK ONE)  
 INSTITUTIONAL  RETAIL/CONVENIENCE STORE  
 BULK PLANT  INDUSTRIAL/COMMERCIAL  
 STATE  RESIDENTIAL  
 TOWN  SERVICE STATION  
 FARM  
 FEDERAL (GIVE FACILITY I.D. NO. \_\_\_\_\_)  
 OTHER (SPECIFY) \_\_\_\_\_

USE THIS SPACE TO SKETCH AND/OR VERBALLY DESCRIBE FACILITY LOCATION. INCLUDE ESTIMATED DISTANCES TO CENTER LINE OF ROADS, BUILDINGS, STREAMS AND OTHER LANDMARKS. USE DIRECTIONAL DESCRIPTORS (NORTH, SOUTH, ETC.) WHERE APPLICABLE.



## LOCAL USE ONLY

FACILITY I.D. NO. 4568861 WAS  
RECORDED ON June 20, 1986 (10, 10) (A.M.) IN  
BOOK NO. 30, PAGE 294  
OF THE Calais (TOWN) LAND RECORDS.  
Ed M. Drapp  
SIGNATURE OF TOWN OR CITY OFFICER

## STATE USE ONLY

FIRST  AMENDED  
FACILITY IDENTIFICATION NUMBER  
4568861 1004579  
DATE RECEIVED 4/2/86 APPROVED 5/7/86   
RECEIVED BY  
Ed Drapp  
Bradford Oil owns tanks 4+5

OWNER NAME

Sawena Store  
(FROM SECTION 1)

INDICATE NUMBER OF COPIES OF PAGE 2 ATTACHED

1

Tanks # 4 & 5 owned by Bradford Oil Co.  
PAGE 2  
BLM/609

**V. TANK INFORMATION** (COMPLETE FOR EACH TANK AT THIS LOCATION)

NUMBER TANKS SEQUENTIALLY (START WITH TANK CLOSEST TO BUILDING, IF POSSIBLE)	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
	<u>51</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1. STATUS OF TANK (CHECK ONE)	CURRENTLY IN USE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	TEMPORARILY OUT OF USE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	PERMANENTLY OUT OF USE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. ESTIMATED AGE IN YEARS	<u>18</u>	<u>18</u>	<u>18</u>	<u>15</u>	<u>15</u>
3. TOTAL CAPACITY (GALLONS)	<u>2000</u>	<u>1000</u>	<u>500</u>	<u>3000</u>	<u>3000</u>
4. MATERIAL OF CONSTRUCTION (CHECK ONE)	STEEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	CONCRETE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	FIBERGLASS REINFORCED PLASTIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. INTERNAL PROTECTION (CHECK ALL THAT APPLY)	LINING (E.G. EPOXY RESINS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	NONE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. EXTERNAL PROTECTION (CHECK ALL THAT APPLY)	CATHODIC PROTECTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	PAINTED COATING (E.G. ASPHALTIC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	FIBERGLASS REINFORCED PLASTIC COATED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. SECONDARY CONTAINMENT (CHECK ONE)	DOUBLE-WALL TANK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	CONCRETE VAULT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	IMPERVIOUS LINER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. LEAK DETECTION (CHECK ALL THAT APPLY)	DAILY INVENTORY CONTROL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	CONTINUOUS SENSOR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ELECTRONIC IN-TANK SYSTEM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	GROUNDWATER MONITORING WELL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* PRECISION TEST (ENTER MO./YR. IF WITHIN LAST 5 YRS.)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
* A PRECISION TEST IS NOT AN AIR PRESSURE TEST. BY DEFINITION, A PRECISION TEST IS ACCURATE TO .06 GAL./HR.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. PIPING (CHECK ALL THAT APPLY)	BARE STEEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	GALVANIZED STEEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	BLACK IRON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	FIBERGLASS REINFORCED PLASTIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. SUBSTANCE CURRENTLY OR LAST STORED IN GREATEST QUANTITY BY VOLUME (CHECK ALL THAT APPLY)	GASOLINE (INCL. ALCOHOL BLENDS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIESEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	NOS. 2 OR 4 FUEL OIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	NOS. 50R 6 FUEL OIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. ADDITIONAL INFORMATION FOR TANKS TAKEN PERMANENTLY OUT OF SERVICE	AVIATION FUEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	KEROSENE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	USED OIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER PETROLEUM SUBSTANCE (SPECIFY)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	HAZARDOUS SUBSTANCE (GIVE NAME OR CAS. NO.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	MIXTURE OF SUBSTANCES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
(A) ESTIMATED DATE LAST USED (MO./YR.)	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
(B) ESTIMATED QUANTITY LEFT STORED (GAL.)	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>

**VI. SIGNATURE** I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION PROVIDED ON THIS FORM AND ALL ATTACHED DOCUMENTS IS TRUE, ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

PRINTED NAME AND OFFICIAL TITLE OF OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

Willis Gayer Pres.

3/29/86

SIGNATURE

DATE SIGNED

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
 UNDERGROUND STORAGE TANK PROGRAM  
 103 SOUTH MAIN STREET  
 WATERBURY, VERMONT 05671-0404  
 (802) 244-8702

SEP 07 1992  
 92-1238

Date of Removal: August 25, 1992 Date of Assessment: August 25, 26, 27, 1992  
 Person & Company Doing Assessment: James Cote-Northern Petroleum Co.  
 Telephone Number: 748-8934

Business Name Where Tank(s) Located: East Calais General Store  
 Number of Employees:  
 Street Address & Town/City: Rt. 14 E. Calais, Vt

Owner of Tank(s): Bradford Oil Co.  
 Address: P.O. Box 394  
 Town/City: Bradford, Vt. Contact Person: William Sellinger  
 Phone Number: 222-5251

UST Facility ID Number: 0001579

Tank #	Product	Size	Condition
1	87 Unleaded gas	3,000	Excellent
2	93 Unleaded gas	3,000	Excellent
3			
4			

Reason for Tank Removal (check one):  abandoned  routine replacement  
 Customer changing suppliers  tank or piping leaking  liability

Replacement Tank(s)?  yes  no Number of Replacement Tanks: \_\_\_\_\_

DEC UST Permit(s) Obtained?  yes  no

DEC-Permitted Tank(s) Still On-Site?  yes  no Number of Tanks: \_\_\_\_\_

Out of Service Tank(s) On-Site?  yes  no Number of Tanks: \_\_\_\_\_

Heating Oil Tank(s) On-Site?  yes  no No. of Tanks: \_\_\_\_\_ Size(s): \_\_\_\_\_

Any Waste Pumpage?  yes  no Estimated Volume: 3 gallons  
 Transported By: Northern Petroleum

Size of Excavation (ft<sup>2</sup>): 400 sq ft. Depth: 7 1/2 ft. Soil Type: Gravel/sand  
 Concentrations Detected with PID: Peak = 275 Average = 40-125

Type of PID: H. Nue  
 Number of Readings (please put locations on attached drawing): 15  
 Calibration Info. (date, time, type of gas): 8/25/92 8 am Span gas

Free Phase Product Encountered?  yes  no Approx. Amount: \_\_\_\_\_

Cont. Soils Stockpiled?  yes  no Amount (yd<sup>3</sup>): 240 yards

Cont. Soils Backfilled?  yes  no Amount (yd<sup>3</sup>): \_\_\_\_\_

Groundwater Encountered?  yes  no Depth to Groundwater: 7 ft.

Monitoring Wells Installed?  yes  no Number: 1 Screen Depth: 10 ft.

On-Site Drinking Well?  yes  no (if yes:  rock  gravel  spring)

Public Water Supply Well(s) Within 1/4 Mile?  yes  no

Distance to nearest: \_\_\_\_\_

Private Water Supply Well(s) Within 1/4 Mile?  yes  no How Many? \_\_\_\_\_

Samples Collected for Laboratory Analysis?  yes  no How Many? 3

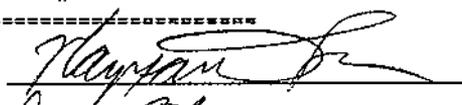
[check all that apply:  soil  groundwater  drinking water]

Receptors Affected (check all that apply):

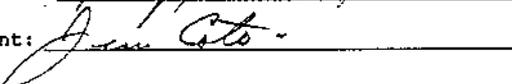
soil  residential; # of houses/people: \_\_\_\_\_

groundwater  surface water; name/type of water body: \_\_\_\_\_

Ground water had a slite sheen on South end of hole

Signature of Owner or Authorized Representative: 

Date: August 25, 1992

Signature of Person Performing Site Assessment: 

Date: 8-25-92

\*\*\* ATTACH OBSERVATIONS, CONCLUSIONS, AND DRAWING ON A SEPARATE PAGE \*\*\*

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
UNDERGROUND STORAGE TANK PROGRAM  
TANK PULL FORM

SEP 01 1992

TODAY'S DATE: 8-25-92

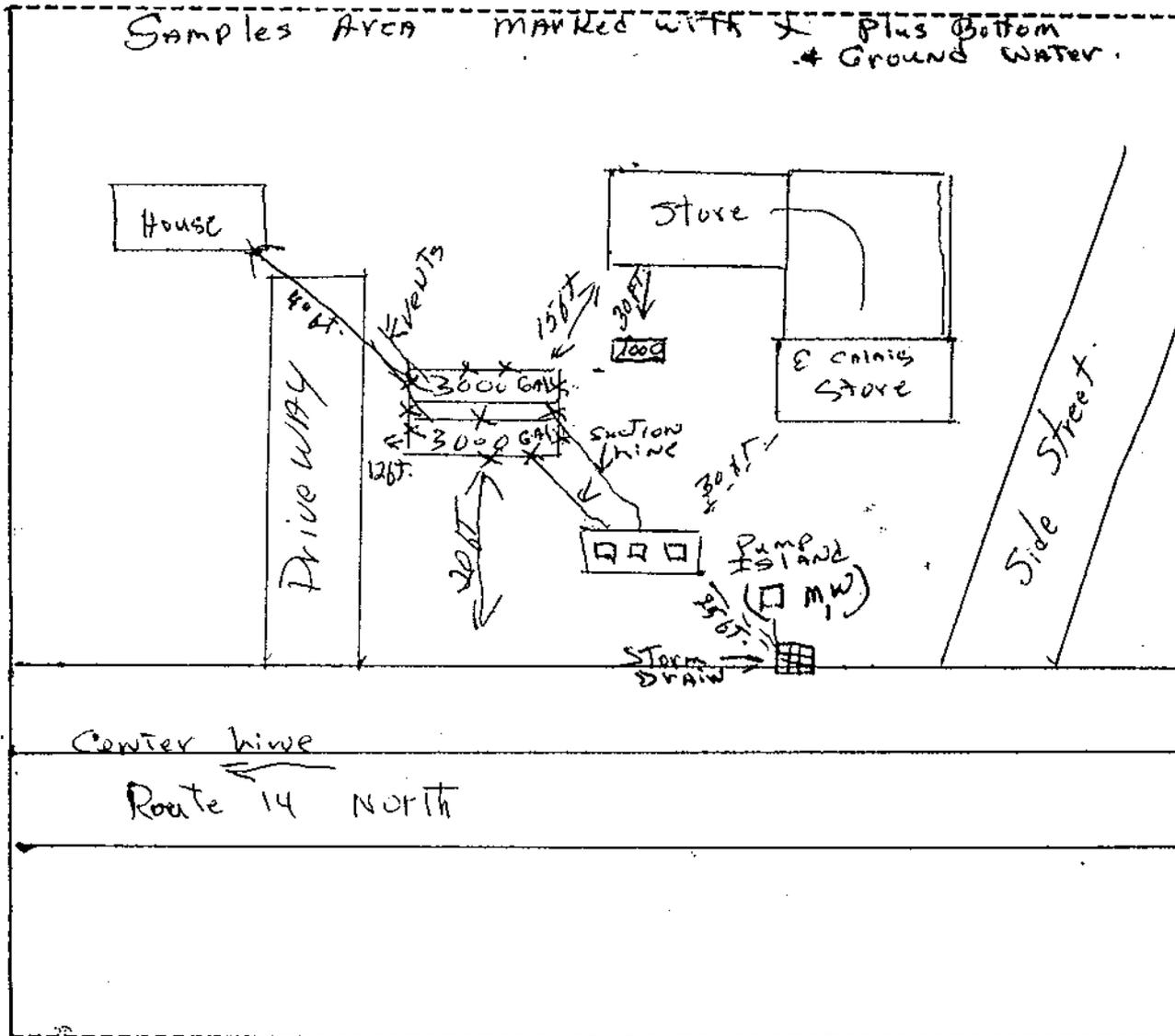
INSPECTOR: Jim Cote

DATE OF REMOVAL: 8-25-92

BUSINESS NAME: Northern Petroleum Co

SITE DIAGRAM

Show location of all tanks and distance to permanent structures, sample points, areas of contamination and any pertinent site information. Indicate North arrow and major street names or route number.





Aug 26-27-28 - 1992

C. Calais Gen. Store  
E. Calais It. <sup>SEP</sup> 02

Jim Cote  
Northern Petroleum Co  
St. Johnsbury It

①

Pulled 2 - 3000 Gal Tanks -  
(1) unleaded (1) Super unleaded)  
Pulled up Island - all piping and vents

Encounter - Small P.P.M. Readings at first  
around Hills - and through length of Tanks  
to Island. Reading 3-12 P.P.M.

Under Island - Readings jumped to - approx  
100 - 250 P.P.M. - Due to a meter Break  
Under Pump approx. 2 ~~month~~ months earlier.

at that Point we Excavating Piping + Vent  
and Down to the Bottom of Tanks on the  
South End. - Reading - then fluctuated from  
125 to 275 P.P.M. - occasionally to 325. on that  
End Only -

at that Point. Mark Coleman was Called  
for 2<sup>nd</sup> opinion.

We Excavated Bad Soils around tanks and  
trucked to our Storage Spot. - and put on  
Plastic

Tank were then Purged & Bio Solved to  
0 - J.E.T. - - Pulled & Shipped - - Tanks were  
in Excellent Condition - -

Then we Excavated more material that was  
Bad. - -

at that point we found another - 1000 Gal - Tank - that apparently no one new was there - that tank had gasoline vapor + water in it. - it was pitted on bottom and on tank weld. But did not appear to be leaking - it had already been discovered & capped underground.

We encountered loose piping underground that had free product in them - these pipes had gone to 3 other tanks which had been dug out about 3 yrs ago - By Calais Road Commission + monitor by State person from So. Woodbury It - Name not known.

my suspicion was that there was line leakage - from piping-fittings plus a broken meter under pump - that had been repaired - plus a spill of approx 80 Gal. of Gas last spring - from truck - made all the problems I encountered.

all tanks have been removed + all piping approx - 280 yds of soil - is on plastic + cur at our plant in Lydonville It -

Ground Water Depth was at Tank Bottom Depth. - We had approx 2 1/2 feet of water in hole - Ground water + Soil samples were taken for lab. . Hole was at 8-12 PPM from north end to about 2/3 of length of hole the balance of hole was still reading 40-150 PPM.

We than Reburied Hole with all new sand - 1- 12foot Monitor Well Was installe in Bad Area.

A. new - Split 6000 Gal Tank is going to be Installed by Another Co. Sept 4-1992 - for Customer.  
Hole should be ok.

# VERMONT NOTIFICATION FOR UNDERGROUND STORAGE TANKS

- READ INSTRUCTION PAGE CAREFULLY BEFORE COMPLETING THIS FORM -

PLEASE TYPE OR PRINT IN INK ALL ITEMS EXCEPT "SIGNATURE" IN SECTION VI ON PAGE 2.  
SEPARATE NOTIFICATION MUST BE FILED FOR TANKS OWNED AT A DIFFERENT LOCATION.  
FOR ADDITIONAL INFORMATION, CALL THE VERMONT UNDERGROUND STORAGE TANK PROGRAM AT (802) 826-3395.

## I. OWNERSHIP OF TANKS

NAME (CORPORATION, INDIVIDUAL, PUBLIC AGENCY OR OTHER ENTITY)  
BRADFORD OIL Co

STREET ADDRESS  
P.O. Box 3014

TOWN OR CITY  
BRADFORD

COUNTY  
ORANGE

STATE  
VT

ZIP CODE  
05633

AREA CODE  
(802)

PHONE NUMBER  
1422 5251

## III. SITE LEAK HISTORY (COMPLETE THIS SECTION ONLY IF APPLICABLE)

YEAR OF LEAK \_\_\_\_\_ ESTIMATE OF QUANTITY  
LEAKED IN GALLONS \_\_\_\_\_

SUBSTANCE LEAKED \_\_\_\_\_

SOURCE OF LEAK (CHECK ALL THAT APPLY)

TANK       PUMP       OVERFILL

PIPING       TRANSFER       OTHER \_\_\_\_\_

CONTAMINATION (CHECK ALL THAT APPLY)

	YES	NO	DON'T KNOW
SOIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GROUNDWATER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SURFACE WATER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CORRECTIVE ACTION (CHECK ALL THAT APPLY)

PRODUCT RECOVERY WELLS INSTALLED

SURFACE WATER CONTAINMENT USED

CONTAMINATED SOIL EXCAVATED

TANK REPLACED

PIPING REPLACED

NO ACTION TAKEN

OTHER (SPECIFY) \_\_\_\_\_

## II. CONTACT PERSON (PERSON RESPONSIBLE FOR DAY-TO-DAY OPERATION OF TANKS)

NAME (IF SAME AS IN SECTION I, CHECK BOX HERE )

JOB TITLE \_\_\_\_\_ AREA CODE \_\_\_\_\_ PHONE NUMBER \_\_\_\_\_

MAILING ADDRESS (IF DIFFERENT FROM SECTION I)  
STREET ADDRESS \_\_\_\_\_

TOWN OR CITY \_\_\_\_\_

COUNTY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_

## IV. LOCATION OF TANKS

FACILITY NAME OR OTHER SITE IDENTIFIER, AS APPLICABLE  
GEN STORE OF EAST CALAIS

STREET ADDRESS, STATE ROAD, R. R. #, AS APPLICABLE  
ROUTE 14

TOWN OR CITY  
EAST CALAIS

COUNTY  
Washington

STATE  
VT

ZIP CODE  
05650

NUMBER OF TANKS AT THIS LOCATION  
Two

NAME OF LANDOWNER  
JOHN GALL

TYPE OF FACILITY (CHECK ONE)

INSTITUTIONAL       RETAIL/CONVENIENCE STORE

BULK PLANT       INDUSTRIAL/COMMERCIAL

STATE       RESIDENTIAL

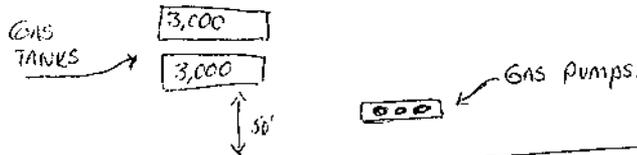
TOWN       SERVICE STATION

FARM

FEDERAL (GIVE FACILITY I.D. NO. \_\_\_\_\_)

OTHER (SPECIFY) \_\_\_\_\_

USE THIS SPACE TO SKETCH AND/OR VERBALLY DESCRIBE FACILITY LOCATION. INCLUDE ESTIMATED DISTANCES TO CENTER LINE OF ROADS, BUILDINGS, STREAMS AND OTHER LANDMARKS. USE DIRECTIONAL DESCRIPTORS (NORTH, SOUTH, ETC.) WHERE APPLICABLE. GEN. STORE. E. CALAIS



FACILITY I.D. NO. 0001579 WAS \_\_\_\_\_

RECORDED ON January 6 1988 IN \_\_\_\_\_

BOOK NO. 31, PAGE 54

OF THE Calais LAND RECORDS.

(6:30 P.M.)

Geo M. Berger

SIGNATURE OF TOWN OR CITY OFFICER

## STATE USE ONLY

FIRST       AMENDED \_\_\_\_\_

FACILITY IDENTIFICATION NUMBER  
0001579

DATE RECEIVED  
NOV. 25, 1987

APPROVED  
114188

RECEIVED BY  
Christine KD Miller

These tanks are also recorded under 456861 Book No 30, page 294

There are only the 5 tanks at this location.

**V. TANK INFORMATION (COMPLETE FOR EACH TANK AT THIS LOCATION)**

NUMBER TANKS SEQUENTIALLY (START WITH TANK CLOSEST TO BUILDING, IF POSSIBLE)	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.	
1. STATUS OF TANK (CHECK ONE)	CURRENTLY IN USE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	TEMPORARILY OUT OF USE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	PERMANENTLY OUT OF USE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. ESTIMATED AGE IN YEARS	<u>5</u>	<u>5</u>				
3. TOTAL CAPACITY (GALLONS)	<u>3,000</u>	<u>3,000</u>				
4. MATERIAL OF CONSTRUCTION (CHECK ONE)	STEEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	CONCRETE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	FIBERGLASS REINFORCED PLASTIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)					
	UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. INTERNAL PROTECTION (CHECK ALL THAT APPLY)	LIMING (E.G. EPOXY RESINS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)					
	NONE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. EXTERNAL PROTECTION (CHECK ALL THAT APPLY)	CATHODIC PROTECTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	PAINTED COATING (E.G. ASPHALTIC)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	FIBERGLASS REINFORCED PLASTIC COATED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)					
	NONE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. SECONDARY CONTAINMENT (CHECK ONE)	DOUBLE-WALL TANK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	CONCRETE VAULT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	IMPERVIOUS LINER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)					
	NONE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. LEAK DETECTION (CHECK ALL THAT APPLY)	DAILY INVENTORY CONTROL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	CONTINUOUS SENSOR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ELECTRONIC IN-TANK SYSTEM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	GROUNDWATER MONITORING WELL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	* PRECISION TEST (ENTER MO./YR. IF WITHIN LAST 5 YRS.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)					
	NONE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. PIPING (CHECK ALL THAT APPLY)	BARE STEEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	GALVANIZED STEEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	BLACK IRON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	FIBERGLASS REINFORCED PLASTIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	CATHODICALLY PROTECTED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER (SPECIFY)					
	UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. SUBSTANCE CURRENTLY OR LAST STORED IN GREATEST QUANTITY BY VOLUME (CHECK ALL THAT APPLY)	GASOLINE (INCL. ALCOHOL BLENDS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIESEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	NOS. 2 OR 4 FUEL OIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	NOS. 5 OR 6 FUEL OIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	AVIATION FUEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	KEROSENE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	USED OIL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	OTHER PETROLEUM SUBSTANCE (SPECIFY)					
	HAZARDOUS SUBSTANCE (GIVE NAME OR CAS. NO.)					
	MIXTURE OF SUBSTANCES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. ADDITIONAL INFORMATION FOR TANKS TAKEN PERMANENTLY OUT OF SERVICE	(A) ESTIMATED DATE LAST USED (MO./YR.)	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
	(B) ESTIMATED QUANTITY LEFT STORED (GAL.)					

**VI. SIGNATURE** I CERTIFY UNDER PENALTY OF LAW THAT THE INFORMATION PROVIDED ON THIS FORM AND ALL ATTACHED DOCUMENTS IS TRUE, ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

William Sellinger, Supervisor, Bradford Oil Co, Inc  
PRINTED NAME AND OFFICIAL TITLE OF OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE.

Wm. Sellinger  
SIGNATURE

Nov 18, 1987  
DATE SIGNED



State of Vermont

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
Natural Resources Conservation Council

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation
Hazardous Materials Management Division
103 South Main Street, West Building
Waterbury, Vermont 05671-0404
Telephone: (802) 244-8702

UNDERGROUND STORAGE TANK PERMIT

FACILITY ID # 0001579 PERMIT EXPIRATION DATE: 10/01/1996
Reapply by: 09/01/1996

Number of Permitted UST System: ONE (1)

Annual Permit fee: \$25 Month payable: OCTOBER

Financial Responsibility: PETROLEUM CLEAN UP FUND ASSESSMENT # 1129

FACILITY NAME: GENERAL STORE OF EAST CALAIS

FACILITY LOCATION: Route 14
CALAIS, VERMONT

PERMITTEE: JOHN C. AND SHARON L. GALL
TANK OWNER: SAME
OPERATOR: SAME

In compliance with provisions of 10 V.S.A. Chapter 59, Section 1927, the Vermont UST Regulations, and subject to the provisions, terms and conditions hereinafter specified, the Agency of Natural Resources (Agency), Department of Environmental Conservation (DEC), in response to an Underground Storage Tank Form (UST Form), a copy of which is attached hereto and incorporated herein, issues to the above named Permittee an underground storage tank (UST) permit for the installation and operation of the one UST system more particularly described in the attached UST Form and located at the above facility.

All of the provisions, terms and conditions set forth in the attached UST SYSTEM PERMIT TERMS AND CONDITIONS are incorporated herein by reference.

Dated at Waterbury, Vermont, this 21st day of July, 1992.

By: William E. Ahern
William E. Ahern, Director
Hazardous Materials Management Division
for Commissioner, Department of
Environmental Conservation

jw/1641.pp1
conds 10/91

RECEPTOR ASSESSMENT  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
SITES MANAGEMENT SECTION  
POTENTIAL SITE SCREENING WORKSHEET

Date: 9/10/92 Name: Lynda Wedderspoon

I. SITE INFORMATION

1. Site Number: 92-1283
2. Site Name: East Calais General Store
3. Street Address: Rte 14 Town: E. Calais
4. Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Coordinate Ref: \_\_\_\_\_
5. Brief description of known or alleged problem:  
LUST Contamination
6. Type of ownership (circle one: private, federal, state, county, municipal, unknown).

II. OWNER/OPERATOR

1. Owner: Bradford Oil Contact: William Sellinger  
Operator: \_\_\_\_\_
2. Address: P.O. Box 394 Address: \_\_\_\_\_  
Bradford, VT
3. Phone#: \_\_\_\_\_ Phone#: 222-5251

III. SITE HISTORY

1. What is the current and past site use (e.g.: manufacturing, waste treatment, waste disposal, storage, etc.)?  
General store
2. List known or potential hazardous substances on site.  
gasoline
3. Any available sampling and analysis data? yes  
(if yes, please attach or reference sampling results).
4. Site Status (circle one: active, inactive, or unknown).
5. How was site discovered? (check all that apply)  
 tank pull \_\_\_\_\_ referral \_\_\_\_\_ spill  
\_\_\_\_\_ public complaint \_\_\_\_\_ RCRA inspection  
\_\_\_\_\_ property transfer \_\_\_\_\_ other: \_\_\_\_\_

IV. RECEPTORS (within a two-mile radius) (the locations of all water supply sources and critical habitats are identified on attached topographic map(s))

1. Number of private groundwater drinking wells; well log numbers within 1/2-mile are on attached topo map(s):

- wells screened in the overburden 1  
- bedrock wells 9

Source of data Water supply

2. WSID numbers of public community water system well(s) and population served by each system: WSID #5262 - serves 225

- wells screened in the overburden 4 springs  
- bedrock wells -

Source of data Water supply

3. Distance to and type of nearest groundwater source:

- overburden well ~.2 mile (public? private?)  
- bedrock well ~.1 mile (public? private?)

Source of data Water supply

4. Total population served by surface water downstream of the site (and WSID #, if applicable) (see #2)

Source of data \_\_\_\_\_

5. Distance to nearest downstream surface water source <.1 mi.

Source of data USGS Topo

6. Threat to indoor air unknown

Source of data \_\_\_\_\_

7. Total population ~900 people

Source of data 1990 Census

8. Brief description of land uses at adjacent properties.

House; Rte. 14; Brook?

9. Any sensitive environments within a one mile radius or along the surface water pathway? Circle all that apply:

Type	Distance from site
>5-acre pond/lake?	<u>0.2/ mi.</u>
wetlands?	?
endangered/threatened species habitats	?
Nat'l/State recreation area	?

Sensitive environments continued:

<u>Type</u>	<u>Distance from site</u>
Nat'l/State park? wilderness area?	2.1 mi 2.2 mi 2.3 mi
Class A? B? C? surface water	
wildlife refuge/management area	
state sensitive/natural area	
designated deeryard	
fish stocking area	

Source of data USGS TOPO

10. Any potentially affected receptors?

<input type="checkbox"/> groundwater	<input checked="" type="checkbox"/> surface water
<input type="checkbox"/> soil/onsite	<input checked="" type="checkbox"/> air

11. Any known receptors affected?

<input checked="" type="checkbox"/> groundwater	<input type="checkbox"/> surface water
<input checked="" type="checkbox"/> soil/onsite	<input type="checkbox"/> air

V. COMMENTS (Use additional sheets, if necessary)

PID up to 275 ppm - on south end was up to 325. A 1000 gal tank was discovered during excavation - had been previously disconnected & capped. Groundwater encountered at 7-ft, 1 mw installed, samples taken. ~270 yds<sup>3</sup> soil stockpiled offsite. - slight sheen on soil on south end of hole.

VI. RECOMMENDED SITE CLASSIFICATION

<input type="checkbox"/> Control	<input checked="" type="checkbox"/> Evaluate
<input type="checkbox"/> VSPS/Refer	<input type="checkbox"/> No Further Action Planned (NFAP)

VII. RECOMMENDED ACTION

Determine degree & extent of contamination to groundwater determine what direction gw is flowing & possibly install additional mw to find out extent of contamination. If free product exists, develop plan to remediate. Develop plan to deal with stockpiled soils. Perform complete site assessment to determine potential for cont. to impact any sensitive receptors in the area; basements, brock, etc. 9/14/92 (if exists)

Chuck Suber Supervisor 9/14/92 Date

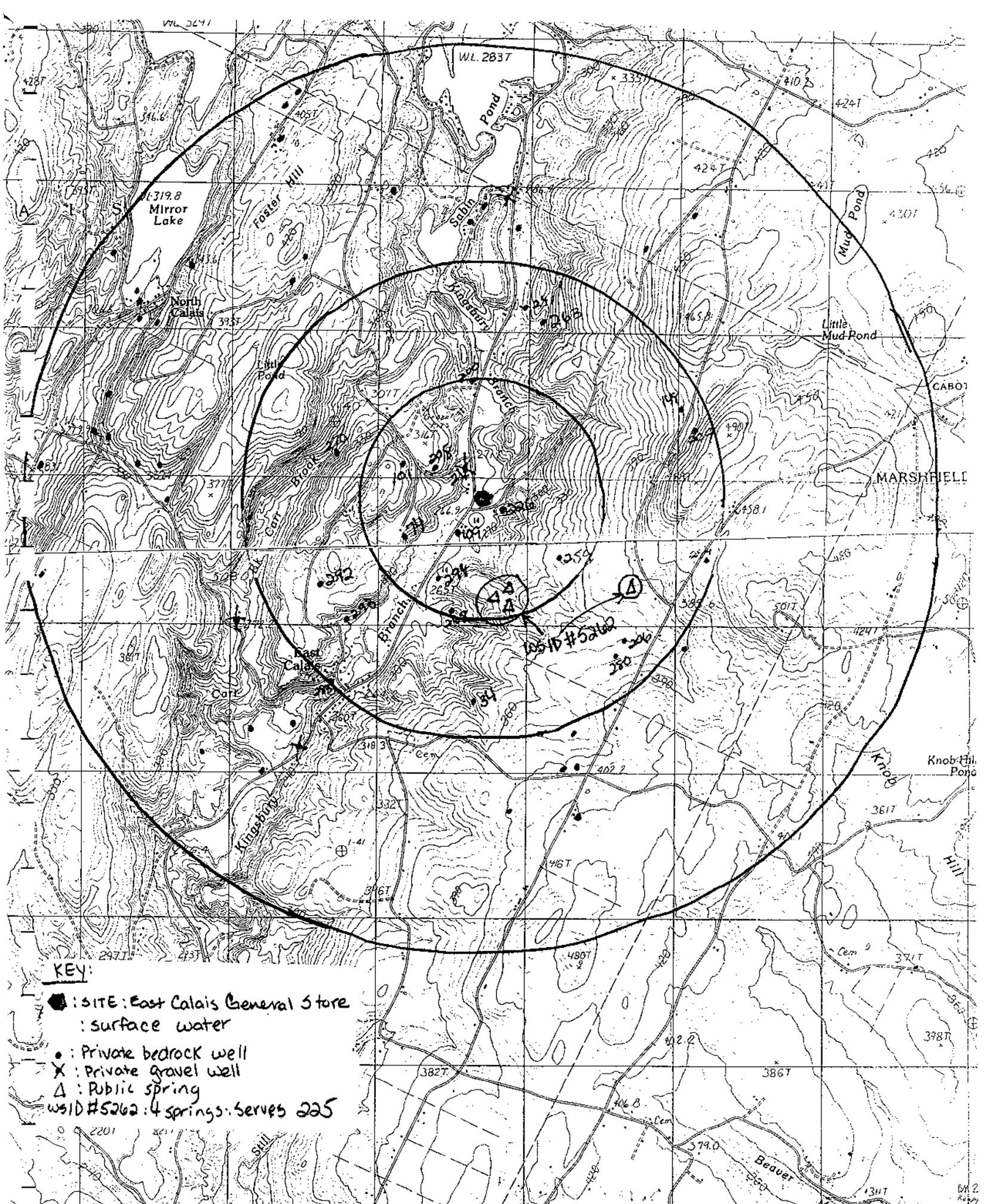
Also determine ~~if~~ potential of drinking water wells to be impacted - several appear to exist in the area as

\* Attach a site location map (U.S.G.S. topographic quadrangle(s), with the topo name, date, and number attached/included) and site plan, if available, to this worksheet.

well as WSD #5262, which is within 1/2 mile of site.

WV 2641

WL 2837



**KEY:**

- : SITE: East Calais General Store
- : surface water
- : Private bedrock well
- X : Private gravel well
- △ : Public spring
- WSID #5262 : 4 springs. Serves 225

APPENDIX B

Well Logs

## WELL LOG

WELL: MW-5  
LOCATION: East Calais General Store, East Calais, Vermont, behind the store, 33 feet east of the northeast corner  
DRILLER: Green Mountain Boring Co.  
HYDROGEOLOGIST: David Cotton  
DATE: November 10, 1992

### Soils Description

BG = Background= 0.0 PPM

<u>Depth</u>	<u>Description</u>	<u>HNU (ppm)</u>
5.0 - 5.8'	Moist, medium brown, fine sand	BG
10.0 - 11.0'	Dry, brown, very gravelly loamy sand	BG
20.0 - 21.0'	Extremely gravelly loamy sand, 70% gravel	BG

Saturated at 21 feet

Overall Profile 0 - 8' Medium brown, fine sand becoming loamier with depth. At 8' increase in gravel, slower drilling, a medium brown gravelly, loamy fine sand. At 15 feet becoming more cobbly, rough drilling. At 18 feet broke through to a finer gravel, getting finer with depth to 23 feet. No odor of gasoline throughout soil boring.

### Well Construction

Bottom of Boring: 23'  
Well Screen: (10') 13 - 23', 0.020 inch slot, 2" sch. 40 PVC  
Solid Riser: (13') 0 - 13', 2" sch. 40 PVC  
Sand Pack: (15') 8 - 23'  
Bentonite Seal: (2') 6 - 8'  
Backfill: (4') 2 - 6'  
Well Box: One, cemented flush with grade.

WELL LOG

WELL: MW-2  
LOCATION: East Calais General Store, East Calais, Vermont, 3 feet from pump island between pump island and Route 14.  
DRILLER: Green Mountain Boring Co.  
HYDROGEOLOGIST: David Cotton  
DATE: November 10, 1992

Soils Description

BG = Background = 0.4 ppm

<u>Depth</u>	<u>Description</u>	<u>HNU (ppm)</u>
0	Surepack gravel on top of fine sand.	
5.0 - 5.8'	Moist, brown fine sand with 5% fine gravel. Strong gasoline odor.	SL
10.0 - 10.5'	Saturated, olive brown, fine gravely sand. Strong gasoline odor.	70
Overall Profile:	0 - 7 feet brown fine sand fill. 7 feet to 12.5 feet native soil olive brown, fine gravely sand.	

Well Construction

Bottom of Boring: 12.5'  
Well Screen: (8') 4.5 - 12.5', 0.020 inch slot, 2" sch. 40 PVC  
Solid Riser: (4') 4.5 - .5', 2" sch. 40 PVC  
Sand Pack: (10") 2.5 - 12.5'  
Bentonite Seal: (1') 1.5 - 2.5'  
Backfill: (1') 1 - 1.5'  
Well Box: One, cemented flush with grade.

## WELL LOG

WELL: MW-3  
LOCATION: East Calais General Store, East Calais, Vermont, out front at northern property line, 5 feet off Route 14.  
DRILLER: Green Mountain Boring Co.  
HYDROGEOLOGIST: David Cotton  
DATE: November 11, 1992

### Soils Description

BG = Background = 0.2 ppm

<u>Depth</u>	<u>Description</u>	<u>HNU (ppm)</u>
0	Gravel surepack over fine sand	
5.0 - 6.0'	Dry, olive brown, very gravely loamy sand. Slight gasoline odor.	1.4
10.0 - 10.5'	Saturated, dark olive gray, gravely fine sandy loam, slight petroleum odor. Gravel was angular	0.6
Overall Profile:	0 - 3' medium brown, fine sandy, fill 3' to 14' depth, olive brown, very gravely loamy sand with angular gravel.	

### Well Construction

Bottom of Boring: 14'  
Well Screen: (9') 9.5 - 14', 0.020 inch slot, 2" sch. 40 PVC  
Solid Riser: (5') 0 - 5', 2" sch. 40 PVC  
Sand Pack: (11') 3 - 14'  
Bentonite Seal: (1') 2 - 3'  
Backfill: (1.25') .75 - 2'  
Well Box: One, cemented flush with grade.

WELL LOG

WELL: MW-4

LOCATION: East Calais General Store, East Calais, Vermont, on the west side of Route 14 approximately 8 feet south of garage on the Women's Auxiliary property.

DRILLER: Green Mountain Boring Co.

HYDROGEOLOGIST: David Cotton

DATE: November 11, 1992

Soils Description

BG = Background = 0.0 ppm

<u>Depth</u>	<u>Description</u>	<u>HNU (ppm)</u>
0 - 2.0'	Grass and foundation rubble	
5.0 - 5.5'	Light gray, gravelly, loamy fine sand	
5.5 - 6.0'	Light gray, fine sandy loam	0.2 (5.0 - 6.0)
5.0 - 6.0'	Slight Petroleum Odor	
10.0 - 10.5'	Saturated olive brown gravelly, fine sandy loam. Was mottled with angular gravel. Mild petroleum odor	20.0

Overall Profile: 0 - 3' foundation stone rubble, 5 - 10' we had a very fine sand, 10 - 12' very hard drilling, compacted, gravelly fine sandy loam.

Well Construction

Bottom of Boring: 14'  
Well Screen: (9') 5 - 14', 0.020 inch slot, 2" sch. 40 PVC  
Solid Riser: (4.5') 0.5 - 5', 2" sch. 40 PVC  
Sand Pack: (10') 4 - 14'  
Bentonite Seal: (1') 3 - 4'  
Backfill: (4') 2 - 3'  
Well Box: One, cemented flush with grade.

# Green Mountain Boring Co., Inc.

R. D. 2 -- BARRE, VERMONT 05641

SHEET 1 OF 4  
 DATE 11/10/92  
 HOLE NO. MW-5  
 LINE & STA.  
 OFFSET None

TO Lincoln Applied Geology ADDRESS Lincoln, VT  
 PROJECT NAME E. Calais Gen. Store LOCATION E. Calais, VT  
 REPORT SENT TO Lincoln Applied Geology PROJ. NO.  
 SAMPLES SENT TO Lincoln Applied Geology OUR JOB NO. 92-137

GROUND WATER OBSERVATIONS	At 21' at 1 Hours	Type	CASING	SAMPLER	CORE BAR.	SURFACE ELEV.
	At at Hours	Size I. D.	AUGERS	SPLIT SPOON		DATE STARTED 11/10/92
		Hammer Wt.	4.25"	1 3/8"		DATE COMPL.
		Hammer Fall		140#		BORING FOREMAN Bernasconi
				30"		INSPECTOR Dave Canton
						SOILS ENGR.

LOCATION OF BORING: As directed by inspector

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 Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc.	SAMPLE		
				From		To				No.	Pen	Rec.
				0-6	6-12	12-18						
		5'-7'	Dry	7	14	16	Dry		1	24"	15"	
				18								
		10'-12'	Dry	14	16	26	Dry	Fine to medium sand and stone	2	24"	14"	
				28								
		15'-17'	Dry	100			Dry	No recovery Split spoon refusal on stone at 15'	3	0"	0"	
		20'-22'	Dry	35	100		Wet	Fine to medium sand and gravel Split spoon refusal at 20'11"	4	11"	11"	
								Auger refusal at 23'				
								Installed well				
								Materials Used:				
								10' .020 screen				
								13' 2" riser				
								1 top locking cap				
								1 bottom slip cap				
								3 bags #2 sand				
								1.5 bags bentonite				
								1 curb box				
								Cement				

RECEIVED  
 NOV 24 1992  
 LINCOLN APPLIED GEOLOGY

GROUND SURFACE TO 23' USED 4.25" AUGERS: THEN Installed well

Sample Type  
 D=Dry C=Cored W=Washed  
 UP=Undisturbed Piston  
 TP=Test Pit A=Auger V=Vane Test  
 UT=Undisturbed Thinwall

Proportions Used  
 trace 0 to 10%  
 little 10 to 20%  
 some 20 to 35%  
 and 35 to 50%

140 lb. Wt. x 30" fall an 2" O. D. Sampler  
 Cohesionless Density  
 0-10 Loose  
 10-30 Med. Dense  
 30-50 Dense  
 50+ Very Dense

Cohesive Consistency  
 0-4 Soft 30+ Hard  
 4-8 M/Stiff  
 8-15 Stiff  
 15-30 V.Stiff

SUMMARY:  
 Earth Boring 23  
 Rock Coring  
 Samples 3  
 HOLE NOMW-5





# Green Mountain Boring Co., Inc.

R. D. 2 - BARRE, VERMONT 05641

SHEET 4 OF 4  
 DATE 11/11/92  
 HOLE NO. MW-4  
 LINE & STA.  
 OFFSET None

TO Lincoln Applied Geology ADDRESS Lincoln, VT  
 PROJECT NAME E. Calais Gen. Store LOCATION E. Calais, VT  
 REPORT SENT TO Lincoln Applied Geo. PROJ. NO.  
 SAMPLES SENT TO Lincoln Applied Geo. OUR JOB NO. 92-137

GROUND WATER OBSERVATIONS		CASING	SAMPLER	CORE BAR.	SURFACE ELEV.
At 9' at 0 Hours	Type	AUGERS	SPLIT SPOON		DATE STARTED 11/11/92
	Size I. D.	4.25"	1 3/8"		DATE COMPL. 11/11/92
	Hammer Wt.		140#		BORING FOREMAN Bernasconi
	Hammer Fall		30"		INSPECTOR Dave Canton
					SOILS ENGR.

LOCATION OF BORING: As directed by inspector

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 Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc.	SAMPLE		
				From 0-6	To 6-12	To 12-18				No.	Pen	Rec.
		5'-7'	Dry	8	9	8	Dry	Fine sand	1	24"	16"	
		10'-12'	Dry	7	10	28	Wet	Fine sand and stone Split spoon refusal at 11'8"	2	20"	18"	
				100				Augered to 14' and installed well				
								Materials Used: 9' .020 screen 4.5' 2" riser 1 top locking cap 1 bottom slip cap 3 bags #2 sand 30 lbs. bentonite 1 curb box Cement				

GROUND SURFACE TO 14' USED 4.25" AUGERS: THEN Installed well

Sample Type	Proportions Used	Cohesionless Density	Cohesive Consistency	SUMMARY:
D=Dry C=Cored W=Washed	trace 0 to 10%	0-10 Loose	0-4 Soft 30 + Hard	Earth Boring 14'
UP=Undisturbed Piston	little 10 to 20%	10-30 Med. Dense	4-8 M/Stiff	Rock Coring
TP=Test Pit A=Auger V=Vane Test	some 20 to 35%	30-50 Dense	8-15 Stiff	Samples 2
UT=Undisturbed Thinwall	and 35 to 50%	50 + Very Dense	15-30 V-Stiff	

HOLE NO MW-4

APPENDIX C  
Water Quality Results



Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

GC METHOD--BTEX (BENZENE, TOLUENE, ETHYLBENZENE,XYLENES)

CLIENT: Lincoln Applied Geology  
PROJECT NAME: E. Calais  
REPORT DATE: November 30, 1992  
DATE SAMPLED: November 17, 1992  
DATE RECEIVED: November 17, 1992  
ANALYSIS DATE: November 30, 1992

PROJECT CODE: LAEC1600  
REF.#: 38,734  
STATION: Trip  
TIME SAMPLED: 10:55  
SAMPLER: J. Rabideau

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

Reviewed by \_\_\_\_\_



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

GC METHOD--BTEX (BENZENE, TOLUENE, ETHYLBENZENE,XYLENES)

CLIENT: Lincoln Applied Geology  
PROJECT NAME: E. Calais  
REPORT DATE: November 30, 1992  
DATE SAMPLED: November 17, 1992  
DATE RECEIVED: November 17, 1992  
ANALYSIS DATE: November 25, 1992

PROJECT CODE: LAEC1600  
REF.#: 38,728  
STATION: MW-5  
TIME SAMPLED: 8:56  
SAMPLER: J. Rabideau

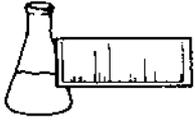
<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	TBQ <sup>2</sup>
Toluene	1	TBQ
Ethylbenzene	1	ND <sup>1</sup>
Xylenes	1	ND
MTBE	5	TBQ

NUMBER OF UNIDENTIFIED PEAKS FOUND: 7

NOTES:

- 1 None detected
- 2 Trace below quantitation limit

Reviewed by \_\_\_\_\_



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

GC METHOD--BTEX (BENZENE, TOLUENE, ETHYLBENZENE,XYLENES)

CLIENT: Lincoln Applied Geology  
PROJECT NAME: E. Calais  
REPORT DATE: November 30, 1992  
DATE SAMPLED: November 17, 1992  
DATE RECEIVED: November 17, 1992  
ANALYSIS DATE: November 25, 1992

PROJECT CODE: LAEC1600  
REF.#: 38,729  
STATION: MW-4  
TIME SAMPLED: 9:05  
SAMPLER: J. Rabideau

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	9.8
Toluene	1	20.4
Ethylbenzene	1	ND <sup>1</sup>
Xylenes	1	2.6
MTBE	5	80.9

NUMBER OF UNIDENTIFIED PEAKS FOUND: >25

NOTES:

1 None detected

Reviewed by \_\_\_\_\_



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LABORATORY REPORT

GC METHOD--BTEX (BENZENE, TOLUENE, ETHYLBENZENE,XYLENES)

CLIENT: Lincoln Applied Geology  
PROJECT NAME: E. Calais  
REPORT DATE: November 30, 1992  
DATE SAMPLED: November 17, 1992  
DATE RECEIVED: November 17, 1992  
ANALYSIS DATE: November 25, 1992

PROJECT CODE: LAEC1600  
REF.#: 38,731  
STATION: MW-3B  
TIME SAMPLED: 10:10  
SAMPLER: J. Rabideau

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	1	TBQ <sup>2</sup>
MTBE	5	TBQ

NUMBER OF UNIDENTIFIED PEAKS FOUND: 8

NOTES:

- 1 None detected
- 2 Trace below quantitation limit

Reviewed by \_\_\_\_\_



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Williston, Vermont 05495  
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FAX 879-7103

LABORATORY REPORT

GC METHOD--BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES)

CLIENT: Lincoln Applied Geology  
PROJECT NAME: E. Calais  
REPORT DATE: November 30, 1992  
DATE SAMPLED: November 17, 1992  
DATE RECEIVED: November 17, 1992  
ANALYSIS DATE: November 25, 1992

PROJECT CODE: LAEC1600  
REF.#: 38,730  
STATION: MW-3  
TIME SAMPLED: 10:09  
SAMPLER: J. Rabideau

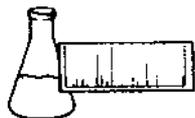
<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	TBQ <sup>2</sup>
Toluene	1	ND <sup>1</sup>
Ethylbenzene	1	ND
Xylenes	1	TBQ
MTBE	5	TBQ

NUMBER OF UNIDENTIFIED PEAKS FOUND: 12

NOTES:

- 1 None detected
- 2 Trace below quantitation limit

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LABORATORY REPORT

GC METHOD--BTEX (BENZENE, TOLUENE, ETHYLBENZENE,XYLENES)

CLIENT: Lincoln Applied Geology  
PROJECT NAME: E. Calais General Store  
REPORT DATE: November 24, 1992  
DATE SAMPLED: November 12, 1992  
DATE RECEIVED: November 12, 1992  
ANALYSIS DATE: November 23, 1992

PROJECT CODE: LAEC1551  
REF.#: 38,569  
STATION: SW-Up Gradient  
TIME SAMPLED: 3:00  
SAMPLER: D. Cotton

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 10

NOTES:

1 None detected

11/23/92

DEC 1

LINCOLN APPLIED GEOLOGY

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Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103LABORATORY REPORTGC METHOD--BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES)CLIENT: Lincoln Applied Geology  
PROJECT NAME: E. Calais  
REPORT DATE: November 30, 1992  
DATE SAMPLED: November 17, 1992  
DATE RECEIVED: November 17, 1992  
ANALYSIS DATE: November 25, 1992PROJECT CODE: LAEC1600  
REF.#: 38,733  
STATION: MW-1  
TIME SAMPLED: 10:50  
SAMPLER: J. Rabideau

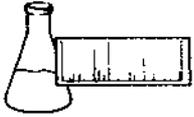
<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	100	10,800.
Toluene	100	19,900.
Ethylbenzene	100	1,450.
Xylenes	100	9,580.
MTBE	500	7,880.

NUMBER OF UNIDENTIFIED PEAKS FOUND: 14

## NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.

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**ENDYNE, INC.**

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FAX 879-7103

LABORATORY REPORT

GC METHOD--BTEX (BENZENE, TOLUENE, ETHYLBENZENE,XYLENES)

CLIENT: Lincoln Applied Geology  
PROJECT NAME: E. Calais  
REPORT DATE: November 30, 1992  
DATE SAMPLED: November 17, 1992  
DATE RECEIVED: November 17, 1992  
ANALYSIS DATE: November 27, 1992

PROJECT CODE: LAEC1600  
REF.#: 38,732  
STATION: MW-2  
TIME SAMPLED: 10:44  
SAMPLER: J. Rabideau

<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	50	2,090.
Toluene	50	1,540.
Ethylbenzene	50	435.
Xylenes	50	3,310.
MTBE	250	1,150.

NUMBER OF UNIDENTIFIED PEAKS FOUND: 22

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 2% dilution.

Reviewed by \_\_\_\_\_



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LABORATORY REPORT

GC METHOD--BTEX (BENZENE, TOLUENE, ETHYLBENZENE,XYLENES)

CLIENT: Lincoln Applied Geology  
PROJECT NAME: E. Calais General Store  
REPORT DATE: November 24, 1992  
DATE SAMPLED: November 12, 1992  
DATE RECEIVED: November 12, 1992  
ANALYSIS DATE: November 23, 1992

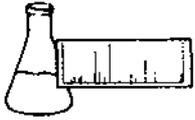
PROJECT CODE: LAEC1551  
REF.#: 38,570  
STATION: SW-Seep,by Birch  
TIME SAMPLED: 3:00  
SAMPLER: D. Cotton

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	7.1
Toluene	1	3.8
Ethylbenzene	1	3.6
Xylenes	1	6.1
MTBE	5	22.2

NUMBER OF UNIDENTIFIED PEAKS FOUND: 7

DEC 1

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FAX 879-7103

LABORATORY REPORT

GC METHOD--BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES)

CLIENT: Lincoln Applied Geology  
PROJECT NAME: E. Calais General Store  
REPORT DATE: November 24, 1992  
DATE SAMPLED: November 12, 1992  
DATE RECEIVED: November 12, 1992  
ANALYSIS DATE: November 23, 1992

PROJECT CODE: LAEC1551  
REF.#: 38,571  
STATION: SW-Seep by Raceway  
TIME SAMPLED: 3:00  
SAMPLER: D. Cotton

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	12.9
Toluene	1	8.7
Ethylbenzene	1	6.9
Xylenes	1	22.4
MTBE	5	32.2

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

DEC

Reviewed by \_\_\_\_\_

APPENDIX D

Contaminated Soil Pile  
Analysis

On November 17th, 1992, David Cotton from Lincoln Applied Geology, Inc. (LAG) made a site visit to the stockpiled soils. The stockpiled soils were over excavated during UST removal at the East Calais General Store, Vermont Facility ID# 0001579. Northern Petroleum pulled their two 3,000 gallon USTs and one unidentified 1,000 gallon UST on August 25, 1992. At the time of the UST removal soils contaminated with petroleum products were removed and transported to Northern Petroleum's LP gas bulk storage facility located in the Town of Lyndon shown on **Figure 1** of this appendix. The purpose of the site visit was to determine if the current stockpile is in conformance with the Vermont Agency of Natural resources Guidelines of Petroleum Contaminated Soil and Carbon Media.

As described in the guidelines under section IIB. Soil Treatment Options, Northern Petroleum is currently proposing to utilize Option 1.a. Poly-encapsulation. To determine if the site is appropriate for use the criteria listed in II B.2. (a-h) were evaluated with respect to the site. The results are as follows:

1. No drinking water supplies are located within 500 feet of the stockpiled soils.
2. The stockpile is not adjacent to any sensitive environment and the following isolation distances are being maintained.
  - a. Surface water - 130 feet
  - b. Wetlands - 50 feet
  - c. Flood Plain - 40 feet
  - d. Class I and II Ground Water Zones and Wildlife refuge are not applicable.
3. The current stockpile covers an area of 30 x 80 feet, and there is ample area adjacent to the pile to expand while maintaining the isolation distances listed above.
4. The stockpile is located on private property and is not available for public access.
5. The closest residences, an apartment complex, are located across a stream and approximately 500 feet from the stockpile location.
6. The landowner is the generator.
7. Northern Petroleum is notifying the Town of Lyndon by way of certified mail, return receipt requested.

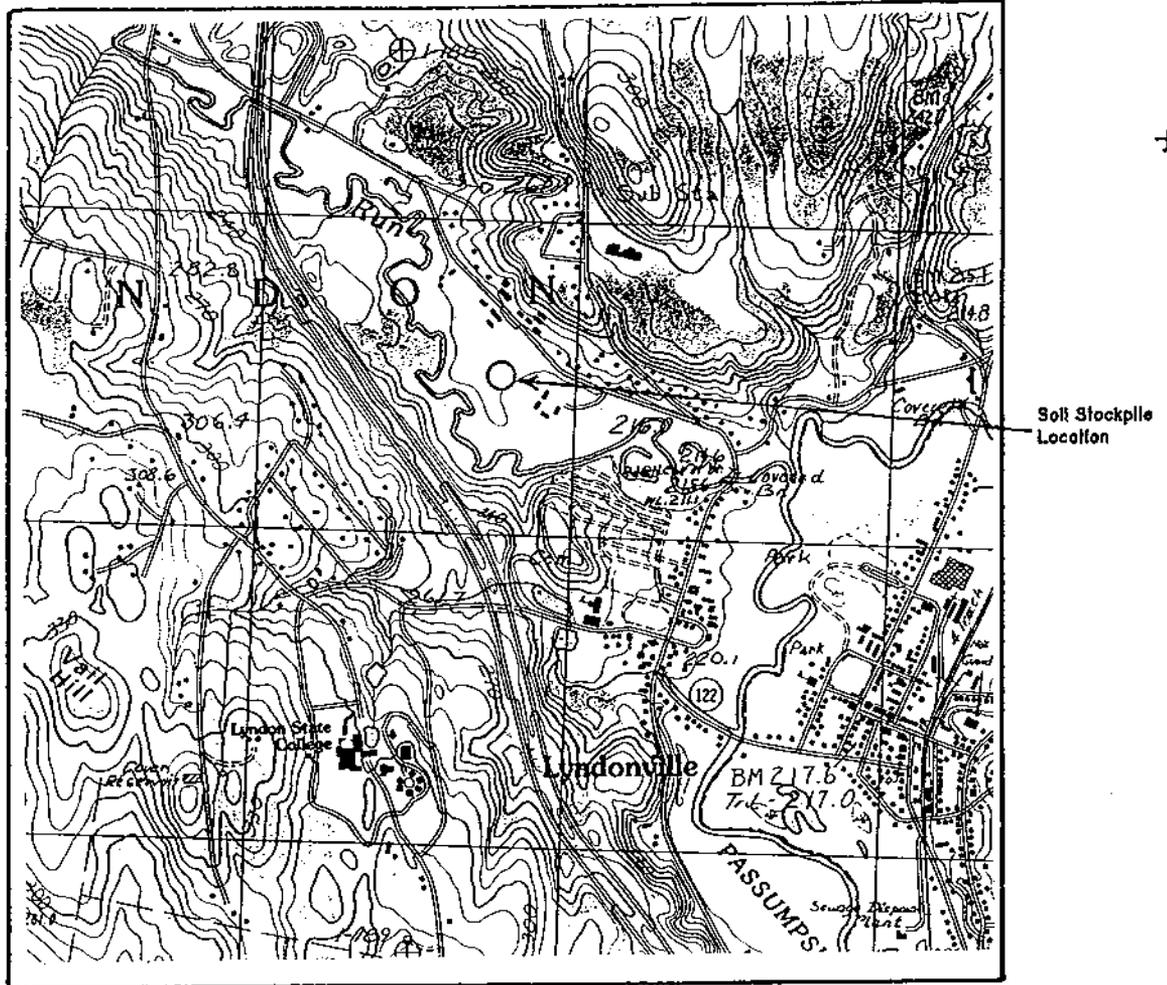


During the site visit it was estimated that there are approximately 225 cubic yards of soil stockpiled. The stockpile is contained on black plastic. At the time of the site visit, the soils were not completely covered. Maynard Farr of Northern Petroleum was notified. The pile was completely covered as of November 19, 1992 and Northern Petroleum is conducting regular inspections to ensure that the stockpile remains covered. It is our opinion that the stockpiled soil is in conformance with Agency Guidelines.

During the site visit the stockpile was assayed with an photoionization detector (PID) utilizing a 10.2 eV lamp. An approximate grid of 15 by 15 feet was used and a pigtail screw auger was used to penetrate the pile. PID readings were then taken from the open hole which was augered to a depth of 24 to 30 inches. The PID readings ranged from 4.8 parts per million (ppm) to a saturated lamp condition, with median readings between 190 and 220 ppm. The stockpile will remain polyencapsulated until spring when a re-evaluation of PID levels will be made and the ultimate treatment and disposal method determined.



# Northern Petroleum Soil Stockpile GENERAL LOCATION MAP



Source: U.S.G.S. 7.5 min.  
Topo Series  
Lyndonville Quad

Scale: 1" = 2000'