

Initial Site Investigation

V.H. Lust Farm
1540 Upper Notch Road
Lincoln, Vermont 05443

SMS Site #N/A

A Facility Owned By:

V.H. Lust
1540 Upper Notch Road
Bristol, Vermont 05443
(802) 453-3583
Contact: Erica Lust

Prepared by:

Lincoln Applied Geology, Inc.
RD #1 Box 710
Bristol, Vermont 05443
(802) 453-4384
Contact: Steven LaRosa

November 27, 1995



Lincoln Applied Geology, Inc.
Environmental Consultants

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

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Executive Summary

Two single wall steel gasoline underground storage tanks (USTs) were removed from the V.H. Lust Farm in late October 1995. The subsurface surrounding the USTs was assessed by Lincoln Applied Geology, Inc. (LAG) and found to have a petroleum sheen associated with the ground water and soil gas released HNU photoionization detector (PID) readings above 150 parts per million (ppm). The positive identification of petroleum contamination in the ground water and soils beneath the V.H. Lust Farm was presented in the UST Removal and Closure Form submitted to June Middleton of the UST Program on October 24, 1995. This document is included as **Appendix A**. In response to the identified contamination, LAG on behalf of the V.H. Lust Farm, initiated an Expressway type investigation of the UST area to determine the areal extent and degree of contamination.

The investigation included installation of five test pit type monitoring wells. Each of these monitoring wells has been monitored and sampled for quantification of petroleum related contaminants. The Lust Farm's nearby bedrock water supply well was also sampled and analyzed for petroleum contaminants. The Cassidy residence basement was screened for evidence of petroleum related vapors. All of the data collected to date indicates that a relatively small dissolved phase petroleum type contaminant plume exists from the former UST area to approximately 50 feet downgradient. No free phase petroleum product has been evidenced in the wells on-site. The nearby residence basement and drinking water supplies are not currently threatened.

We recommend that each of the five monitoring wells, the bedrock water supply well, and the Cassidy basement air space be monitored and sampled on a quarterly basis through the spring of 1996. At that time, we feel that enough information will be available to determine whether the site is eligible for a Sites Management Activity Completed (SMAC) designation or if further monitoring will be necessary. We do not feel that active subsurface contaminant remediation is warranted at this site.



Site History

The V.H. Lust Farm (LF) is located on the eastern edge of a plateau in the western portion of the Town of Lincoln, Vermont. The general site location is shown on **Figure 1**. The LF operated from early this century until 1958 as an active dairy farm. Since that time the primary agricultural activity at the LF has been Christmas trees and hay. The Lust and Cassidy residences are served by individual on-site septic systems. The Lust bedrock supply well serves the Lust and Cassidy houses and the outbuildings.

A 1,000 gallon single wall steel underground storage tank (UST) and a 500 gallon single wall steel UST existed on-site near the storage and repair barn. A detailed site map is included as **Figure 2**. These USTs were removed in late October 1995 due to liability concerns. The UST Removal and Closure Form is included as **Appendix A** and describes each of the USTs as being in good to excellent condition and not actively leaking. However, significant levels of PID quantifiable vapors were noted in the UST area (greater than 150 ppm) and a slight sheen was noted on the waters within the bottom of the excavation. Conversations with personnel familiar with UST operations indicated that a significant amount of water entered the 1,000 gallon UST as a result of a broken vent line and significant recharge events one to two years ago. Use of this UST was terminated and the remaining product removed from it. The 500 gallon UST was then used from that point until October 1995. Two 2,000 gallon fuel oil USTs are still located on-site, one adjacent to the Cassidy residence and one adjacent to the Lust residence. According to Erin Lust, these USTs will be removed in the spring prior to property transfer in the summer.

Regional Geology

The area around the LF is described on the Surficial Map of Vermont by Doll in 1970 as glacial till. Bedrock in the area is described as the Underhill and Pinnacle formation schists and dolomites. The location of the LF is on the eastern edge of a sizeable plateau (as shown on **Figure 1**) and landforms surrounding it indicate that the depth to bedrock in this area is greater than 50 feet.

Scope of Investigation

Generally, the scope of work for the Expressway Initial Site Investigation was designed to delineate the extent and degree of petroleum contamination associated with the former gasoline UST area, to identify any potential sensitive receptors nearby the source of contamination, and determine any existing and potential adverse impacts to the receptors. The investigation work has included the following:

- installation of five test pit monitoring wells,



- visual, olfactory, and PID screening and description of the soils penetrated by each test pit,
- a stadia survey of the entire site to generally locate each pertinent site feature and determine their relative elevation,
- PID screening of the Cassidy basement air,
- ground water sampling of the five test pit wells and the bedrock supply well for the site for laboratory analysis to determine the presence and degree of petroleum related contamination,
- monitoring of the ground water elevation and PID headspace in each of the test pit wells and the bedrock supply well,
- identification of potential sensitive receptors in the LF area, and
- review and summarization of all data collected to date.

Investigation Results and Discussion

Five test pits and monitoring wells were installed in the area immediately adjacent to the former gasoline UST area. The locations of the test pits are shown on **Figure 2** as TP-1 through TP-5. The soils in each test pit were descriptively logged and screened by PID and olfactory methods to determine whether gross petroleum contamination was present. When soil description and screening was complete, a hand placed monitoring well was installed in each test pit and backfilled with native materials. Detailed soils description, PID screening, and well construction logs are included in **Appendix B**. Generally, the soils beneath the site are weathered tills characterized by silty fine to medium sands to a depth of between 1 and 5 feet with an associated seasonal water table. Directly below the weathered till materials a more competent silty fine sand till was found with distinct perched seasonal ground water indicators and ground water associated with it. Evidence of high ground water was found within inches of the surface in each of the test pits.

Positive PID readings and olfactory observations of petroleum related contamination were found associated with the soils in TP-1 and TP-2 only. PID readings up to 200 ppm were found from grade to 6 feet below grade. Significant staining of the soils due to the presence of petroleum was also evident in TP-1 and 2. No olfactory or PID quantifiable petroleum contamination was found on the soils in TP-3, 4, or 5.



Upon completion of test pit monitoring well installations, the entire site was stadia surveyed to determine the relative location and elevation of pertinent structures on-site. This data facilitated the generation of the detailed site map presented as **Figure 2**. The data also allowed ground water elevation and contaminant concentration data to be added to the basemap to show the ground flow direction and the contaminant plume size and location.

Ground water elevation data is presented as **Table 1**. As can be seen, ground water elevations are within several inches of grade in each of the wells on-site. No free phase floating product was measured. We believe that ground water elevations fluctuate quite dramatically on-site. This assumption is based on the mottling and textural observations made during test pit well installations and the apparent perched nature of the ground water system. We do not feel that free phase product will be evidenced on-site due to the relatively low PID readings obtained during test pit related soil screening.

The ground water elevation data collected on November 2, 1995 has been utilized to generate the Ground Water Contour Map presented as **Figure 3**. As can be seen, ground water flows from southwest to the northeast at a relatively steep gradient of 0.066 feet/foot. However, the fine grained nature of the soils on-site precludes rapid transport of contaminated ground water despite the high gradient.

PID headspace data was collected from each of the test pit monitoring wells, the Cassidy residence basement and sumps, and the LF bedrock supply well. This data is presented on **Table 2** and confirms the soil screening data collected during test pit well installation. TP-1 and TP-2 gave elevated PID readings of 110 and 188 ppm, respectively. No quantifiable petroleum vapors were measured in TP-3, 4, 5, the bedrock supply well, or the Cassidy basement and sumps. There were no olfactory indications of petroleum related contamination in the Cassidy basement.

Ground water samples were obtained from each of the test pit monitoring wells and the LF bedrock supply well on November 2, 1995. The analytical laboratory reports are presented in **Appendix C** and are summarized on **Table 3**. The data indicates that elevated levels of BTEX contamination are present in TP-1 and TP-2. TP-1 contains 21,370 ppb BTEX and 190 parts per billion (ppb) MTBE. TP-2 contains significantly less BTEX (13,300 ppb) and less than 250 ppb MTBE. No quantifiable petroleum related contaminants were identified in TP-3, 4, 5, or the LF bedrock supply well. An estimate of the areal extent of the dissolved phase petroleum plume is presented on **Figure 4**, the Contaminant Concentration Contour Map for November 2, 1995. The shape and direction of downward migration of the contaminant plume is consistent with the ground water flow directions for the site. The level of dissolved phase contaminants in the heart of the identified plume could potentially cause adverse impacts to the indoor air space of the basement area. However, the current distance



between the plume and the house does not suggest vapor migration into the Cassidy residence basement at any time in the near or reasonably distant future.

A walking survey of the LF area indicates that potential sensitive receptors associated with the soil and ground water related contaminant plume include:

- the Cassidy residence basement and sumps, and
- the LF bedrock supply well.

As has been noted above, the Cassidy residence basement and sumps were screened by PID and olfactory methods and found not to contain petroleum related contamination. **Table 1** indicates that the water level in the Lust bedrock supply well is approximately 15 feet to 20 feet lower than the ground water measured in TPs 1 through 5 indicating a downward flow tendency. However, the perched nature of the ground water in TPs 1 through 5, coupled with the presence of a significant thickness of glacial till in the area leads us to believe that the risk of significant downward migration of petroleum contaminants from the surface towards the bedrock aquifer is minimal.

Conclusions

Considering all of the data collected at the LF to date, we offer the following conclusions:

1. A limited dissolved phase gasoline plume exists beneath the LF as a result of a leaking vent line in the former gasoline UST area.
2. No free phase product is evidenced on-site.
3. No adverse indoor air space impacts have been monitored at the Cassidy residence.
4. No adverse impacts of petroleum contaminants are evidenced in the LF bedrock supply well which serves all of the buildings on-site.
5. The level of dissolved phase contamination seen in the source area and immediately downgradient of the source area are above the VDEC maximum contaminant levels (up to 21,370 ppb BTEX).
6. The current extent of the dissolved phase contaminant plume is minimal.
7. Contaminant plume migration appears to be very slow.
8. Active remediation of the contaminant plume at the LF site is not



warranted at this time.

Recommendations

We believe that the subsurface soil conditions on-site will adequately limit the potential migration of the relatively small contaminant plume measured beneath the LF site. Because there does not appear to be an imminent threat to the indoor air space of the Cassidy residence or the water quality in the LF bedrock supply well we are recommending that the site be monitored on a quarterly basis through the spring of 1996. The data collected should include:

1. ground water elevations in test pits wells 1 through 5 and the Lust bedrock supply well;
2. PID headspace measurement of all wells on-site and the Cassidy basement air spaces;
3. collection of chemical ground water quality samples for laboratory analysis from TP-1 through 5 and the Lust bedrock supply wells; and
4. compilation and brief discussion of the data collected each quarter in quarterly update reports.



Project: Lust Farm
Location: Lincoln, Vermont

Table 1
VDEC Site # n/a
Sheet 1 of 1

Ground Water Elevation/Product Level (feet)

Data Point	TOC	11/02/95				
TP-1	104.70	104.30				
TP-2	102.49	101.24				
TP-3	100.21	99.92				
TP-4	100.45	100.33				
TP-5	101.67	101.63				
Supply Well	100.00	85.37				

Notes:
1 - Elevation datum assumed
2 - Reference elevation is elevation of top of PVC well casing
Light Grey Cell = DRY
Dark Grey Cell = Inaccessible

Photoionization Results (PID - ppm)

Data Point	11/02/95					
TP-1	110					
TP-2	188					
TP-3	BG					
TP-4	BG					
TP-5	BG					
Supply Well	BG					
Cassidy Sumps	BG					
Cassidy Basement	BG					

Notes:
BG - Background
SL - Saturated Lamp

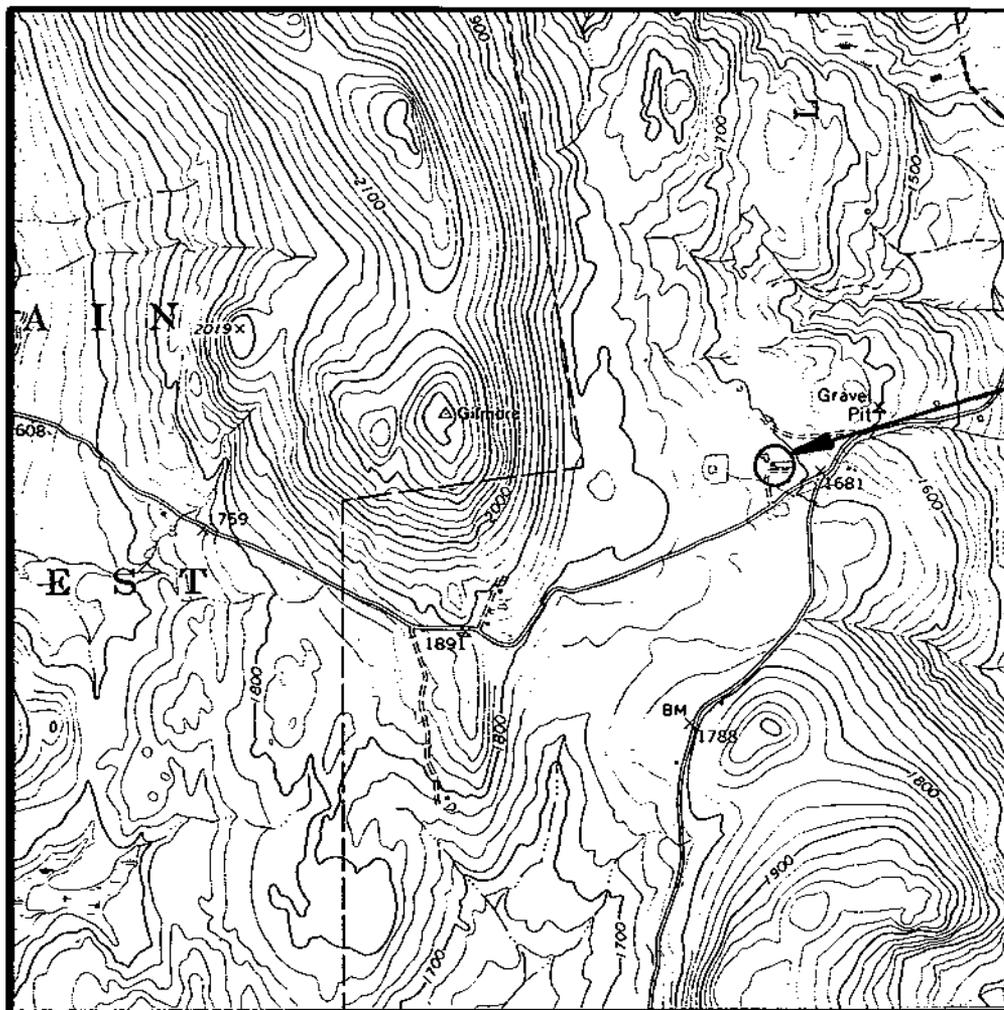
Ground Water Quality Results (ppb)

Data Point	11/02/95					
TP-1	190 21,370					
TP-2	<250 13,300					
TP-3	<5 <6					
TP-4	<5 <6					
TP-5	<5 <6					
Supply Well	<5 <6					

NOTES:
MTBE in upper right corner of cell
BTEX in lower left corner of cell
< - Contaminant not detected at specified detection limit

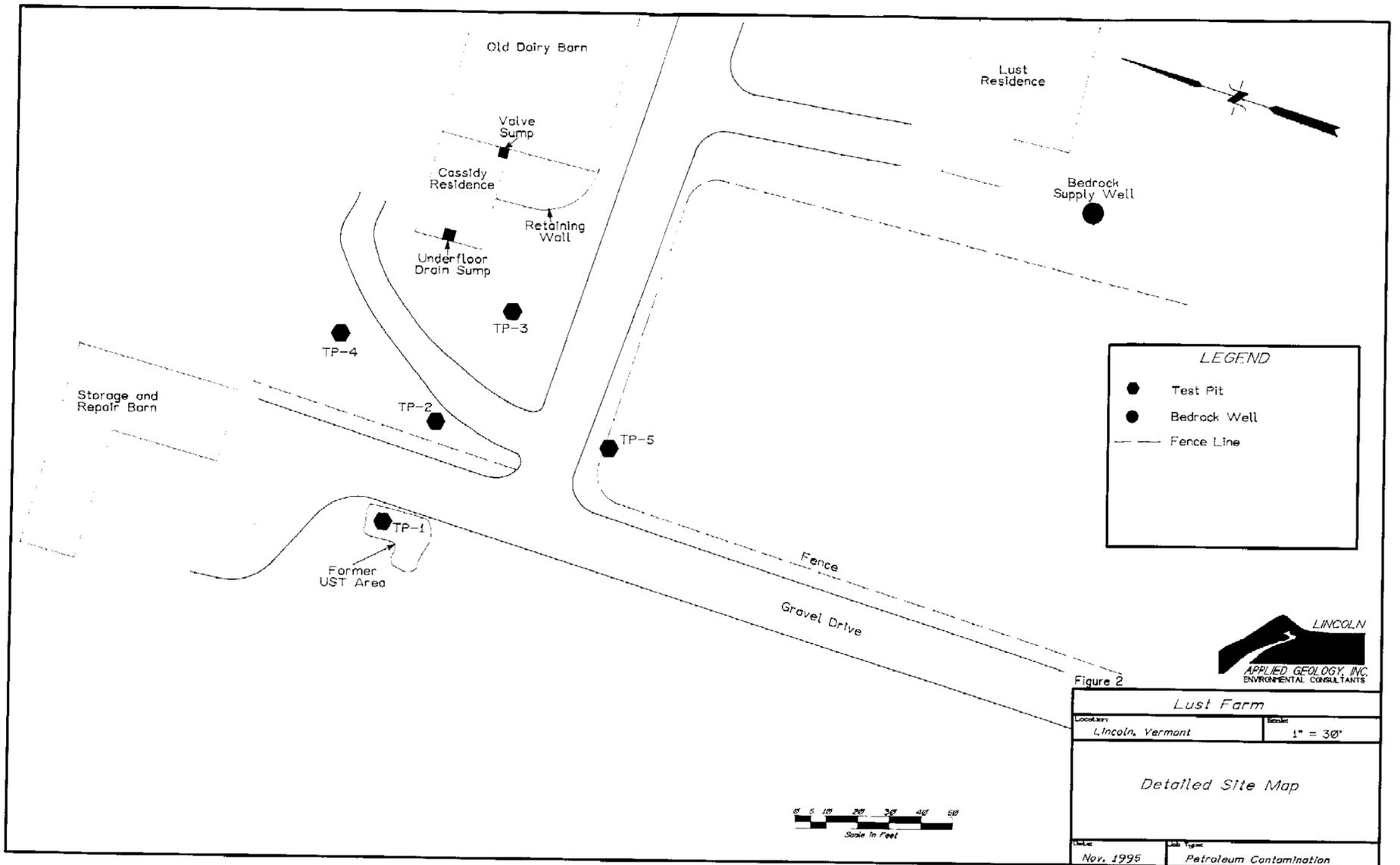
Lust Farm
Lincoln, Vermont

GENERAL LOCATION MAP



Source: U.S.G.S. 7.5 Min
Topo Series
South Mountain, VT Quad.

Scale: 1" = 2,000'



LEGEND

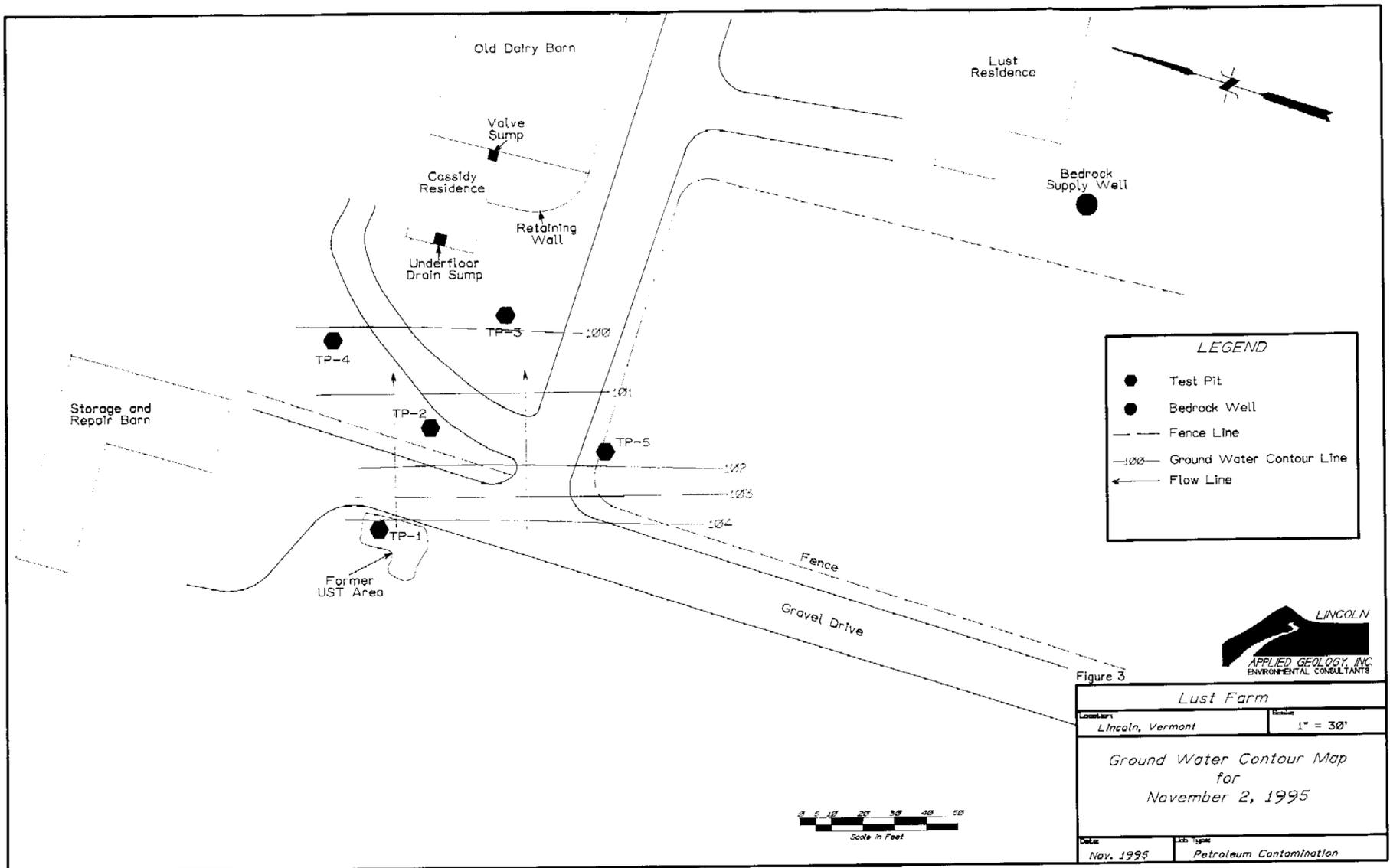
	Test Pit
	Bedrock Well
	Fence Line

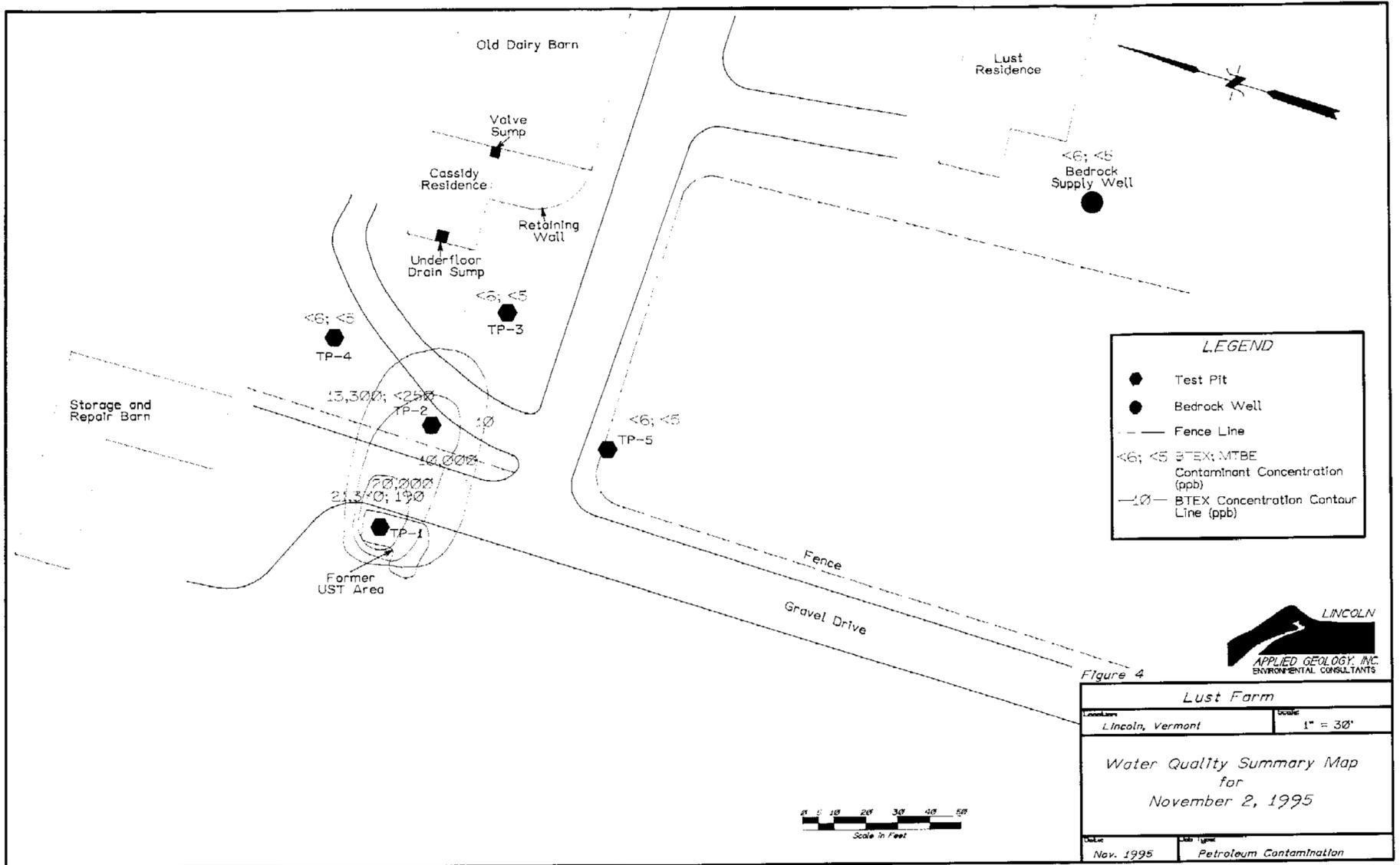


Figure 2

<i>Lust Farm</i>	
Location:	Scale:
Lincoln, Vermont	1" = 30'
<i>Detailed Site Map</i>	
Date:	Job Type:
Nov. 1995	Petroleum Contamination







Appendix A

Underground Storage Tank
Removal and Closure Form



October 24, 1995

Ms. June Middleton
Underground Storage Tank Program
Department of Environmental Conservation
103 South Main Street
Waterbury, Vermont 05671

RE: V.H. Lust Farm - Underground Storage Tank Removal and Closure

Dear Ms. Middleton:

On October 17 and 20, 1995, Lincoln Applied Geology Inc. (LAG) and Masterson Excavating (ME) removed and assessed the two underground gasoline storage tanks (UST's) at the V.H. Lust (VHL) farm in Lincoln, VT.. Attached is the UST removal form. This letter is to serve as the additional narrative report requested in that form. A one thousand gallon (UST #1) and a 550 gallon (UST #2) were used for the fueling of equipment and vehicles associated with the tree farming operations and residential use at the VHL property. Each of the single walled steel UST's were found to be in good condition with little evidence of pitting or corrosion. This is shown in the attached photographs 1 and 2. Discussions with the VHL caretaker, Mr. Lee Cassidy, indicated that UST #1, had taken on a significant volume of water approximately 2 years ago and was taken out of service. It was hypothesized at the time that a leaking vent line connection on the top of the UST allowed water into the tank. Inspection of the UST #1 bungs indicated that this was most probably the case.

Elevated levels of petroleum related vapors were measured throughout the UST area (up to 200 parts per million). The contaminated soils consist primarily of silty very fine sands which are saturated from approximately one foot to the full depth of the excavation (4 feet). All soils removed during UST excavations were backfilled into the UST excavation. Prior to backfilling, a monitoring well was installed at a depth of approximately 7 feet below grade. The monitoring well consists of 5 feet of 0.020" slot well screen and sufficient riser.

In an effort to further delineate the extent of gross soil and ground water contamination, five additional test pits were installed on-site. Test pits were installed and assessed on 10-20-95 by LAG and ME. The general locations of the additional test pits are shown on the attached figure. Each test pit was advanced to a depth of 7 feet below grade and a monitoring well was installed in each. Each of the monitoring wells consist of 5 feet of 0.020" factory slotted screen and sufficient solid riser. Generally the soils encountered in each of the test pits are similar to that of the UST area. Positive evidence of petroleum contamination was given in Test Pit #2 at a level

Ms. June Middleton
Page 2
October 24, 1995

of 200 ppm by PID. Staining of the soils and a distinct old gasoline odor was associated with this test pit.

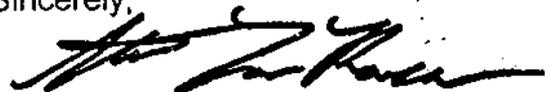
The basement of the Cassidy residence was also screened with an HNU photoionization device and gave background readings. A water supply valve pit and underfloor drainage pit were also screened and gave background readings.

The VHL and Cassidy drinking water supply well is located approximately 240 feet from the UST area. The bedrock well is located adjacent to the Lust Residence shown in photograph #3. The next nearest water supply is approximately 0.25 miles away.

We believe that the current test pit monitoring well array will adequately define and delineate the extent and magnitude of contamination associated with this site. We are currently planning to use the Expressway method of site investigation and have included the notification form with this document. Also included is a statement from the VHL's insurance company stating that there is no coverage for the UST related contamination.

We will be submitting the Expressway summary report in the appropriate time frame. Please feel free to contact me at 453-4384 with any questions or concerns you have regarding the site.

Sincerely,



Steven LaRosa
Hydrogeologist

SL/lr
Enclosure
cc: M. Lust
L. Cassidy
R. Spiese



Lincoln Applied Geology, Inc.
Environmental Consultants

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



GAINES INSURANCE AGENCY, INC.

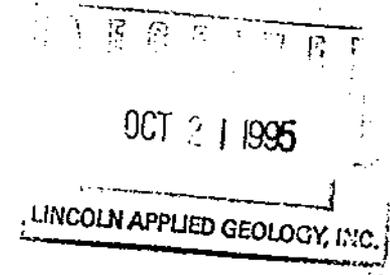
THEODORE G. MURIN
SCOTT W. GAINES, CIC, AAI
GARY R. GAINES

BEVERLY J. NORTON
KATHLEEN M. TIERNEY, CISR

JODY L. DELISLE
JOYCE N. TERRANOVA

October 20, 1995

Lincoln Applied Geology
c/o Steve Larosa
RD #1 Box 710
Bristol, VT 05443



Subject: Pollution Coverage For Underground Tanks

Dear Steve,

I received a call from Marianne Lust today requesting confirmation of coverage on a farm pac policy for Erika Lust - Pol# 21427P with Co-Operative Fire Insurance. This letter is to confirm that the above noted policy has an underground tank pollution exclusion endorsement CO-541. I have attached a copy of this exclusion for your review. If you need any further information regarding this exclusion please give me a call. Thanks.

Sincerely,

Scott W. Gaines, CIC

Encl.

cc: Marianne Lust

UNDERGROUND TANK-POLLUTION EXCLUSION

This endorsement modifies the insurance as is afforded by the following:

- Farmers Comprehensive Personal Liability Insurance
- Farmers Umbrella Liability Insurance

This policy excludes any and all claims or losses arising out of the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkaline, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants from underground gasoline or diesel fuel storage tanks.

This includes any tanks located on the INSURED PREMISES or any tanks for which the INSURED is responsible.

All other terms of this policy apply.

State of Vermont

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation

Hazardous Materials Management Division
103 South Main Street/West Office
Waterbury, Vermont 05671-0404
(802) 241-3888
FAX (802) 244-6141

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
State Resources Conservation Council
TDD SERVICE FOR THE HEARING IMPAIRED
800-33-0191 TDD-Voice
800-253-0195 Voice-TDD

SITE INVESTIGATION EXPRESSWAY NOTIFICATION

Site Owner: V.H. Lust

Site Name, Town: Lust Farm, Lincoln, VT.

Yes, this site will participate in the Site Investigation Expressway Process.

No, this site will not participate in the Site Investigation Expressway Process.

If yes, please complete the checklist below:

Contamination present in soils above action levels Yes No

If yes, summarize levels:

PID up to 200 ppm

Free product observed Yes No

Groundwater contamination observed Yes No

Surface water contamination observed Yes No

Suspected release of hazardous substances Yes No

If yes, please explain:

Affected receptors Yes No

If yes, please identify receptors including names and addresses of third party receptors:

Soil and ground water

Please provide an estimated date of when you expect to submit Site Investigation Report: 12-4-95

UNDERGROUND STORAGE TANK PERMANENT CLOSURE FORM

AGENCY USE ONLY
 Sched. closure date: NOT SCH.
 Facility Town: LINCOLN
 City ID#: 760
 Official: S.C.T.
 Evaluated by: _____

VERMONT AGENCY OF NATURAL RESOURCES
 DEPT. OF ENVIRONMENTAL CONSERVATION
 HAZARDOUS MATERIALS MANAGEMENT DIV.
 103 SOUTH MAIN STREET, WEST BUILDING
 WATERBURY, VERMONT 05671-0404
 TELEPHONE: (802) 241-3888

Company conducting site assessment: Lincoln Applied Geology
 Person conducting site assessment: Steven LaRosa
 Telephone number of company for person: 453-4384
 Date of UST closure: 10/17/95
 Date of site assessment: 10/17 & 10/20/95

The Closure Form may only be used for the facility and date indicated in the upper left hand corner. Changes in the scheduled closure date should be phoned in at least 48 hours in advance. Both the yellow and white copies must be returned to the above address; the pink copy should be retained by the UST owner. A written report from an environmental consultant covering all aspects of closure and site assessment, complete with photographs and any other relevant data, must accompany this form. All procedures must be conducted by qualified personnel - including training required by 29 CFR 1910.120. Documentation of all methods and materials used must be adequate. All work must be performed in compliance with DEC policy "UST Closure and Site Assessment Requirements" as well as all applicable statutes, regulations, and additional policies. The DEC may reject inadequate closure forms and reports.

Section A. Facility Information:

Name of Facility: V.H. LUST FARM Number of Employees: 2
 Street address of facility: 1540 Upper Notch Road, Lincoln, Vermont
 Owner of UST(s) to be closed: Erika Lust
 Name of Contact and telephone number if different from owner: Lee Cassidy 453-2894
 Mailing address of owner: 1540 Upper Notch Road, Bristol, Vermont 05443
 Telephone number of owner: 453-3583

Section B. UST Closure Information: (please check one)

Reason for initiating UST Closure: Suspected Leak Liability Replacement Abandoned
 Which portion of UST is being closed: Tanks Piping Tanks & Piping

USTs undergoing permanent closure. Include condition and if leaks were found:

UST#	Product	Size (gallons)	Tank age	Tank condition	Piping age	Piping condition
<u>1</u>	<u>gasoline</u>	<u>1,000</u>	<u>>20</u>	<u>good</u>	<u>> 20</u>	<u>poor</u>
<u>2</u>	<u>gasoline</u>	<u>550</u>	<u>12 years</u>	<u>good</u>	<u>12</u>	<u>good</u>

Which tanks, if any, will be closed in-place (must have approval from DEC) none

Disposal/destruction of removed UST(s):
 Location Carters Salvage - Bristol Date 10/23/95 Method scrap Date future

Amount (gal.) and type of waste generated from USTs: 30 gallons
 Tank cleaning company (must be trained in confined space entry): MacIntyre Fuels

Certified hazardous waste hauler (check contents are hazardous waste unless recovered and reusable product): Pollution Solutions - scheduled for
 Hazardous waste generator ID number: _____ week of 10/23/95

USTs not closed. This portion must be filled in to include all USTs, regardless of size, and status, *whether "abandoned", "in use", "to be installed", or "not aware of any other tanks on-site". Remember: most new installations require permits and advance notice to this office.

UST#	Product	Size (gallons)	Tank age	*Tank Status	Piping Age	*Piping Status
<u>4</u>	<u>fuel oil</u>	<u>2,000</u>	<u>>20</u>	<u>in use</u>	<u>> 20</u>	<u>in use</u>
<u>5</u>	<u>fuel oil</u>	<u>2,000</u>	<u>> 20</u>	<u>in use</u>	<u>> 20</u>	<u>in use</u>

Section C. Initial site characterization:

Work in this section must be completed by a professional environmental consultant or hydrogeologist with experience in environmental sampling for the presence of hazardous materials. A full report from the consultant must accompany this form.

Excavation size (ft³): 150 Excavation depth (ft): 4 Soil type: silty fine sand Bedrock depth (ft): unknown
 PI. Information: Make: HNU Model: PI 101

PID Calibration information: Date 10/17/95 Time 0800 Type of Gas isobutylene
 Contamination detected with PID (ppm): Peak 200 Depth of peak (ft) 4' Avg 100
 So samples collected for laboratory analysis? Yes _____ # of samples _____ No x
(show locations and depth of all readings and samples on diagram)

Have soils been polyencapsulated on site? Yes _____ list amount (cu yds): _____ No x
 Have any soils been transported off site? Yes _____ list amount (cu yds): _____ No x
 Location transported to: _____
 Name of DEC official granting approval to transport soils: _____ Date: 1/1
 Amount of soils backfilled (cu yds): 40 Avg. PID 100
 Have limits of contamination been defined? Yes _____ No x
 Are you aware of any other contaminants which may be present? Yes _____ No x
 Comments: _____

Free phase product encountered? Yes _____ thickness _____ No x
 Groundwater encountered? Yes x depth(ft) 1' No _____

Were there existing monitoring wells on site? Yes _____ (# samples taken _____) No x
 Have new monitoring wells been installed? Yes x (# samples taken 0) No _____ test pit wells
 Samples collected from monitoring wells for lab analysis? Yes _____ No x
(include well location, headspace readings, and laboratory results if applicable in a separate report and on the site diagram)
 Is there a water supply well or spring on site? Yes x (check type: shallow _____ rock x spring _____) No _____
 How many public water supply wells are located within a 0.5 mile radius? 0 min. distance (ft): _____
 How many private water supply wells are located within a 0.5 mile radius? 3 min. distance (ft): 300'
 What receptors have been impacted? x soil _____ indoor air x groundwater _____ surface water _____ water supply _____

Section D. Statements of UST closure compliance: (must have both signatures if site assessment not complete) x
 As the party responsible for compliance with the Vermont UST Regulations and related statutes at this facility, I hereby certify that all of the information provided on this form is true and correct to the best of my knowledge.

[Signature]
 Signature of UST owner or owner's authorized representative

Date: Oct, 20, '95

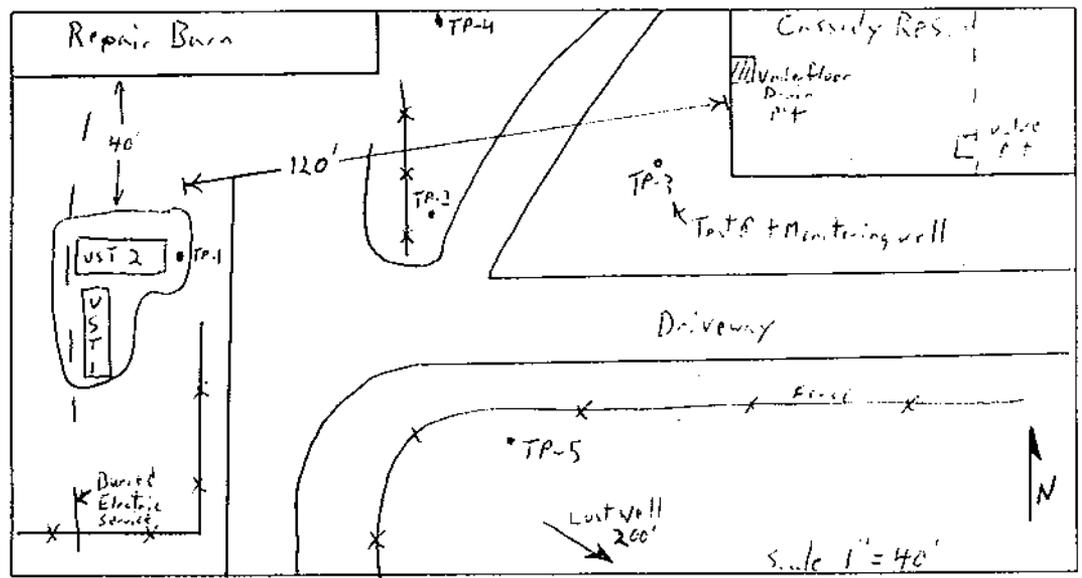
As the environmental consultant on site, I hereby certify that the site assessment requirements were performed in accordance with DEC policy and regulations, and that information which I have provided on this form is true and correct to the best of my knowledge.

[Signature]
 Signature of Environmental Consultant

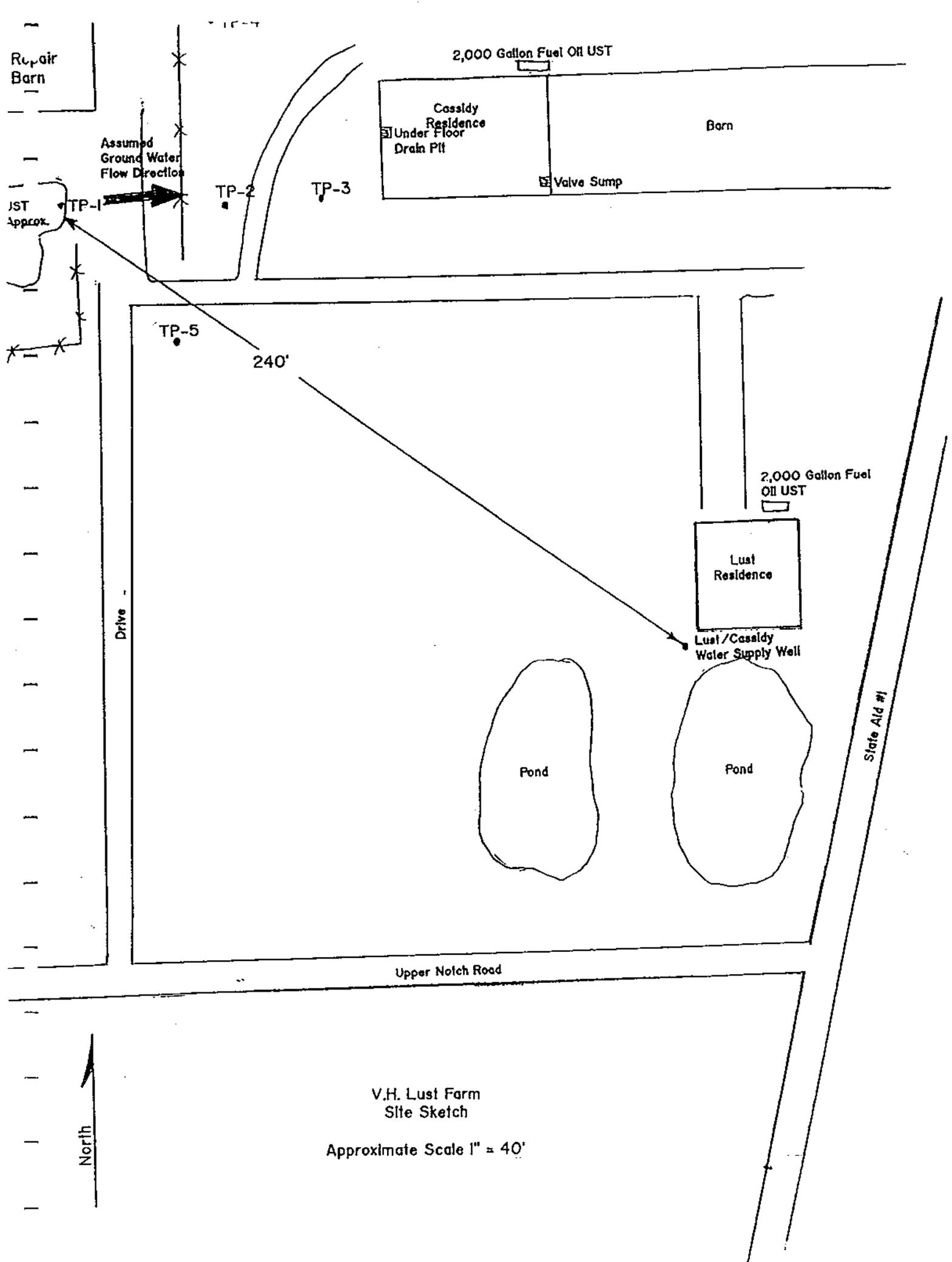
Date: Oct. 23, 1995

SITE DIAGRAM

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



Return form along with complete narrative report and photographs to the Department of Environmental Conservation, Underground Storage Tank Program within 72 hours of closure.



Repair Barn

2,000 Gallon Fuel Oil UST

Cassidy Residence
Under Floor Drain Pitt

Barn

Valve Sump

Assumed Ground Water Flow Direction

JST Approx.

TP-2

TP-3

TP-5

240'

2,000 Gallon Fuel Oil UST

Lust Residence

Lust/Cassidy Water Supply Well

Pond

Pond

Drive

State Aid #1

Upper Notch Road

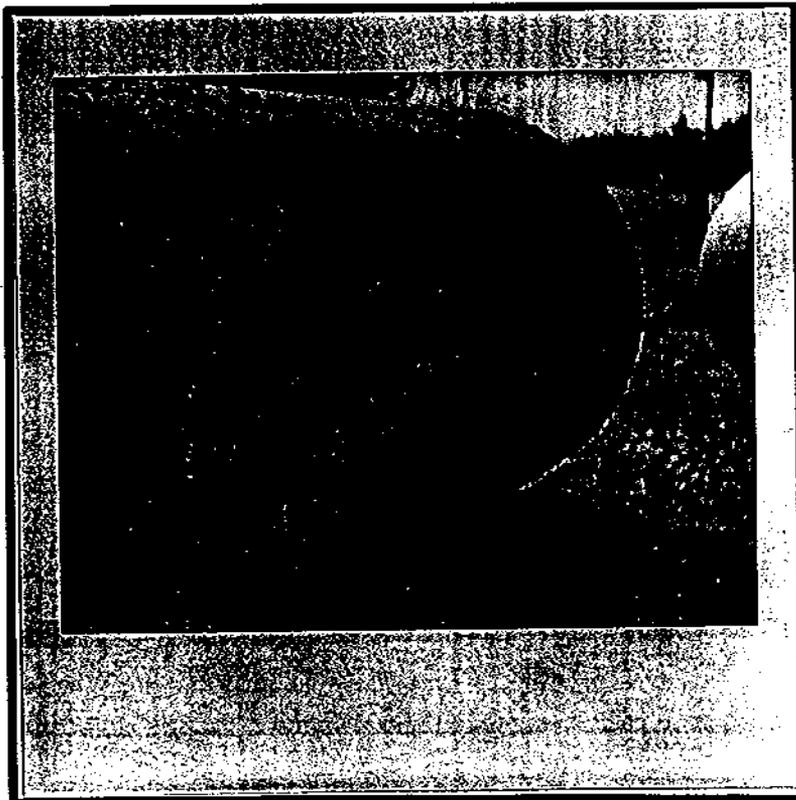
North

V.H. Lust Farm
Site Sketch

Approximate Scale 1" = 40'



Photograph #1
UST #1



Photograph #2
UST #2



Photograph #3
UST Area and LUST Residence

Appendix B

Well Logs

WELL LOG

WELL: TP-1
LOCATION: Lust Farm - UST Area
EXCAVATOR: Masterson and Son Excavating, Inc.
HYDROGEOLOGIST: Steven LaRosa, Lincoln Applied Geology, Inc.
DATE: October 17, 1995

Soils Description: (BG = Background [0.0], SL = Saturated Lamp [>500], ppm = Parts Per Million)

<u>Depth</u>	<u>Description</u>	<u>PID (ppm)</u>
0 - 2.2'	Black fine sandy <u>fill</u> . Ten percent 1" fragments. Saturated at 2.0'.	200
2.2' - 3.2'	Saturated, black very fine sandy <u>loam</u> . Peat like texture.	100
3.2' - 7.0'	Saturated, grey and brown till derived <u>fine sand</u> with silt. Sheen on water.	100 @ 4'

Well Construction:

Bottom of Boring: 7'
Bottom of Well: 7'
Well Screen: 5' of 2" 0.020" slot PVC
Solid Riser: 2' of 2" solid PVC
Sand Pack: None
Bentonite Seal: None
Backfill: 7' - 0
Well Box: Flush

WELL LOG

WELL: TP-2
LOCATION: Lust Farm 40' east of TP-1
EXCAVATOR: Masterson and Son Excavating, Inc.
HYDROGEOLOGIST: Steven LaRosa, Lincoln Applied Geology, Inc.
DATE: October 20, 1995

Soils Description: (BG = Background [0.0], SL = Saturated Lamp [>500], ppm = Parts Per Million)

<u>Depth</u>	<u>Description</u>	<u>PID (ppm)</u>
0 - .50'	Topsoil.	BG
.5' - 1.5'	Moist, olive, mottled <u>silty very fine sand</u> .	BG
1.5' - 2.0'	Moist, orange, pebbly <u>fine sand</u> .	1.0
2.0' - 3.5'	Saturated, black stained <u>silty medium sand</u> .	200
3.5' - 6.0'	Saturated, olive stoney <u>very fine sand</u> with silt. Till derived.	150 90 @ 6'

Well Construction:

Bottom of Boring: 6'
Bottom of Well: 6'
Well Screen: 5' of 2" 0.020" slot PVC
Solid Riser: 1' of 2" solid PVC
Sand Pack: None
Bentonite Seal: None
Backfill: 7' - 0
Well Box: Flush

WELL LOG

WELL: TP-3
LOCATION: Lust Farm 40' east of TP-2
EXCAVATOR: Masterson and Son Excavating, Inc.
HYDROGEOLOGIST: Steven LaRosa, Lincoln Applied Geology, Inc.
DATE: October 20, 1995

Soils Description: (BG = Background [0.0], SL = Saturated Lamp [>500], ppm = Parts Per Million)

<u>Depth</u>	<u>Description</u>	<u>PID (ppm)</u>
0 - 1.0'	Topsoil.	BG
1' - 2.0'	Moist, orange/medium brown <u>fine to medium sand</u> with silt and pebbles.	BG
2.0' - 7.0'	Saturated, olive <u>silty very fine sand</u> .	BG

Well Construction:

Bottom of Boring: 7'
Bottom of Well: 7'
Well Screen: 5' of 2" 0.020" slot PVC
Solid Riser: 2' of 2" solid PVC
Sand Pack: None
Bentonite Seal: None
Backfill: 7' - 0
Well Box: Flush

WELL LOG

WELL: TP-4
LOCATION: Lust Farm - 30' north of TP-2
EXCAVATOR: Masterson and Son Excavating, Inc.
HYDROGEOLOGIST: Steven LaRosa, Lincoln Applied Geology, Inc.
DATE: October 20, 1995

Soils Description: (BG = Background [0.0], SL = Saturated Lamp [>500], ppm = Parts Per Million)

<u>Depth</u>	<u>Description</u>	<u>PID (ppm)</u>
0 - 1'	Topsoil.	BG
1' - 7'	Olive/tan <u>silty very fine sand</u> . Saturated at 3'. Little to no silt or pebbles.	BG

Well Construction:

Bottom of Boring: 7.5'
Bottom of Well: 7.5'
Well Screen: 5' of 2" 0.020" slotted PVC
Solid Riser: 2.5' of 2" solid PVC
Sand Pack: None
Bentonite Seal: None
Backfill: 7.5' - 0
Well Box: Flush

WELL LOG

WELL: TP-5
LOCATION: Lust Farm, 60' south of TP-2
EXCAVATOR: Masterson and Son Excavating, Inc.
HYDROGEOLOGIST: Steven LaRosa, Lincoln Applied Geology, Inc.
DATE: October 20, 1995

Soils Description: (BG = Background [0.0], SL = Saturated Lamp [>500], ppm = Parts Per Million)

<u>Depth</u>	<u>Description</u>	<u>PID (ppm)</u>
0 - .5'	Topsoil	BG
.5' - 1'	Tan coarse <u>sandy gravel</u> .	BG
1' - 1.5'	Moist, brown, <u>silty fine sand</u> , mottled.	BG
1.5' - 3.0'	Saturated black/olive silty very fine sand with 10% fragments.	BG
3.0' - 6.0'	Saturated, olive silty very fine sand with 10% fragments.	BG

Well Construction:

Bottom of Boring: 6'
Bottom of Well: 6'
Well Screen: 5' of 2" 0.020" slot PVC
Solid Risèr: 1' of 2" solid PVC
Sand Pack: None
Bentonite Seal: None
Backfill: 6' - 0
Well Box: Flush

Appendix C

Water Quality Results

NOV 17 1995

Green Mountain Laboratories, Inc.

RR#3 Box 5210
Montpelier, Vermont 05602

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Fax (802) 223-8688

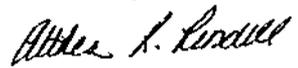
LABORATORY RESULTS

CLIENT NAME:	Lincoln Applied Geology	REF #:	0284
ADDRESS:	RD #1 Box 710 Bristol, VT 05443	PROJECT NO.:	not given
SAMPLE LOCATION:	Lust Farm	DATE OF SAMPLE:	11/2/95
SAMPLER:	Brian C.	DATE OF RECEIPT:	11/3/95
		DATE OF ANALYSIS:	11/6/95-11/9/95
ATTENTION:	Steve LaRosa	DATE OF REPORT:	11/15/95

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

- Water samples submitted for VOC analysis were preserved with HCl. The trip blank was prepared by the client from reagent water supplied by the laboratory.
- Specimens were processed and examined according to the procedures outlined in the specified method.
- Holding times were honored.
- Instruments were appropriately tuned and calibrations were checked with the frequencies required in the specified method.
- Blank contamination was not observed at levels interfering with the analytical results.
- Continuing calibration standards were monitored at intervals indicated in the specified method. The resulting analytical precision and accuracy were determined to be within method QA/QC acceptance limits.
- The efficiency of analyte recovery for individual samples was monitored by the addition of surrogate analytes to all samples, standards, and blanks. Surrogate recoveries were found to be within laboratory QA/QC acceptance limits, unless noted otherwise.

Reviewed by:



Althea L. Lindell
Director, Chemical Services

Green Mountain Laboratories, Inc.

RD#1, Box 5210
Montpelier, Vermont 05602

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Fax (802) 223-8688

LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Lust Farm	GML REF.#:	284
REPORT DATE:	11/15/95	STATION:	Supply Well
DATE SAMPLED:	11/2/95	TIME SAMPLED:	1420
DATE RECEIVED:	11/3/95	SAMPLER:	Brian C.
ANALYSIS DATE:	11/6/95	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
MTBE	5	ND

Surrogate % Recovery: 87.5%

ND = Not Detected.

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LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Lust Farm	GML REF.#:	284
REPORT DATE:	11/15/95	STATION:	TP-1
DATE SAMPLED:	11/2/95	TIME SAMPLED:	1425
DATE RECEIVED:	11/3/95	SAMPLER:	Brian C.
ANALYSIS DATE:	11/6/95 & 11/9/95	SAMPLE TYPE:	Water

PARAMETER	PQL ($\mu\text{g/L}$)	Conc. ($\mu\text{g/L}$)
Benzene	10	570
Toluene	10	7100*
Ethylbenzene	10	1700
Xylenes	30	12000*
MTBE	50	190

Surrogate % Recovery: 78.8%

ND = Not Detected.

* Samples were run at a higher dilution to bring the concentration into the linear range of the concentration curve.

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LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Lust Farm	GML REF.#:	284
REPORT DATE:	11/15/95	STATION:	TP-2
DATE SAMPLED:	11/2/95	TIME SAMPLED:	1430
DATE RECEIVED:	11/3/95	SAMPLER:	Brian C.
ANALYSIS DATE:	11/9/95	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	50	2100
Toluene	50	3700
Ethylbenzene	50	1400
Xylenes	150	6100
MTBE	250	ND

Surrogate % Recovery: 97.9%

ND = Not Detected.

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LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Lust Farm	GML REF.#:	284
REPORT DATE:	11/15/95	STATION:	TP-3
DATE SAMPLED:	11/2/95	TIME SAMPLED:	1440
DATE RECEIVED:	11/3/95	SAMPLER:	Brian C.
ANALYSIS DATE:	11/9/95	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
MTBE	5	ND

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Surrogate % Recovery: 98.8%

ND = Not Detected.

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LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Lust Farm	GML REF.#:	284
REPORT DATE:	11/15/95	STATION:	TP-4
DATE SAMPLED:	11/2/95	TIME SAMPLED:	1450
DATE RECEIVED:	11/3/95	SAMPLER:	Brian C.
ANALYSIS DATE:	11/9/95	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
MTBE	5	ND

Surrogate % Recovery: 98.5%

ND = Not Detected.

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LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Lust Farm	GML REF.#:	284
REPORT DATE:	11/15/95	STATION:	TP-5
DATE SAMPLED:	11/2/95	TIME SAMPLED:	1455
DATE RECEIVED:	11/3/95	SAMPLER:	Brian C.
ANALYSIS DATE:	11/9/95	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
MTBE	5	ND

Surrogate % Recovery: 101%

ND = Not Detected.

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LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

CLIENT NAME:	Lincoln Applied Geology	PROJECT CODE:	not given
PROJECT NAME:	Lust Farm	GML REF.#:	284
REPORT DATE:	11/15/95	STATION:	trip
DATE SAMPLED:	11/2/95	TIME SAMPLED:	1540
DATE RECEIVED:	11/3/95	SAMPLER:	Brian C.
ANALYSIS DATE:	11/6/95	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
MTBE	5	ND

Surrogate % Recovery: 90.3%

ND = Not Detected.

