



July 9 10:26 AM '98

WASTE MANAGEMENT
DIVISION
July 8, 1998

Chuck Schwer, Supervisor
Waste Management Division
Sites Management Section
103 S Main St./West Building
Waterbury, VT 05676-0404

Re: Robert Greene, Inc.
SMS #97-2314
DH 4080064

Dear Mr. Schwer:

Enclosed is our Initial Site Investigation for the Robert Greene, Inc. property in Bennington, Vermont. The work was performed in response to your letter of April 23, 1998, per the work plan approved by your letter of May 19, 1998.

We look forward to your review comments and anticipate approval of our recommendation that quarterly groundwater monitoring be initiated at this site. Please feel free to call to discuss this report.

Very truly yours,

DUFRESNE-HENRY, INC.

F. David Deane, P.E.
Environmental Services

FDD/dim
Enclosure
cc Robert Greene
RobtGreeneSMSTran070898

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

**INITIAL
SITE INVESTIGATION**

**Robert Greene, Inc.
Bennington, VT 05201**

SMS Site #97-2314

**A Facility Owned By:
Robert Greene
399 North Branch Street
Bennington, VT 05201
(802) 442-2705
Contact: Robert Greene**

**Prepared By:
Dufresne-Henry, Inc.
Precision Park
North Springfield, VT 05150
(802) 886-2261
Contact: F. David Deane, P.E.**

June 26, 1998

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EXECUTIVE SUMMARY

An Initial Site Investigation has been completed at Robert Greene, Inc. in Bennington, Vermont. The investigation was in response to the discovery of a petroleum product release during a Tank Closure Assessment in November 1997. The subjects were one (1) 2,000 gallon gasoline and one (1) 4,000 gallon diesel UST's. PID readings up to 200 ppm were observed. The majority of the contamination was attributed to a leaking joint in the dispenser.

Four shallow groundwater monitoring wells were installed on the site in May 1998. All of the monitoring wells were sampled and analyzed for BTEX and MTBE by EPA Method 602(mod) and for TPH by EPA Method 8100(mod). The analysis found concentrations of BTEX and MTBE in the well near the former dispenser that are well in excess of the Vermont Enforcement Standard. Low level concentrations of BTEX were found in two of the downgradient wells. MTBE in excess of the Standard was found in one of those wells. TPH above method detection limits was found only in the well near the former dispenser.

Soils in the vicinity of the borings are generally sandy gravel and gravelly sand. The permeability is judged to be moderately high. The depth to bedrock is not known. Based on a single round of sounding, the direction of groundwater flow is to the southwest.

Evidence of gasoline contaminated soil was found in the vicinity of the former gasoline dispenser. The areal extent appears to be limited. Several feet of contaminated soil was observed near the surface in one of the downgradient borings. It appeared to be the result of minor spills.

All of the properties topographically lower than the site are on the municipal water supply system. Structures on Chapel Road are not on the municipal supply, but are at significantly higher elevations. Morgan Spring, which is one of the sources for the municipal system is approximately 4,200 feet south of the site and on the opposite side of the Roaring Branch. The nearest surface water is a brook on the southerly portion of the property. It is within 100 feet of the former tanks and dispenser. The on-site building has a slab on grade foundation. It is not expected that any of these receptors have been impacted.

Based on these findings, the site does not meet the SMS criteria for corrective actions at this time. Due to the presence of a sheen in MW-2 and elevated MTBE concentrations in a downgradient well, it is recommended that a quarterly site monitoring program be initiated for a period of one year. Samples should be obtained from all four monitoring wells, and analyzed for BTEX and MTBE by EPA Method 8021. Analysis for TPH is not warranted. After each round of sampling the data will be evaluated to determine whether groundwater conditions have deteriorated or improved, and whether additional actions, or a reduction in sampling frequency is justified. Particular attention should be paid to the occurrence of free product in MW-2.

**INITIAL SITE INVESTIGATION
ROBERT GREENE, INC.
BENNINGTON, VERMONT**

Introduction

Robert Greene, Inc. is located on North Branch Street Ext. in Bennington, Vermont. A site location map is included as Appendix A.

An Underground Storage Tank (UST) Closure Assessment was performed at the site by Griffin International in November 1997. At that time one (1) 2,000 gallon gasoline and one (1) 4,000 gallon diesel UST's were removed. The closure assessment indicated PID readings up to 200 parts per million (ppm) in soil below the water table. All soil was backfilled pending additional investigation.

Work and Health and Safety Plans

As a result of the findings of the Tank Closure Assessment, the Vermont Sites Management Section (SMS) requested that a site investigation be conducted at the site in a letter dated April 23, 1998. A copy of our Professional Services Agreement was forwarded to the SMS on May 14, 1998. The cover letter indicated that all work would be performed following the protocols and costs established for Petroleum Cleanup Fund (PCF) reimbursement. Dufresne-Henry prepared a Health and Safety Plan for the proposed activities at the site. Copies of these documents will be found in Appendix B. The remainder of this report describes the on-site activities and subsequent findings of the investigation.

Site Description

Greene's Oil is located at the intersection of North Branch Street Extension and Chapel Road in Bennington, Vermont. The 1.024 acre parcel consists of an office and garage building, two (2) large Aboveground Storage Tanks (AST's), the pumps and valves for the AST's, a recently

installed UST and pump island, and a large gravel parking lot. There are two AST's for waste oil storage on the exterior of the northerly garage wall. Vent and fill pipes for an apparent UST are located near the southwest corner of the building. A small stream parallels much of the southern property line, and follows the western property line in a culvert. The majority of the site encompassed by the gravel parking area is relatively flat. The AST's occupy a bench cut into a hillside at a higher elevation. The site is served by the municipal water supply and sewer systems. Surrounding land use is residential.

The two former UST's were located to the north of the north corner of the garage. The age of the tanks is not known. The owner stated that the contamination observed was the result of a leaking joint in the dispenser located at the north corner of the garage.

Site History

The history of the site is not known, but is believed to have been owned by Mr. Greene for many years. The site is currently used for the bulk storage and distribution of heating oil. Vehicle maintenance is also performed on the property. It is expected that the usual assortment of automotive fluids, cleaners, etc are stored on the site. Waste oil is stored in one or more of the AST's located along the exterior of the northern building wall.

The most recent (April 1998) Vermont Hazardous Waste Sites List maintained by the Hazardous Materials Management Division (HMMD) contains 41 other sites in Bennington. At least two of the sites are within a one-half mile radius of the subject property. None of the sites are expected to have any impact on the Greene property.

Monitoring Well Installation

Four (4) shallow groundwater monitoring wells were installed on May 29, 1998 by M & W Soils Engineering, Inc. of Charlestown, New Hampshire. All borings and well installations were under the field observation of Dufresne-Henry personnel. The wells are designated MW-1 through MW-4. Well MW-1 is located southwest of the former tanks. Well MW-2 is located just southwest of the former dispenser on the north corner of the garage. Well MW-3 is located

west of the former UST's. Well MW-4 is located southeast of the new UST and pump island. All of the borings were completed in soil undisturbed by the UST closure. A site sketch showing the well locations is included as Appendix C. Logs of the borings are included in Appendix D.

During boring advancement split spoon soil samples were taken at various intervals as determined by the Dufresne-Henry inspector. All soil samples were screened for the presence of Volatile Organic Compounds (VOC's) with a Photovac MicroTIP HL-2000 photoionization detector (10.6 eV lamp, calibrated on-site with 100 ppm Isobutylene). The screening was done at ambient temperatures.

↑ headspace screening??

In well MW-1, no evidence of contamination by visual or olfactory senses was observed. PID readings ranged from 0 ppm to 2.3 ppm. In well MW-2, faint - moderate petroleum odors were observed from 2' to approximately 8'. Peak PID readings ranged from 650 ppm to 2,500+ ppm. Sustained readings of 100+ ppm were common. In well MW-3 faint petroleum odors were observed from approximately 2' to approximately 4'. The peak PID reading was 16 ppm. No evidence of contamination by visual or olfactory senses was observed in MW-4. A PID reading of .5 ppm was observed from the 7' - 9' sample. In wells MW-1, MW-2, and MW-3 the general geologic column consists of gravelly sand and sandy gravel, with occasional cobbles or boulders. Peat was observed in MW-3 between 4'6"± and 5'3"±. In MW-4, fill material was observed in the upper 5', followed by approximately 1' of peaty sand, then sand and gravel to the limit of the boring. The water table was encountered at approximately 4'. Bedrock was not encountered at any location.

Two-inch diameter PVC monitoring wells were installed in each of the borings. Each well was constructed from .010" machine slotted screen. The screened interval is 10' in wells MW-1, MW-3, and MW-4, and 8' in well MW-2. Each well was backfilled with clean silica sand to a point above the screen and a bentonite seal installed. The wells were protected at the ground surface by grouting in watertight cast iron monitoring well boxes. All of the wells were developed by using a surge block and a manually operated pump. Evacuated water was disposed of on the ground at the well location. Excess clean soil was spread on-site. Excess contaminated soil was stored on-site near the eastern waste oil AST.

↑ on-site soil
3 contain.

Site Geology

Surficial geology at the site is published as till or outwash. The site is located at the bottom of a hill to the north and east, and flat terrain to south and west. The topography suggests the site is likely near the contact between the two deposits. The sand and gravel on the site are consistent with glacial outwash. It is likely that the area near the large AST's and further up the hill is till. Portions of the site have been filled. In MW-4 peaty sand was observed between the approximate depths of 5' and 6', and in MW-3 from 4'6" - 5'3"±. Conversations with the owner confirmed that some of the site had been a swamp and had been filled.

Published mapping indicates bedrock on the site is likely to be Dunham dolomite. Dunham dolomite is generally described as buff weathered siliceous dolomite. Fresh surfaces are typically cream-pink or gray. Contacts with the Monkton quartzite and the Cheshire quartzite are to the west and east respectively. The age is Lower Cambrian. Bedrock was not encountered in any of the borings. Cobbles and rock fragments in the soil appeared to be Dunham dolomite.

AP 11/7

Site Hydrogeology

At the time the monitoring wells were sampled on June 2, 1998, the depth to the water table ranged from approximately 1.7' to approximately 3.1'. Based on this single sounding, the direction of groundwater flow is to the southwest toward the Roaring Branch. The gradient is relatively flat at approximately 3.5%. The site plan in Appendix C shows the groundwater contours as of June 2, 1998.

Potential Receptors

A significant number of structures exist within a one-half mile radius of the site. It is believed that all are on the municipal water supply system, with the exception of those on Chapel Road upgradient of the site. All of the properties on Chapel Road are topographically higher than the subject property. Morgan Spring, which is one of the sources for the municipal system is approximately 4,200 feet to the south and on the opposite side of the Roaring Branch. The nearest surface water is the brook on the southerly portion of the property. It is within 100 feet

of the former tanks and dispenser. The on-site building has a slab on grade foundation. It is not expected that any of these receptors have been impacted. A copy of the relevant portion of the water system base map for the Town of Bennington is included as Appendix E.

Monitoring Well Sampling

The four (4) Dufresne-Henry monitoring wells were sampled on June 2, 1998 following the standard protocols which were previously submitted to the HMMD with the work plan for SMS Site #922235. The sampling was performed by Dufresne-Henry personnel. Three well volumes were purged from wells MW-2, MW-3, and MW-4. Well MW-1 was bailed dry and allowed to recover prior to sampling. A sheen was observed in MW-2. The refrigerated samples were shipped to Eastern Analytical, Inc. of Concord, New Hampshire on June 3, 1998 via overnight carrier. The samples were analyzed for the VOC's BTEX and MTBE by EPA Method 602(mod) and for Total Petroleum Hydrocarbons (TPH) by EPA Method 8100(mod). A summary of the VOC analytical results is presented in the table below. A copy of the contract laboratory analytical report is included as Appendix F.

Summary of VOC Analytical Results

Free product sheen.

Compound	ES µg/L	MW-1 µg/L	MW-2 µg/L	MW-3 µg/L	MW-4 µg/L
Benzene	5	4	2,700	<1	<1
Toluene	1,000	1	30,000	<1	<1
Ethylbenzene	700	<1	1,500	<1	<1
Total Xylenes	10,000	17	13,400	4	<1
MTBE	40	50	9,000	<10	<10
TPH (mg/L)	N.A.	40	<0.5	<0.5	<0.5

ES State of Vermont Enforcement Standard

N.A. No formal standard established, 1,000 mg/L used as guideline

In MW-2, all of the compounds included in the method were above the Vermont Enforcement Standard. The Benzene concentration is particularly significant. In MW-1, only MTBE was above the standard. The high Benzene concentration in MW-2 may be an indication that much of the release was relatively recent. MTBE is an octane enhancer in reformulated gasoline. It is extremely soluble in water relative to the other compounds. Because of this high solubility, it tends to move ahead of the main portion of the plume. The presence of MTBE in MW-1 is a likely indication that the major portion of the plume is moving in that direction. This direction is consistent with the observed direction of groundwater flow. The TPH concentration in MW-2 was 40 mg/L. TPH above method detection limits was not found in the other three monitoring wells.

Summary and Recommendations

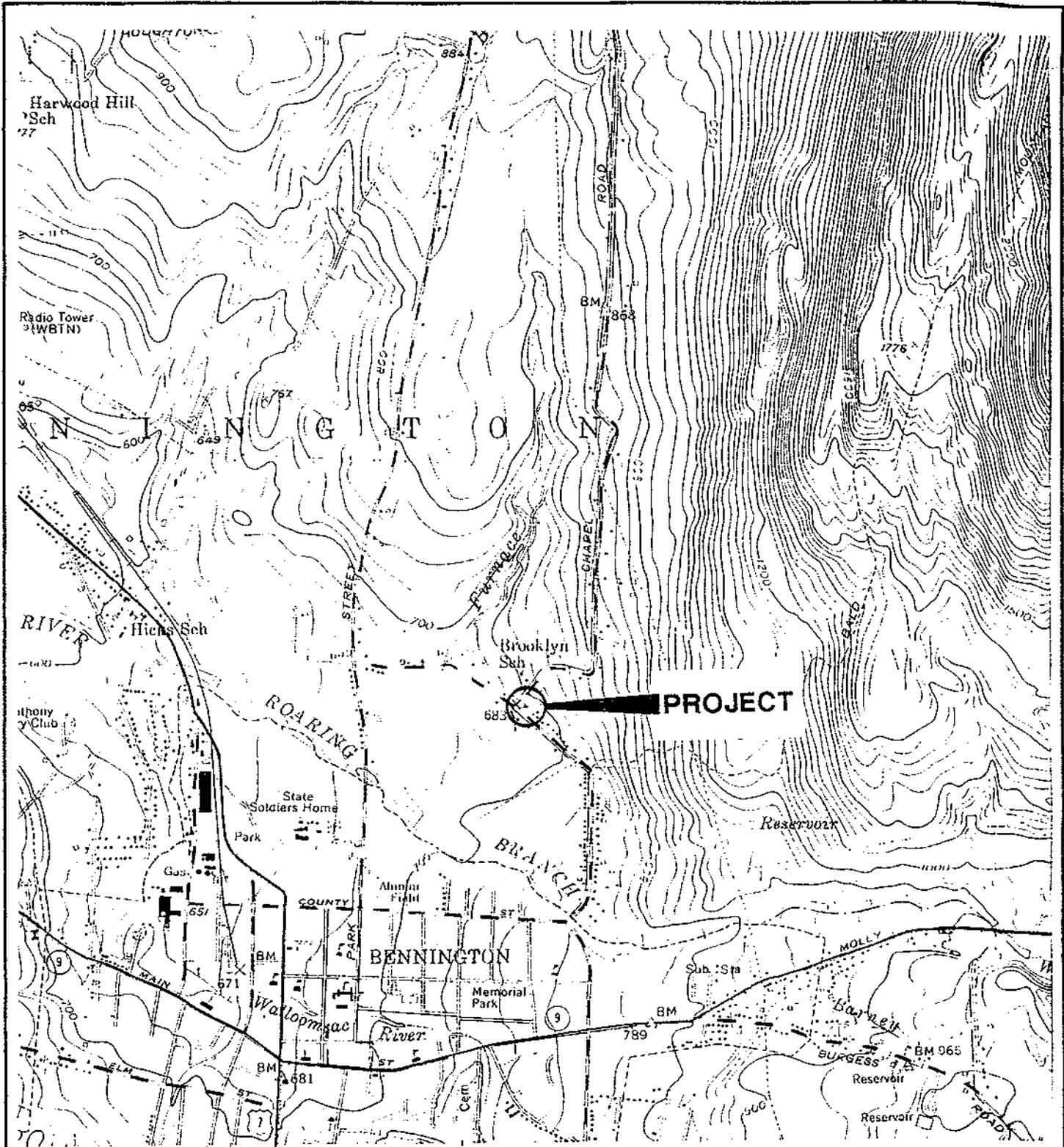
In summary, four (4) shallow groundwater monitoring wells were installed on the site. The test boring program and monitoring well sampling confirms the presence of petroleum products in both soil and groundwater. The monitoring wells were sampled once. Evidence of soil contamination was observed in MW-2 and MW-3. The contamination in MW-2 is attributable to the leaking joint. The contamination in MW-3 is more limited and appears to be the result of minor surface spills.

All of the monitoring wells were sampled and analyzed for BTEX and MTBE by EPA Method 602(mod) and for TPH by EPA Method 8100(mod). The analysis found concentrations of BTEX and MTBE in MW-2 that are well in excess of the Vermont Enforcement Standard. Low level concentrations of BTEX were found in MW-1 and MW-3. MTBE in excess of the Standard was found in MW-1. TPH above method detection limits was found only in MW-2.

All properties topographically below the site are on the municipal supply system. Morgan Spring, which is one of the sources for the municipal system is approximately 4,200 feet from the site and on the opposite side of the Roaring Branch. The nearest surface water is the brook on the southerly portion of the property. It is within 100 feet of the former tanks and dispenser. The on-site building has a slab on grade foundation. It is not expected that any of these receptors have been impacted.

Based on these findings, the site does not meet the SMS criteria for corrective actions at this time. Due to the presence of a sheen in MW-2 and elevated MTBE concentrations in a downgradient well, it is recommended that a quarterly site monitoring program be initiated. It is recommended that samples be collected from all four monitoring wells in August and November 1998 and February and May 1999. Samples should be analyzed for BTEX and MTBE by EPA Method 8021. Analysis for TPH is not warranted. After each sampling round, results should be evaluated to determine whether groundwater conditions have deteriorated or improved, and whether additional actions are necessary. After the four additional rounds are collected, an annual summary report should be prepared with recommendations for continued monitoring frequency or other remedial action. Particular attention should be paid to the occurrence of free product in MW-2.

APPENDIX A
SITE LOCATION MAP



SCALE
1:24,000

TAKEN FROM A QUADRANGLE MAP FOR BENNINGTON, VT
FIELD CHECKED 1954

DH
Dufresne-Henry, Inc.
Consulting Engineers
North Springfield, Vermont

SITE LOCATION PLAN

ROBERT J. GREENE, INC.

BENNINGTON, VERMONT

Project No.	4080064
Proj. Mgr.	F.D.D.
Scale	AS NOTED
Date	JUNE '98
	SLP

APPENDIX B

**SITE INVESTIGATION REQUEST, DH LETTER,
SITE HEALTH AND SAFETY PLAN**



State of Vermont

Department of Fish and Wildlife
 Department of Forests, Parks and Recreation
 Department of Environmental Conservation
 State Geologist
 RELAY SERVICE FOR THE HEARING IMPAIRED
 1-800-253-0181 TDD-Voice
 1-800-253-0185 Voice-TDD

AGENCY OF NATURAL RESOURCES
 Department of Environmental Conservation
 Waste Management Division
 103 South Main Street/West Office
 Waterbury, Vermont 05671-0404
 (802) 241-3888
 FAX (802) 241-3296

April 23, 1998

Mr. Robert Greene
 Robert Greene, Inc.
 399 North Branch St.
 Bennington, Vermont 05201

RE: Petroleum Contamination at Robert Green, Inc.
 Bennington, Vermont
 SMS Site # 97-2314.

*AVDC Site
 # 97-2235*

Dear Mr. Robert Greene:

The Sites Management Section (SMS) has received the Underground Storage Tank (UST) closure report which outlines the subsurface conditions for the above referenced site. The fieldwork was conducted by Griffin International, Inc. on November 17, 1997. The report is dated November 21, 1997 and summarizes the degree and extent of contamination encountered. The USTs removed include:

- UST #1 - 2,000 gallon gasoline UST
- UST #2 - 4,000 gallon diesel UST

During the site activities, screened soils had concentrations up to 200 parts per million (ppm) as measured by a photoionization detector (PID). The peak PID readings were measured at a depth of 8 feet below ground surface (fbgs) in the excavation. The limits of soil contamination were not defined. All soil was used for backfill at the conclusion of the UST removal program.

Site soils consisted of sand and gravel with some silt. Groundwater was encountered at a depth of approximately 6.5 fbgs. Visual observations of groundwater during the UST removal were not reported to exhibit signs of contamination (e.g. free-product or sheens).

The Robert Green, Inc. was inspected for sensitive receptors. The possible receptors potentially affected include groundwater, nearby surface water, and soil.

Based on the report information, the SMS has determined additional work is necessary to determine the severity of contamination. Due to possible contamination to nearby receptors, the SMS requests that Robert Green, Inc. retain the services of a qualified environmental consultant to perform the following:

- Further define the degree and extent of contamination to the soil.
- If appropriate, determine if the ambient airspace beneath the site building(s) (e.g. basements) has been impacted by the release using a PID. If the ambient air space has been impacted, SMS requests confirmatory sampling and laboratory analyses be performed using EPA Method TO-2.
- Determine the degree and extent of contamination, if any, to groundwater. A sufficient number of monitoring sites should be installed to adequately define the severity of site contamination. Analyze groundwater samples for BTEX, TPH and MTBE. At sites proximal to water supply sources, determine the hydrologic relationship of the contaminated area to the water supply source. Pumping influences should be considered in the evaluation.

*No Backfill
 closed by
 BTEX
 854
 8100
 870
 Mark
 Bob I, agreed
 on process.*

\$ 475 lab

Mr. Robert Green
Robert Greene, Inc.

Page 2

- Assess the potential for contaminant impact on sensitive receptors. Base this update on all available information and include basements of adjacent buildings, nearby surface water, any proximal drinking water sources, wetlands, sensitive ecologic areas, outdoor or indoor air, sewers, or utility corridors. Sample and analyze any at-risk water supplies for BTEX, TPH and MTBE compounds.
- Determine the need for long-term treatment and/or monitoring that addresses groundwater contamination.
- Submit a summary report that outlines the work performed, as well as provides conclusions and recommendations. As appropriate include analytical data; a site map showing the location of any potential sensitive receptors, stockpiled soils and monitoring or sample locations; an area map; detailed well logs; and a groundwater contour map.

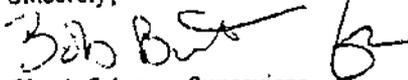
Please have your consultant submit a preliminary work plan and cost estimate or a site investigation expressway notification for m within fifteen days of your receipt of this letter, so it may be approved prior to the initiation of onsite work. Enclosed please find a list of consultants who perform this type of work as well as the brochure "Selecting Your UST Cleanup Contractor," which will help you in choosing an environmental consultant.

Based on current information, the underground storage tanks at Robert Green, Inc. are eligible for participation in the Petroleum m Cleanup Fund (PCF). You must provide written proof to the SMS that you hold no other applicable insurance in order to receive reimbursement from the PCF. The owner or permittee must pay for the removal and/or repair of the failed tank(s) and for the initial \$10,000.00 of the cleanup. The fund will reimburse the tank owner or permittee for additional eligible cleanup costs of up to \$1 million. All expenditures must be pre-approved by the Agency or performed in accordance with the "Site Investigation Guidance" expressway program. Please refer to the enclosed guidance document titled, "Procedures for Reimbursement from the Petroleum Cleanup Fund" for additional information concerning the PCF.

The Secretary of the Agency of Natural Resources reserves the right to seek cost recovery of fund monies spent at the Robert Green, Inc. site if the Secretary concludes that Robert Greene, Inc. is in significant violation of the Vermont Underground Storage Tank Regulations or the Underground Storage Tank statute (10 V.S.A., Chapter 59).

We realize this may be a lot to absorb and respond to. We are here to help make this process as effective and uncomplicated as possible. Please review the enclosed documents and call me with any questions you may have. I can be reached at (802) 241-3876.

Sincerely,


Chuck Schwer, Supervisor
Sites Management Section

Enclosures (3)

cc: Bennington Selectboard w/o enclosure
Bennington Health Officer w/o enclosure
DEC Regional Office w/o enclosure
Christine Ward, Griffin International, Inc. w/o enclosure

CS/rgb
D:\Bobsites\Wp112314.wpd

Site Assessment



May 14, 1998

Bob Butler
Sites Management Section
Waste Management Division
103 South Main Street/West Office
Waterbury, Vermont 05671-0404

Re: Robert Greene, Inc - Bennington
SMS Site # 97-2314

Dear Mr. Butler:

Enclosed please find a copy of a Professional Services Agreement which details the Scope of Work to complete a Site Investigation at the subject site in response to your April 23, 1998 letter to Mr. Greene.

All work will be performed following the standard protocols recently submitted with our work plan for SMS Site # 97-2235, and at rates and costs at or below those established for Petroleum Cleanup Fund (PCF) reimbursement.

Please advise us either verbally, by fax or e-mail that the proposed scope meets your approval. We will not initiate work until such approval is received.

Very truly yours,

DUFRESNE-HENRY, INC.

F. David Deane, P.E.
Environmental Services

FDD/dim
Enclosure
cc Robert Greene

SMSTranRobtGreene051498

ATTACHMENT A
SCOPE OF SERVICES AND ESTIMATED FEE

SITE INVESTIGATION
ROBERT GREENE, INC.
BENNINGTON, VERMONT

Dufresne- Henry, Inc. will conduct a Site Investigation to document the existence and extent of subsurface contamination at the Robert Greene, Inc. facility on North Branch Street Extension in Bennington, Vermont. The investigation will consist of the following specific tasks:

1. Prepare a Site Health and Safety Plan, and a Work Plan.

Dufresne-Henry labor	\$ 200
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2. Install four (3) groundwater monitoring wells at appropriate locations to further define the extent of soil and/or groundwater contamination. Wells will be installed in borings created with hollow stem augers, with split spoon spoil samples taken at five (5) foot intervals or as directed by the Dufresne-Henry, Inc. field inspector. During installation, soil samples will be screened using a Photovac MicroTIP PID with a 10.6 eV lamp. Wells will be two-inch flush joint PVC, and extend approximately five feet below the prevailing water table. Each well will be provided with a flush road box. In the event that monitoring well depth exceeds 12 feet, an adjustment in cost may be necessary. Relative elevations of the monitoring wells will be determined to verify the direction of groundwater flow. It is assumed that the work can be completed in one (1) field day.

Dufresne-Henry labor/expenses	\$ 800
Boring subcontractor labor/materials	\$1,800

3. Obtain one (1) round of groundwater samples from the three (3) monitoring wells and analyze for BTEX and MTBE by EPA Method 602(mod) and for TPH by EPA Method 8100 Level .

Dufresne-Henry labor/expenses	\$ 300
Contract analytical laboratory	\$ 500

4. Perform a receptor assessment for properties in the area with particular attention to basements of adjacent buildings and water supply wells. If such supplies are found, and sampling is deemed necessary, sampling and analysis may be at an additional cost.

Dufresne-Henry labor/expenses	\$ 200
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5. Prepare a report summarizing all results of the site investigation, and conclusions and recommendations regarding the need for long term treatment and/or monitoring. The report will be submitted within 30 days of completion of the test borings.

Dufresne-Henry labor/expenses	\$ 800
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Waste Management Division
103 South Main Street/West Office
Waterbury, Vermont 05671-0404
(802) 241-3888
FAX (802) 241-3296

May 19, 1998

Mr. Robert Greene
Robert Greene, Inc.
399 North Branch St.
Bennington, Vermont 05201

RE: Work Plan Approval for Robert Green, Inc.
Bennington, Vermont
SMS Site # 97-2314

Dear Mr. Greene:

The Sites Management Section (SMS) has received and reviewed the workplan to address petroleum contamination at the above referenced site. The workplan was submitted by Dufresne-Henry, Inc. and dated May 14, 1998.

The SMS concurs with most elements of the workplan and approves its implementation with the following caveat.

- SMS requests that four wells be installed. The Scope of Services is ambiguous;
- All wells are developed in accordance with industry standards a minimum of 48-hours prior to sampling.

Please note that reimbursement of the costs associated with this work is subject to:
ferr

- an initial deductible of \$10,000 per our letter to you dated April 23, 1998;
- stipulations of the Consultants Fee Schedule contained in the *Sites Investigation Guidance Document* dated August 1996; and
- the provisions of the *Procedures for Reimbursement from the Petroleum Cleanup Fund* date September 1995.

Please review the enclosed documents and call me with any questions you may have. I can be reached at (802) 241-3876.

Sincerely,

Chuck Schwer, Supervisor
Sites Management Section

cc: Mr. David Deane, Dufresne-Henry, Inc. (transmitted electronically via email)
CS/rgh
C:\TEMP\SWPM15FC.wpd

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PROJECT: ROBERT GREENE, INC. SITE INVESTIGATION
JOB NO.: 4080064

HEALTH AND SAFETY PLAN
FOR

SITE INVESTIGATION

ROBERT GREENE, INC.

BENNINGTON, VERMONT

This Health and Safety Plan applies only to Dufresne-Henry, Inc. employees.

PROPOSED ON-SITE ACTIVITIES:

Installation of four (4) groundwater monitoring wells, decontamination, and groundwater sampling.

PROPOSED DATE(S) OF WORK: Wells: May 29, 1998
Sampling: Week of June 1, 1998

ANTICIPATED WEATHER CONDITIONS: temperatures in the 50's - 80's, possible rain.

PROPOSED SITE INVESTIGATION TEAM:

<u>Personnel</u>	<u>Responsibilities</u>
F. David Deane	Project Manager
Bruce Cox	Site Safety Officer
Bruce Cox/Oscar Garcia	Field Team Leader (Monitoring Wells/Sampling)
Robert Greene	Site Representative
Bob Butler	ANR Representative

All Dufresne-Henry, Inc. personnel arriving or departing the Site should check in and out with the Site Safety Officer. All Dufresne-Henry activities on-Site must be cleared through the Field Team Leader or Project Manager.

Background Information

Site Status: Active Inactive Unknown

Site Description (Topography, on-site structures, vegetation, surrounding population, contaminated areas (if known))

Robert Greene, Inc. is located at the intersection of Chapel Road and North Branch Street Extension in Bennington, VT. The 1.02 acre site consists of a single building. The site is served by the municipal water and wastewater disposal systems. A stream cuts across the southern edge of the parcel. It is expected that the water table is shallow (<15').

Dig Safe was contacted on 5/20/98. The site is clear after 7:15 am on 5/22/98. The Dig Safe number is 982104862. The Bennington Town Office was contacted on 5/28/98. The Water & Sewer Department will mark the lines or meet us at the site.

Site History:

The history of the site is not known.

Monitoring or Sampling Data From Previous Site work:

A UST Closure Assessment was performed by Griffin International in November 1997. At that time (1) 2,000 gallon gasoline and (1) 4,000 gallon diesel UST's were removed. PID readings up to 200 ppm were observed.

No other site investigations are known.

HAZARD REFERENCE

Waste Types:

Liquid Solid (soil) Sludge Vapor Unknown

Waste Characteristics:

Corrosive Ignitable Radioactive
 Volatile Toxic Reactive
 Unknown Other Persistent

Specific Substances of Greatest Concern (if known): gasoline and diesel fuel.

Hazard Evaluation:

Task: Mon. Well Install. Low Medium High

Identification of Hazards: gasoline and diesel fuel

Task: Decontamination Low Medium High

Identification of Hazards: gasoline and diesel fuel

Task: Sampling Low Medium High

Identification of Hazards: gasoline and diesel fuel

Task: Low Medium High

Identification of Hazards:

Other Physical Hazards: (weather, heavy equipment, site structures...)
Drill rig, traffic, weather.

PROJECT: ROBERT GREENE, INC. SITE INVESTIGATION
JOB NO.: 4080064

Hazard Assessment:

OVERALL HAZARD: ___ Serious ___ Moderate X Low ___ Unknown

On-Site Control

Site control is necessary to minimize potential exposure of workers to hazardous waste/materials, protect the public from the Site's chemical and physical hazards, and to facilitate work activity. The procedures to be followed involve the establishment of Site work zones, Site security, and safe work practices.

The on-Site staging area and support zone has been established at:

The facility parking lot.

The personal contamination reduction zone (decon area) has been established at:

The location of the former UST's.

During the intrusive work, the exclusion area will be defined as follows:

A 15 foot radius around the drill rig.

The decontamination of sampling and/or heavy equipment will be conducted:

The location of the former UST's.

These sub-regions of on-Site control have been established in order to reduce the potential cross contamination and proliferation of contamination by potentially contaminated equipment and personal protective equipment.

SITE ACTIVITIES

Required Personal Protective Equipment (PPE)

<u>Task</u>	<u>Entry Level of Protection</u>	<u>Monitoring Equipment</u>	<u>Upgrade/Downgrade Contingency</u>
Well Install.	Mod D	Photovac HL-2000 Explosimeter O ₂ meter H ₂ S meter	Upgrade to Level C with PID readings over 10 ppm for 5 minutes in breathing space.
Decon.	Mod D	"	"
Sampling	Mod D	"	"

Note: Breathing space PID readings of 50 ppm, explosimeter readings over 25% of the LEL, O₂ deficiency or enrichment, or H₂S readings will result in shutting down the job and consulting with State officials and the client.

PROJECT: ROBERT GREENE, INC. SITE INVESTIGATION
JOB NO.: 4080064

Specific protective equipment for each level of protection is as follows:

Level C: Full Face Respirator w/appropriate cartridge (Willson T45)
Chemically Resistant Suit (Tyvek®)
Outer Rubber Slush Boots
Outer Chemically Resistant Gloves
Surgical Gloves
Hard Hat
Steel Toe/Shank Work Boots

Modified Level D: Chemically Resistant Suit (Tyvek®)
Outer Rubber Slush Boots
Outer Chemically Resistant Gloves
Surgical Gloves
Hard Hat
Steel Toe/Shank Work Boots
Safety Glasses or Face Shield

Level D: Work Clothes
Steel Toe/Shank Work Boots
Surgical Gloves
Hard Hat

Rationale for change in level of protection:

Upgrade to Level C with PID readings of 10 ppm or more for 5 minutes in the breathing space. PID readings over 50 ppm in the breathing space, explosimeter readings of over 25% of the LEL, O₂ deficiency or enrichment, or H₂S readings will result in shutting down the job and consulting with State officials and the client.

NO CHANGES TO THE SPECIFIED LEVELS OF PROTECTION SHALL BE MADE WITHOUT THE APPROVAL OF THE SITE SAFETY OFFICER OR PROJECT MANAGER.

Monitoring Procedures

Site Monitoring Equipment:

- Photovac MicroTIP (Model HL-2000, 10.6 eV lamp)
- Explosimeter
- Draeger Tube & Pump
- O₂ Meter
- Other: H₂S meter

Methods and Frequency of Monitoring:

Air space and soil samples: Photovac MicroTIP HL-2000.
Air space: explosimeter/O₂ meter/H₂S meter.

Frequency: Soil samples; as obtained.
Air; not to exceed every 15 minutes.

Decontamination and Disposal

Personnel Decontamination Procedure:

- Level C: Slush boot and glove wash, slush boot and glove rinse, tape removal, outer glove removal, (cartridge change), slush boot removal, suit removal, inner glove removal.
- Modified Level D: Slush boot and glove wash, slush boot and glove rinse, slush boot removal, suit removal, glove removal.

Equipment Decontamination:

The drill rig and tools will be decontaminated by steam cleaning prior to the start of work and between borings. The use of clean augers (not previously used on the job) will be permitted with washing of the bit in ALCONOX. All decontamination will be done on-site. Routine washing of split spoon samplers, etc will use water obtained at the site. Disposal of spent cleaning liquid will be on site.

Disposal Procedure for Investigation-Derived Materials:
(decon waste, disposables)

All decon waste and disposables will remain on site.

SITE OPERATING PROCEDURES/SAFETY GUIDELINES

- ** Always observe the buddy system. Never enter or exit site alone, and never work alone in an isolated area. Never wander off by yourself.
- ** Always maintain a line-of-sight.
- ** Practice contamination avoidance. Never sit down or kneel, never lay equipment on the ground, avoid obvious sources of contamination such as puddles, and avoid unnecessary contact with on-site objects
- ** No eating, drinking, or smoking outside the designated "clean" zone.
- ** In the event PPE is ripped or torn, work shall stop and PPE shall be removed and replaced as soon as possible.
- ** Be alert to any unusual changes in your own condition; never ignore warning signs. Notify Health and Safety Coordinator as to suspected exposures or accidents.
- ** A vehicle will be readily available exclusively for emergency use. All personnel going on-site shall be familiar with the most direct route to the nearest hospital.
- ** In the event of direct skin contact, the affected area shall be washed immediately with soap and water.
- ** Copies of the Health and Safety Plan shall be readily accessible at the command post.
- ** Note wind direction. Personnel shall remain upwind whenever possible during on-site activities.
- ** Never climb over or under refuse or obstacles. Use safety harness/safety lines when sampling lagoons, stream beds, and ravines with steep banks.
- ** Hands and face must be thoroughly washed before eating, drinking, etc.
- ** Any modifications to this safety plan MUST be approved by the Site Safety Officer.

Special Procedures:
Confined Space Entry

- No attempt will be made to enter abandoned buildings, manholes, tanks, or any other confined areas.
- Other:

Personnel Monitoring: (If applicable: Heat stress, frostbite, air sampling of individual breathing zone)

Monitoring of individual breathing space will be monitored by a Photovac MicroTIP HL-2000, explosimeter, and O₂ meter as outlined in monitoring procedures. Monitoring of weather related hazards will be dictated by existing conditions.

EMERGENCY SITUATIONS

The following standard emergency procedures will be used by Dufresne-Henry on-site personnel. The Site Safety Officer (SSO) shall be notified of any on-site emergencies and be responsible for ensuring that the appropriate procedures are followed.

Personnel Injury to Dufresne-Henry Employees in the Exclusion Zone

Upon notification of an injury to a Dufresne-Henry employee in the exclusion zone, a rescue team will enter the zone (if required) to remove the injured person to the hotline. The SSO and Project Manager should evaluate the nature of the injury, and the affected person should be decontaminated to the extent possible prior to movement to the support zone. The SSO shall arrange for appropriate first aid, and contact should be made for an ambulance and with the designated medical facility (if required). No Dufresne-Henry personnel shall re-enter the exclusion zone until the cause of the injury or symptoms are determined.

Personnel Injury to Dufresne-Henry Employees in the Support Zone

Upon notification of an injury to a Dufresne-Henry employee in the support zone, the Project Manager and SSO will assess the nature of the injury. If the cause of the injury or loss of the injured person does not affect the performance of site personnel, operations may continue, with the on-site Field Team Leader initiating the appropriate first aid and necessary follow-up as stated above. If the injury increases the risk to others, all Dufresne-Henry personnel shall move to the decon line for further instructions. Dufresne-Henry activities on-site will cease until the added risk is removed or minimized.

Fire/Explosion

Upon notification of a fire or explosion on-site, all Dufresne-Henry personnel will assemble at the decon line. The fire department shall be alerted and all Dufresne-Henry personnel moved to a safe distance from the involved area.

Personal Protective Equipment Failure

If any Dufresne-Henry site personnel experience a failure or alteration of protective equipment that effects the protection factor, that person and his/her buddy shall immediately leave the exclusion zone. Re-entry shall not be permitted until the equipment has been repaired or replaced.

Other Equipment Failure

If any other equipment on-site fails to operate properly, the Project Manager and SSO shall be notified and then determine the effect of this failure on continuing operations on-site. If the failure affects the safety of on-site Dufresne-Henry personnel or prevents the completion of the tasks, all Dufresne-Henry personnel shall leave the exclusion zone until the situation is evaluated and appropriate actions taken.

In all situations, when an on-site emergency results in evacuation of the exclusion zone, Dufresne-Henry personnel shall not re-enter until:

1. The conditions resulting in the emergency have been corrected.
2. The hazards have been reassessed.
3. The Site Safety Plan has been reviewed.
4. Dufresne-Henry personnel have been briefed on any changes in the Site Safety Plan.

PROJECT: ROBERT GREENE, INC. SITE INVESTIGATION
JOB NO.: 4080064

EMERGENCY INFORMATION

AMBULANCE:	Bennington	Phone:	9-1-1
HOSPITAL:	Southwestern Vermont Medical Center 100 Hospital Drive Bennington, VT (see attached map).	Phone:	(802) 442 - 6361
POLICE:	Bennington	Phone:	9-1-1
FIRE DEPARTMENT:	Bennington	Phone:	9-1-1
POISON CENTER:		Phone:	(802) 658 - 3456
ANR INCIDENT RESPONSE:	Office	Phone:	(802) 241 - 3888
CORPORATE:			
	Dufresne-Henry N. Springfield, VT	Phone:	(802) 886 - 2261
	Project Manager: David Deane		
NEAREST PHONE:	On site		
LOCATION OF ON-SITE FIRST AID KIT:	Boring contractors vehicle		
EMERGENCY VEHICLE:			

PROJECT: ROBERT GREENE, INC. SITE INVESTIGATION
JOB NO.: 4080064

The following individuals have read this safety document and are familiar with its contents, site conditions, and on-site safety procedures (please sign below):

<u>Name</u>	<u>Company</u>
<u>Bruce Cox</u>	<u>Dufresne-Henry, Inc.</u>
<u>Oscar Garcia</u>	<u>Dufresne-Henry, Inc.</u>
<u>Myron Domingue</u>	<u>M & W Soils Engineering, Inc.</u>
<u>Michael Hitchcock</u>	<u>M & W Soils Engineering, Inc.</u>
_____	<u>M & W Soils Engineering, Inc.</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Copies of this SSP have been given to:

- _____
- _____
- _____
- _____
- _____

Approval Signatures:

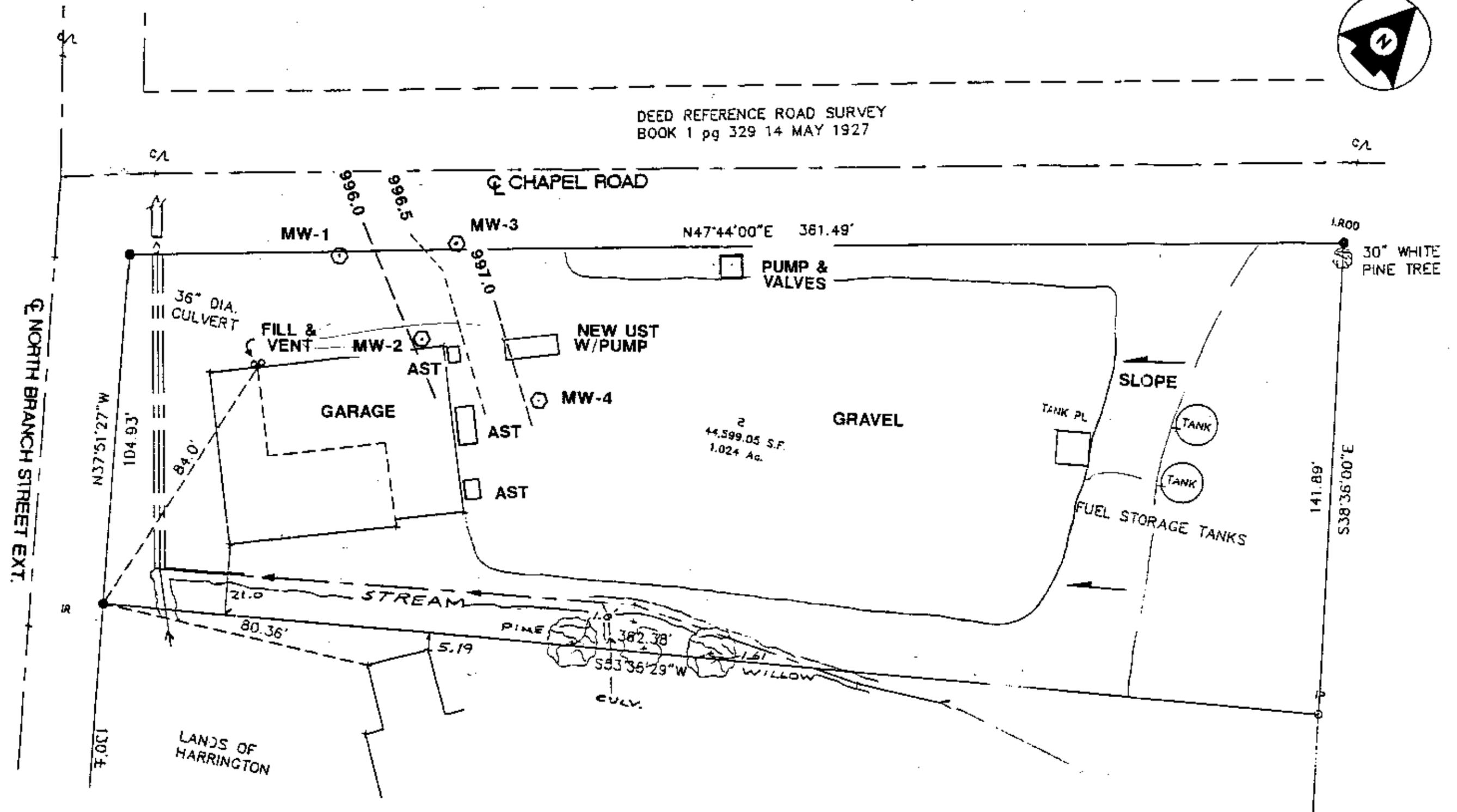
PM _____
Div. Dir. _____

APPENDIX C

SITE PLAN



DEED REFERENCE ROAD SURVEY
BOOK 1 pg 329 14 MAY 1927



NOTE:

THIS PLAN HAS BEEN TAKEN FROM AN EXISTING SURVEY PLAN ENTITLED "SURVEY OF PROPERTY FOR ROBERT J. GREENE", DATED JULY 1992. THE SURVEY WAS PERFORMED BY G.E. MORRISSEY, INC., WITH A DRAWING NUMBER OF GRNOL(B80).



SITE PLAN WITH GROUNDWATER
CONTOURS (ELEVATIONS MEASURED 06/02/98)

ROBERT J. GREENE, INC.

BENNINGTON,

VERMONT

Project No.	4080084
Proj. Mgr.	F.D.D.
Scale	1"=30'
Date	JUNE '98
	B SP-GW-1

APPENDIX D

BORING LOGS

M & W Soils Engineering Inc.
Main St. Charlestown, NH 03603

SHEET 1 OF 1
DATE 5/29/98
HOLE NO. MW-1
LINE & STA.
OFFSET

TO DUFRESNE-HENRY, INC. ADDRESS NORTH SPRINGFIELD, VT
PROJECT NAME GREENE'S OIL LOCATION BENNINGTON, VT
REPORT SENT TO BRUCE COX PROJ. NO.
SAMPLES RETAINED BY DUFRESNE-HENRY, INC. OUR JOB NO. 7436-98

GROUND WATER OBSERVATIONS AT 4' AT IMMEDIATELY HOURS		Type HSA SS	CASING SAMPLER CORE BAR.	SURFACE ELEV.
AT _____ AT _____ HOURS		Size I. D. 4 1/4" 1 1/2"		DATE STARTED 5/29/98
		Hammer Wt. 140# BIT		DATE COMPL. 5/29/98
		Hammer Fall 30"		BORING FORMAN M.D. & M.H.
				INSPECTOR
				SOILS ENGR.

LOCATION OF BORING OFF CENTER OF WEST SIDE OF BUILDING, 15' FROM ROAD

Depth	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler	MOISTURE DENSITY OR CONSIST.	STRATA CHANGE ELEV.	FIELD SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, cond., hardness, Drilling time, seams and ect.	SAMPLE		
							NO.	PEN	REC
				DENSE	10'	CRUSHED GRAVEL			
				MED. DENSE	4'	BROWN GRAVELLY SANDS WITH SOME SILT, COBBLES AND Boulders			
5'	5' - 7'	SS	5 4 9 8			2.3 ppm	1	24'	8'
	7' - 9'	SS	30 12 20 20			0 ppm	2	24'	16'
10'	9' - 9'6"	SS	67	MED. DENSE TO DENSE - WET	12'6"	BROWN COARSE SANDS AND GRAVELS 0 ppm	3	6'	5'
15'						NO BEDROCK TO DEPTH SET 2' WELL AT 12'6" TOP OF WELL AT 2'6" SAND TO 2' BENTONITE FROM 1'6" TO 2' MATERIALS USED: 10' OF 2" PVC 0.010" SLOTTED SCREEN 5' OF 2" PVC SOLID 10# OF BENTONITE CHIPS 150# OF SAND 40# OF CEMENT MIX 1 2" EXPANSION CAP 1 2" PVC CAP 1 6" CAST IRON MANHOLE			

GROUND SURFACE TO 12'6"

USED HSA CASING THEN

Sample Type
D-Dry C-Cored W-Washed
UP-Unfinished 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 12'6"
ROCK CORING
SAMPLES 3
HOLE NO. MW-1

M & W Soils Engineering Inc.
Main St. Charlestown, NH 03603

TO DUFRESNE-HENRY, INC. ADDRESS NORTH SPRINGFIELD, VT
PROJECT NAME GREENE'S OIL LOCATION BENNINGTON, VT
REPORT SENT TO BRUCE COX PROJ. NO. _____
SAMPLES RETAINED BY DUFRESNE-HENRY, INC. OUR JOB NO. 7436-98

SHEET 1 OF 1
DATE 5/29/98
HOLE NO. MW-2
LINE & STA. _____
OFFSET _____

GROUND WATER OBSERVATIONS		CASING	SAMPLER	CORE BAR	SURFACE ELEV.
AT <u>4'5"</u>	AT <u>IMMEDIATELY</u> HOURS	Type <u>HSA</u>	<u>SS</u>		DATE STARTED <u>5/29/98</u>
AT _____	AT _____ HOURS	Size I. D. <u>4 1/4"</u>	<u>1 1/2"</u>		DATE COMPL. <u>5/29/98</u>
		Hammer Wt. _____	<u>140#</u>	BIT	BORING FORMAN <u>M.D. & M.H.</u>
		Hammer Fall _____	<u>30"</u>		INSPECTOR <u>B. COX</u>
					SOILS ENGR. _____

LOCATION OF BORING IN FRONT OF GARAGE DOORS, WEST SIDE

Depth	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler		MOISTURE DENSITY OR CONSIST.	STRATA CHANGE ELEV.	FIELD SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, cond., hardness, Drilling time, seams and ect	SAMPLE				
								NO.	PEN	REC		
5'	0' - 2'	SS	15	16	DENSE	2'	BROWN COARSE GRAVEL WITH COBBLES <u>0.8 ppm</u>	1	24"	9"		
			17	57								
	2' - 4'	SS	13	7						2	24"	12"
			8	7								
	4' - 6'	SS	4	5				WET MED. DENSE	10'6"	BROWN GRAVELLY SANDS WITH SOME SILT <u>650 ppm</u> <u>1,600 + ppm</u> <u>2,500 + ppm</u> <u>107 ppm</u>	3	24"
		4	4									
6' - 8'	SS	2	3			4	24"				10"	
		12	9									
8' - 10'	SS	8	12			5	24"				14"	
			12	22								
10'												
15'							NO BEDROCK TO DEPTH SET 2' WELL AT 10'6" TOP OF WELL AT 26" SAND TO 18" BENTONITE TO 12" MATERIALS USED: 10' OF 2" PVC 0.010" SLOTTED SCREEN 5' OF 2" PVC SOLID 10# OF BENTONITE CHIPS 150# OF SAND 40# OF CEMENT MIX 1 2' EXPANSION CAP 1 2' PVC CAP 1 6" CAST IRON MANHOLE					

GROUND SURFACE TO 10'6"

USED HSA CASING THEN _____

Sample Type
D-Dry C-Cored W-Washed
UP-Unfinished 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 10'6"
ROCK CORING _____
SAMPLES 5
HOLE NO. MW-2

M & W Soils Engineering Inc.
Main St. Charlestown, NH 03603

TO DUFRESNE-HENRY, INC. ADDRESS NORTH SPRINGFIELD, VT
PROJECT NAME GREENE'S OIL LOCATION BENNINGTON, VT
REPORT SENT TO BRUCE COX PROJ. NO. _____
SAMPLES RETAINED BY DUFRESNE-HENRY, INC. OUR JOB NO. 7436-98

SHEET 1 OF 1
DATE 5/29/98
HOLE NO. MW-3
LINE & STA. _____
OFFSET _____

GROUND WATER OBSERVATIONS		Type Size I. D. Hammer Wt. Hammer Fall	CASING	SAMPLER	CORE BAR	SURFACE ELEV.
AT <u>3'10"</u>	AT <u>1</u> HOURS		HSA	SS		DATE STARTED <u>5/29/98</u>
AT _____	AT _____ HOURS		<u>4 1/4"</u>	<u>1 1/2"</u>		DATE COMPL. <u>5/29/98</u>
				<u>140#</u>	BIT	BORING FORMAN <u>M.D. & M.H.</u>
				<u>30"</u>		INSPECTOR <u>B. COX</u>
						SOILS ENGR. _____

LOCATION OF BORING WEST OF GASOLINE PUMPS

Depth	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler	MOISTURE DENSITY OR CONSIST.	STRATA CHANGE ELEV.	FIELD SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, cond., hardness, Drilling time, seams and ect.	SAMPLE		
							NO.	PEN	REC
5'				DENSE	9'	BROWN CRUSHED GRAVEL			
	2' - 4'	SS	8 3			<u>16 PPM</u>	1	24'	12"
				MED. DENSE		BROWN GRAVELLY SANDS WITH COBBLES			
	4' - 6'	SS	2 4	3 5		<u>0 PPM</u>	2	24'	23"
				LOOSE	4'6"	PEAT AND SILTY SAND			
10'	6' - 8'	SS	4 9	5 12		BROWN SILTY FINE SAND	3	24'	18"
					5'8"	<u>0 PPM</u>			
	8' - 10'	SS	27 21	23 10		<u>0 PPM</u>	4	24'	18"
15'	10' - 12'	SS	10 12	5 13		BROWN COARSE GRAVELS - TRACE OF SILT	5	24'	18"
						<u>0 PPM</u>			
						DENSE TO MED. DENSE			
						12'6"			
						NO BEDROCK TO DEPTH			
						SET 2" WELL AT 12'6" TOP OF WELL AT 2'6" SAND TO 1'9" BENTONITE TO 1'			
						MATERIALS USED: 10' OF 2" PVC 0.040" SLOTTED SCREEN 5' OF 2" PVC SOLID 15# OF BENTONITE CHIPS 150# OF SAND 40# OF CEMENT MIX 1 2" EXPANSION CAP 1 2" PVC CAP 1 6" CAST IRON MANHOLE			

GROUND SURFACE TO 12'6"

USED HSA CASING THEN _____

Sample Type
D-Dry C-Cored W-Washed
UP-Unfinished 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 12'6"
ROCK CORING _____
SAMPLES 5
HOLE NO. MW-3

M & W Soils Engineering Inc.
Main St. Charlestown, NH 03603

TO DUFRESNE-HENRY, INC. ADDRESS NORTH SPRINGFIELD, VT
 PROJECT NAME GREENE'S OIL LOCATION BENNINGTON, VT
 REPORT SENT TO BRUCE COX PROJ. NO. _____
 SAMPLES RETAINED BY DUFRESNE-HENRY, INC. OUR JOB NO. 7436-98

SHEET 1 OF 1
 DATE 5/29/98
 HOLE NO. MW-4
 LINE & STA. _____
 OFFSET _____

GROUND WATER OBSERVATIONS		Type _____ Size I. D. _____ Hammer Wt. _____ Hammer Fall _____	CASING _____	SAMPLER _____	CORE BAR _____	SURFACE ELEV. _____
AT <u>3'</u> AT <u>IMMEDIATELY</u> HOURS			<u>HSA</u>	<u>SS</u>		DATE STARTED <u>5/29/98</u>
AT _____ AT _____ HOURS			<u>4 1/4"</u>	<u>1 1/2"</u>		DATE COMPL. <u>5/29/98</u>
				<u>140#</u>	<u>BIT</u>	BORING FORMAN <u>M.D. & M.H.</u>
				<u>30"</u>		INSPECTOR <u>B. COX</u>
						SOILS ENGR. _____

LOCATION OF BORING 10' EAST OF GAS PUMPS

Depth	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler		MOISTURE DENSITY OR CONSIST.	STRATA CHANGE ELEV.	FIELD SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, cond., hardness, Drilling time, seams and ect	SAMPLE		
								NO.	PEN	REC
5'					MED. DENSE		FILL WITH CEMENT			
						2'				
	5' - 7'	SS	3	5	MED. DENSE MOIST TO WET		BROWN GRAVELLY SAND WITH SOME SILT, COBBLES AND BOULDERS <u>0 ppm</u>	1	24"	16"
			27	38						
10'	7' - 9'	SS	43	40		6'	<u>5 ppm</u>	2	24"	17"
			30	41						
					DENSE - WET		BROWN COARSE GRAVELS WITH COBBLES AND BOULDERS			
						12'				
15'							NO BEDROCK TO DEPTH			
							SET 2" WELL AT 11'6" TOP OF WELL AT 1'6" SAND TO 1'3" BENTONITE TO 9"			
							MATERIALS USED: 10' OF 2" PVC 0.010" SLOTTED SCREEN 5' OF 2" PVC SOLID 15# OF BENTONITE CHIPS 200# OF SAND 40# OF CEMENT MIX 1 2" EXPANSION CAP 1 2" PVC CAP 1 4" CAST IRON MANHOLE			

GROUND SURFACE TO 12'

USED HSA CASING THEN _____

Sample Type
 D-Dry C-Cored W-Washed
 UP-Unfinished 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	<u>12'</u>
ROCK CORING	_____
SAMPLES	<u>2</u>
HOLE NO.	<u>MW-4</u>

APPENDIX E

EXCERPT OF BENNINGTON WATER SYSTEM MAP

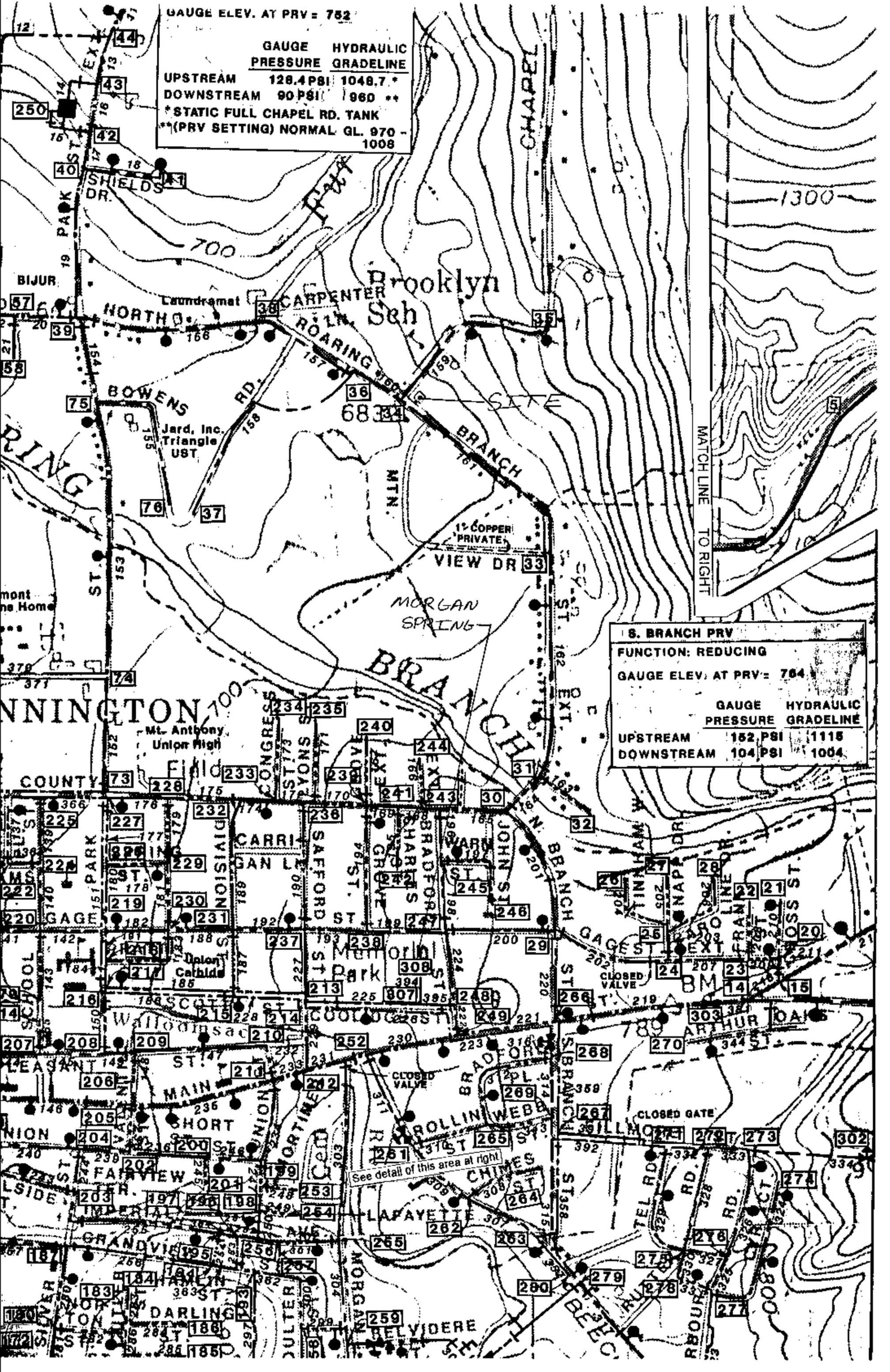
GAUGE ELEV. AT PRV = 752

	GAUGE	HYDRAULIC
	PRESSURE	GRADELINE
UPSTREAM	128.4 PSI	1048.7'
DOWNSTREAM	90 PSI	1060'

* STATIC FULL CHAPEL RD. TANK
 ** (PRV SETTING) NORMAL GL. 970 - 1008

S. BRANCH PRV
 FUNCTION: REDUCING
 GAUGE ELEV. AT PRV = 764

	GAUGE	HYDRAULIC
	PRESSURE	GRADELINE
UPSTREAM	152 PSI	1115'
DOWNSTREAM	104 PSI	1004'



MATCH LINE TO RIGHT

See detail of this area at right

CLOSED GATE

CLOSED VALVE

CLOSED VALVE

APPENDIX F

LABORATORY ANALYTICAL REPORT



RECEIVED

JUN 19 1998

DUFRESNE-HENRY, INC.

David Deane
Dufresne-Henry
Precision Park
N. Springfield, VT 05150

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 12756 DUFVT
Client Identification: Greene's Oil 4080064
Date Received: 06/04/98
Sample Quantity/Type: 4 aqueous

Dear Mr. Deane :

Enclosed please find the laboratory report for the above identified project. All analyses were subjected to rigorous quality control measures to assure data accuracy. Unless otherwise stated, all holding times, preservation techniques, container types and sample condition adhered to EPA protocol.

The following standard abbreviations and conventions apply throughout all Eastern Analytical, Inc. reports:

- < = "less than" followed by the detection limit
- TNR = Testing Not Requested
- ND = None Detected, no established detection limit
- BRL = Below Reporting Limits

If you have any questions regarding the results contained within, please feel free to directly contact me, the department supervisor, or the analytical chemist who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Will Brunkhorst (W)
Will Brunkhorst, President

6/15/98
Date



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 12756

Client: Dufresne-Henry

Client Designation: Greene's Oil 4080064

Volatile Organic Compounds

Client ID:	MW-1	MW-2	MW-3	MW-4
Matrix:	aqueous	aqueous	aqueous	aqueous
Date Received:	6/4/98	6/4/98	6/4/98	6/4/98
Date Analyzed:	6/5/98	6/8/98	6/8/98	6/11/98
Analyst:	VG	VG	VG	VG
Units:	ug/L	ug/L	ug/L	ug/L
Method:	8021	8021	8021	8021
Dilution Factor:	1	100	1	1
MTBE	50	9,000	< 10	< 10
Benzene	4	2,700	< 1	< 1
Toluene	1	30,000	< 1	< 1
Ethylbenzene	< 1	1,500	< 1	< 1
m,p-Xylene	17	9,400	4	< 1
o-Xylene	< 1	4,000	< 1	< 1

47.6 ppm
13.6 X

Approved By Clifford Chase, Volatile Organics Supervisor

Clifford Chase 6/12/98



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 12756

Client: Dufresne-Henry

Client Designation: Greene's Oil 4080064

Sample ID:	MW-1	MW-2	MW-3	MW-4
Analytical Type:	Sample	Sample	Sample	Sample
Matrix:	aqueous	aqueous	aqueous	aqueous
Date Sampled:	6/2/98	6/2/98	6/2/98	6/2/98
Date Received:	6/4/98	6/4/98	6/4/98	6/4/98
Units:	mg/l	mg/l	mg/l	mg/l
Date of Extraction/Prep:	6/5/98	6/5/98	6/5/98	6/5/98
Date of Analysis:	6/5/98	6/5/98	6/5/98	6/5/98
Analyst:	DJS	DJS	DJS	DJS
Method:	8100 Mod	8100 Mod	8100 Mod	8100 Mod
Dilution Factor:	1	1	1	1
TPH (C9-C40)	< 0.5	40	< 0.5	< 0.5

Approved By: Timothy Schaper Organics Supervisor

Timothy Schaper 6/9/98

CHAIN OF CUSTODY FORM

12756

DH Dufresne-Henry, Inc.
Precision Park
N. Springfield, VT 05150 (802)886-2261

Generator:

Page 1 of 1

Facility #:

DH #: 4080064

Return To: DAVID DEANE
Address:

Client: GREENE'S OIL

Client #:

Sampled By: OSCAR GARCIA

State Sampled: VT

Sample Identification	Date		Time		Comp. Desc.	Water Liquid Solid	# / Size Containers	Field Preserved Y/N	Field Filtered Y/N	Analysis Requested	Est. Lab Cost (\$)
	Start	Stop	Start	Stop							
MW-1	6/2/98		PM			L	2 / 40 ml	Y	N	VOC'S EPA 602(MOD)	
MW-1	"		"			"	1 / LITER	N	N	TPH L-1 EPA 8100(MOD)	
MW-2	"		"			"	2 / 40 ml	Y	N	VOC'S EPA 602(MOD)	
MW-2	"		"			"	1 / LITER	N	N	TPH L-1 EPA 8100(MOD)	
MW-3	"		"			"	2 / 40 ml	Y	N	VOC'S EPA 602(MOD)	
MW-3	"		"			"	1 / LITER	N	N	TPH L-1 EPA 8100(MOD)	
MW-4	"		"			"	2 / 40 ml	Y	N	VOC'S EPA 602(MOD)	
MW-4	"		"			"	1 / LITER	N	N	TPH L-1 EPA 8100(MOD)	
PER 6/14/98 TELEPHONE CONVERSATION BETWEEN R. FAULKNER AND D. DEANE PRICE FOR 602/6020 @ \$54 AND FOR 8100(MOD) LEVEL 1 @ \$90.											
SAMPLES IN 2 COOLERS											

Generator Rep. Authorization:

Estimated Lab Analysis Total

Relinquished By Generator:

Date:
Time:

Received By:

David Kelly

Date: 6/4/98
Time: 1000

Relinquished By: Bure Coy

Date: 6/3/98
Time: 2:30 PM

Received By:

Date:
Time:

PLEASE RETURN COMPLETED CHAIN OF CUSTODY WITH ANALYTICAL RESULTS

UP 1ND