

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**

**PVDC Complex
Springfield, VT 05156**

SMS Site #97-2235

**A Facility Owned By:
Precision Valley Development Corporation
100 River Street
Springfield, VT 05156
(802) 885-2138
Contact: Gary Holt**

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

**WASTE MANAGEMENT
DIVISION
JUN 10 9 47 AM '98**

June 8, 1998

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EXECUTIVE SUMMARY

An Initial Site Investigation has been completed at the PVDC complex on Pearl Street in Springfield, Vermont. The investigation was in response to the discovery of a petroleum product release during a Tank Closure Assessment in June and July 1997. Contamination of soil and groundwater was confirmed. One new UST was installed.

Four shallow groundwater monitoring wells were installed on the site in April 1998. Three of the monitoring wells were sampled and analyzed for VOC's by EPA Method 602(mod) and one of the downgradient wells was sampled and analyzed for VOC's by EPA Method 8260. The only compound above method detection limits was Trichloroethene. The concentration was below the Enforcement Standard.

Basal soils on the site are dense till. Overlying soils are miscellaneous sand and gravel fill. Bedrock in the study area is at or below 13'4", and likely dipping toward the Black River. Based on a single round of sounding, the direction of groundwater flow is to the north toward the Black River.

Relatively limited evidence of petroleum contaminated soil was found under the former UST's and in the immediate downgradient direction.

All of the properties in the vicinity of the site are on the municipal water supply system. The well field for the municipal system is located along the Black River approximately 2.4 miles upstream, and will not be impacted by the subject property. The nearest surface water is the Black River approximately 50 feet to the north. No evidence of heating oil was observed during this investigation, nor have any complaints been received from employees. The area disturbed by the fuel tank removal and replacement has been repaved. Although several sites on the Vermont Hazardous Waste Sites list are within one-half mile of the site, none are thought to have an impact on it.

Based on these findings, the site does not meet the SMS criteria for corrective actions under the Petroleum Cleanup Fund. It is recommended that a confirmatory round of samples be obtained in the spring of 1999. All of the samples should be analyzed by EPA Method 8260B. Recommendations will be reevaluated at that time.

**INITIAL SITE INVESTIGATION
PRECISION VALLEY DEVELOPMENT CORPORATION
SPRINGFIELD, VERMONT**

Introduction

The former Fellows Corporation is located on Pearl Street in Springfield, Vermont. The property is owned by the Precision Valley Development Corporation (PVDC) of Springfield, Vermont. A site location map is included as Appendix A.

Dufresne-Henry, Inc., in conjunction with Great Northern Environmental Services, performed a Tank Closure Assessment at the site in June and July 1997. The tanks removed were two (2) 12,000 gallon #4 fuel oil and two (2) 9,000 gallon #4 fuel oil single wall steel UST's. Evidence of soil and groundwater contamination was observed. Soil sample headspace PID readings up to 47 ppm were observed. Soil and water samples obtained at the time of the closure yielded elevated concentrations of TPH, Ethlybenzene, and Total Xylenes. The excavations were backfilled pending additional investigation. The owner opted not to participate in the "Expressway Program".

Work and Health and Safety Plans

As a result of the findings of the Tank Closure Assessment, the Sites Management Section (SMS) requested additional investigation at the property in a letter dated November 4, 1997. Dufresne-Henry prepared a Work Plan and a Health and Safety Plan for the proposed activities at the site. A copy of the proposed work plan was forwarded to the Hazardous Materials Management Division (HMMD) for review on December 4, 1997. Changes in the drilling and sampling programs from the originally requested scope were discussed with Mr. Robert Butler of the SMS prior to forwarding the work plan. The work plan was approved, with several minor modifications, via a letter dated March 19, 1998. Copies of these documents will be found in Appendix B. The remainder of this report describes the on-site activities and subsequent findings based on that work plan.

Site Description

The former Fellows Complex is located between the Black River and Pearl Street in Springfield, Vermont. The property is the site of a former machine shop and consists of a large multistory brick building, several smaller wood frame structures, and paved parking areas. The building has been converted for use by a number of manufacturing and nonmanufacturing businesses. The site is served by the municipal water and wastewater systems. The Black River is immediately to the north. Abutting land use is a mix of industrial and residential.

The former UST's were in a cluster behind a retaining wall at the northeastern corner of the main building. The boiler room for the complex is located immediately to the west. The two larger tanks are estimated to have been approximately 50 years old, and the two smaller tanks approximately 30 years old. The older tanks were found to be in poor condition, with the younger tanks noted as being in fair condition. The likely cause of the observed contamination is spills or overfills related to tank filling. A total of 625 gallons of product and sludge were pumped from the tanks and manifested off site.

One new UST was installed in the same location as the former tanks in 1997. Dufresne-Henry did not witness that work as part of this investigation or as part of the UST Closure Assessment.

Site History

The site was used by the Fellows Gear Shaper Corporation for many years as a machine tool manufacturing plant. The building is quite old, and has likely had one more additions over the years. The PVDC took possession of the facility in the 1980's and has since leased space to a variety of businesses. Both the former business, and several of the current businesses, use or store hazardous materials. Businesses currently occupying space include both manufacturing and nonmanufacturing uses.

The two 12,000 gallon UST's removed during the closure assessment were estimated to be approximately 50 years old. The two 9,000 gallon UST's were estimated to be approximately 30 years old. All of the tanks are believed to have been used for storing #6 oil in earlier years. The removed UST's were replaced with one UST in 1997. No other UST's are known to exist on the property.

The most recent (First Quarter, April 1998) Vermont Hazardous Waste Sites List maintained by the HMMD contains 20 other sites in Springfield. Five of the sites are within a one-half mile radius of the site. None of the sites are likely to have any impact on the subject property.

Monitoring Well Installation

Four (4) shallow groundwater monitoring wells were installed on April 2 and 3, 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 south of the former UST's in the presumed upgradient direction. MW-2 is located just southeast of the former UST's. MW-3 is located by the retaining wall at the Black River east of the former UST's. MW-4 is located along the retaining wall at the Black River north of the former UST's. All of the wells, except the

upgradient one, are within approximately 50 feet of the former tanks. Monitoring well siting was somewhat dictated by the presence of large diameter water and sewer lines. A site sketch showing the well and boring locations is included as Appendix C. Logs of the borings and monitoring well installation reports 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 with 100 ppm Isobutylene). The screening was done at ambient temperature.

In MW-1 no evidence of contamination was observed by visual or olfactory senses. PID readings were 0 ppm. The general geologic column is gravelly sand fill to approximately 7', followed by dense till to the limit of the boring. Refusal on probable bedrock was encountered at 13'4". The water table was observed at approximately 6'. In MW-2 miscellaneous fill was observed to approximately 10', followed by gravelly sand to 12'6", then dense till to the limit of the boring at 20.5'. An oily odor with PID readings up to 1.9 ppm was observed between 11' and 12'6". The water table was encountered at approximately 12'. In MW-3 the general geologic column consists of miscellaneous fill to approximately 9', followed by gravelly sand to approximately 11'6", then dense till to the limit of the boring at 13'6". No evidence of contamination by visual or olfactory senses was observed. The peak PID reading was 1.3 ppm. The water table was encountered at approximately 9'. In MW-4 miscellaneous fill was found to approximately 7', followed by sand and gravel to about 12', and dense till to the limit of the bring at 15'. An oily odor with PID readings up to 31 ppm were observed between 9' and 11'. The water table was encountered at approximately 8'.

Two-inch diameter PVC monitoring wells were installed in each of the borings. Each well was constructed from .010" machine slotted screen. The screened intervals were 10' in wells MW-1, MW-3, and MW-4, with 15' in 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 monitoring well boxes. The wells were developed by pumping until the discharge was clear. Excess soil was polyencapsulated on site at a location approved by the client.

Site Geology

Surficial geology at the site is published as lacustrine sands and gravels and recent alluvium. The borings generally corroborated that information. Portions of the site have been filled on the order of 5'. The native soils are quite silty, and organic in places. Deeper sections of the borings typically were silty, gravelly sands, occasionally displaying a till-like character.

Bedrock in the area is complex with a variety of north-south trending bands of various

rock types. Published mapping indicates bedrock on the site is likely to be the Waits River Formation. The Waits River in this area is generally described as gray quartz-muscovite phyllite or schist. A very short distance to the west is the contact with the Northfield Formation, generally described a dark gray to black, quartz sericite phyllite with widely spaced interbeds similar to the Waits River. The age of the rocks is Lower to Middle Devonian. Bedrock outcroppings in the Black River immediately to the north corroborate the mapping. The depth to refusal was at least 13'4" in all locations.

Site Hydrogeology

At the time the monitoring wells were sampled on April 8, 1998, the depth to the water table ranged from approximately 6.0' to approximately 10.1'. Based on this single sounding, the direction of groundwater flow is generally to the east toward the Black River. The gradient is relatively shallow at approximately 3.5%. A site plan showing the groundwater contours on April 8, 1998 is included as Appendix E.

Potential Receptors

All of the properties in the vicinity of the site are on the municipal water supply system. The well field for the municipal supply is located adjacent to the Black River approximately 2.4 miles upstream of the subject property site, and will not be impacted by it. A water supply well reportedly exists approximately 50 feet from the tank site. The well is reportedly not in service, but can be put back on line as a supply for the boiler/heating system. The nearest surface water is the Black River located approximately 50 feet to the north. No evidence of breakout was observed in the river. The occupied portions of the building are generally to the north. No evidence of heating oil was observed in those areas at the time of the investigation, nor have any complaints been received from employees. The excavation for the UST removal and installation has been paved. This will prevent direct human contact with any contaminated soil, and help prevent the mobilization of any residual product in the soil.

Soil and Monitoring Well Sampling

The four (4) Dufresne-Henry monitoring wells were sampled on April 8, 1998 following the standard protocols submitted with the work plan. The sampling was performed by Dufresne-Henry personnel. Approximately three well volumes were purged from the monitoring wells prior to drawing a sample. No odors were observed upon opening any of the wells. No sheens were observed in any of the wells. The refrigerated samples were shipped to Eastern Analytical, Inc. of Concord, New Hampshire on April 8, 1998 via overnight carrier. Samples from monitoring wells MW-1, MW-2, and MW-3 were analyzed for VOC's by EPA Method 602(mod). Monitoring well MW-4 was analyzed for VOC's by EPA Method 8260B.

No compounds above method detection limits were found in MW-1, MW-2, and MW-3. The only compound above detection limits in MW-4 was Trichloroethene at a concentration of 2 $\mu\text{g/L}$. This compares to an Enforcement Standard of 5 $\mu\text{g/L}$. A copy of the contract laboratory analytical report is included as Appendix F.

Two (2) soil samples and one (1) groundwater samples were collected and analyzed at separate times during the UST Closure Assessment. The required samples were coordinated with Ms. Susan Thayer of the Underground Storage Tank Program. Soil sample S-1 and groundwater sample GW-1 were obtained from the bed of Tank #1 on June 16, 1997. Composite soil sample #2 was obtained from Tank #2 on June 17 1997. Soil samples S-3 and S-4, and groundwater sample GW-2 were obtained from the tank beds for Tank #3, and Tank #4 respectively on July 2, 1997. All of the samples were analyzed for TPH by EPA Method 8100(mod), and for VOC's by EPA Method 8020(mod). The results are summarized in Table 1 below. A copy of all of the contract laboratory analytical reports is also included in Appendix F.

Table 1
Summary of Analytical Results - UST Closure Assessment

Compound	S-1 mg/Kg	S-2 mg/Kg	S-3 mg/Kg	S-4 mg/Kg		E.S. $\mu\text{g/L}$	GW-1 $\mu\text{g/L}$	GW-2 $\mu\text{g/L}$
Benzene	<10	<10	<10	<10		5	<1	<1
Toluene	<10	<10	<10	<10		1,000	<1	<1
Ethylbenzene	20	<10	<10	<10		700	<1	<1
Total Xylenes	420	<10	<10	<10		10,000	<1	<1
Total BTEX	440	<10	<10	<10			1	<1
MTBE	<200	<200	<100	<100		40	<20	<20
TPH Solid mg/Kg Aq mg/L	17,000	<50	1,500	4,800		N.E. N.E.	5.4	1.0

E.S. State of Vermont Enforcement Standard
N.E. Not Established

Summary and Recommendations

In summary, four (4) shallow groundwater monitoring wells were installed on the site. The monitoring wells were sampled once. The only evidence of soil contamination found during the boring program was in MW-2 (former UST location) and MW-4 (between the former tanks and the river). Oily odors and PID readings up to 31 ppm were observed. Basal soils at the site are dense till. Bedrock was encountered in one boring at 13'4", and likely to be not too much deeper in the others.

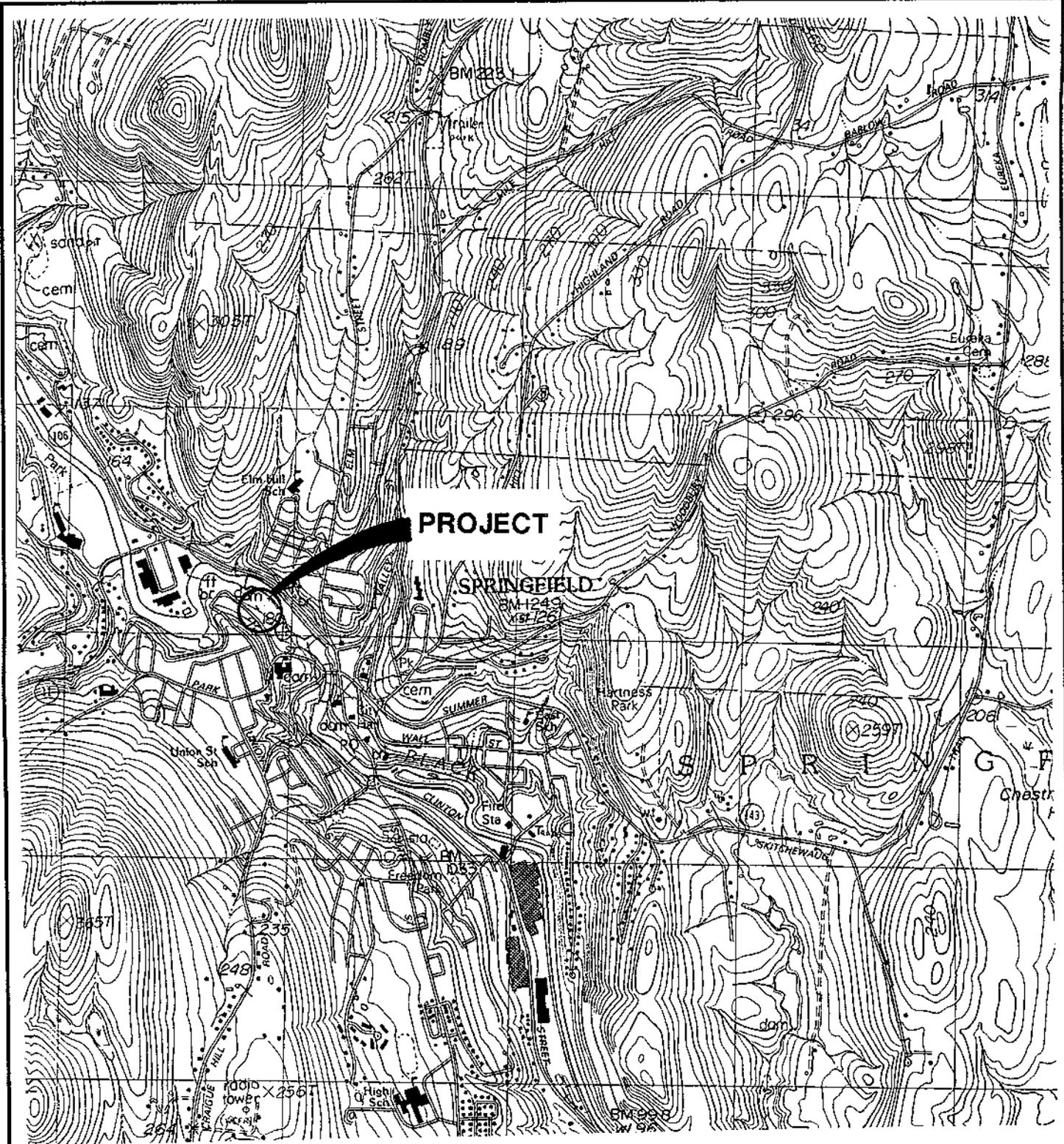
Three of the wells, MW-1, MW-2, and MW-3 were analyzed for VOC's by EPA method 602(mod). Well MW-4 was analyzed for VOC's by EPA Method 8260B. The only compound above detection limits was Trichloroethene in MW-4 at a concentration of 2 $\mu\text{g/L}$. The results indicate that contamination from the former UST's is likely to be limited to soil in the area. The Trichloroethene is likely to be related to the former machine shop operation at the site. It is possible this compound would have been detected in the other wells had they been analyzed by the same EPA method. The dense till found in all of the boring locations likely limits vertical plume migration.

Several sites on the Vermont Hazardous Waste Sites list are within a one-half mile radius of the subject property. None of the sites are likely to have any impact on the subject property. Properties in the immediate vicinity of the site are connected to the municipal water system. The nearest surface water is the Black River immediately to the north. No evidence of breakout was observed in the river. Portions of the building are at, or below, the tank beds. No reports of odors have been reported. PID screening of the those spaces is likely to be misleading given the history of the site. The disturbed area at the former (and current) fuel tanks has been repaved. This will prevent direct human contact with any contaminated soil, and help prevent mobilization of any product in the soil.

Based on these findings, the site does not meet the SMS criteria for corrective actions under the Petroleum Cleanup Fund. It is recommended that a confirmatory round of samples be obtained in the spring of 1999. All of the samples should be analyzed by EPA Method 8260B. Recommendations will be reevaluated at that time.

APPENDIX A

SITE LOCATION MAP



PROJECT

SCALE
1: 25,000

TAKEN FROM A USGS QUAD. SHEET FOR SPRINGFIELD, VERMONT
1984 PROVISIONAL EDITION

SITE LOCATION PLAN

PRECISION VALLEY DEVELOPMENT CORP.

SPRINGFIELD,

VERMONT

Project No.	4080002
Proj. Mgr.	F.D.D.
Date	MAY, '98
	SLP-1

Dufresne-Henry, Inc.
A DH Company
Precision Park
No. Springfield,
Vermont 05150
Tel. (802)886-2281 Fax (802)886-2280

APPENDIX B

**SITE INVESTIGATION REQUEST, WORK PLAN,
SITE HEALTH AND SAFETY PLAN**

Proposed Work Plan
Site Investigation

**PVDC - FORMER FELLOWS COMPLEX
SPRINGFIELD, VERMONT**

This work plan outlines the tasks to be completed for a Site Investigation at the former Fellows Complex in Springfield, Vermont. This plan has been prepared as a result of a petroleum product release discovered during a UST Closure Assessment. The UST's closed were (2) 12,000 gallon #4 oil, and (2) 9,000 gallon #4 oil tanks. Soil sample headspace PID readings of up to 47 ppm were observed. Petroleum sheens were also observed on ground water in the excavation.

The purpose of the investigation is to determine the existence and extent of subsurface petroleum contamination at the site. The proposed monitoring wells will be used to help ascertain the extent of a contamination plume and provide basic hydrogeologic data. At this time it is anticipated that four (4) shallow groundwater monitoring wells will be installed. The wells will be arrayed such that one is in the presumed upgradient direction, one in the immediate vicinity of the former UST's, and the remaining two downgradient of the former UST's. All field personnel are OSHA certified for hazardous site operations under 29 CFR part 1910.120.

BORINGS

It is anticipated that the borings for the monitoring wells will be completed using 4 1/4" hollow stem augers. If possible, monitoring well borings will be taken a minimum of five (5) feet into the prevailing water table. Bedrock is known to exist at shallow depths in the area. It is anticipated that well depth will not exceed 25 feet. Petroleum based pipe dope for use on drill rods, tools, or casing will not be allowed. No type of drilling mud, including polymers, will be used. Should flowing sands be encountered, clean water obtained locally will be used to increase hydraulic head. If flowing sands are particularly problematic, casing will be used. All borings and monitoring well installations will be performed by M & W Soils Engineering, Inc. of Charlestown, New Hampshire under the field supervision of Dufresne-Henry personnel.

SOIL SAMPLING

Soil samples will typically be taken at 5 foot intervals using a split spoon sampler. Sampling at other intervals may occur and will be a field decision of the Dufresne-Henry inspector. Possible reasons include abrupt changes in drill rate and suspected zones of contamination. It is likely that continuous sampling will be done in the boring immediately adjacent to the former tanks. The split spoon sampler allows retrieval of relatively undisturbed soil samples from a known depth for classification and Volatile Organic Compound (VOC) screening. All soil samples and material from the auger flights will be screened for VOC's by headspace analysis with a Photovac MicroTIP

HL-2000 photoionization detector (10.6 eV lamp, calibrated with Isobutylene). The act of driving the sampler (Standard Penetration Test) also gives an indication of the density or degree of compaction of the soil. Representative samples from each spoon will be placed in glass jars and retained by Dufresne-Henry. These are for project records only and are not intended for chemical analysis. Detailed logs of geology, drilling data, PID readings, and monitoring well installation will be prepared for each boring. At this time it is not anticipated that analytical soil samples will be collected.

MONITORING WELLS

Monitoring wells will be constructed from 2", 0.010" machine slotted, threaded, flush joint, Schedule 40 PVC. Assuming no refusal, each monitoring well will consist of 10' to 15' of screen with sufficient riser to reach approximately 2" below the surface grade. The bottom of the well will be set such that approximately 5 feet of screen extends below the water table observed at the time of installation. For wells with shallow depth to the water table, the screened interval will be a decision of the Dufresne-Henry inspector. The bottom of all wells will be provided with a PVC cap or point, or a plug with an expanding gasket. The annular space between the auger and the screen will be carefully backfilled with clean silica sand to create a filter pack around the well. The filter pack will extend from the bottom of the well to approximately 2 feet above the screen. A bentonite seal will be installed above the filter pack, and the remainder of the hole will be backfilled with native soil. A protective monitoring well box will be grouted in flush at the surface or a stick-up steel casing installed depending on the location. All wells will have removable top caps for sampling and sounding.

DECONTAMINATION

The borings may, or may not, be completed within the zone of contamination. However, to prevent cross contamination between the borings, strict decontamination procedures will be followed. All in-ground tools and equipment will be decontaminated by steam cleaning prior to the start of work and between borings. All decontamination will be done on-site at a designated location. Within the known contaminated area, routine cleaning of equipment, such as split spoons, will use water obtained at the site and a product such as ALCONOX. Disposal of spent cleaning solution will be at the site. Excess contaminated soil will be stored in a polyencapsulated stockpile.

WATER SAMPLING

Water quality samples will be obtained from the Dufresne-Henry installed monitoring wells following a period of stabilization. The samples will be taken by Dufresne-Henry personnel. Protocols for the sampling have been previously forwarded and are on file with the WMD. Samples will be obtained with disposable bailers which will be left in the wells to facilitate future sampling. Samples may not be obtained from any well exhibiting free product. Three of the monitoring wells will be analyzed for VOC's by EPA Method 602(mod), and one of the

downgradient monitoring wells will be analyzed for VOC's by EPA Method 8260 by Eastern Analytical, Inc. of Concord, New Hampshire.

SITE SURVEY

The relative locations and elevations of the monitoring wells will be determined. Sufficient additional surveying will be performed to update any existing site plan or prepare a new site plan.

RECEPTOR ASSESSMENT

A receptor assessment will be conducted to identify potential receptors including nearby water supply wells and surface water. The basements of any nearby buildings, if any, will be screened with the PID as deemed necessary.

REPORTING

A report will be prepared summarizing the findings and recommendations of the investigation including the monitoring well installation, groundwater quality and overall characterization of shallow subsurface conditions, and the likely impacts on potential receptors. Conclusions and recommendations regarding the need for long term treatment and/or monitoring will be included. The report will be submitted within 30 days of the monitoring well installation.

A summary breakdown of estimated costs to complete the work will be found attached.



State of Vermont

RECEIVED

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation
Waste Management Division

MAR 23 1998

103 South Main Street/West Office
Waterbury, Vermont 05671-0404
(802) 241-3888
FAX (802) 241-3296

DUFRESNE-HENRY, INC.

March 19, 1998

Director of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
RELAY SERVICE FOR THE HEARING IMPAIRED
1-800-253-0191 TDD>Voice
1-800-253-0195 Voice>TDD

Mr. Robert Mitchell
Precision Valley Development Corporation
100 River Street
Springfield, Vermont 05156

RE: Work Plan Approval
Precision Valley Development Corporation, Springfield, Vermont
SMS Site # 97-2235

Dear Mr. Mitchell:

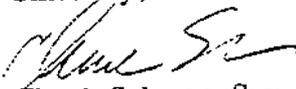
The Sites Management Section (SMS) has received and reviewed the workplan to address petroleum contamination at the above referenced site. The workplan was submitted by Dufresne-Henry, Inc. and is dated December 4, 1997 with revisions through March 18, 1998.

The SMS concurs with the elements of the workplan and approves its implementation as described. Please note that reimbursement of the costs associated with this work is subject to:

- an initial \$10,000 deductible per our letter of November 4, 1997;
- 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 that was included with our letter of November 4, 1997.

If you have any questions, please feel free to call me at (802) 241-3876.

Sincerely,


Chuck Schwer, Supervisor
Sites Management Section

cc: Mr. Bruce Cox, Dufresne-Henry, Inc.

CS:rgb
Ariel: D:\Bobsfiles\Wpwp2235.wpd

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PROJECT: PVDC SITE INVESTIGATION
JOB NO.: 4080002

HEALTH AND SAFETY PLAN
FOR

SITE INVESTIGATION

PRECISION VALLEY DEVELOPMENT CORPORATION

SPRINGFIELD, 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: April 2 - 3, 1998
Sampling: Week of 4/6/98

ANTICIPATED WEATHER CONDITIONS: temperatures in the 30's - 40's, possible rain or snow.

PROPOSED SITE INVESTIGATION TEAM:

<u>Personnel</u>	<u>Responsibilities</u>
Bruce Cox	Project Manager
Bruce Cox	Site Safety Officer
Bruce Cox/Oscar Garcia	Field Team Leader (Monitoring Wells/Sampling)
	Site Representative
Robert 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))

The PVDC site is the former Fellows complex between River Street and Pearl Street in Springfield, Vermont. The building currently houses a variety of businesses, both "clean" and using/storing potentially hazardous materials. The Black River is located immediately north of the site. On-site utilities include underground water, sewer lines, and stormwater pipes. Underground electric, telephone, steam, and abandoned gas lines may also exist. Overhead power lines exist. The water table has been observed at a depth of approximately 8'.

Dig Safe was contacted on 3/30/98. The site is clear after 12:30 pm on 4/1/98. The Dig Safe number is 981401440. The Town of Springfield Water and Sewer Department was contacted on 3/30/98 to mark out those utilities. Someone will be on site at 8:00 am on 4/2/98.

Site History:

The building formerly housed a machine tool company for many years. The building was taken over by the PVDC in the 1980's± and various tenants currently occupy portions of the building. The use of hazardous or regulated substances by former and current tenants is likely.

Monitoring or Sampling Data From Previous Site work:

In June and July 1997 four (4) #4 heating oil UST's were removed from the site. The tanks were (2) 12,000 gallon and (2) 9,000 gallon single wall steel UST's. The tanks had previously been used for #6 oil. Evidence of soil and groundwater contamination was observed. PID readings up to 47 ppm were observed. Four (4) soils samples and two (2) water sample were obtained for analysis of TPH. The results were 1,500 mg/kg, 4,800 mg/kg, 17,000 mg/kg, <50 mg/kg, 5.4 mg/L, and 1.0 mg/L respectively. The analysis noted the products as Diesel and lubricating oil range organics. A water sample contained 1 µg/L of Xylene, and a soil sample had 20 µg/Kg of Ethylbenzene, and 420 µg/Kg of Xylenes.

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): #4 and #6 fuel oil.

Hazard Evaluation:

Task: Mon. Well Install. Low Medium High

Identification of Hazards: #4 and #6 fuel oil

Task: Decontamination Low Medium High

Identification of Hazards: #4 and #6 fuel oil

Task: Sampling Low Medium High

Identification of Hazards: #4 and #6 fuel oil

Task: Low Medium High

Identification of Hazards:

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

PROJECT: PVDC SITE INVESTIGATION
JOB NO.: 4080002

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 PVDC parking lot near the wastewater pump station.

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

The parking lot near the former UST's.

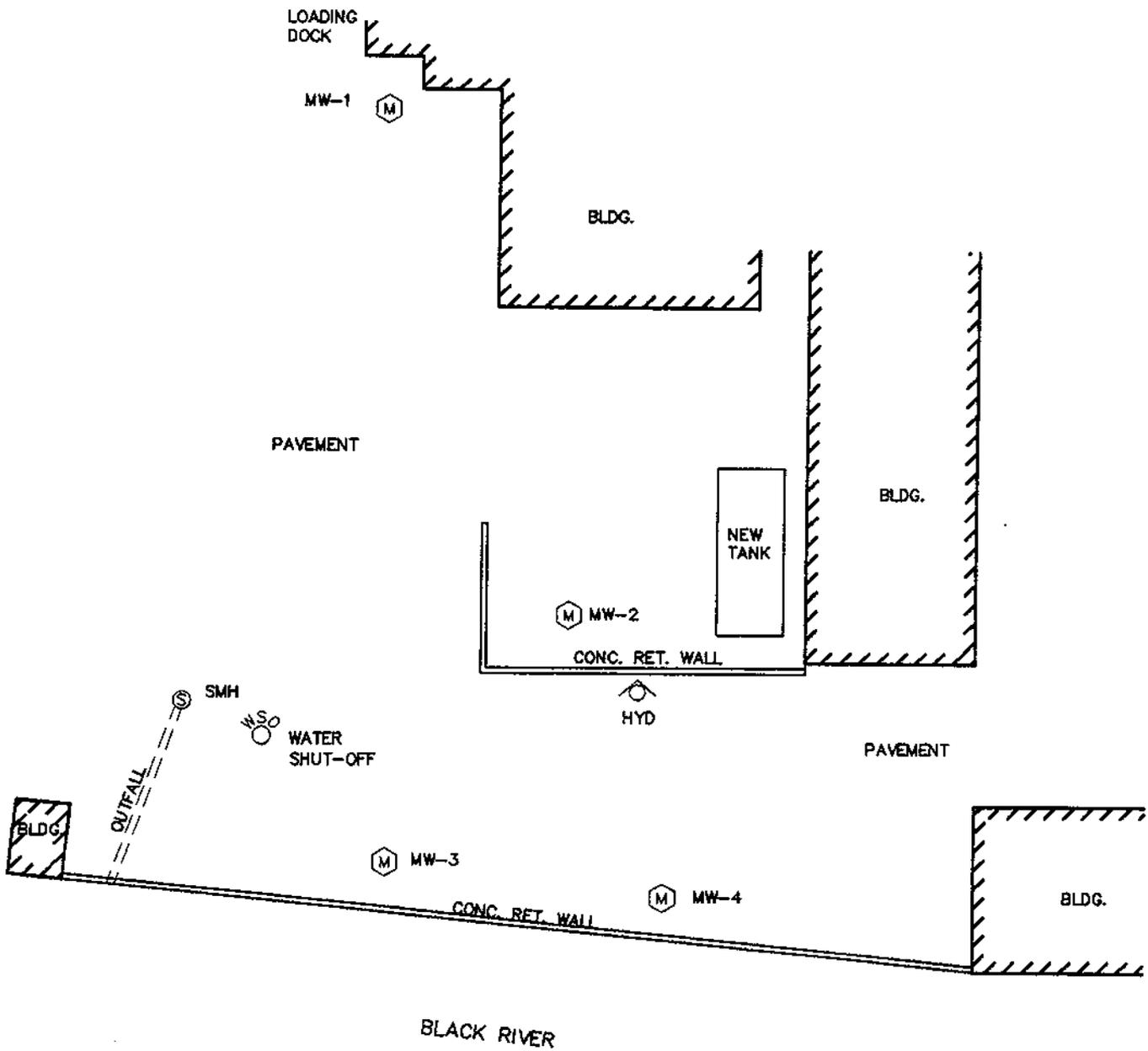
During the intrusive work, the exclusion area will be defined as follows:

A 15 foot radius around the drill rig.

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

The parking lot near 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 PLAN
 PREPARED FOR
PRECISION VALLEY DEVELOPMENT CORP.

SPRINGFIELD,

VT

Project No.	4080002
Proj. Mgr.	F.D.D.
Scale	1"=30'
Date	MAY '98
A	SK1

PROJECT: PVDC SITE INVESTIGATION
JOB NO.: 4080002

Hazard Assessment:

OVERALL HAZARD: ___ Serious ___ Moderate X Low ___ Unknown

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A 15 foot radius around the drill rig.

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

The parking lot near 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: PVDC SITE INVESTIGATION
JOB NO.: 4080002

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:

X 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.

X 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: PVDC SITE INVESTIGATION
JOB NO.: 4080002

EMERGENCY INFORMATION

AMBULANCE:	Springfield	Phone:	(802) 885 - 4545
HOSPITAL:	Springfield Hospital 25 Ridgewood Road Springfield, VT (see attached map)	Phone:	(802) 885 - 2151
POLICE:	Springfield	Phone:	(802) 885 - 2113
FIRE DEPARTMENT:	Springfield	Phone:	(802) 885 - 4545
POISON CENTER:		Phone:	(603) 650 - 5000
ANR INCIDENT RESPONSE:	Office	Phone:	(802) 241 - 3888
CORPORATE:			
	Dufresne-Henry N. Springfield, VT	Phone:	(802) 886 - 2261
	Project Manager: Bruce Cox		
NEAREST PHONE:	On site		
LOCATION OF ON-SITE FIRST AID KIT:	Boring contractors vehicle		
EMERGENCY VEHICLE:			

PROJECT: PVDC SITE INVESTIGATION
JOB NO.: 4080002

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

Copies of this SSP have been given to:

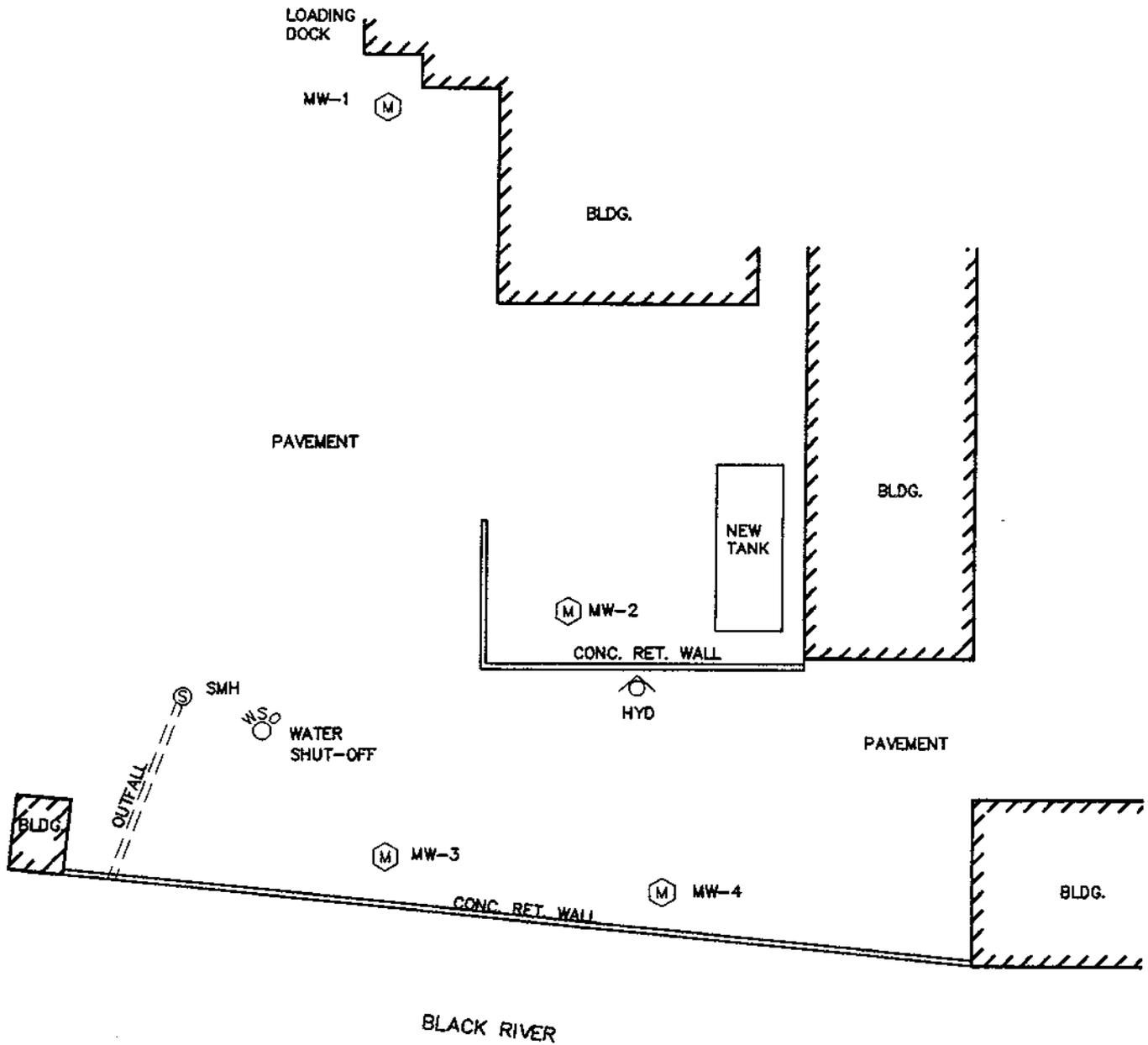
- _____
- _____
- _____
- _____
- _____

Approval Signatures:

PM _____
Div. Dir. _____

APPENDIX C

SITE PLAN



SITE PLAN
PREPARED FOR
PRECISION VALLEY DEVELOPMENT CORP.
SPRINGFIELD, VT

Project No.	4080002
Proj. Mgr.	F.D.D.
Scale	1"=30'
Date	MAY '98
A	SK1

APPENDIX D

BORING LOGS
AND
MONITORING WELL INSTALLATION REPORT

BORING LOCATION MW-1 INCLINATION V BEARING DATE START/FINISH 4/2/98 / 4/2/98
 CASING ID CORE SIZE TOTAL DEPTH 13.33 FT DRILLED BY: M & W SOILS ENGINEERING, INC. (M.H.)
 GROUND EL (AD) 502.54 DEPTH TO WATER/DATE 6.06 FT/ 4/9/98 LOGGED BY: B. COX

ELEV		SAMPLE			SAMP OD (IN)	LENGTH		REMARKS ON ADVANCE OF BORING	SIZE/TYPE BIT USED TO ADVANCE BORING	SOIL AND ROCK DESCRIPTION
AD (FT)	DEPTH (FT)	TYPE AND NO.	B	REC (IN)		PENE-TRATION (IN)				
497.54	5						4 1/4" HSA	8"/CCH	0' - 4'± Medium brown, gravelly SAND FILL. No odor or staining	
496.21	6.33	SS-1	5 6 75	2	4	16	75/4"		5' - 6' Probable medium brown, gravelly SAND similar to above. 6' - 6'4" Medium - dark gray, dense - very dense, TILL. No odor or staining. 0 ppm.	
496.04	6.50						4 1/4" HSA	8"/CCH	Probable TILL as above.	
494.04	8.50	SS-2	13 10 7 9	2	15	24			6'6" - 7' Medium brown, medium dense, SAND. Fine - predominately medium grained, well sorted sand. 10%± non plastic fines. Wet - saturated. No odor or staining. 0 ppm. 7' - 8'6" Medium - dark gray, medium dense - dense, silty TILL. Very fine - fine grained sand. 30%+ non plastic fines. No odor or staining. 0 ppm.	
492.54	10						4 1/4" HSA	8"/CCH	Probable TILL as above, becoming very dense.	
491.04	11.50	SS-3	20 45 50	2	20	24			Medium gray, very dense, silty TILL a above. Very fine - fine grained, well sorted sand. 50%+ non plastic fines. 10%+ fine gravel. Very dry. No odor or staining. 0 ppm.	
489.21	13.33						4 1/4" HSA	8"/CCH	Probable very dense TILL as above.	
									Refusal on HSA at 13'4" on possible bedrock. Set 10' of 2" dia, .010" slot, threaded, flush joint, Schd 40 PVC at 13'3". Sand backfill to 2'6". Bentonite seal 2' - 2'6". Grouted in flush, watertight, cast iron monitoring well box.	

B - Penetration resistance, Blows/6" of a 140 lb hammer falling 30 in to drive a split spoon sampler.
 REC - Length of sample recovered.
 SS - Split spoon sample.
 U - Undisturbed samples
 S - Shelby tube D - Denison
 F - Fixed piston P - Pitcher
 O - Osterberg
 SAMP OD - Outside diameter of sampling spoon

NOTES
 HSA = Hollow Stem Auger
 CCH = Conical Cutter Head
 ppm Refers to PID reading (10.6 eV lamp)
 Top of PVC elev = 502.23

PRECISION VALLEY DEVELOPMENT CORP.
 INITIAL SITE INVESTIGATION
 SPRINGFIELD, VERMONT
 DATE: 4/2/98 PROJECT: 4080002

BORING LOCATION MW-2		INCLINATION V		BEARING		DATE START/FINISH 4/2/98		/ 4/2/98				
CASING ID		CORE SIZE		TOTAL DEPTH 20.50		FT		DRILLED BY: M & W SOILS ENGINEERING, INC. (M.H.)				
GROUND EL (AD) 502.96		DEPTH TO WATER/DATE 10.14		FT/ 4/8/98		LOGGED BY: B. COX						
ELEV	SAMPLE			SAMP OD (IN)	LENGTH		REMARKS ON ADVANCE OF BORING	SIZE/TYPE BIT USED TO ADVANCE BORING	SOIL AND ROCK DESCRIPTION			
AD (FT)	DEPTH (FT)	TYPE AND NO.	8		REC (IN)	PENE-TRATION (IN)						
497.96	5						4 1/4" HSA	8"/CCH	MISCELLANEOUS FILL consisting of sand, gravel, and brick fragments. Dry. No odor or staining.			
496.96	6	SS-1	5 70	2	10	12			MISCELLANEOUS FILL as above. Dry. No odor or staining. 0 ppm.			
494.96	8						4 1/4" HSA	8"/CCH	Probable FILL as above.			
492.96	10	SS-2	5 8 10 8	2	5	24			Medium brown, medium dense, gravelly SAND. Very fine - medium grained, moderately well sorted sand. 20%± non plastic fines. 20% - 30% fine gravel. Dry. Slight oil odor, no staining. 0 ppm.			
490.96	12	SS-3	8 7 9 15	2	13	24			10' - 11' Medium brown, medium dense, gravelly SAND as above. 11' - 12' Medium gray, medium dense, silty SAND. Very fine - rarely medium grained, well sorted sand. 20% - 30% non plastic fines. 10%+ fine gravel. Very wet. Oily odor, no staining. 0 ppm.			
488.96	14	SS-4	21 27 39 59	2	24	24			12' - 12'6" Brown gravelly sand with occasional oil staining. Saturated. Oily odor. 1.9 ppm. 12'6" - 14' Medium gray, very dense, silty TILL. Very fine - fine grained, well sorted sand. 50%+ non plastic fines. 10%+ fine gravel. Trace of mica. Very dry. No odor or staining. 0 ppm.			
486.96	16						4 1/4" HSA	8"/CCH	Probable very dense TILL as above.			
485.96	17	SS-5	27 42	2	12	12			Medium - dark gray, very dense TILL as above. Dry. No odor or staining. 0 ppm			
482.46	20.5						4 1/4" HSA	8"/CCH	Probable very dense TILL as above.			
<p>No refusal to depth.</p> <p>Set 15' of 2" dia, .010" slot, threaded, flush joint, Schd 40 PVC at 20'3". Sand backfill to 126". No bentonite sea installed. Grouted in flush, watertight, cast iron monitoring well box.</p>												
<p>B - Penetration resistance, Blows/6" of a 140 lb hammer falling 30 in to drive a split spoon sampler. REC - Length of sample recovered. SS - Split spoon sample. U - Undisturbed samples S - Shelby tube D - Denison F - Fixed piston P - Pitcher O - Osterberg SAMP OD - Outside diameter of sampling spoon</p>							<p>NOTES</p> <p>HSA = Hollow Stem Auger CCH = Conical Cutter Head ppm Refers to PID reading (10.6 eV lamp)</p> <p>Top of PVC elev = 502.66</p>			<p>PRECISION VALLEY DEVELOPMENT CORP. INITIAL SITE INVESTIGATION</p> <p>SPRINGFIELD, VERMONT</p> <p>DATE: 4/2/98 PROJECT: 4080002</p>		
PAGE 1 OF 1							LOG OF BORING: MW-2					

BORING LOCATION MW-3 INCLINATION V BEARING DATE START/FINISH 4/3/98 / 4/3/98
 CASING ID CORE SIZE TOTAL DEPTH 13.50 FT DRILLED BY: M & W SOILS ENGINEERING, INC. (M.H.)
 GROUND EL (AD) 497.43 DEPTH TO WATER/DATE 6.89 FT/ 4/8/98 LOGGED BY: B. COX

ELEV	SAMPLE			SAMP OD (IN)	LENGTH		REMARKS ON ADVANCE OF BORING	SIZE/TYPE BIT USED TO ADVANCE BORING	SOIL AND ROCK DESCRIPTION
	AD (FT)	DEPTH (FT)	TYPE AND NO.		REC (IN)	PENE-TRATION (IN)			
494.43	5						4 1/4" HSA	8"/CCH	Medium reddish brown, sandy, GRAVEL FILL. No odor or staining
490.43	7	SS-1	3 1 1 4	2	13	24			Medium - dark reddish brown, very loose - loose, SAND and GRAVEL FILL. Predominately very fine - occasionally medium grained, moderately well sorted sand. 20%+ non plastic fines. 30%+ fine gravel and brick fragments. Dry - very lightly moist. No odor or staining. 0 ppm.
488.43	9	SS-2	1 1 1 1	2	12	24			Medium - dark reddish brown, very loose, SAND and GRAVEL FILL similar to above, but with larger sized gravel and 1" of wood near the bottom. Bottom 1" is medium gray, medium grained sand with an organic odor. Moist. 1.3 ppm.
486.43	11	SS-3	1 2 7 11	2	7	24			Medium gray and brown, loose - medium dense, SAND. Very fine - rarely coarse grained (predominately fine - medium grained), moderately well sorted sand. 10%± non plastic fines. Trace of mc and mafic minerals. Saturated. No odor or staining. 2.6 ppm.
485.93	11.50	SS-4	27 50	2	6	6	50/0"		Dark brown gray, dense SAND similar to above but with a coarser sand fraction and some fine gravel. Saturated. No odor or staining. 0.7 ppm.
483.93	13.50						4 1/4" HSA	8"/CCH	Probable SAND as above or TILL.
									Refusal on HSA at 13'6" on probable TILL. Set 8' of 2" dia, .010" slot, threaded, flush joint, Schd 40 PVC at 13'6". Sand backfill to 4'2". Bentonite seal 3'3" - 4'2". Grouted in flush, watertight, cast iron monitoring well box.

B - Penetration resistance, Blows/6" of a 140 lb hammer falling 30 in to drive a split spoon sampler. REC - Length of sample recovered. SS - Split spoon sample. U - Undisturbed samples S - Shelby tube D - Denison F - Fixed piston P - Pitcher O - Osterberg SAMP OD - Outside diameter of sampling spoon	NOTES HSA = Hollow Stem Auger CCH = Conical Cutter Head ppm Refers to PID reading (10.6 eV lamp) Top of PVC elev = 497.15	PRECISION VALLEY DEVELOPMENT CORP. INITIAL SITE INVESTIGATION	
		SPRINGFIELD, VERMONT DATE: 4/3/98 PROJECT: 4080002	

BORING LOCATION MW-4		INCLINATION V		BEARING		DATE START/FINISH 4/3/98 / 4/3/98				
CASING ID		CORE SIZE		TOTAL DEPTH 15 FT		DRILLED BY: M & W SOILS ENGINEERING, INC. (M.H.)				
GROUND EL (AD) 496.43		DEPTH TO WATER/DATE 6.01 FT/ 4/8/98		LOGGED BY: B. COX						
ELEV	SAMPLE			SAMP OD (IN)	LENGTH		REMARKS ON ADVANCE OF BORING	SIZE/TYPE BIT USED TO ADVANCE BORING	SOIL AND ROCK DESCRIPTION	
AD (FT)	DEPTH (FT)	TYPE AND NO.	B		REC (IN)	PENE-TRATION (IN)				
491.43	5						4 1/4" HSA	8"/CCH	Medium brown, SAND and GRAVEL FILL. Top 2'± may be foundry sand.. Dry. No odor or staining	
489.43	7	SS-1	2 1 1 1	2	8	24			Medium - dark brown, very loose, SAND and GRAVEL FILL, with abundant slag or coal cinders. Dry - slightly moist. No odor or staining. 0.3 ppm.	
487.43	9	SS-2	1 1 5 4	2	16	24			Dark brown, very loose - loose, SAND and GRAVEL, with occasional wood fragments. Very fine - occasionally very coarse grained, moderately poorly sorted sand. 20%+ non plastic fines. Trace of fine gravel. Very dark gray and oily appearing at the bottom. Faint oil odor?. 13.4 ppm.	
485.43	11	SS-3	7 8 11 35	2	16	24			9' - 10'6"± Medium gray and brown, medium dense, gravelly SAND. Very fine - very coarse grained, poorly sorted sand. 20%± non plastic fines. 30%+ fine gravel. Saturated. Oily odor and a sheen. 31 ppm. 10'6" - 11' Medium gray SAND. Saturated. Slight oil odor.	
484.93	11.50	SS-4	39 50	2	6	6	50/0"		Medium - dark gray, dense, SAND similar to above, but with only a trace of fine gravel. Saturated. Very slight oil odor?. 12 ppm.	
481.43	15						4 1/4" HSA	8"/CCH	Probable TILL.	
									No refusal to depth. Set 10' of 2" dia, .010" slot, threaded, flush joint, Schd 40 PVC at 15'. Sand backfill to 4'2". Bentonite seal 3' - 4'2". Grouted in flush, watertight, cast iron monitoring well box.	
<p>B - Penetration resistance, Blows/6" of a 140 lb hammer falling 30 in to drive a split spoon sampler. REC - Length of sample recovered. SS - Split spoon sample. U - Undisturbed samples S - Shelby tube D - Denison F - Fixed piston P - Pitcher O - Osterberg SAMP OD - Outside diameter of sampling spoon</p>							<p>NOTES HSA = Hollow Stem Auger CCH = Conical Cutter Head ppm Refers to PID reading (10.6 eV lamp) Top of PVC elev = 496.12</p>		<p>PRECISION VALLEY DEVELOPMENT CORP. INITIAL SITE INVESTIGATION</p> <p>SPRINGFIELD, VERMONT</p> <p>DATE: 4/3/98 PROJECT: 4080002</p>	
							PAGE 1 OF 1		LOG OF BORING: MW-4	

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

SHEET 1 OF 1
DATE 4/2/98
HOLE NO. MW-1
LINE & STA.
OFFSET

TO DUFRESNE-HENRY, INC. ADDRESS NORTH SPRINGFIELD, VT
PROJECT NAME PRECISION VALLEY DEVELOPMENT CORP. LOCATION SPRINGFIELD, VT
REPORT SENT TO BRUCE COX PROJ. NO. _____
SAMPLES RETAINED BY DUFRESNE-HENRY, INC. OUR JOB NO. 7364-98

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

LOCATION OF BORING SOUTH OF OLD TANKS - NEXT TO GARAGE

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
					3"	ASPHALT			
				DENSE	1'2"	BROWN FINE GRAVEL			
5'	5' - 6'4"	SS	5 6	MED. DENSE	7'	BROWN MEDIUM SAND WITH COBBLES AND BOULDERS	1	16'	11'
	6'6" - 8'6"	SS	7 9				2	24'	20'
10'	10' - 11'6"	SS	13 10	VERY DENSE	13'4"	GREY GRAVELLY SILTS WITH COBBLES (GLACIAL TILL)	3	18'	17'
			7 9						
15'						REFUSAL TO AUGER - BEDROCK OR BOULDER			
						SET 2" PVC WELL AT 13'3"			
						TOP OF WELL AT 3'3"			
						SAND TO 2'			
						BENTONITE CHIPS TO 1'			
						MATERIALS USED:			
						10' OF 2" PVC 0.010" SLOT SCREEN			
						5' OF 2" PVC SOLID			
						20# OF BENTONITE CHIPS			
						25# OF SAND			

GROUND SURFACE TO 13'4"

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 60%

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 13'4"
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 PRECISION VALLEY DEVELOPMENT CORP. LOCATION SPRINGFIELD, VT
REPORT SENT TO BRUCE COX PROJ. NO. _____
SAMPLES RETAINED BY DUFRESNE-HENRY, INC. OUR JOB NO. 7364-98

SHEET 1 OF 1
DATE 4/2/98
HOLE NO. MW-2
LINE & STA. _____
OFFSET _____

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

LOCATION OF BORING ON EAST EDGE OF TANK EXCAVATION

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
						2 1/2'	ASPHALT			
5'	5' - 6'	SS	5	70	LOOSE		FILL - BRICKS, SANDS AND GRAVELS	1	12"	10"
	8' - 10'	SS	5	8				2	24"	14"
			10	8						
10'	10' - 12'	SS	8	7		10'		3	24"	13"
			9	15						
	12' - 14'	SS	21	27	MED. DENSE		BROWN AND GREY GRAVELLY SANDS (SLIGHT ODOR)	4	24"	24"
			39	59		12'6"				
15'	16' - 17'	SS	27	42	VERY DENSE		GREY GRAVELLY SILTS WITH COBBLES	5	12"	12"
20'						20'6"	NO BEDROCK TO DEPTH			
							SET 2" PVC WELL AT 20'6" TOP OF WELL AT 5'6" SAND TO 1'			
							MATERIALS USED: 15' OF 2" PVC 0.010" SLOT SCREEN 5' OF 2" PVC SOLID 100# OF SAND 40# OF CEMENT MIX 1 2" EXPANSION CAP 1 2" PVC CAP 1 6" CAST IRON MANHOLE			

GROUND SURFACE TO 20'6"

USED HSA CASING THEN _____

Sample Type

D-Dry C-Cored W-Washed
UP-Unfinished Piston
TP-Test Pit A-Augur 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 20'6"
ROCK CORING _____
SAMPLES 5
HOLE NO. MW-2

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

SHEET 1 OF 1
DATE 4/3/98
HOLE NO. MW-3
LINE & STA. _____
OFFSET _____

TO DUFRESNE-HENRY, INC. ADDRESS NORTH SPRINGFIELD, VT
PROJECT NAME PRECISION VALLEY DEVELOPMENT CORP. LOCATION SPRINGFIELD, VT
REPORT SENT TO BRUCE COX PROJ. NO. _____
SAMPLES RETAINED BY DUFRESNE-HENRY, INC. OUR JOB NO. 7364-98

GROUND WATER OBSERVATIONS		CASING	SAMPLER	CORE BAR	SURFACE ELEV.
AT <u>10'11"</u>	AT <u>3</u> HOURS	Type <u>HSA</u>	<u>SS</u>		DATE STARTED <u>4/3/98</u>
AT _____	AT _____ HOURS	Size I. D. <u>4 1/4"</u>	<u>1 1/2"</u>		DATE COMPL. <u>4/3/98</u>
		Hammer Wt. _____	<u>140#</u>	BIT	BORING FORMAN <u>M.H. & C.C.</u>
		Hammer Fall _____	<u>30"</u>		INSPECTOR <u>B. COX</u>
					SOILS ENGR. _____

LOCATION OF BORING 75' NORTHEAST OF OLD TANK SITE

Depth	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6"		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		
			on sampler					NO.	PEN	REC
						2 1/2'	ASPHALT			
					LOOSE	2'	BROWN FINE GRAVELS			
5'	5' - 7'	SS	3	1	LOOSE	10'	BROWN MEDIUM TO COARSE SAND - FILL - BRICKS	1	24"	16"
	7' - 9'	SS	1	1				2	24"	20"
			1	1						
	9' - 11'	SS	1	2				3	24"	12"
10'	11' - 11'8"	SS	27	50/0"	MED. DENSE WET	12'	LIGHT GREY MEDIUM TO COARSE SANDS	4	6"	5"
					VERY DENSE	13'6"	GREY TILL			
15'							REFUSAL TO AUGER			
							SET 2" PVC WELL AT 13'6"			
							TOP OF WELL AT 8'6"			
							SAND TO 4'2"			
							BENTONITE CHIPS TO 3'			
							MATERIALS USED:			
							10' OF 2" PVC 0.010" SLOT SCREEN			
							5' OF 2" PVC SOLID			
							25# 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 13'8"

USED HSA CASING THEN _____

Sample Type
D-Dry C-Cored W-Washed
UP-Unfinished Piston
TP-Test Pit A-Augur 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 13'8"
ROCK CORING _____
SAMPLES 4
HOLE NO. MW-3

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

SHEET 1 OF 1
DATE 4/3/98
HOLE NO. MW-4
LINE & STA.
OFFSET

TO DUFRESNE-HENRY, INC. ADDRESS NORTH SPRINGFIELD, VT
PROJECT NAME PRECISION VALLEY DEVELOPMENT CORP. LOCATION SPRINGFIELD, VT
REPORT SENT TO BRUCE COX PROJ. NO.
SAMPLES RETAINED BY DUFRESNE-HENRY, INC. OUR JOB NO. 7364-98

GROUND WATER OBSERVATIONS		Type Size I. D. Hammer Wt. Hammer Fall	CASING HSA 4 1/4"	SAMPLER SS 1 1/2"	CORE BAR BIT 30"	SURFACE ELEV.
AT 9'8"	AT 1					HOURS
AT	AT	HOURS				DATE COMPL. 4/3/98
						BORING FORMAN M.H. & C.C.
						INSPECTOR B. COX
						SOILS ENGR.

LOCATION OF BORING NORTH OF CENTER OF OLD TANKS

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 ent.	SAMPLE		
							NO.	PEN	REC
					2'	ASPHALT			
				DENSE	1'4"	BROWN FINE GRAVEL			
5'	5' - 7'	SS	3	1			1	24"	12"
			1	1	LOOSE	BROWN GRAVELLY FILL - BRICKS - ETC.	2	24"	9"
	7' - 9'	SS	1	1			3	24"	18"
	9' - 11'	SS	7	8					
10'			11	35	MED. DENSE TO DENSE - WET	GREY MEDIUM TO COARSE SANDS	4	6"	6"
	11' - 11'6"	SS	39	50/0"					
15'					VERY DENSE	GREY TILL			
						NO BEDROCK TO DEPTH			
20'						SET 2" PVC WELL AT 15'6" TOP OF WELL AT 10'6" SAND TO 4'2" BENTONITE CHIPS TO 3'			
						MATERIALS USED: 10' OF 2" PVC 0.010" SLOT SCREEN 5' OF 2" PVC SOLID 25# OF BENTONITE CHIPS 250# OF SAND 40# OF CEMENT MIX 1 2" EXPANSION CAP 1 2" PVC CAP 1 6" CAST IRON MANHOLE			

GROUND SURFACE TO 15'6"

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 15'6"
ROCK CORING
SAMPLES 4
HOLE NO. MW-4

PRECISION VALLEY DEVELOPMENT CORPORATION
INITIAL SITE INVESTIGATION
SPRINGFIELD, VERMONT

April 2, 1998

Dufresne-Henry, Inc. - Bruce Cox on site at 8:00 am.

I met with representatives of the Springfield Water and Sewer Departments to locate those utilities. Also present was Russ Comstock, the chief maintenance person at the site.

M & W Soils Engineering, Inc. - Michael Hitchcock and Chris Conant on site at 9:35 am.

MW-1

MW-1 was located southwest of the former tanks, in the presumed upgradient direction. The boring was started at 9:45 am. The rig and other equipment had been steam cleaned prior to arrival on site. All water used for cleaning split spoons and other tools was brought to the site by M&W SEI. Drilled with 4 1/4" hollow stem augers taking split spoon samples at 5 foot intervals starting at 5 feet. All samples were screened for VOC's with a Photovac MicroTIP HL-2000 (10.6 eV lamp, calibrated with 100 ppm Isobutylene). Representative soil samples from each split spoon were stored in clear glass jars and retained by Dufresne-Henry. No analytical soil samples were collected. Total depth of the boring was 13'4" with refusal on possible bedrock. The general geologic column is gravelly sand fill to approximately 7', followed by dense till to the limit of the boring. No evidence of contamination by visual or olfactory sense was observed in the samples or on the tools. PID readings were 0 ppm. An apparent perched water table was encountered at approximately 6'6". Installed a 10' long, 2" diameter, .010" machine slotted, threaded, flush joint, Schedule 40 PVC well at 13'3". All pipe came from factory sealed plastic bags. The annular space was backfilled with clean silica sand to 2'6". A bentonite seal was installed from 2' - 2'6". A watertight monitoring well box was grouted in at the surface. All excess soil was disposed of on site at a pile of road sand.

Materials: 10' of 2", .010" slot, threaded, flush joint, Schd 40 PVC.
3' of 2", solid wall, threaded, flush joint, Schd 40 PVC.
250 lb of silica sand.
20 lb± of bentonite chips.
40 lb of concrete mix.
1 2" push-on PVC cap.
1 2" expanding gasket cap.
1 6" monitoring well box.

MW-2

MW-2 was located at the location of the former UST's, just easterly of the new UST. The boring was started at 12:15 pm. All water used for cleaning split spoons and other tools was brought to the

site by M&W SEI. Drilled with 4" solid stem augers taking continuous split spoon samples starting at 8 feet. All samples were screened for VOC's with a Photovac MicroTIP HL-2000 (10.6 eV lamp, calibrated with 100 ppm Isobutylene). Representative soil samples from each split spoon were stored in clear glass jars and retained by Dufresne-Henry. No analytical soil samples were collected. Total depth of the boring was 20'6" with no refusal. The general geologic column is miscellaneous fill to approximately 10', followed by gravelly sand to 12'6", and dense till to the limit of the boring. The fill contained bricks and probable boulders or concrete based on drilling difficulty. Oily odors were observed between approximately 8' and 12'6". The peak PID reading was 1.9 ppm. An apparent perched water table was encountered at approximately 12'. Due to the difficulty in advancing the boring with the solid stem augers, no attempt was made to open the hole with hollow stem augers. The boring was cleared of soil to the extent possible, and the well installed in the SSA hole. Installed a 15' long, 2" diameter, .010" machine slotted, threaded, flush joint, Schedule 40 PVC well at 20'3". All pipe came from factory sealed plastic bags. The annular space was backfilled with clean silica sand to 12". Because the well sits on the high point of pavement, and is underlain by loose miscellaneous fill, no bentonite seal was installed. A watertight monitoring well box was grouted in at the surface. All clean excess soil was disposed of on site at a pile of road sand. Contaminated soil was polyencapsulated on site at a location approved by the facility maintenance manager.

Materials: 15' of 2", .010" slot, threaded, flush joint, Schd 40 PVC.
5' of 2", solid wall, threaded, flush joint, Schd 40 PVC.
100 lb of silica sand.
40 lb of concrete mix.
1 2" push-on PVC cap.
1 2" expanding gasket cap.
1 6" monitoring well box.

Visitors: Gary Holt, Russ Comstock, and other PVDC employees.
Weather: Overcast - partly sunny, occasional light rain, 40's, light wind.
Off site at 3:45 pm.

April 3, 1998

Dufresne-Henry, Inc. - Bruce Cox on site at 8:05 am.
M & W Soils Engineering, Inc. - Michael Hitchcock and Chris Conant already on site.

MW-3

MW-3 was located northeasterly of the former UST's near the parking lot retaining wall at the edge of the Black River. The boring was started at 8:15 am. All water used for cleaning split spoons and other tools was brought to the site by M&W SEI. Drilled with 4 1/4" hollow stem augers taking continuous split spoon samples starting at 5 feet. All samples were screened for VOC's with a Photovac MicroTIP HL-2000 (10.6 eV lamp, calibrated with 100 ppm Isobutylene). Representative

soil samples from each split spoon were stored in clear glass jars and retained by Dufresne-Henry. No analytical soil samples were collected. Total depth of the boring was 13'6" with refusal on probable till. The general geologic column is miscellaneous fill to approximately 9', followed by gravelly sand to approximately 11'6", and dense till to the limit of the boring. No evidence of contamination by visual or olfactory sense was observed in the samples or on the tools. The peak PID reading was 1.3 ppm. The water table was encountered at approximately 9'. Installed an 8' long, 2" diameter, .010" machine slotted, threaded, flush joint, Schedule 40 PVC well at 13'6". All pipe came from factory sealed plastic bags. The annular space was backfilled with clean silica sand to 4'2". A bentonite seal was installed from 3'3" - 4'2". A watertight monitoring well box was grouted in at the surface. All clean excess soil was disposed of on site at a pile of road sand. Contaminated soil was polyencapsulated on site at a location approved by the facility maintenance manager.

Materials: 10' of 2", .010" slot, threaded, flush joint, Schd 40 PVC.
3'3" of 2", solid wall, threaded, flush joint, Schd 40 PVC.
150 lb of silica sand.
25 lb± of bentonite chips.
40 lb of concrete mix.
1 2" push-on PVC cap.
1 2" expanding gasket cap.
1 6" monitoring well box.

MW-4

MW-4 was located north of the former UST's near the parking lot retaining wall at the edge of the Black River. The boring was started at 10:25 am. All water used for cleaning split spoons and other tools was brought to the site by M&W SEI. Drilled with 4 1/4" hollow stem augers taking continuous split spoon samples starting at 5 feet. All samples were screened for VOC's with a Photovac MicroTIP HL-2000 (10.6 eV lamp, calibrated with 100 ppm Isobutylene). Representative soil samples from each split spoon were stored in clear glass jars and retained by Dufresne-Henry. No analytical soil samples were collected. Total depth of the boring was 15' with no refusal. The general geologic column is miscellaneous fill to 7'+, followed by sand and gravel to approximately 12', and dense till to the limit of the boring. Stained oily smelling sand was observed in the 9' - 11' sample. The peak PID reading was 31 ppm. The water table was encountered at approximately 8'. Installed a 10' long, 2" diameter, .010" machine slotted, threaded, flush joint, Schedule 40 PVC well at 15'. All pipe came from factory sealed plastic bags. The annular space was backfilled with clean silica sand to 4'2". A bentonite seal was installed from 3' - 4'2". A watertight monitoring well box was grouted in at the surface. All clean excess soil was disposed of on site at a pile of road sand. Contaminated soil was polyencapsulated on site at a location approved by the facility maintenance manager.

Materials: 10' of 2", .010" slot, threaded, flush joint, Schd 40 PVC.
4'9" of 2", solid wall, threaded, flush joint, Schd 40 PVC.
250 lb of silica sand.
25 lb± of bentonite chips.
40 lb of concrete mix.
1 2" push-on PVC cap.
1 2" expanding gasket cap.
1 6" monitoring well box.

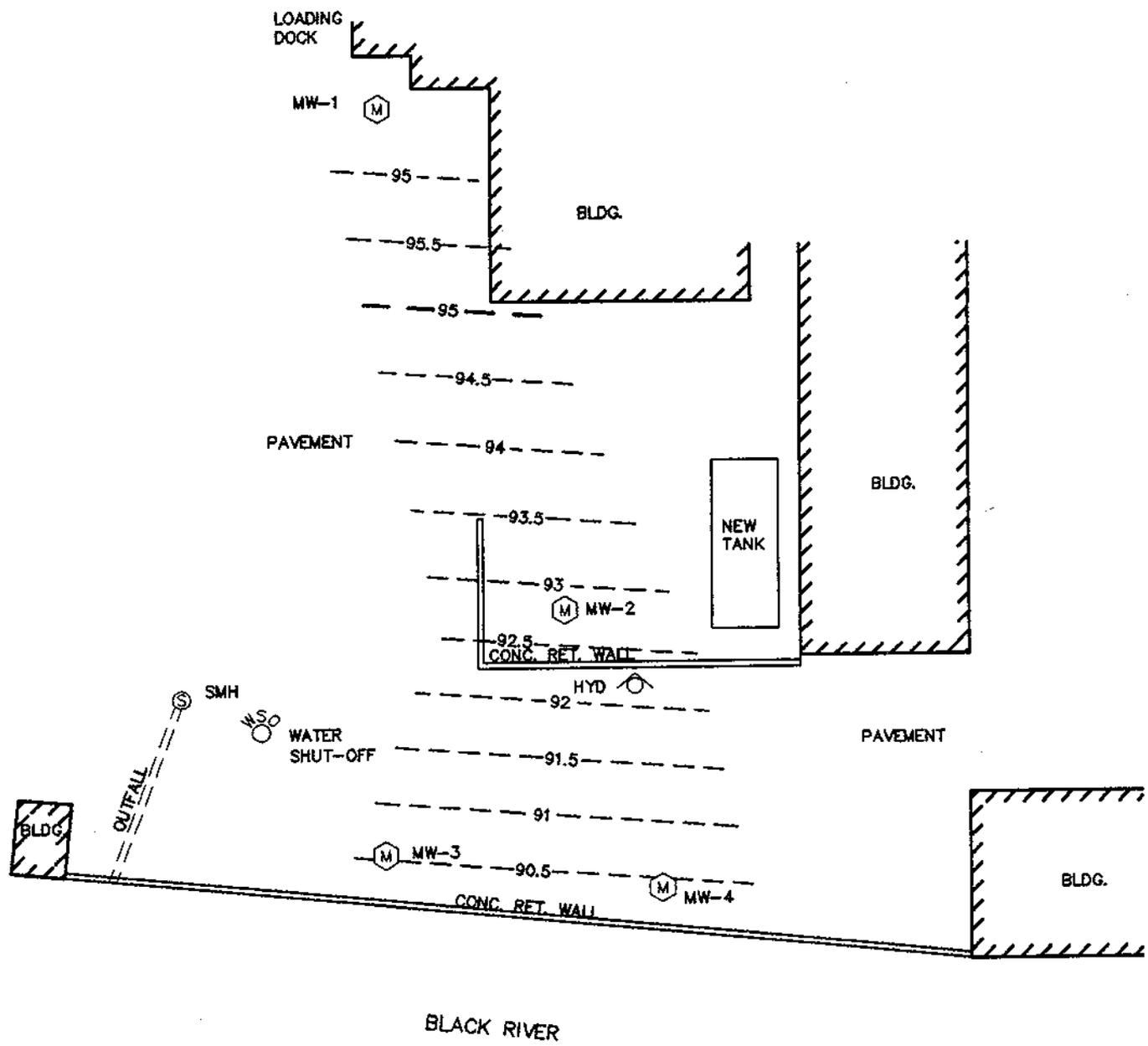
Visitors: Gary Holt, and other PVDC employees.

Weather: Overcast - partly sunny, occasional light rain, 40's, light wind.

Off site at 2:55 pm.

APPENDIX E

GROUNDWATER CONTOUR MAP



GROUNDWATER CONTOURS OBSERVED
ON APRIL 8, 1998

PRECISION VALLEY DEVELOPMENT CORP.

Project No.	4080002
Proj. Mgr.	F.D.D.
Scale	1"=30'
Date	MAY '98
VT A	SK1

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

SPRINGFIELD,

VT

APPENDIX F

CONTRACT LABORATORY ANALYTICAL REPORTS



RECEIVED

Oscar Garcia
Dufresne-Henry
Precision Park
N. Springfield, VT 05150

APR 24 1998

DUFRESNE-HENRY, INC.

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 12025 DUFVT
Client Identification: P.V.D.C. 4080002
Date Received: 04/09/98
Sample Quantity/Type: 4 aqueous

Dear Mr. Garcia :

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 (ru)
Will Brunkhorst, President

4/21/98
Date



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 12025

Client: Dufresne-Henry

Client Designation: P.V.D.C. 4080002

Volatile Organic Compounds

Sample ID:	MW-4	MW-4
Matrix:	Aqueous	Aqueous
Date Received:	4/9/98	4/9/98
Units:	µg/L	µg/L
Date of Analysis:	4/10/98	4/10/98
Analyst:	JDS	JDS
EPA Method:	8260B	8260B
Dichlorodifluoromethane	< 5	1,3-Dichloropropane < 2
Chloromethane	< 2	Tetrachloroethene < 2
Vinyl chloride	< 2	Dibromochloromethane < 2
Bromomethane	< 2	1,2-Dibromoethane < 2
Chloroethane	< 5	Chlorobenzene < 2
Trichlorofluoromethane	< 5	1,1,1,2-Tetrachloroethane < 2
Diethyl ether	< 5	Ethylbenzene < 1
Acetone	< 10	mp-Xylene < 1
1,1-Dichloroethene	< 1	o-Xylene < 1
Methylene chloride	< 2	Styrene < 1
Carbon disulfide	< 5	Bromoform < 2
Methyl-t-butyl ether(MTBE)	< 10	iso-Propylbenzene < 1
trans-1,2-Dichloroethene	< 2	1,1,2,2-Tetrachloroethane < 2
1,1-Dichloroethane	< 2	1,2,3-Trichloropropane < 2
2-Butanone(MEK)	< 10	n-Propylbenzene < 1
2,2-Dichloropropane	< 2	Bromobenzene < 1
cis-1,2-Dichloroethene	< 2	1,3,5-Trimethylbenzene < 1
Chloroform	< 2	2-Chlorotoluene < 2
Bromochloromethane	< 2	4-Chlorotoluene < 2
Tetrahydrofuran(THF)	< 10	tert-Butylbenzene < 1
1,1,1-Trichloroethane	< 2	1,2,4-Trimethylbenzene < 1
1,1-Dichloropropene	< 2	sec-Butylbenzene < 1
Carbon tetrachloride	< 2	p-isoPropyltoluene < 1
1,2-Dichloroethane	< 2	1,3-Dichlorobenzene < 1
Benzene	< 1	1,4-Dichlorobenzene < 1
Trichloroethene	2	n-Butylbenzene < 1
1,2-Dichloropropane	< 2	1,2-Dichlorobenzene < 1
Bromodichloromethane	< 2	1,2-Dibromo-3-chloropropane < 1
Dibromomethane	< 2	1,2,4-Trichlorobenzene < 1
4-Methyl-2-pentanone(MIBK)	< 10	Hexachlorobutadiene < 1
cis-1,3-Dichloropropene	< 2	Naphthalene < 1
Toluene	< 1	1,2,3-Trichlorobenzene < 1
trans-1,3-Dichloropropene	< 2	
1,1,2-Trichloroethane	< 2	
2-Hexanone	< 10	

Approved By: Clifford Chase, Volatile Organics Supervisor

Clifford Chase
4/10/98



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 12025

Client: Dufresne-Henry

Client Designation: P.V.D.C. 4080002

Volatile Organic Compounds

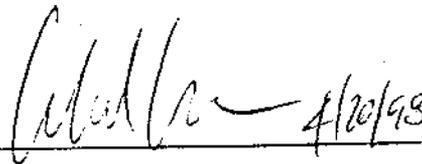
Client ID:	MW-1	MW-2	MW-3
Matrix:	aqueous	aqueous	aqueous
Date Received:	4/9/98	4/9/98	4/9/98
Date Analyzed:	4/15/98	4/15/98	4/15/98
Units:	ug/L	ug/L	ug/L
Method:	*602 mod	*602 mod	*602 mod
Dilution Factor:	1	1	1

Target Analyte Results

MTBE	< 10	< 10	< 10
Benzene	< 1	< 1	< 1
Toluene	< 1	< 1	< 1
Ethylbenzene	< 1	< 1	< 1
m,p-Xylene	< 1	< 1	< 1
o-Xylene	< 1	< 1	< 1

*mod: MTBE included in calibration.

Approved By: Clifford Chase, Volatile Organics Supervisor

 4/20/98



eastern analytical

professional laboratory services

Oscar Garcia
Dufresne-Henry
Precision Park
N. Springfield, VT 05150

FILED
JUL 10 1997

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 9142 DUFVT
Client Identification: 4170054
Date Received: 06/24/97
Sample Quantity/Type: 2 solid
1 aqueous

Dear Mr. Garcia:

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 (44)
Will Brunkhorst, President

7/3/97
Date



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 9142

Client: Dufresne-Henry

Client Designation: 4170054

Volatile Organic Compounds

Sample ID:	GW-1	S1 Comp.	2
Matrix:	Aqueous	Solid	Solid
Date Received:	6/24/97	6/24/97	6/24/97
Units:	µg/L	µg/Kg	µg/Kg
Date of Analysis:	6/27/97	6/27/97	7/1/97
Analyst:	TML	TML	TML
Method:	*8020(mod)	*8020(mod)	*8020(mod)

MTBE	< 20	< 200	< 200
Benzene	< 1	< 10	< 10
Toluene	< 1	< 10	< 10
Ethylbenzene	< 1	20	< 10
m,p-Xylene	< 1	230	< 10
o-Xylene	1	190	< 10

*8020(mod): MTBE included in compound calibrations.

Approved by: Clifford Chase, Volatile Organics Supervisor



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 9142 DUFVT

Client: Dufresne-Henry

Client Designation: 4170054

Total Petroleum Hydrocarbons

Sample ID:	GW-1	S1 Comp.	2
Matrix:	Aqueous	Soil	Soil
Date Received:	6/24/97	6/24/97	6/24/97
Units:	mg/L	mg/kg	mg/kg
Date of Extraction:	6/25/97	6/24/97	6/24/97
Date of Analysis:	6/26/97	6/24/97	6/24/97
Analyst:	NZ	NZ	NZ
EPA Method:	8100(mod)	8100(mod)	8100(mod)
Carbon Range:	C9-C40*	C9-C40*	C9-C40*
Total Petroleum Hydrocarbons	5.4	17,000	< 50

* Fuel (Diesel) and Lubricating Oil Range Organics.

Approved By: Timothy Schaper, Organics Supervisor

CHAIN OF CUSTODY FORM

9142

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

Generator: P.V.D.C.

Page 1 of 1

Facility #:

DH #: 4176054

Return To:

Client:

Client #:

Address: Oscar

Sampled By: Oscar

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							
GW-1	6/20	97			D	W	2-40 mL	HCC	N	8020 + 8100 (L1)	
GW-1					D	W	1 Liter	N	N		
S1-A } please composite into 1 sample					C	S	1 1/2 - 40 mL	N	N		
					C	S	1 1/2 - jelly	N	N		
					C	S	1 - 40 mL	N	N		
					C	S	1 - jelly	N	N		
2					C	S	1-40 mL 1 - jelly	N	N		

Generator Rep. Authorization:

Estimated Lab Analysis Total

Relinquished By Generator:

Date:

Received By:

Date:

Time:

Time:

Relinquished By:

Diana De. G...

Date: 6/23/97

Received By:

Via UPS *ES Burr*

Date: 6/24/97

Time: 4 pm

Time: 1:00

PLEASE RETURN COMPLETED CHAIN OF CUSTODY WITH ANALYTICAL RESULTS



eastern analytical

professional laboratory services

Oscar Garcia
Dufresne-Henry
Precision Park
N. Springfield, VT 05150

JUL 17 1997

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 9245 DUFVT
Client Identification: #4170054 P.V.D.C.
Date Received: 07/03/97
Sample Quantity/Type: 1 aqueous
2 soil

Dear Mr. Garcia:

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 (84)
Will Brunkhorst, President

7/15/97
Date



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 9245

Client: Dufresne-Henry

Client Designation: #4170054 P.V.D.C.

Volatle Organic Compounds

Sample ID:	GW-2	S-3	S-4
Matrix:	Aqueous	Soil	Soil
Date Received:	7/3/97	7/3/97	7/3/97
Units:	µg/L	µg/Kg	µg/Kg
Date of Analysis:	7/9/97	7/9/97	7/10/97
Analyst:	TML	TML	TML
Method:	*8020(mod)	*8020(mod)	*8020(mod)

MTBE	< 20	< 100	< 100
Benzene	< 1	< 10	< 10
Toluene	< 1	< 10	< 10
Ethylbenzene	< 1	< 10	< 10
m,p-Xylene	< 1	< 10	< 10
o-Xylene	< 1	< 10	< 10

*8020(mod): MTBE included in compound calibrations.

Approved by: Clifford Chase, Volatile Organics Supervisor



LABORATORY REPORT

Eastern Analytical, Inc. ID#: 9245 DUFVT

Client: Dufresne-Henry

Client Designation: #4170054 P.V.D.C.

Total Petroleum Hydrocarbons

Sample ID:	GW	S-3	S-4
Matrix:	Aqueous	Soil	Soil
Date Received:	7/3/97	7/3/97	7/3/97
Units:	mg/L	mg/kg	mg/kg
Date of Extraction:	7/8/97	7/7/97	7/7/97
Date of Analysis:	7/8/97	7/7/97	7/7/97
Analyst:	DJS	DJS	DJS
EPA Method:	8100(mod)	8100(mod)	8100(mod)
Carbon Range:	C9-C40*	C9-C40*	C9-C40*
Total Petroleum Hydrocarbons	1.0	1,500	4,800

* Fuel (Diesel) and Lubricating Oil Range Organics.

Approved By: Timothy Schaper, Organics Supervisor

