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- Consulting Hydrogeologists
- Engineers
- Environmental Scientists

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**STRATTON MOUNTAIN RESORT
STRATTON, VERMONT**

**ENERGY CENTER ADDITIONAL
SUBSURFACE INVESTIGATION REPORT**

NOV 13 10 25 AM '97

Prepared by:

Heindel and Noyes

Prepared for:



November 11, 1997

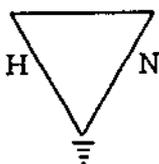
STRATTON MOUNTAIN RESORT STRATTON, VERMONT

ENERGY CENTER ADDITIONAL SUBSURFACE INVESTIGATION REPORT

November 11, 1997

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November 11, 1997

1.0 INTRODUCTION

In August of 1996, Heindel and Noyes (H&N) supervised and assessed the removal of a 2,000-gallon underground storage tank used to store used compressor oil at the Stratton Mountain Resort Energy Center in Stratton, Vermont.¹ Subsurface soil samples collected from the base of the UST excavation revealed total petroleum hydrocarbons (TPH) in concentrations of 16,600 and 7,830 mg/kg (ppm). Upon receipt of this information, Mr. Bruce Linton, Site Project Manager at the Department of Environmental Conservation (VDEC) Sites Management Section (SMS) requested that additional subsurface characterization of the site be performed along with a sensitive receptor survey. This request was made on November 22, 1996. An extension was granted by the SMS for performance of the subsurface investigation work due to the close proximity of the Energy Center to active ski trails and the impending ski season. As a result, the additional subsurface investigation activities occurred in August 1997. Four test-pit type monitoring wells were installed, soil and ground water samples were obtained and analyzed for TPH and glycols, and a sensitive receptor survey performed. This report presents the data collected during the additional subsurface investigation and makes conclusions and recommendations based thereon.

¹H&N Report #3672. Stratton Mountain Energy Center-Tank Pull Report. 9/24/96.

2.0 MONITORING WELL INSTALLATIONS

On July 30, 1997, four test-pit style monitoring wells were installed at the Energy Center sites. Locations of the wells are shown as TPW-1 through TPW-4 on the site plan enclosed as page 1 of Appendix 1. Each test pit was advanced to a depth of between 8 and 14 feet. Each boring was advanced to a depth where refusal occurred with the backhoe. It is assumed that refusal was on bedrock or very large boulders. All the soils encountered were descriptively logged and screened with an H-Nu photoionization device (PID). Descriptive test pit logs are included as pages 2 and 3 of Appendix 1. Test pits constructed outside of the former UST area encountered a thin veneer of organic silt and clays directly atop glacial till consisting of coarse sands and gravel with large boulders. No PID response was observed in any of the wells or test excavations outside of the former UST area (i.e., TP-1, TP-2, and TP-4).

The test pit installed in the former waste oil UST area revealed coarse sand and silt fill materials to a depth of 11 feet. At 11 feet it is likely that bedrock is encountered. See the test pit logs in Appendix 1 for details. The highest PID response in this test pit was 0.2 ppm at a depth of 9 feet below ground surface. Note that standing water in the test pit area contained an oily sheen but did not give PID response. This is consistent with the type of oil used in the compressor.

Upon completion of each test pit, a monitoring well consisting of 5 feet of 2 inch diameter PVC screen wrapped in filter sock with sufficient flush threaded riser to allow for 2 to 3 feet of well stickup was installed. The materials removed from the test pit were then backfilled around the monitoring well. Detailed construction logs for each well are included on pages 2 and 3 of Appendix 1. With monitoring well installations complete, a survey of the site was performed to determine the relative locations and elevations of the monitoring wells. A temporary bench mark of 100.00 feet was set for the northeast corner of the Energy Center building. Table 1 presents the top of pipe elevations of each well and ground water elevations on August 8, 1997 (Appendix 1, page 4). Ground water was found in TPW-1, TPW-2, and TPW-3 at depths ranging from 5 to 13 feet below ground surface. No ground water was evidenced in TPW-4 to its complete 14 foot depth. Several site visits have been made since August 8th to see if ground water has entered TPW-4. No significant amounts of water have been seen to date. The ground water elevation data presented on table 1 has been utilized along with the site plan to generate the ground water contour map shown

as page 5 of Appendix 1. Ground water generally flows from southwest to northeast at a gradient of 0.23 feet/ft.

3.0 SOIL AND GROUND WATER SAMPLING RESULTS

One soil sample was obtained from the TPW-3 location at a depth of 11 feet below grade. The sample was analyzed for the presence of ethylene and propylene glycol, and total petroleum hydrocarbons (TPH) by EPA Method 8100 (modified). The soil sample results are summarized on page 6 of Appendix 1. The laboratory result sheets are included in Appendix 2. A review of the data indicates that no glycols were measured at the detection limit of 1 ppm. TPH was identified at a concentration of 1,340 ppm. This is a significant decrease from the 16,600 and 7,830 ppm seen at the 8-10' depth during the UST abandonment event. The decrease is likely due to intrinsic degradation of the residual contaminants. However, the possibility of contaminant migration away from the area also exists.

Ground water quality samples were obtained on August 8, 1997 and analyzed for the presence of glycols and TPH. These results have been summarized on page 7 of Appendix 1 and the laboratory result sheets are included in Appendix 2. Please note that TPW-4 was not sampled as no ground water had entered the well. Several site visits have been performed since August 8th to see if ground water has entered the well. To date, insufficient quantities of water have been present to allow for accurate sampling.

Review of the ground water quality data presented on page 7 of Appendix 1 shows that no quantifiable levels of glycols or TPH-related compounds were seen in downgradient wells TPW-1 and TPW-2. No glycols were identified in the TPW-3 well (source area). However, TPH was measured in a concentration of 5.61 parts per million in TPW-3.

4.0 RECEPTOR SURVEY

While onsite installing the test pit monitoring wells, the area surrounding the Energy Center was visually surveyed to identify any potential sensitive receptors in the area. No basements or homes are located within 200 feet of the former UST area. As no PID response was given by the test pit wells outside of the UST area, it was not felt that PID screening of the basement air spaces was necessary.

No perennial surface waters exist within several hundred feet of the site. No ground water seeps or discharges were identified nearby.

The Energy Center itself is located within the Zone 2 Wellhead Protection Area for Stratton Wells #9, 17 and 18. Currently this Well #9 is not being operated. H&N feels that the ground water information acquired to date indicates that any contaminants associated with the former waste oil UST would be flowing away from Wells #9, 17 and 18 towards the north-northeast and TPW-1 and TPW-2. The fact that both these wells show no quantifiable levels of TPH type contaminants indicates that little to no contaminant migration has occurred. Therefore, Well #9 does not appear to be at significant risk from the residual contamination at the Energy Center.

Although each of the test pits appears to terminate on the bedrock surface, several feet of ground water are present above the bedrock (with the exception at TPW-4). The relatively low levels of dissolved phase contaminants identified during this phase of work indicates that risk of bedrock contamination is minimal. However, because the Energy Center falls within the wellhead protection areas for Wells #9, 17 and 18 continued contaminant concentration tracking should occur.

5.0 CONCLUSIONS AND RECOMMENDATIONS

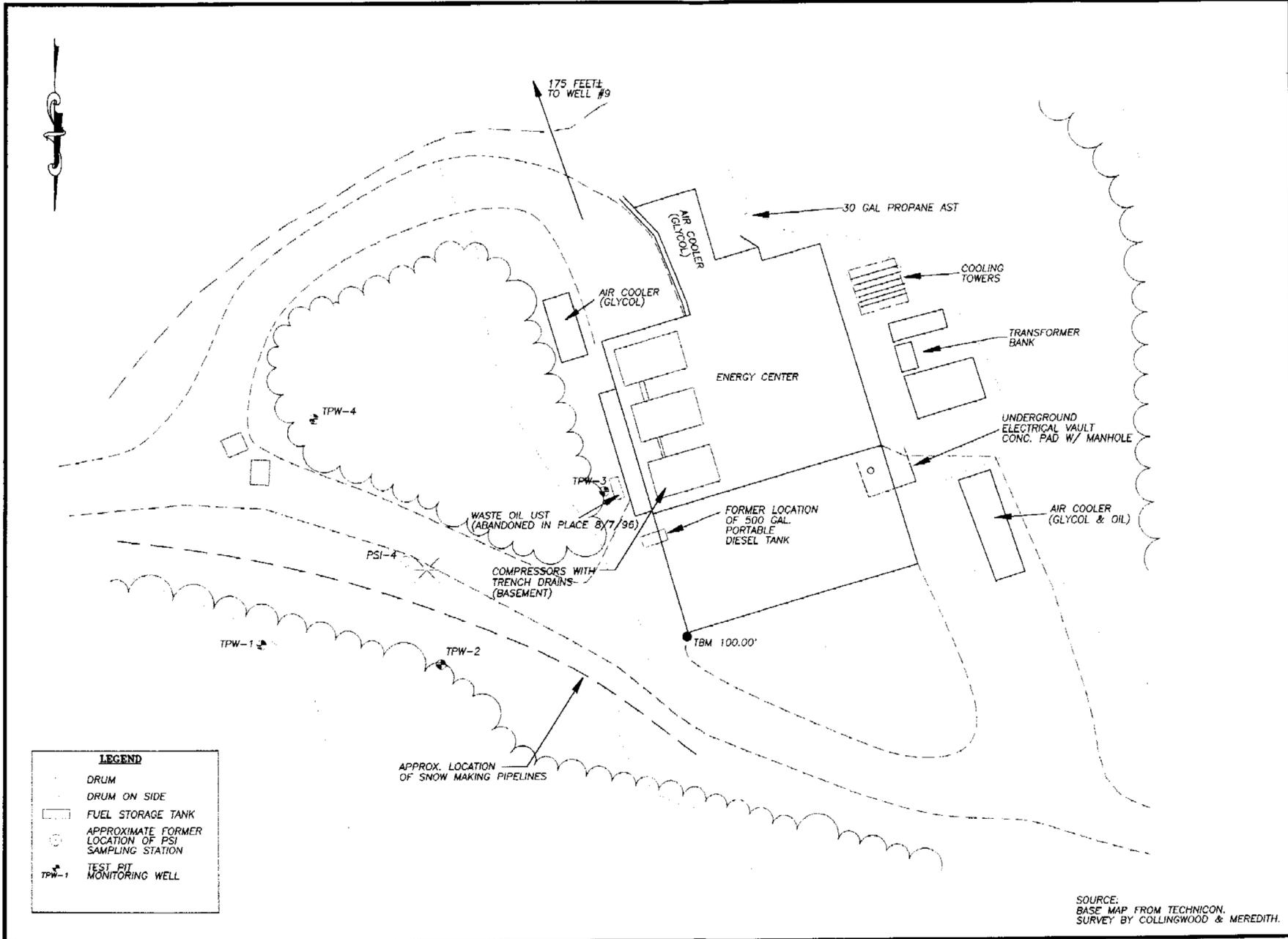
Based on all of the information collected during the underground storage removal event and subsequent additional subsurface investigation, the following conclusions are made:

1. The primary contaminants of concern at the Energy Center location are TPH (oil) related.
2. Ground water contamination by TPH in the former UST has been identified at 5.31 ppm. No quantifiable levels of TPH contamination have been identified hydraulically downgradient of the source area.
3. Despite the apparent limited area of low level TPH contamination, source area soils removal may be necessary to free the wellhead protection area of potential contaminant risk.

The following recommendations are put forth in an effort to achieve a Sites Management Activities Complete (SMAC) designation for the site.

1. One additional ground water sampling round of all four wells at the Energy Center should occur in the spring of 1998. This data will provide valuable information as to the potential changes in contaminant concentrations due to the elevated ground water levels seen during this time of year.
2. After receiving the ground water quality results from the spring of 1998, H&N will generate a brief summary report presenting ground water elevations, a ground water contour map, and the dissolved contaminant results. A discussion of the residual contaminant concentrations potential impact on Wells #9, 17 and 18 use will also be included. If contaminant conditions onsite warrant, an SMAC designation will be requested.

U:\PROJECTS\STRATTON\ENRG\CNTR\STRANENR.R1



Heindel and Noyes • Hydrogeology • Ecology • • Environmental Engineering • CONSULTING SCIENTISTS AND ENGINEERS P.O. BOX 64709 BURLINGTON, VERMONT 05406-4709	
Prepared By: Information & Visualization Services	
DATE: OCTOBER 23, 1997	
PROJECT NO.: 96181	
DRAWN BY: C. Handy	
PROJ. MGR: C. Swisch	
APPROVED: J. Noyes	
<input type="checkbox"/> DRAFT <input type="checkbox"/> FINAL	
STRATTON - ENERGY CENTER VERMONT	
SITE PLAN	
SCALE: 1" = 30'	
FILE: C:\STRATPS\NRC SITE	

TEST PIT LOGS

STRATTON ENERGY CENTER

STRATTON MOUNTAIN RESORT Stratton, Vermont

Test pits excavated by backhoe (Coleman & Sons) on July 30, 1997. Soils logged by Eric Swiech (H&N).
 NGWTD = No groundwater to depth
 NBRTD = No bedrock to depth
 SHWT = Seasonal high water table
 bgs = below ground surface

TP-1

0 - 2'
 2 - 8'

Dark brown organic - rich silts. Damp.
 Glacial till. Light grey very coarse to fine sand and silt, little coarse gravel.
 Several large boulders.
 Gravelly layer @ 5.5-6.5' bgs bearing water, rapid flow into pit.
 Bedrock @ 8.0' bgs.
 Set monitoring well TPW-1.
 8-3' bgs = 0.020 PVC screen (2") "socked."
 3-2' (above grade) = 2" PVC casing.
 Backfilled with excavated material, bentonite surface seal.
 PID = NO INSTRUMENT RESPONSE.

TP-2

0 - 2.5'
 2.5' - 10'

Brown organic silts and gravel.
 Very coarse sand and gravel, some brown silt. Dry - moist. Several large boulders.
 Refusal @ ~ 10' bgs (possibly bedrock).
 Set monitoring well TPW-2.
 10-5' bgs = 0.020 PVC screen (2") "socked."
 5-3' (above grade) = 2" PVC casing.
 Backfilled with excavated material, bentonite surface seal.
 PID = NO INSTRUMENT RESPONSE.

TP-3

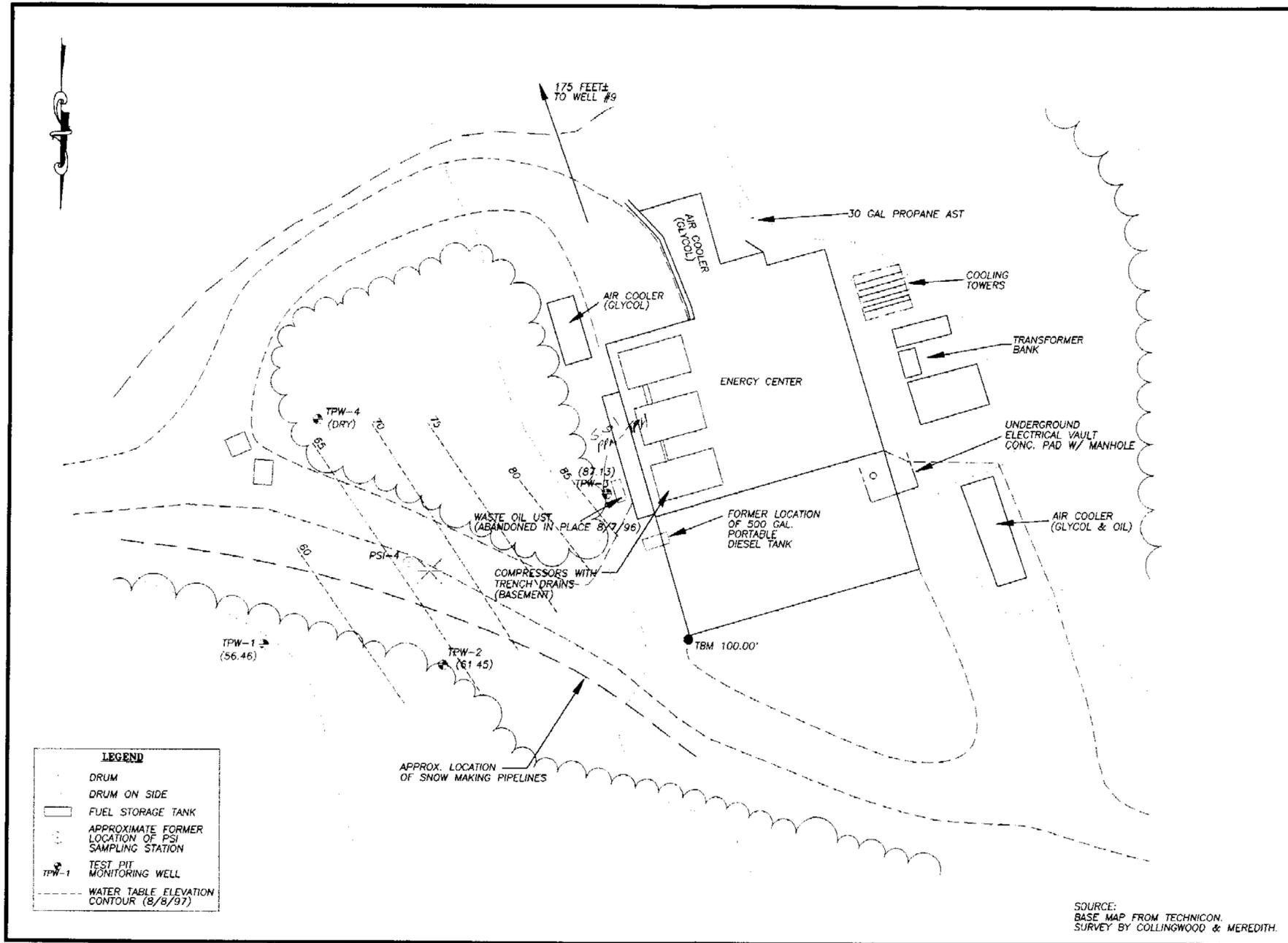
0 - 11.0'

Fill, (coarse fine sand and silt).
 Standing water @ 10.5' bgs immediately after excavating. (Oily sheen)
 Refusal @ 11.0' bgs (possibly bedrock).
 Set monitoring well TPW-3.
 11-6' bgs = 0.020 PVC screen (2") "socked."
 6-2' (above grade) = 2" PVC casing.
 Backfilled with excavated material, bentonite surface seal.
 PID = 0.2 ppm @ 9.0' bgs.

TEST PIT LOGS
STRATTON ENERGY CENTER
STRATTON MOUNTAIN RESORT
Stratton, Vermont

TP-4

<p>0 - 2.0' 2.0 - 14.0'</p>	<p>Dark brown organic-rich silt and gravel. Glacial till. Light grey very coarse-fine sand and silts, little gravel. Several large boulders. Moist. Refusal @ 14.0' Set monitoring well TPW-4 14-9' bgs = 0.040 PVC screen (2") "socked." 9-3' bgs = 2" PVC casing. Backfilled with excavated materials, bentonite surface seal. PID = NO INSTRUMENT RESPONSE</p>
---------------------------------	---



LEGEND

- DRUM
- DRUM ON SIDE
- FUEL STORAGE TANK
- APPROXIMATE FORMER LOCATION OF PSI SAMPLING STATION
- TEST PIT MONITORING WELL
- WATER TABLE ELEVATION CONTOUR (8/8/97)

SOURCE:
 BASE MAP FROM TECHNICON.
 SURVEY BY COLLINGWOOD & MEREDITH.

Heindel and Noyes
 • Hydrogeology • Ecology •
 • Environmental Engineering •
 CONSULTING SCIENTISTS AND ENGINEERS
 P.O. BOX 64709
 BURLINGTON, VERMONT 05406-4709

Prepared By:
Information & Visualization Services

DATE: OCTOBER 23, 1997
PROJECT NO. 96181
DRAWN BY: C. Hardy
PROJ. MGR: E. Swack
APPROVED: J. Noyes
<input type="checkbox"/> DRAFT <input type="checkbox"/> FINAL

STRATTON - ENERGY CENTER	VERMONT
STRATTON,	WATER TABLE CONTOUR MAP (8/8/97)
SCALE: 1" = 30'	FILE: C:\STRATPSI\NRG SITE

TABLE 1
WATER TABLE ELEVATIONS
August 8, 1997
Stratton Energy Center
Stratton Mountain, Vermont

Well Location	Top of Pipe Elevation (ft)	Depth to Groundwater (ft btp)	Water Table Elevation (ft)
TPW-1	62.06	5.60	56.46
TPW-2	73.73	12.28	61.45
TPW-3	100.18	13.05	87.13
TPW-4	80.10	DRY/>14.0'	DRY/<66.10'

Notes:

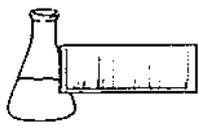
- Wells surveyed on 8/8/97 by ES of H&N using TBM (assumed elevation of 100.00') located on foundation of NE corner of energy center building.
- btp = below top pipe

TABLE 2
SOIL ANALYTICAL RESULTS
Stratton Energy Center
Stratton Mountain, Vermont

Sample ID:	TP-3/11.0
Date:	07/30/97
Units:	mg/kg
Glycols by GC/FID:	
Ethylene Glycol	<1.0
Propylene Glycol	<1.0
TPH by 8100-modified:	1340

TABLE 3
GROUND WATER ANALYTICAL RESULTS
Stratton Energy Center
Stratton Mountain, Vermont

Sample ID:	TPW-1	TPW-2	TPW-3
Date:	08/08/97	08/08/97	08/08/97
Units:	mg/L	mg/L	mg/L
Glycols by GC/FID:			
Ethylene Glycol	<1.0	<1.0	<1.0
Propylene Glycol	<1.0	<1.0	<1.0
TPH by 8100-modified:	< 0.8	< 0.8	5.61



ENDYNE, INC.

Laboratory Services

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

REPORT OF LABORATORY ANALYSIS

CLIENT: Heindel and Noyes
PROJECT NAME: Stratton/Ener Ctr. Tank
DATE REPORTED: August 25, 1997
DATE SAMPLED: July 30, 1997

PROJECT CODE: HNST1669
REF. #: 107,536

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody did not indicate sample preservation.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

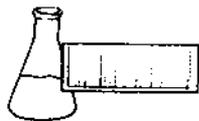
Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy were monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures



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Laboratory Services

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

LABORATORY REPORT

GLYCOLS BY GC/FID

CLIENT: Heindel and Noyes
PROJECT NAME: Stratton/Ener Ctr. Tank
REPORT DATE: August 25, 1997
SAMPLER: Eric Swiech

PROJECT CODE: HNST1669
DATE SAMPLED: July 30, 1997
DATE RECEIVED: August 1, 1997
ANALYSIS DATE: August 21, 1997

Reference #	Sample ID	Ethylene Glycol Concentration (mg/kg) ¹	Propylene Glycol Concentration (mg/kg)
107,536	TP-3/11.0; 1455	ND ²	ND

Notes:

- 1 Ethylene & Propylene Glycol detection limit 1.0 mg/kg.
- 2 None detected

2-3



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32 James Brown Drive
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(802) 879-4333

CHAIN-OF-CUSTODY RECORD

22867

Project Name: <u>STRATTON/EVER CTR. TANK</u>	Reporting Address: <u>H+N</u>	Billing Address: <u>H+N</u>
Site Location: <u>STRATTON, VT</u>		
Endyne Project Number: <u>HNST1669</u>	Company: <u>H+N</u>	Sampler Name: <u>ERIC SWIECH</u>
	Contact Name/Phone #: <u>ERIC SWIECH 658-0820</u>	Phone #: <u>658-0820</u>

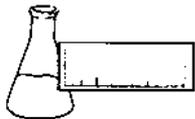
Lab #	Sample Location	Matrix	G R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
	<u>TP-3/11.0</u>	<u>SOIL</u>	<u>X</u>		<u>7-30-97</u> <u>1455</u>	<u>2</u>	<u>40 mL</u>		<u>TPH 9100</u> <u>GLYCOL</u>	<u>HCL</u> <u>4°C</u>	
<u>107,536</u>	<u>" "</u>	<u>" "</u>	<u>" "</u>		<u>" "</u>	<u>1</u>	<u>40 mL</u>		<u>GLYCOL</u>	<u>4°C</u>	

Relinquished by: Signature <u>Edwin J. Smith</u>	Received by: Signature <u>[Signature]</u>	Date/Time <u>8/1/97 11:35</u>
Relinquished by: Signature	Received by: Signature	Date/Time

New York State Project: Yes No

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD ₅	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										



ENDYNE, INC.

Laboratory Services

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REPORT OF LABORATORY ANALYSIS

CLIENT: Heindel & Noyes
PROJECT NAME: Stratton/ Ever Ctr. Tank
DATE REPORTED: August 11, 1997
DATE SAMPLED: July 30, 1997

PROJECT CODE: HNST1668
REF. #: 107,535

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody indicated proper sample preservation.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

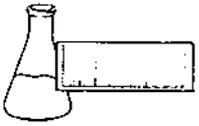
Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy were monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

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LABORATORY REPORT

TOTAL PETROLEUM HYDROCARBONS (TPH) BY MODIFIED EPA METHOD 8100

DATE: August 11, 1997
CLIENT: Heindel & Noyes
PROJECT: Stratton/ Ever Ctr. Tank
PROJECT CODE: HNST1668
COLLECTED BY: Eric Swiech
DATE SAMPLED: July 30, 1997
DATE RECEIVED: August 1, 1997

Reference #	Sample ID	Concentration (mg/kg) ¹
107,535	TP-3/11.0;1455	1,340.

Notes:

1 Method detection limit is 5.0 mg/kg.

2-6



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

HNST1669

CHAIN-OF-CUSTODY RECORD

107,535 — 107,536

1123 22867

Project Name: STRATTON/EVER CTR. TANK	Reporting Address: H+N	Billing Address: H+N
Site Location: STRATTON, VT		
Endyne Project Number: HNST1668	Company: H+N	Sampler Name: ERIC SWIECH
	Contact Name/Phone #: ERIC SWIECH 658-0820	Phone #: 658-0820

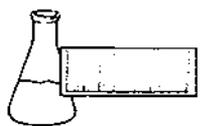
Lab #	Sample Location	Matrix	GRA B	COMP	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
107,535	TP-3/11.0	SOIL	X		7-30-97	2	40 mL		TP11 8100	HCL 4°C	
	" "	" "	" "		" "	1	40 mL		GLYCOL	4°C	

Relinquished by: Signature <i>Eric Swiech</i>	Received by: Signature <i>[Signature]</i>	Date/Time 8/1/97 11:55
Relinquished by: Signature	Received by: Signature	Date/Time

New York State Project: Yes ___ No ___

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD ₅	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										



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REPORT OF LABORATORY ANALYSIS

CLIENT: Heindel and Noyes
PROJECT NAME: Stratton/Ener Ctr. Tank
DATE REPORTED: August 25, 1997
DATE SAMPLED: August 8, 1997

PROJECT CODE: HNST1808
REF. #: 107,857 - 107,859

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody indicated no sample preservation.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

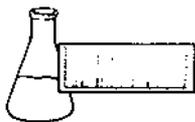
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LABORATORY REPORT

GLYCOLS BY GC/FID

CLIENT: Heindel and Noyes
PROJECT NAME: Stratton/Ener Ctr. Tank
REPORT DATE: August 25, 1997
SAMPLER: ES

PROJECT CODE: HNST1808
DATE SAMPLED: August 8, 1997
DATE RECEIVED: August 11, 1997
ANALYSIS DATE: August 21, 1997

Reference #	Sample ID	Ethylene Glycol Concentration (mg/L) ¹	Propylene Glycol Concentration (mg/L)
107,857	TPW-1	ND ²	ND
107,858	TPW-2	ND	ND
107,859	TPW-3	ND	ND

Notes:

- 1 Ethylene & Propylene Glycol detection limit 1.0 mg/L.
- 2 None detected

2-9

32 James Brown Drive
Williston, Vermont 05495
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CHAIN-OF-CUSTODY RECORD

22874

Project Name: <u>STRATTON/ EVER CTR. TANK</u>	Reporting Address: <u>HAN</u>	Billing Address: <u>HAN</u>
Site Location: <u>STRATTON, VT</u>		<u># 96181</u>
Endyne Project Number: <u>HINST1808</u>	Company: <u>HAN</u>	Sampler Name: <u>ES</u>
	Contact Name/Phone #: <u>ERIC SWICKH</u> <u>658-0820</u>	Phone #: <u>658-0820</u>

Lab #	Sample Location	Matrix	G R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
107857	TPW-1	H ₂ O	X		8-8-97	4	G/40mL	- TPW 8100 + ID - GLYCOLS	HCL NONE		
107858	TPW-2	↓	↓		↓	↓					
107859	TPW-3	↓	↓		↓	↓					

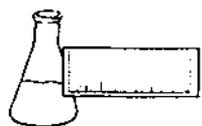
Relinquished by: Signature <u>Eric J. Swickh</u>	Received by: Signature <u>John Swickh</u>	Date/Time <u>8/11/97 2:55pm</u>
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Relinquished by: Signature	Received by: Signature	Date/Time
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New York State Project: Yes No

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD ₅	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										



ENDYNE, INC.

Laboratory Services

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

REPORT OF LABORATORY ANALYSIS

CLIENT: Heindel and Noyes
PROJECT NAME: Stratton/ENER Ctr Tank
DATE REPORTED: August 28, 1997
DATE SAMPLED: August 8, 1997

PROJECT CODE: HNST1807
REF. #: 107,854 - 107,856

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody indicated sample preservation with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

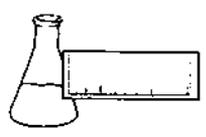
Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy were monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures



ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
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LABORATORY REPORT

TOTAL PETROLEUM HYDROCARBONS (TPH) BY MODIFIED EPA METHOD 8100

DATE: August 28, 1997
CLIENT: Heindel and Noyes
PROJECT: Stratton/ENER Ctr. Tank
PROJECT CODE: HNST1807
COLLECTED BY: ES
DATE SAMPLED: August 8, 1997
DATE RECEIVED: August 11, 1997

Reference #	Sample ID	Concentration (mg/L) ¹
107,854	TPW-1	ND ²
107,855	TPW-2	ND
107,856	TPW-3	5.61

Notes:

- 1 Method detection limit is 0.8 mg/L.
- 2 None detected

2-12

107854-851



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

CHAIN-OF-CUSTODY RECORD

22874

Project Name: <u>STRATTON/EVER CIR. TANK</u>	Reporting Address: <u>HAN</u>	Billing Address: <u>HAN</u>
Site Location: <u>STRATTON, VT</u>		<u>H 96181</u>
Endyne Project Number: <u>HINST 1807</u>	Company: <u>HAN</u>	Sampler Name: <u>CS</u>
	Contact Name/Phone #: <u>ERIC SWICKL 658-0820</u>	Phone #: <u>658-0820</u>

Lab #	Sample Location	Matrix	G R A B	C O M P	Date/Time	Sample Containers		Field Results/Remarks	Analysis Required	Sample Preservation	Rush
						No.	Type/Size				
107854	TPW-1	H ₂ O	X		8-8-97	4	G/40ml	-TPH	8100 + ID -GLYCOLS	HCL NONE	
107855	TPW-2	↓	↓		↓	↓			↓	↓	
107856	TPW-3	↓	↓		↓	↓			↓	↓	

Relinquished by: Signature <u>Eric J. Swickl</u>	Received by: Signature <u>John Swickl</u>	Date/Time <u>8/11/97 2:55pm</u>
Relinquished by: Signature	Received by: Signature	Date/Time

New York State Project: Yes ___ No ___

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
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5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										