



Aug 12 10 39 AM '96
WASTEWATER
DIVISION

August 8, 1996

Mr. Matt Moran
Vermont Agency of Natural Resources
Department of Environmental Conservation
103 South Main Street/West Office
Waterbury, Vermont 05671-0404

RE: Report on the Investigation of Subsurface Petroleum Contamination at Days Inn,
233 South Main Street, Rutland, Vermont.

Dear Mr. Moran:

Enclosed for your review is the above report. Please feel free to contact me if you have any questions regarding this document or any other project related matter. Thank you very much for your time.

Sincerely,

Edward P. Hodges
Environmental Scientist

Enclosure

**REPORT ON THE INVESTIGATION
OF SUBSURFACE
PETROLEUM CONTAMINATION
AT
DAYS INN
253 SOUTH MAIN STREET
RUTLAND, VERMONT**

JULY, 1996

PREPARED FOR:

**Sherman V. Allen Hotels, Inc.
126 Post Street
Rutland, Vermont**

PREPARED BY:



**PO Box 943 / 19 Commerce Street
Williston, VT 05495
(802) 865-4288**

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I. INTRODUCTION

This report describes the investigation of subsurface petroleum contamination at the Days Inn located at 253 South Main Street in Rutland, Vermont. The investigation was conducted by Griffin International, Inc. (Griffin) for Sherman V. Allen Hotels, Inc. (SVA) of Rutland, Vermont, the owner of the site. The investigation was initiated after petroleum contamination was discovered at the site during the closure of a 8000 gallon on-site underground storage tank (UST) on May 30, 1996. The site is a participant in the Vermont Department of Environmental Conservation's (VTDEC) Site Investigation Expressway program, and all investigative activities detailed in this report were performed in accordance with applicable VTDEC guidelines. Three groundwater monitoring wells were installed at the site by Griffin on May 30, 1996, subsequent to the removal of the UST. Further information pertaining to the above referenced UST removal is contained in correspondence submitted to the VTDEC by Griffin on June 3, 1996.

Prior to performing the investigation, Griffin prepared and submitted a Work Plan and Cost Estimate to SVA detailing the work performed in this assessment. The scope of work included:

1. The determination of groundwater flow direction and gradient at the site.
2. Groundwater sample collection and analysis from the existing groundwater monitoring wells.
3. A sensitive receptor risk assessment.
4. The completion of a summary report.

Verbal approval to perform the above investigation was given to Griffin by Mr. Dan Dukeshire of SVA on June 7, 1996. All site investigation work was performed by Griffin on June 18, 1996.

II. SITE DESCRIPTION

The site is located in a mixed commercial and residential area on Main Street (Route 7) in Rutland, Vermont. Currently three structures are present at the site; a motel, a conference center and a garage. The site has been utilized as a motel for 20 years. A site location and site map are contained in Appendix A.

The site topography is generally level with slight sloping towards the west. The topography of areas located adjacent to the site also slopes to the west. The nearest surface bodies of water to the site are the Cold Brook located approximately 1300 feet north and Eddy Pond located approximately 2200 feet east of the site. The site is abutted to the east by Route 7. A retail gasoline station is also located directly east of the site across Route 7. West from the site

is open land where a shopping complex is currently being constructed. An automobile dealership is located immediately south of the site. To the north, the site is abutted by an open lot and then a restaurant. The site and surrounding area are served by municipal water and sewer systems.

According to the Surficial Geologic Map of Vermont (Charles G. Doll, 1970), overburden at the site consists of Pleistocene, glaciolacustrine, littoral sand and glacial moraine.

Three USTs are currently in use at the site. These consist of one 1000 gallon and two 2000 gallon capacity USTs, all containing #2 fuel oil. One of the 2000 gallon USTs is of double wall steel construction and was installed on June 7, 1996, to replace the 8000 gallon UST removed on May 30, 1996. It is located on the north side of the site in the former basin of the removed UST. The other USTs are located on the southwest side of the site, adjacent to the conference center. Information concerning the age and construction of these USTs was unknown at the time of this report.

III. INVESTIGATIVE PROCEDURES

A. Monitoring Well Installation

Due to the discovery of subsurface soil and groundwater contamination at the site during the above referenced UST removal, Griffin installed three monitoring wells on May 30, 1996. The locations of the monitoring wells (MW1, MW2 and MW3), are shown on the site map and groundwater contour map enclosed with Appendix A.

The well MW1 is located northwest of the former location of the removed fuel oil UST. MW2 is located northeast from and MW3 is located immediately east of the former UST basin.

All three monitoring wells were installed via backhoe under the supervision of Griffin. The wells are each constructed of two inch diameter, 0.010" slot, PVC well screen and attached solid PVC riser. The annulus between the excavation wall and the screened section of each well is filled with excavation soils (natural pack). A bentonite clay seal was placed immediately above the screen of each well to prevent direct infiltration of surface water to the screened sections of the wells. A locking plug was installed in the riser top of each well to prevent unauthorized entry and surface water infiltration into the well. MW3, installed in a paved area, is protected at the surface by a flush mounted steel well head man-hole with a bolt down cover. MW2 and MW3 are constructed with their riser casing completed above grade. Table 1 contained in Appendix B, summarizes construction details for the three monitoring wells.

During installation, soil samples were collected from the excavations and screened for VOCs using a photoionization detector (PID), HNU Model PI-101, equipped with a 10.2 electron-volt lamp. Samples were logged by the supervising Geologist. Prior to screening, the PID was calibrated with isobutylene with reference made to benzene.

The excavation for MW1 encountered organic loam from grade to approximately 18 inches, below which fine brown sands and silt were present until approximately four feet. From 4 to 6 feet below grade, brown fine silty sand was present. The MW2 excavation pit had a soil profile similar to MW1 except that brown silty clay was encountered from 5.5 to 8 feet below grade. The MW3 well excavation encountered brown sand from grade to approximately 3 feet and then clay until 5 feet below grade. Groundwater was encountered in these excavations at either a depth of 4 feet (MW1) or 4.5 feet (MW2 and MW3). MW1 was installed to a depth of 7.5 feet and MW2 and MW3 to depths of 8 feet below grade.

All soil samples collected during the installation of MW1 and MW2 had non-detectable (ND) levels of VOCs present when screened. A soil sample collected at a depth of 5 feet from the MW3 excavation, had a concentration of 50 parts-per-million (ppm) detected when screened. Soil sample VOC concentrations are summarized in Table 1 contained in Appendix B.

B. Water Table Measurements And Groundwater Flow

The water table elevations in all on-site monitoring wells were measured on June 18, 1996. Water table elevations are plotted on the Groundwater Contour Map in Appendix A. The map indicates that groundwater in the vicinity of the site flows north-northeast with an average hydraulic gradient of approximately 4 percent.

No free product was detected in any of the monitoring wells at the time of elevation measurement. However, ~~a product sheen was present on groundwater removed from MW3~~. All groundwater elevation data are recorded in Table 2 in Appendix B.

C. Groundwater Sampling and Analysis

On June 18, 1996, Griffin collected groundwater samples from all three of the on-site monitoring wells. Laboratory results are summarized in Table 3 in Appendix B and laboratory report forms are included in Appendix C of this report. All collected samples were analyzed for the presence of total petroleum hydrocarbons (TPH) by modified EPA Method 8100. In addition, analysis was performed for the petroleum compounds benzene, toluene, ethyl benzene, and xylenes (BTEX) via EPA Method 602 and for methyl tertiary butyl ether (MTBE). All samples were collected according to Griffin's groundwater sampling protocol. Analytical results of duplicate, trip blank, and equipment blank samples collected during sampling indicate that adequate quality assurance/quality control was maintained during sample collection and analysis.

Analysis of the groundwater sample collected from MW1 indicates that the concentration of TPH present in the sample was ND. Benzene was detected at a concentration of 4.8 parts-per-billion (ppb), ethyl benzene at a concentration of 2.4 ppb, toluene at a concentration of 4.2 ppb, xylenes at a concentration of 8.8 ppb and MTBE at 16.7 ppb. All concentrations of specific petroleum compounds detected were below applicable enforcement standards for these compounds. Enforcement Standards for the above analytes are summarized in Table 3.

Analysis of the groundwater sample collected from MW2 indicates that the concentration of TPH contained in the sample was 1.57 ppm. Benzene was detected at a concentration of 91 ppb which is above the standard for this compound. Ethyl benzene, toluene and xylenes were detected at concentrations below applicable regulatory levels. MTBE was detected at a concentration of 866 ppb which is above the standard for this compound (40 ppb).

Analysis of the groundwater sample collected from MW3, located side-gradient from the former UST basin, detected TPH at a concentration of 1170 ppm. Benzene was detected at a concentration of 925 ppb which exceeds the standard for this compound. Ethyl benzene, toluene and xylenes were detected at concentrations of 1070, 1050, and 3590 ppb, all higher than the respective standards for these compounds. However, MTBE was not found to be present at a detectable concentration.

— detection limit raised

IV. RECEPTOR SURVEY AND RISK ASSESSMENT

Griffin conducted a visual survey of the site and vicinity to identify local potential receptors of subsurface petroleum contaminants.

No buildings on-site have ever been reported to have been impacted by petroleum vapors. Since the motel, conference center and the garage buildings are of slab on grade construction, the immediate and future risk to site structures from the migration of petroleum vapors is considered to be minimal. Several residences, located northwest of the motel complex, are not considered to be at significant risk of being impacted by petroleum vapor migration due to their relative distance from the site (approximately 500 feet). The retail gas station located east of the site across Route 7, the auto dealership located south of and the restaurant located north of the site are of slab on grade construction and therefore not considered to be at risk. The shopping center under construction west of the site, is also of slab on grade construction.

Municipal water and sewer serves the area including the subject property. The water source is not at risk of impact from subsurface petroleum contamination at the subject property, since the municipal water supply is located in Mendon, Vermont, approximately 15 miles northeast of the site. According to a representative of the City of Rutland Water Supply Department, no supply wells are currently in use in the vicinity of the site.

Subsurface utilities in the vicinity of the site include water force-mains, sewer mains, and storm sewers. The utilities, located approximately 160 feet from the area of petroleum release, are not considered to be at significant risk of acting as conduits for the migration of contaminated groundwater from the site.

The Cold Brook, located approximately 1300 feet down gradient from the site, is not at significant risk from petroleum contaminated groundwater migrating from the area of release.

V. CONCLUSIONS

On the basis of this investigation, Griffin has concluded the following:

1) There has been a release of petroleum product at this site. The amount and duration of the release is unknown. Data collected during the site assessment, in the area where MW3 was installed, indicates that #2 fuel oil is the principal contaminant present in this location. Data collected in the areas where MW1 and MW2 were installed indicates that MTBE, which is an octane boosting additive used in gasoline, is present in these areas. Based on this result, gasoline is thought to be the principal contaminant present in these areas. A small amount of #2 fuel oil contamination may be present in MW2, based on the concentration of TPH detected in the groundwater sample collected from this well.

2) The release has resulted in contamination of soil and groundwater at the site. Groundwater at the site is impacted by petroleum compounds in concentrations above regulatory levels. The full degree and extent of the groundwater contaminant plume has not been defined.

3) The source of the #2 fuel oil release was most likely the 8000 gallon UST removed on May 30, 1996. The UST had holes present in it at the time of removal, which most likely allowed subsurface leakage of #2 fuel oil to occur at the site. Since the 8000 gallon UST has been removed and replaced by a new double walled UST, the potential for additional subsurface release at the site has been significantly reduced. The potential of petroleum leakage from the other two USTs present at the site is unknown. To date, these USTs have not had any known inventory discrepancies.

4) The gasoline contamination present in MW1 and MW2 is most likely from an up gradient off-site source. The location of this source is unknown at this time. According to SVA, gasoline has never been stored at the site and no known release of gasoline at the site has ever occurred. Areas in the vicinity of the site have had significant commercial use. The most likely source of the gasoline contamination at the site is from the migration of groundwater to the site which has been impacted by a release(s) located somewhere in these commercial areas.

5) Soils at the site consist generally of fine grained sand and silt underlain by clay. The water table at the site is approximately 4.5 feet below grade. Groundwater apparently flows north-northeast towards the Cold Brook at an average hydraulic gradient of approximately 4 percent. The hydraulic conductivity of the sand and silt in the aquifer formation is estimated to be moderate while the hydraulic conductivity of the clay is estimated to be minimal, based on published values. Contaminated groundwater from the site flows north-northeast from the site towards the Cold Brook. Dilution, dispersion, and attenuation likely significantly reduce any petroleum contaminants in groundwater by the time it flows into the waterway.

6) No sensitive receptors other than groundwater were determined to have been impacted from subsurface contamination at the Days Inn.

*no clear p.k. all
MTBE detection
11 ml - 75000
ppb*

7) Dissolved petroleum compounds in groundwater and adsorbed petroleum compounds in soil will be gradually reduced by dilution and attenuation. Based on the observed concentrations of petroleum compounds detected in soil and groundwater at the site, it is likely that adsorbed petroleum compounds in the release area soil will continue to be a source of groundwater contamination for several years.

VI. RECOMMENDATIONS

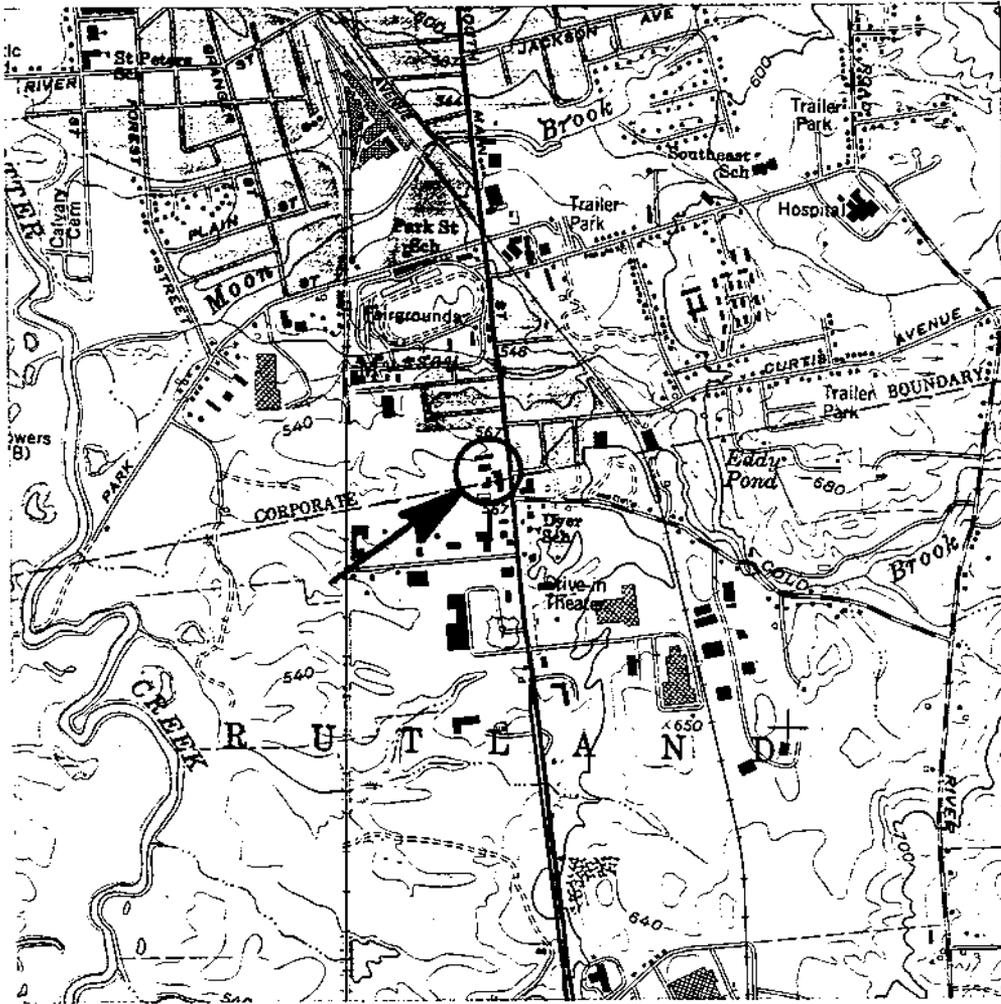
1) Due to the relatively moderate concentrations of petroleum constituents detected in the groundwater samples and the minimal risk to nearby receptors, it is not recommended that any additional subsurface investigation be performed on-site. An additional round of groundwater samples should be collected from the on-site monitoring wells in September, 1996, to confirm the presence of the gasoline detected at the site by the initial sampling round. The samples will be analyzed for TPH by modified EPA Method 8100 and BTEX and MTBE via EPA Method 602. The results from the sampling will be forwarded to the VTDEC.

2) Perform biannual monitoring of the on-site monitoring wells for the purpose of documenting the status of groundwater quality at the site. The monitoring will include the collection of water table elevation data and groundwater samples from the on-site wells. The groundwater samples will be analyzed for the parameters listed above in recommendation one. A letter report will be forwarded to the VTDEC by Griffin for each monitoring event. The letter report will summarize water table elevation and analytical data for the site monitoring wells and will contain recommendations and conclusions about the extent and frequency of future site monitoring activities. A site and location map and a groundwater contour map will also be included with the report.

APPENDICES

APPENDIX A

Site Location Map
Site Map
Groundwater Contour Map

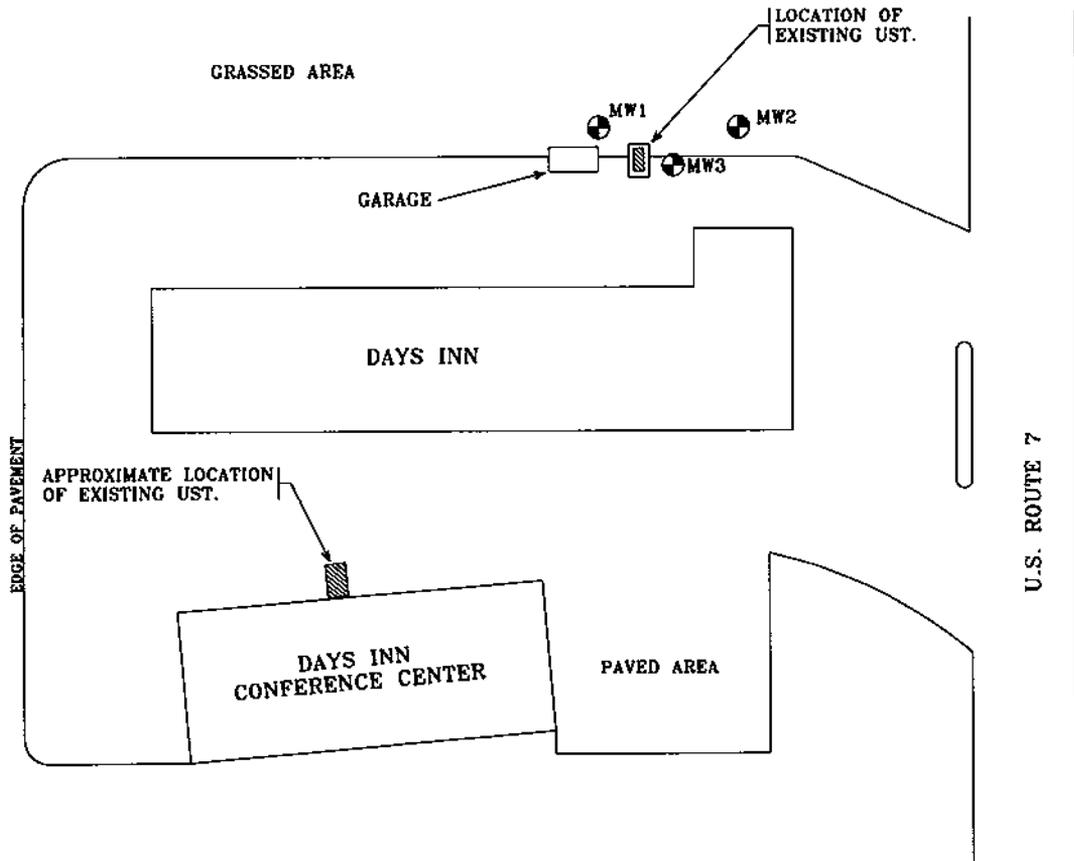


JOB #: 5964842
 SOURCE: USGS- RUTLAND, VERMONT QUADRANGLE



DAYS INN
 RUTLAND, VERMONT
 SITE LOCATION MAP

DATE: 6/19/96	DWG.#:1	SCALE: 1:24000	DRN..SB	APP..ES
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LEGEND

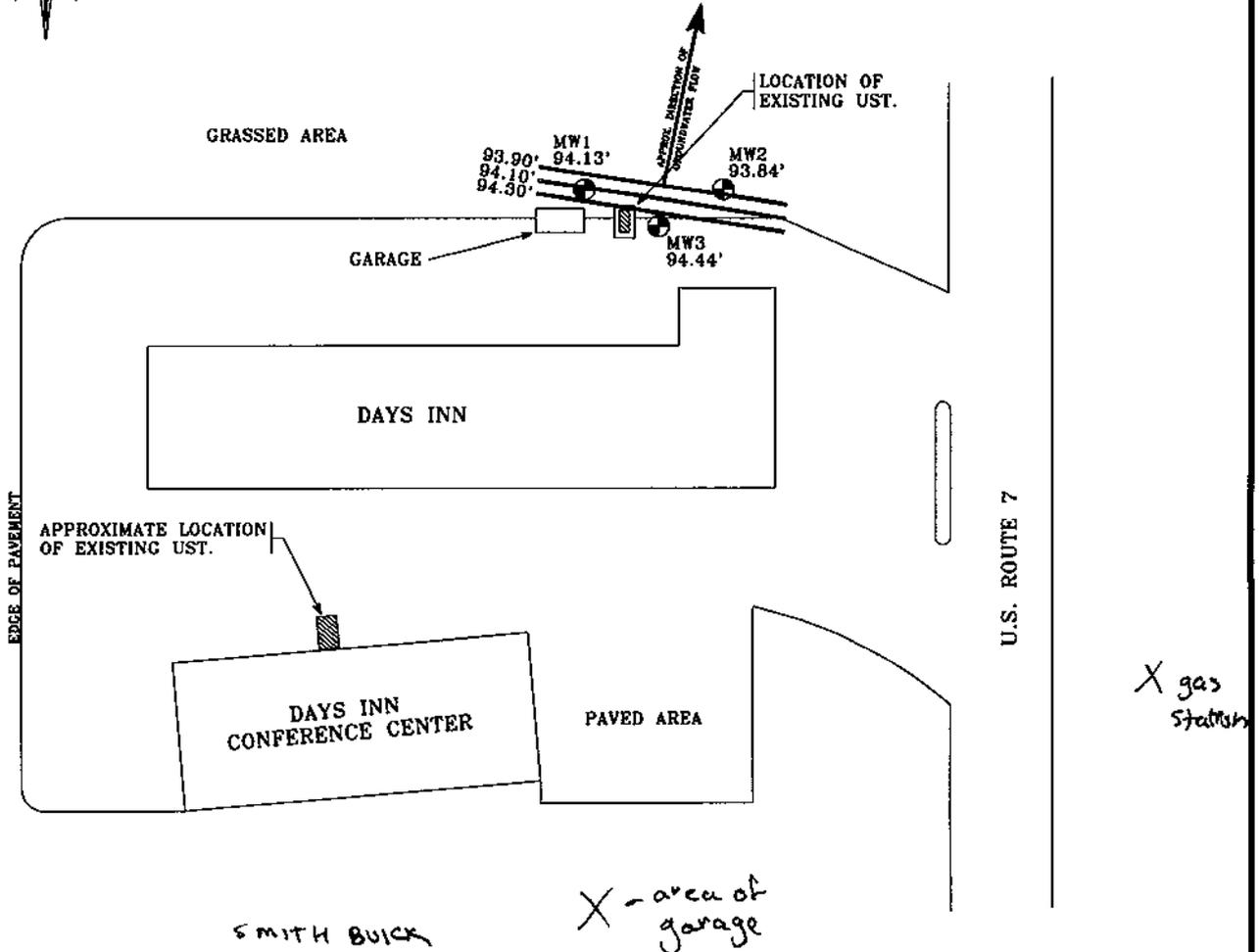
MW2 MONITORING WELL

JOB #: 5964842



DAYS INN
RUTLAND, VERMONT
SITE MAP

DATE: 6/19/96	DWG.#: 2	SCALE: 1"=80'	DRN.:SB	APP.:ES
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LEGEND

- MW2 MONITORING WELL AND WATER TABLE ELEVATION IN FEET 93.84'
- 94.10' GROUNDWATER CONTOUR IN FEET (DASHED WHERE INFERRED)

JOB #: 5964842
MEASUREMENT DATE: 6/18/96



DAYS INN

RUTLAND, VERMONT

GROUNDWATER CONTOUR MAP

DATE: 6/19/96 DWG.#: 3 SCALE: 1"=80' DRN.:SB APP.:ES

APPENDIX B

Tables

Table 1
Monitoring Well Construction Data
Day's Inn
Rutland, Vermont

Well Detail	MW1	MW2	MW3
Top of Casing	+ 2.5	+ 2.0	0
Top of Screen	- 2.5	- 3.0	- 4.0
Bottom of Screen	- 7.5	- 8.0	- 9.0
Depth to Bottom	- 7.5	- 8.0	- 9.0
Depth below grade (ft)	PID ~	PID ~	PID ~
1	ND	ND	NA
2	ND	ND	NA
3	ND	ND	NA
4	ND	ND	NA
5	ND	ND	50

Explanation:

- + - Feet above grade
- - Feet below grade
- NA - Non Applicable
- PID - Photoionization Detector
- PID readings are in parts per million (ppm).
- ND - Non Detect
- ~ - HNU Model PI-101 with a 10.2 ev lamp

Table 2

**Water Table Elevation Data
Day's Inn
Rutland, Vermont**

Monitoring Date: 6/18/96

Well I.D.	Well Depth (ft < Grade)	Top of Casing Elevation	Depth To Product	Depth To Water	Product Thickness	Specific Gravity Of Product	Hydro Equivalent	Corrected Depth To Water	Corrected Water Table Elevation
MW-1	7.50	100.00	-	5.87	-	-	-	5.87	94.13
MW-2	8.00	99.23	-	5.39	-	-	-	5.39	93.84
MW-3	8.00	98.58	-	4.14	-	-	-	4.14	94.44

Elevations Based on Arbitrary Datum With Top of MW1 Casing Set at 100.00 ft.
All Values Reported in feet

Table 3
Groundwater Quality Summary
Day's Inn
Rutland, Vermont

Sampling Date: June 18, 1996

All Values Reported in ug/L (ppb) except for TPH (mg/L or ppm)

PARAMETER				Enforcement Standard
	MW1	MW2	MW3	
Benzene	4.8	91.0	925	5.0*
Chlorobenzene	ND > 1	ND > 10	ND > 500	100*
1,2-DCB	ND > 1	ND > 10	ND > 500	600*
1,3-DCB	ND > 1	ND > 10	ND > 500	600**
1,4-DCB	ND > 1	ND > 10	ND > 500	75*
Ethylbenzene	2.4	21.5	1,070	680***
Toluene	4.2	79.7	1,050	1,000*
Xylenes	8.8	46.5	3,590	400***
MTBE	16.7	866.0	ND > 5000	40**
Total Petroleum Hydrocarbons (TPH)	ND > 1.0	1.57	1170	-

* - EPA Maximum Contaminant Level

** - VT Health Advisory Level

*** - VT Groundwater Enforcement Standard

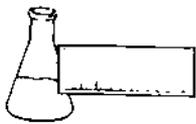
ANALYSIS FOR EPA METHOD 602 VOCs

ANALYSIS FOR TPH BY MODIFIED EPA METHOD 8100

ND > - None detected above stated limits

APPENDIX C

Laboratory Reports



ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Days Inn
REPORT DATE: June 24, 1996
DATE SAMPLED: June 18, 1996
DATE RECEIVED: June 19, 1996
DATE ANALYZED: June 20, 1996

PROJECT CODE: GIDI1133
REF.#: 90,348
STATION: Duplicate
TIME SAMPLED: 11:55
SAMPLER: Don Tourangeau

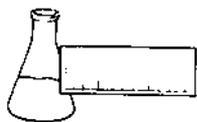
<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	4.5
Chlorobenzene	1	ND ¹
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	2.3
Toluene	1	3.8
Xylenes	1	7.7
MTBE	10	17.0

Bromobenzene Surrogate Recovery: 101%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

NOTES:

1 None detected



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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Days Inn
REPORT DATE: June 24, 1996
DATE SAMPLED: June 18, 1996
DATE RECEIVED: June 19, 1996
DATE ANALYZED: June 20, 1996

PROJECT CODE: GID1133
REF.#: 90,349
STATION: Equipment Blank
TIME SAMPLED: 12:05
SAMPLER: Don Tourangeau

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND ¹
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 109%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

RECEIVED JUN 26 1996

CHAIN-OF-CUSTODY RECORD

5964842 90,344 — 90,352

Project Name: DAYS INN Site Location: RUTLAND	Reporting Address: GRIFFIN	Billing Address: GRIFFIN
Endyne Project Number: GED1133	Company: Contact Name/Phone #: ERIK SANDBLOM	Sampler Name: Phone #: JOHN TORRANQUEAU

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				
90,344	TRIP BLANK	H ₂ O	✓		6-18-96 07:25	2	40ml		20	HCC	
90,345	MW#2	↓	↓		11:18	↓	↓		20,30	↓	
90,346	MW#3	↓	↓		11:40	↓	↓		20,30	↓	
90,347	MW#1	↓	↓		11:55	↓	↓		20,30	↓	
90,348	DUPLICATE	↓	↓		11:55	↓	↓		20	↓	
90,349	EQUIPMENT BLANK	↓	↓		12:05	↓	↓		20	↓	

Relinquished by: Signature <i>[Signature]</i>	Received by: Signature <i>[Signature]</i>	Date/Time 6/19/96 2:35 PM
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	Nitric 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): T.P.H. BY 8100 (MODIFIED)										

CHAIN-OF-CUSTODY RECORD

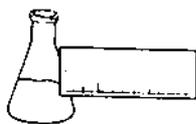
Project Name: <i>...</i> Site Location: <i>...</i>	Reporting Address: <i>...</i>	Billing Address: <i>...</i>
Endyne Project Number:	Company: Contact Name/Phone #: <i>Kirk Salomon</i>	Sampler Name: Phone #: <i>...</i>

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				
	TRIP BLANK	W	✓		6:28 PM	2	40ml		20	1/CC	
	11:10				11:10				20, 10		
	11:10				11:40				10, 10		
	11:10				11:55				20, 10		
	DUPLICATE				11:55				20		
	FIELD BLANK				12:05				20		

Relinquished by: Signature <i>...</i>	Received by: Signature <i>...</i>	Date/Time <i>6/19/96 2:35 PM</i>
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): <i>T.P.H. BY RIG (INDUST)</i>										



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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Days Inn
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DATE SAMPLED: June 18, 1996
DATE RECEIVED: June 19, 1996
DATE ANALYZED: June 21, 1996

PROJECT CODE: GIDI1133
REF.#: 90,345
STATION: MW #2
TIME SAMPLED: 11:18
SAMPLER: Don Tourangeau

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	10	91.0
Chlorobenzene	10	ND ²
1,2-Dichlorobenzene	10	ND
1,3-Dichlorobenzene	10	ND
1,4-Dichlorobenzene	10	ND
Ethylbenzene	10	21.5
Toluene	10	79.7
Xylenes	10	46.5
MTBE	100	866.

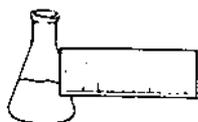
Bromobenzene Surrogate Recovery: 112%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at a 10% dilution.

2 None detected



ENDYNE, INC.

Laboratory Services

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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Days Inn
REPORT DATE: June 24, 1996
DATE SAMPLED: June 18, 1996
DATE RECEIVED: June 19, 1996
DATE ANALYZED: June 20, 1996

PROJECT CODE: GIDI1133
REF.#: 90,346
STATION: MW #3
TIME SAMPLED: 11:40
SAMPLER: Don Tourangeau

<u>Parameter</u>	<u>Detection Limit (ug/L)¹</u>	<u>Concentration (ug/L)</u>
Benzene	500	925.
Chlorobenzene	500	ND ²
1,2-Dichlorobenzene	500	ND
1,3-Dichlorobenzene	500	ND
1,4-Dichlorobenzene	500	ND
Ethylbenzene	500	1,070.
Toluene	500	1,050.
Xylenes	500	3,590.
MTBE	5,000	ND

Bromobenzene Surrogate Recovery: 103%

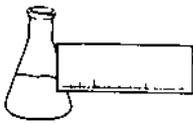
NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at a 0.2% dilution.

2 None detected

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Laboratory Services

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

LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Days Inn
REPORT DATE: June 24, 1996
DATE SAMPLED: June 18, 1996
DATE RECEIVED: June 19, 1996
DATE ANALYZED: June 20, 1996

PROJECT CODE: GIDI1133
REF.#: 90,347
STATION: MW #1
TIME SAMPLED: 11:55
SAMPLER: Don Tourangeau

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	4.8
Chlorobenzene	1	ND ¹
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	2.4
Toluene	1	4.2
Xylenes	1	8.8
MTBE	10	16.7

Bromobenzene Surrogate Recovery: 97%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

NOTES:

1 None detected

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CHAIN-OF-CUSTODY RECORD

Project Name: DAVS INN	Reporting Address: GRIFFIN	Billing Address: GRIFFIN
Site Location: ROTLAND		
Endyne Project Number: GIDDILL34	Company: ERIK SANDBLOM	Sampler Name: JOHN TOORAWOGEN
	Contact Name/Phone #: ERIK SANDBLOM	Phone #: JOHN TOORAWOGEN

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				
	TRIP BLANK	H ₂ O	✓		6-18-96 07:25	2	40ml		20	HCC	
90,350	MW#2	↓	↓		11:18	↓	↓		20,30	↓	
90,351	MW#3	↓	↓		11:40	↓	↓		20,30	↓	
90,352	MW#1	↓	↓		11:55	↓	↓		20,30	↓	
	DUPLICATE	↓	↓		11:55	↓	↓		20	↓	
	EQUIPMENT BLANK	↓	↓		12:05	↓	↓		20	↓	

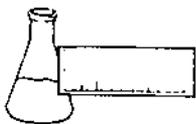
Relinquished by: Signature <i>Don Top</i>	Received by: Signature <i>John Ben</i>	Date/Time 6/19/96 2:35 PM
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Relinquished by: Signature	Received by: Signature	Date/Time
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New York State Project: Yes ___ 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): <u>TPH, RY 9100 (mod. sig)</u>										



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REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International
PROJECT NAME: Days Inn
REPORT DATE: June 24, 1996
DATE SAMPLED: June 18, 1996

PROJECT CODE: GIDI1133
REF.#: 90,344 - 90,349

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Chain of custody indicated sample preservation with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times. All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method. Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was 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.

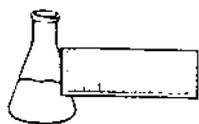
Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate recovery data was determined to be within laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

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Laboratory Services

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Williston, Vermont 05495
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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: Days Inn
REPORT DATE: June 24, 1996
DATE SAMPLED: June 18, 1996
DATE RECEIVED: June 19, 1996
DATE ANALYZED: June 20, 1996

PROJECT CODE: GIDI1133
REF.#: 90,344
STATION: Trip Blank
TIME SAMPLED: 7:25
SAMPLER: Don Tourangeau

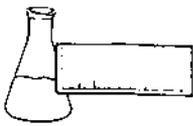
<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND ¹
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 99%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



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REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International
PROJECT NAME: Days Inn
DATE REPORTED: July 1, 1996
DATE SAMPLED: June 18, 1996

PROJECT CODE: GIDI1134
REF. #: 90,350 - 90,352

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 was 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: July 1, 1996
CLIENT: Griffin International
PROJECT: Days Inn
PROJECT CODE: GIDI1134
COLLECTED BY: Don Tourangeau
DATE SAMPLED: June 18, 1996
DATE RECEIVED: June 19, 1996

<u>Reference #</u>	<u>Sample ID</u>	<u>Concentration (mg/L)¹</u>
90,350	MW #2; 11:18	1.57
90,351	MW #3; 11:40	1,170.
90,352	MW #1; 11:55	ND ²

Notes:

- 1 Method detection limit is 1.0 mg/L.
- 2 None detected

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