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March 24, 1995

Mr. Richard Spiese
VT Department of Environmental Conservation
Hazardous Materials Management Division
103 South Main St./ West Bldg.
Waterbury, VT 05671-0404

RE: Ascutney Sunoco, Weathersfield, VT (VTDEC Site #94-1708)

Dear Richard:

Enclosed please find the *Initial Site Investigation Report on Suspected Subsurface Petroleum Contamination* at the Ascutney Sunoco site in Weathersfield, Vermont. Ms. Sharon Abbott of J.W. Sandri, Inc., has requested that we forward a copy to you for review.

Please do not hesitate to call, should you have any questions or comments on the enclosed report.

Sincerely,

Kristen Underwood
Hydrogeologist

Enc.

cc: S. Abbott, J.W. Sandri, w/out Enc.
GI #12944626

**INITIAL SITE INVESTIGATION OF
SUSPECTED SUBSURFACE PETROLEUM CONTAMINATION**

**Ascutney Sunoco
Route 131
Weathersfield, Vermont**

VTDEC Site #94-1708
Griffin Proj. #12944626

MARCH 1995

PREPARED FOR

J. W. Sandri, Inc.
P.O. Box 760
Greenfield, MA 01302-0760

PREPARED BY

**GRIFFIN INTERNATIONAL, INC.
P.O. BOX 943
WILLISTON, VT 05495**



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I. INTRODUCTION

This report provides a summary of the tasks completed for the investigation of suspected subsurface petroleum contamination at the Ascutney Sunoco site along Route 131 in Weathersfield, Vermont (see Site Location Map in Appendix A). Results of the following investigative tasks are presented: monitoring well installation; groundwater sampling and analyses; determination of groundwater flow direction; and evaluation of sensitive receptors in the vicinity of site. Also provided are conclusions and recommendations for additional site monitoring. This work has been performed by Griffin International, Inc., (Griffin) for J. W. Sandri, Inc. (Sandri), in accordance with the December 1994 *Site Assessment Work Plan and Cost Estimate for the Ascutney Sunoco Site in Ascutney, Vermont*. A site investigation was requested by the Vermont Department of Environmental Conservation (VTDEC) in a letter from Mr. Richard Spiese to Mr. Edward Bitzer of Sandri, dated November 7, 1994.

II. SITE BACKGROUND

A. Site Setting

The Ascutney Sunoco site is located along the southeast side of Route 131 in the town of Weathersfield, Vermont, just southwest of the village of Ascutney (see Site Location Map in Appendix A). The area is sparsely developed with commercial and residential properties.

Topography across the subject property is moderately sloping toward the east and northeast. The property is bounded on the northeast and on the south and southwest by two steeply-sloping wooded ravines. Shallow surface water channels drain these ravines toward Mill Brook, tributary to the Connecticut River. Well-sorted sands of glaciolacustrine origin are mapped in the vicinity of the Ascutney Sunoco site on the Surficial Geologic Map of Vermont (Doll, 1970). According to the Centennial Geologic Map of Vermont (Doll, 1961), the site is underlain by Devonian-aged, gray, quartzite, muscovite phyllite/ schists of the Gile Mountain Formation and amphibolites and garnet amphibolites (the Standing Pond volcanic member of the Waits River Formation).

B. Site History

Three 6,280-gallon gasoline underground storage tanks (USTs) and one 6,280-gallon diesel UST were removed from the site on October 11, 1994, by representatives of Sandri. A tank pull inspection report dated October 14, 1994, was submitted to the VTDEC UST Program by Ms. Sharon Abbott of Sandri. This report indicates that petroleum contaminated soils, ranging from 20 to 425 parts per million (ppm) were detected in the tank pit excavation with an HNuTM Model HW-101 photoionization detector (PID). All four tanks were described to be in good condition, with no staining, pitting, or holes observed. To facilitate installation of new, larger,

replacement tanks and a canopy, approximately 544 tons of contaminated soils were removed from the tank pit. These soils were subsequently transported off-site for asphalt batching at the MTS, Inc., facility in Epsom, New Hampshire. The Certificate of Destruction for these soils is included in Appendix B. Replacement tanks were installed at the Ascutney Sunoco site, during October and November of 1994. Three 8,000-gallon, double-walled, steel USTs (two gasoline, one diesel) were installed in a common tank pit in the approximate location of the former tank pit.

III. INVESTIGATIVE PROCEDURES

To further define the extent of subsurface petroleum contamination in the vicinity of the Ascutney Sunoco site, the following investigative tasks were undertaken: installation of three overburden monitoring wells; site survey; determination of groundwater flow direction; groundwater sampling and analyses for petroleum-related constituents; and an evaluation of potentially sensitive receptors.

A. Monitoring Well Installation

On January 10, 1995, three shallow monitoring wells were installed at the site (see Site Map in Appendix A). MW-1 was located immediately adjacent to the former, common tank pit. MW-2 and MW-3 were located in directions presumed to be downgradient of the former tank pit. The boreholes were installed utilizing hollow-stem auger drilling methods. T & K Drilling, Inc., of Troy, New Hampshire, installed the wells under direct supervision of a Griffin hydrogeologist. During borehole advancement, two-foot split spoon samples were collected from approximately every five feet. Soil samples were collected from each spoon, placed in a sealable plastic bag. Following a warming period, the headspace of each soil sample bag was screened for hydrocarbon vapors using an HNuTM Model PI-101 PID. Soil characteristics and contaminant concentrations monitored with the PID were recorded by the hydrogeologist in detailed well logs which are presented in Appendix C.

Soils encountered in the three boreholes consisted generally of medium to grayish-brown, interbedded, fine-grained sands and silts. The described lithologies are largely consistent with the glaciolacustrine, littoral-zone, sands mapped in the region by Doll (1970). Total volatile organic compound (VOC) concentrations, as monitored in the headspace of each bagged soil sample from MW-1 were significant, ranging from 1.6 to 200 ppm. VOCs detected with the PID were nondetectable in soil samples from MW-3 and negligible (ranging from 0.0 to 3.4 ppm) in MW-2. The limited volume of contaminated soils generated from borehole advancement for MW-1 was polyencapsulated and stored on site along the southeast side of the Sunoco station building.

Wells, MW-1, MW-2, and MW-3 were installed to depths of approximately 30, 26.75, and 27 feet below ground surface. Bedrock refusal was encountered in the borehole for well, MW-2. Groundwater was encountered at approximately 26, 26.5, and 20 feet below ground surface in MW-1, MW-2, and MW-3, respectively. Each of the wells was completed with a ten-foot length of 10-slot screen, approximately centered around the groundwater elevation. No. 1 sand pack was placed in the annulus surrounding the screen and brought to an elevation approximately one to two feet above the top of the screen. A two-foot bentonite seal was installed above the sand pack, and a one-foot surface seal of bentonite was installed from two feet to one foot below the ground surface in each borehole. The annular space between each of the bentonite seals was filled with native soils.

B. Determination of Groundwater Flow Direction

The three newly-installed monitoring wells and significant site features were located in azimuth and elevation using a site level package. An arbitrary datum of 100 feet in elevation was assigned to well, MW-1. Survey data was utilized to generate the Site Map presented in Appendix A. Prior to groundwater sampling on January 16, 1995, the three on-site monitoring wells were monitored for presence of free floating product, and depths to water were measured. Results are tabulated as Liquid Level Monitoring Data in Appendix D. No free phase product was detected in the wells. No water was encountered in MW-2. For each well, the measured depth to water was subtracted from the surveyed elevation of the measurement reference point (top of PVC riser pipe), to determine the water table elevation. Water table elevations were plotted on the site map to generate the Groundwater Elevation Data figure presented in Appendix A. In MW-2, bedrock was encountered at an approximate elevation of 72.7 feet. This data indicates that a subsurface bedrock ridge is present east and southeast of wells, MW-1 and MW-3. This bedrock ridge is likely serving to deflect groundwater flow in the overburden aquifer to the south, toward the ravine which borders the site to the west and southwest.

C. Groundwater Sampling and Analyses

Groundwater samples were collected from on-site monitoring wells, MW-1 and MW-3, on January 16, 1995. Groundwater samples were analyzed by EPA Method 8020 by Alpha Analytical Laboratories of Westborough, Massachusetts. Quality control (QC) samples (a trip blank, field duplicate sample, and equipment blank) were also collected. Analytical results are presented in tabular form in Appendix E; groundwater enforcement standards are provided for reference in this summary table. Appendix E also contains the laboratory data sheets for these samples. Analytical results of the QC samples indicate that adequate Quality Assurance/ Quality Control was maintained throughout sample collection and analyses.

Low levels of total xylenes and methyl tertiary butyl ether (MTBE) were detected in MW-3. Concentrations of each constituent were below the applicable groundwater enforcement standards. Moderate concentrations of benzene, ethylbenzene, toluene, and xylenes (BTEX) and

MTBE were detected in MW-1. Detected concentrations of benzene and MTBE exceeded applicable groundwater enforcement standards.

IV. EVALUATION OF POTENTIALLY SENSITIVE RECEPTORS

The region surrounding the site was inspected to identify potentially sensitive receptors. The site itself is occupied by one building, constructed on a cement slab. The property is serviced by a municipal water supply (Country Estates Water Company of Ascutney). The adjacent property to the east, across the small wooded ravine, contains a commercial building occupied by the Country Village Store and Mr. G's Restaurant. Directly across Route 131 to the north of Ascutney Sunoco are undeveloped fields. A residence is located approximately 500 feet to the north. To the west on the opposite side of Route 131 is a Mobil gasoline service station. To the southwest and immediately adjacent to the Sunoco station is a small wooded ravine and a private access road to a residential development which is located approximately one-half mile south of the Sunoco station. The Exit 8 interchange for Interstate 91 is located approximately 750 feet to the southwest of the station.

Environmental risk posed to adjacent properties by subsurface petroleum contamination at the Ascutney Sunoco station is considered minimal, given the limited degree and extent of contamination, and given that area properties are serviced by a municipal water supply. The Sunoco station building, itself, is not considered to be at risk from subsurface petroleum contamination. This building is serviced by municipal water and not an on-site groundwater well. The building is constructed on a cement slab; therefore, the potential for impact due to subsurface vapors is minimal. Moreover, the site is paved, reducing the potential for exposure to petroleum compounds through dermal contact with soils or inhalation of vapors or fugitive dust.

V. CONCLUSIONS

Based upon the results of the above investigative tasks, Griffin presents the following conclusions:

- 1) Groundwater elevation data collected on January 16, 1995, indicate that groundwater flows in a southerly direction toward the adjacent wooded ravine. A subsurface bedrock ridge is present in the vicinity of MW-2, which is likely serving to deflect groundwater flow in the overburden aquifer toward the south.
- 2) Approximately 544 tons of petroleum-contaminated soils were removed from the site in the Fall of 1994 and transported to MTS, Inc., asphalt-batching plant in Epsom, New Hampshire. This action has significantly reduced the overall mass of petroleum-contaminated soils which otherwise potentially could have served as a continuing source of contamination to groundwater.

- 3) Adsorbed petroleum contaminants were detected in soils encountered in the borehole for monitoring well, MW-1.
- 4) Low to moderate concentrations of dissolved petroleum-related constituents were detected in on-site groundwater monitoring wells.
- 5) Benzene and MTBE concentrations detected in one of the on-site monitoring wells (located immediately adjacent to the former common UST pit) were above applicable groundwater enforcement standards for these constituents.
- 6) A limited amount of petroleum-contaminated soils from the borehole for MW-1 was polyencapsulated and stored on site along the exterior southeast wall of the Sunoco station building.
- 7) Environmental risks posed to potentially sensitive receptors in the vicinity of the Ascutney Sunoco station appear minimal, based on currently available data.
- 8) Dissolved and adsorbed petroleum-related constituents are expected to decrease in concentration over time, due to the progressive action of natural mitigative processes, including, biodegradation, dilution, and dispersion.

VI. RECOMMENDATIONS

Based upon the above conclusions, Griffin recommends the following additional work at the Ascutney Sunoco site:

- 1) To track the expected decrease in contaminant concentrations at the site, groundwater samples should continue to be collected from all on-site monitoring wells on a semi-annual basis. Groundwater samples should be analyzed by Alpha Analytical Laboratories for the presence of petroleum-related constituents according to EPA Method 8020. It is anticipated that MW-2 should have sufficient quantities of water for sampling in the Spring of the year.
- 2) The petroleum-contaminated soils originating from MW-1 which are polyencapsulated on site, should be screened with a PID during semi-annual site monitoring visits to track the expected decrease in contaminant concentrations. Once contaminant concentrations have reached non-detectable levels, these soils can be spread on site, with the approval of the VTDEC.

REFERENCES

Doll, Charles G., ed., 1961, *Centennial Geologic Map of Vermont*, State of Vermont.

Doll, Charles G., ed., 1970, *Surficial Geologic Map of Vermont*, State of Vermont.

APPENDIX A

Site Maps



JOB #: 12944626

SOURCE: USGS- MT. ASCUTNEY, VERMONT/NEW HAMPSHIRE QUADRANGLE



ASCUTNEY SUNOCO

ASCUTNEY,

VERMONT

SITE LOCATION MAP

DATE: 1/17/95

DWG.#:1

SCALE: 1:25000

DRN.:SB

APP.:KU

ROUTE 131

MEDIAN

MW3

PUMP ISLAND

PUMP ISLAND

GUARD RAIL

GUARD RAIL

MW1

MW2

APPROX. LOCATION
OF FORMER BUNKER
TANK PITS

ASCUTNEY
SUNOCO

LEGEND

MW2 MONITORING WELL

STOCKPILED SOILS

JOB #: 12944626



ASCUTNEY SUNOCO

ASCUTNEY,

VERMONT

SITE MAP

DATE: 1/17/95

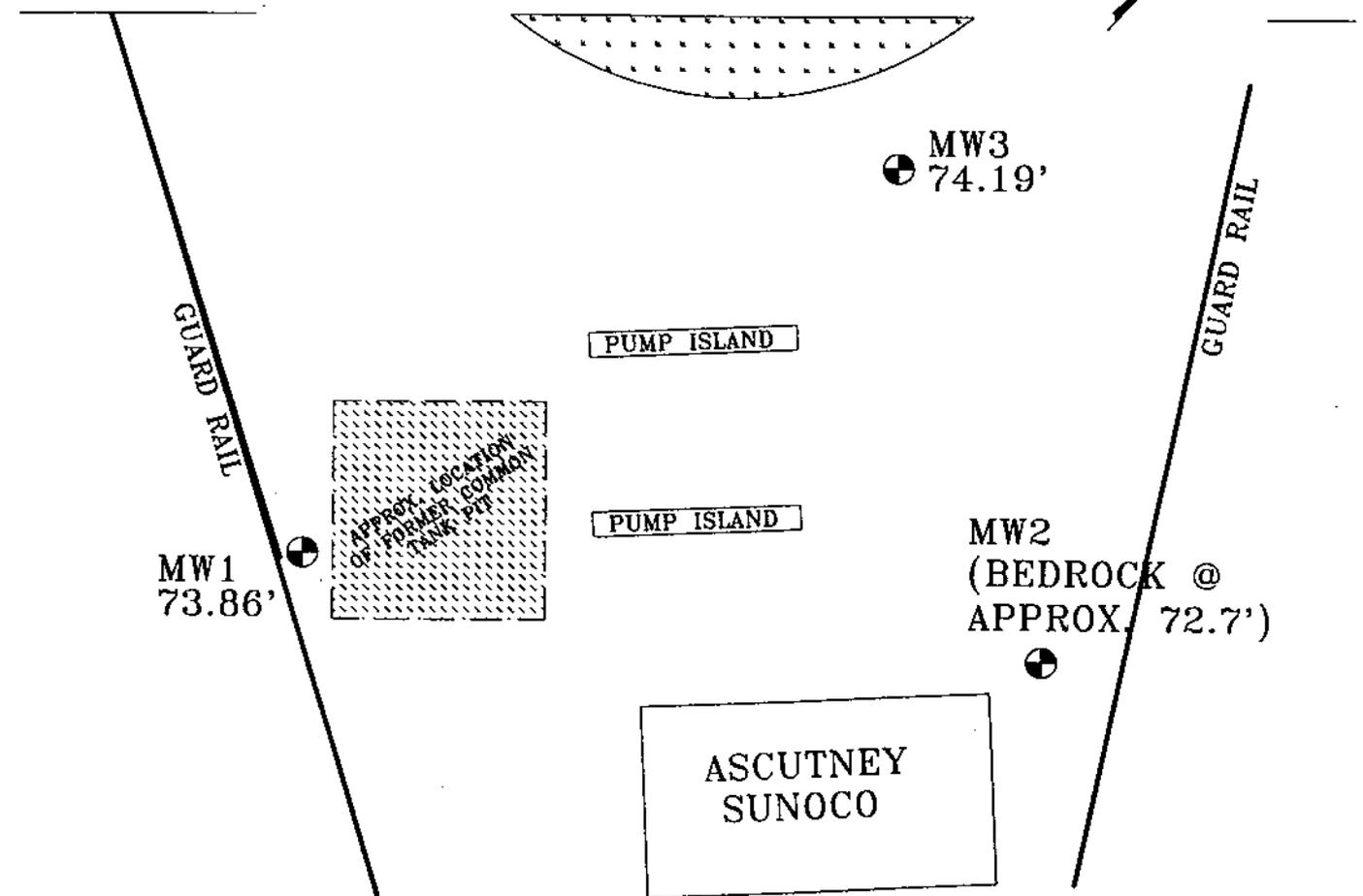
DWG.#: 2

SCALE: 1"=30'

DRN.:SB

APP.:KU

ROUTE 131



MW1
73.86'

MW3
74.19'

PUMP ISLAND

APPROX. LOCATION
OF FORMER
TANK PIT

PUMP ISLAND

MW2
(BEDROCK @
APPROX. 72.7')

ASCUTNEY
SUNOCO

LEGEND

MW3
74.19' MONITORING WELL AND WATER
TABLE ELEVATION IN FEET

STOCKPILED SOILS

JOB #: 12944626
DATE MEASURED: 1/16/95



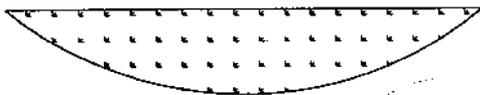
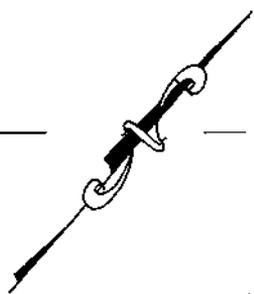
ASCUTNEY SUNOCO

ASCUTNEY, VERMONT

GROUNDWATER ELEVATION DATA

DATE: 1/17/95	DWG.#: 3	SCALE: 1"=30'	DRN.:SB	APP.:KU
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ROUTE 131

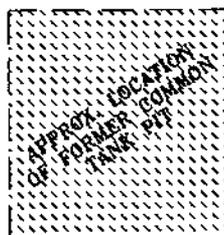


MW3
38.0

PUMP ISLAND

GUARD RAIL

MW1
5,250



PUMP ISLAND

MW2
NS

ASCUTNEY
SUNOCO



STOCKPILED SOILS

LEGEND

- ⊕ MW3 38.0 MONITORING WELL AND TOTAL BTEX AND MTBE CONCENTRATION IN (ppb)
- NS NOT SAMPLED

JOB #: 12944626
DATE SAMPLED: 1/16/95



ASCUTNEY SUNOCO

ASCUTNEY, VERMONT

CONTAMINANT CONCENTRATION MAP

DATE: 1/17/95	DWG.#: 4	SCALE: 1"=30'	DRN.:SB	APP.:KU
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APPENDIX B

**Certificate of Destruction
for Petroleum-Contaminated Soils**



EST. 1975

P.O. BOX 359, EPSOM, NH 03234 (603) 798-4557 FAX (603) 798-5641

CERTIFICATE OF DESTRUCTION

THIS IS TO CERTIFY that the waste materials described as
543.99 tons of soils containing petroleum hydrocarbon
 contamination which were delivered to MTS Inc. on 11-21-94
 thru 11-22-94 originating from Ascutny Sunoco Rte 131
Ascutney, VT were processed and incorporated with similar
 aggregate into bituminous asphaltic cold mix product on
12-01-94 thru _____ as evidenced by the attached completed
 Bill Of Lading number 9564 thru 9603 which constitutes the
 entire amount of soils delivered for project number 25:4186:1

This processing was carried out in strict accordance with the
 provisions of permit for pug mill cold patch mix process, number
 PO-BP-2635, granted from the State of New Hampshire Department of
 Environmental Services, Air Resources Division, effective August
 7, 1990.

RECEIVED FEB 28 1995

Will John 1-11-95
 Processing Foreman Date

Yvonne Fantau 1-11-95
 Compliance Officer Date

APPENDIX C

Monitoring Well Logs

PROJECT ASCUTNEY SUNOCO

LOCATION ASCUTNEY, VT.

DATE DRILLED 1/10/95 TOTAL DEPTH OF HOLE 32'

DIAMETER 4.25"

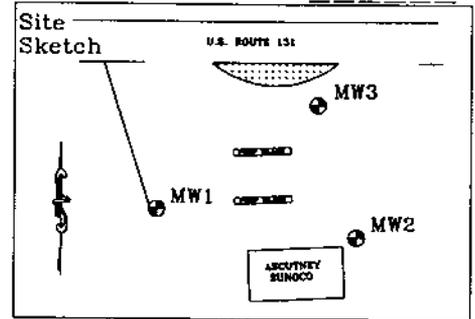
SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 19.5' TYPE sch 40 pvc

DRILLING CO. T&K DRILLING DRILLING METHOD HSA

DRILLER ALAN TOMMILA LOG BY K. UNDERWOOD

WELL NUMBER MW1



GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0	ROAD BOX LOCKING WELL CAP CONCRETE			Pavement	0
2	BENTONITE		2'-2.5' 200 ppm		2
4				Medium brown fine grained SAND, moist, moderate odor.	4
6	NATIVE BACKFILL		5'-7'- 4/5/3/3		6
8					8
10	WELL RISER		10'-12'- 2/2/3/4 105 ppm		10
12				Grayish brown SILT, some clay, slightly moist, moderate odor.	12
14					14
16	BENTONITE		15'-17'- 3/2/1/3 200 ppm		16
18					18
20	SAND PACK		20'-22'- 7/10/6/8 90 ppm	Med./brown fine grained SAND, slightly moist.	20
22				Med./brown SILT, moist.	22
24	WELL SCREEN				24
26				26.0' WATER TABLE	26
28	BOTTOM CAP		25'-30'- 4/6/5/6 2.5 ppm	Medium brown SILT, moist.	28
30					30
32	UNDISTURBED NATIVE SOIL		30'-32'- 4/4/6/8 1.6 ppm	Medium brown fine grained SAND. Medium brown SILT, some clay, wet.	32
34				BASE OF WELL AT 30' END OF EXPLORATION AT 32'	34
36					36
38					38
40					40
42					42
44					44
46					46
48					48
50					50

PROJECT ASCUTNEY SUNOCO

LOCATION ASCUTNEY, VT.

DATE DRILLED 1/10/95 TOTAL DEPTH OF HOLE 26.75'

DIAMETER 4.25"

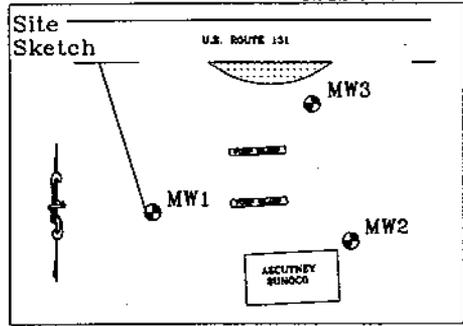
SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 16.25' TYPE sch 40 pvc

DRILLING CO. T&K DRILLING DRILLING METHOD HSA

DRILLER ALAN TOMMILA LOG BY K. UNDERWOOD

WELL NUMBER MW2



GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX			0
0		LOCKING WELL CAP			0
0		CONCRETE		Pavement	0
2		BENTONITE		Medium brown to yellowish brown medium grained SAND, dry, no odor.	2
4					4
6		NATIVE BACKFILL	5'-7'- 4/5/4/3 0.1 ppm	Medium brown to yellowish brown medium grained SAND, dry, no odor.	6
8					8
10		WELL RISER	10'-12'- 1/3/6/9 0.0 ppm	Medium brown fine grained SAND, dry.	10
12				Medium brown SILT, dry.	12
12				Medium brown fine grained SAND, dry.	12
14		BENTONITE			14
16			15'-17'- 3/4/7/6 0.1 ppm	Medium brown fine grained SAND, dry.	16
16		SAND PACK		Medium brown SILT, dry.	16
18		WELL SCREEN			18
20			20'-22'- 3/6/8/10 0.0 ppm		20
22					22
24		BOTTOM CAP			24
26		BEDROCK	25'-27' 8/15/18/50-3.5" 3.4 ppm	Med./brown fine grain SAND, dry, no odor.	26
26				26.5' WATER TABLE	26
28				Medium brown SILT, some fine grained sand, wet.	28
30					30
32				A mild sweet pet. odor at 26.75'	32
32				BASE OF WELL AT 26.75'	32
32				BEDROCK REFUSAL AT 26.75'	32
34					34
36					36
38					38
40					40
42					42
44					44
46					46
48					48
50					50

PROJECT ASCUTNEY SUNOCO

LOCATION ASCUTNEY, VT.

DATE DRILLED 1/10/95 TOTAL DEPTH OF HOLE 27'

DIAMETER 4.25"

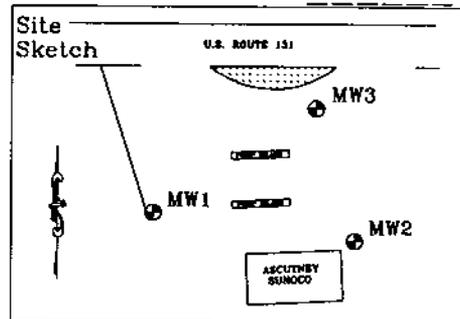
SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"

CASING DIA. 2" LENGTH 16.5' TYPE sch 40 pvc

DRILLING CO. T&K DRILLING DRILLING METHOD HSA

DRILLER ALAN TOMMILA LOG BY K. UNDERWOOD

WELL NUMBER MW3



GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0	ROAD BOX				0
0	LOCKING WELL CAP				0
0-2	CONCRETE			Pavement	0-2
0-2	BENTONITE			Medium brown fine grained SAND, trace gravel, dry, no odor.	0-2
2-6	NATIVE BACKFILL		5'-7'- 3/5/5/9 0.0 ppm	Same as above	2-6
6-8	WELL RISER		10'-12'- 4/4/6/10 0.0 ppm	Medium brown SILT, some fine grained sand, dry, no odor.	6-8
8-10	BENTONITE		15'-17'- 2/3/6/10 0.0 ppm	Medium brown SILT, some fine grained sand, moist, no odor.	8-10
10-12	SAND PACK				10-12
12-14	WELL SCREEN				12-14
14-16	BOTTOM CAP				14-16
16-18	UNDISTURBED NATIVE SOIL			Medium brown fine grained SAND, dry.	16-18
18-20				Medium brown SILT, dry.	18-20
20-22				Medium brown fine grained SAND, moist.	18-20
20				20.0' WATER TABLE	20
22-24				Med./brown SILT, wet, no odor.	22-24
24-26					24-26
26-28				Med./brown SILT, wet, no odor.	26-28
28-30				BASE OF WELL AT 27.0'	28-30
30-32				BEDROCK REFUSAL AT 27.0'	30-32
32-34					32-34
34-36					34-36
36-38					36-38
38-40					38-40
40-42					40-42
42-44					42-44
44-46					44-46
46-48					46-48
48-50					48-50

APPENDIX D

Liquid Level Data

**Liquid Level Monitoring Data
Ascutney Sunoco
Weathersfield, Vermont**

Monitoring Date: January 16, 1995

Well I.D.	Well Depth (ft)	Top of Casing Elevation (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Specific Gravity of Product	Hydro Equivalent (ft)	Corrected Depth To Water (ft)	Corrected Water Table Elevation (ft)
MW-1	30.0	100.00	-	26.14	-	-	-	-	73.86
MW-2	26.8	99.41	-	> 26.75	-	-	-	-	< 72.66
MW-3	27.0	96.89	-	22.70	-	-	-	-	74.19

* Well MW-2 dry.

APPENDIX E

Groundwater Quality Data

**Groundwater Quality Summary
 Ascutney Sunoco
 Ascutney, Vermont**

MW-1

PARAMETER	1/16/95		
Benzene	1200		
Chlorobenzene	ND		
1,2-DCB	ND		
1,3-DCB	ND		
1,4-DCB	ND		
Ethylbenzene	110		
Toluene	2000		
Xylenes	1700		
Total BTEX	5010		
MTBE	240		
BTEX + MTBE	5250		

MW-2

PARAMETER	1/16/95		
Benzene	No		
Chlorobenzene	Sample		
1,2-DCB			
1,3-DCB	Insufficient		
1,4-DCB	Water		
Ethylbenzene	in Well		
Toluene			
Xylenes			
Total BTEX			
MTBE			
BTEX + MTBE			

All values reported in ug/L (ppb)

ND - None Detected

Groundwater Quality Summary (cont.)

**Ascutney Sunoco
Ascutney, Vermont**

MW-3

PARAMETER	1/16/95		
Benzene	ND		
Chlorobenzene	ND		
1,2-DCB	ND		
1,3-DCB	ND		
1,4-DCB	ND		
Ethylbenzene	ND		
Toluene	ND		
Xylenes	1.0		
Total BTEX	1.0		
MTBE	37.		
BTEX + MTBE	38.0		

All values reported in ug/L (ppb)
ND - None Detected

PARAMETER	Quality Control Samples			Drinking Water Standards
	Duplicate (MW-1)	Trip Blank	Equipment Blank	
Benzene	1300	ND	ND	5.0 *
Chlorobenzene	ND	ND	ND	100 *
1,2-DCB	ND	ND	ND	600 *
1,3-DCB	ND	ND	ND	600 **
1,4-DCB	ND	ND	ND	75 *
Ethylbenzene	130	ND	ND	700 *
Toluene	2300	ND	ND	1,000 *
Xylenes	1800	ND	ND	10,000 *
Total BTEX	6630	ND	ND	-
MTBE	250	ND	ND	40 **
BTEX + MTBE	6780	ND	ND	-

All values reported in ug/L (ppb)

ND - None Detected

* = EPA Maximum Contaminant Level

** = VT Health Advisory Level

- = None available

KU

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

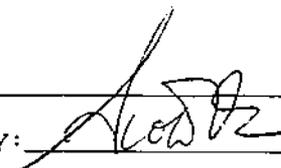
MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

CERTIFICATE OF ANALYSIS

Client: A.R. Sandri, Inc.	Laboratory Job Number: L9500398
Address: 400 Chapman Street	Invoice Number: 70783
Greenfield, MA 01301	Date Received: 17-JAN-95
Attn: Sharon Abbott	Date Reported: 01-FEB-95
Project Number: 12944626	Delivery Method: Fedex
Site: Ascutney Sunoco	

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9500398-01	TRIP BLANK	Ascutney, VT
L9500398-02	MW3	Ascutney, VT
L9500398-03	MW1	Ascutney, VT
L9500398-04	DUPLICATE OF MW1	Ascutney, VT
L9500398-05	EQUIPMENT BLANK	Ascutney, VT

RECEIVED FEB - 3 1995

Authorized by: 

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9500398-01

Date Collected: 30-DEC-94

TRIP BLANK

Date Received : 17-JAN-95

Sample Matrix:

WATER

Date Reported : 01-FEB-95

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Aromatic Volatile Organics				1	8020	25-Jan
Benzene	ND	ug/l	1.0			
Toluene	ND	ug/l	1.0			
Ethylbenzene	ND	ug/l	1.0			
Xylenes	ND	ug/l	1.0			
1,2-Dichlorobenzene	ND	ug/l	1.0			
1,3-Dichlorobenzene	ND	ug/l	1.0			
1,4-Dichlorobenzene	ND	ug/l	1.0			
Chlorobenzene	ND	ug/l	1.0			
Methyl tert butyl ether	ND	ug/l	1.0			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9500398-02 Date Collected: 16-JAN-95
 MW3 Date Received : 17-JAN-95
 Sample Matrix: WATER Date Reported : 01-FEB-95
 Condition of Sample: Satisfactory Field Prep: None
 Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Aromatic Volatile Organics				1	8020	25-Jan
Benzene	ND	ug/l	1.0			
Toluene	ND	ug/l	1.0			
Ethylbenzene	ND	ug/l	1.0			
Xylenes	1.0	ug/l	1.0			
1,2-Dichlorobenzene	ND	ug/l	1.0			
1,3-Dichlorobenzene	ND	ug/l	1.0			
1,4-Dichlorobenzene	ND	ug/l	1.0			
Chlorobenzene	ND	ug/l	1.0			
Methyl tert butyl ether	37.	ug/l	1.0			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9500398-03

Date Collected: 16-JAN-95

MW1

Date Received : 17-JAN-95

Sample Matrix:

WATER

Date Reported : 01-FEB-95

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Aromatic Volatile Organics				1	8020	27-Jan
Benzene	1200	ug/l	25.			
Toluene	2000	ug/l	25.			
Ethylbenzene	110	ug/l	25.			
Xylenes	1700	ug/l	25.			
1,2-Dichlorobenzene	ND	ug/l	25.			
1,3-Dichlorobenzene	ND	ug/l	25.			
1,4-Dichlorobenzene	ND	ug/l	25.			
Chlorobenzene	ND	ug/l	25.			
Methyl tert butyl ether	240	ug/l	25.			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
 CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9500398-04 Date Collected: 16-JAN-95
 Sample Matrix: DUPLICATE OF MW1 WATER Date Received : 17-JAN-95
 Condition of Sample: Satisfactory Field Prep: None
 Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP ANALYSIS
Aromatic Volatile Organics				1	8020	27-Jan
Benzene	1300	ug/l	25.			
Toluene	2300	ug/l	25.			
Ethylbenzene	130	ug/l	25.			
Xylenes	1800	ug/l	25.			
1,2-Dichlorobenzene	ND	ug/l	25.			
1,3-Dichlorobenzene	ND	ug/l	25.			
1,4-Dichlorobenzene	ND	ug/l	25.			
Chlorobenzene	ND	ug/l	25.			
Methyl tert butyl ether	250	ug/l	25.			

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE MS/MSD ANALYSIS

Laboratory Job Number: L9500398

Parameter	MS %	MSD %	RPD
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Volatile Organics Spike Recovery by GC MS/MSD for sample(s) 03-05

1,1-Dichloroethene	98	99	1
Trichloroethene	98	96	2
Chlorobenzene	86	92	7
Benzene	89	96	8
Toluene	88	94	7
Ethylbenzene	89	94	5

Volatile Organics Spike Recovery by GC MS/MSD for sample(s) 01-02

1,1-Dichloroethene	106	89	17
Trichloroethene	94	97	3
Chlorobenzene	77	75	3
Benzene	109	110	1
Toluene	104	101	3
Ethylbenzene	99	98	1

ALPHA ANALYTICAL LABS
ADDENDUM I

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.

GLOSSARY OF TERMS AND SYMBOLS

< Indicates analyte not detected at stated value, i.e. Reporting Detection Limit.

REF Reference number in which test method may be found.

METHOD Method number by which analysis was performed.

10

10183

ALPHA Analytical Laboratories, Inc.	Eight Walkup Drive Westborough, MA 01581-1019 508-898-9220 FAX 508-898-9193	CHAIN OF CUSTODY RECORD and ANALYSIS REQUEST RECORD	No. 35786 Sheet 1 of 1
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Company Name: <i>Griffin International</i> <i>A.R. Sandri</i>	Project Number: <i>12944636</i> P.O. Number:	Project Name/Location: <i>Ascutney Sunoco</i> <i>Ascutney, VT</i>	Date Received in Lab: <i>11/17/95</i>	Date Due: <i>11/31/95</i>
Company Address: <i>P.O. Box 943</i> <i>19 Commerce St.</i> <i>Williston, VT 05495</i>	Phone Number: <i>802-865-4288</i> FAX No.:	Project Manager: <i>K. Underwood</i>	Alpha Job Number: (Lab use only) <i>69500398</i>	

ALPHA Lab # (Lab Use Only)	Sample I.D.	Containers (number/type)	Matrix / Source	Method Preserve. (number of containers)						Solubles - F.F.	Sampling		Analysis Requested
				Unpres.	Ice	Nitric	Sulfuric	HCl	Other		Date	Time	
				MATRIX / SOURCE CODES MW = Monitoring Well RO = Runoff O = Outfall W = Well LF = Landfill L = Lake/Pond/Ocean I = Influent E = Effluent DW = Drinking Water R = River Stream S = Soil SG = Sludge B = Bottom Sediment X1 = Other _____ X2 = Other _____									
<i>9500398.1</i>	<i>Tip Blank</i>	<i>1/40 mL V</i>	<i>H₂O</i>							<i>12/30</i>	<i>11:10</i>	<i>8020</i>	
<i>.2</i>	<i>MW3</i>	<i>2/40 mL V</i>								<i>1/16</i>	<i>10:10</i>		
<i>.3</i>	<i>MW1</i>										<i>10:30</i>		
<i>.4</i>	<i>Duplicate of MW1</i>										<i>10:30</i>	<i>n/c</i>	
<i>.5</i>	<i>Equip. Blank</i>										<i>10:35</i>	<i>n/c</i>	

Sampler's Signature: <i>Greenfield</i>	Affiliation: <i>Technician</i>	Date: <i>1-16-95</i>	Time: <i>13:10</i>
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ADDITIONAL COMMENTS:
 Please submit invoice to A.R. Sandri,
 Greenfield, MA
 Send duplicate copy of results to Griffin
 International

NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	<i>Greenfield</i>	<i>Fed Ex</i>	<i>1-16-95</i>	<i>14:00</i>
2	<i>Fed Ex</i>	<i>KDM</i>	<i>11/17/95</i>	<i>11:00</i>
3				
4				