

2230



JAN 15 10 00 AM '98

January 14, 1998

Mr. Richard Spiese  
Sites Management Section  
VTDEC WMD  
103 South Main St./ West Bldg.  
Waterbury, VT 05671-0404

RE: Investigation of Subsurface Petroleum Contamination at Jimmo's Mobil, Ferrisburg,  
Vermont (VTDEC Site #97-2230)

Dear Mr. Spiese:

Enclosed please find the December 1997 report entitled *Investigation of Subsurface Petroleum Contamination at Jimmo's Mobil*. Mr. Carl Ruprecht of S.B. Collins, Inc. requested that a copy be forwarded to you for review. Please do not hesitate to call, if you have any questions or comments.

Sincerely,

Robert Higgins  
Engineer

Enc.

cc: Mr. Carl Ruprecht, S.B. Collins, Inc. (w/out Enc.)  
GI #8975257

**INVESTIGATION OF  
SUBSURFACE PETROLEUM CONTAMINATION AT  
JIMMO'S MOBIL**

JAN 15 10 03 AM '99

**DECEMBER 30, 1997**

**Site Location:**

**Jimmo's Mobil  
Route 7  
Ferrisburg, VT  
(VTDEC SITE #97-2230)  
GI Project # 8975257**

**Prepared For:**

**Mr. Carl Ruprecht  
S.B. Collins, Inc.  
Box 671  
St. Albans, VT 05478  
(802) 527-0116**

**Prepared By:**



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

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## **I. INTRODUCTION**

This report summarizes the site investigation of suspected subsurface petroleum contamination at Jimmo's Mobil located on Route 7 in Ferrisburg, VT (see site location map in Appendix A). This investigation was conducted by Griffin International, Inc. (Griffin) for Mr. Carl Ruprecht of S.B. Collins, Inc. The Vermont Department of Environmental Conservation (VTDEC) requested that this work be completed in a letter to Mr. Ruprecht, from Mr. Richard Spiese of the VTDEC, dated October 1, 1997. All work at the site was conducted in accordance with the October 16, 1997 Work Plan and Cost Estimate prepared by Griffin. Approval to proceed with this plan was given in a letter dated November 14, 1997 from Mr. Spiese to Griffin. The site (VTDEC Site #97-2230) is owned by Mr. Robert Jimmo of Ferrisburg, VT.

Work conducted at the site included the collection and laboratory analysis of groundwater samples from six of the on-site monitoring wells and the shallow dug well south of the underground storage tanks (USTs). Additional tasks included the development of a groundwater contour map for the site. Also, a sensitive receptor risk assessment was conducted following the receipt of these data to assess the risk that subsurface petroleum contamination at the site may pose to potentially sensitive receptors identified in the site vicinity.

## **II. SITE BACKGROUND**

### **A. Site History**

According to Mr. Robert Jimmo, the current property owner, the on-site building was constructed by his father Harold Jimmo in 1949 and was operated as an automobile service center and filling station; prior to 1949 the site was a vacant field. The site was purchased by Robert Jimmo from Harold Jimmo in 1962. Robert operated the property in the same capacity as his father. In 1987 Robert closed the service station and began to utilize the building as retail space, first as a lawn and garden supply center, and then as a convenience store / gas station. There are currently two 4,000-gallon and one 2,000-gallon USTs located on the south side of the property. These tanks are owned by S.B. Collins, Inc.

### **B. Site Description**

Jimmo's Mobil is a combined gas station / convenience store located at the north end of the municipality of North Ferrisburg, VT. The site consists of one building situated on a partially paved lot. Seven groundwater monitoring wells (MW-1 through MW-7) and two former shallow supply wells (Dug Well North and Dug Well South) exist at the site (see the Site Map included in Appendix A). Well construction specifics for the pre-existing monitoring wells are unavailable. Property uses in the area are primarily residential and commercial. Water for the property is provided by an on-site drilled bedrock supply well. All buildings in the vicinity are served by private supply wells.

### **C. Site Geologic Setting**

According to the Surficial Geologic Map of Vermont (Ref. 1), the site is underlain by silt and clay. Bedrock at the site is of the Stony Point formation, which consists predominantly of shale and limestone (Ref. 2).

## **III. INVESTIGATIVE PROCEDURES**

### **A. Determination of Groundwater Flow Direction and Gradient**

On December 3, 1997, depth to water measurements were taken with the use of a Keck interface probe in six of the seven site wells. One monitoring well (MW-7) could not be located adjacent to the USTs. These measurements were subtracted from the top-of-casing elevations, which were determined relative to an arbitrary datum of 100.00 feet at the top of the casing for MW-2, to determine the water table elevation at each of the wells. From the monitoring well water table elevation data, the groundwater contours were interpolated onto the site map, and the groundwater direction and gradient were estimated.

As displayed on the groundwater contour map included in Appendix A, the regional groundwater flow direction for December 3, 1997, was estimated to be to the west at a gradient of approximately 2.5%. No free phase petroleum product was observed in any of the monitoring wells. All groundwater level data are recorded in Appendix B.

### **B. Groundwater Sample Collection and Analysis**

Immediately following well gauging, samples of the groundwater were collected from six of the on-site monitoring wells and the shallow dug well located south of the USTs (identified as dug well south). Samples were analyzed per EPA Method 602 for benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tertiary butyl ether (MTBE). Results of the laboratory analyses for wells sampled on December 3, 1997 are summarized in Appendix C. Laboratory report forms are presented in Appendix D.

With the exception of MW-4, all of the monitoring wells contained concentrations of benzene exceeding the Vermont Groundwater Enforcement Standard (VGES) of 5 parts per billion (ppb). MW-1 and MW-3 contained concentrations of MTBE in excess of its VGES. Several compounds were detected in each well at concentrations below their respective VGES. None of the targeted compounds were present above method detection limits in the sample collected from the Dug Well South.

All samples were collected according to Griffin's groundwater sampling protocol which complies with industry and state standards. Results from the analyses of the duplicate and trip blank

samples indicate that adequate quality assurance and control (QA/QC) were maintained during sample collection and analysis.

### **C. Sensitive Receptor Risk Assessment**

A receptor risk assessment was conducted to identify known and potential receptors of the contamination detected at Jimmo's Mobil. A visual survey was conducted at the time of the sampling event. Based on these observations, a determination of the potential risk to identified receptors was conducted based on proximity, groundwater flow direction, and contaminant concentration levels.

#### *Water Supplies*

Water for the Jimmo's Mobil property is provided by an on-site drilled bedrock supply well (SW-1). The well is 1,000 feet in depth and is cased to 150 feet. SW-1 is located approximately 15 feet west of the Jimmo's Mobil building. A sample was collected from SW-1 on August 12, 1997 and analyzed by EPA Method 602 (see the laboratory report form in Appendix D). None of the compounds targeted by this analysis were present above method detection limits. Due to the low levels of contamination detected at Jimmo's Mobil and the lack of contamination in the supply well sample there is likely little risk posed to this supply well. In addition, a supply well was identified approximately 250 feet west of Jimmo's Mobil. This well is believed to supply water to the neighboring residence. Given its distance from the source area, this supply well likely faces minimal risk of impact also. Several additional private supply wells are believed to exist on the properties surrounding Jimmo's Mobil.

#### *Buildings in the Vicinity*

Jimmo's Mobil is the only building located on the subject property. The on-site building has no basement. To the north, cross-gradient from the site, is Palmer's Garage. This property is currently listed as VTDEC Site #91-1130 on the Vermont Hazardous Sites List; the site is listed as investigation complete. To the west, downgradient from the site, is a residence. The residence is located across a swampy area approximately 250 feet from the property. To the south, cross-gradient from the site, is the Post Office. This property is located across a drainage ditch and Stage Road approximately 75 to 100 feet from the site. To the east, upgradient from the site, is Jimmo's Motel. There does not appear to be significant risk of impact to indoor air in the vicinity of Jimmo's Mobil. No complaints have been reported of petroleum odors within any building immediately surrounding the Jimmo's Mobil.

#### *Surface Water*

A small unnamed stream lies approximately 1,000 feet to the west of the site. Given its distance from the source area, and the low levels of dissolved groundwater contamination at Jimmo's Mobil, this stream likely faces minimal risk of impact.

### *Wetlands*

Approximately 100 feet to the west of the UST area is a swampy wetland area. According to the property owner this was formerly a manmade pond that has since been abandoned. No areas of stressed vegetation were observed on or west of the bank of this swampy area. Due to the low levels of contaminants at the site there does not appear to be a significant risk of petroleum impact to this swampy area.

## **IV. CONCLUSIONS**

Based on the initial site investigations at Jimmo's Mobil site, the following conclusions are offered:

1. Based on the water table elevation data collected on December 3, 1997, groundwater beneath the site appears to be flowing to the west at a gradient of approximately 2.5%.
2. With the exception of MW-4, all of the monitoring wells contained concentrations of benzene exceeding the VGES of 5 ppb. MW-1 and MW-3 contained concentrations of MTBE in excess of its VGES. No other compounds were detected above VGES.
3. None of the targeted compounds were present above method detection limits in the sample collected from Dug Well South.
4. The most downgradient monitoring well, MW-1, contained concentrations of benzene and MTBE above VGES.
5. Potential Sensitive receptors include the swampy area to the west of the site. A sample collected from the on-site supply well was non-detect for all targeted compounds. At this time there does not appear to be significant risk posed to any of the receptors identified in the area.
6. Over time, the natural processes of dilution, dispersion, and biodegradation will continue to reduce dissolved contaminant concentrations present in the subsurface at Jimmo's Mobil.
7. There is no free product present in any of the wells on this site.
8. There is evidence of a petroleum release at the site which has caused groundwater contamination over the entire site.

## V. RECOMMENDATIONS

Based upon the above conclusions, Griffin offers the following recommendations:

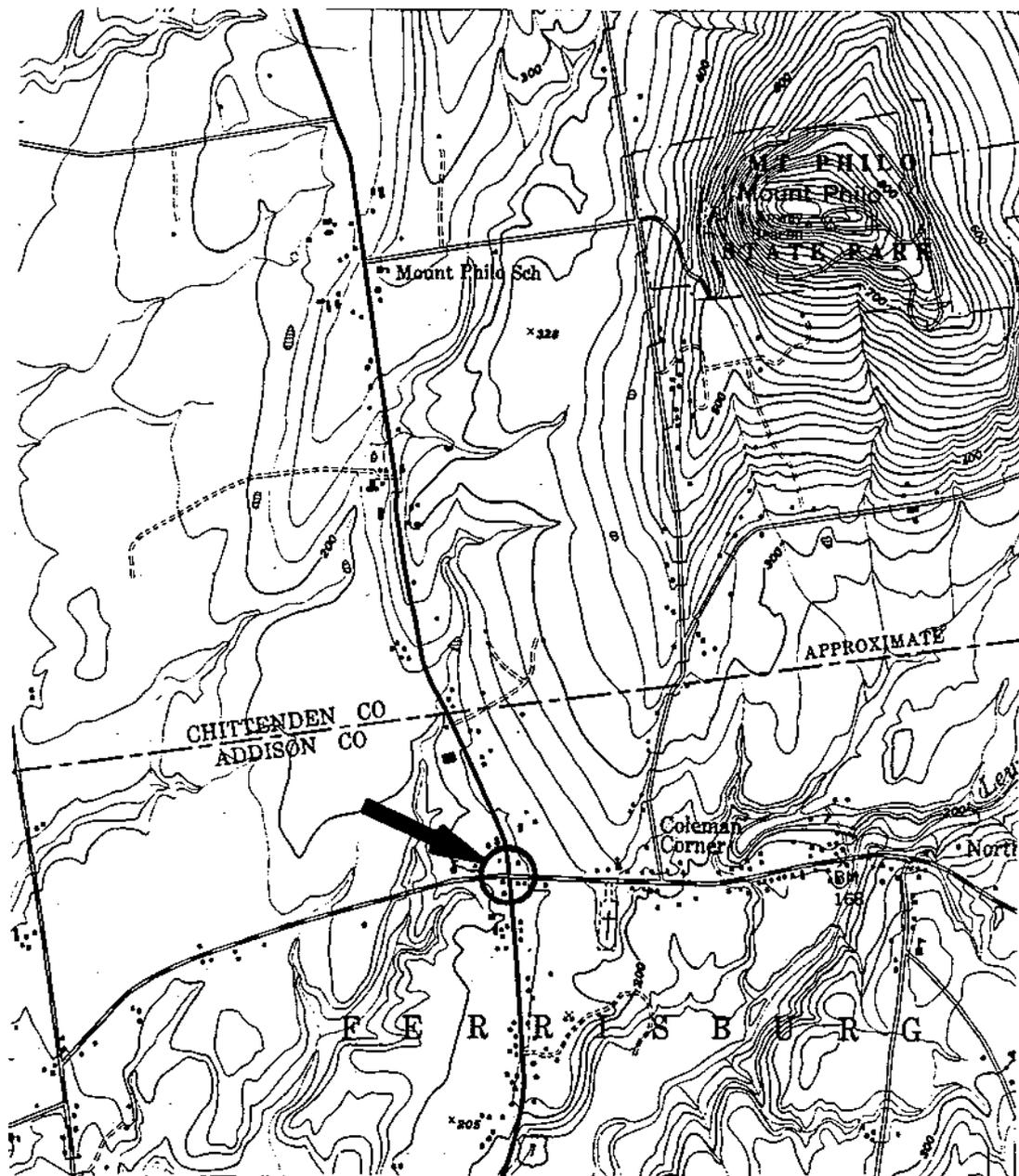
1. In order to monitor and track the expected decrease in contaminant concentrations the on-site monitoring wells should be sampled on an annual basis. These samples will be analyzed by EPA Method 602 for the presence of petroleum related compounds. Pending VTDEC approval the next sampling event will take place in April of 1998 to confirm current findings and continue annually until such time that contaminant concentrations drop below applicable groundwater standards. At that time, Griffin can recommend site closure. At this time Griffin feels that the existing monitoring wells are sufficient for the determination of the extent and degree of petroleum contamination at this site. Griffin does not recommend active remediation at this time.

## References

1. Doll, Charles G., ed., 1970, Surficial Geologic Map of Vermont, State of Vermont.
2. Doll, Charles G., ed., 1961, Centennial Geologic Map of Vermont, State of Vermont.

**APPENDIX A**

**Maps**



JOB #: 8975257

SOURCE: USGS- MOUNT PHILO, VERMONT QUADRANGLE



JIMMO'S MOBIL

NORTH FERRISBURG, VERMONT

SITE LOCATION MAP

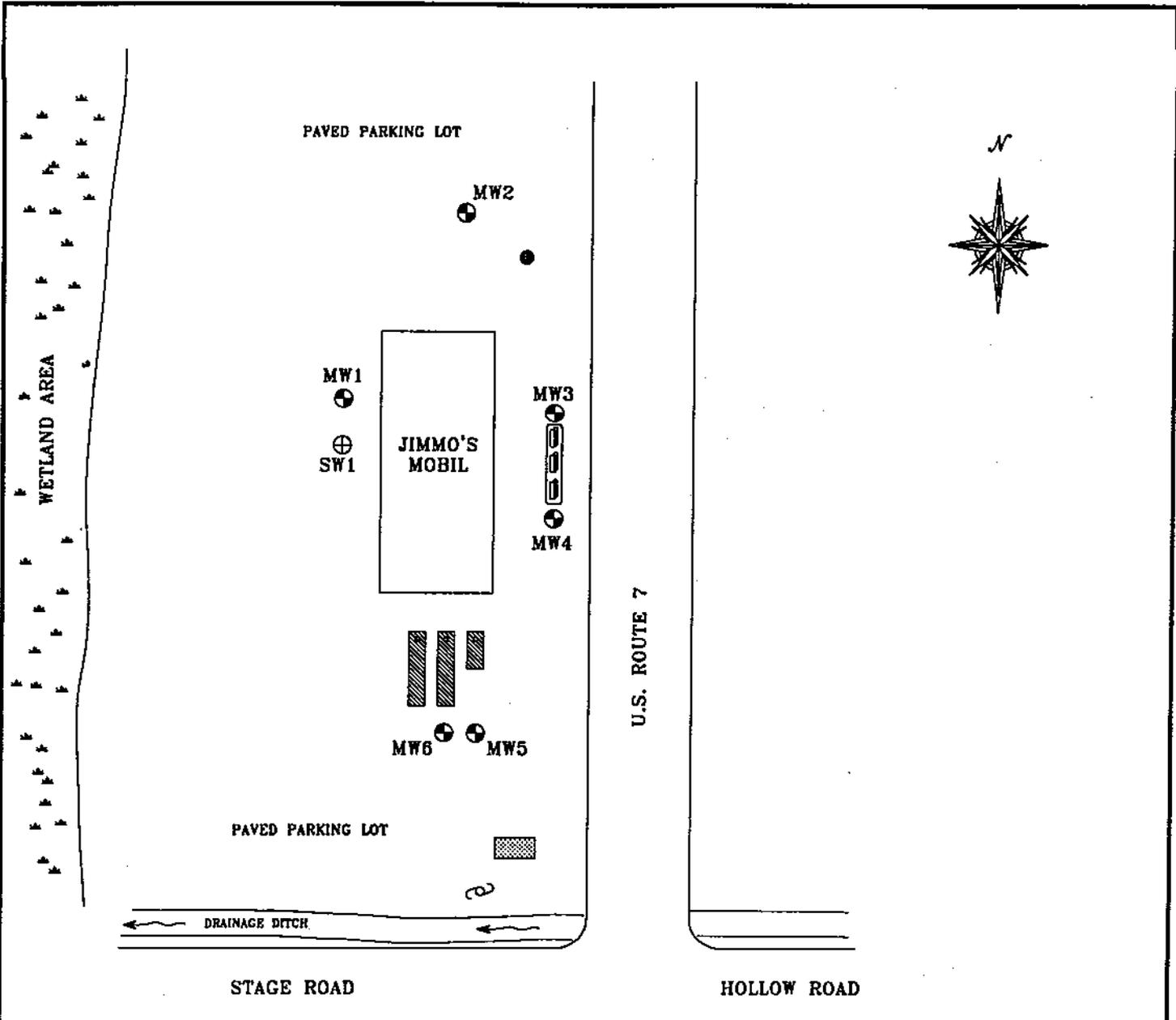
DATE: 12/4/97

DWG.#:1

SCALE: 1:24000

DRN.:SB

APP.:KM



**LEGEND**

-  MW2 MONITORING WELL
-  SW1 SUPPLY WELL
-  DUG WELL SOUTH
-  DUG WELL NORTH
-  UNDERGROUND STORAGE TANK
-  FUEL PUMP
-  UTILITY POLE

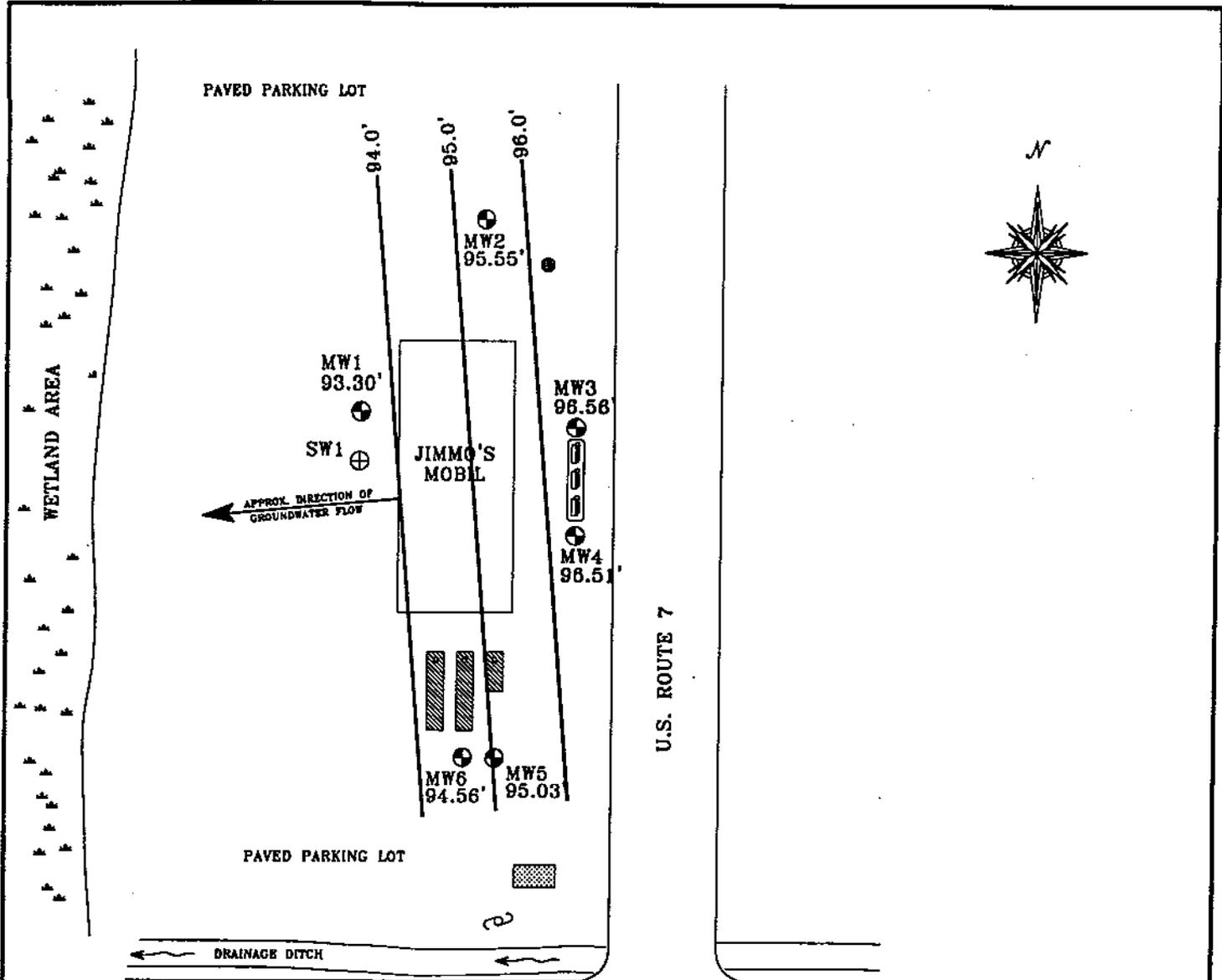
JOB #: 8975257



**JIMMO'S MOBIL**  
 NORTH FERRISBURG, VERMONT

**SITE MAP**

DATE: 12/4/97	DWG.#:2	SCALE: 1"=50'	DRN.:SB	APP.:RH
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U.S. ROUTE 7

**LEGEND**

- MW2 95.55' MONITORING WELL AND WATER TABLE ELEVATION IN FEET
- 95.0' GROUNDWATER CONTOUR IN FEET (DASHED WHERE INFERRED)
- SW1 SUPPLY WELL
- DUG WELL SOUTH
- DUG WELL NORTH
- UNDERGROUND STORAGE TANK
- FUEL PUMP
- UTILITY POLE

JOB #: 8975257  
MEASUREMENT DATE: 12/3/97

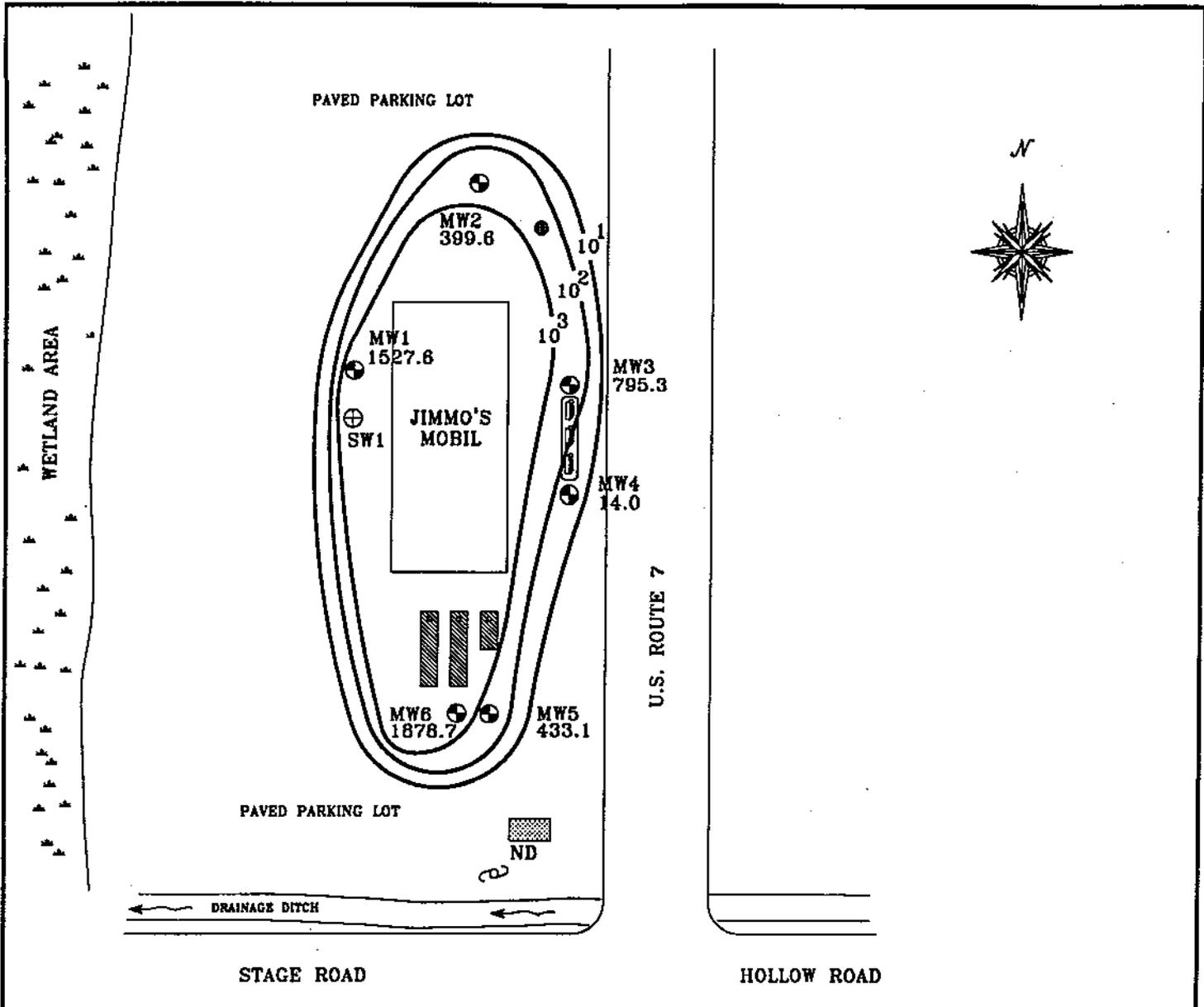


**JIMMO'S MOBIL**

NORTH FERRISBURG, VERMONT

**GROUNDWATER CONTOUR MAP**

DATE: 12/29/97 DWG.#:3 SCALE: 1"=50' DRN.:SB APP.:RH



**LEGEND**

- MW2 MONITORING WELL AND TOTAL BTEX AND MTBE CONCENTRATION (ppb)  
 @ 399.6
- ISOCOCONCENTRATION CONTOUR, TOTAL BTEX AND MTBE (ppb). (DASHED WHERE INFERRED)
- ND NONE DETECTED
- SW1 SUPPLY WELL
- DUG WELL SOUTH
- DUG WELL NORTH
- UNDERGROUND STORAGE TANK
- FUEL PUMP
- UTILITY POLE

JOB #: 8975257  
 SAMPLE DATE: 12/3/97



**JIMMO'S MOBIL**  
 NORTH FERRISBURG, VERMONT

**CONTAMINANT DISTRIBUTION MAP**

DATE: 12/29/97	DWG.#:4	SCALE: 1"=50'	DRN.:SB APP.:RH
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**APPENDIX B**

**Groundwater Liquid Level Data**

**Liquid Level Monitoring Data**  
**Jimmo's Mobil**  
**Ferrisburg, VT**

Monitoring Date: 12/3/97

Well I.D.	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	98.46	-	5.16	-	-	-	5.16	93.30
MW-2	100.00	-	4.45	-	-	-	4.45	95.55
MW-3	99.46	-	2.90	-	-	-	2.90	96.56
MW-4	99.38	-	2.87	-	-	-	2.87	96.51
MW-5	98.34	-	3.31	-	-	-	3.31	95.03
MW-6	98.09	-	3.53	-	-	-	3.53	94.56

**APPENDIX C**

**Groundwater Quality Summary Data**

**Groundwater Quality Summary  
Jimmo's Mobil  
Ferrisburg, VT**

PARAMETER	MW1			Enforcement Standard
	12/3/97			
Benzene	702.			5
Chlorobenzene	<10			100
1,2-DCB	<10			600
1,3-DCB	<10			600
1,4-DCB	<10			75
Ethylbenzene	65.1			700
Toluene	16.5			1,000
Xylenes	124.			10,000
Total BTEX	907.6			-
MTBE	620.			40
BTEX + MTBE	1527.6			-

PARAMETER	MW2			Enforcement Standard
	12/3/97			
Benzene	70.9			5
Chlorobenzene	<5			100
1,2-DCB	<5			600
1,3-DCB	<5			600
1,4-DCB	<5			75
Ethylbenzene	91.7			700
Toluene	<5			1,000
Xylenes	237.			10,000
Total BTEX	399.6			-
MTBE	<50			40
BTEX + MTBE	399.6			-

All Values Reported in ug/L (ppb)

ANALYSIS BY EPA METHOD 602

**Groundwater Quality Summary**  
**Jimmo's Mobil**  
**Fair Haven, VT**

PARAMETER	MW3			Enforcement Standard
	12/3/97			
Benzene	66.1			5
Chlorobenzene	<5			100
1,2-DCB	<5			600
1,3-DCB	<5			600
1,4-DCB	<5			75
Ethylbenzene	277.			700
Toluene	22.2			1,000
Xylenes	263.			10,000
Total BTEX	628.3			-
MTBE	167.			40
BTEX + MTBE	795.3			-

PARAMETER	MW4			Enforcement Standard
	12/3/97			
Benzene	1.0			5
Chlorobenzene	<1			100
1,2-DCB	<1			600
1,3-DCB	<1			600
1,4-DCB	<1			75
Ethylbenzene	1.1			700
Toluene	<1			1,000
Xylenes	1.8			10,000
Total BTEX	3.9			-
MTBE	10.1			40
BTEX + MTBE	14.0			-

All Values Reported in ug/L (ppb)

ANALYSIS BY EPA METHOD 602

**Groundwater Quality Summary**  
**Jimmo's Mobil**  
**Fair Haven, VT**

PARAMETER	MW5			Enforcement Standard
	12/3/97			
Benzene	7.3			5
Chlorobenzene	<5			100
1,2-DCB	<5			600
1,3-DCB	<5			600
1,4-DCB	<5			75
Ethylbenzene	137.			700
Toluene	12.8			1,000
Xylenes	276.			10,000
Total BTEX	433.1			-
MTBE	<50			40
BTEX + MTBE	433.1			-

PARAMETER	MW6			Enforcement Standard
	12/3/97			
Benzene	27.0			5
Chlorobenzene	<10			100
1,2-DCB	<10			600
1,3-DCB	<10			600
1,4-DCB	<10			75
Ethylbenzene	289.			700
Toluene	52.7			1,000
Xylenes	1510.			10,000
Total BTEX	1878.7			-
MTBE	<100			40
BTEX + MTBE	1878.7			-

All Values Reported in ug/L (ppb)

ANALYSIS BY EPA METHOD 602

Groundwater Quality Summary  
 Jimmo's Mobil  
 Fair Haven, VT

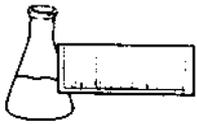
PARAMETER	Dug Well South			Enforcement Standard
	12/3/97			
Benzene	<1			5
Chlorobenzene	<1			100
1,2-DCB	<1			600
1,3-DCB	<1			600
1,4-DCB	<1			75
Ethylbenzene	<1			700
Toluene	<1			1,000
Xylenes	<1			10,000
Total BTEX				-
MTBE	<10			40
BTEX+MTBE				-

All Values Reported in ug/L (ppb)

ANALYSIS BY EPA METHOD 602

**APPENDIX D**

**Laboratory Analytical Reports**



**ENDYNE, INC.**

**Laboratory Services**

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

**REPORT OF LABORATORY ANALYSIS**

CLIENT: Griffin International  
PROJECT NAME: Jimmo's Mobil  
REPORT DATE: December 12, 1997  
DATE SAMPLED: December 3, 1997

PROJECT CODE: GIJ11640  
REF.#: 114,181 - 114,189

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. However, samples 114184 and 114185 were found to have a neutral pH.

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.

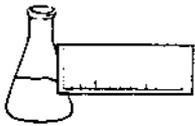
Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

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

enclosures



### EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International

DATE RECEIVED: December 4, 1997

PROJECT NAME: Jimmo's Mobil

REPORT DATE: December 12, 1997

CLIENT PROJ. #: 8975257

PROJECT CODE: GUJ1640

Ref. #:	114,181	114,182	114,183	114,184	114,185
Site:	Trip Blank	Dug Well South	MW-6	MW-5	Duplicate
Date Sampled:	12/3/97	12/3/97	12/3/97	12/3/97	12/3/97
Time Sampled:	9:30	11:55	12:10	12:13	12:13
Sampler:	NI	NI	NI	NI	NI
Date Analyzed:	12/10/97	12/11/97	12/11/97	12/12/97	12/11/97
UIP Count:	0	0	>10	>10	>10
Dil. Factor (%):	100	100	10	20	20
Surr % Rec. (%):	88	88	88	93	88
Parameter	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)
Benzene	<1	<1	27.0	7.3	TBQ <5
Chlorobenzene	<1	<1	<10	<5	<5
1,2-Dichlorobenzene	<1	<1	<10	<5	<5
1,3-Dichlorobenzene	<1	<1	<10	<5	<5
1,4-Dichlorobenzene	<1	<1	<10	<5	<5
Ethylbenzene	<1	<1	289.	137.	98.4
Toluene	<1	<1	52.7	12.8	10.7
Xylenes	<1	<1	1,510.	276.	188.
MTBE	<10	<10	<100	<50	TBQ <50

Ref. #:	114,186	114,187	114,188	114,189	
Site:	MW-4	MW-1	MW-3	MW-2	
Date Sampled:	12/3/97	12/3/97	12/3/97	12/3/97	
Time Sampled:	12:25	12:39	12:45	1:00	
Sampler:	NI	NI	NI	NI	
Date Analyzed:	12/11/97	12/12/97	12/12/97	12/12/97	
UIP Count:	>10	4	>10	>10	
Dil. Factor (%):	100	10	20	20	
Surr % Rec. (%):	100	92	85	101	
Parameter	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	
Benzene	1.0	702.	66.1	70.9	
Chlorobenzene	<1	<10	<5	<5	
1,2-Dichlorobenzene	<1	<10	<5	<5	
1,3-Dichlorobenzene	<1	<10	<5	<5	
1,4-Dichlorobenzene	<1	<10	<5	<5	
Ethylbenzene	1.1	65.1	277.	91.7	
Toluene	<1	16.5	22.2	<5	
Xylenes	1.8	124.	263.	237.	
MTBE	10.1	620.	167.	<50	

Note: UIP = Unidentified Peaks TBQ = Trace Below Quantitation NI = Not Indicated



ENDYNE, INC.

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

CHAIN-OF-CUSTODY RECORD

Job # 8975257

24055

Project Name: Jimmo's Mobil Site Location: N. Ferrisburg, VT	Reporting Address: Griffin International	Billing Address: Griffin International
Endyne Project Number: GII1640	Company: Contact Name/Phone #:	Sampler Name: Phone #:

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				
114181	Trip Blank	H <sub>2</sub> O	✓		12/3/97 9:30	2	40mL		602	HCl	
114182	Dug Well South		✓		11:55						
114183	MW-6		✓		12:10						
114184	MW-5		✓		12:13						
114185	Duplicate		✓		12:13						
114186	MW-4		✓		12:25						
114187	MW-1		✓		12:39						
114188	MW-3		✓		12:45						
114189	MW-2		✓		1:00						

Relinquished by: Signature <i>Kevin McLean</i>	Received by: Signature <i>Amy K Cole</i>	Date/Time
Relinquished by: Signature <i>Amy K Cole</i>	Received by: Signature <i>Jason Woodard</i>	Date/Time 12/4/97 10:50 A.M.

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 <sub>5</sub>	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	25	EPA 8240		
29	TCCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										

**CHAIN-OF-CUSTODY RECORD**

Job # 8975257

24055

Project Name: Jimmo's Mobil Site Location: N. Ferrisburg, VT	Reporting Address: Griffin International	Billing Address: Griffin International
Endyne Project Number:	Company: Contact Name/Phone #:	Sampler Name: Phone #:

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 <sub>2</sub> O	✓		12/3/17 9:30	2	40ml		602	HCl	
	Dug Well South		✓		11:55						
	MW-6		✓		12:10						
	MW-5		✓		12:13						
	Duplicate		✓		12:13						
	MW-4		✓		12:25						
	MW-1		✓		12:39						
	MW-3		✓		12:45						
	MW-2		✓		1:00						

Relinquished by: Signature <i>Kevin McArthur</i>	Received by: Signature <i>Chris K. Cole</i>	Date/Time
Relinquished by: Signature <i>Chris K. Cole</i>	Received by: Signature <i>John Wood</i>	Date/Time 12/4/17 10:50 A.M.

 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 <sub>5</sub>	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):										

REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International  
PROJECT NAME: Jimmo's Mobil  
REPORT DATE: August 14, 1997  
DATE SAMPLED: August 12, 1997

PROJECT CODE: GIJM1840  
REF.#: 107,978 - 107,979

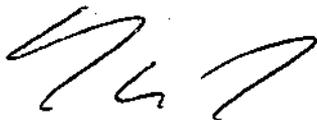
Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Chain of custody indicated sample preservation with HCl.

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.

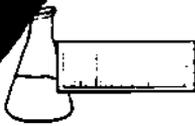
Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate recovery data was determined to be within laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,



Harry B. Locker, Ph.D.  
Laboratory Director

enclosures



### EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International

DATE RECEIVED: August 13, 1997

PROJECT NAME: Jimmo's Mobil

REPORT DATE: August 14, 1997

CLIENT PROJ. #: NI

PROJECT CODE: GJIM1840

*DUG WELL NORTH*  
*7/28/97*

Ref. #:	107,978	107,979			
Site:	Dry Well	Jimmo's Supply			
Date Sampled:	8/12/97	8/12/97			
Time Sampled:	10:05	10:45			
Sampler:	T. Kelly	T. Kelly			
Date Analyzed:	8/14/97	8/14/97			
UIP Count:	> 10	3			
Dil. Factor (%):	2	100			
Surr % Rec. (%):	99	90			
Parameter	Conc. (ug/L)	Conc. (ug/L)			
Benzene	<50	<1			
Chlorobenzene	<50	<1			
1,2-Dichlorobenzene	<50	<1			
1,3-Dichlorobenzene	<50	<1			
1,4-Dichlorobenzene	<50	<1			
Ethylbenzene	350.	<1			
Toluene	<50	<1			
Xylenes	3,250.	<1			
MTBE	<500	<10			

Note: UIP = Unidentified Peaks    TBQ = Trace Below Quantitation    NI = Not Indicated

**CHAIN-OF-CUSTODY RECORD**

Project Name: <i>Jimmo's Mobil</i>	Reporting Address: <i>Griffin</i>	Billing Address: <i>SB Collins, PO Box 671</i>
Site Location: <i>North Ferrisburg, VT</i>		<i>St. Albans, VT 05478</i>
Endyne Project Number: <i>GIJM1840</i>	Company: <i>Griffin</i>	Sampler Name: <i>Tim Kelly</i>
	Contact Name/Phone #: <i>Tim Kelly</i>	Phone #: <i>865-4288</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				
<i>10778</i>	<i>Dug Well</i>	<i>water</i>	<i>X</i>		<i>8-12-97</i> <i>1045</i>	<i>2</i>	<i>40-ml</i>		<i>EPA 602</i>	<i>HCl</i>	<input checked="" type="checkbox"/>
<i>10779</i>	<i>Jimmo's Supply</i>	<i>water</i>	<i>X</i>		<i>1045</i>	<i>2</i>	<i>40-ml</i>		<i>EPA 602</i>	<i>HCl</i>	<input checked="" type="checkbox"/>

Relinquished by: Signature <i>Tim Kelly</i>	Received by: Signature <i>[Signature]</i>	Date/Time
Relinquished by: Signature <i>[Signature]</i>	Received by: Signature <i>M. Fausel</i>	Date/Time <i>9/13/97 1030</i>

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
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29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										