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UNDERGROUND STORAGE TANK (UST) SITE CLOSURE ASSESSMENT

Of A Former
**500 Gallon Fuel Oil
(UST)**

Located At
KNOLLS SERVICE STATION PROPERTY

13825 State Highway ' 32'
Mountain, Wisconsin

ARMSTRONG, TIV

Prepared For
LAVERN KNOLL
Mountain, Wisconsin

McMAHON
ASSOCIATES, INC.

ENGINEERS ■ ARCHITECTS
PROJ. MGRS. ■ SURVEYORS



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PROJ. MGRS. ■ SURVEYORS

1445 McMahon Drive Neenah, WI 54956
Mailing Address: P.O. Box 1025 Neenah, WI 54957-1025
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July 12, 2002

LaVern Knoll
15565 Meadow Circle
Mountain, WI 54149

Re: Underground Storage Tank (UST)
Closure Report Assessment – 500 Gal. Fuel Oil UST
Knolls Service Station Property – Mountain, WI
McM No. K908-90229.36

Dear LaVern:

This correspondence will serve to report the findings of an Underground Storage Tank (UST) closure site assessment for the former 500 gallon fuel oil UST located at the Knolls Service Station Property, 13825 State Highway '32', Mountain, Wisconsin.

The purpose of the assessment was to evaluate for the presence of spilled or leaking petroleum product that may have impacted the soil in the former UST area.

Based upon the results of our UST Closure Site Assessment, it is the opinion of McMahon Associates, Inc. that the soil in the former UST area was not adversely impacted by petroleum hydrocarbon contamination.

The McMahon Associates, Inc. assessment procedures and results are contained in the following report.

Very truly yours,
McMahon associates, Inc.



Stuart A. Boerst
Senior Hydrogeologist, P.S., P.H.

SAB:lml
Enclosure

cc: Tank Response Unit – Wisconsin DNR-Madison
Melissa Tarlton, Tarlton Inspections, Inc.
Cathy Rodda, DNR

**UNDERGROUND STORAGE TANK (UST)
SITE CLOSURE ASSESSMENT**

Of A Former
500 Gallon Fuel Oil (UST)

Located At The
KNOLLS SERVICE STATION PROPERTY
13825 State Highway '32'
Mountain, Wisconsin

Prepared For
LAVERN KNOLL
Mountain, Wisconsin

Prepared By:
McMahon Associates, Inc.
Neenah, Wisconsin

July 12, 2002
McM No. K908-90229.36

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UNDERGROUND STORAGE TANK (UST) SITE CLOSURE ASSESSMENT

Of A Former
500 Gallon Fuel Oil (UST)

Located At The
KNOLLS SERVICE STATION PROPERTY
13825 State Highway '32'
Mountain, Wisconsin

Prepared For
LAVERN KNOLL
Mountain, Wisconsin

I. INTRODUCTION

A. Site History

The Knoll's Service Station property is located at 13825 State Highway 32, Mountain, Wisconsin. On May 20, 2002, a 500 gallon heating oil underground storage tank (UST) was removed from the ground by an uncertified contractor. Consequently, on May 28, 2002, Tarlton Inspections, Inc., an agent of the Wisconsin Department of Commerce ordered that a site assessment be completed.

B. Property Owner Information

The property owner, address, and telephone number is listed below:

LaVern Knoll
15565 Meadow Circle
Mountain, WI 54149
Telephone: (715) 276-7197

II. SITE OBSERVATIONS

A. UST Inspection

On June 4, 2002, Stuart A. Boerst, of McMahon Associates, Inc., a State Certified Site Assessor, conducted a site visit to inspect the 500 gallon heating oil UST and collect soil samples from beneath the tank bed area. The UST appeared in good condition. There were no holes observed and there was only a few areas with some surficial rust. Many parts of the UST contained the original paint. The UST is singled walled painted steel. The UST sounded empty or nearly empty based on tapping the steal and rolling the UST slightly to observe all of the sides. The UST was formerly located approximately 8 inches from the side of the building. The piping was formerly located between the UST and the building. The piping appeared in good condition with no observed holes. The piping was made of steel.

A copy of the form titled "Underground Petroleum Product Tank Inventory" is presented in Appendix A.

B. Soil Sampling & Analytical Results

Soil samples were collected from beneath the bottom of the former UST. The top of the UST was located 16 inches below grade. Therefore, since the UST was 4 feet in diameter, the bottom of the UST was formerly 5 feet 4 inches below grade. Two soil borings (B-01 and B-02) were completed in the areas that were formerly the ends of the UST. The borings were completed with a 2-inch diameter hand auger. The locations of the soil borings and former UST area are shown on Figure #1. The location of the former UST area was staked by LaVern Knoll.

The soil encountered consisted of fine to medium-grained sand and some gravel. Two soil samples were collected 7 feet below grade, one from each soil boring. The soil sampling procedures are included in Appendix B. The soil samples were submitted to a DNR-certified analytical laboratory for analysis of diesel range organics (DRO). The laboratory reports are presented in Appendix C.

The laboratory reports indicated no detection of DRO. Therefore, based on the soil sample laboratory reports, there was no release from the former 500 gallon heating oil UST.

III. CONCLUSIONS

On June 4, 2002, McMahon Associates, Inc. completed a UST site assessment for a 500 gallon heating oil UST. The UST and piping did not contain any obvious holes, which would indicate a potential release. Furthermore, two soil samples collected at depths beneath the former 500 gallon heating oil UST did not contain any detection of DRO. Therefore, it is the opinion of McMahon Associates, Inc. that the former 500 gallon heating oil UST did not release product to the environment.

L:\DWG\W90908\9090229-36.FIG-1.dwg 07/11/02 3:34 PM

WOODED WETLAND

WOODED WETLAND

WOODS

LARRY MAURITZ HOUSE

ASPHALT

S.T.H. 32/64

PZ-07

SP-37

WOODS

PZ-04

WOODS

GARDEN

KNOLL'S SERVICE STATION

FORMER DISPENSERS

FORMER DISPENSERS

FORMER DISPENSERS

ASPHALT

LEGEND

- B-01 SOIL BORING LOCATION
- MW-01 MONITORING WELL LOCATION
- GP-03 GEOPROBE SOIL BORING
- GPW-26 GEOPROBE WELL LOCATIONS
- ▲ PZ-01 PIEZOMETER LOCATION
- NS NOT SAMPLED
- #6 FORMER UNDER-GROUND STORAGE TANK
- UST PIPING
- PROPERTY BOUNDARY (APPROXIMATE)
- ← GROUNDWATER FLOW DIRECTION
- ESTIMATED EXTENT OF SOIL CONTAMINATION ABOVE THE NR 720 GENERAL SOIL STANDARDS
- GRO GASOLINE RANGE ORGANICS CONCENTRATION (mg/kg) IN A SOIL SAMPLE
- B BENZENE CONCENTRATION (mg/kg) IN A SOIL SAMPLE
- E ETHYLBENZENE CONCENTRATION (mg/kg) IN A SOIL SAMPLE
- T TOLUENE CONCENTRATION (mg/kg) IN A SOIL SAMPLE
- X XYLENE CONCENTRATION (mg/kg) IN A SOIL SAMPLE
- M MTBE CONCENTRATION (mg/kg) IN A SOIL SAMPLE



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DESIGNED	SAB
DRAWN	RWG
CHECKED	

**SOIL BORING LOCATION
 KNOLL'S SERVICE STATION PROPERTY
 MOUNTAIN, WISCONSIN**

SCALE	1" = 40'
DATE	MARCH, 2002
PROJECT NO.	K0908-900229.36

SHEET NO.	1
FILE NO.	

APPENDIX A

TANK INVENTORY FORM

**UNDERGROUND
PETROLEUM PRODUCT
TANK INVENTORY**

Send Completed Form To:
Safety & Buildings Division
P.O. Box 7969
Madison, WI 53707
Telephone (608) 267-5280

For Office Use Only:

Tank ID #

Information Required By Sec. 101.142, Wis. Stats.

Underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. Please see the reverse side for additional information on this program. An underground storage tank is defined as any tank with at least 10 percent of its total volume (included piping) located below ground level. A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner. Have you previously registered this tank by submitting a form? YES NO If yes, are you correcting/updating information only? Yes No

This registration applies to a tank that is (check one):

- 1A. In Use or 1B. Newly Installed
 2. Abandoned With Product
 3. Abandoned No Product (empty) or With Water
 4. Closed - Tank Removed
 6. Closed - Filled With Inert Material
 7. Out of Service - Provide Date: _____
 8. Changed Ownership (Indicate new owner below)

Fire Department Providing Fire Coverage Where Tank Located:

Mountain

A. IDENTIFICATION: (Please Print)

1. Tank Site Name: Knolls Service Station Site Address: 13825 State Highway 32 Site Telephone No.: () RA
 City Village Town of: Mountain State: WI Zip Code: 54914 County: Oconto

2. Owner Name (mail sent here unless indicated otherwise in #3 below): Lavern Knoll Owner Mailing Address (mail sent here unless indicated otherwise in #3): 15565 Meadow Circle
 City Village Town of: Mountain State: WI Zip Code: 54914 County: Oconto

3. Alternate Mailing Name If Different Than #2: _____ Alternate Mailing Street Address If Different From #2: _____
 City Village Town of: _____ State: _____ Zip Code: _____ County: _____

4. Tank Age (date installed, if known: or years old): 06/175 5. Tank Capacity (gallons): 500 6. Tank Manufacturer's Name (if known): _____

B. TYPE OF USER (check one):

1. Gas Station
 2. Bulk Storage
 3. Utility
 4. Mercantile
 5. Industrial
 6. Government
 7. School
 8. Residential
 9. Agricultural
 10. Other (specify): _____

C. TANK CONSTRUCTION:

1. Bare Steel
 2. Cathodically Protected and Coated Steel (A. Sacrificial Anodes or B. Impressed Current)
 3. Coated Steel
 4. Fiberglass
 5. Other (specify): _____
 6. Relined - Date: _____
 7. Steel - Fiberglass Reinforced Plastic Composite
 9. Unknown

Approval: 1. Nat'l Std. 2. UL 3. Other: _____ Is Tank Double Walled? Yes No

Overfill Protection Provided? Yes No If yes, identify type: _____ Spill Containment? Yes No

Tank leak detection method: 1. Automatic tank gauging 2. Vapor monitoring 3. Groundwater monitoring 4. Inventory control and tightness testing 5. Interstitial monitoring 6. Not required at present 7. Manual Tank Gauging (only for tanks of 1,000 gallons or less)

D. PIPING CONSTRUCTION

1. Bare Steel
 2. Cathodically Protected and Coated or Wrapped Steel (A. Sacrificial Anodes or B. Impressed Current)
 3. Coated Steel
 4. Fiberglass
 5. Other (specify): _____
 9. Unknown

Piping System Type: 1. Pressurized piping with: A. auto shutoff; B. alarm; or C. flow restrictor 2. Suction piping with check valve at tank
 3. Suction piping with check valve at pump and inspectable

Piping leak detection method: used if pressurized or check valve at tank: 1. Vapor monitoring 2. Interstitial monitoring
 3. Groundwater monitoring 4. Tightness testing 5. Line Leak Detector 6. Not Required

Approval: 1. Nat'l Std. 2. UL 3. Other: _____ Double Walled: Yes No

E. TANK CONTENTS

1. Diesel
 2. Leaded
 3. Unleaded
 4. Fuel Oil
 5. Gasohol
 6. Other
 7. Empty
 8. Sand/Gravel/Slurry
 9. Unknown
 10. Premix
 11. Waste Oil
 12. Propane
 13. Chemical *
 14. Kerosene
 15. Aviation

* If # 13 is checked, indicate the chemical name(s) or number(s) of the chemical or waste.

If Tank Closed, Give Date (mo/day/yr): 5-20-02 Has a site assessment been completed? (see reverse side for details) Yes No

If installation of a new tank is being reported, indicate who performed the installation inspection:
 1. Fire Department 2. DILHR 3. Other (identify) _____

Name of Owner or Operator (please print): Lavern Knoll Indicate Whether: Owner or Operator

Signature of Owner or Operator: Lavern Knoll Date Signed: 7-8-02

APPENDIX B

SOIL SAMPLING PROCEDURES

APPENDIX B

METHODS & PROCEDURES

SOIL SAMPLING PROCEDURES

Soil samples were submitted to a laboratory for analysis. The laboratory samples were collected by placing a portion of the soil sample into a laboratory supplied sampling container by a soil by a clean, vinyl-gloved hand, and immediately placed in an ice-packed cooler. The soil samples were picked up by U.S. Analytical Laboratory. A chain-of-custody form was maintained during sample transportation.

DECONTAMINATION

All the down hole sampling equipment was steam cleaned prior to use on-site. Soil sampling equipment was washed with detergent and double rinsed with potable water between sampling events. No lubricants or similar substances were used on the drilling or sampling equipment.

APPENDIX C

LABORATORY ANALYTICAL REPORTS

CHAIN OF CUSTODY RECORD



Analytical Lab

1090 Kennedy Ave. • Kimberly, WI 54136
 (920) 735-8295 • FAX 920-739-1738 • 800-490-4902
 LAB@USOIL.COM

v. Date. 12-17-98

Chain # **30211**

Page 1 of 1

Lab I.D. # 5040767
 Account No.: _____ Quote No.: _____

Project #: _____
 Sampler: (signature) Stuart Borsari

Sample Integrity - To be completed by receiving lab.
 Method of Shipment: Cooler Temp. of Temp. Blank: _____ °C On Ice: _____
 Cooler seal intact upon receipt: Yes No Labeled By: gm

Project (Name / Location): Knolls Service Station, 13825 Hwy 32, Mountain, WI
 Reports To: Stuart Borsari Invoice To: Vorankroll
 Company: McMahon Assoc. Company: 15565 Meadow Circle
 Address: P.O. Box 1025 Address: Mountain, WI 54149
 City State Zip: Menasha, WI 54957 City State Zip: _____
 Phone: 751-4200 Phone: _____

Analysis Requested

Sample Handling Request										Other Analysis		
<input type="checkbox"/> Rush Analysis Date Required _____ <input checked="" type="checkbox"/> Normal Turn Around												
DRO (Mod/TPH)	GRO (Mod/TPH)	PVOC (EPA 8021)	BTEX (EPA 8021)	VOC (EPA 8021)	VOC (EPA 8260)	VOC DW (EPA 524.2)	O&G (EPA 413.1)	PAH (EPA 8310)	Pb	Flash Point		PID/ FID

Lab I.D.	Sample I.D.	Collection Date	Time	No. of Containers Size and Type	Description*	Preservation	DRO (Mod/TPH)	GRO (Mod/TPH)	PVOC (EPA 8021)	BTEX (EPA 8021)	VOC (EPA 8021)	VOC (EPA 8260)	VOC DW (EPA 524.2)	O&G (EPA 413.1)	PAH (EPA 8310)	Pb	Flash Point	PID/ FID	
A	B-01/2'	6/4/02		100A, syringe	Soil	None	X												
B	B-02/2'			100A, syringe	Soil	None	X												
C	Laundromat			300A	G.W.	HCl			X										

Department Use Only
 Split Samples: Offered? Yes No
 Accepted? Yes No
 Accepted By: _____

Comments/ Special Instructions
 *Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", etc.

Department Use Optional for Soil Samples
 Disposition of unused portion of sample
 Lab Should:
 Dispose Retain for _____ days
 Return Other _____

Relinquished By: (sign) Stuart Borsari Time 19:16 Date 6/4/02
 Received By: (sign) Clay Peguette Time 19:45 Date 6/4/02
 Received in Laboratory By: Neri Lemie Time: 1945 Date: 6/4/02

U.S. Analytical Lab

STUART BOERST
 MCMAHON ASSOCIATES
 PO BOX 1025
 NEENAH WI 54957-1025

Project # NONE
 Project Name KNOLLS SERVICE STATION
 Invoice # E40567

Report Date 12-Jun-02

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code 5040567A							Sample Type Soil		
Sample ID B-01/7'							Sample Date 6/4/2002		

Inorganic

General

Solids Percent	96.1	%				1	6/5/2002	5021	AJV	1
----------------	------	---	--	--	--	---	----------	------	-----	---

Organic

General

Diesel Range Organics	< 10	mg/kg	2.2	7.2	1	6/7/2002	DRO95	KAH		1
-----------------------	------	-------	-----	-----	---	----------	-------	-----	--	---

Lab Code 5040567B							Sample Type Soil		
Sample ID B-02/7'							Sample Date 6/4/2002		

Inorganic

General

Solids Percent	92.8	%				1	6/5/2002	5021	AJV	1
----------------	------	---	--	--	--	---	----------	------	-----	---

Organic

General

Diesel Range Organics	< 10	mg/kg	2.2	7.2	1	6/7/2002	DRO95	KAH		1
-----------------------	------	-------	-----	-----	---	----------	-------	-----	--	---

Lab Code 5040567C							Sample Type Water		
Sample ID LAUNDROMAT W							Sample Date 6/4/2002		

Organic

PVOC

Benzene	< 0.43	ug/l	0.43	1.4	1	6/11/2002	8021A	CAH	1
Ethylbenzene	< 0.49	ug/l	0.49	1.6	1	6/11/2002	8021A	CAH	1
Methyl tert-butyl ether (MTBE)	1.8	ug/l	0.49	1.6	1	6/11/2002	8021A	CAH	1
Toluene	< 0.63	ug/l	0.63	2	1	6/11/2002	8021A	CAH	1
1,2,4-Trimethylbenzene	< 0.42	ug/l	0.42	1.3	1	6/11/2002	8021A	CAH	1
1,3,5-Trimethylbenzene	< 0.72	ug/l	0.72	2.3	1	6/11/2002	8021A	CAH	1
m&p-Xylene	< 1	ug/l	1	3	1	6/11/2002	8021A	CAH	1
o-Xylene	< 0.45	ug/l	0.45	1.4	1	6/11/2002	8021A	CAH	1

U.S. Analytical Lab

STUART BOERST
MCMAHON ASSOCIATES
PO BOX 1025
NEENAH WI 54957-1025

Project # NONE
Project Name KNOLLS SERVICE STATION
Invoice # E40567

Report Date 12-Jun-02

Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
LOD Limit of Detection	"J" Flag: Analyte detected between LOD and LOQ								LOQ Limit of Quantitation
<i>Code</i>	<i>Comment</i>								
1	All laboratory QC requirements were met for this sample.								

Authorized Signature

