Moraine Environmental, Inc.
Environmental Management Services

June 7, 1996

Project Reference #0813u

Wisconsin Department of Natural Resources
Tank Response Unit - SW/3
P.O. Box 7921
Madison, WI 53707

Dear WDNR Representative:

Enclosed please find a report entitled "Closure Assessment for a 550 Gallon Waste Oil Underground Storage Tank." A site closure assessment was completed and no petroleum impacts were identified.

Should you have any questions or comments regarding this report or the project in general, please contact me at (414) 377-9060. Your efforts are greatly appreciated.

Sincerely,

MORAINE ENVIRONMENTAL, INC.

Thomas C. Sweet
President

cc: Mr. & Mrs. Henrichs

TCS/rje

Enclosure

E:\WPWIN\MEITECH8\0813DNR.LTR

1234 12th Avenue • Grafton, WI 53024-1924 • (414) 377-9060 • FAX (414) 377-9770

CLOSURE ASSESSMENT FOR A 550 GALLON WASTE OIL UNDERGROUND STORAGE TANK

AT

NAPA AUTO PARTS
~~813~~ 318 EAST MAIN STREET
WATERFORD, WISCONSIN 53185-4306

PREPARED FOR:
MR. JOHN HENRICHS AND MRS. GERALDINE HENRICHS
717 FOX LANE
WATERFORD, WI 53185

PREPARED BY:
MORAINE ENVIRONMENTAL, INC
1234 12th AVENUE
GRAFTON, WISCONSIN 53024-1924
(414) 377-9060

PROJECT REFERENCE #0813U

JUNE 6, 1996

DOCUMENT CERTIFICATION

"I, Warren Graham , hereby certify that I am an engineer as that term is defined in s. NR 712.03 (3) Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

Warren Graham, Engineer — 6/7/96

Signature and title — Date

"I, Thomas C. Sweet , hereby certify that I am a scientist as that term is defined in s. NR 712.03 (3) Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

Thomas C. Sweet, President — 6/7/96

Signature and title — Date

EXECUTIVE SUMMARY

Mr. John Henrichs and Mrs. Geraldine Henrichs retained Moraine Environmental, Inc. to perform a subsurface/hydrogeologic investigation of the area surrounding a 550 gallon waste oil underground storage tank (UST) at the Napa Auto Parts store located at 318 E. Main St., Waterford, Wisconsin. Upon further consideration, it was deemed more cost effective to first remove the waste oil tank before performing a subsurface investigation. There was a distinct possibility that the DRO contaminated sample collected near the tank fill pipe may have been caused by a small and isolated spill from waste oil transfer. For this reason Moraine Environmental felt that the tank should first be removed and if the site is impacted by a petroleum release, then pursue a subsurface investigation and PECFA as originally planned. This would save both the client and PECFA the subsurface investigation costs of a potentially clean site. This plan was approved by John Henrichs. Moraine Environmental, Inc. was retained to perform the UST Closure Assessment during the removal of the UST.

The closure included: removal of one 550 gallon waste oil UST, piping, and associated overburden; collection of soil samples; observation and documentation of field activities; and documentation of the transportation and disposal of the tank system and contents. The work was performed on May 1, 1996.

Soils identified within the excavation consisted of loose silty sands with cobbles and course gravel. Groundwater was not encountered during the excavation.

Following the tank removal, two soil samples were collected at each end of the waste oil tank 18" in the native soil beneath the tank. The soil samples were submitted to EnChem, Inc. for Diesel Range Organics (DRO) analysis. The DRO concentration in the samples were below the laboratory detection limit.

Based on field observations and the results of independent laboratory analysis, native soils at the subject site have not been impacted by a petroleum release from the 550 gallon waste oil UST. A small volume of oil impacted soil (less than one cubic foot) located around the fill pipe was not significant and left to biodegrade naturally over time. Therefore, on behalf of Napa Auto Parts and John Henrichs, clean site closure is requested from the Wisconsin Department of Natural Resources.

LIMITS OF INVESTIGATION

Our assessment was performed using the degree of care and skill ordinarily exercised, under similar circumstances, by Professional Consultants practicing in this or similar localities. No other warranty or guarantee, expressed or implied, is made as to the conclusion and professional advice included in this report.

The findings of this report are limited to those proposed in the scope of work in section 2. The findings of this report are valid as of the present date of the assessment. However, changes in the conditions of a property can occur with the passage of time, whether due to natural processes or the work of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation, from the broadening of knowledge, or from other reasons. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control.

The interpretations and conclusions contained in this report are based upon the result of independent laboratory tests and analysis intended to detect the presence and/or concentrations of certain chemical constituents in samples taken from the subject property. Moraine Environmental, Inc. has no control over such testing and analysis and therefore, disclaims any responsibility for any errors and omissions arising therefrom.

Subsurface sampling was performed and presented in this report. However, subsurface exploration cannot reveal totally what is below the surface. Depending upon the sampling method and frequency, every soil condition may not be observed, and some materials or layers which are present in the subsurface may not be noted.

This report is issued with the understanding that it is the responsibility of the owner(s) to ensure that the information and recommendations contained herein are brought to the attention of the appropriate regulatory agency(ies).

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY i

LIMITS OF INVESTIGATION ii

1.0 INTRODUCTION 1

2.0 PURPOSE AND SCOPE OF WORK 1
- 2.1 General Purpose of Work 1
- 2.2 Scope of Work 1
- 2.3 Contractor/Personnel Performing Work 2

3.0 SITE DESCRIPTION 3

4.0 UST REMOVAL CHARACTERISTICS AND CONDITIONS 3

5.0 SOIL SAMPLING PROTOCOL 4
- 5.1 Sampling Equipment and Decontamination 4
- 5.2 Soil Sample Locations and Sample Handling Techniques 4

6.0 LABORATORY ANALYSIS/WISCONSIN REGULATIONS 5
- 6.1 Soil Sample Analysis and Results 5
- 6.2 Wisconsin Soil Quality Regulations 5

7.0 PROJECT SUMMARY 6

8.0 RECOMMENDATIONS 7

TABLE OF CONTENTS (CON'T)

LIST OF TABLES

Page

1. Laboratory and Field Screening Results 5

2. Soil Cleanup Standards 6

LIST OF FIGURES

Follows Page

1. Regional Site Location Map 3

2. Site Map 3

APPENDICES

A. Tank Closure Forms and Tank Disposal Documentation

B. Soil Sampling Protocol

C. Laboratory Results

1.0 INTRODUCTION

Mr. John Henrichs, owner of the Napa Auto Parts site, retained Moraine Environmental, Inc. (MEI) to conduct an Underground Storage Tank (UST) Closure Assessment at 318 East Main St., Waterford, Wisconsin. The purpose of this report is to identify the personnel involved with the project and to detail the appropriate site information, field observations, procedures, and laboratory analysis required by the Wisconsin Department of Natural Resources (WDNR). The report also presents our recommendation for clean closure of the site.

2.0 PURPOSE AND SCOPE OF WORK

2.1 General Purpose of Work

The purpose of the UST removal was to eliminate the source of a potential petroleum release to the soil of the site. The purpose of the closure assessment was to determine whether a petroleum release had occurred from the UST and associated piping.

2.2 Scope of Work

North Shore Environmental Construction, Inc. of Germantown, Wisconsin, performed the following tasks pertinent to the excavation and removal of the 550 gallon waste oil UST.

- MEI observed the removal and cleaning of the 550 gallon waste oil UST.
- MEI recorded the excavation geology, tank system integrity, and location of underground utilities which could serve as potential contaminant migration pathways.
- MEI inspected the excavation for indications of soil staining, odors or other evidence of petroleum hydrocarbon impacts.

- Soil samples were collected and sent to En Chem, Inc. laboratory for Diesel Range Organics (DRO) analysis.

- Preparation of this report, which is a documentation of field observations, procedures, analytical results and recommendations for the site.

2.3 Contractor/Personnel Performing Work

The following personnel were involved in the UST closure assessment.

Environmental Consulting Firm:
Moraine Environmental, Inc.
1234 12th Avenue
Grafton, Wisconsin 53024
MEI DILHR Certification #: 01354
Project Manager: Warren Graham
Sight Inspector Certification#: 06828
Phone: (414) 377-9060

Laboratory Services:
En Chem, Inc.
1795 Industrial Drive
Green Bay, Wisconsin 54302
WDNR Certification #: 405132750
Contact: Mr. David Turriff
Phone: 1-800-736-2436

Excavation, Tank Cleaning/Disposal Contractor:
North Shore Environmental Construction, Inc.
N117 W18493 Fulton Drive
Germantown, WI 53022
Phone: (414) 255-4468

Sludge Disposal Company:
One Step Environmental
129 E. Main St.
P.O. Box 248
Port Washington, Wisconsin 53074
Phone: 1-800-280-8950

Tank Removal Inspector:

Bob Knudson, State Certified Inspector
Independent Inspections, Ltd.
S30 W24670 Sunset Dr.
Waukesha, Wisconsin 53186
Phone: (414)544-8280

3.0 SITE DESCRIPTION

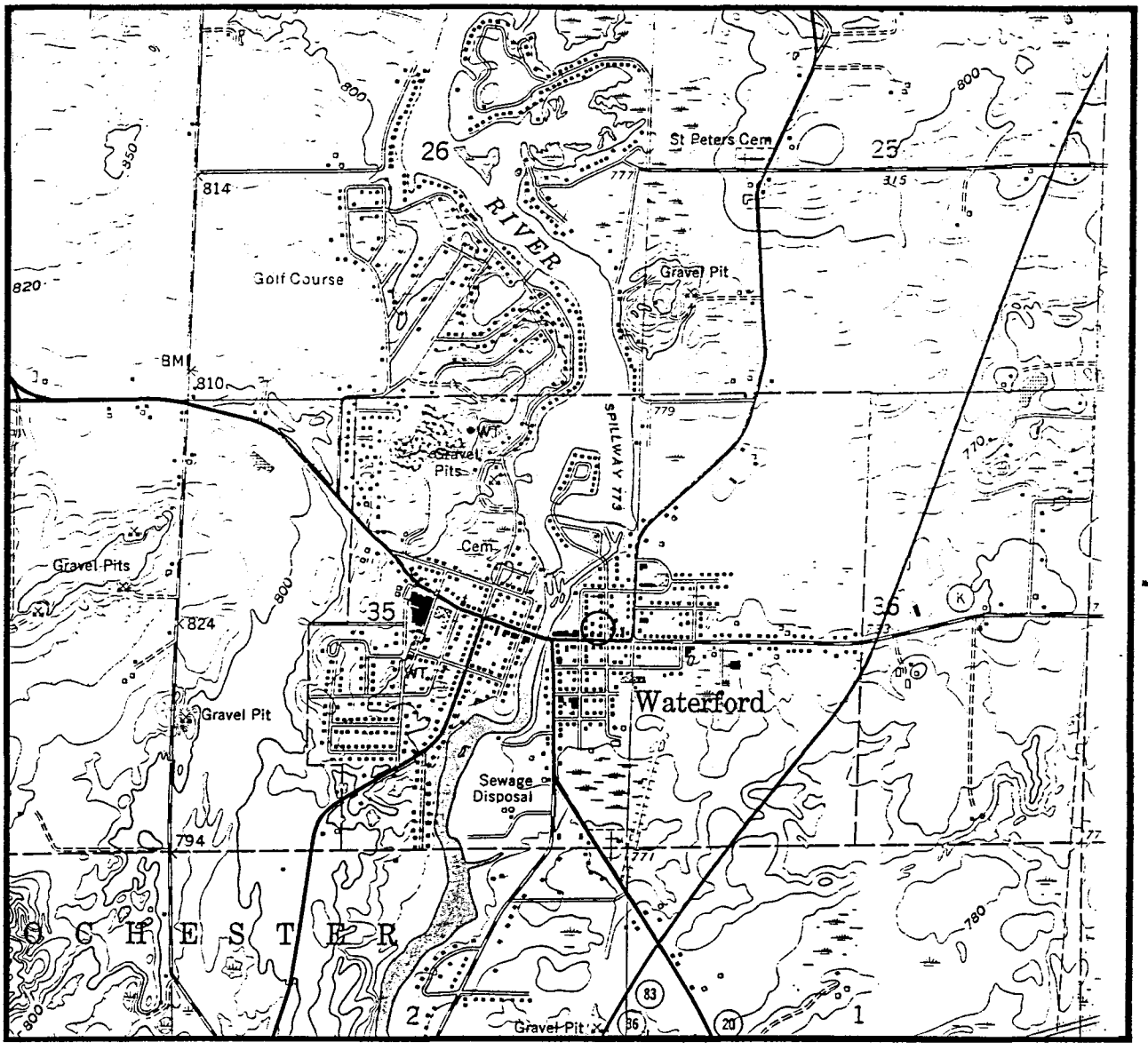
The site is located in the NE ¼ of the SE ¼ of Section 35, Township 4 North, Range 19 East, Racine County, Wisconsin. Specifically, the site is at 318 East Main St., Waterford, Wisconsin. The regional location of the site and specific physical site characteristics are presented on Figures 1 and 2.

The site consists of an automobile parts store and an asphalt and gravel driveway. Municipal sewer and water enter the building from Main St., electric and phone service enter the building through overhead lines. A natural gas line runs east and west along the north property line. A parking lot and bowling alley are located to the west and a residence at 106 North Third St. is located to the north. Residences are to the south across Main St. and an open lot is to the west with a small business district to the southwest running west along Main Street.

The buildings on the site and in the surrounding area are served by municipal water and sewer.

4.0 UST REMOVAL CHARACTERISTICS AND CONDITIONS

On May 1, 1996, MEI observed North Shore Environmental Construction excavate and remove a 550 gallon UST and associated piping. The UST was a coated steel waste oil tank and reportedly was installed approximately 40 years ago when the site was a Ford Dealership. Following cleaning, the UST was inspected for it's integrity. No holes were noted to exist in the tank's exterior. The UST was approximately 4' x 6' in plan and the

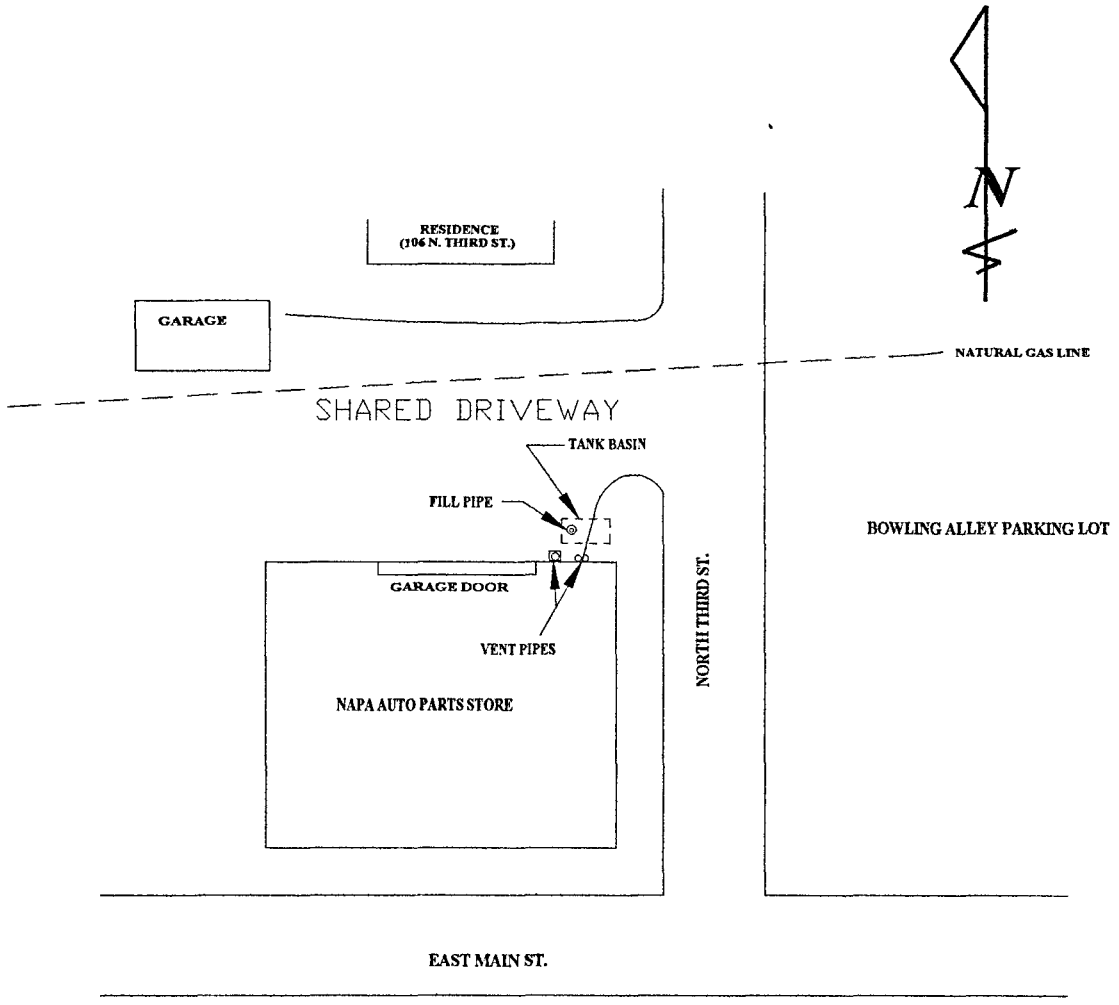


1 MILE 1/2 MILE 0 MILE 1 MILE

ADAPTED FROM USGS 7.5 GREENDALE QUADRANGLE
(PHOTOREVISED 1976)

SITE LOCATION

DRAWING TITLE: **Site Location Map**		
PROJECT NAME: ***Napa Auto Parts 318 E. Main Street Waterford, Wisconsin***		
PROJECT NUMBER: *0813U*	DRAWING COMPANY: *Moraine Environmental, Inc.*	
SCALE: *1:24,000*	DATE: *5-28-96*	*FIGURE 1*



-SITE MAP IS DRAWN TO APPROXIMATE DIMENSIONS AND IS NOT TO A SPECIFIC SCALE. IT'S SOLE PURPOSE IS TO GIVE A GENERAL LOCATION OF THE SITE, SURROUNDING PROPERTIES, AND THE EXCACVATED TANK BASIN.

DRAWING TITLE **SITE MAP**		
PROJECT NAME *WATERFORD NAPA 813 E. Main St. Waterford, Wisconsin*		
PROJECT NUMBER *0813U*	DRAWING COMPANY *Moraine Environmental, Inc.*	
SCALE	DATE *5-01-96*	*FIGURE 2*

excavation was approximately 11' x 8' x 6.5' deep. See Figure 2. North Shore personnel cleaned the tank. Approximately 150 gallons of sludge was removed, drummed and will be disposed of at One Step Environmental. Paperwork regarding the sludge disposal will be forwarded to the Wisconsin Department of Natural Resources following MEI's receipt of it. See Appendix A for the UST tank closure forms and tank disposal documentation.

The tank was oriented in a east-west direction and located under an asphalt surface parallel to the north wall of the building. Aggregate backfill material was used to fill in the UST cavity and the rest of the soil encountered in the excavation consisted of brown silty sand with cobbles and coarse gravel. The material was compacted in lifts not exceeding 24" and the surface was mounded slightly as to drain ponding water away from the excavation.

MEI collected representative soil samples from native soil beneath each end of the UST cavity. No piping sample was taken since all the pipes, linkages, vents, and fill holes were located directly above the tank. A small oil stained soil area (<1.0 ft^3) was located immediately adjacent to the fill pipe as a result of spillage when the tank was being manually filled. The volume was insignificant and left within the excavation to naturally biodegrade over time.

Groundwater was not encountered during the excavation.

5.0 SOIL SAMPLING PROTOCOL

5.1 Sampling Equipment and Decontamination

Soil sampling protocol is presented as Appendix B.

5.2 Soil Sample Locations and Sample Handling Techniques

Two (2) soil samples were collected in native soil approximately 18 inches beneath each end of the USTs and analyzed for Diesel Range Organics (DRO).

6.0 LABORATORY ANALYSIS/WISCONSIN REGULATIONS

6.1 Soil Sample Analysis and Results

The Soil samples and Chain-of-Custody form, were submitted to En Chem, Inc. for analysis of DRO in accordance with WDNR guidelines. Laboratory results are summarized in Table 1 and Figure 2.

TABLE 1
LABORATORY RESULTS

Sample Location	Sample Depth (feet)	Date Collected	Sample Odor	Lab Results mg/kg	Analysis Performed
#1-S West End	8'	5/01/96	none	ND	DRO
#2-S East End	8'	5/01/96	none	ND	DRO

Key:
mg/kg = milligrams/kilogram
DRO = Diesel Range Organics
ppm = parts per million
ND = No Detection

As referenced in Table 1, DRO is not present in levels above the detection limit in soil samples collected from the base of the excavation. Laboratory reports and methodologies are included as Appendix C.

6.2 Wisconsin Soil Quality Regulations

Chapter NR 720, Wis. Adm. Code, (NR 720) establishes soil cleanup standards for soils contaminated by petroleum releases. A concentration of 10 ppm GRO/DRO in soil contaminated by a petroleum release is the unofficial WDNR "trigger" for a subsurface investigation. In order to close out petroleum release cases, BTEX, 1,2-DCA and DRO/GRO levels identified following the subsurface investigation, must be at or below concentrations identified in Table 2.

TABLE 2 SOIL CLEANUP STANDARDS PETROLEUM CONTAMINATIONS		
BTEX (1)	GRO/DRO	Soil Type (2)
<= NR 720	<= 100 ppm	Permeable (K>10 E-6 cm/s)
<= NR 720	<= 250 ppm	Less Permeable (K<10 E-6 cm/s)

(1) BTEX:
Benzene - 5.5 ug/kg
Toluene - 1500 ug/kg
Ethylbenzene - 2900 ug/kg
Xylenes - 4100 ug/kg
1,2-DCA - 4.9 ug/kg

(2) K: Saturated hydraulic conductivity
Source: WDNR Release News, April 1994
Note: If soils have contamination exceeding the guideline for a particular soil type, closure may not be granted and additional work may be required.

7.0 PROJECT SUMMARY

The following project summary is based on observations and data collected during the underground storage tank closure assessment performed on May 1, 1996 at Napa Auto Parts, 813 E. Main St., Waterford, Wisconsin. The purpose of the closure assessment was to determine if a release had occurred from the 550 gallon waste oil UST system and associated piping, and whether there was a potential impact to the soil.

MEI did not observe any soil staining nor strong odors in the excavation below the UST. An insignificant amount of stained soil was observed near the fill pipe as a result of manual filling of the tank. Soil samples were collected from native soils beneath the UST cavity and submitted for laboratory analysis of Diesel Range Organics (DRO). DRO concentrations were below the laboratory detection limit in soil samples collected from native soil in the base of the tank excavation.

8.0 RECOMMENDATIONS

Based on field observations and laboratory analytical results, there is no indication that a petroleum release occurred from the 550 gallon waste oil UST and associated piping. Because DRO concentrations were below the laboratory detection limit in soil samples collected from the base of the waste oil UST, MEI recommends that the Wisconsin Department of Natural Resources grant clean closure for the site.

E:\WPWIN\MEITECH8\0813TNK.CLN

APPENDIX A

TANK CLOSURE FORMS, TANK DISPOSAL DOCUMENTATION

Wisconsin Department of Industry, Labor and Human Relations

UNDERGROUND PETROLEUM PRODUCT TANK INVENTORY

COPY

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

For Office Use Only:
Tank ID #

This form is to be completed pursuant to Section 101.142, Wis. Stats., to register all underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances. 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.

This registration applies to a tank that is (check one):
1. ☐ In Use or New
2. ☐ Abandoned With Product
☐ Abandoned No Product (empty) or With Water
4. ☒ Closed - Tank Removed
6. ☐ Closed - Filled With Inert Material
7. ☐ Out of Service
8. ☐ Changed Ownership (Indicate new owner below)

Fire Department Providing Fire Coverage Where Tank Located: Waterford 5103

A. IDENTIFICATION: (Please Print)

Tank Site Name	Site Address	Site Telephone No.
Waterford NAPA Store	318 E. Main St.	( )

City			State	Zip Code	County
Waterford	☒ Village	☐ Town of:	WI	53185-4306	Racine

Owner Name (mail sent here unless indicated otherwise in #3 below)	Owner Mailing Address (mail sent here unless indicated otherwise in #3)
John & Gerry Henrichs	717 Fox Lane

City			State	Zip Code	County
Waterford	☒ Village	☐ Town of:	WI	53185	Racine

Alternate Mailing Name If Different Than #2	Alternate Mailing Street Address If Different From #2

City			State	Zip Code	County
	☐ Village	☐ Town of:			

Tank Age (date installed, if known: or years old)	5. Tank Capacity (gallons)	6. Tank Manufacturer's Name (if known)
	550	

B. TYPE OF USER (check one):
1. ☐ Gas Station
2. ☐ Bulk Storage
3. ☐ Utility
4. ☒ Mercantile
5. ☐ Industrial
6. ☐ Government
7. ☐ School
8. ☐ Residential
☐ 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): _____
☐ Relined
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
☐ 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): 5/1/96

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): John Henrichs

Indicate Whether: ☒ Owner or ☐ Operator

Signature of Owner or Operator: John A. Henrichs

Date Signed: x May 1, 1996

SBD-9437 (R. 03/91) IMPORTANT: Complete as many items on this form as possible. Failure to provide sufficient

...in Department of Industry, ...and Human Relations

...omplete one form for each site closure.

CHECKLIST FOR UNDERGROUND TANK CLOSURE

The information you provide may be used by other government agency programs [Privacy Law, s. 15.04 (1) (m)].

RETURN COMPLETED CHECKLIST TO:
Safety & Buildings Division
Fire Prevention - Underground Storage Tank Section
P. O. Box 7969, Madison, WI 53707

COPY

A. IDENTIFICATION: (Please Print)

Indicate whether closure is for: ☒ Tank System ☐ Tank Only ☐ Piping Only

1. Site Name: Waterford NAPA Store
2. Owner Name: John & Gerry Henrichs

Site Street Address (not P.O. Box): 318 E. Main St.
Owner Street Address: 717 Fox Lane

☐ City ☒ Village ☐ Town of: Waterford
☐ City ☒ Village ☐ Town of: Waterford — State: WI — Zip Code: 53185

State: WI — Zip Code: 53185-4300 — County: Racine
County: Racine — Telephone No. (include area code): (414) 662-5551

3. Closure Company Name (Print): North Shore Enr. Const., Inc.
Closure Company Street Address: N117 W18493 Fulton Dr.
Closure Company Telephone No. (include area code): (414) 255-4468
Closure Company City, State, Zip Code: Germantown, WI 53022

4. Name of Company Performing Closure Assessment: Moraine Environmental, Inc.
Assessment Company Street Address, City, State, Zip Code: 1234 12th Ave., Grafton, WI 53024

Telephone # (include area code): (414) 377-9060
Certified Assessor Name (Print): WARREN GRAHAM
Assessor Signature: Warren Graham
Assessor Certification No.: 06828

Tank ID #	Closure	Temp. Closure	Closure In Place	Tank Capacity	Contents *	Closure Assessment
1.	☒	☐	☐	550	11	☒ Y ☐ N
2.	☐	☐	☐			☐ Y ☐ N
3.	☐	☐	☐			☐ Y ☐ N
4.	☐	☐	☐			☐ Y ☐ N
5.	☐	☐	☐			☐ Y ☐ N
6.	☐	☐	☐			☐ Y ☐ N

* Indicate which product by numeric code: 01-Diesel; 02-Leaded; 03-Unleaded; 04-Fuel Oil; 05-Gasohol; 06-Other; 09-Unknown; 10-Premix; 11-Waste oil; 13-Chemical (indicate the chemical name(s) or numbers(s) _____ _____ _____; 14-Kerosene; 15-Aviation.

Written notification was provided to the local agent 15 days in advance of closure date. ☒ Y ☐ N ☐ NA
All local permits were obtained before beginning closure. ☒ Y ☐ N ☐ NA

Check applicable box at right in response to all statements in Sections B - E.

	Remover Verified	Inspector Verified	NA
B. TEMPORARILY OUT OF SERVICE			
Written inspector approval of temporary closure obtained, which is effective until (provide date) _____	☐ Y ☐ N	☐	☐
1. Product Removed			
a. Product lines drained into tank (or other container) and resulting liquid removed, AND	☐ Y ☐ N	☐	☐
b. All product removed to bottom of suction line, OR	☐ Y ☐ N	☐	☐
c. All product removed to within 1" of bottom.	☐ Y ☐ N	☐	☐
2. Fill pipe, gauge pipe, tank truck vapor recovery fittings, and vapor return lines capped.	☐ Y ☐ N	☐	☐
3. All product lines at the islands or pumps located elsewhere are removed and capped, OR	☐ Y ☐ N	☐	☐
4. Dispensers/pumps left in place but locked and power disconnected.	☐ Y ☐ N	☐	☐
5. Vent lines left open.	☐ Y ☐ N	☐	☐
6. Inventory form filed indicating temporary closure.	☐ Y ☐ N	☐	☐
C. CLOSURE BY REMOVAL			
1. Product from piping drained into tank (or other container).	☒ Y ☐ N	☒	☐
2. Piping disconnected from tank and removed.	☒ Y ☐ N	☒	☐
3. All liquid and residue removed from tank using explosion proof pumps or hand pumps.	☒ Y ☐ N	☒	☐
4. All pump motors and suction hoses bonded to tank or otherwise grounded.	☒ Y ☐ N	☒	☐
5. Fill pipes, gauge pipes, vapor recovery connections, submersible pumps and other fixtures removed. **NOTE: DROP TUBE SHOULD NOT BE REMOVED IF THE TANK IS TO BE PURGED THROUGH THE USE OF AN EDUCTOR.**	☒ Y ☐ N	☒	☐
6. Vent lines left connected until tanks purged.	☒ Y ☐ N	☒	☐
7. Tank openings temporarily plugged so vapors exit through vent.	☒ Y ☐ N	☒	☐
8. Tank atmosphere reduced to 10% of the lower flammable range (LEL) - see Section F.	☒ Y ☐ N	☒	☐
9. Tank removed from excavation after **PURGING/INERTING**; placed on level ground and blocked to prevent movement.	☒ Y ☐ N	☒	☐
10. Tank cleaned before being removed being removed from site.	☒ Y ☐ N	☒	☐

- CONTINUE ON NEXT PAGE -

COPY

CLOSURE BY REMOVAL (continued)

	Remover Verified	Inspector Verified	NA
11. Tank labeled in 2" high letters after removal but before being moved from site.	☒ Y ☐ N	☒	☐
NOTE: COMPLETE TANK LABELING SHOULD INCLUDE WARNING AGAINST REUSE; FORMER CONTENTS; VAPOR STATE; VAPOR FREEING TREATMENT; DATE.			
12. Tank vent hole (1/8 th " in uppermost part of tank) installed prior to moving the tank from site.	☐ Y ☐ N	☐	☒
13. Inventory form filed by owner with Safety and Buildings Division indicating closure by removal.	☒ Y ☐ N	☒	☐
14. Site security is provided while the excavation is open.	☒ Y ☐ N	☒	☐

D. CLOSURE IN PLACE

NOTE: CLOSURES IN PLACE ARE ONLY ALLOWED WITH THE PRIOR WRITTEN APPROVAL OF THE DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS OR LOCAL AGENT.

1. Product from piping drained into tank (or other container).			
2. Piping disconnected from tank and removed.	☐ Y ☐ N	☐	☐
3. All liquid and residue removed from tank using explosion proof pumps or hand pumps.	☐ Y ☐ N	☐	☐
4. All pump motors and suction hoses bonded to tank or otherwise grounded.	☐ Y ☐ N	☐	☐
5. Fill pipes, gauge pipes, vapor recovery connections, submersible pumps and other fixtures removed.	☐ Y ☐ N	☐	☐
NOTE: DROP TUBE SHOULD NOT BE REMOVED IF THE TANK IS TO BE PURGED THROUGH THE USE OF AN EDUCTOR - EDUCTOR OUTPUT 12 FT ABOVE GRADE.			
6. Vent lines left connected until tanks purged.	☐ Y ☐ N	☐	☐
7. Tank openings temporarily plugged so vapors exit through vent.	☐ Y ☐ N	☐	☐
8. Tank atmosphere reduced to 10% of the lower flammable range (LEL) - see Section F.	☐ Y ☐ N	☐	☐
9. Tank properly cleaned to remove all sludge and residue.	☐ Y ☐ N	☐	☐
10. Solid inert material (sand, cyclone boiler slag, pea gravel recommended) introduced and tank filled.	☐ Y ☐ N	☐	☐
11. Vent line disconnected or removed.	☐ Y ☐ N	☐	☐
12. Inventory form filed by owner with Safety and Buildings Division indicating closure in place.	☐ Y ☐ N	☐	☐

E. CLOSURE ASSESSMENTS

NOTE: DETERMINE IF A CLOSURE ASSESSMENT IS REQUIRED BY REFERRING TO ILHR 10.

1. Individual conducting the assessment has a closure assessment plan (written) which is used as the basis for their work on the site.	☒ Y ☐ N	☐	☐
2. Do points of obvious contamination exist?	☐ Y ☒ N	☒	☐
3. Are there strong odors in the soils?	☐ Y ☒ N	☒	☐
4. Was a field screening instrument used to pre-screen soil sample locations?	☒ Y ☐ N	☐	☐
5. Was a closure assessment omitted because of obvious contamination?	☐ Y ☒ N	☐	☐
6. Was the DNR notified of suspected or obvious contamination?	☐ Y ☒ N	☐	☐

Agency, office and person contacted: Mike

7. Contamination suspected because of: ☐ Odor ☐ Soil Staining ☐ Free Product ☐ Sheen On Groundwater ☐ Field Instrument Test N/A

F. METHOD OF ACHIEVING 10% LEVEL DESCRIPTION

☐ Educator Or Diffused Air Blower

Eductor driven by compressed air, bonded and drop tube left in place; vapors discharged minimum of 12 feet above ground. Diffused air blower bonded and drop tube removed. Air pressure not exceeding 5 psig.

☐ Dry Ice

Dry ice introduced at 1.5 pounds per 100 gallons of tank capacity. Dry ice crushed and distributed over the greatest possible tank area. Dry ice evaporated before proceeding.

☐ Inert Gas (CO/2 or N/2) **NOTE: INERT GASSES PRODUCE AN OXYGEN DEFICIENT ATMOSPHERE. THE TANK MAY NOT BE ENTERED IN THIS STATE WITHOUT SPECIAL EQUIPMENT**

Gas introduced through a single opening at a point near the bottom of the tank at the end of the tank opposite the vent. Gas introduced under low pressure not to exceed 5 psig to reduce static electricity. Gas introducing device grounded.

☒ Tank atmosphere monitored for flammable or combustible vapor levels.

Calibrate combustible gas indicator. Drop tube removed prior to checking atmosphere. Tank space monitored at bottom, middle and upper portion of tank. Readings of 10% or less of the lower flammable range (LEL) obtained before removing tank from ground.

G. NOTE SPECIFIC PROBLEMS OR NONCOMPLIANCE ISSUES BELOW

H. REMOVER/CLEANER INFORMATION

Remover Name (print)	Remover Signature	Remover Certification No.	Date Signed
Charles Scheffer	Charles Scheffer	03858	5/1/96

INSPECTOR INFORMATION

Inspector Name (print)	Inspector Signature	Inspector Certification No.
Bob Knudson	Bob Knudson	00257

FDID # For Location Where Inspection Performed	Inspector Telephone Number	Date Signed
Waterford 5103	1-800-422-5220	5/1/96

APPENDIX B

SOIL SAMPLING PROTOCOL

SOIL SAMPLING PROTOCOL

Sampling Equipment and Decontamination

The soil samples collected from the excavation base were collected with the hand trowels from the backhoe bucket for safety considerations, since the excavation was deeper than 6 feet below ground surface. Prior to use, the trowels were washed in a solution of trisodium phosphate, tap water rinsed, isopropyl alcohol wash, tap water rinsed and sealed in aluminum foil.

Soil Sample Locations and Sample Handling Techniques

The WDNR "Site Assessments for Underground Storage Tanks Technical Guidance" (PUBL-SW-175-93) specifies that soil samples must be collected from the following areas when conducting an Underground Storage Tank Closure Assessment.

- In native soil, two samples, one to three feet below each end of each tank greater than or equal to five feet long. An additional sample must be collected in native soil, one to three feet beneath the middle of tanks over eighteen feet long.
- In native soil, one sample only, one to three feet beneath the middle of each tank less than five feet long.
- In native soil, one sample, one to three feet below each dispenser on the supply side.
- In native soil, one sample, one to three feet below every twenty feet of piping, preferable at elbows or swing joints. If part of the piping runs above the tank(s) do not collect separate piping samples under those sections.
- In native soil, one sample, five feet below remote fill pipe openings.

Two (2) samples (one sample for analysis and one sample for field screening) were collected and immediately containerized from each UST sampling location. Each DRO sample was weighed to approximately 25 grams, containerized in a 60 ml glass jar and sealed with a screw-on cap containing a teflon septum (and preserved by the laboratory). Each sample was properly labeled and placed in a cooler packed with ice for transport to a certified WDNR laboratory for analysis. The field screening samples were containerized in a clean, four

ounce glass jar sealed with a screw-on cap. The sample jar was filled approximately ½ to ¾ full to allow for headspace screening.

Field Screening

A Thermo-Environmental Model 480B, Photo Ionization Detector (PID), was used to screen each soil sample for the presence of Volatile Organic Compounds by means of headspace analysis. The PID calibrated in the field for direct response to 250 parts per million isobutylene standard. Headspace samples were allowed to equilibrate prior to analysis. Minimum equilibration times conformed to the specifications as follows:

Ambient Outside Air Temperature at Time of Sample Collection	Minimum Time Sample Equilibrated at 70° F or Greater Temperature
<40° F	40 Minutes
41 - 55° F	20 Minutes
56 - 69° F	10 Minutes
>70° F	5 Minutes

Headspace samples were equilibrated out of direct sunlight and warmed by placing in a building or heated vehicle if ambient temperatures were below 55° F. Following equilibration, "dynamic" headspace analysis was conducted. This method involved agitating the sample container for 30 seconds to facilitate volatilization of any organic compounds into the headspace. The tip of the PID probe was inserted half-way between the cap and the sample surface. The highest instrument response observed within the first 5 to 10 seconds was recorded as Total Organic Volatiles (TOV) as "instrument units".

APPENDIX C

LABORATORY RESULTS

NORTH SHORE ENVIRONMENTAL CONSTRUCTION, INC.
W117 N18493 FULTON DRIVE
GERMANTOWN, WI 53022
(414) 255-4468 FAX: (414) 255-6993

TANK DISPOSAL

GENERATOR: Waterford NAPA Store

SITE ADDRESS: 318 E. Main St.

CITY/STATE/ZIP: Waterford, WI 53185-4306

****

DISPOSAL SITE: Kemmel Metals

ADDRESS:

CITY/STATE/ZIP:

TYPE OF TANK: 550 Steel

DATE OF DISPOSAL: 5-1-96

CBC ENVIRONMENTAL LABORATORIES
A Division of Minnesota Valley Testing Laboratories, Inc.

Page: 1

Final Report

Printed On: 05/23/96

Date of Report: 05/23/96
Project Number: 00250232
Lab ID: 96-0007209
Lab Matrix: lw
Account Number: 784-28759
Date Collected: 05/08/96 00:00
Collected By: Client
Date Received: 05/08/96 14:30
C of C Number:
Temperature:

Attention: Mark Wildhagen
One Step Environmental
133 East Main Street
Port Washington WI 53074-0000

Sample Desc: Waste Oil/Waterford Napa Store

Container Integrity: Meets Standard, Sample Integrity: Meets Standard

	Result	Unit	Quant Limit	Procedure	Test Date
INORGANIC					
METALS					
Barium, Total	260	ppm	0.10	SW 6010A	05/14/96
Cadmium, Total	3.5	ppm	0.10	SW 6010A	05/14/96
Chromium, Total	34	ppm	0.10	SW 6010A	05/14/96
Lead, Total	7900	ppm	1.0	SW 6010A	05/14/96
Silver, Total	<0.10	ppm	0.10	SW 6010A	05/14/96
Thallium, Total	0.40	ppm	0.10	SW 6010A	05/15/96
Arsenic, Total	7.2	ppm	0.38	SW 7060	05/11/96
Mercury, Total	<0.040	ppm	0.040	SW 7471	05/10/96
Selenium, Total	<0.075	ppm	0.075	SW 7740	05/11/96

Temperature blank not received; unable to obtain temperature.
SW 6010A metals analysis completed by Minnesota Valley Testing Laboratories-New Ulm, MN; WDNR Certification #999447680.

All soil and water samples will be disposed of by CBC 60 days following date of receipt.
All waste samples (non-water, non-soil) will be returned 60 days following date of receipt.

N/T = Not Tested, N/A = Not Applicable, N/D = Not Detected.
D = Detected below the PQL. J = Estimated below the PQL.
Elevated Detection Limits :
@ = Due to matrix interference. # = Due to sample concentration.
$ = Due to sample quantity. + = Due to extract volume.

Reviewed and Approved by:
MTH
Authorized Signatory

APPENDIX B

SOIL SAMPLING PROTOCOL

SOIL SAMPLING PROTOCOL

Sampling Equipment and Decontamination

The soil samples collected from the excavation base were collected with the hand trowels from the backhoe bucket for safety considerations, since the excavation was deeper than 6 feet below ground surface. Prior to use, the trowels were washed in a solution of trisodium phosphate, tap water rinsed, isopropyl alcohol wash, tap water rinsed and sealed in aluminum foil.

Soil Sample Locations and Sample Handling Techniques

The WDNR "Site Assessments for Underground Storage Tanks Technical Guidance" (PUBL-SW-175-93) specifies that soil samples must be collected from the following areas when conducting an Underground Storage Tank Closure Assessment.

- In native soil, two samples, one to three feet below each end of each tank greater than or equal to five feet long. An additional sample must be collected in native soil, one to three feet beneath the middle of tanks over eighteen feet long.
- In native soil, one sample only, one to three feet beneath the middle of each tank less than five feet long.
- In native soil, one sample, one to three feet below each dispenser on the supply side.
- In native soil, one sample, one to three feet below every twenty feet of piping, preferable at elbows or swing joints. If part of the piping runs above the tank(s) do not collect separate piping samples under those sections.
- In native soil, one sample, five feet below remote fill pipe openings.

Two (2) samples (one sample for analysis and one sample for field screening) were collected and immediately containerized from each UST sampling location. Each DRO sample was weighed to approximately 25 grams, containerized in a 60 ml glass jar and sealed with a screw-on cap containing a teflon septum (and preserved by the laboratory). Each sample was properly labeled and placed in a cooler packed with ice for transport to a certified WDNR laboratory for analysis. The field screening samples were containerized in a clean, four ounce glass jar sealed with a screw-on cap. The sample jar was filled approximately ½ to ¾ full to allow for headspace screening.

Field Screening

A Thermo-Environmental Model 480B, Photo Ionization Detector (PID), was used to screen each soil sample for the presence of Volatile Organic Compounds by means of headspace analysis. The PID calibrated in the field for direct response to 250 parts per million isobutylene standard. Headspace samples were allowed to equilibrate prior to analysis. Minimum equilibration times conformed to the specifications as follows:

Ambient Outside Air Temperature at Time of Sample Collection	Minimum Time Sample Equilibrated at 70° F or Greater Temperature
<40° F	40 Minutes
41 - 55° F	20 Minutes
56 - 69° F	10 Minutes
>70° F	5 Minutes

Headspace samples were equilibrated out of direct sunlight and warmed by placing in a building or heated vehicle if ambient temperatures were below 55° F. Following equilibration, "dynamic" headspace analysis was conducted. This method involved agitating the sample container for 30 seconds to facilitate volatilization of any organic compounds into the headspace. The tip of the PID probe was inserted half-way between the cap and the sample surface. The highest instrument response observed within the first 5 to 10 seconds was recorded as Total Organic Volatiles (TOV) as "instrument units".

APPENDIX C

LABORATORY RESULTS

EN CHEM INC.

. . . chemistry for the environment

1795 Industrial Drive
Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
FAX: 414-469-8827

Lab Certification No. 405132750
Location : WATERFORD NAPA/ #0813
Your Sample ID: 1-S
Sample Desc. : WEST END OF TANK, 18 INCHES
Sample Matrix : SOIL Date Collected: 05/01/1996
En Chem Proj# : 9605038 Date Received : 05/02/1996
En Chem Lab # : 179571 Date Reported : 05/06/1996

Report to: MORAINE ENVIRONMENTAL
1234 12TH AVENUE
GRAFTON, WI 53024-1924

Bill to: MORAINE ENVIRONMENTAL

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID	Total Solids	93	percent				SM2540G	05/03/1996	PHS
DRO-S	Diesel Range Organics(DRO)-Soil	ND	mg/kg	3.5		05/03/1996	WDNR MOD DRO	05/03/1996	PHS
	Soil spike	80	% RECOV	50					
	Soil spike duplicate	87	% RECOV	50					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

M. Sulka

Printed on Recycled Paper

EN CHEM INC.

. . . chemistry for the environment

1795 Industrial Drive
Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
FAX: 414-469-8827

Lab Certification No. 405132750
Location : WATERFORD NAPA/ #0813
Your Sample ID: 2-S
Sample Desc. : EAST END OF TANK, 18 INCHES
Sample Matrix : SOIL Date Collected: 05/01/1996
En Chem Proj# : 9605038 Date Received : 05/02/1996
En Chem Lab # : 179572 Date Reported : 05/06/1996

Report to: MORAINE ENVIRONMENTAL
1234 12TH AVENUE
GRAFTON, WI 53024-1924

Bill to: MORAINE ENVIRONMENTAL

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID	Total Solids	92	percent				SM2540G	05/03/1996	PHS
DRO-S	Diesel Range Organics(DRO)-Soil	ND	mg/kg	3.8		05/03/1996	WDNR MOD DRO	05/03/1996	PHS
	Soil spike	80	% RECOV	50					
	Soil spike duplicate	87	% RECOV	50					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

M. Suha

Printed on Recycled Paper