MILWAUKEE CO. 351

Northern Environmental
Hydrologists • Engineers • Geologists

1214 West Venture Court
Mequon, WI 53092
1-414-241-3133
1-800-776-7140

8/30/91

OCT 14 1991

October 10, 1991
(PEI120549)

Mr. George Kraemer
Kracor, Incorporated
5625 West Clinton Avenue
P.O. Box 23667
Milwaukee, Wisconsin 53223

RE: Underground Storage Tank Closure Assessment, Kracor, Incorporated, 1043 13th Avenue, Grafton, Wisconsin

Dear Mr. Kraemer:

Northern Environmental has conducted an underground storage tank (UST) closure assessment of a 6000 gallon heating oil UST which is located at 1043 13th Avenue, Grafton, Wisconsin. The site will be referred to as "the Property" in the remainder of this letter. The Property is located in the northwest quarter of the northeast quarter of Section 24, Township 10 North, Range 21 East in Ozaukee County, Wisconsin (87 degrees, 57 minutes, 04 seconds west longitude, and 43 degrees, 19 minutes, 16 seconds north latitude) (Figure 1). The UST closure assessment outlined in this report conforms to the Wisconsin Department of Industry, Labor, and Human Relations (WDILHR) site assessment guidelines for UST closure (Reference 1). This letter describes the methods used to conduct the study, presents the study findings, and describes the significance of these findings.

METHODS OF INVESTIGATION

Several investigative methods were employed to assess the nature and significance of potential soil and/or ground-water impacts related to the UST system at the Property. Investigative and remedial methods are described in more detail below. Photographs documenting field activities are available from Northern Environmental.

Kracor, Incorporated (Kracor) contracted Petroleum Equipment, Incorporated (PEI) to remove the UST. PEI contracted National Tank to properly clean the UST and Northern Environmental to perform the UST closure assessment (Reference 2).

On August 1, 1991, PEI investigated the orientation and dimensions of the UST by removing the soil above it. The UST was located immediately below high power electrical lines, approximately four feet from the utility pole, and approximately eight feet from the building. Representatives from PEI, Northern Environmental, Wisconsin Electric Power Company (WEPCO), and the Grafton

a subsidiary of Bonestroo, Rosene, Anderlik and Associates, Inc.
Engineers & Architects • St. Paul, Minnesota

Fire Department met on site to discuss the safest and most cost effective alternatives to properly decommission the UST. The close proximity of a WEPCO power pole and overhead power lines would have made UST removal extremely expensive, time consuming, and difficult. Therefore the UST was recommended to be decommissioned in place. The Grafton Fire Department Chief approved abandoning the UST in place on August 15, 1991 (Reference 3).

On August 21, 1991, National Tank Service (NTS), a certified UST cleaner, cut a hole into the top of the UST and cleaned the UST. After cleaning, Northern Environmental performed a site assessment. NTS personnel cut holes into the two ends of the UST and soil samples were collected from one to two feet below each end of the tank from the adjacent soils. A portion of each soil sample was subjected to photoionization detector (PID) headspace analysis. PID headspace analysis consisted of collecting a representative soil sample, transferring a portion of soil the sample to a one pint glass canning jar, sealing the jar with aluminum foil and a threaded band, and storing the jar sample in a relatively warm (60°F) location for at least 20 minutes. The aluminum foil was then carefully punctured with the PID probe extension, and the highest stable PID reading occurring within 10 to 20 seconds was recorded in parts per million (ppm). The PID utilized was a Thermo Model 580B Organic Vapor Meter (OVM) outfitted with a 10.6 eV lamp calibrated for direct response to isobutylene. Soil appearance and odor were also used as part of the screening process. The results of the soil screening program are summarized in Table 1.

Another portion of each sample was immediately transferred to a four ounce glass laboratory soil jar and cooled for laboratory analysis. The soil samples were submitted under chain-of-custody to a Wisconsin Department of Natural Resources (WDNR) approved analytical laboratory (Robert E. Lee and Associates, Incorporated, Green Bay, Wisconsin) for diesel range organics (DRO) analysis. The results of these analysis and the chain-of-custody forms are presented in Attachment B.

Upon receipt of the laboratory DRO results, Northern Environmental contacted Mr. Terry Nolen (WDILHR) and notified the WDILHR of the intention to abandon the UST in place. Mr. Nolen verbally approved abandoning the UST in place on August 26, 1991 (Reference 4). In accordance with WDILHR Chapter ILHR 10.732 (2)(b) regulations (Reference 1), the UST was decommissioned in place on Friday, August 30, 1991. The UST was completely filled using approximately 28 cubic yards of concrete supplied by the Tews Company. The UST abandonment was witnessed by representatives from Northern Environmental, Grafton Fire Department, and PEI. The WDILHR Checklist for Underground Tank Closure form was completed, signed by the Grafton Assistant Fire Chief, and mailed to the WDILHR Fire Prevention and Underground Storage Tank section. The Underground Petroleum Product Tank Inventory Form was amended to document closure, was forwarded to the WDILHR and a copy is included in Attachment A.

SUMMARY OF FINDINGS

UST System History, Design, and Condition

The 6000 gallon fuel oil UST is 18.3 feet in length and 7.3 feet in diameter, is oriented with its long axis trending north-south and is at least 20 years old. The #2 fuel oil stored in the UST was used to heat the building. Kracor purchased the Property in 1979. In the early 1980s Kracor

converted from oil heat to a natural gas forced air heating system. Consequently, the fuel oil UST had not stored heating oil for approximately ten years (Reference 5).The UST is constructed of bare welded steel plate and is buried one and one half feet below grade. The piping was bare steel and was buried approximately one foot below grade. The backfill and native sediments surrounding and above the UST consisted of sand and gravel.

No evidence of physical damage, leakage or perforations were detected during inspection of the interior of the system. No water entered the UST after it was cleaned. The UST appeared to be structurally sound and in good physical condition. No corrosion or weathering was noted on the heating oil UST or associated piping.

Soil Examination and Analysis

No evidence of stained soils, petroleum films, unusual odors, or elevated PID responses were detected in samples collected one to two feet below the ends of the UST (Table 1, Figure 2). Laboratory analysis of the soil samples collected beneath the UST (S1 and S2) did not detect DRO to a detection limit of 5 ppm.

CONCLUSIONS

Based on an UST inspection, field screening and laboratory analysis, the UST system was in good condition. No fuel oil was detected in the soils immediately below the UST. Therefore, no further investigative or remedial work should be required.

The results of this study are based upon professional interpretation of the information available to Northern Environmental given the time and budget constraints of this project. Northern Environmental does not warrant that this report represents an exhaustive study of all possible environmental impacts potentially associated with the Site. The items investigated as part of this study do represent the most likely sources of environmental impacts associated with the decommissioned UST system, and are consequently believed to adequately address the client's needs at this time.

We trust this information meets your needs. Please feel free to contact us if you have any questions.

Sincerely,
Northern Environmental Technologies, Incorporated

Richard D. Block, Jr., E.I.T.
Environmental Engineer I

Gary R. Henningsen, P.G.
Staff Geologist

Dale J. Buser, P.E.
Principal Hydrogeologist

cc: Mr. Tom Hyslop (PEI)
Mr. Elroy Scheer (Grafton Fire Department)
Mr. Allen Rieselbach (Reinhart & Associates)
Mr. John Feeney (WDNR)
WDILHR

RDB/gjw

REFERENCES

1) s. ILHR 10, Wisconsin Administrative Code, "Flammable and Combustible Liquids Code", April 1991 Draft.

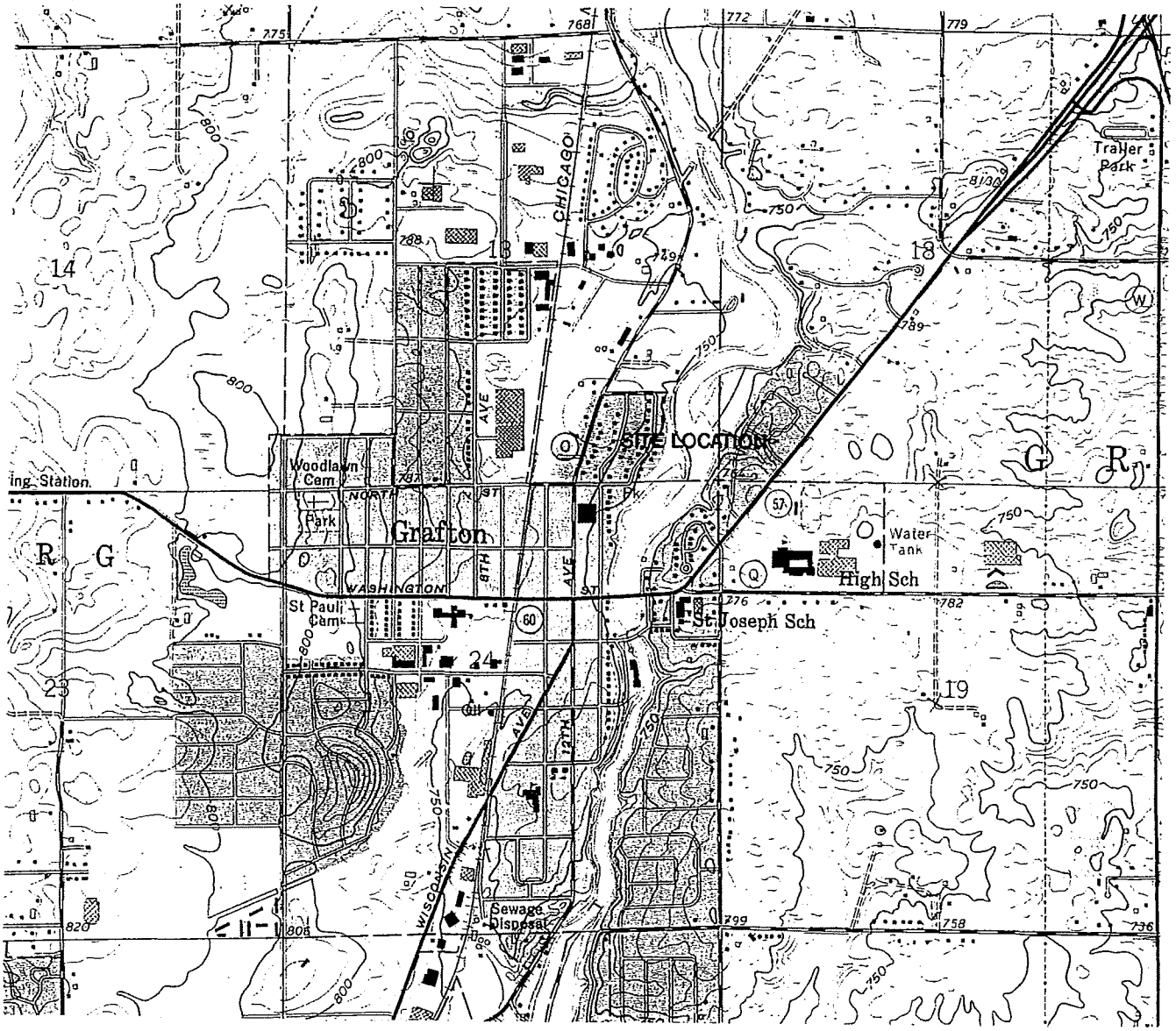
2) Conversation: Dale Buser (Northern Environmental) with Tom Hyslop (Petroleum Equipment, Incorporated), August 1, 1991.

3) Letter: Elroy Scheer (Grafton Fire Department) to Richard Block (Northern Environmental), August 15, 1991.

4) Conversation: Richard Block (Northern Environmental) with Terry Nolen (WDILHR), August 26, 1991.

5) Conversation: Richard Block (Northern Environmental) with George Kraemer (Kracor, Incorporated), August 16, 1991.

G.M.B. ENGINEERING 543919



SCALE 1:24000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

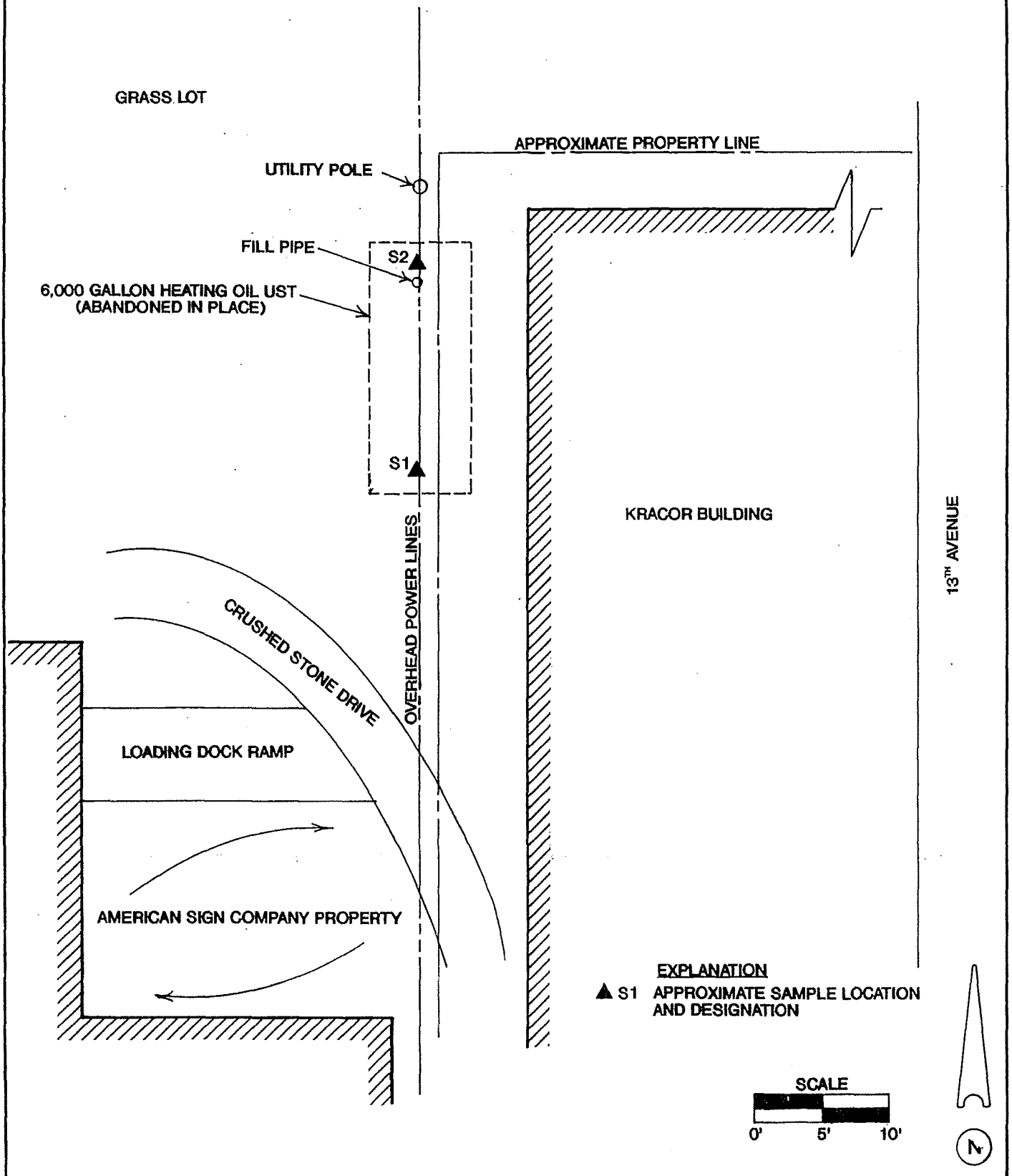
1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS 578 FEET

QUADRANGLE LOCATION

BASE MAP SOURCE: USGS CEDARBURG, WISCONSIN 7.5 MINUTE QUADRANGLE

REV.	PROJECT: PEI120549	DATE: 10/10/91	KRACOR, INC. GRAFTON, WISCONSIN
	THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF NORTHERN ENVIRONMENTAL INCORPORATED AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS EXPRESSLY FURNISHED. THE DRAWING AND ANY COPIES THEREOF SHALL BE RETURNED TO THE OWNER ON DEMAND.		
	▲ Northern Environmental Hydrologists • Engineers • Geologists		SITE LAYOUT AND LOCAL TOPOGRAPHY



REV.	PROJECT: PEI120549	DATE: 10/10/91	KRACOR, INC. GRAFTON, WISCONSIN
			SITE LAYOUT AND APPROXIMATE LOCATION OF ABANDONED UST
	▲ *Northern Environmental* *Hydrologists • Engineers • Geologists*		

FIGURE 2

Table 1 Summary of Laboratory and Field Analyses, Kracor, Incorporated, Grafton, Wisconsin

Sample Label	Date Collected	PID Headspace Analyses: Time Collected	PID Headspace Analyses: Time Analyzed	PID Headspace Analyses: PID Response (ppm)	Results of Laboratory DRO Analysis (ppm)	Sample Odor	Sample Description	Depth (feet)	Approximate Sample Location
S1	08/21/91	1306	1448	8.3	ND	None	Yellowish–brown sand	2.0	Below south end of UST
S2	08/21/91	1325	1450	2.7	ND	None	Yellowish–brown sand	2.0	Below north end of UST

NOTE: ppm = parts per million
ppb = parts per billion
ND = Not Detected
DRO = Diesel Range Organics

ATTACHMENT A

UNDERGROUND PETROLEUM PRODUCT TANK INVENTORY FORM

Wisconsin Department of Industry, Labor and Human Relations

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 #

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
3. ☐ 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:

A. IDENTIFICATION: (Please Print)

1. Tank Site Name	Site Address	Site Telephone No.
KRACOR INC.	1043 13TH AVE.	(414)355-6335

☐ City ☒ Village ☐ Town of:	State	Zip Code	County
GRAFTON	WI	53024	OZAUKEE

2. Owner Name (mail sent here unless indicated otherwise in #3 below)	Owner Mailing Address (mail sent here unless indicated otherwise in #3)
KRACOR, INC.	5625 WEST CLINTON AVE PO. BOX 2366

☒ City ☐ Village ☐ Town of:	State	Zip Code	County
MILWAUKEE	WI	53223	MILWAUKEE

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)	5. Tank Capacity (gallons)	6. Tank Manufacturer's Name (if known)
UNKNOWN (20+)	6000	UNKNOWN

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
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):	Has a site assessment been completed? (see reverse side for details)
AUGUST 30, 1991	☐ Yes ☐ No IN PROGRESS

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

Name of Owner or Operator (please print):	Indicate Whether:
GEORGE KRAEMER	☒ Owner or ☐ Operator

Signature of Owner or Operator:	Date Signed:
Geo. P. Kraemer	8-30-91

SBD-7437 (R. 03/91)

IMPORTANT: Complete as many items on this form as possible. Failure to provide sufficient information may cause you to fail under additional regulations.

ATTACHMENT B

LABORATORY REPORT AND CHAIN-OF-CUSTODY

Robert E. Lee & Associates
Engineering, Surveying, Laboratory Services

Wisconsin Certification No: 405043870

2825 S. Webster Ave.
P.O. Box 2100
Green Bay, WI 54306-2100
414/336-6338
FAX 414/336-9141

REPORT DATE===> 08/26/91

JOB NUMBER====> 1004580

CUSTOMER======> 101412

Northern Environmental
1214 W. Venture
Mequon, WI 53092

CONTACT=======> Richard Block

PROJECT=======> PEI 120549

RECEIVED======> 08/22/91

SAMPLED=======> 08/21/91

COMMENTS:

ATTEST:

ROBERT E. LEE & ASSOCIATES
Wisconsin Certification No: 405043870

CUSTOMER======> 101412 - Northern Environmental
REPORT DATE===> 08/26/91 PROJECT====> PEI 120549
JOB NUMBER====> 1004580 LOCATION===> Unknown
BATCH=========> 1 SAMPLED====> 08/21/91

Sample #	Sample Id	Result		Analyzed	By
TOTAL SOLIDS					
1	S-1	82.7	%	08/23/91	DT
2	S-2	76.0	%	08/23/91	DT
TPH-DIESEL RANGE ORGANICS					
1	S-1	<0.5	mg/kg	08/23/91	JF
2	S-2	<0.5	mg/kg	08/23/91	JF

[END OF BATCH: 1]

ROBERT E. LEE & ASSOCIATES, INC.
LABORATORY SERVICES
P.O. Box 2100, 2825 S. Webster Ave.
Green Bay, WI 54306-2100
Phone: (414) 336-6338 Fax: (414) 336-9141

CHAIN OF CUSTODY RECORD

Special Handling Request
X Rush Analysis Date Required: 8/26/91
☐ Normal Turn Around

SS

Client Number: 1004580
Client Name: Northern Environmental
Project Number: PEI120549
Sampled By: Rich Block
Project Name:

Sample I.D	Date	Time	Bottle Total	Sample Type	Preservation Type (H = Hydrochloric Acid, N = Nitric Acid, S = Sulfuric Acid, O = Sodium Hydroxide, NA = None)	Analysis Required	Comments
S1	8/21	1306	1	Soil	Ice, 4°C	DRO	PID = 3.3 PPM
S2	8/21	1325	1	Soil	Ice, 4°C	DRO	PID = 2.7 PPM

	Relinquished By	Date	Time	Received By	Date	Time
1)	Richard Stockton	8/22/91	1636		8/22/91	16:36
2)						
3)						
4)		8/22/91	6:30 PM			

Received in Laboratory By: 8/23/91 7:10 AM

Temperature of Contents: 4 °C
Condition of Seals:
Condition of Contents:

Please complete shaded areas and return top two copies with samples.

I/P 90' - 001