West Central Environmental Consultants

14 Green River Road • P.O. Box 594 • Morris, MN 56267-0594
(320) 589-2039 or 1-800-422-8356 • Fax (320) 589-2814

July 22, 1998

Mr. Mark Koplitz
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155

RE: Excavation Report
Weis Oil, Fairfax, MN
WCEC Project No.: 98-1993-30
MPCA Leak No.: LEAK00001940

Dear Mr. Koplitz:

Enclosed please find the Excavation Report for the above described and referenced site.

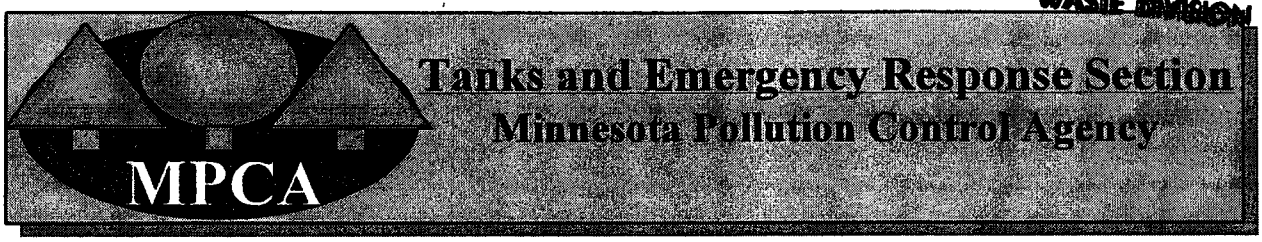
If you have any questions or concerns, please feel free to contact me at 1-800-422-8356.

Sincerely,

Matt Johnson
Project Manager

Enclosure(s)

cc: Jeff Weis, Weis Oil



Excavation Report Worksheet for Petroleum Release Sites

Fact Sheet #3.7
April 1996

Complete the information below and submit to the Minnesota Pollution Control Agency (MPCA) Tanks and Emergency Response Section to document excavation and treatment of petroleum contaminated soil. Conduct excavations in accordance with "Excavation of Petroleum Contaminated Soil" (fact sheet #3.6). Please attach any available preliminary site investigation reports to this excavation report.

Attach additional pages if necessary. Please type or print clearly.

The excavation reporting deadline is 10 months from the date of receipt of the standard letter. A shorter deadline may be established by MPCA staff for high priority sites.

Section I. BACKGROUND

A. Site: **Mobil Gas station/Weis Oil**
Street: **600 E Lincoln Ave**
City, Zip: **Fairfax, 55332**
County: **Renville**

MPCA Site ID#: **Leak00001940**

B. Tank Owner/Operator: **Jeff Weis**
Mailing Address: **440 S 4th St**

Street/Box:
City, Zip: **55310**
Telephone: **612-365-4525**

C. Excavating Contractor: **Kleespie Tank and Petroleum Equipment, Inc.**

Contact:
Telephone: **320-589-2100**
Tank Contractor Certification Number: **53**

D. Consultant: **West Central Environmental Consultants, Inc.**

Contact: **Matthew Johnson**
Street/Box: **14 Green River Rd, PO Box 594**
City, Zip: **Morris, 56267**
Telephone: **320-589-2039**

E. Others on-site during site work (e.g., fire marshal, local officials, MPCA staff, etc.): **None**

Note: If person other than tank owner and/or operator is conducting the cleanup, provide name, address, and relationship to site on a separate attached sheet.

Section II. DATES

A. Date release reported to MPCA: **March 26, 1998**

B. Dates site work performed (tanks removed, soil excavation, soil borings, etc.):

Work Performed	Date
Pre-removal Site Assessment	**3-26-98**
Tank Excavation	**4-13-98**

Section III. SITE AND RELEASE INFORMATION

A. Describe the land use and pertinent geographic features within 1000 feet of the site. (i.e. residential property, industrial, wetlands, etc.)
The site is bordered by Minnesota State Highway 19 to the north and Minnesota State Highway 4 to the west. To the east the property is bordered by undeveloped, agricultural land. To the north, west and south the property is bordered by light commercial property. No wetlands were apparent within 1000 feet of the site.

Table 1.

B. Provide the following information for all tanks at the site at the time of the release:

Tank Number	UST or AST	Capacity	Contents	Age	Status*	Condition
1	UST	11,000	Diesel	NA	Removed 4-13-98	Good
2	UST	1,000	Diesel	5 years	Removed 4-13-98	Good

*Indicate: *removed (date), abandoned in place (date), or currently used*
Notes:

C. Describe the status of the other components of the tank system(s), (i.e., piping and dispensers) for those tanks listed above. **At the time of the excavation the dispensers were left in place and the piping was removed from the underground storage tanks (UST).**

D. Identify and describe the source or suspected source(s) of the release and how the release was discovered. **Fittings around the fuel pump were not secure.**

E. What was the volume of the release? (if known): **Unknown**

F. When did the release occur? (if known): **Unknown**

G. Describe source of on-site drinking water: **Municipal water is available at the site.**

Section IV. EXCAVATION INFORMATION

A. Dimensions of excavation: Length **38 feet** Width **14 feet** Depth **12 feet**

B. Original tank backfill material (sand, gravel, etc.): **sands and gravel**

C. Native soil type (clay, sand, etc.): **glacial till**

D. Quantity of contaminated soil removed for treatment (cubic yards): **Approximately ~~40~~ 240 yards^3**

[Note: If more than 150 cubic yards removed, please attach copy of written approval from MPCA.]

E. Were new tanks installed at the site? **(Yes)** If yes, how much soil was excavated to accommodate the installation of the new tanks? **Approximately ~~40~~ yards^3** 240

F. Was ground water or a suspected perched water layer encountered or was there evidence of a seasonally high ground water table (i.e. mottling)? **(Yes)** At what depth? **10 feet**

G. If ground water was not encountered during the excavation, what is the expected depth of ground water? **N/A**

H. If a soil boring was required (Additional investigation is required at sites that have visual or other evidence of contamination remaining in the suspected source area, with sandy or silty sand soil [Unified Soil Classification System/American Society for Testing Materials] and where the water table is within 25 feet of the ground surface. See fact sheet #3.6 "Excavation of Petroleum Contaminated Soil," Part VI Additional Investigation) describe the soil screening and analytical results. Attach the boring logs and laboratory results to this report.

I. If no soil boring was required, explain.

J. If ground water was encountered or if a soil boring was conducted, was there evidence of ground water contamination? **(Yes)** Describe this evidence of contamination, e.g., free product (specify thickness), product sheen, ground water in contact with petroleum contaminated soil, water analytical results, etc. **A slight sheen was observed on the water.**

[NOTE: If free product was observed, contact MPCA staff immediately as outlined in fact sheet #3.3 "Free Product: Evaluation and Recovery"].

K. Was bedrock encountered in the excavation? **(No)** At what depth?

L. Were other unique conditions associated with this site? **(No)** If so, explain.

Section V. SAMPLING INFORMATION

A. Briefly describe the field screening methods used to distinguish contaminated from uncontaminated soil: **See Appendix A "Methodologies and Procedures."**

B. List all soil vapor headspace analysis results. Indicate all sampling locations using sample codes (with sampling depths in parentheses), e.g. R-1 (2 feet), R-2 (10 feet), etc. "R" stands for "removed." Samples collected at different depths at the same location should be labeled R-1A (2 feet), R-1B (4 feet), R-1C (6 feet), etc. If the sample was collected from the sidewall or bottom after excavation was complete, label it S-1 (for sidewall) or B-1 (for "bottom"). Be sure the sample codes correspond with the site map required in part VI, below.

Sample Code	Soil Type	Reading ppm	Sample Code	Soil Type	Reading ppm
R1	**Clay Till**	**150**	**S2**	**Clay Till**	**75**
R2	**Clay Till**	**170**	**S3**	**Clay Till**	**30**
R3	**Clay Till**	**105**	**S4**	**Clay Till**	**52**
R4	**Clay Till**	**185**	**S5**	**Clay Till**	**200**
R5	**Clay Till**	**95**	**B1**	**Clay Till**	**125**
S1	**Clay Till**	**300**	**B2**	**Clay Till**	**40**
			B3	**Clay Till**	**200**

C. Was the "removed soil" placed back into the excavation basin? (yes/**No**)
If no, please complete Part VIII: Soil Treatment Information section. If yes, a Limited Site Ivestigation is necessary (see fact sheet #3.19, "Soil and Ground Water Investigation Performed During Remedial Investigations").

D. Briefly describe the soil analytical sampling and handling procedures used:
See Appendix A "Methodologies and Procedures."

E. List below all soil sample analytical results from bottom and sidewall samples (i.e., soils left in place when excavation is complete). Code the samples with sampling depths in parentheses as follows: sidewall samples S-1 (8 feet), S-2 (4 feet), etc.; bottom samples B-1 (13 feet), B-2 (14 feet), etc. Be sure the sample codes correspond to the site map required in part VI. Do not include analyses from the stockpiled soils.

Sample Code	GRO/ DRO	Benzene ppm	Ethyl-benzene ppm	Toluene ppm	Xylene ppm	Percent Moisture
B1-1993-12'	**NA/44.2**	**NA**	**NA**	**NA**	**NA**	**19.1**
B2-1993-12'	**NA/94.2**	**NA**	**NA**	**NA**	**NA**	
B3-1993-6'	**NA/1170**	**NA**	**NA**	**NA**	**NA**	**21.6**
S1-1993-6'	**917/695**	**1.48**	**1.15**	**8.52**	**21.2**	**18.0**
S2-1993-6'	**68.4/127**	**<0.050**	**0.116**	**<0.050**	**0.252**	**18.6**
S3-1993-6'	**81.1/237**	**<0.100**	**<0.100**	**<0.100**	**0.300**	**17.2**
Stockpile 1-1993	**645**					
Stockpile 2-1993	**687**					**17.8**

NOTE: ATTACH COPIES OF LABORATORY REPORTS AND CHAIN OF CUSTODY FORMS.

Section VI. FIGURES

Attach the following figures to this report:

1. Site location map.
2. Site map(s) drawn to scale illustrating the following:
   a. Location (or former location) of all present and former tanks, lines, and dispensers;
   b. Location of other structures (buildings, canopies, etc.);
   c. Adjacent city, township, or county roadways;
   d. Final extent and depth of excavation;
   e. Location of soil screening samples (e.g. R-1), soil analytical samples (e.g., S-1 or B-1), (e.g. SB-1). Also, attach all boring logs.
   f. North arrow, bar scale and map legend.
   g. Provide location of any on-site water wells. If on-site water wells exist please provide well logs and/or construction diagrams.

Section VII. SUMMARY

Briefly summarize evidence indicating whether additional investigation is necessary at the site, as discussed in parts VI and VII of "Excavation of Petroleum Contaminated Soil" (fact sheet #3.6). If no further action is recommended, the MPCA staff will review this report following notification of soil treatment.

Investigation was completed previously at this site while it was known as Dittmer Oil Company. GME Consultants, Inc., provided information from their investigation that indicated that the contaminant plume was quite extensive. The horizontal and vertical extent of contamination were determined. A pump test performed by GME indicated that there wasn't a hydraulic connection between the shallow monitoring wells completed in the contaminated surficial aquifer and the deeper drinking water aquifer. The impacted water well was abandoned as part of the corrective action design for this leak site. The remaining health and environmental risks were determined to be low enough to have the site closed in 1997.

WCEC performed a pre-removal site assessment for Weis Oil Company (the former Dittmer Oil site) at the location of the diesel tanks. Contamination was found and reported to the MPCA. The results of the pre-removal site assessment are attached to this excavation report. The results of this investigation show higher concentrations in the test holes closer to the previous release site. No contamination was detected in test hole #1 to the northeast of the tank basin. GME boring B-11 is located east of the diesel tanks and completes the extent of contamination in that direction. Also, gasoline contamination (GRO) was detected in laboratory samples which may be remnant from the previous releases at the site to the west and southwest.

Approximately 740 cubic yards of contaminated soil was removed from the site and is currently pending treatment. Site investigations performed at this site by GME and WCEC indicate that soil and groundwater contamination remain on and off-site. However, based on the risk assessments performed by GME, information obtained from the Pre-removal Site Assessment, and data collected during the excavation of the UST's, the remaining contamination from the diesel release should not pose significant additional health and environmental risks. WCEC recommends that this site be considered for conditional closure, with final closure granted upon completion of treatment of the removed contaminated soil.

Section VIII. SOIL TREATMENT INFORMATION

A. Soil treatment method used (thermal, land application, composting, other). If you choose "other" specify treatment method: **Pending**

B. Location of treatment site/facility: **Pending**

C. Date MPCA approved soil treatment (if thermal treatment was used after May 1, 1991, indicate date that the MPCA permitted thermal treatment facility agreed to accept soil):
Pending

D. Identify the location of stockpiled contaminated soil:
Pending

Section IX. CONSULTANT (OR OTHER) INFORMATION

By signing this document, I/we acknowledge that we are submitting this document on behalf of and as agents of the responsible person or volunteer for this leaksite. I/we acknowledge that if information in this document is inaccurate or incomplete, it will delay the completion of remediation and may harm the environment and may result in reduction of reimbursement awards. In addition, I/we acknowledge on behalf of the responsible person or volunteer for this leaksite that if this document is determined to contain a false material statement, representation, or certification, or if it omits material information, the responsible person or volunteer may be found to be in violation of Minn. Stat. § 115.075 (1994) or Minn. Rules 7000.0300 (Duty of Candor), and that the responsible person or volunteer may be liable for civil penalties.

Name and Title:	Signature:	Date signed:
Ryan Zick **Assistant Project Manager**		7/15/98
Matthew Johnson **Project Manager**		7/15/98

Company and mailing address: **West Central Environmental Consultants, Inc.**
P.O. Box 594
Morris, MN 56267
Phone: **(320) 589-2039**
Fax: **(320) 589-2814**

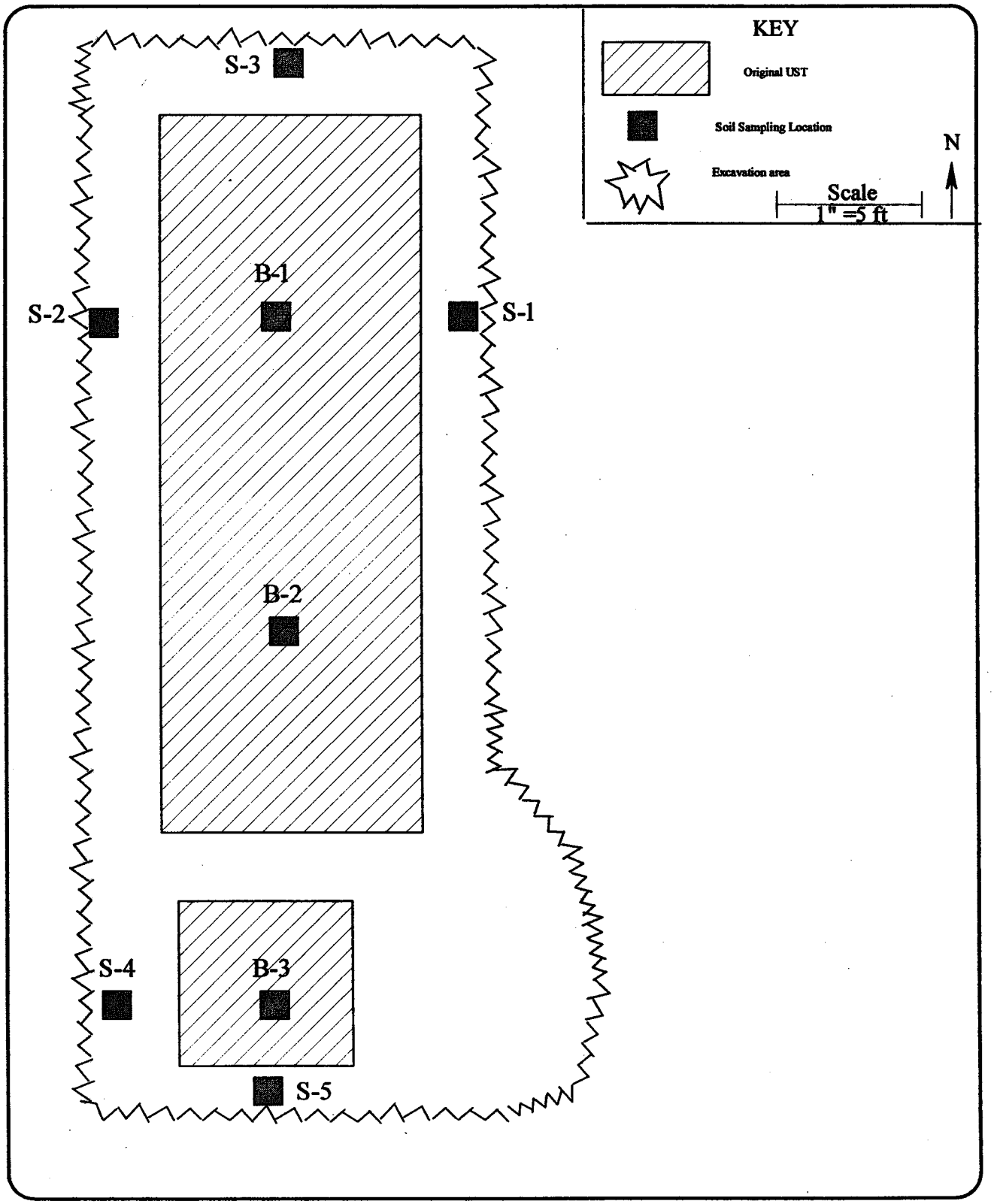
If additional investigation is not required at the site, please mail this form and all necessary attachments to:

(Project Manager)
Minnesota Pollution Control Agency
Hazardous Waste Division
Tanks and Emergency Response Section
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

If additional investigation is required at the site, include this form as an appendix to the "Remdial Investigation Report Form." **Excavation reports indicating a limited site investigation (LSI) is necessary will not be reviewed by MPCA staff until the LSI has been completed.**

Upon request, this document can be made available in other formats, including Braille, large print and audio tape. TTY users call 612/282-5332 or 1-800-657-3864 (voice/TTY).

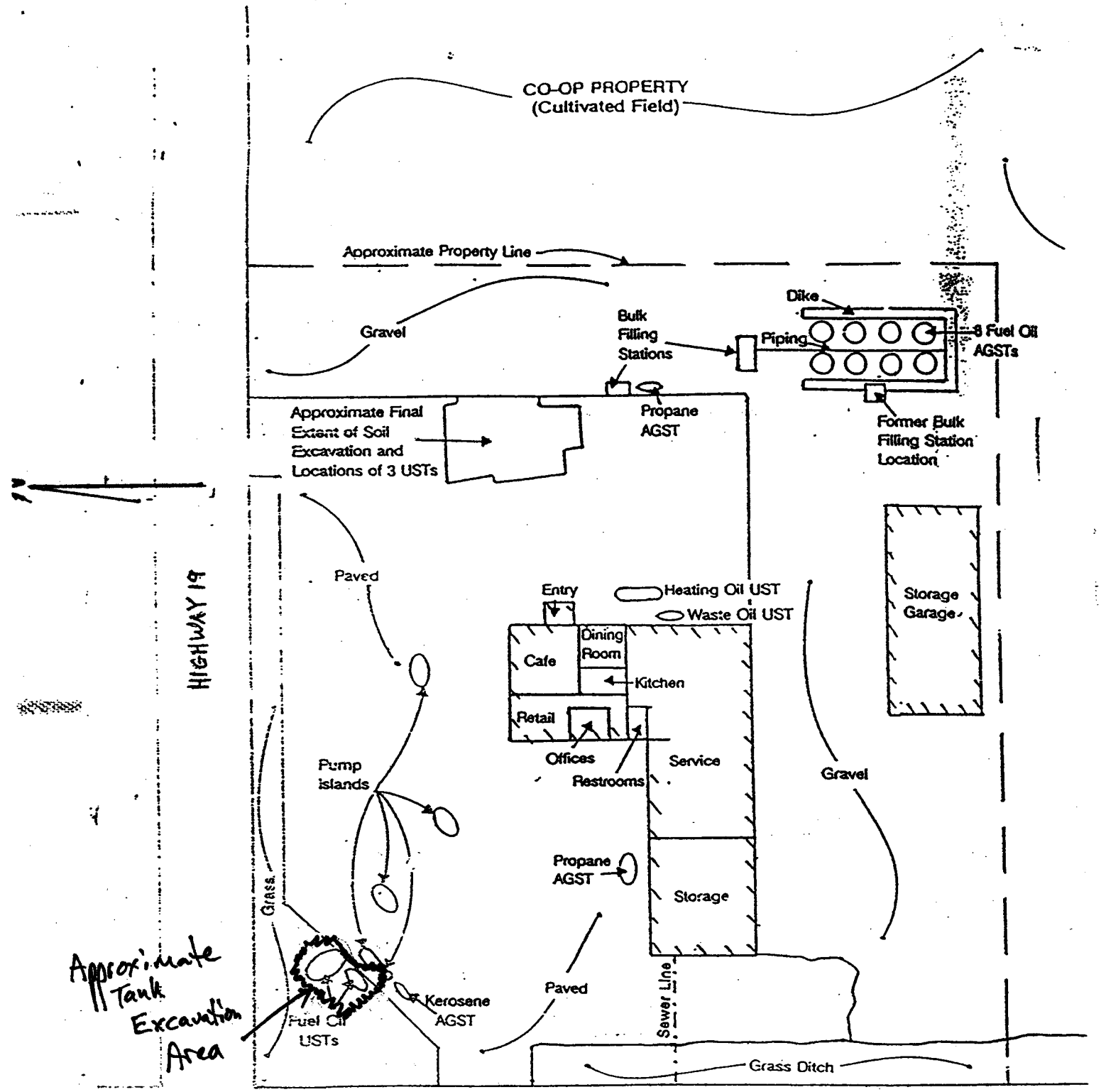
Printed on recycled paper containing at least 10 percent fibers from paper recycled by consumers.



WCEC
ENVIRONMENTAL CONSULTANTS

PROJECT NO.: 98-1993-30, Weise Oil Company, Fairfax

FIGURE NO. 1: Excavation diagram including sampling locations


CO-OP PROPERTY
(Cultivated Field)
Approximate Property Line
Gravel
Bulk
Filling
Stations
Dike
Piping
8 Fuel Oil
AGSTs
Propane
AGST
Former Bulk
Filling Station
Location
Approximate Final
Extent of Soil
Excavation and
Locations of 3 USTs
HIGHWAY 19
Paved
Entry
Heating Oil UST
Waste Oil UST
Storage
Garage
Dining
Room
Cafe
Kitchen
Retail
Offices
Restrooms
Service
Pump
Islands
Gravel
Grass
Propane
AGST
Storage
Approximate
Tank
Excavation
Area
Fuel Oil
USTs
Kerosene
AGST
Paved
Sewer Line
Grass Ditch
HIGHWAY 4
CAFE

330 SO. CLEVELAND ST.
P.O. BOX 349
CAMBRIDGE, MN 55008

MIDWEST ANALYTICAL SERVICES

LAB (612) 689-2175
METRO (612) 444-9270
FAX (612) 689-3660

MINNESOTA CERTIFIED LABORATORY
NUMBER 027-059-156

Analytical Report

May 01, 1998

Matt Johnson
West Central Environmental Consultants
14 Green River Rd., Box 594
Morris, MN 56267-0594

Chain of Custody

Project ID: 98-1993-30
Chain of Custody: 24255
Date Received: 4/16/98 10:55:01 AM by Jacqueline Lutgen

Sample Information

SampleID	Description	Date	Matrix
27464	B1-1993-12'	4/13/98	Soil
27465	B2-1993-12'	4/13/98	Soil
27466	B3-1993-6	4/13/98	Soil
27467	S1-1993-6'	4/13/98	Soil
27468	S2-1993-6'	4/13/98	Soil
27469	S3-1993-6'	4/13/98	Soil
27470	Stockpile 1-1993	4/13/98	Soil
27471	Stockpile 2-1993	4/13/98	Soil

Analytical results are listed on the following page(s).

Reviewed By

Lon Jones
Organics Group Leader

Date Analyzed: 04-22-98

Parameter:	Benzene	Toluene	Ethyl Benzene	Xylenes	Total Hydrocarbons as GRO	Total Hydrocarbons as DRO	Percent Moisture
Units:	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(%)
MDL:	0.050	0.050	0.050	0.150	10.0	10.0	
27464 B1						44.2	19.1
27465 B2						94.2	
27466 B3						1170	21.6
27467 S1	1.48	1.15	8.52	21.2	917	695	18.0
27468 S2	<0.050	<0.050	0.116	0.252	68.4	127	18.6
27469 S3	<0.100	<0.100	<0.100	<0.300	81.1	237	17.2
27470 Stockpile 1						645	
27471 Stockpile 2						687	17.8

MIDWEST ANALYTICAL SERVICES

330 SO. CLEVELAND ST.
P.O. BOX 349
CAMBRIDGE, MN 55008

CHAIN OF CUSTODY RECORD
AND
REQUEST FOR ANALYSIS
(Instructions on Back of Form)

No 24255

LAB (612) 689-2175
METRO (612) 444-9270
FAX (612) 689-3660

CLIENT: WCEC
SAMPLER NAME: Ryan Zick
PROJECT I.D.: 98-1993-30
SAMPLER SIGNATURE: Ryan Zick
REPORTS TO BE SENT TO: Matt Johnson
REMARKS:

SHADED AREAS FOR LABORATORY USE ONLY

NO. OF CONTAINERS	COMP.	GRAB	DATE	TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX: OTHER	SAMPLE IDENTIFICATION: SAMPLE	SAMPLE NO.	LABORATORY NO.	GRO (Includes BTEX)	DRO	BTEX	VOC (465-D)	pH	Pb (Diss. or Total)	RCRA 8 METALS	BOD or CBOD	TSS	Fcol or Tcol	Dry Weight	PRESERVATIVE: HCl	HNO3	H2SO4	OTHER
2		X	4/13/98			X		B1-1993-12'				X									X				X
1		X	4/13/98			X		B2-1993-12'				X									X				X
2		X	4/13/98			X		B3-1993-6'				X									X				X
(2)		X	"			X		S1-1993-6'			X	X									X				X
(2)		X	"			X		S2-1993-6'			X	X									X				X
(2)		X	"			X		S3-1993-6'			X	X									X				X
1	X		"			X		Stockpile 1-1993				X													X
2	X		↓			X		Stockpile 2-1993				X									X				X
								GRO as per Q... 4/14/98 17:42																	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Ryan Zick	4/15/98	Denise Hanson	Denise Hanson	4/15/98	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by:	Date / Time	Received for Laboratory by:	Temperature	Comments:	

CHECK HERE FOR DRINKING WATER DETECTION LIMITS ☐

TURNAROUND TIME REQUIRED:
☐ NORMAL ☐ RUSH
DATE REQUIRED:

330 SO. CLEVELAND ST.
P.O. BOX 349
CAMBRIDGE, MN 55008

MIDWEST ANALYTICAL SERVICES

LAB (612) 689-2175
METRO (612) 444-9270
FAX (612) 689-3660

MINNESOTA CERTIFIED LABORATORY
NUMBER 027-059-156

Analytical Report

April 22, 1998

Matt Johnson
West Central Environmental Consultants
14 Green River Rd., Box 594
Morris, MN 56267-0594

Chain of Custody

Project ID: 98-1993-30
Chain of Custody: 23784
Date Received: 4/9/98 2:53:21 PM by Jacqueline Lutgen

Sample Information

SampleID	Description	Date	Matrix
27217	Stockpile 1-1993	4/6/98	Soil
27218	Stockpile 2-1993	4/6/98	Soil

Analytical results are listed on the following page(s).

Reviewed By

Chad Holznagel 4/23
Chad Holznagel
Chemist

Date Analyzed: 04-17-98

Parameter:	Benzene	Toluene	Ethyl Benzene	Xylenes	Total Hydrocarbons as GRO	Percent Moisture
Units:	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(%)
MDL:	0.050	0.050	0.050	0.150	10.0	
27217 Stockpile 1-1993	0.713	1.58	4.06	12.3	361	17.6
27218 Stockpile 2-1993	< 0.10	0.667	2.33	7.17	192	15.8

BDL = Below Detection Limit, MDL = Method Detection Limit

MIDWEST ANALYTICAL SERVICES

330 SO. CLEVELAND ST.
P.O. BOX 349
CAMBRIDGE, MN 55008

CHAIN OF CUSTODY RECORD
AND
REQUEST FOR ANALYSIS

(Instructions on Back of Form)

No 23784

LAB (612) 689-2175
METRO (612) 444-9270
FAX (612) 689-3660

CLIENT: WCEC

SAMPLER NAME: Dave Oakes

PROJECT I.D.: 98-1993-30

SAMPLER SIGNATURE:

REPORTS TO BE SENT TO: Matt Johnson

REMARKS:

SHADED AREAS FOR LABORATORY USE ONLY

NO. OF CONTAINERS	COMP.	GRAB	DATE	TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX: OTHER	SAMPLE IDENTIFICATION: SAMPLE	SAMPLE NO.	LABORATORY USE ONLY	GRO (Includes BTEX)	DRO	BTEX	VOC (465-D)	pH	Pb (Diss. or Total)	RCRA 8 METALS	BOD or CBOD	TSS	Fcol or Tcol	Oil & Grease	PRESERVATIVE: HCl	HNO3	H2SO4	ICE	OTHER
2		X	4/6/98			X		Stockpile 1 - 1993			X									X					X	
2		X	↓			X		Stockpile 2 - 1993			X									X					X	X

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	4/6/98 5:30pm			4/8/98 7:00AM	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by Laboratory: (Signature)	Temperature	Comments:	

CHECK HERE FOR DRINKING WATER DETECTION LIMITS ☐

TURNAROUND TIME REQUIRED:
☒ NORMAL ☐ RUSH
DATE REQUIRED

PREREMOVAL SITE ASSESSMENT

Weis Oil Company

600 East Lincoln

Fairfax, Minnesota 55332

WCEC Project No. 98-1993-30

1.0 INTRODUCTION

1.1 Purpose

West Central Environmental Consultants, Inc. (WCEC) was retained by Jeff Weis of Weis Oil Company in Fairfax, Minnesota to conduct a Preremoval Site Assessment (PRSA) at a site located at 600 East Lincoln. The purpose of the PRSA was to determine the current environmental status of the site due to the presence of a 11,000-gallon and a 1,000-gallon capacity underground storage tanks (USTs) that contain diesel fuels. These USTs are scheduled to be closed and removed from the site in April 1998.

This report summarizes the results of the PRSA and it also includes WCEC's recommendations for future actions at the site. The PRSA was completed according to the requirements of the Minnesota Pollution Control Agency (MPCA) document "*Site Assessments Prior to Tank Excavations*" Fact Sheet # 3.50.

1.2 Scope of Work

The following work has been performed at the site by WCEC:

- Completed five test holes on the site - March 26, 1998
- Performed field screening of soil samples collected from the borings with a photoionization detector (PID) to determine the relative concentrations of total organic soil gas vapors - March 26, 1998
- Submitted five soil samples for analytical characterization - March 26, 1998
- Submitted final version of project report to the Client - April 1998

This report summarizes the information collected during March 26, 1998, concerning the site.

2.0 SITE DESCRIPTION

2.1 Site Location

The site is located in a portion of the NE/4, Sec. 8, T112N, R32W, Renville County, Minnesota. The property is situated at the eastern edge of Fairfax, MN.

2.2 Site Operations

The site is a gasoline service station consisting of four pump islands, USTs, AST's, an asphalt parking lot, and one building which functions as a gasoline service station, retail sales, café, office, and storage, and a storage garage.

3.0 PREREMOVAL SITE ASSESSMENT

3.1 Introduction

A PRSA, which consisted of the completion of five test holes, was conducted on March 26, 1998.

3.2 Site History

The site was formerly known a Dittmer Oil Company. A UST leak was reported at the Dittmer Oil Company in October 1989, when approximately 2,300 gallons of leaded gasoline were discharged into the subsurface from a loose fitting on a product pipe connected to the 12,000 gallon gasoline UST. Free product was recovered and contaminated soil disposed of at that time. The impacts from that release were deemed to be remediated and the release "closed" by the MPCA.

While remediating the gasoline release, it was determined that there were other previous releases associated with gasoline UST installations. This was reported to the MPCA on October 27, 1989, and leak # 1940 was assigned. For example, the 12,000 gallon gasoline UST replaced another UST which had been leaking. Further, the 8,000 gallon gasoline UST had been leaking aned was patched with fiberglass in approximately 1985. Also, an apparent spill or overfill near the fill pipe of the 4,000 gallon unleaded gasoline UST was identified.

A remedial investigation was subsequently performed and completed on leak #1940 by GME Consultants, Inc. The MPCA "closed" this leak site on October 28, 1997.

This preremoval site assessment concerned the removal of the 11,000 gallon and 1,000 gallon diesel USTs located at the northwest corner of the property.

3.3 Subsurface Investigation

3.3.1 Site Soils. Site soils were characterized during the investigation by advancing five test holes and collecting and describing 55 soil samples. The USTs were buried under a grassy area.

Test hole #1 was completed just northwest of the 11,000 gallon UST. Soil in the test hole consisted of approximately two feet of black topsoil overlying silty clay till to the termination of the boring at 15.5 feet bgs. A sand layer was present from at approximately 7 to 12.5 feet below ground surface (bgs). Evidence of groundwater was noted at approximately 4 feet bgs.

Test hole #2 was completed to the northeast of the diesel tanks. Soils in the test hole consisted of approximately two feet of black topsoil overlying silty clay till to the termination of the boring at 15.5 bgs. A sand lense approximately 1" thick was present from at approximately 2 feet bgs. Groundwater was noted at approximately 8.8 feet bgs.

Test hole #3 was completed to the southwest of the 1,000 gallon diesel UST. Soils in the test hole consisted of approximately two feet of black topsoil overlying silty clay till to the termination of the boring at 19.5 feet bgs. Sand lenses approximately 2" thick were present at approximately 9 feet bgs and 15 feet bgs. Groundwater was not noted.

Test hole #4 was completed to the east of the diesel tanks. Soils below the asphalt in the test hole consisted of approximately two feet of black soil overlying silty clay till to the termination of the boring at 19.5 bgs. A sand lense approximately 3" thick was present from at approximately 13.5 feet bgs. Groundwater was noted at approximately 6.8 feet bgs.

Test hole #5 was completed to the east of test hole #4 and the diesel tanks, near a pump island. Soils below the asphalt in the test hole consisted of approximately two feet of black soil overlying silty clay till to the termination of the boring at 19.5 bgs. Groundwater was not noted.

3.3.2 Field Screening Results. Continuous soil samples were collected . Upon sample retrieval, the samples were logged and placed into plastic ziplock bags and sealed. Approximately 10 - 15 minutes after sample collection, the samples were screened with a PID equipped with a 10.2 electron volt (eV) lamp calibrated to a benzene equivalent to determine the relative concentrations of total organic soil gas vapors.

None of the samples collected from test hole #1 appeared to be above background levels. In test hole #2, the highest readings registered on the PID were116 ppm at approximately 7 feet bgs, and 24.8 ppm at approximately 10 feet bgs, while the other samples appeared to be at background levels. In test hole #3, the highest readings registered was 40.8 ppm at approximately 7 feet bgs, 37.2 ppm at 10 feet bgs, and 33.9 ppm at 11 feet bgs, while the other samples appeared to be at background levels. In test hole #4, organic soil gas vapors above background levels were detected from the surface to approximately 14 feet bgs. The highest concentration was found approximately 7 feet bgs and was 592.6 ppm. In test hole #5, organic soil gas vapors above background levels were found from the surface to approximately 18 feet bgs. The highest concentrations were found at 1 foot bgs and 6 feet bgs and were 1548 ppm and 1533 ppm, respectively.

3.3.3 Analytical Samples. One soil sample from each of the five test holes was submitted to Midwest Analytical Services (MAS) to be analyzed for benzene, toluene, ethyl-benzene, and xylene (BTEX), gasoline range organics (GRO), and diesel range organics (DRO).

Sample collection for laboratory analyses was based on the relative position of the sampled interval in relation to the apparent groundwater surface or apparent highest contaminant levels. The sampled intervals submitted for analysis were collected from 7 feet bgs, except TH #1, which was collected approximately 9.5 feet bgs. A copy of the laboratory analysis report is attached.

3.3.4 Analytical Results. The soil sample submitted from test hole #1 indicated no contamination above detection limits for GRO, DRO or BTEX. The sample from test hole #2 indicated no detect of benzene, 0.176 ppm toluene, 1.65 ppm ethylbenzene, 2.49 ppm xylenes, 229

ppm GRO, and 523 ppm DRO. The sample collected from test hole #3 exhibited no detection of benzene, no detection of toluene, .327 ppm ethylbenzene, .710 ppm xylenes, 79.3 ppm GRO and 341 ppm DRO. The sample collected from test hole #4 indicated <0.25 ppm benzene, no detection of toluene, 8.82 ppm ethylbenzene, 16.9 ppm xylenes, 1150 ppm GRO, and 3970 ppm DRO. In test hole #5, 28.7 ppm benzene was detected, 15.4 ppm toluene, 28.9 ppm ethylbenzene, 36.6 ppm xylenes, 2130 ppm GRO, and 286 ppm DRO.

4.0 DISCUSSION

Based on information from field and laboratory analysis of soils retrieved from the five test holes and background information from the previous releases at this site, it appears that there is some diesel contamination that has a source at, or near, the diesel tanks. It is also WCEC's opinion that some of the contamination discovered in the test holes is remnant of the previous releases at this site, as evidenced by the GRO and BTEX compounds present.

The highest levels of contamination appear to be nearer to the pump islands and decreases to the north and south. Groundwater appears to be approximately 4 to 10 feet bgs and is in contact with the contaminated soil. The groundwater is expected to be contaminated with both DRO and GRO compounds.

5.0 SUMMARY AND RECOMMENDATIONS

The purpose of this PRSA was to determine if petroleum hydrocarbon contamination is present at the Weis Oil Company site. The PRSA process included an on-site inspection and the completion of test holes, soil sample screening with a PID, and the analytical characterization of selected soil samples.

The State Duty Officer was notified upon discovery of the contamination during the PRSA on March 26, 1998, at 3:10 p.m. However, after conferring with the State Duty officer and Mr. Mark Koplitz, MPCA Project Manager for Leak #1940, assignment of a new leak # will be pending upon results from the excavation.

The results of this PRSA indicate both gasoline and diesel hydrocarbon contamination present immediately surrounding the tank basin and piping. The tank removal plan should assume that all soils removed from the tank basin will require treatment by composting, land farming, or incineration.

As required by the MPCA, one soil sample will need to be collected from beneath the 1,000 gallon diesel UST and 2 soil samples from below the 11,000 gallon UST and analyzed for DRO. Sidewall samples must be taken, as well as samples from any stockpiled contaminated soils, and submitted for laboratory analysis.

The amount of contaminated soil expected to be removed is shown below, and is taken from the MPCA guidance document #3.6, Tables 13.2A and 13.2B:

New Tank Size (gal)	Add (yd^3)	Old tank Size (gal)	Subtract
12,000	240 yd^3	11,000	50 yd^3
4,000	110 yd^3	1,000	40 yd^3

Also, for each new linear foot of piping trench, add 0.33 yd^3.

Using the above formula, the expected amount of soil to be encountered would be:

$$(240 - 50) + (110 - 40) = 260\ yd^3$$ of contaminated soil + any piping

*Note, for the new 2,000 gallon gasoline tank to be installed at the east side of the property, based on the same table, 70 yd^3 of contaminated soil would be expected to be removed to install this tank.

It is WCEC's opinion that it is unlikely that active remediation will be required by the MPCA at this site. However, it may be necessary to complete a limited site investigation in the future to document the extent of contamination from the release from the diesel tank system.

6.0 REMARKS

The recommendations contained in this report represent our professional opinions. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this location. Other than this, no warranty is implied or intended.

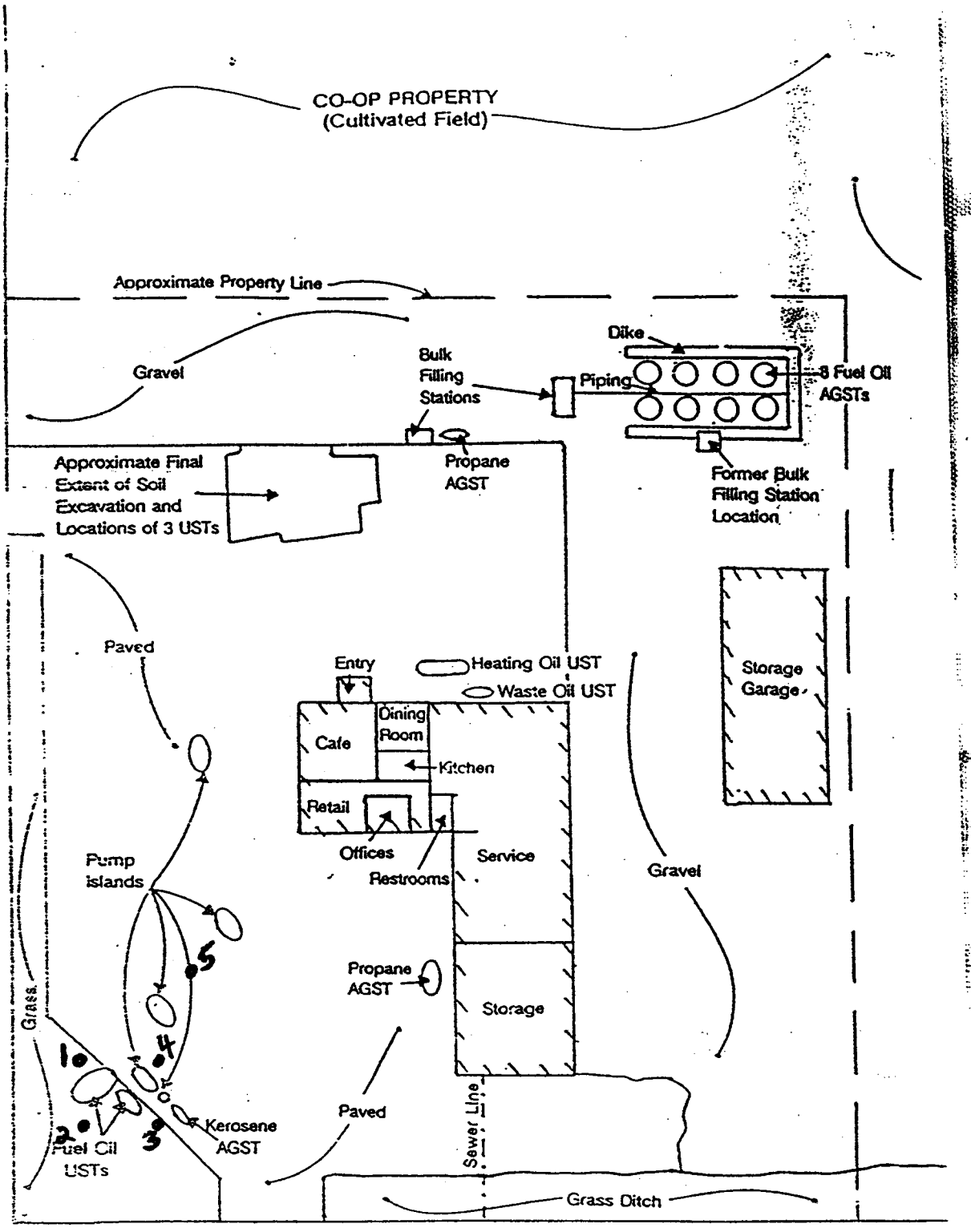
This report was prepared by **West Central Environmental Consultants, Inc.**

Matt Johnson MJH

Date: 1-23-98

Matthew Johnson

Project Manager



Key

• Test hole Location

⊠ Approximate Location of GME Boring B-11

330 SO. CLEVELAND ST.
P.O. BOX 349
CAMBRIDGE, MN 55008

MIDWEST ANALYTICAL SERVICES

LAB (612) 689-2175
METRO (612) 444-9270
FAX (612) 689-3660

MINNESOTA CERTIFIED LABORATORY
NUMBER 027-059-156

Analytical Report

April 17, 1998

Gary Perowitz
West Central Environmental Consultants
14 Green River Rd., Box 594
Morris, MN 56267-0594

Chain of Custody

Project ID: 98-1993-30
Chain of Custody: 24246
Date Received: 4/2/98 3:39:26 PM by Chad Holznagel

Sample Information

SampleID	Description	Date	Matrix
26931	TH#1 9.5-11.5 (1993)	3/26/98	Soil
26932	TH#2-7' (1993)	3/26/98	Soil
26933	TH#3-7' (1993)	3/26/98	Soil
26934	TH#4-7' (1993)	3/26/98	Soil
26935	TH#5-7' (1993)	3/26/98	Soil

Analytical results are listed on the following page(s).

Reviewed By

Lon Jones 4/17

Lon Jones
Organics Group Leader

Date Analyzed: 04-04-98

Parameter:	Benzene	Toluene	Ethyl Benzene	Xylenes	Total Hydrocarbons as GRO	Total Hydrocarbons as DRO	Percent Moisture
Units: MDL:	(mg/kg) 0.050	(mg/kg) 0.050	(mg/kg) 0.050	(mg/kg) 0.150	(mg/kg) 10.0	(mg/kg) 10.0	(%)
26931 TH#1 9.5-11.5'	BDL	BDL	BDL	BDL	BDL*	BDL	14.1
26932 TH#2 2-7'	BDL	0.176	1.65	2.49	226	523	19.3
26933 TH#3 3-7'	BDL	BDL	0.327	0.710	79.3	341	18.6
26934 TH#4 4-7'	< 0.25	BDL	8.82	16.9	1150	3970	18.2
26935 TH#5 5-7'	28.7	15.4	28.9	36.6	2130	286	17.8

BDL = Below Detection Limit, MDL = Method Detection Limit

MIDWEST ANALYTICAL SERVICES

330 SO. CLEVELAND ST.
P.O. BOX 349
CAMBRIDGE, MN 55008

CHAIN OF CUSTODY RECORD
AND
REQUEST FOR ANALYSIS
(Instructions on Back of Form)

№ 24246

LAB (612) 689-2175
METRO (612) 444-9270
FAX (612) 689-3660

CLIENT: LWEC

SAMPLER NAME: Gary Perowitz

PROJECT I.D.: 92-1993-30

SAMPLER SIGNATURE:

REPORTS TO BE SENT TO: LWEC

REMARKS:

SHADED AREAS FOR LABORATORY USE ONLY

NO. OF CONTAINERS	COMP.	GRAB	DATE	TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX: OTHER	SAMPLE IDENTIFICATION: SAMPLE	SAMPLE NO.	LABORATORY I.D. NO.	GRO (Includes BTEX)	DRO	BTEX	VOC (465-D)	pH	Pb (Diss. or Total)	RCRA 8 METALS	BOD or CBOD	TSS	FCOL or TCOL	PRESERVATIVE: HCl	PRESERVATIVE: HNO_3	PRESERVATIVE: H_2SO_4	PRESERVATIVE: OTHER
3		X	3/26/93			X		TH#1 9.5-11.5 (1993)	1		X	X												
3		X				X		TH#2-7' (1993)			X	X												
3		X				X		TH#3-7' (1993)			X	X												
3		X				X		TH#4-7' (1993)			X	X												
3		X				X		TH#5-7' (1993)			X	X												
1								Trip Blank	—		—	4/2/93												

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	3/29/93				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Contents Temperature:	Comments:

CHECK HERE FOR DRINKING WATER DETECTION LIMITS ☐

TURNAROUND TIME REQUIRED:
☐ NORMAL ☐ RUSH

DATE REQUIR