

3-AUG-1990 10:30:12

MPCA Leaksite Remarks Screen

Leak ID: 183

Site N

12/04/86 Release reported, failed tank test
12/18/86 Rec'd preliminary assessment, results from 4 soil borings
05/28/87 Rec'd RI, recomended no further action, MPCA requested one
year of ground water monitoring
09/11/89 Rec'd all results of gw monitoring, requested closure, file
referred to Ginny Y. for hydro review
10/31/89 Sent CAD proposal approval requesting additional work

KCL
10/19/87

183

NOTIFIED 4-30-86

Medicine Lake Service

LEAK

MOBILE (now UNOCAL)

12/4/86 leak reported: Fuel oil tank failed test - tank to be pulled

12/18/86 TCT Prelim Assessment - 4 borings - new

need RI

12/8/86 FAUS → Mobil re: Prelim RI / RI

12/31/86 FAUS → Mobil re: soil disposal, tank inspection

1/14/87 NOTE: oil in hole when tank pulled
Holson will excavate soils (soil to 54th & France site)

1/28/87 30 yd³ excavated under TCT supervision

soil to Louieville landfill (verbal OK from SW)

2/3/87 FAUS → Mobil: add'l RI needed in tanks

10/19/87 STATUS?

3/4/88 letter: Mobil → FAUS Report: No action requested

4/7/88 response from GEA

4/19/88 letter: KCL → Mobil: do 1/4 sampling for 1 yr

5/29/88 phone: Mobil: request response from Hydro re: closure -
to GEA

4/16/88 letter: GEA → Pennington: closure req't.

11/14 letter: TCT → Aho: 1/4 new results

+-----+
| MPCA Leaksite Rem. ks Screen || Leak ID: 10
+-----+

+-----+
|12/04/86 Release reported, failed tank test
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| year of ground water monitoring
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| referred to Ginny Y. for hydro review
|10/31/89 Sent CAD proposal approval requesting additional work
|08/19/91 Rec'd call from Mike Gilgosh, working on status update
|02/27/92 Rec'd copy of request to install MW on neighboring property
|05/09/96 EMH- Site closed 2/10/93. File sent to archives.
+-----+

Rpt Trkng(F11) Restore(F12) Save(F10) Quit(PF3) >

**MINNESOTA POLLUTION CONTROL AGENCY
TANKS AND SPILLS SECTION
PETROLEUM TANK RELEASE REPORT**

Report Taken By: *SGN* Date/Time Occurred: *unknown*
 Date/Time Reported: *May 6, 1992 10:00 am* Date/Time Discovered: *May 6, 1992 12:20 pm*

LEAK# *5166* PROJECT MANAGER: _____ USTIS # _____

CALLER
 Name: *Beth Schoetpke*
 Phone: *(708) 818-7278*
 Relationship to site:
Unoven Co. in Chicago

SITE
 Name: *Unoven Service Station 9280-3006*
 Street: *9405 Medicine Lk Rd*
 City: *Golden Valley* Zip: *55427*
 County: *Hennepin* Region: *.M*

TANK OPERATOR
 Name: *same*
 Street: _____
 City: _____ Zip: _____
 Contact Person: _____
 Phone: _____
 Own tanks/product/property? *yes / yes / yes*
 Share in profits?
 Control over inventory, maintenance
 and tank decisions?

TANK OWNER
 Name: *same*
 Street: _____
 City: _____ St.: _____ Zip: _____
 Contact Person: *Claud Harmon* *site contact for Unoven*
 Phone: *(708) 818 7254*

SITUATION
 Material Released/Amount:
Gasoline

Source of Release:
UST

Release Discovery:
during Tank removal

TANK INFORMATION					
Contents	Size	Age	Removed	Condition	Registered
<i>Gas</i>	<i>8,000</i>	<i>?</i>	_____	_____	_____
<i>Gas</i>	<i>4,000</i>	<i>?</i>	_____	_____	_____
<i>Gas</i>	<i>10,000</i>	<i>?</i>	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

State or Federal Excavation Contractor: _____ Notification prior to removal: _____ Consultant: _____

SOIL
 Contaminated soil excavated: *yes - up to 400 yd³*
 Was it a total excavation: *maybe*
 Vapor readings: *300 ppm around Tank*
 Soil samples: *not yet*
 Borings:
 Native soil type: *sandy loam clay*
 Stockpiled properly/disposal arranged: *hauling to clean soils - no room on site*
 Other: _____

WATER

Groundwater in excavation: NO

Free product present: N @

Depth to groundwater: > 30' from on site monitoring well

City water/wells private/municipal:

Surface water:

VAPORS

Sewers/buildings: NO

SITE INFORMATION

Description of area:

Previous release(s):

INSTRUCTION GIVEN

Hire consultant - OMAE - hired AT&T

Submit report

Staff will call

Contact staff

CONTACTS

Local Fire/Police

Local Officials

Regional Staff

Other

CONCLUSIONS AND OTHER RELATED INFORMATION

Currently Mobil is taking care of remediation on the site which may not be related to this release therefore a second leak # may be assigned to this location.

Original site: Mobil Medicine Lake

Leak # 183

Also they are excavating soil and will stop at 400 yd³ and call in to get OK to excavate more.



MINNESOTA POLLUTION CONTROL AGENCY
 DIVISION OF WATER QUALITY/ENFORCEMENT SECTION
 EMERGENCY RESPONSE TEAM - SPILLS DATA

Incident reported to: *K7*

Date of report <i>12-4-86</i>	Time of report <i>10:45 AM</i>
Date of incident	Time of incident
Type of pollutant <i>Fuel Oil</i>	Quantity <i>UNK</i>
Precise location <i>9405 Medicine Lake Rd Golden Valley Old 18 Cross St.</i>	

Responsible Party (name & address)
Mobile

Telephone number:
Person to contact:

Cause
*Fuel oil tank failed test
550 gal tank
Plan to replace tank*

Areas affected

Surface water

Ground water
 soil type ✓
 water depth
 wells

Sanitary Sewer

Storm Sewer

Person who notified Agency:
Rich Larson

Telephone number:

Others Contacted: name, date, time, tele. no.,
 contacted by

EPA _____

Coast Guard _____

Dept. Transportation _____

Dept. Nat. Resources _____

Dept. Agriculture _____

Dept. Health _____

Local Fire/Police _____

Local Officials _____

MN, Highway Patrol _____

Emergency Services _____

MPCA Regional Office _____

Other _____

Actions taken to contain/clean up & disposal
 (Instructions given to responsible party)

Pump & meter out tank

Testing.

Plan to pull tank - if soil is contaminated, plan to excavate.

Also plan to replace tank.



Minnesota Pollution Control Agency
Solid & Hazardous Waste Division - UST
520 Lafayette Road North
St. Paul, Minnesota 55155

RECEIVED
UNDERGROUND STORAGE TANK
NOTIFICATION FORM

(Read instructions on reverse side)

EPA Use

MPCA Use

mnust
0005414
update

MPCA Hazardous
Waste Division

Transaction Type(s)

A.

- Notification
- Change in Status
- Data Correction

Type of Installation; if federal facility, give GSA#; if industry, give SIC

B.

- Bulk Storage
- Service Station
- Utility
- Industry
- Agricultural
- Residential
- Government
- Other (Specify)

SIC 5541
GSA/SIC

C. Name of Installation

UNOCAL

D. Name of Owner (Corporation, Individual, or Agency)

UNOCAL

Street Address

9406 MEDICINE LAKE RD.

Mailing Address

1650 E. GOLF RD.

City

GOLDEN VALLEY HENNERIN

City

SCHAUMBURG

State

IL

Zip Code

60196

Zip Code

55427

Phone (include area code)

(612) 545-9001

Name of Emergency Contact (if different from owner)

G.F. MASEK

Township

Range

Section

Quarter

Quarter

Quarter

Quarter

Owner Phone (include area code)

(312) 882-7676

Emergency Phone (include area code)

(312) 885-7676

E. Use code numbers listed on reverse side for items marked with *.

1. Action*	2. Tank Number	3. Status*	4. Date Installed, Repaired, or Reconditioned (mm/dd/yy)	5. Date Last Used (mm/dd/yy)	6. Capacity (gallons)	7. Type*	8. Internal Protection*	9. External Protection*	10. Secondary Containment*	11. Piping Type*	12. Dispenser Type*	13. Substance Stored*	(Specify)	14. Quantity Left Stored (gallons)
5	1	3	69	11/11/11	550	2U45227							- failed test!	
5	2	3	82	11/11/11	1000	2U45224							- leaked	
5	3	3	72	11/11/11	4000	2U45211								
5	4	3	69	11/11/11	8000	2U45211								
5	5	3	69	11/11/11	10000	2U45211								

15. Leak Detection*	# Monitoring Pts.	16. Date of Last Tank Test (mm/dd/yy)	Test Method*	17. Past Leak*	18. Remedial Action*	19. Amount Lost (gallons)
1	000000					
1	000000					
1	000000					
1	000000					
1	000000					

F. Comments:
X
FORMERLY OWNED BY
MOBIL OIL CORP per form
submitted by 4-30-86

G. Under penalty of perjury, to the best of my knowledge, I certify that the information provided is true & correct.
Printed Name
Signature: see attached
Date

RECEIVED

MAY 04 1994

MPCA, HAZARDOUS
WASTE DIVISION

SERVICE
Environmental Engineering Corporation

2325 Endicott Street, St. Paul, MN 55114
(612) 644-6680, Fax (612) 644-7008

May 2, 1994

Mr. Chris McLain
Minnesota Pollution Control Agency
Hazardous Waste Division
Tanks and Spills Section
520 Lafayette Road
St. Paul, MN 55155

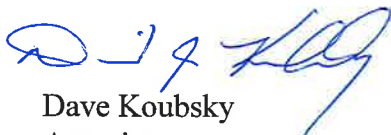
RE: MPCA Closure Letter Dated February 10, 1993
Former Mobil Oil Service Station #05-GOD
9405 Medicine Lake Road Golden Valley, Minnesota
MPCA Leak # 183
Service Project 93059

Mr. McLain:

The date indicated on the enclosed MPCA closure letter of February 10, 1993 appears to be in error. The reporting date should read December 4, 1988 instead of December 4, 1992.

Please notify me if your records do not confirm the error.

Sincerely,



Dave Koubsky
Associate

enclosure

pc: Peter Gates
Mobil Oil Corporation

Mr. C.W. Harmon
UNO-VEN





Minnesota Pollution Control Agency

February 10, 1993

RECEIVED

MAY 04 1994

MPCA, HAZARDOUS
WASTE DIVISION

Mr. C.W. Harmon
UNO-VEN Company
3850 North Wilke Road
Arlington Heights, Illinois 60004

Dear Mr. Harmon:

RE: Petroleum Tank Release Site Closure
Site: Mobil, 9405 Medicine Lake Road, Golden Valley
Site ID#: LEAK00000183

The Minnesota Pollution Control Agency (MPCA) staff has determined that the cleanup performed in response to the petroleum tank release at the site referenced above has adequately addressed the petroleum contamination, and therefore the file regarding this release will be closed.

On December 4, 1992, a petroleum tank release was reported to the MPCA. Since then, the following corrective actions have been taken in response to the release:

1. On December 4, 1986, a 550 gallon fuel oil tank failed a tank tightness test. On December 18, 1986, four soil borings were advanced to a depths of 30 feet below the ground surface (bgs). Three soil samples were collected from each of the borings and analyzed for benzene, ethyl benzene, toluene, xylene (BETX) and total hydrocarbons (THC) as gasoline. Concentrations of 22 parts per million (ppm) benzene, 45 ppm toluene, 115 ppm xylene and 650 ppm THC as gasoline were detected in the samples.
2. In January 1987, the fuel oil tank was removed and approximately 50 cubic yards of soil was removed. Soil from the completed excavation was screened with a photoionization detector (PID). A PID reading of 13 ppm was detected at the bottom of the excavation.
3. On April 20, 1987, five soil borings were advanced between 30 and 56 feet bgs. Three of the borings were completed as monitoring wells. Ground water was measured between 19 and 30 feet bgs and flowing to the southwest. The three wells were sampled quarterly for one year. The samples were analyzed for BETX and THC as gasoline. On January 9, 1989, concentrations of 15 parts per billion (ppb) THC as gasoline and 2 ppb benzene were detected in one of the wells.

Mr. C.W. Harmon
Page 2
February 10, 1993

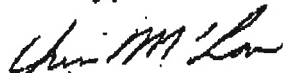
4. On May 8, 1992, five underground tanks were removed along with 791 cubic yards of petroleum contaminated soil. The tanks were of the following size and capacities: 10,000 gallon gasoline; 8,000 gallon gasoline; 4,000 gallon gasoline; 550 gallon used oil and 500 gallon fuel oil. Soil from the excavation was screened with a FID. PID readings ranged from 1 to 688 ppm. Six soil samples were collected from the excavation and analyzed for BETX and THC as fuel oil and gasoline. No ground water was encountered during the excavation. Concentrations of 3.9, 2.4 and 7,400 ppm THC as gasoline, 0.12 and 4 ppm benzene, 0.032 and 8 ppm ethyl benzene, 0.034 and 0.76 ppm toluene, 0.13 and 51 ppm xylene were detected in the samples. The remaining soil contamination could not be removed due to underground utilities and a road easement.
5. The 791 cubic yards of petroleum contaminated soil was thermally treated by CleanSoils on June 4, 1992, with MPCA approval.

Based on the currently available information, we concur with the conclusions of ATEC Associates that these actions have adequately addressed the petroleum tank release. Therefore, MPCA staff does not intend to require any more investigation or cleanup work in response to this release. However, the MPCA reserves the right to reopen this file and require additional work if in the future more work is determined to be necessary, and this letter does not release any party from liability for this contamination.

Because you performed the requested work, the state may reimburse you for a major portion of your costs. The Petroleum Tank Release Cleanup Act establishes a fund which in certain circumstances provides partial reimbursement for petroleum tank release cleanup costs. This fund is administered by the Petro Board. More specific eligibility rules are available from the Petro Board (612/297-1119 or 612/297-4203).

Thank you for your cooperation with the MPCA in responding to this petroleum tank release to protect the public health and the environment of the state of Minnesota. If you have any questions regarding this correspondence, please call me at 612/297-8580.

Sincerely,



Chris McLain
Pollution Control Specialist
Tanks and Spills Section
Hazardous Waste Division

CM:nh

cc: Shirley J. Nelson, City Clerk, Golden Valley
Pete Engbretson, Hennepin County, Minneapolis
Ward Tongen, ATEC Environmental Consultants, St. Paul

QUICK MEMORANDUM FORM

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road
St. Paul, Minnesota 55155
Telephone (612) 296-6300

Date: March 4, 1993

TO: Pete Gates
Mobil Oil Corporation

FROM: Chris McLain *CLM*
Pollution Control Specialist
Tanks and Spills Section
Division of Hazardous Waste
(612) 297-8580

=====

SUBJECT: Site Closure
SITE: Former Mobil, 9405 Medicine Lake Road, Golden Valley
SITE ID#: LEAK00000183

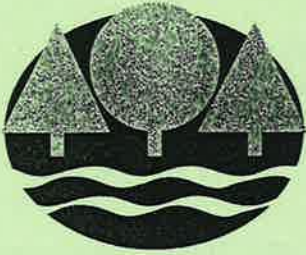
=====

The MPCA typically directs closure letters to the current Responsible Party or Volunteer Responsible Party who has conducted the site investigation at the time of closure. Unfortunately Mobil was not included on the cc distribution list. Enclosed is a copy of the site closure. I am sorry for any inconvenience this may have caused Mobil.

=====

This informal way of responding to you saves us the time and expense of preparing a formal letter. Thank you for your interest, and please contact us if we can help you further or you have questions on this matter.

Regional Offices: Duluth, Brainerd, Detroit Lakes, Marshall, Rochester
Equal Opportunity Employer
copy 1-addressee copy 2-site file



Minnesota Pollution Control Agency

February 10, 1993

Mr. C.W. Harmon
UNO-VEN Company
3850 North Wilke Road
Arlington Heights, Illinois 60004

Dear Mr. Harmon:

RE: Petroleum Tank Release Site Closure
Site: Mobil, 9405 Medicine Lake Road, Golden Valley
Site ID#: LEAK00000183

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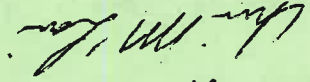
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Based on the currently available information, we concur with the conclusions of AT&C Associates that these actions have adequately addressed the petroleum tank release. Therefore, MPCA staff does not intend to require any more investigation or cleanup work in response to this release. However, the MPCA reserves the right to reopen this file and require additional work if in the future more work is determined to be necessary, and this letter does not release any party from liability for this contamination.

Because you performed the requested work, the state may reimburse you for a major portion of your costs. The Petroleum Tank Release Cleanup Act establishes a fund which in certain circumstances provides partial reimbursement for petroleum tank release cleanup costs. This fund is administered by the Petro Board. More specific eligibility rules are available from the Petro Board (612/297-1119 or 612/297-4203).

Thank you for your cooperation with the MPCA in responding to this petroleum tank release to protect the public health and the environment of the state of Minnesota. If you have any questions regarding this correspondence, please call me at 612/297-8580.

Sincerely,



Chris McLain
Pollution Control Specialist
Tanks and Spills Section
Hazardous Waste Division

CM:nh

cc: Shirley J. Nelson, City Clerk, Golden Valley
Pete Engbreitson, Hennepin County, Minneapolis
Ward Tongen, AT&C Environmental Consultants, St. Paul

The UNO-VEN Company

76 Products

C.W. Harmon, Jr.
Manager, Marketing Environmental

3850 North Wilke Road
Arlington Heights, IL 60004

December 3, 1992

Telephone: (708) 818-7254
Fax: (708) 818-7491

RECEIVED

DEC 07 1992

**MPCA, HAZARDOUS
WASTE DIVISION**

Mr. Chris McLain
Tanks and Spills Section
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155

**RE: UNO-VEN Station #9280-306
9405 Medicine Lake Road
Golden Valley, MN 55427
Site ID#: LEAK00000183**

Dear Mr. McLain:

Enclosed please find the following report prepared by ATEC Environmental Consultants (ATEC), entitled "Tank Removal/Excavation Report", dated September 9, 1992. Upon your review of this report, you will note that five underground storage tanks (three gasoline, one heating oil, and one used oil) were removed/replaced from the above referenced site. Upon removal of these tanks some petroleum contaminated soil was encountered in two (gasoline and heating oil) of the three tank basins. From the heating oil basin, all contaminated soil was removed; totaling approximately 2 cubic yards. From the gasoline basin, the majority of contaminated soil was removed which resulted in the removal of approximately 791 cubic yards. Not all impacted soil could be removed from the gasoline basin, due to the presence of either 1) subsurface utilities or 2) adjacent road easements. Based on an estimate made by our environmental contractor, ATEC, approximately 50 cubic yards of petroleum contaminated soil remains in the vicinity of the former gasoline basin.

During excavation activities, no evidence of groundwater was encountered. However, during a previous subsurface assessment, conducted in 1986, evidence of perched groundwater was found at three locations throughout this site. Monitor wells were installed at these locations, and the depth to water ranged from 19 to 30 feet. Based on information contained in MPCA files, it was learned that no evidence of groundwater contamination was found in samples collected from these wells. In addition, groundwater samples were collected for physical observation and again, no evidence of petroleum contamination was found. Physical observation included: visual, olfactory, and PID methods of analysis.

Based on the information enclosed and presented above, UNO-VEN believes no further action is necessary at this site, and therefore respectfully requests site closure. If you should have questions pertaining to our request, please feel free to contact either Beth J. Schoepke or myself at (708) 818-7278. Otherwise, we look forward to your favorable response.

Sincerely,



C.W. Harmon, Jr.

CWH/BJS:gbh

Enclosure

cc: Pete Gates (Mobil) (w/enc)
Rick Horn (w/o enc)
George Knox (w/o enc)
Scott Tracy (Twin City Testing) (w/enc)

June 24, 1992

Mr. Ward Tongen
ATEC Associates
1479 Energy Park Drive
St. Paul, MN 55108

Dear Mr. Tongen:

RE: Final Report on Soil Treatment and Notification of Post-Burn Sampling Results

Site: Medicine Lake 76, Station 9280-306
MPCA Leak ID#: 183
CleanSoils Project #: MN0359

CleanSoils has successfully completed the thermal treatment of petroleum contaminated soil from the above referenced site. The treated soil meets all MPCA requirements. Attached please find a copy of independent post-burn soil analyses for BTEX and TPH. Below is other information regarding the soil treated.

Quantity of Soil: 1,107.81 tons
Completion Date: June 4, 1992
Post-Burn Samples: MN0359-1
Final Disposition of Soil: Qualified Fill Project

If you should have any questions regarding this project, please contact me at (612) 639-8811.

Sincerely,



Bruce Rivers
Account Executive

attachments

pc: File
Bob Dullinger, MPCA



SERCO Laboratories

1931 West County Road C2. St. Paul, Minnesota 55113 Phone (612) 636-7173 FAX (612) 636-7178

LABORATORY ANALYSIS REPORT NO: 21908
06/19/92

PAGE 1

CleanSoils, Inc.
84 2nd Ave. S.E.
New Brighton, MN 55112

DATE COLLECTED: 06/01/92; 06/12/92
DATE RECEIVED: 06/15/92
COLLECTED BY : CLIENT
DELIVERED BY : CLIENT
SAMPLE TYPE : SOIL

Attn: David Kress

SERCO SAMPLE NO:

50952

SAMPLE DESCRIPTION:

MN0359-1

ANALYSIS:

Benzene, mg/kg
Ethylbenzene, mg/kg
Toluene, mg/kg
Xylene, mg/kg
FID Scan, mg/kg, as #2 fuel oil
FID Scan, mg/kg, as gasoline

0.11
<0.005
0.040
0.017
-
<0.50

SERCO SAMPLE NO:

SAMPLE DESCRIPTION:

ANALYSIS:

Benzene, mg/kg
Ethylbenzene, mg/kg
Toluene, mg/kg
Xylene, mg/kg
FID Scan, mg/kg, as #2 fuel oil
FID Scan, mg/kg, as gasoline

< means "not detected at this level". 1 mg = 1000 ug.



Member

MINNESOTA POLLUTION CONTROL AGENCY
APPLICATION TO TREAT PETROLEUM CONTAMINATED SOIL
May 1991

I. Minnesota Pollution Control Agency Site ID Number: LEAK# 183

II: MPCA Project Manager: Chris McLain

III: Source of Soil:

Facility Name: Medicine Lake 76 (Station #9280-306)
Street Address: 9405 Medicine Lake Rd.
City, State, Zip: Golden Valley, MN 55427
Contact Name: Ms. Beth Schoepke, UO-VEN
Telephone: (709) 818-7278

IV: Contamination Details:

Weight of Soil (Tons): 1083

Type Petroleum Contamination: Gasoline, diesel fuel,
No. 2 F.O., waste oil*

Contamination Concentration (parts per million)

	Stockpile Center	Stockpile East	Stockpile West		
Benzene	14	3.8	7.6	_____	_____
Toluene	21	0.43	16	_____	_____
Ethyl Benzene	14	6.35	7.2	_____	_____
Xylene	91	7.6	1,100	_____	_____
Total Lead	413	413	413	_____	_____
TPH as F.O. or Gas	7400	1200	10,000	_____	_____

Soil Type (sand, silt, clay, etc.) Sand

*Note: If the petroleum contamination is waste oil, chromium, cadmium, and PCB analyses will also be necessary.)

V. Thermal Treatment Unit:

Name: CleanSoils Inc.
Address: 398 East Richmond Street
South St. Paul, MN 55075

Plant Number or Model: CleanSoils Thermal Desorber™

Contact Name: David Kress Title: Project Manager
Office Number: (612) 639-8811 Site Number: (612) 552-0815
Air Quality Permit Number: 2307B-90-OT-1

5-6-92
Date

David H. Kress
Signature of Authorized Thermal
Treatment Unit Representative

Application to Treat Petroleum Contaminated Soil
Page 2
May 1991

VI: Date treatment will be completed: 7-6-92
(60 DAYS FROM ACCEPTANCE)

VII: Final Disposition of Treated Soil: Qualified Clean fill project.

VIII: Individual Submitting Request:

Company Name: ATEC Associates
Address: 1479 Energy Park Dr.
City, State, Zip: St. Paul, MN, 55108
Contact Name: Ward Tongen
Telephone: 645-9520
Signature: Ward Tongen
Date: 5/13/92

Mail to: Project Manager
Minnesota Pollution Control Agency
Hazardous Waste Division
Tanks and Spills Section
520 Lafayette Road
St. Paul, MN 55155
Fax No.: (612) 642-0456

TPH

TOTAL PETROLEUM HYDROCARBONS ANALYTICAL RESULTS

Client: ATEC-St. Paul

Sample Matrix: *soil*
 Sample Taken By: *D.D.*
 Date Sampled: *5-12-92*
 Date Received: *5-13-92*
 Date Analyzed: *5-13-92*
 Analyst: *J.H.*
 ATEC Lab Number: *920276-1/3*
 ATEC Project Number: *52-08-91-18039*

<u>SAMPLE I.D. NO.</u>	<u>LAB I.D. NO.</u>	<u>TOTAL HYDROCARBON, PPM</u>	<u>QUANTITATION LIMIT, PPM</u>
STOCK E	920276-1	220 1,200 *	20 100
STOCK W	920276-2	220 10,000 *	20 2,000
STOCK CENTER	920276-3	220 7,400 *	20 2,000
	<i>method Blank</i>	<2.0	2.0
		<2.0	2.0

* sample most closely resembles Unleaded Gasoline

Analytical Method: SW 846 Method 8015 Revised

Respectfully submitted,
ATEC Associates, Inc.

Environmental/Analytical
Testing Division

*Preliminary report
Final copy to follow*

MAY-14-92 THU 9:39

HIGHLAND OFFICE

FAX NO. 3758649

P. 04

BTEX SOIL

**PURGEABLE AROMATICS - BTEX
ANALYTICAL RESULTS**

Client: *ATEC - St. Paul*

Sample Identification: *Stock E*
Sample Matrix: *soil*
Sample Taken By: *D.D.*
Date Sampled: *5-12-92*
Date Received: *5-13-92*
Date Analyzed: *5-13-92*
ATEC Lab Number: *920276-1*
ATEC Project Number: *52-08-91-18039*

ANALYTE	CAS NUMBER	CONCENTRATION (ug/kg)	QUANTITATION LIMIT (ug/kg)
Benzene	71-43-2	3,800	250
Toluene	108-88-3	430	↓
Ethylbenzene	100-41-4	350	↓
Total Xylenes	1330-20-7	7,600	↓

* Analyte detected but amount present is less than the Quantitation Limit.

Analytical Method: SW 846 Method 8020

Respectfully submitted,
ATEC Associates, Inc.

Environmental/Analytical
Testing Division

*Preliminary report
Final copy to follow*

BTEX SOIL

**PURGEABLE AROMATICS - BTEX
ANALYTICAL RESULTS**

Client: *same*

Sample Identification: *Stock W*
Sample Matrix: *same*
Sample Taken By:
Date Sampled:
Date Received:
Date Analyzed:
ATEC Lab Number: *920276-2*
ATEC Project Number: *same*

ANALYTE	CAS NUMBER	CONCENTRATION (ug/kg)	QUANTITATION LIMIT (ug/kg)
Benzene	71-43-2	7,600	5,000
Toluene	108-88-3	16,000	↓
Ethylbenzene	100-41-4	7,200	↓
Total Xylenes	1530-20-7	1,100,000	↓

* Analyte detected but amount present is less than the Quantitation Limit.

Analytical Method: SW 846 Method 8020

Respectfully submitted,
ATEC Associates, Inc.

Environmental Analytical
Testing Division

*Preliminary report
Final copy to follow*

MAY-14-92 THU 9:40

A - HIGHLAND OFFICE

FAX NO. 3758649

P. 06

BTEX SOIL

**PURGEABLE AROMATICS - BTEX
ANALYTICAL RESULTS**

Client: *same*

Sample Identification: *Stock Center*
Sample Matrix: *same*
Sample Taken By:
Date Sampled:
Date Received:
Date Analyzed:
ATEC Lab Number: *920276-3*
ATEC Project Number: *same*

ANALYTE	CAS NUMBER	CONCENTRATION (ug/kg)	QUANTITATION LIMIT (ug/kg)
Benzene	71-43-2	<i>≈ 14,000</i>	<i>≈ 5,000</i>
Toluene	108-88-3	<i>≈ 21,000</i>	<i>≈</i>
Ethylbenzene	100-41-4	<i>≈ 14,000</i>	<i>≈</i>
Total Xylenes	1330-20-7	<i>≈ 91,000</i>	<i>≈</i>

* Analyte detected but amount present is less than the Quantitation Limit.

Analytical Method: SW 846 Method 8020

Respectfully submitted,
ATEC Associates, Inc.

Environmental/Analytical
Testing Division

*Preliminary report
Final copy to follow*

MAY-14-92 THU 9:40

- HIGHLAND OFFICE

FAX NO. 33758649

P. 07

BTEX SOIL**PURGEABLE AROMATICS - BTEX
ANALYTICAL RESULTS**Client: *same*

Sample Identification: *method blank*
 Sample Matrix: *same*
 Sample Taken By: }
 Date Sampled: } *Delite*
 Date Received: }
 Date Analyzed: *same*
 ATEC Lab Number: *method blank*
 ATEC Project Number: *same*

ANALYTE	CAS NUMBER	CONCENTRATION (ug/kg)	QUANTITATION LIMIT (ug/kg)
Benzene	71-43-2	<5	5
Toluene	108-88-3	<5	5
Ethylbenzene	100-41-4	<5	5
Total Xylenes	1330-20-7	<5	5

* Analyte detected but amount present is less than the Quantitation Limit.

Analytical Method: SW 846 Method 8020

Respectfully submitted,
ATEC Associates, Inc.Environmental/Analytical
Testing Division*Preliminary report
Final copy to follow*



CLM

Minnesota Pollution Control Agency

Celebrating our 25th anniversary and the 20th anniversary of the Clean Water Act

June 25, 1992

Mr. Peter Gates
Mobil Medicine Lake Service
9405 Medicine Lake Road
Golden Valley, Minnesota 55427

Dear Mr. Gates:

RE: Contaminated Soil Corrective Action Plan Approval
Site: Mobil Medicine Lake Service, Golden Valley
Site ID#: LEAK00000183


The Minnesota Pollution Control Agency (MPCA) has received the monthly log from the thermal treatment facility that has accepted the petroleum contaminated soil from the above-referenced site. This submittal, along with the "Application to Treat Petroleum Contaminated Soil," if signed by the responsible person and the authorized thermal treatment unit representative, constitutes an acceptable form of a soil corrective action plan and is hereby approved by the MPCA staff.

This approval qualifies you under Minn. Stat. 115c.09, subd. 2(a)(1) (Supp. 1991) to be eligible for Petrofund reimbursement of eligible cleanup costs incurred up to the date of this letter. Applications for reimbursement must be made directly to the Petrofund. The Petro Board makes the final decision on reimbursement. Reimbursement decisions are based on factors such as the adequacy of cleanup, reasonableness of cost, compliance with notification laws and cooperativeness with the MPCA.

Please note that this approval applies only to the process of thermal treatment of the petroleum contaminated soil and does not constitute MPCA staff's approval of the volume of contaminated soil excavated at the above-referenced site.

If you have any questions, please contact me.

Sincerely,


Bob Dullinger, Supervisor
Tanks and Spills Section
Hazardous Waste Division

BD: EP

*Thermal Treatment Pending
(awaiting post-burn analysis)*



Minnesota Pollution Control Agency

520 Lafayette Road, Saint Paul, Minnesota 55155

Telephone (612) 296-6300



October 31, 1989

Mr. Peter Gates
Environmental Advisor
Mobil Oil Corporation
3225 Gallows Road
Fairfax, Virginia 22037-0001

Mr. Chris Lawson
Mobil Oil Corporation
1515 Woodfield Road
Suite 400
Schaumburg, Illinois 60172

Gentlemen:

RE: Petroleum Tank Release Corrective Action Design
Site: Golden Valley Mobil Oil No. 05-GOD
9405 Medicine Lake Road
Golden Valley, Minnesota 55427
Site ID#: LEAK00000183

The Minnesota Pollution Control Agency (MPCA) staff has reviewed your site file and proposed Corrective Action Design (CAD) outlining the plan of response to the petroleum tank release(s) at the above-referenced site.

The MPCA staff hereby approves your Corrective Action Design with a request to have the following comments and modifications addressed in writing:

1. Soil samples from borings SB-1 and SB-4 were analyzed and found to contain gasoline contamination at 9.5 to 19.5 feet below grade. This suggests that the gasoline tanks on site, regardless of the tank testing results, are leaking. It is unclear to us who has ownership and/or responsibility for these tanks, however, this situation should be addressed.
2. The monitoring wells should remain in place until any underground tanks are removed/replaced in the event that the excavation of those tanks indicates further monitoring is necessary.
3. During the tank excavation, the soils should be monitored with a photoionizing device such as an HNu, TIP or OVA. Soils registering over 10 parts per million should be segregated and stored on-site on top of and covered by plastic. If it appears that more than 400 cubic yards of soil will have to be removed to accomplish total excavation of the contaminated soil, the MPCA should be consulted. When the excavation is complete, at least one sample per tank should be taken below each tank and analyzed for total hydrocarbons as gasoline and benzene, ethyl benzene, toluene, xylenes to verify the completeness of the excavation. Please note the three fact sheets enclosed regarding sampling and excavation.
4. If possible, please develop a soil disposal plan prior to the start of the excavation. In addition, please describe where and how the 50 yards of contaminated soil from the fuel oil/diesel fuel (?) tank excavation were disposed of.

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Mr. Peter Gates
Mr. Chris Lawson
Page 2
October 31, 1989

5. If the samples from the bottom of the excavation indicate that all of the contamination has been removed, the monitoring wells on site should be properly abandoned according to Minnesota Department of Health rules. If the sample(s) from the bottom of the excavation contain petroleum hydrocarbons, the MPCA should be consulted.

We expect, based on the available information, that completion of the approved corrective action will support a determination by the MPCA Commissioner that the release has been adequately addressed pursuant to Minn. Stat. § 115C.09, subd. 2(b)(1) (1988). We therefore do not expect any additional cleanup enforcement action by the MPCA will be necessary. However, if subsequently obtained information indicates that the approved corrective actions are inappropriate or inadequate, the MPCA may require additional work or modifications in the approved work.

In approving the plan, the MPCA does not assume any liability for the design or implementation of this remedy. You remain solely responsible for ensuring that this plan results in a successful cleanup and that its implementation does not result in any harm to public health or the environment. Moreover, the MPCA does not guarantee reimbursement of your costs from the Petroleum Tank Release Compensation Board (Petro Board). Application for reimbursement must be made to the Petro Board. However, that decision is based on factors such as the adequacy of cleanup, compliance with notification laws and cooperativeness with the MPCA.

If you have any questions, please contact me at 612/296-3551.

Sincerely,

Linda J. Tanner

Linda J. Tanner
Pollution Control Specialist Senior
Tanks and Spills Section
Hazardous Waste Division

LJT/jr

Enclosures

cc: Joel Garretson, Unocal Refining and Marketing (W/Enclosures)
Damon Powers, Twin City Testing Corporation (W/Enclosures)

MOBIL OIL - ~~105~~ 05 - GOD

⁹⁴⁰⁵
~~County Rd 18~~ + Medicine Lake Rd
Golden Valley

TCT (#4231-88-501)

LFT

Unocal 76

12-4-86 - fuel oil tank failed test (550 gal.)
MPCA notified ↖ MUST form says waste oil

12-18-86 - Preliminary Contamination Assessment

4 SBs - 30' bgl GW not encountered

Soils

3-12' → silty sand, sandy clay + clay fill
~ 19-21' → clay, silty sand + sandy clay till w/
a little gravel.

Cont.

Soil → SB-1 (9.5-11') → slight odor THgas = 39 ppb
SB-4 (19.5-21) → mod. odor THgas = 650,000 ppb

SB-2 + SB-3 → ND

(soils analyzed for BTEX + TH)

H. TANK INSTALLER		I. FINANCIAL RESPONSIBILITY (If applicable)	
Tank Installer		Financial responsibility requirements have been complied with for this tank (Please specify). Method:	
Mailing Address			
City	State	Insurer	
Zip	Phone (Include Area Code)	Policy Number	
I certify under penalty of law that all work listed on the manufacturer's installation checklist and American Petroleum Institute Bulletin 1615 has been completed for this tank to the best of my belief and knowledge.		I certify under penalty of law that I have personally examined & am familiar with the information submitted in this & all attached documents, & that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.	
Installer Printed Name		Name & Official Title of owner or owner's authorized representative	
Installer Signature - Date		Owners/Representatives Signature Date	

DIRECTIONS TO COMPLETE NOTIFICATION FORM
NOTE: THIS FORM MAY BE COPIED

Proper completion and submission of this notification form fulfill the requirements of both state and federal law (Minn. Stat. Sec. 116.48 and 42 USC Sec. 6991a) concerning underground storage tank notifications. All notifications must be typed or printed legibly with a ballpoint pen. Use one form for each tank being reported. Complete all items. Completed forms are to be mailed to MPCA at the address on the front of this form.

- A. Check the box or boxes which most closely describe the action being reported.
- B. Give the name, complete address and phone number of the site where the tank is located.
- C. Give the name, complete address and phone number of the tank owner (individual, corporation, agency or other organization).
- D. Assign a number (up to 3 characters) for each tank reported.
- E. Provide the following information about the tank:
 1. date installed (mm/dd/yy)
 2. capacity of the tank in gallons
 3. material of tank construction (FRP, steel, STIP-3, etc.)
 4. circle the correct choice indicating if the tank has internal and/or external corrosion protection
 5. material of piping construction (black iron, galvanized, etc.); circle the correct choice indicating if the piping has corrosion protection
 6. type of system or pump used to dispense product (submersible, suction, etc.)
 7. substance currently or most recently stored in the tank (gasoline, diesel, kerosene, etc.)
 8. type of secondary containment, if any (vault, double wall, liner, etc.)
- F. Check the box or boxes describing the type of leak detection systems in use.
- G. Type or neatly print any comments pertaining to A. through F.
- H. To be completed by the tank installer for all tanks installed after December 22, 1988
- I. Certain tank owners or operators must meet financial responsibility requirements for the tank. Consult 40 CFR Part 280, Subpart H for specific requirements.

	<u>B-1</u> (9.5-11)	<u>B-4</u> (9.5-11)	<u>D-4</u> (19.5-21)	
B	ND	ND	22,000	
T	1	4	45,000	(ppb)
X	8	20	115,000	
THgas	39	23	650,000	

5-28-87 - Remedial Site Assessment

^{14-14/20-87} 5 more SBs to 33-56.5', ^{4-20/21-87} 3 as MWs ^{33-37.75'} n

4-12' silty sand, sand + clayey sand fill
 25-30.5' clayey + silty sand till (a little gravel)
 at least 2.5-14' f-m sand w/ gravel.

GW → 19-30' bgl, but not in B-5 (56.5')
 and B-10 (46'). Flow to SW, to Medicine Lake.

GW sampled 4-30-87 → BTV + THgas → ND
 except all samples had an unidentified
 peak at 12 min "non-typical of gasoline".

Concl.

1. GW not cont. above MDL
2. Cont. appears to be restricted to the soil profile, migration inhibited by clays

Rec → No further action

H. TANK INSTALLER		I. FINANCIAL RESPONSIBILITY (If applicable)	
Tank Installer		Financial responsibility requirements have been complied with for this tank (Please specify). Method:	
Mailing Address			
City	State	Insurer	
Zip	Phone (Include Area Code)	Policy Number	
I certify under penalty of law that all work listed on the manufacturer's installation checklist and American Petroleum Institute Bulletin 1615 has been completed for this tank to the best of my belief and knowledge.		I certify under penalty of law that I have personally examined & am familiar with the information submitted in this & all attached documents, & that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.	
Installer Printed Name		Name & Official Title of owner or owner's authorized representative	
Installer Signature - Date		Owners/Representatives Signature Date	

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- E. Provide the following information about the tank:
 1. date installed (mm/dd/yy)
 2. capacity of the tank in gallons
 3. material of tank construction (FRP, steel, STIP-3, etc.)
 4. circle the correct choice indicating if the tank has internal and/or external corrosion protection
 5. material of piping construction (black iron, galvanized, etc.); circle the correct choice indicating if the piping has corrosion protection
 6. type of system or pump used to dispense product (submersible, suction, etc.)
 7. substance currently or most recently stored in the tank (gasoline, diesel, kerosene, etc.)
 8. type of secondary containment, if any (vault, double wall, liner, etc.)
- F. Check the box or boxes describing the type of leak detection systems in use.
- G. Type or neatly print any comments pertaining to A. through F.
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4-19-88 → MPCA requests 1/4 monitoring for 1 yr.

9-2-89 → Quarterly Monitoring Report

— No diesel tank registered — fuel oil?

Jan 1987 → 1000 gal diesel UST removed +

50 yd³ cont. soil excavated (DISPOSAL?)

OVA → 98-108 ppm, excavated to visual/olfactory clean

GW → seasonal fluctuations observed: MW-7 (1.58'),

MW-8 (0.55'), MW-9 (4.38'). flows to SW

C'mon guys! The wells aren't screened in same
wtr. bearing units → MW-7: gw = 71.42' elev,
MW-8: gw = 55.70', MW-9: gw = 81.20' (10-5-88)
Can't get flow direction from this!

SCREENS

	<u>depth</u>	<u>elev.</u>	<u>unit</u>
MW-7	23-33' bgl	73.41-63.41	clayey sand w/ grvl + silty sand w/ grvl
MW-8	27.8-37.8' bgl	61.47-51.47	silty sand, sand w/ silt + grvl, lean clay w/ sand
MW-9	28.5 26-36' bgl	75.77-65.77	clayey sand, sandy clay + silty sand

No free product encountered

MW-7 (1-9-89) → 15 ppb TH gas, 2 ppb B

all others ND → From cont. wtr. level probe?

H. TANK INSTALLER		I. FINANCIAL RESPONSIBILITY (If applicable)	
Tank Installer		Financial responsibility requirements have been complied with for this tank (Please specify). Method:	
Mailing Address			
City	State	Insurer	
Zip	Phone (Include Area Code)	Policy Number	
I certify under penalty of law that all work listed on the manufacturer's installation checklist and American Petroleum Institute Bulletin 1615 has been completed for this tank to the best of my belief and knowledge.		I certify under penalty of law that I have personally examined & am familiar with the information submitted in this & all attached documents, & that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.	
Installer Printed Name		Name & Official Title of owner or owner's authorized representative	
Installer Signature - Date		Owners/Representatives Signature Date	

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 5. material of piping construction (black iron, galvanized, etc.); circle the correct choice indicating if the piping has corrosion protection
 6. type of system or pump used to dispense product (submersible, suction, etc.)
 7. substance currently or most recently stored in the tank (gasoline, diesel, kerosene, etc.)
 8. type of secondary containment, if any (vault, double wall, liner, etc.)
- F. Check the box or boxes describing the type of leak detection systems in use.
- G. Type or neatly print any comments pertaining to A. through F.
- H. To be completed by the tank installer for all tanks installed after December 22, 1988
- I. Certain tank owners or operators must meet financial responsibility requirements for the tank. Consult 40 CFR Part 280, Subpart H for specific requirements.

Concl.

1. No impact to gw
2. Expect HCs in soil will degrade by bio. + other processes.

Rec.

1. No further action

Comments

1. Well survey? ← Mpls. water system
2. Clarify tanks
a. location on map - esp. where is waste oil tank + why wasn't it pulled?
b. which were pulled - only diesel
c. which failed test → 550 waste oil or 1000 gal diesel/fuel oil
← Damon will check
3. Were any borings done close to waste tank?
If not, do it
4. I have doubts about the flow direction, but assuming it is as drawn, none of the wells are down gradient of the tanks - especially not the tank pulled.
5. given the cont. encountered in B-4, why weren't the other tanks pulled? Any plans to do so? 2 of them need to be upgraded by Dec. 1990 anyhow.

H. TANK INSTALLER		I. FINANCIAL RESPONSIBILITY (If applicable)	
Tank Installer		Financial responsibility requirements have been complied with for this tank (Please specify). Method:	
Mailing Address		Insurer	
City State		Policy Number	
Zip	Phone (Include Area Code)	I certify under penalty of law that I have personally examined & am familiar with the information submitted in this & all attached documents, & that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.	
I certify under penalty of law that all work listed on the manufacturer's installation checklist and American Petroleum Institute Bulletin 1615 has been completed for this tank to the best of my belief and knowledge.		Name & Official Title of owner or owner's authorized representative	
Installer Printed Name		Owners/Representatives Signature Date	
Installer Signature - Date			

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 7. substance currently or most recently stored in the tank (gasoline, diesel, kerosene, etc.)
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- H. To be completed by the tank installer for all tanks installed after December 22, 1988
- I. Certain tank owners or operators must meet financial responsibility requirements for the tank. Consult 40 CFR Part 280, Subpart H for specific requirements.

SITE: Mobil Oil No. 05-GOD / Unocal 76
LOCATION: 9405 Medicine Lake Road, Golden Valley
LEAK NO.: 00000183

REPORT TITLE: Quarterly Monitoring Report
REPORT DATE: August 2, 1989
REVIEW DATE: October 9, 1989
CONSULTANT: Twin City Testing (4231 88-521)

PCS: Linda Tanner
HYDROLOGIST: Ginny Yingling

VL4

BACKGROUND:

On December 4, 1986, the MPCA was notified that a fuel oil tank at the site had failed a tightness test. Four soil borings were advanced to 30 ft. below grade at the site and encountered 3 to 12 ft. of silty sand, sandy clay and clay fill overlying at least 19 to 21 ft. of clay, silty sand and sandy clay till. Soils retrieved from the borings at 9.5 to 11 ft., 19.5 to 21 ft., and 29.5 to 31 ft., were analyzed for benzene, toluene and xylenes (BTX) and total hydrocarbons as gasoline (THgas). The soils from SB-1 (9.5 - 11 ft) and SB-4 (19.5-21 ft.), adjacent to the tank basin had slight to moderate petroleum odors and were found to contain 39 and 650,000 parts per billion (ppb) THgas, respectively. The soils from boring SB-4 also contained 22,000 ppb benzene, 45,000 ppb toluene and 115,000 ppb xylenes.

In January, 1987, the diesel tank (spill report said fuel oil) was removed and approximately 50 cubic yards of contaminated backfill soils (OVA = 98 - 108 ppm) were excavated. The base of the completed excavation was screened with the OVA which detected only up to 13 ppm organic vapors and the soils appeared clean.

Between April 14 and 20, 1987, five more soil borings were installed and three were completed as monitoring wells. These borings encountered 4 to 12 ft. of silty sand, sand and clayey sand fill overlying 25 to 30.5 ft. of clayey and silty sand till in turn underlain by at least 2.5 to 14 ft. of fine to medium grained sand with a little gravel. Groundwater was encountered at varying elevations, between 19 and 30 ft. below grade, but not encountered in boring B-5 at 56.5 ft. or B-10 at 46 ft. According to the groundwater levels in the wells, the flow direction is to the southwest toward Medicine Lake. Groundwater samples collected April 30, 1987, were analyzed for BTX and THgas which were all non-detect, except that each sample had an unidentified peak that was "non-typical of gasoline".

The wells were sampled quarterly for one year and THgas was detected only once (January 9, 1989) in well MW-7 at 15 ppb. All other samples did not contain THgas or BTEX above the method detection limits. TCT theorized that the contamination detected

in MW-7 may have been introduced by a contaminated water level probe.

Discussion with Damon Powers of TCT on October 10, 1989, indicates that all of the houses downgradient of the site are on municipal water and do not represent potential receptors. Medicine Lake, which is located at least 2000 ft. west of the site is also not at risk because the contaminants appear to be attenuated by the soils at the site.

CONSULTANT CONCLUSIONS:

1. No free or dissolved petroleum hydrocarbons have been detected in the groundwater, with the exception of a questionable positive result in MW-7.
2. The petroleum hydrocarbons in the soils can be expected to degrade through natural processes.

CONSULTANT RECOMMENDATIONS:

No further actions should be taken at this site

MPCA COMMENTS:

The MPCA staff have reviewed the site file and request that the following comments be addressed:

1. Soil samples from borings SB-1 and SB-4 were analyzed and found to contain gasoline contamination at 9.5 to 19.5 ft. below grade. This suggests that the gasoline tanks on site, regardless of the tank testing results, are leaking. It is unclear to us who has ownership and/or responsibility for these tanks, ~~but we request that the tanks be removed and/or replaced to eliminate this continuing source of contamination at the site.~~
2. The monitoring wells should remain in place until the gasoline tanks are removed/replaced in the event that the excavation of those tanks indicates further monitoring is necessary.
3. During the tank excavation, the soils should be monitored with a photoionizing device such as an hNu, TIP or OVA.

This situation
1994-10-11 should
be addressed.

Soils registering over 10 ppm should be segregated and stored on site on top of and covered by plastic. If it appears that more than 400 cubic yards of soil will have to be removed to accomplish total excavation of the contaminated soil, the MPCA should be consulted. When the excavation is complete, at least one sample per tank should be taken below each tank and analyzed for total hydrocarbons as gasoline and BETX to verify the completeness of the excavation.

4. If possible, please develop a soil disposal plan prior to the start of the excavation.
5. Please describe where and how the 50 yards of contaminated soil from the fuel oil/diesel fuel (?) tank excavation were disposed of.
6. If the samples from the bottom of the excavation indicate that all of the contamination has been removed, the monitoring wells on site should be properly abandoned according to Minnesota Department of Health rules. If the sample from the bottom of the excavation contain petroleum hydrocarbons, the MPCA should be consulted.

May 11, 1989



662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

Minnesota Pollution Control Agency
529 Lafayette Road
St Paul, Minnesota

Attn: Ms Linda Tanner

Subj: Telephone Confirmation Letter
Mobil Station #05-GOD
Leak #00000183
Golden Valley, Minnesota
#4231 88-521

RECEIVED

MAY 18 89

MPCA, Hazard
Waste Division

Dear Ms Tanner:

This letter will confirm our telephone conversation of May 10, 1989 concerning the above referenced site.

Enclosed are the second and third quarterly monitoring reports for this site. TCT apologizes for any inconvenience caused by this oversight.

Note also for your reference that the project responsibilities for this site have been transferred to Mobil Oil Corporation's Schaumburg, Illinois office attention:

Mr Chris Lawson
Mobil Oil Corporation
1515 Woodfield Road, Suite 400
Schaumburg, IL 60172

The fourth quarter sampling event has tentatively been scheduled for July, 1989. Upon completion of the chemical analyses, TCT will submit a report presenting the project results with recommendations regarding future site activity, if necessary.

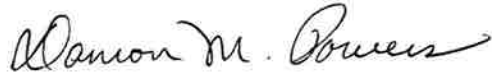
9 LJT

MPCA
May 11, 1989
Page 2

If you have any questions concerning the enclosed reports or if I can be of additional assistance, please feel free to contact me at (612) 649-5578.

Very truly yours

TWIN CITY TESTING CORPORATION

A handwritten signature in cursive script that reads "Damon M. Powers".

Damon M. Powers
Geological Engineer/Project Manager

DMP/jk

Encs



TWIN CITY TESTING
CORPORATION

January 20, 1989

662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

Mobil Oil Corporation
1515 Woodfield Rd
Suite 400
Schaumburg, IL 60172

RECEIVED

MAY 18 1989

MPCA, Hazardous
Waste Division

Attn: Mr Chris Lawson

Mr Lawson

Subj: Second Quarter Monitoring Results
Mobil Station #05-G0D
County Highway 18 and Medicine Lake Road
Golden Valley, Minnesota
#4231 88-521

The purpose of this letter is to present the results of the chemical analysis performed on ground water samples collected at the above referenced site. This work was verbally authorized by Mobil Oil Corporation on September 26, 1988, in response to the Minnesota Pollution Control Agency (MPCA) directive dated September 16, 1988.

Twin City Testing Corporation (TCT) collected ground water samples from three monitoring wells at the site on January 9-10, 1989. These samples were forwarded to TCT's Chemistry laboratory for analysis to quantify benzene, ethyl benzene, toluene, xylenes and total hydrocarbons as gasoline concentrations. A summary of the chemical analysis is presented in Table 1.

If you have any questions concerning the above chemistry results, please feel free to contact me at (612) 649-5578.

Very truly yours

Twin City Testing Corporation

Damon M Powers
Geological Engineer

DMP/dm

Encs

TABLE 1

VOLATILE ANALYSIS
 MOBIL STATION #05 GOD
 GOLDEN VALLEY, MINNESOTA
 #4231 88-521

<u>Location</u>	<u>Total Hydrocarbons as Gasoline</u>	<u>Benzene</u>	<u>Ethyl benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>MDL</u>
MW-1 e	ND	ND	ND	ND	ND	1
MW-2 7	15	2	ND	ND	ND	1
MW-3 9	ND	ND	ND	ND	ND	1

All values expressed as µg/L which is equivalent to parts per billion (ppb).
as per conversations w/ Damon Powers TCT 6-29-89 LJT

ND - Not Detected

MDL - Method Detection Limit



**twin city testing
corporation**

662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

April 20, 1989

Mobil Oil Corporation
1515 Woodfield Rd
Suite 400
Schaumburg, IL 60172

Attn: Mr Chris Lawson

Mr Lawson

Subj: Third Quarter Monitoring Results
Mobil Station #05-GOD
County Highway 18 and Medicine Lake Road
Golden Valley, Minnesota
#4231 88-521

The purpose of this letter is to present the results of the chemical analysis performed on groundwater samples collected at the above referenced site. This work was verbally authorized by Mobil Oil Corporation on September 26, 1988, in response to the Minnesota Pollution Control Agency (MPCA) directive dated September 16, 1988.

Twin City Testing Corporation (TCT) collected groundwater samples from three monitoring wells at the site on April 3, 1989. These samples were forwarded to TCT's Chemistry laboratory for analysis to quantify benzene, ethyl benzene, toluene, xylenes and total hydrocarbons as gasoline concentrations. A summary of the chemical analysis is presented in Table 1.

If you have any questions concerning the above chemistry results, please feel free to contact me at (612) 649-5578.

Very truly yours

Twin City Testing Corporation

Damon M Powers
Geological Engineer

DMP/ak

Encs

TABLE 1

Volatile Analysis
 Mobil Station #05-GOD
 Golden Valley, Minnesota
 #4231 88-521

<u>Location</u>	<u>Total Hydrocarbons As Gasoline</u>	<u>Benzene</u>	<u>Ethyl Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>MDL</u>
MW-8	ND	ND	ND	ND	ND	1
MW-7	ND	ND	ND	ND	ND	1
MW-9	ND	ND	ND	ND	ND	1

as per conversations w/ Damon Powers TCT 6-29-89 LUT

All values expressed as $\mu\text{g/L}$ which is equivalent to parts per billion (ppb).

ND - Not detected
 MDL - Method detection limit



Minnesota Pollution Control Agency

520 Lafayette Road, Saint Paul, Minnesota 55155

Telephone (612) 296-6300



FILE _____

May 8, 1989

~~Mr. Lou Miller~~

Mr. C.L. Pearson

Mobil Oil Corporation

3225 Gallows Road

Fairfax, Virginia 22037-0001

Mr. Damon M. Powers

Twin City Testing Corporation

662 Cromwell Avenue

St. Paul, Minnesota 55114

Gentlemen:

RE: Petroleum Storage Tank Release

Site: Golden Valley Mobil Oil No. 05-GOD

9405 Medicine Lake Road

Golden Valley, Minnesota 55427

Site ID#: LEAK00000183

I am writing to you for the purpose of explaining that I am the future contact for the above-referenced site. Please submit your quarterly sampling analysis to my attention. If you have any questions or concerns, please call me at 612/296-3551.

Thank you in advance for your anticipated cooperation.

Sincerely,

Linda J. Tanner

Pollution Control Specialist Senior

Tanks and Spills Section

Hazardous Waste Division

LJT:smm



TWIN CITY TESTING
CORPORATION

November 8, 1988

662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

Minnesota Pollution Control Agency
520 Lafayette Rd
St. Paul, MN 55155

Attn: Mr John Aho

Subj: Petroleum Storage Tank release
Golden Valley Mobil #05-GOD
Site ID# LEAK 00000183
TCT #4231-88-521

JA

NOV 14 88

RECEIVED

Dear Mr Aho

Enclosed is a copy of Twin City Testing Corporation's (TCT) quarterly sampling results for the above referenced site. This quarterly sampling analysis is in response to the Minnesota Pollution Control Agency (MPCA) transmittal dated September 16, 1988 in which the MPCA required four quarters of additional monitoring at the site.

#1

If you have questions concerning the enclosed material, please feel free to contact me at (612) 649-5578.

Very truly yours

Twin City Testing Corporation

Damon M. Powers

Damon M Powers
Geological Engineer/Project Manager

DMP\ak

Encs

cc: Mr Ken Le Voir



twin city testing
corporation

662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

November 1, 1988

Mobil Oil Corporation
1515 Woodfield Rd
Suite 400
Schaumburg, IL 60172

Attn: Mr Chris Lawson

Mr Lawson

Subj: First Quarter Monitoring Results
Mobil Station #05-GOD
County Highway 18 and Medicine Lake Road
Golden Valley, Minnesota
#4231 88-521

The purpose of this letter is to present the results of the chemical analysis performed on ground water samples collected at the above referenced site. This work was verbally authorized by Mobil Oil Corporation on September 26, 1988, in response to the Minnesota Pollution Control Agency (MPCA) directive dated September 16, 1988.

Twin City Testing Corporation (TCT) collected ground water samples from three monitoring wells at the site on October 3-4, 1988. These samples were forwarded to TCT's Chemistry laboratory for analysis to quantify benzene, ethylbenzene, toluene, xylenes and total hydrocarbons as gasoline concentrations. A summary of the chemical analysis is presented in Table 1.

If you have any questions concerning the above chemistry results, please feel free to contact me at (612) 649-5578.

Very truly yours

Twin City Testing Corporation

Damon M Powers
Geological Engineer

DMP/dm

Encs

TABLE 1

VOLATILE ANALYSIS
 MOBIL STATION #05-GOD
 GOLDEN VALLEY, MINNESOTA
 #4231 88-521

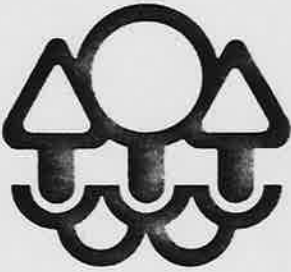
<u>Location</u>	<u>Total Hydrocarbons as Gasoline</u>	<u>Benzene</u>	<u>Ethylbenzene</u>	<u>Toluene</u>	<u>Xylenes</u>	<u>MDL</u>
MW-1	ND	ND	ND	ND	ND	1
MW-2	ND	ND	ND	ND	ND	1
MW-3	ND	ND	ND	ND	ND	1

u as per conversations w/ Damon Powers TCT 6-29-89 LJT

All values expressed as mg/L which is equivalent to parts per billion (ppb).

ND - Not Detected

MDL - Method Detection Limit



Minnesota Pollution Control Agency

FILE _____

September 16, 1988

Mr. C. L. Pearson
Mobil Oil Corporation
3225 Gallows Road
Fairfax, Virginia 22037-0001

Dear Mr. Pearson:

RE: Petroleum Storage Tank Release
Site: Golden Valley Mobil Oil #05-GOD
Site ID#: Leak 00000183

I am writing to you for the purpose of explaining our approach to the closure of sites. Ken LeVoir sent a letter to you on April 19, 1988, directing you to sample each well on the above site and analyze the samples for benzene, toluene, xylenes, and total hydrocarbons as gasoline. Water levels in each well are to be measured also. This monitoring is to continue for one year at which time the cumulative data will be reassessed to determine if closure is appropriate.

Significant soil contamination (at B-4) was not removed from the site. We do not know if it is or will be migrating to ground water. One of our responsibilities is to determine, within reason, if a discharge or release of petroleum to the unsaturated zone (the soil above the water table) will contaminate ground water. A minimum of one year's worth of monitoring is reasonable to help determine this.

One of your responsibilities is to do the monitoring. Minn. Rules pt. 7060.0600, subp. 2 requires that "All such possible sources of pollutants shall be monitored at the discharger's expense as directed by the agency". We will expect the first quarter results to be submitted by October 17, 1988.

Please feel free to call me at 612/296-7772 or Mr. LeVoir at 612/296-7322 if you have any questions.

Sincerely,

John Aho
Senior Hydrologist
Tanks and Spills Section
Hazardous Waste Division

JA:km

Phone: _____

520 Lafayette Road, St. Paul, Minnesota 55155
Regional Offices • Duluth/Brainerd/Detroit Lakes/Marshall/Rochester
Equal Opportunity Employer

Mobil, Medicine Lake

6-7-88

JJA

The reason for this approach (quarterly monitoring) is that 650 ppm total hydrocarbons remains in the soil ~~to~~ upstream from the monitoring wells (MW-7, MW-8). We should not be too hasty to discount movement of the fuel oil to the W.T. One year worth of monitoring is reasonable and not unusual.

9-2-88

JJA will write letter to Pearson, Mobil.
Cite GW Rules (22), nondegradation,
monitoring at direction of Agency.

5-25-88

JH

D

Mobil, Medicine Lake Road, Golden Valley

✓ Went quarterly sampling because significant soil contamination at B-4 not removed + may or may not be migrating to well - Don't know.

✓ Unidentified peaks in H₂O samples - VOC's

~~Fuel oil tank, not gasoline - wrong analysis~~

GW elev. in wells

Mobil, Winnetka Ave, New Hope

Soil boring B 1-87, composite sample taken - not very useful.

Was not bored in area of tank removal - was outside.

COMMON	COUNTY_CONV.TXT;2	3	18-SEP-1987	06:26
COMMON	EDTINI.EDT;1	1	11-AUG-1987	12:39
COMMON	WI_RULES.TXT;1	176	11-AUG-1987	07:19
000000	CONNOLLY DIR;1	1	22-JAN-1985	11:01
CONNOLLY	COMP.DAT;1	21	11-JUL-1985	15:00
CONNOLLY	INV.DAT;1	15	12-JUL-1985	14:06
CONNOLLY	INVY.DEF;1	2	21-NOV-1985	14:09
CONNOLLY	LIST.LIS;1	2	21-NOV-1985	14:16
CONNOLLY	LIST2.LIS;1	3	21-NOV-1985	14:18
000000	CONTIN.SYS;1	0	17-OCT-1984	17:32
000000	CORIMG.SYS;1	0	17-OCT-1984	17:32
000000	DWQBUL DIR;1	2	11-FEB-1987	14:56
DWQBUL	AGENCY.LIS;1	5	15-OCT-1987	06:36
DWQBUL	BB.COM;2	1	4-MAR-1987	07:29
DWQBUL	BB.LIS;29	2	25-OCT-1987	07:07
DWQBUL	BB.NONE;1	2	7-JUL-1987	08:22
DWQBUL	DWQBUL.COM;1	1	11-FEB-1987	15:52
DWQBUL	E-MAIL.LIS;2	2	24-MAR-1987	21:00
DWQBUL	FILENAME.LIS;1	1	11-FEB-1987	15:22
DWQBUL	HANCOCK.LIS;2	3	13-OCT-1987	21:05
DWQBUL	HELP.LIS;5	2	21-FEB-1987	08:17
DWQBUL	ITEMS.LIS;30	3	25-OCT-1987	07:08
DWQBUL	MANAGERS.LIS;4	4	15-SEP-1987	15:35
DWQBUL	MWTSREP.COM;1	1	8-OCT-1987	11:52
DWQBUL	PERMIT.FEE.LIS;2	2	14-OCT-1987	18:44
DWQBUL	RCSREP.COM;3	1	22-SEP-1987	07:25
DWQBUL	STORET.LIS;6	5	30-APR-1987	06:56
DWQBUL	ST.JAMES.LIS;4	2	21-OCT-1987	06:53
DWQBUL	TRIPP.LIS;2	3	18-AUG-1987	14:17
000000	EDO.DIR;1	1	25-OCT-1986	13:27
EDO	BOARD DIR;1	1	9-SEP-1987	08:32
EDO	BOARD B03J;1	0	9-SEP-1987	10:12
EDO	BOARD FORMLIB.FLB;1	7	28-JUL-1987	10:39
EDO	BOARD L1.COM;1	5	30-JUL-1987	09:14
EDO	BOARD L3.COM;1	1	30-JUL-1987	13:50
EDO	BOARD L4.COM;1	1	30-JUL-1987	13:52
EDO	BOARD L6.COM;1	1	9-SEP-1987	08:29
EDO	BOARD L7.COM;1	1	30-JUL-1987	08:20
EDO	BOARD MAIL LIST.DAT;2	144	30-JUL-1987	08:34
EDO	BRUEMMER DIR;1	4	29-DEC-1986	09:11
EDO	BRUEMMER AMBIENT.TXT;1	11	15-SEP-1987	09:46
EDO	BRUEMMER AMBIENT2.TXT;1	12	19-OCT-1987	17:34
EDO	BRUEMMER BILL;1	4	4-SEP-1987	16:46
EDO	BRUEMMER CHAPTERS;1	2	24-JUL-1987	15:59
EDO	BRUEMMER DIOXIN.TXT;1	18	15-SEP-1987	09:46
EDO	BRUEMMER EDTINI.EDT;3	1	31-JUL-1987	11:22
EDO	BRUEMMER FEDLEG;1	1	15-SEP-1987	09:49
EDO	BRUEMMER FUNDS;1	1	17-JUL-1987	11:37
EDO	BRUEMMER HAZW;1	2	30-JUN-1987	09:20
EDO	BRUEMMER LAWS;18	49	22-JUN-1987	15:44
EDO	BRUEMMER LCWM;5	2	24-JUL-1987	11:18
EDO	BRUEMMER LEAD;2	6	4-SEP-1987	15:09
EDO	BRUEMMER LEGINITS;2	3	17-SEP-1987	13:51
EDO	BRUEMMER LEGINITS;1	3	21-AUG-1987	11:00
EDO	BRUEMMER LOGIN.COM;2	1	23-SEP-1987	06:35
EDO	BRUEMMER MAIL.MAI;1	75	25-OCT-1987	00:07
EDO	BRUEMMER MOU.TXT;1	3	28-JUL-1987	13:36
EDO	BRUEMMER PERMITS;5	6	20-OCT-1987	13:47
EDO	BRUEMMER PERMITS;4	5	16-OCT-1987	14:43
EDO	BRUEMMER PERMITS;3	4	20-AUG-1987	12:36
EDO	BRUEMMER PPOLICY;3	4	20-OCT-1987	13:37
EDO	BRUEMMER PPOLICY;2	3	16-OCT-1987	14:47
EDO	BRUEMMER PPOLICY;1	3	21-AUG-1987	15:47
EDO	BRUEMMER RESUME;4	9	29-SEP-1987	17:24
EDO	BRUEMMER SPA;1	3	25-SEP-1987	14:29
EDO	BRUEMMER SPILLS;3	13	31-JUL-1987	11:58

5-24-88

John:

PLEASE CALL CLIFF PEARSON
MOBIL O.I.
703 / 849 - 4620

re:

1 - New Hope (42nd & Winnetka) : why can't
closure be granted now - no contamination on
site -

2 - 626 W. BROADWAY [Dan Stoddart Reviewed]

3 - Grove & Como [PHIL C. Reviewed]

4 - MEDICINE LAKE (QV-05 600)

why this type of approach for
closure - why not just authorize
closure

Thanks

KEN



Minnesota Pollution Control Agency

FILE _____

April 19, 1988

Mr. C. L. Pearson
Mobil Oil Corporation
3225 Gallows Road
Fairfax, Virginia 22037-0001

Dear Mr. Pearson:

Re: Petroleum Storage Tank Release Investigation

Site: Golden Valley Mobil Oil #05G0D
Site ID#: LEAK00000183

Your request for closure of the above-referenced site has been received and reviewed. Our present policy for cases like this is to delay final closure until one year's worth of monitoring well sampling indicates either nothing is moving off-site or no contamination exists in the ground water.

Each of the three wells on the site should be sampled quarterly and analyzed for benzene, toluene, xylenes, and total hydrocarbons as gasoline. Water levels of each well should also be measured each quarter.

Wells should be sampled and results submitted to the Minnesota Pollution Control Agency for quarters ending June 30, September 30, December 31, 1988, and March 31, 1989. We will expect the first results submitted by June 30, 1988.

Should you have any questions, please feel free to contact me at 612/296-7322. Thank you.

Sincerely,

Kenneth C. LeVoi
Project Leader
Tanks and Spills Section
Hazardous Waste Division

KCL/pfp

Phone: _____

520 Lafayette Road, St. Paul, Minnesota 55155
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Mobil (00000183)
Golden Valley
4-7-88 J Jho

I recommend that samples be taken from the three monitor wells at the site and analyzed for BTX, Total HC as ~~gasoline~~ fuel oil?

The wells were last sampled near May 1, 1987. Water levels should also be measured.

Closure of the site relative to the release should be discussed after we have received the analyses.

Monitoring of wells should be done quarterly for one year. If nothing appears in the wells, we should probably relieve them of further obligation to monitor.

6. Who do you sell your new batteries to?

- general public
- fleet
- service station
- other

7. Did you ever take in junk batteries? Yes No

If yes, why do you no longer take junk batteries?

That's all the questions I have. Do you have any comments in regards to batteries? I want to thank you very much for taking the time to give us this very helpful information.

If they have any questions, I'd be happy to help them (Catherine Thayer 296-7271)

MINNESOTA POLLUTION CONTROL AGENCY

Route to:
(1) SEA
(2) KCL
(3) _____
(4) _____

OFFICE MEMORANDUM

File: Mobil

Location: Metro Area
(City, Village, Township, Section, Range, County, etc.) Hennepin - Ramsey

Subject: PROJECT STATUS

By Whom: KC LeVoire Date: 24 MAR 88

Investigation Conference Office Field Hearing Meeting Phone

- Items to be Covered:
- (1) Those present and/or those interviewed
 - (2) Situation
 - (3) Further action, follow-up, recommendations

- 1) Cliff Pearson - Mobil Oil 703/849-4620
- 2) Discussed status of 9 sites [SEE ATTACHED LIST]
 - 000 184 - New Hope - 1/16/87 : to PCA for review : closure request
John Aho reviewing
 - 000 183 - Golden Valley - 3/4/88 : to PCA for review : closure request
John Aho reviewing
 - 000 187 - Bloomington 4/13/87 : PCA to Mobil : do R1
(Mobil to send CAD to me)
Unical site now - unical will not grant access -
problem to be resolved 4/1/88 between Mobil & Unical
 - 000 207 EDINA 2/12/87 : PCA to Mobil : do R1
(Mobil to send CAD to me)
 - 000 181 RICHFIELD 2/12/87 : PCA to Mobil : do R1
Mobil has not received anything from TCT
(Person to contact TCT will report status to PCA)
 - 000 188 MPLS 10/6/87 to PCA for review : closure request
John Aho reviewing

- 000186 - St Paul : 4/16/87 to PCA for review : R1

John Aho reviewing

- 000182 - St. Paul : 4/20/87 PCA denied closure request

PCA asked for add'l R1

5/11/87 Mobil rec'd. comments from TCT

was going to re-apply for closure.

Apparently nothing sent to PCA

(Mobil to re-apply for closure to PCA)

- 000185 - St. Paul : 4/4/87 : PCA to Mobil : do R1

(Mobil will submit CAD to PCA)

another Unical site - recovery system to have been

installed by 12/87. Dropped due to 1) winter,

2) access agreement problem with Unical.

Access problem to be resolved by 4/1/88

3) C. PEARSON to send us information for LEAKS # :
187 - 207 - 181 - 182 - 185 hopefully for
our approval.

I told him we would attempt to respond to
LEAK # : 184 - 183 - 188 - 186 within
30 days.

CALL
CLIFF PERKINSON
Mobil
703/849-4610
(he wants info on recovery)

3-23-88
Mobil Project
STATUS

FC

-1-

184 NEW HOPE 11/21/86 RELEASE [12/19/86 REPORT-TCT]
[JEA] #05K02 2/12/87 PCA → Mobil: refine extent
42nd & WINNETKA submit progress report by 4/1/87
11/16/87 Mobil REQUEST for closure
3 STATIONS @ intersection - All LUST
no closure until results submitted from other L.S.
(may/may not need MW)

183 GOLDEN VALLEY 12/4/86 RELEASE [12/18/86 REPORT-TCT]
[JEA] #05-GOD 2/3/87 add'l RI NEEDED - refine extent
94th & MEDICINE LAKE RD due 4/1/87
2/4/88 Mobil REQUEST for closure
BEING REVIEWED

187 BLOOMINGTON 1/12/87 RELEASE [1/13/87 REPORT-TCT]
#17 05 HK5 4/13/87 PCA → Mobil do RI
84th & NEWMANDALE due 4/15/87
8/20/87 copy of TCT proposal → Mobil
to install r/w/recovery well
NO ACTION: STATUS

Mobil at
3825 Gallows Rd
Rm 4N 509
Falls Church, Virginia
22037

- 2 -

207 EDINA
#05-JIV
54TH & FRANCE

12/4/86 RELEASE [12/19/86 REPORT-TCT]
2/12/87 PCA → MOBIL add'l RI needed - define extent
due 3/12/87
4/8/87 MOBIL → PCA add'l RI will be done
9/22/87 copy TCT proposal → MOBIL for recovery wells
NO ACTION - STATUS

181 Richfield
#05-LRD
494 & PENN

12/5/86 RELEASE [1/17/87 REPORT-TCT]
2/12/87 PCA → MOBIL, define extent, please
due 3/12/87

- No elevations provided
- water levels were not measured to oil "GS" stage in logs
- only well showing contain. was abandoned - why?
- contain. appears severe
- analysis clearly states gasoline detected @ 600 x
NAL for benzene (report says no
dissolved gasoline detected)
- Add'l work is necessary

STATUS

188 MPLS
JEA #05-KEY
626 Broadway

[12/19/86 - REPORT-TCT]
[3/3/87 - REPORT-TCT]
2/4/87 PCA → MOBIL - do RI
due 4/1/87
10/6/87 MOBIL → PCA request for closure
NEED MORE WORK
BEING REVIEWED

- 3.

186 ST. PAUL
[JEA] #05 LHM 6
S. ROBERT THOMPSON

1/28/87 RELEASE [12/19/86 REPORT - TCT]
2/4/87 PCA → MOBIL proceed & addl investigation
submit proposal for CAD

11/11/87 CO: TCT proposal due 4/1/87

11/16/87 MOBIL → PCA & R1: UNDER REVIEW

{ [12/19/86 - REPORT - TCT]
[1/28/87 - REPORT - TCT]

182 ST. PAUL
#05 - MAD
GROVE & COMO

2/4/87 PCA → MOBIL - addl R1 - extent
due 4/1/87

4/1/87 MOBIL → PCA request for closure

4/20/87 PCA → MOBIL further R1 needed
define direction, gen analysis
due 4/1/87

NO ACTION: STATUS

185 ST. PAUL
#10-05 MSY
I-94 S. SHELTON

12/18/86 RELEASE [12/19/86 REPORT - TCT]

2/4/87 PCA → MOBIL conduct R1

submit report, R1, CAD due 4/1/87

5/26/87 copy TCT SUBMITTAL → MOBIL

proposal to install recovery

NO ACTION: STATUS

Mobil Oil Corporation

3225 GALLOWS ROAD
FAIRFAX, VIRGINIA 22037-0001

March 4, 1988

RECEIVED

MAR 11 88

MPCA, Hazardous
Waste Division

Mr. Kevin Faus
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155

APPLICATION FOR CLOSURE
MOBIL S/S # 05-GOD
94TH AND MEDICINE LAKE RD
GOLDEN VALLEY, MINNESOTA

Dear Mr. Faus:

Enclosed is the consultant's report (Twin City Testing, May 28, 1987) requested in your letter of February 3, 1987 (Attached). The investigation showed no groundwater contamination (BTX < 1 ppb), and very localized soil contamination. Accordingly our consultant recommends that no further action is necessary.

Mobil requests closure from the MPCA for all investigative and recovery actions at the subject location.

If you have any questions, please contact the undersigned at (703) 849-4620.

Sincerely,



C. L. Pearson
Environmental Adviser

Attachments

cc: W. R. Beck - w/o attach.
J. F. Olsen - Schaumburg w/o attach.



Minnesota Pollution Control Agency

February 3, 1987

Mr. Rick Larson
Mobil Oil Corporation
P.O. Box 66568
AMF O'Hare, Illinois 60666-0568

Dear Mr. Larson:

RE: Golden Valley Mobil Station # 05GOD on 94th & Medicine Lake Road

This office has received and reviewed the report by Twin City Testing, dated 12/18/86 concerning the above site.

The data as presented indicates that additional investigative work is needed to define the horizontal and vertical extent of contamination in the soils and groundwater.

Please proceed according to MPCA guidelines previously sent to you. A report of the investigation should be submitted within six weeks of this dated letter. Sampling results, boring logs, monitoring well installation data, and a proposal for clean up, if needed, should be included in the report.

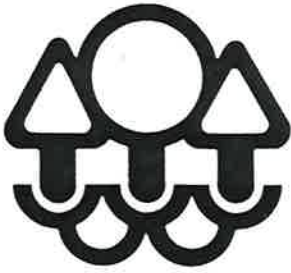
If you have any questions, or would like to discuss the situation, please call me at 612/296-7709.

Sincerely,

Kevin Faus
Emergency Response Team
Regulatory Compliance Section
Division of Water Quality

KF:bh

cc: City of Golden Valley, C/O City Clerk, City Hall
Mike Holland, Mobil Oil Corporation, Marketing Operations,
Fairfax, Virginia



Minnesota Pollution Control Agency

January 22, 1987

Mr. Rick Larson
Mobil Oil Corporation
P.O. Box 66568
AMF
O'Hare, Illinois 60666-0568

Dear Mr. Larson:

Re: Meeting on January 14, 1987 Concerning Seven Mobil
Service Stations in the Twin Cities Metropolitan Area

This letter serves as a summary of the above meeting in which Mike Holland and you represented Mobil Oil Corporation and Dick Kable and myself represented the Minnesota Pollution Control Agency (MPCA).

The following is a listing of the seven sites and a brief summation:

1. **4200 Winnetka, New Hope** - Contaminated soil is on site and has been tested for lead content. The lab report for this will be submitted shortly. A soil boring near the old tank site will be drilled to ascertain possible contamination or effectiveness of excavation.
2. 5354 France Avenue South, Edina - Contaminated soil is being stored on site, originally from another site. The origin of this soil will be documented. The station was converted to natural gas and the fuel tank will not be replaced when removed. The excavated soil from the site will be stockpiled with the existing contaminated soil on site.
3. **9405 Medicine Lake Road, Golden Valley** - The fuel oil tank will be removed January 15, 1987. The excavated contaminated soils will be stockpiled on site.
4. 7744 Penn Avenue South, Richfield - The fuel oil tank has been removed and a new one installed. Any excavated contaminated soils will be documented as to their whereabouts. One soil boring will be placed near the old fuel tank location to ascertain possible contamination or verify effectiveness of excavation.

Phone: 612/296-7709

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Mr. Rick Larson
Page 2

5. 326 North Snelling, St. Paul - An investigation report and a proposal to deal with the liquid product on the water table will be forthcoming.
6. 5710 North Xerxes, Brooklyn Center - The fuel tank has been removed. Any excavated contaminated soil will be documented as to its whereabouts. One soil boring will be placed near the excavated fuel oil tank to ascertain possible contamination or verify effectiveness of excavation.
7. 84th and Normandale Blvd., Bloomington - This spill was reported to this office on January 12, 1987 as liquid gasoline in a monitoring well near the gasoline underground tanks. The tank, lines, and dispensers were reported tight after perto-tite testing. An investigation report and proposal for cleanup will be forthcoming.

In addition to the above, the following items were discussed:

1. A site investigation report will be submitted by January 28, 1987 for each site. Included will be a general discussion, remedial actions taken to date, and a proposal to deal with any contamination.
2. Before disposal of contaminated soils, a written proposal will be submitted for MPCA approval. Also, all contaminated soils from each site needs to be tracked with documentation.

If you have any questions concerning the above, please call me at (612) 296-7709.

Sincerely,



Kevin Faus
Regulatory Compliance Section
Division of Water Quality

KF:nmf

cc: Mr. Allen Nelson, New Hope Fire Marshal
City of Edina c/o City Clerk
City of Golden Valley c/o City Clerk
City of Richfield c/o City Clerk
Mr. Russ Polanski, St. Paul Fire
Mr. Tom Heenan, City of Brooklyn Center
Mr. John Nelson, City of Bloomington
Mr. Mike Holland, Mobil Oil Corporation

Golden Valley - 9405 Medicine Lk Rd.

4/14/87

12-4-86 - called in fuel tank failed test
- plan to replace tank

12-8-86 - *Letter to investigate, proposal by 1-5-86

- not yet removed

- to remove 1-15-87

- stockpile soil.

1-20-87 - Joe called Dick. Found oil in hole when
~~will~~ pulled tank, will continue to excavate.
Will take soil to 54th France site.

1-28-87 - Rick Larson called. They excavated 20 yds
from site under TCT supervision. Hauled
soil to Louisville Landfill. Apparently with
authorization from MPOH (SW). They hauled this
with soil from New Hope site. *They didn't
have authorization because the letter from (SW)
has not gone out yet. A verbal OK. was given
by (SW).

**MINNESOTA POLLUTION CONTROL AGENCY
EMISSIONS INVENTORY SYSTEM/POINT SOURCE (EIS/PS)
COMPREHENSIVE DATA HANDLING SYSTEM (CDHS)
POINT RECORD (SEGMENT 1) TRANSACTIONS**

STATE	COUNTY	AOCR	PLANT ID NBR	DATE OF RECORD		NEEDS POINT ID
				YR	DAY	
1	3	7	10	14	19	
2,4	14,8,0	1,3,1	0,0,9,8	8,2,0,4,4	0,4	

USER POINT ID	SIC	IPP	UTM HORIZ	UTM VERT	LATITUDE			LONGITUDE			ANNUAL THRUPUT						OPERATE RATE		BOILER CAPACITY	SPACE HEAT	CARD NBR	ACT N
					DEG	MIN	SEC	DEG	MIN	SEC	DEC	MAR	MAY	JUN	SEP	NOV	HR	D				
21	24	28	30	34	39	45	45	52	52	53	57	60	60	65	70	78	80	1,1,1	80			

HEIGHT	DIAM	TEMP	FLOWRATE	VELOCITY	PLUME HEIGHT	POINTS WITH COMMON STACK	C O M P	S C H E D	Y R	M O	Y R	M O	D A Y	COMPLIANCE UPDATE			E C A P	CONTROL REGULATIONS			CARD NBR	ACT N
														Y R	M O	D A Y		REG 1	REG 2	REG 3		
21	25	28	32	39	44	48	52	53	57	63	64	64	65	75	78	80	1,1,2					

POLLUTANT ID	26	CONTROL EQUIPMENT		EST CNTRL EFF	EMISSIONS ESTIMATE	MEASURED EMISSIONS	ALLOWABLE EMISSIONS	E U N T	E S T M	T E M	CARD NBR	ACT N
		COST	PRIM									
21	42,1,0,1					0,1					1,1,3	80
	42,4,0,1					0,3					1,1,3	80
											1,1,3	80
											1,1,3	80
											1,1,3	80
											1,1,3	80
											1,1,3	80
											1,1,3	80
											1,1,3	80

21	NEEDS P7 POINT COMMENT												CARD NBR	ACT N	
														78	80
														1,1,4	



Minnesota Pollution Control Agency

December 31, 1986

Ms. Pauline Perrin
Mr. Rick Larson
Mobil Oil Corporation
P.O. Box 66568
AMF O'Hare, Illinois 60666-0568

Dear Pauline and Rick:

RE: Inspection of tank excavation sites and disposal of
contaminated soils

This letter is written to make clear the Minnesota Pollution
Control Agency's current policy regarding the above.

Site inspection and approval by a local governmental official,
MPCA staffperson, or an environmental consultant is required
to confirm that all contaminated soils have been excavated
from tank leak sites. Failure to conform to this policy may
result in mandatory soil borings to determine vertical and
horizontal contamination.

A proposal is needed prior to disposal of contaminated soils
for written approval by MPCA staff. One requirement for dis-
posal at an asphalt plant will be total lead analysis of the
soil. Answering the enclosed criteria questions and approval
by MPCA staff concerning landfarming are required prior to
actual landfarming.

If you have any questions, please call me at 612/296-7709.

Sincerely,

Kevin Faus
Emergency Response Team
Regulatory Compliance Section
Division of Water Quality

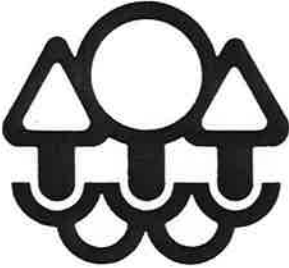
KF:bh

Enclosures

612/296-7709

Phone: _____

Official File Copy



Minnesota Pollution Control Agency

December 8, 1986

Mr. Rick Larson
Mobil Oil Corporation
P.O. Box 66568
AMF O'Hare, Illinois 60666-0568

Dear Mr. Larson:

This letter is written regarding the reported fuel oil tank test failure at your facility at 9405 Medicine Lake Road, Golden Valley, Minnesota.

You reported that the tank would be replaced and that contaminated soils will be excavated. Please notify this office two days in advance of excavation.

Because of the possibility of groundwater contamination due to possible leaked fuel oil, an investigation to define both vertical and horizontal contamination is needed. Please follow guidelines in, "Guidelines For Emergency Response Clean-Up", for the investigation. A report detailing the investigation is needed by this Office four weeks from this dated letter. Please send it to my attention.

If the excavation is not sufficient to define the contamination, then alternative methods will need to be implemented.

If you have any questions or would like to discuss the situation, please call me at 612/296-7709.

Sincerely,

A handwritten signature in cursive script that reads "Kevin Faus".

Kevin Faus
Emergency Response Team
Regulatory Compliance Section
Division of Water Quality

KF:bh

Enclosure

cc: See Attached List

Phone: 612/296-7709

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Mr. Rick Larson
December 8, 1986
Page 2

cc: City of Golden Valley, C/O City Clerk, City Hall
Greg Lee, Hennepin County Department of Public Works
Environmental Services Division, Hopkins

Supplemental
due back 8-17-94

closed CUM
183

MINNESOTA PETROLEUM TANK RELEASE COMPENSATION BOARD
Application for Reimbursement

\$12,167.41

PART I APPLICATION PROCESS

(Check One) Check appropriate Phase and complete the information requested for the Phase checked (See Application Guide)

- Phase 1. MPCA approval of Soil Corrective Action Plan (SCAP)**
 - a) Date of SCAP approval
 - b) Date SCAP was submitted to MPCA:

State of Minnesota
Dept. of Commerce

- Phase 2. Submission of Documentation of Soil Treatment**
Date Documentation was submitted to MPCA:

MAY 24 1994

- Phase 3. MPCA approval of Comprehensive Corrective Action Plan (CCAP)**
 - a) Date of CCAP approval. (Attach copy)
 - b) Date CCAP was submitted to MPCA. March X, 1994

- Phase 4. Submission of CCAP Installation Letter to MPCA**
Date of CCAP Installation Letter. (Attach copy)

- Ongoing Expenses** Following Phase 4 Reimbursement or MPCA Site Closure or Conditional Closure

PART II APPLICANT INFORMATION

Please be advised that the information used to support this application is subject to audit by the MPCA and MDOC.

- 1. "Responsible Person" "Volunteer" or "Non-Responsible Person"
(check one) (see application guide)

Name: **Mobil Oil Corporation**

- 2. Mailing Address: **P.O. Box 847
Joliet, IL 60434**

- 3. Site ID: Leak # **0000183**

- 4. The applicant is a Corporation Partnership Individual Other

- 5. Applicant was the owner or operator of the tanks from: **1969 to November 13, 1987**

- 6. The applicant owned property from to

- 7. Has applicant executed any Petrofund assignment agreements? yes ___ no X

Name of assignee(s) (Attach copy of agreement)

PETROFUND
APPLICATION
CONFIRMATION

JUL 23 1994

NOTICE SENT

This form is effective through August 31, 1993

PART III TANK FACILITY

1. Name of "Tank Facility" (see application guide) where the petroleum release occurred:

Former Mobil Oil Station #05GOD
2. Tank Facility address: **9405 Medicine Lake Road
Golden Valley, Minnesota**
3. Contact Person at Tank Facility: **Mr. Peter Gates**
Phone: **(815) 423-7668**
4. To the best of your knowledge, list all other persons besides the applicant who were owners or operators of the tank during or after the petroleum release: **UNO-VEN Company
3850 North Wilke Road
Arlington Heights, Illinois 60004**
5. Did any of the persons listed in question 4 incur corrective action costs related to this petroleum release?
yes **X** no ___ If yes, list name and address if known: **SAME**
6. Date when petroleum release was detected: **December 4, 1986**
What test was performed to initially establish that a release occurred?

Tank Tightness Test
7. Date when petroleum release was reported to the MPCA: **December 4, 1986**
- 8.a. Which tanks (or associated piping) were the source of the release at this tank facility? (see application guide)

550 gallon fuel oil tank.
- b. What was the cause of the release?

Tank and piping corrosion.
9. Was this tank(s) used only to store heating oil for consumptive use on the premises where stored?
(check one) YES NO

PART IV TANK INFORMATION AND COMPLIANCE

Note: If you do not know if tanks are registered and/or prior tank removal notice was given, enter "unk" (unknown) for these items. Please do not contact the MPCA for this information.

A. **Underground Storage Tanks.** Complete the following information to reflect the status of your underground storage tanks at the time the release was discovered. Refer to the attachment "*Do Underground Storage Tanks and Piping Requirements Apply to Your Petroleum Tank?*" and "*What Do You Have To Do/When Do You Have To Act?*" to determine the applicability of registration, leak detection, corrosion protection, and spill/overfill protection.

(Please attach additional sheets if more than five tanks are involved.)

Tank	Petroleum Product	Capacity	Type of Tank	Date Installed	Registered Yes/No/Unk	Date Removed
1	Fuel Oil	1000	Steel	1/1/82	Yes	Active
2	Gasoline	4000	Steel	1/1/72	Yes	5/6/82
3	Waste Oil	550	Steel	1/1/69	Yes	1/11/87
4	Gasoline	8000	Steel	1/1/69	Yes	5/6/92
5	Gasoline	10000	Steel	1/1/69	Yes	5/6/92
6	Fuel Oil	550	Steel	1/22/87	Yes	5/6/92

Tank	Tanks			Piping		
	Leak Detection (Methods)	Corrosion Protection (Yes/No)	Spill/Overfill Protection (Yes/No)	Type of Piping	Leak Detection (Methods)	Corrosion Protection (Yes/No)
1	Daily Sticking	Yes	no	copper	none	no
2	Daily Sticking	Yes	no	copper	none	no
3	Daily Sticking	Yes	no	copper	none	no
4	Daily Sticking	Yes	no	copper	none	no
5	Daily Sticking	Yes	no	copper	none	no
6	Daily Sticking	Yes	no	copper	none	no

Tank	Tank Tightness Test Dates	Piping Tightness Test Dates
1	Performed, dates unknown	None
2	Performed, dates unknown	None
3	Performed, dates unknown	None
4	Performed, dates unknown	None
5	Performed, dates unknown	None
6	Performed, dates unknown	None

PART IV TANK INFORMATION AND COMPLIANCE (Continued)

* Was 10-day prior tank removal notice given to MPCA? (YES/NO/UNK)
Unknown, 10 day notification was not required at the time of tank removal

* Which MPCA office was notified:

- St. Paul
- Duluth
- Brainerd
- Detroit Lakes
- Marshall
- Rochester

* If the tank(s) involved in the release was removed after July 9, 1990, complete the following:

Removal Contractor: **Pump and Meter**

MPCA Contractor (NOT Supervisor) Certification Number: **0607**

* If the tank(s) involved in the release was installed after July 9, 1990, complete the following:

Installation Contractor: **NA**

MPCA Contractor (NOT Supervisor) Certification Number: **NA**

B. Aboveground Storage Tanks. Complete the following information to reflect the status of the aboveground tanks involved in the release at the time the release was discovered.

In describing your secondary containment, specify:

- * materials used to construct both the base and the walls, including type and thickness of materials (e.g., 6" compacted clay, 30 mil HDPE, reinforced concrete slab floor/concrete block walls, none)
- * how material specifications are known (e.g., permeability tests/dates, installation specifications)
- * is the volume of the secondary containment area adequate for the contents of the largest tank (Y/N)

Tank	Contents	Capacity	Date Installed	Registered Yes/No/Unk	Description of Secondary Containment			
					Walls	Base	Verification	Vol.
Sample	unleaded	15000	1/1/47	Y	Concrete block	6" compact clay/6" gravel fill	Perm test on (date)	N
1								

Are there any special circumstances you would like the persons reviewing your application to be aware of?
 Please explain:

PART V ELIGIBLE COSTS

1. The Eligible Cost Worksheets attached are for INVESTIGATION costs, CLEAN-UP costs, and CONSULTANT costs. These worksheets must be completed listing each corrective action for which you are requesting reimbursement.
2. Invoices submitted with this application cover the period from **December 30, 1988 to September 30, 1992.**
3. Are any of the costs listed in the Eligible Cost Worksheets in dispute? yes ___ no X
(see application guide)
4. At this time, do you anticipate incurring any Ongoing corrective action costs relative to the petroleum release at this Tank Facility? yes X no ___

If yes, explain briefly what work will be done and an approximate cost of that work.

Ground water monitoring well abandonment, Petrofund applications, and any additional work required by MPCA. Estimated cost = \$5,000

- a. Please state the total amount of contaminated soil which was excavated at this site (cubic yards or tons):
791 cubic yards
- b. What was the soil contamination concentration (total hydrocarbons) 7,400 ppm?
6. Has the applicant been eligible to recover cleanup costs arising from this petroleum release under any insurance policy at any time since June 4, 1987? yes ___ no X

If yes, provide the following:

<u>Insurance Company</u>	<u>Policy #</u>	<u>Policy Limits</u>	<u>Deductible</u>	<u>Period Covered</u>
--------------------------	-----------------	----------------------	-------------------	-----------------------

- | | | |
|----|--|-----------------------|
| 7. | Total of all eligible costs as listed in the Eligible Cost Worksheets: | \$ 12,167.41 |
| | | x 90% |
| | | = \$ 10,950.67 |
| | Insurance Reimbursement
(Subtract) | - \$ 0.00 |
| | Total Reimbursement Request | = \$ 10,950.67 |

(See application guide)

PART VI CONTRACTORS/CONSULTANTS

1. Complete the following for all contractors, subcontractors, consultants, engineering firms or others who performed corrective actions at this release site. (see application guide) **Failure to provide this information for ALL persons who performed corrective action may result in an action to recover any reimbursement which may be paid.** (Attach additional sheets if necessary.)

Name of individual or firm: **Twin City Testing**
Mailing address: **737 Pelham Boulevard
St. Paul, Minnesota 55114**
Contact person: **Dave Little**
Phone: **(612) 659-7211**

Name of individual or firm: **SERVICE Environmental Engineering Corporation**
Mailing address: **2325 Endicott Street
St. Paul, Minnesota 55114**
Contact person: **Dave Koubsky**
Phone: **(612) 644-6680**

2. Describe below any relationship, financial or otherwise, between the applicant and any contractor who performed work at this site:

None

PART VII CERTIFICATION (see application guide)

A. "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete.

"I certify that if I have submitted invoices for costs that I have incurred but that remain unpaid, I will pay these invoices within 30 days or receipt of reimbursement from the board. I understand that if I fail to do so, the board may demand return of all or any portion of reimbursement paid to me and that if I fail to comply with the board's demand, that the board may recover the reimbursement, plus administrative and legal expenses in a civil action in district court. I understand that I may also be subject to a civil penalty."

B.A. Underkoffler
Signature of Applicant

B.A. UNDERKOFFLER
Name (Please Print)

5-20-94
Date

Witnessed by:

[Signature]
Name

5-20-94
Date

Every applicant must sign Part A. above. If applicant is a corporation or partnership, the following certification must also be made:

"I further certify that I am authorized to sign and submit this application on behalf of

MOBIL OIL CORP."

B.A. Underkoffler
Signature

FIELD ENGINEERING MANAGER
Title (See Application Guide, Part VI)

B.A. UNDERKOFFLER
Name (Please Print)

5-20-94
Date

Please send this application and accompanying documents to:

**Petroleum Tank Release Compensation Board
Minnesota Department of Commerce
133 East Seventh Street
St. Paul, Minnesota 55101
(612) 297-4203
(612) 297-1119**

PART IV ELIGIBLE COST WORKSHEET - INVESTIGATION AND CLEAN-UP

- Descriptions must be specific as to work performed
- Invoices must be submitted for each cost listed below
- Invoices must contain sufficient detail to verify costs and services entered below.
- Duplicate this form if additional worksheets are needed.

A. SOIL BORINGS/MONITORING WELLS - ETC.

Description	Firm Name	Invoice # or Date	Total Units	Unit Costs	Subtotal
TOTAL					

B. LABORATORY TESTS AND ANALYSIS

Description	Firm Name	Invoice # or Date	Total Units	Unit Costs	Subtotal
Chemistry (BTX)	Twin City Testing	4231 38-521 (4410 88-7399)	3	100/smpl	\$300.00
Chemistry (BTX)	Twin City Testing	4231 38-521.01 (4410 89-1928)	3	85/smpl	\$225.00
Chemistry (BTX)	Twin City Testing	4231 38-521.02	3	75/smpl	\$225.00
Chemistry (BTX)	Twin City Testing	4231 38-521.03 (4410 89-5683)	3	85/smpl	\$225.00
Chemistry (BTX)	Twin City Testing	4410 89-3509	3	85/smpl	\$225.00
TOTAL					\$1,200.00

PART IV ELIGIBLE COST WORKSHEET - INVESTIGATION AND CLEAN-UP

- Descriptions must be specific as to work performed.
- Invoices must be submitted for each cost listed below.
- Invoices must contain sufficient detail to verify costs and services entered below.
- Duplicate this form if additional worksheets are needed.

J. REPORT PREPARATION; DATA COLLECTION; OPERATION OVERSIGHT AND MAINTENANCE; SYSTEM MONITORING; CORRESPONDENCE; MILEAGE; POSTAGE; PER DIEM

Description	Firm Name	Invoice # or Date	Total Units	Unit Costs	Subtotal
Work plan	Twin City Testing	4231 88-521	0.5	65/hr	\$32.50
Supervision	Twin City Testing	4231 88-521	7.8	65/hr	\$507.00
Supervision	Twin City Testing	4231 88-521	2	25/hr	\$50.00
Data evaluation, reporting, recommendations	Twin City Testing	4231 88-521	1	25/hr	\$25.00
Data evaluation, reporting, recommendations	Twin City Testing	4231 88-521	2	65/hr	\$130.00
Data evaluation, reporting, recommendations	Twin City Testing	4231 88-521	3	55/hr	\$165.00
Data evaluation, reporting, recommendations	Twin City Testing	4231 88-521	0.3	75/hr	\$22.50
Automobile	Twin City Testing	4231 88-521	12	0.32/mi	\$4.16
Supervision	Twin City Testing	4231 88-521.01	0.1	90/hr	\$9.00
Supervision	Twin City Testing	4231 88-521.01	2.9	65/hr	\$188.50
Supervision	Twin City Testing	4231 88-521.01	0.4	25/hr	\$10.00
Data evaluation, reporting, recommendations	Twin City Testing	4231 88-521.01	0.3	25/hr	\$7.50
Technician	Twin City Testing	4231 88-521.01	7.1	38/hr	\$269.80
Technician	Twin City Testing	4231 88-521.01	0.1	50/hr	\$5.00
Automobile	Twin City Testing	4231 88-521.01	28	0.32/mi	\$8.96
3/4-ton truck	Twin City Testing	4231 88-521.01	3.3	6.5/hr	\$21.45
3/4-ton truck	Twin City Testing	4231 88-521.01	32	0.5/mi	\$16.00
Supervision	Twin City Testing	4231 88-521.02	5.8	65/hr	\$377.00
Supervision	Twin City Testing	4231 88-521.02	1.7	25/hr	\$42.50
Data evaluation, reporting, recommendations	Twin City Testing	4231 88-521.02	0.2	50/hr	\$10.00
Data evaluation, reporting, recommendations	Twin City Testing	4231 88-521.02	0.3	90/hr	\$27.00
Technician	Twin City Testing	4231 88-521.02	5	38/hr	\$190.00

**J. REPORT PREPARATION; DATA COLLECTION; OPERATION OVERSIGHT AND MAINTENANCE;
SYSTEM MONITORING; CORRESPONDENCE; MILEAGE; POSTAGE; PER DIEM
(Continued)**

Description	Firm Name	Invoice # or Date	Total Units	Unit Costs	Subtotal
Sr. Professional	Twin City Testing	4231 88-521.02	0.2	75/hr	\$15.00
3/4-ton truck	Twin City Testing	4231 88-521.02	2.7	6.5/hr	\$17.55
3/4-ton truck	Twin City Testing	4231 88-521.02	28	0.5/mi	\$14.00
Supervision	Twin City Testing	4231 88-521.03	21.4	65/hr	\$1,391.00
Data evaluation, reporting, recommendations	Twin City Testing	4231 88-521.03	1.8	32/hr	\$57.60
Data evaluation, reporting, recommendations	Twin City Testing	4231 88-521.03	0.1	90/hr	\$9.00
Technician	Twin City Testing	4231 88-521.03	4	38/hr	\$152.00
3/4-ton truck	Twin City Testing	4231 88-521.03	2.5	6.5/hr	\$16.25
3/4-ton truck	Twin City Testing	4231 88-521.03	28	0.5/mi	\$14.00
Supervision	Twin City Testing	4231 88-521.04	0.2	90/hr	\$18.00
Supervision	Twin City Testing	4231 88-521.04	2.8	65/hr	\$182.00
Data evaluation, reporting, recommendations	Twin City Testing	4231 88-521.04	5.4	25/hr	\$135.00
Data evaluation, reporting, recommendations	Twin City Testing	4231 88-521.04	0.6	32/hr	\$19.20
Data evaluation, reporting, recommendations	Twin City Testing	4231 88-521.04	0.5	90/hr	\$45.00
Supervision	Twin City Testing	4231 90-521	2.2	78/hr	\$171.60
Technician	Twin City Testing	4231 90-521.01	2.6	50/hr	\$130.00
Work plan	Twin City Testing	4231 90-521.02	0.1	25/hr	\$2.50
Supervision	Twin City Testing	4231 90-521.02	0.3	25/hr	\$7.50
Supervision	Twin City Testing	4231 90-521.02	2.4	78/hr	\$187.20
Data evaluation, reporting, recommendations	Twin City Testing	4231 90-521.02	2.6	50/hr	\$130.00
Sr. Staff professional	Twin City Testing	4231 90-521.03	1.6	78/hr	\$124.80
Staff professional	Twin City Testing	4231 90-521.03	0.3	69/hr	\$20.70
Clerical	Twin City Testing	4231 90-521.03	0.5	25/hr	\$12.50
Staff professional	Twin City Testing	4231 90-521.04	1.1	69/hr	\$75.90
Staff professional	Twin City Testing	4231 90-521.05	1.1	69/hr	\$75.90
Staff professional	Twin City Testing	4231 90-521.06	1.6	69/hr	\$110.40

**J. REPORT PREPARATION; DATA COLLECTION; OPERATION OVERSIGHT AND MAINTENANCE;
SYSTEM MONITORING; CORRESPONDENCE; MILEAGE; POSTAGE; PER DIEM**
(Continued)

Description	Firm Name	Invoice # or Date	Total Units	Unit Costs	Subtotal
Staff professional	Twin City Testing	4231 90-521.07	2.1	69/hr	\$144.90
Env. Project manager	Twin City Testing	4231 90-521.08	2.1	78/hr	\$163.80
Project manager	Twin City Testing	4231 91-521	3.6	78/hr	\$280.80
Project manager	Twin City Testing	4231 91-521.01	1.5	78/hr	\$117.00
Report preparation	Twin City Testing	4231 91-521.01	0.3	78/hr	\$23.40
MPCA correspondence	Twin City Testing	4231 91-521.02	1	78/hr	\$78.00
Reporting	Twin City Testing	4231 91-521.02	0.4	78/hr	\$31.20
Word processing	Twin City Testing	4231 91-521.02	0.5	40/hr	\$20.00
Field work	Twin City Testing	4231 91-521.03	0.4	50/hr	\$20.00
Reporting	Twin City Testing	4231 91-521.03	4.7	78/hr	\$366.60
Word processing	Twin City Testing	4231 91-521.03	0.5	40/hr	\$20.00
Field work	Twin City Testing	4231 91-521.04	1	78/hr	\$78.00
Reporting	Twin City Testing	4231 91-521.04	1.3	78/hr	\$101.40
Word processing	Twin City Testing	4231 91-521.04	0.4	40/hr	\$16.00
Vehicle expenses	Twin City Testing	4231 91-521.04	25	0.4/mi	\$10.00
Project management	Twin City Testing	4231 92-521	0.2	120/hr	\$24.00
Reporting	Twin City Testing	4231 92-521	0.7	95/hr	\$66.50
Word processing	Twin City Testing	4231 92-521	0.5	40/hr	\$20.00
5% charge on labor to cover office expenses	Twin City Testing	4231 92-521	110.5	0.05	\$5.53
Project management	Twin City Testing	4231 92-521.01	0.9	95/hr	\$85.50
Reporting	Twin City Testing	4231 92-521.01	2.4	95/hr	\$228.00
5% charge on labor to cover office expenses	Twin City Testing	4231 92-521.01	313.50	0.05	\$15.68
Reporting	Twin City Testing	4231 92-521.02	1.3	95/hr	\$123.50
5% charge on labor to cover office expenses	Twin City Testing	4231 92-521.02	123.50	0.05	\$6.18
Project management	Twin City Testing	4231 92-521.04	4	78/hr	\$312.00
Reporting	Twin City Testing	4231 92-521.04	1	69/hr	\$69.00
Word processing	Twin City Testing	4231 92-521.04	0.3	40/hr	\$12.00
Field work	Twin City Testing	4231 93-521	6	45/hr	\$270.00

**J. REPORT PREPARATION; DATA COLLECTION; OPERATION OVERSIGHT AND MAINTENANCE;
SYSTEM MONITORING; CORRESPONDENCE; MILEAGE; POSTAGE; PER DIEM**
(Continued)

Description	Firm Name	Invoice # or Date	Total Units	Unit Costs	Subtotal
Project management	Twin City Testing	4231 93-521	3	78/hr	\$234.00
Reporting	Twin City Testing	4231 93-521	2	69/hr	\$138.00
Word processing	Twin City Testing	4231 92-521	0.3	40/hr	\$12.00
5% charge on labor to cover office expenses	Twin City Testing	4231 93-521	654	0.05	\$32.70
Field work	Twin City Testing	4231 93-521.01	14.5	78/hr	\$1,131.00
Field work	Twin City Testing	4231 93-521.01	10	45/hr	\$450.00
Project management	Twin City Testing	4231 93-521.01	4	78/hr	\$312.00
Reporting	Twin City Testing	4231 92-521.01	4	78/hr	\$312.00
5% charge on labor to cover office expenses	Twin City Testing	4231 93-521.01	2205	0.05	\$110.25
Project management	Twin City Testing	4231 93-521.02	2.5	78/hr	\$195.00
Reporting	Twin City Testing	4231 93-521.02	1	78/hr	\$78.00
				TOTAL	\$10,967.41

PART IV ELIGIBLE COST WORKSHEET - INVESTIGATION AND CLEAN-UP

- Descriptions must be specific as to work performed
- Invoices must be submitted for each cost listed below
- Invoices must contain sufficient detail to verify costs and services entered below.
- Duplicate this form if additional worksheets are needed.

K. MARK-UP

Description	Firm Name	Invoice # or Date	Total Units	Unit Costs	Subtotal
TOTAL					

L. OTHER CONSULTANT SERVICES (specify)

Description	Firm Name	Invoice # or Date	Total Units	Unit Costs	Subtotal
TOTAL					

Chris McLain

MINNESOTA POLLUTION CONTROL AGENCY
COMMISSIONER'S SITE REPORT
TO THE PETROLEUM TANK RELEASE
COMPENSATION BOARD

Site: Former Mobil Station, 9405 Medicine Lake Road, Golden Valley

Site ID#: LEAK00000183

Applicant: Jim Dean

Date of Application: August 16, 1993

Date of Underground Storage Tank Registration: April 30, 1986

Date of Tank Installation: 1969 and 1972

1. Eligibility Determination

I hereby determine that the corrective action described in the application was appropriate in terms of protecting public health, welfare, and the environment and that the applicant is eligible for Petrofund reimbursement, pursuant to Minn. Stat. § 115C.09, subd. 2, items (a) and (c) (1992).

2. Compliance with Applicable Requirements: INADEQUATE

Information readily available to the Minnesota Pollution Control Agency (MPCA) staff shows that the applicant has complied with the applicable requirements of Minn. Stat. § 115C.09, subd. 3(f)(1992) with the following exceptions:

At the time of the release, regular inventory control and tank tightness testing measures were not taken and/or leak detection equipment was not installed on the underground petroleum storage tank system as required by Minn. Rules pt. 7150.0300 and 0310 and/or 40 CFR § 280.40 and 41.

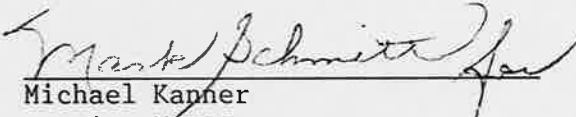
DATE LEAK DETECTION REQUIRED: December/1990 and December/1991

3. Reimbursement Reduction Recommendation:

The MPCA staff recommends a reduction in the amount of reimbursement available to the applicant, under Minn. Stat. § 115C.09, subd. 3(f)(1992), based upon the compliance failure(s) noted above.

The determinations in this report are made solely for the purpose of determining eligibility for reimbursement under Minn. Stat. § 115C.09, subds. 2 and 3 (1992). Nothing in this site report releases any person from liability, and the MPCA does not waive any of its authority to require additional corrective action at the above-referenced site or to enforce other provisions of state law.

Dated: 1/4/94


Michael Kanner
Section Manager
Tanks and Spills Section

Petroleum Tank Release Compliance Checklist

SITE NAME: Unocal Corp. LEAK0000 0183

USE THE FOLLOWING GUIDELINES TO DETERMINE IF THE LEAKING TANK IS IN COMPLIANCE

 UNREGULATED TANKS.....are AST's or UST's 110 gallons or less, OR heating oil AST's or UST's 1,100 gallons or less with product consumed on the premises, OR farm/residential AST's or UST's 1,100 gallons or less containing motor fuel not for resale.

 STATE REGULATED TANKS.....are heating oil UST's with a capacity more than 1,100 gallons.

 FEDERALLY REGULATED TANKS.....are all UST's not specified above.

 ABOVEGROUND TANKS.....are unregulated if they meet the same criteria as "Unregulated Tanks". If AST's are regulated, use items marked with "**".

UNREGULATED TANKS, STATE TANKS, FEDERAL TANKS ADEQUATE INADEQUATE

**Release Notification: Date release discovered: MPCA _____ Petro App 12/04/86

Date release reported: MPCA 12/04/86 Petro App 12/04/86

Was there environmental damage due to delay? Yes _____ No _____

**Cooperation/Due Care Issue: Yes _____ No _____
(i.e. release during tank removal, land treatment prior to approval, land treatment monitoring results not received)

Comments: _____

STATE TANKS, FEDERAL TANKS ADEQUATE INADEQUATE

**Tank Registration: AST or UST number: UST # 2414 Registration Date: 04/30/86
Regulated UST's should be registered by 12/1/87. Regulated AST's should be registered by 1/1/91.
Unregistered tanks removed before compliance dates receive no reduction for being unregistered.

Certified UST Installer: Yes _____ No _____ N/A Installation Date(s): 1969, 72, 82 Contractor Cert# _____
Applicable after 7/9/90.

Certified UST Remover: Yes No _____ N/A _____ Removal Date(s): 5/6/92 Contractor Cert # 0178
Applicable after 7/9/90.

Corrosion Protection: Tanks: Yes _____ No _____ N/A

Piping: Yes _____ No _____ N/A
Applicable for steel piping/steel UST's installed after 6/1/86. Steel piping/steel UST's installed before 6/1/86 require corrosion protection no later than 12/22/98. Heating oil piping/heating oil UST's installed before 6/1/86 don't ever require corrosion protection.

**AST Secondary Containment: Yes _____ No _____ N/A
Applicable after 1964 for AST's > 1,100 gallons or any AST within 500' of surface water.

FEDERAL TANKS ADEQUATE INADEQUATE

Prior Removal Notice: Yes Number of Days 12 f No _____ N/A _____
Applicable after 1/1/91; heating oil UST's > 1,100 gallons after 8/1/92.

Leak Detection:

Tanks: Yes No _____ N/A _____
If tank was installed: _____ Then the leak detection deadline is:

before 1965 or unknown	12/22/89
1965-1969	12/22/90 •
1970-1974	12/22/91 •
1975-1979	12/22/92
1980-12/22/88	12/22/93

Tanks installed after 12/22/88 should have leak detection at installation.

Piping: Yes _____ No N/A _____

Applicable for pressurized piping installed after 12/22/88. Pressurized piping installed before 12/22/88 should have leak detection by 12/22/90. Suction piping requires leak detection on the same schedule listed under Leak Detection for Tanks.

Spill/Overfill Protection: Yes _____ No _____ N/A
Applicable for UST's installed after 12/22/88. UST's installed before 12/22/88 require spill and overfill protection by 12/22/98.

9/5

12/3/95

MINNESOTA PETROLEUM TANK RELEASE COMPENSATION BOARD
Application for Reimbursement

/ 83

PART I APPLICATION PROCESS

(Check One) Check appropriate Phase and complete the information requested for the Phase checked (See Application Guide).

Phase 1. MPCA approval of Soil Corrective Action Plan (SCAP).

- a) Date of SCAP approval / / . (Attach copy)
b) Date SCAP was submitted to MPCA / / .

Phase 2. Submission of Documentation of Soil Treatment

Date Documentation was submitted to MPCA / / .

Phase 3. MPCA approval of Comprehensive Corrective Action Plan (CCAP)

- a) Date of CCAP approval / / . (Attach copy)
b) Date CCAP was submitted to MPCA / / .

Phase 4. Submission of CCAP Installation Letter to MPCA

Date of CCAP Installation Letter / / . (Attach copy)

AUG 24 1993

Ongoing Expenses Following Phase 4 Reimbursement or MPCA Site Closure or Conditional Closure Closure letter dated 2/10/93

PART II APPLICANT INFORMATION

Please be advised that the information used to support this application is subject to audit by the MPCA and MDOC.

1. "Responsible Person" "Volunteer" or "Non-Responsible Person"
(check one) (see application guide)

Name: Marilyn Markelz (Unocal Corp)

2. Mailing Address: 1650 E Golf Rd Schaumburg, IL
(60196-1088) Phone: () 708-330-5855

3. Site ID: Leak # 0183

4. The applicant is a: Corporation Partnership Individual Other _____

5. Applicant was the owner or operator of the tank from 12/17/87 to 12/11/89

6. "Volunteer" Applicant owned property from / / to / / .

7. Has applicant executed any Petrofund assignment agreements? yes _____ no _____

Name of assignee(s) _____ (attach copy of agreement)

APP CARD SENT 8.30.93 BSO

1993/1994 Petrofund Board Meeting Schedule

You will be notified in writing of the time and place your request will be presented to the Petrofund Board. Generally the Petrofund Board meets at 8:30 a.m. in the first floor Hearing Room at the Department of Commerce or in a Hearing Room at the State Office Building. ** Meetings will be held on the following dates in 1993 and 1994 (subject to change):

1993

January 28

March 11

April 22

June 3

July 15

August 26

October 7

November 18

1994

January 6

February 17

March 31

May 12

June 23

August 4

September 15

October 27

December 8

**SOB is State Office Building
100 Constitution Avenue
St. Paul, MN

PART III

TANK FACILITY

1. Name of "Tank Facility" (see application guide) where the petroleum release occurred:

Former Mobil Now Unoven Service Station

2. Tank Facility address:

9405 Medicine Lake Rd
Golden Valley, Min

3. Contact Person at Tank Facility:

NONE

Phone: () _____

4. To the best of your knowledge, list all other persons besides the applicant who were owners or operators of the tank during or after the petroleum release:

Mobil Oil Co owned tanks thru 2/17/87

Unoven purchased site 12/1/89 (Unocal owns 50% of Unoven)

5. Did any of the persons listed in question 4 incur corrective action costs related to this petroleum release? yes ___ no ___ If yes, list name and address if known:

Mobil → NO

Unoven → Yes. But they have been reimbursed by unocal

3850 N. Wilke Rd
Arlington Hts, IL

6. Date when petroleum release was detected: 12/4/86

What test was performed to initially establish that a release occurred? Tank tightness

7. Date when petroleum release was reported to the MPCA: 12/4/86

8. a. Which tanks (or associated piping) were the source of the release at this tank facility? (see application guide)

550 gal Fuel oil failed tightness testing + incident was reported.
Soils adjacent to the
4000 8000, + 10000 gasoline tanks were tested + high
levels of hydrocarbons were found.

b. What was the cause of the release?

Small undocumented overfills over the life of
the tanks ;

9. Was this tank(s) used only to store heating oil for consumptive use on the premises where stored? (check one) YES [] NO [X]

PART IV

TANK INFORMATION AND COMPLIANCE

(Note: If you do not know if tanks are registered and/or prior tank removal notice was given, enter "unk" (unknown) for these items. Please do not contact the MPCA for this information.)

A. **Underground Storage Tanks.** Complete the following information to reflect the status of your underground storage tanks at the time the release was discovered. Refer to the attachment "Do Underground Storage Tanks and Piping Requirements Apply to Your Petroleum Tank?" and "What Do You Have To Do?/When Do You Have To Act?" to determine the applicability of registration, leak detection, corrosion protection, and spill/overfill protection.

(Please attach additional sheets if more than five tanks are involved.)

Tank	Petroleum Product	Capacity	Type of Tank	Date Installed	Registered Yes/No/Unk	Date Removed
1	waste oil	550	steel	1969	Y	5/6/92
2	Heating oil	500	steel	1980	Y	in use
3	gasoline	4000	steel	1972	Y	5/6/92
4	gasoline	8000	steel	1969	Y	5/4/92
5	gasoline	10000	steel	1949	Y	5/6/92

Tank	Tanks			Piping		
	Leak Detection (Methods)	Corrosion Protection (Yes/No)	Spill/Overfill Protection (Yes/No)	Type of Piping	Leak Detection (Methods)	Corrosion Protection (Yes/No)
1	inventory	NO	NO	galvanized steel	None	Yes
2	↓	↓	↓	↓	↓	↓
3	↓	↓	↓	↓	↓	↓
4	↓	↓	↓	↓	↓	↓
5	↓	↓	↓	↓	↓	↓

Tank	Tank Tightness Test Dates	Piping Tightness Test Dates
1		
2	November 26, 1986	November 26, 1986
3	November 26, 1986	November 26, 1986
4	November 26, 1980	November 26, 1986
5	November 26, 1986	November 26, 1986

Are there any special circumstances you would like the persons reviewing your application to be aware of?
Please explain: NO

PART V **ELIGIBLE COSTS**

1. The Eligible Cost Worksheets attached are for INVESTIGATION costs, CLEAN-UP costs, and CONSULTANT costs. These worksheets must be completed listing each corrective action for which you are requesting reimbursement.
2. Invoices submitted with this application cover the period from 11/1/92 to 12/1/92
3. Are any of the costs listed in the Eligible Cost Worksheets in dispute? yes ___ no
4. At this time, do you anticipate incurring any Ongoing corrective action costs relative to the petroleum release at this Tank Facility? yes ___ no

If yes, explain briefly what work will be done and an approximate cost of that work.

5. a. Please state the total amount of contaminated soil which was excavated at this site (cubic yards or tons): 794 CY
- b. What was the soil contamination concentration (total hydrocarbons) 10,000 ppm?
6. Has the applicant been eligible to recover cleanup costs arising from this petroleum release under any insurance policy at any time since June 4, 1987? yes ___ no

If yes, provide the following:


<u>Insurance Company</u>	<u>Policy #</u>	<u>Policy Limits</u>	<u>Deductible</u>	<u>Period Covered</u>
				<u> / / </u>
				<u> / / </u>

7. Total of all eligible costs as listed in the Eligible Cost Worksheets:

$$\begin{aligned} & \$60,320.03 \\ & \quad \times 90\% \\ & = \$54,288.03 \\ & \text{Insurance Reimbursement (Subtract)} \quad - \quad \$ \underline{\quad 0 \quad} \\ & \text{Total Reimbursement Request (See application guide)} \quad = \quad \$ \underline{54,288.03} \end{aligned}$$

A. "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete.

"I certify that if I have submitted invoices for costs that I have incurred but that remain unpaid, I will pay these invoices within 30 days or receipt of reimbursement from the board. I understand that if I fail to do so, the board may demand return of all or any portion of reimbursement paid to me and that if I fail to comply with the board's demand, that the board may recover the reimbursement, plus administrative and legal expenses in a civil action in district court. I understand that I may also be subject to a civil penalty."



Signature of Applicant
Jim Dean
Name (Please Print)
8/16/93
Date

Witnessed by:
Marilyn Markel
Name
8/16/93
Date

Every applicant must sign Part A. above. If applicant is a corporation or partnership, the following certification must also be made:

"I further certify that I am authorized to sign and submit this application on behalf of

Unocal Corp."


Signature
Regional Manager
Title (See Application Guide, Part VI)

Jim Dean
Name (Please Print)
8/16/93
Date

Please send this application and accompanying documents to:

**Petroleum Tank Release Compensation Board
Minnesota Department of Commerce
133 East Seventh Street
St. Paul, Minnesota 55101
(612) 297-4203
(612) 297-1119**

PART VI

CONTRACTORS/CONSULTANTS

1. Complete the following for all contractors, subcontractors, consultants, engineering firms or others who performed corrective actions at this release site. (see application guide) **Failure to provide this information for ALL persons who performed corrective action may result in an action to recover any reimbursement which may be paid.** (Attach additional sheets if necessary.)

Name of individual or firm: ATEC ASSOCIATES

Mailing address: 1479 Energy Park Dr

Contact person: Mark Mason Phone: (612) 445-9520

Name of individual or firm: Clean Soils

Mailing address: 84 2nd Ave SE New Brighton MN 55112

Contact person: Bruce Rivers Phone: (612) 639-8811

Name of individual or firm: Unowen

Mailing address: 3850 N. Wilke Rd Arlington Hts, IL 60004

Contact person: Claude Harmon Phone: (708) 818-7273

Name of individual or firm: _____

Mailing address: _____

Contact person: _____ Phone: () _____

Name of individual or firm: _____

Mailing address: _____

Contact person: _____ Phone: () _____

2. Describe below any relationship, financial or otherwise, between the applicant and any contractor who performed work at this site:

None

1800 2ND STREET SO. - (612) 933-4800 - HOPKINS, MN 55343
(On Cty. Rd. 3 - Just West of Cty. Rd. 18)

November 26, 1986

9280-300

Mobil Oil Corporation
Woodfield Engineering Center
600 Woodfield Drive
Schaumburg, IL 60196

RE: KENT-MOOORE TANK TESTING
#05G0D - 9405 Medicine Lk. Rd.
Golden Valley, MN

ATTENTION: Pauline

Reference is made to the tank testing performed at the above location.

National Fire Prevention Association Code 329 specifies a tank can be considered tight when losses do not exceed .05 gallons per hour. It also specifies that testing devices "...shall be capable of detecting leaks as small as .05 gallons in one hour, adjusted for variables..."

Testing of the above tanks was conducted with the NFPA recognized Kent-Moore Tank System Tightness Tester. This tester is basically a stand-pipe tester, which compensates for volumetric expansion or contraction, due to temperature changes, and measures losses smaller than .05 gallons per hour. Since product was brought above ground in a stand-pipe, the entire tank was tested, including vent lines, fill pipes, discharge lines and tank openings.

SOUTH 8,000 gal. REGULAR tank	NFPA Tight
NORTH 10,000 gal. UNLEAD tank	NFPA Tight
WEST 4,000 gal. SUPER tank	NFPA Tight
560 gal. FURNACE OIL tank	Not Tight.

We could not get the furnace oil tank to hold product in the standpipe long enough to begin a Petrotite test. We uncovered the tank and inspected the top bungs and piping and found no leaks in these connections and the tank still was not tight.

Pursuant to Minnesota Statute 115.061, a copy of this report should be sent to Mr. Dick Kable, at the Minnesota Pollution Control Agency, 1935 W. County Road B2, Roseville, MN 55113, if suspected, or known, oil leakage has occurred.

* Soil boring to locate the water level in the tank excavation was performed and found to be below the bottom level of the tanks and will not have any bearing on the test.

We have enclsod two (2) copies of the test data for these tanks. Additional copies are available from our files, upon request.

Thank you.

Ron Komis
RON KOMIS

RK: jlg

Enclosures (2)

Fueling Systems - Electronic Gauging &
Inventory Controls - Fiberglass Tanks & Pipe



Self Serv Equipment - Compressors
Auto Lifts & Parts - Service Station Pumps

Treatment

D. SOIL DISPOSAL

Description	Firm Name	Invoice # or date	Total Units	Unit Costs	Sub- total
Thermal Treatment	cleansoils	1029	1,107.81	34	37,065.54
weigh TACKS	"	"	56	5	280.00
Total					37,945.54

C. EXCAVATION

Description	Firm Name	Invoice # or date	Total Units	Unit Costs	Sub- total
Soil Removal	Griffin	3209	794	20.6	16,358.9
Total					16,358.9

B. LABORATORY TESTS AND ANALYSIS

Description	Firm Name	Invoice # or date	Total Units	Unit Costs	Sub- total
TPH	ATEC ASSOC	5500065	3	95	285
BTEX			4	100	400
Lead			3 0	30	90
TPH	ATEC ASSOC	5500072	2	95	190
TPH - Soil	↓	↓	4	90	360
BTEX - Soil	↓	↓	4	100	400
				Total	1,725.0

Chris McLain

MINNESOTA POLLUTION CONTROL AGENCY
COMMISSIONER'S SITE REPORT
TO THE PETROLEUM TANK RELEASE
COMPENSATION BOARD

Site: Former Mobil Station, 9405 Medicine Lake Road, Golden Valley

Site ID#: LEAK00000183

Applicant: Jim Dean

Date of Application: August 16, 1993

Date of Underground Storage Tank Registration: April 30, 1986

Date of Tank Installation: 1969 and 1972

1. Eligibility Determination

I hereby determine that the corrective action described in the application was appropriate in terms of protecting public health, welfare, and the environment and that the applicant is eligible for Petrofund reimbursement, pursuant to Minn. Stat. § 115C.09, subd. 2, items (a) and (c) (1992).

2. Compliance with Applicable Requirements: INADEQUATE

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At the time of the release, regular inventory control and tank tightness testing measures were not taken and/or leak detection equipment was not installed on the underground petroleum storage tank system as required by Minn. Rules pt. 7150.0300 and 0310 and/or 40 CFR § 280.40 and 41.

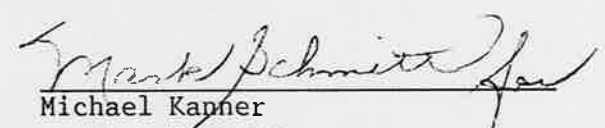
DATE LEAK DETECTION REQUIRED: December/1990 and December/1991

3. Reimbursement Reduction Recommendation:

The MPCA staff recommends a reduction in the amount of reimbursement available to the applicant, under Minn. Stat. § 115C.09, subd. 3(f)(1992), based upon the compliance failure(s) noted above.

The determinations in this report are made solely for the purpose of determining eligibility for reimbursement under Minn. Stat. § 115C.09, subds. 2 and 3 (1992). Nothing in this site report releases any person from liability, and the MPCA does not waive any of its authority to require additional corrective action at the above-referenced site or to enforce other provisions of state law.

Dated: 1/4/94


Michael Kanner
Section Manager
Tanks and Spills Section

Petroleum Tank Release Compliance Checklist

SITE NAME: Unocal Corp. LEAK0000 0183
 USE THE FOLLOWING GUIDELINES TO DETERMINE IF THE LEAKING TANK IS IN COMPLIANCE

_____ UNREGULATED TANKS.....are AST's or UST's 110 gallons or less, OR heating oil AST's or UST's 1,100 gallons or less with product consumed on the premises, OR farm/residential AST's or UST's 1,100 gallons or less containing motor fuel not for resale.

_____ STATE REGULATED TANKS.....are heating oil UST's with a capacity more than 1,100 gallons.

_____ FEDERALLY REGULATED TANKS.....are all UST's not specified above.

_____ ABOVEGROUND TANKS.....are unregulated if they meet the same criteria as "Unregulated Tanks". If AST's are regulated, use items marked with **.

UNREGULATED TANKS, STATE TANKS, FEDERAL TANKS ADEQUATE INADEQUATE

**Release Notification: Date release discovered: MPCA _____ Petro App 12/04/86
 Date release reported: MPCA 12/04/86 Petro App 12/04/86
 Was there environmental damage due to delay? Yes _____ No _____

**Cooperation/Due Care Issue: Yes _____ No _____
 (i.e. release during tank removal, land treatment prior to approval, land treatment monitoring results not received)

Comments: _____

STATE TANKS, FEDERAL TANKS ADEQUATE INADEQUATE

**Tank Registration: AST or UST number: UST # 2414 Registration Date: 04/30/86
 Regulated UST's should be registered by 12/1/87. Regulated AST's should be registered by 1/1/91.
 Unregistered tanks removed before compliance dates receive no reduction for being unregistered.

Certified UST Installer: Yes _____ No _____ N/A Installation Date(s): 1969, 72, 82 Contractor Cert# _____
 Applicable after 7/9/90.

Certified UST Remover: Yes No _____ N/A _____ Removal Date(s): 5/6/92 Contractor Cert # 0178
 Applicable after 7/9/90.

Corrosion Protection: Tanks: Yes _____ No _____ N/A
 Piping: Yes _____ No _____ N/A
 Applicable for steel piping/steel UST's installed after 6/1/86. Steel piping/steel UST's installed before 6/1/86 require corrosion protection no later than 12/22/98. Heating oil piping/heating oil UST's installed before 6/1/86 don't ever require corrosion protection.

**AST Secondary Containment: Yes _____ No _____ N/A
 Applicable after 1964 for AST's > 1,100 gallons or any AST within 500' of surface water.

FEDERAL TANKS ADEQUATE INADEQUATE

Prior Removal Notice: Yes Number of Days 124 No _____ N/A _____
 Applicable after 1/1/91; heating oil UST's > 1,100 gallons after 8/1/92.

Leak Detection: Tanks: Yes No _____ N/A _____
 If tank was installed: Then the leak detection deadline is:
 before 1965 or unknown 12/22/89
 1965-1969 12/22/90 •
 1970-1974 12/22/91 •
 1975-1979 12/22/92
 1980-12/22/88 12/22/93
 Tanks installed after 12/22/88 should have leak detection at installation.

Piping: Yes _____ No N/A _____
 Applicable for pressurized piping installed after 12/22/88. Pressurized piping installed before 12/22/88 should have leak detection by 12/22/90. Suction piping requires leak detection on the same schedule listed under Leak Detection for Tanks.

Spill/Overfill Protection: Yes _____ No _____ N/A
 Applicable for UST's installed after 12/22/88. UST's installed before 12/22/88 require spill and overfill protection by 12/22/98.

9ws

12/3/93

2-10-93
CLM

MINNESOTA POLLUTION CONTROL AGENCY
 COMMISSIONER'S SITE REPORT
 TO THE PETROLEUM TANK RELEASE
 COMPENSATION BOARD

SITE ID#	RELEASE SITE	APPLICANT	REGION
LEAK00000183	Golden Valley Citso	Hark's, Inc.	Metro
LEAK00000517	Q Petroleum	Avanti Petroleum, Inc.	Metro
LEAK00005200	Abbott Northwestern Hospital	Allina Health System	Metro
LEAK00009902	KMS Management	KMS Management, Inc.	
LEAK00010288	Highway 19 Warehouse	St. Olaf College	5
LEAK00012320		Alliant Techsystems	2
LEAK00012336	Swenson Residence	Dave Swenson Residence	4
LEAK00012418	Amoco #2125, 3855 Plymouth	Amoco Corporation	Metro
LEAK00012928	The Wave Car Wash	WCW, Inc.	Metro
LEAK00013108	Beske Hardware	Robert Roessler	5

1. Eligibility Determination

I hereby determine that the corrective action described in the application was appropriate in terms of protecting public health, welfare, and the environment and that the applicant is eligible for Petrofund reimbursement, pursuant to Minn. Stat. § 115C.09, subd. 2, items (a) and (c) (1998).

2. Compliance with Applicable Requirements: **ADEQUATE**

Information readily available to the Minnesota Pollution Control Agency staff shows that the applicant has complied with the applicable requirements of Laws 1999, Chapter 203, section 2, to be coded as Minnesota Statutes Section 115C.09, subdivision 3(i).

The determinations in this report are made solely for the purpose of determining eligibility for reimbursement under Minn. Stat. § 115C.09, subd. 2 (1998) and Laws 1999, Chapter 203, section 2, to be coded as Minnesota Statutes Section 115C.09, subdivision 3(i). Nothing in this site report releases any person from liability, and the Minnesota Pollution Control Agency does not waive any of its authority to require additional corrective action at the above-referenced site or to enforce other provisions of state law.

Dated: 5/22/00



Mark Schmitt
 Supervisor
 Policy and Planning
 Site Remediation Unit

OFFICE USE ONLY:

LEAK # 183 PHASE 2
ENTERED 4/18/00 HC

APR 10 2000

Dept. of Commerce

2nd RP

MINNESOTA PETROLEUM TANK RELEASE COMPENSATION BOARD APPLICATION FOR REIMBURSEMENT

I. APPLICANT INFORMATION

Name: Hark's Inc.

Mailing Address: 2600 Cedar Ave. S.

City: Minneapolis State: MN Zip: 55407

Contact Person (if different from above "Name"): Mr. Assaad Hark

Day Phone (612) 729-6605 Ext: _____ Fax _____

Check One:

- Responsible Person
- Volunteer
- Non-Responsible Person
(see Application Guide)

Check One:

- Corporation
- Partnership
- Individual
- Municipality
- State, federal, or other public agency

/ * / to / * / Dates applicant owned or operated tank(s) [complete if "Responsible Person" box is checked]

/ / to / / Dates applicant owned property [complete if "Volunteer" box is checked]

*Owner bought station in August 1997, which was after the leaking USTs were removed and upgraded. Monitoring wells that were related to the leaking USTs were still present on the property and needed to be abandoned.

II. LEAK SITE INFORMATION

183 Petrofund Leak Number Chris McLain MPCA Project Manager

Tank Facility Name Golden Valley Citgo

Address: 9405 Medicine Lake Road

City: Golden Valley MN Zip: 55427

Day Phone () _____ County of Leak Site: Hennepin

12/4/86 Date petroleum leak detected

12/4/86 Date petroleum leak reported to MPCA

Yes No Is tank leak on personal residential property? *closed 2/10/93*

794 cubic yards Total amount of contaminated soil excavated at this site

10,000 ppm Range of soil contamination concentration (total hydrocarbons)

0 ppb Range of groundwater contamination concentration (total hydrocarbons)

III. ASSIGNMENT CERTIFICATION / TERMINATION

CHECK ALL THAT APPLY:

- Petrofund Assignment Agreement for this application has been executed (*attach original of new assignment form*)
- Assignment form is already on file with the Department of Commerce

List Assignees: _____

Not applicable _____

IV. APPLICATION PHASE

Check appropriate box and complete the information requested for the box checked (see *Application Guide* for further information).

- Preremoval site assessment**
 / / Date of assessment report
 / / Date of property sale, if applicable
- Phase 1 Soil Corrective Action Costs or Remedial Investigation Costs**
 / / Date of MPCA soil treatment letter (*attach copy*)
- Phase 2 Installation Costs of MPCA-approved Soil or Groundwater Comprehensive Corrective Action Design System (CCAP/CAD) or Groundwater Monitoring and System Maintenance Costs**
 / / Date of CCAP/CAD approval letter (*attach copy*)
 2/10/93 Date of MPCA site closure letter (*attach copy*)

V. SOURCE AND CAUSE

What was the source and cause of the petroleum release at this site? (see *Application Guide*) Reportedly, from the UST systems of the 550 gallon fuel oil, and the 4,000, 8,000 and 10,000 gas tanks.

How was the release discovered? Reportedly, failed tightness testing and soil sampling.

If the release was not reported to the MPCA within 24 hours of discovery, state the reason why: NA

To the best of your knowledge, list all persons other than the applicant who were owners or operators of the tank during or after the petroleum release: Unocal Corporation, Mobil Oil Corporation

- Yes No Did any of the persons listed above incur corrective action costs related to this petroleum release?
 If yes, list name(s) and address(es) if known: Unocal: 1650 E. Golf Road, Schaumburg, IL 60196-1088
Mobil Oil Corporation, PO Box 847, Joliet, IL 60434

VI. TYPE OF REMEDIATION SYSTEM

Please check the type of soil or groundwater remediation system used at this site or projected for it.

Soil Remediation Technologies

- Biopiles Bioventing Incineration Landfarming
- Low-temperature thermal desorption Soil vapor extraction
- Soil washing Natural attenuation

Groundwater Remediation Technologies

- Air sparging Biosparging Dual phase extraction
- In-situ groundwater bioremediation Natural attenuation

VII. COMPETITIVE BIDDING

List all written bids/proposals obtained to perform corrective action at this site (*attach additional sheets if necessary*).
Attach copies of all signed and dated bids/proposals.

	Bidder Selected*	Name	Amount of Bid	Date of Bid	Task
Consultants	<input checked="" type="checkbox"/>	Peer Environmental & Engineering Resources	873.50	1/6/00	MW abandonment
	<input type="checkbox"/>	Northern Environmental Technologies, Inc.	878.50	12/21/99	MW abandonment
	<input type="checkbox"/>				
Contractors	<input type="checkbox"/>				
	<input type="checkbox"/>				
	<input type="checkbox"/>				
	<input type="checkbox"/>				

*If lowest bid/proposal was not selected, explain that decision on a separate sheet.

VIII. MPCA TANK INFORMATION AND COMPLIANCE

Yes No Have you submitted an underground storage tank audit?

A. Underground Storage Tanks. Complete the following information to reflect the status of your underground storage tanks at the time the release was discovered. Refer to the documents "Do Underground Storage Tank and Piping Requirements Apply to Your Petroleum Tank?" and "What Do You Have to Do?"/"When Do You Have to Act?" to determine the applicability of registration, leak detection, corrosion protection, and spill/overflow protection requirements.

If you are unsure how tank rules apply to your tanks, please call the UST Compliance and Assistance Unit at (612) 297-8679. Please tell the receptionist you have questions about this form.

(List all tanks at the site. Please attach additional sheets if necessary.)

Tank #	Petroleum Product	Capacity	Tank Material	Date Installed	Date Registered	Date Removed (if applicable)
1	Fuel oil	500	Steel	1/1/82	Yes	Active
2	Gasoline	4000	Steel	1/1/72	Yes	5/6/82
3	Waste oil	550	Steel	1/1/69	Yes	1/11/87
4	Gasoline	8000	Steel	1/1/69	Yes	5/6/92
5	Gasoline	10000	Steel	1/1/69	Yes	5/6/92

TANKS

Tank #	Leak Detection (select method below)	Corrosion Protection (select method below)	Spill Bucket (Yes/No)	Overfill Protection (select method below)
1	1	No	No	No
2	6	No	No	No
3	1	No	No	No
4	6	No	No	No
5	6	No	No	No

<p>Leak detection method (select all that apply):</p> <ol style="list-style-type: none"> None Inventory control plus annual tightness testing Inventory control plus tightness testing every 5 years Manual tank gauging Manual tank gauging plus annual tightness testing Manual tank gauging plus tightness testing every 5 years Statistical inventory reconciliation (SIR) Automatic tank gauging Interstitial monitoring Vapor monitoring Ground water monitoring Other (specify): _____ 	<p>Corrosion protection method:</p> <ol style="list-style-type: none"> None Fiberglass, jacketed steel or composite tank STI-P 3 tank Anodes installed Impressed current system Lined tank Other (specify): _____ 	<p>Overfill protection method:</p> <ol style="list-style-type: none"> None Ball float valve Automatic shutoff Audible alarm Other (specify): _____
--	---	--

If tank tightness tests were performed, indicate dates of all tests: 11/26/86 _____

PIPING

Tank #	Pressurized Piping Leak Detection		Suction Piping Leak Detection	Corrosion Protection (select method below)
	Continuous Leak Detection (select method below)	Periodic Leak Detection (select method below)	Check valve located at: <input type="checkbox"/> Tank <input type="checkbox"/> Pump (select method below)	
1	1	1	1	1
2	1	1	1	1
3	1	1	1	1
4	1	1	1	1
5	1	1	1	1
Continuous method:		Periodic method:	Suction leak detection method:	Corrosion protection method:
1. None 2. Automatic flow restrictor 3. Automatic shutoff device 4. Continuous alarm		1. None 2. Annual tightness test 3. Statistical inventory reconciliation (SIR) 4. Electronic line leak detector 5. Interstitial monitoring 6. Groundwater monitoring	1. None 2. Tightness test every 3 years 3. Statistical inventory reconciliation (SIR) 4. Interstitial monitoring 5. Vapor monitoring 6. Groundwater monitoring	1. None 2. Steel with anodes 3. Coated steel with anodes 4. Impressed current 5. Fiberglass or flexible piping

If piping tightness tests were performed, indicate dates of all tests: _____

Griffin Equipment Company Identify MPCA-certified tank removal contractor who performed tank excavation

178 Tank removal contractor's MPCA certification number

B. Aboveground Storage Tanks. Complete the following information to reflect the status of all aboveground tanks at this site at the time the release was discovered.

In describing your secondary containment, specify:

- ◆ materials used to construct both the base and the walls, including type and thickness of materials (e.g., 6" compacted clay; 30 mil HDPE; reinforced concrete slab floor/concrete block walls; none)
- ◆ how material specifications are known (e.g., permeability tests/dates, installation specifications)
- ◆ whether the volume of the secondary containment area is adequate for the contents of the largest tank (Yes/No)

Tank #	Contents	Capacity	Date Installed	Registered (Yes/No/Unk)	Description of Secondary Containment			Volume (Yes/No)
					Walls	Base	Verification	
1								
2								
3								

IX. ELIGIBLE COSTS

1/1/00 to 1/28/00 Dates of work covered by invoices submitted with this application

- Yes No Does this application contain costs listed as ineligible under Minn. Rule 2890.0071? (*see Application Guide*)
- Yes No Are any of the costs included in this application in dispute? If so, describe the disputed issue(s) on a separate sheet.
- Yes No Are any of the costs included with this application subject to bankruptcy proceedings? If so, please describe the nature of the proceedings on a separate sheet.
- Yes No Are ongoing corrective action costs expected at this site? If so, explain briefly below.

Type of Work	Approximate Cost
_____	\$ _____
_____	\$ _____
_____	\$ _____

Please provide a chronological description (including dates) of the clean-up activities covered on this application, including any special circumstances (*attach additional sheets if necessary*):

1/12/00 – Three monitoring wells abandoned on-site.

- Yes No Has the applicant made a claim against any third party for costs for which the applicant is seeking reimbursement or for any costs associated with this release? If so, attach a separate sheet identifying all third parties and provide a copy of all correspondence between the applicant and third parties.
- Yes No Is the applicant aware of any action the applicant committed or of any action committed by a consultant or contractor which may have caused or aggravated the contamination at this site? If so, please explain:

X. INSURANCE

- A. Yes No Did the applicant have in effect one or more insurance policies at the time of the release?
If "No," skip to question D. If "Yes," proceed to the next question.
- B. Yes No Was a claim filed for coverage of any of the costs for which the applicant is seeking reimbursement in this application? *If "Yes," skip to question C.*

If "No," please explain why no claim was filed: _____

(Skip to question D.)
- C. Yes No Did the insurer agree to cover your claim?
If "Yes":
 - State the amount of benefits received (or to be received) \$ _____
 - Provide a copy of the insurance policy and the insurer's explanation of benefits.If "No":
 - Provide a copy of the insurance policy and the insurer's letter explaining the reasons for denying your claim.
- D. Yes No Is the applicant aware of any other insurance policy, whether held by the applicant or another person, that could cover any of the eligible costs in this application? If so, please explain: _____

XI. CONSULTANTS/CONTRACTORS

Complete the following for **ALL** contractors, subcontractors, consultants, engineering firms or others who performed corrective actions at this site and **whose work is covered by invoices included in this application.** (See *Application Guide*.)

Describe any relationship, financial or otherwise, between the applicant and anyone who performed work at this site: None

Land Farmer/Compost Site or Thermal Treatment Facility

_____ Petrofund Registration Number County _____
Name of individual or firm: _____
Mailing Address: _____
Contact Person: _____ (City) _____ (State) _____ (Zip)
Day phone #: (_____) _____

Consultants/Contractors (ATTACH ADDITIONAL PAGES IF NECESSARY)

1005 Petrofund Registration Number
Name of individual or firm: Peer Environmental & Engineering Resources, Inc.
Mailing Address: 7710 Computer Avenue, Suite 101, Minneapolis, MN 55435
Contact Person: Matt Evans (City) _____ (State) _____ (Zip)
Day phone #: (612) 831-3341

1262 Petrofund Registration Number
Name of individual or firm: Bergerson Caswell
Mailing Address: 5115 Industrial Street, Maple Plain, MN 55359
Contact Person: Rob Caho (City) _____ (State) _____ (Zip)
Day phone #: (612) 479-3121

_____ Petrofund Registration Number
Name of individual or firm: _____
Mailing Address: _____
Contact Person: _____ (City) _____ (State) _____ (Zip)
Day phone #: (_____) _____

XII. ATTACHMENTS

The following attachments are included in this application (see *Application Guide*):

- | | |
|---|--|
| Either A or B must be included: | Check all that apply: |
| <input checked="" type="checkbox"/> Attachment A Standardized Invoice Summary | <input type="checkbox"/> Attachment C Small Business Owner Form |
| <input type="checkbox"/> Attachment B Itemized Cost Worksheet | <input type="checkbox"/> Attachment D Small Gasoline Retailer Form |
| | <input type="checkbox"/> Attachment E Combined Leaksite Costs Over \$250,000 |

XIII. CERTIFICATION PAGE* (Application Guide)

APPLICANT SIGNATURE and NOTARIZATION (SIGNATURE AND NOTARIZATION REQUIRED)

If information contained in this application changes in any material way after this application is submitted to the Petrofund, I will immediately notify the Petrofund in writing of those changes.

I understand that the information used to support this application is subject to audit by the Minnesota Pollution Control Agency and the Minnesota Department of Commerce.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete.

I certify that if I have submitted invoices for costs that I have incurred but that remain unpaid, I will pay these invoices within 30 days of receipt of reimbursement from the Board. I understand that if I fail to do so, the Board may demand return of all or any portion of reimbursement paid to me and that if I fail to comply with the Board's demand, then the Board may recover the reimbursement, plus administrative and legal expenses in a civil action in District Court. I understand that I may also be subject to a civil penalty.

I further certify that I am authorized to sign and submit this application on behalf of _____
Corporation / Partnership / Municipality / Public Agency

Signature Assaad HARK
Name (print/type) Assaad HARK
Title V.P.
Date Signed 3-31-00

NOTARIZATION

Subscribed and sworn to before me this 31st day

of MARCH 2000

Notary Public ELIAS YAZBECK
Notary Public
Minnesota
My Commission Expires Jan. 31, 2005

CONSULTANT SIGNATURE (SIGNATURE REQUIRED)†

I, Matthew Evans, confirm that all costs claimed by Peer Environmental & Engineering Resources, Inc. as a part of this application are a true and accurate account of services performed. I further confirm that no costs submitted for inclusion on this application by my consulting company are ineligible as listed in Minn. Rule 2890.0071.

Matthew J. Evans /Environmental Engineer Date 3/31/00
Consultant Signature Title

†Duplicate this section if more than one consultant signature is required.

APPLICATION PREPARER'S SIGNATURE (SIGNATURE REQUIRED)

Matthew Evans /Environmental Engineer Date 3/31/00
(Preparer's name) Preparer's Signature Title

* NOTE: SUBMIT CERTIFICATION PAGE CONTAINING ORIGINAL SIGNATURES.

Please send this application and accompanying documents to:
MINNESOTA DEPARTMENT OF COMMERCE - PETROFUND
133 EAST SEVENTH STREET
ST. PAUL, MN 55101-2333
(612) 297-1119, (612) 297-4203

THIS APPLICATION IS EFFECTIVE JULY 1, 1998 - JUNE 30, 1999

ATTACHMENT A STANDARDIZED INVOICE SUMMARY

Please use this form if the costs you are submitting for reimbursement have been invoiced to you on the standardized invoice forms prescribed by the Petrofund Board. **This attachment must accompany your application if you entered into a contract on or after October 6, 1995.**

For each standardized invoice form you are submitting with this application, enter the Grand Total from the Actual Invoice Amount column on the corresponding line in the box below. Add these numbers together, subtract the amount of insurance reimbursement you have received, and multiply the resulting total by the appropriate reimbursement rate.

STANDARDIZED INVOICE SUMMARY

Preremoval Site Assessment.....	\$	
Underground Storage Tank Removal Assessment	\$	
Initial Site Assessment.....	\$	
Additional Site Assessment	\$	
Remedial Investigation / Corrective Action Design Report	\$	
Remedial Design / Maintenance	\$983.55	
Contractor Services.....	\$	
Tank Removal.....	\$	
Interest	\$	
TOTAL	\$983.55	

Insurance Reimbursement (subtract)	-	\$ <u>(0.00)</u>
	=	\$983.55

x 90%*

TOTAL REIMBURSEMENT REQUEST = \$885.20

* If a different reimbursement rate applies, calculate at that rate. See Application Guide.

☞ Please attach a copy of a site map that shows the former tank basin, the excavation area, and any on-site structures. If new tanks were installed, the map also should show their sizes and location(s). The site map should also identify the location of any soil borings and monitoring wells on the property.

⇒ Tank removal costs are eligible only to those applicants that are small gasoline retailers or small business owners as defined in Minn. Stat. §115C.09, Subd 3f and 3g.



twin city testing
corporation

662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

August 2, 1989

RECEIVED

AUG 04 89

MPCA, Hazardous
Waste Division

Minnesota Pollution Control Agency
520 Lafayette Road
St Paul, MN 55155

Attn: Ms Linda Tanner

Subj: Quarterly Monitoring Report
Leak #183
Golden Valley Mobil #05-GOD
County Road 18 and Medicine Lake Road
Golden Valley, Minnesota
#4231 88-521

Enclosed is Twin City Testing Corporation's (TCT) report presenting project results consisting of four quarters groundwater monitoring at the above referenced site.

If you have questions regarding the information contained herein, please feel free to contact me at (612) 649-5578.

Very truly yours

TWIN CITY TESTING CORPORATION

Damon M Powers
Geological Engineer/Project Manager

DMP/ak

Encs

RECEIVED

SEPT 11 89

MPCA, Hazardous
Waste Division

#183

QUARTERLY MONITORING REPORT

MOBIL STATION #05-GOD

COUNTY ROAD 18 & MEDICINE LAKE ROAD

GOLDEN VALLEY, MINNESOTA

August 2, 1989

#4231 88-521

QUARTERLY MONITORING REPORT

GOLDEN VALLEY MOBIL #05-GOD

GOLDEN VALLEY, MINNESOTA

#4231 88-521

1.0 INTRODUCTION

1.1 Purpose

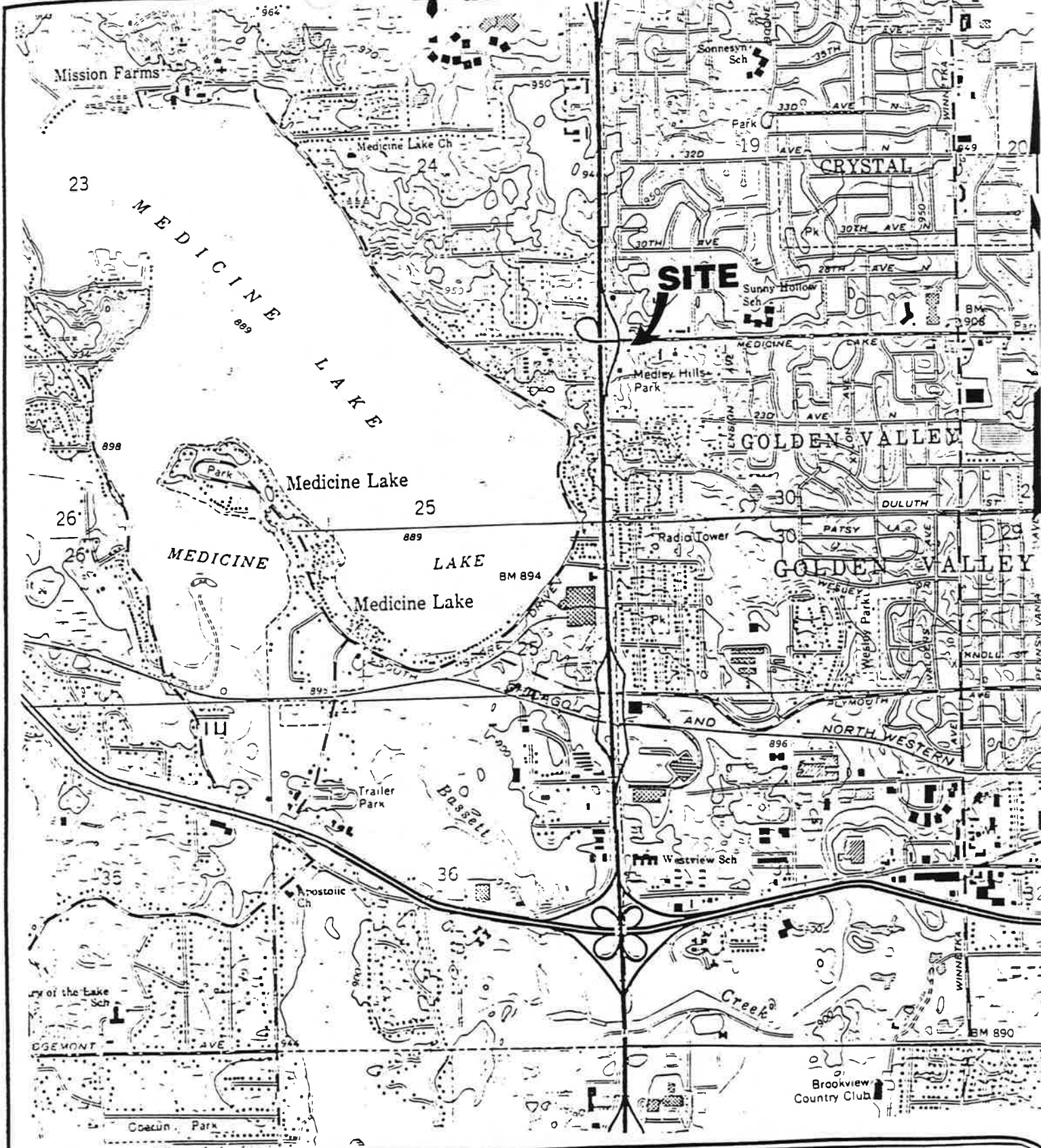
The purpose of this report is to present the results of the quarterly groundwater monitoring program conducted by Twin City Testing Corporation (TCT) at the above referenced site (Figure 1). The one-year groundwater monitoring program was implemented in October 1988 in response to a Minnesota Pollution Control Agency (MPCA) directive dated September 16, 1988. The MPCA objective was to determine if hydrocarbon contamination present in the soils around soil boring B-4 had migrated into the groundwater beneath the site. Mr Chris Lawson of Mobil Oil Corporation verbally authorized this work in September 1988.

1.2 Scope of Services

The scope of services provided by TCT included the following:

- acquiring four sets of groundwater elevation measurements,
- collecting representative groundwater samples on a quarterly basis for analysis to quantify benzene, ethyl benzene, toluene, xylenes and total hydrocarbons as gasoline concentrations, and
- preparing a report presenting our field and analytical data.





SITE LOCATION MAP
MOBIL STATION #05-GOD
COUNTY ROAD 18 & MEDICINE LAKE ROAD
GOLDEN VALLEY, MINNESOTA

DATE	7/20/89	FIGURE	1
PROJECT #	4231 88-521		
REVIEWED BY:			
DRAWN BY:	E.J.V.		
SCALE	1"=2000'		



COUNTY ROAD 18

MEDICINE LAKE ROAD

DRIVE WAY

DRIVE WAY

GRASS

MW-9

MW-7

B-3

CONCRETE PAD

B-10

GRASS

B-5

B-1

B-2

GRASS
STEEP SLOPE





EXISTING BUILDING

MW-8

PRIVATE DRIVE



LEGEND:

-  SOIL BORING LOCATION
-  MONITORING WELL LOCATION
-  PUMP ISLAND
-  U.S.T REMOVED IN 1987

SITE MAP
 MOBIL STATION #05-GOD
 COUNTY ROAD 18 & MEDICINE LAKE ROAD
 GOLDEN VALLEY, MINNESOTA

DATE	7/21/89	FIGURE	2
PROJECT #	4231 88-521		
REVIEWED BY:			
DRAWN BY:	E.J.V.		
SCALE	APPROXIMATELY 1"=40'		

1.3 Background

Previous work has been conducted at this site by TCT since 1986. Additional details of these activities are presented in the following reports:

Preliminary Contamination Assessment	#4231 87-503	December 18, 1986
Tank Excavation, Mobil Station	#4231 87-503	January 27, 1987
Remedial Site Assessment	#4231 87-663	May 28, 1987

In December 1986, TCT advanced four soil borings at the site to determine if the subsurface had been impacted by hydrocarbon contamination. Hydrocarbon contamination was quantified at depth in soil boring B-4.

A 1,000 gallon diesel fuel UST was excavated and removed from the site in January 1987. Fifty (50) cubic yards of contaminated soils were removed from the site. Using visual and olfactory evidence as criteria, TCT felt that all contaminated soils were removed by excavating.

A remedial site assessment was carried out in May 1987 to determine the extent of subsurface contamination. No hydrocarbon concentrations were detected above the method detection limit from groundwater samples collected from three monitoring wells installed at the site.

2.0 PROJECT RESULTS

2.1 Soil Conditions

The site is underlain by glacial tills and alluvium. The glacial tills consist mainly of silty sand (SM), clayey sand (SC) and sandy lean clay (CL) with varying amounts of gravel. Sand (SP) and sand with silt and gravel (SP-SM) comprise the coarse alluvium. A layer of fine alluvium which consists of lean clay with sand (CL) was encountered at the bottom of the boring for MW-8. Lenses of silt, silty sand and sand were encountered at varying depths. Soil borings B-5 and B-10 and monitoring well MW-8 terminate in alluvium; whereas, monitoring wells MW-7 and MW-9 terminate in glacial till. The soil boring depths vary between 33 and 56.5 feet below the ground surface; however, the surface elevations also vary considerably at the site. The locations of the soil borings and monitoring wells are presented in Figure 2.

2.2 Groundwater Elevations

Depth to groundwater measurements were obtained from all monitoring wells at the site on October 3, 1988, January 9, April 3, July 5 and July 11, 1989. During the sampling interval the groundwater table exhibited seasonal fluctuations of approximately 1.58, 0.55 and 4.38 feet at monitoring well MW-7, MW-8 and MW-9 respectively. Water table elevations, in general, declined from October 1988 until April 1989. Subsequent water table

elevation measurements indicated a rise in the water table. The water table information is summarized in Table 1. The inferred groundwater flow direction trends southwest towards Medicine Lake (Figure 3).

2.3 Chemistry Results

Groundwater quality samples were collected from monitoring wells MW-7, MW-8 and MW-9 on a quarterly basis beginning October 1988. These samples were returned to TCT's chemistry laboratory for analysis to quantify benzene, ethyl benzene, toluene, xylenes and total hydrocarbons as gasoline concentrations. The chemical results are presented as Table 2. No free product was documented in the monitoring wells on site during this sampling phase.

TABLE 1

Water Table Elevation Data
Quarterly Monitoring Report
Golden Valley Mobil #05-GOD
Golden Valley, Minnesota
#4231 88-521

Well	Top of Riser	Water Table Elevation (10-05-88)	Water Table Elevation (1-9-89)	Water Table Elevation (4-3-89)	Water Table Elevation (7-5-89)
MW-7	96.41	71.42	69.72	70.06	64.10
MW-8	89.27	55.70	55.65	55.64	56.07
MW-9	101.77	81.20	79.54	74.32	84.22

Note: All elevations measured in feet and referenced to a local datum arbitrarily set at 100.00.



COUNTY ROAD 18

MEDICINE LAKE ROAD

COUNTY ROAD 18

DRIVE WAY

DRIVE WAY

73.85
MW-7

GRASS
84.94
MW-9

B-1

B-3

CONCRETE
PAD

B-10

GRASS

GRASS
STEEP SLOPE

EXISTING BUILDING

MW-8
56.12

B-5

B-4

PRIVATE DRIVE



LEGEND:



SOIL BORING LOCATION



MONITORING WELL LOCATION



PUMP ISLAND

84.94

WATER TABLE ELEVATION



FLOW DIRECTION

INFERRED WATER TABLE FLOW DIRECTION 7-11-89
MOBIL STATION #05-GOD
COUNTY ROAD 18 & MEDICINE LAKE ROAD
GOLDEN VALLEY, MINNESOTA

DATE	7/21/89	FIGURE	3
PROJECT #	4231.88-521		
REVIEWED BY:			
DRAWN BY:	E.J.V.		
SCALE	APPROXIMATELY 1"=40'		

TABLE 2

Water Quality Data
 Quarterly Monitoring Report
 Golden Valley Mobil #05-GOD
 Golden Valley, Minnesota
 #4231 88-521

<u>Location</u>	<u>Date</u>	<u>Total Hydrocarbons</u>					<u>MDL</u>
		<u>As Gasoline</u>	<u>Benzene</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylenes</u>	
MW-7	10-05-88	ND	ND	ND	ND	ND	1
	1-09-89	15	2	ND	ND	ND	1
	4-03-89	ND	ND	ND	ND	ND	1
	7-05-89	ND	ND	ND	ND	ND	1
MW-8	10-05-88	ND	ND	ND	ND	ND	1
	1-09-89	ND	ND	ND	ND	ND	1
	4-03-89	ND	ND	ND	ND	ND	1
	7-05-89	ND	ND	ND	ND	ND	1
MW-9	10-05-88	ND	ND	ND	ND	ND	1
	1-09-89	ND	ND	ND	ND	ND	1
	4-03-89	ND	ND	ND	ND	ND	1
	7-05-89	ND	ND	ND	ND	ND	1

All values reported as ug/L which are equivalent to parts per billion (ppb).

MDL - Method Detection Limit

ND - Not Detected

The chemistry test parameters were not detected in any monitoring well during the first, third and fourth quarters' sampling events. The sample from MW-7 exhibited concentrations of total hydrocarbons as gasoline and benzene during the second quarter sampling event. TCT suspects that a water level indicator probe may have introduced trace amounts of hydrocarbon contamination to the well prior to sampling.

Previously, soil samples were collected from soil borings B-1, B-2, B-3 and B-4 and analyzed to quantify total hydrocarbons as gasoline, benzene, toluene and xylenes concentrations. The analyses detected high concentrations of dissolved hydrocarbons in a soil sample from boring B-4 at a sampling interval of 19.5 to 21 feet, and low concentrations in samples from B-1 and B-4 at a sampling interval of 9.5 to 11 feet. The laboratory results are listed in Table 3.

3.0 DISCUSSION

A review of the boring logs for the site area indicate, in general, that the sand and silty sand alluvium at depth is overlain by a till layer of variable thickness - approximately 15 to 20 feet. This till layer is in turn overlain by fill material.

The till layer is composed of sandy lean clay with intermittent clay layers. The soil characteristics of this type of till generally preclude the mobility of contaminants both laterally and vertically.

TABLE 3

Soil Sample Analytical Results (12-16-86)
 Mobil Oil Corporation Site #05-GOD
 Golden Valley, Minnesota
 #4231 88-521

Boring	Interval (ft)	Total Hydrocarbons				MDL
		As Gasoline	Benzene	Toluene	Xylenes	
B-1	9.5 - 11	39	ND	1	8	1
	19.5 - 21	ND	ND	ND	ND	1
	29.5 - 31	ND	ND	ND	ND	1
B-2	9.5 - 11	ND	ND	ND	ND	1
	19.5 - 21	ND	ND	ND	ND	1
	29.5 - 31	ND	ND	ND	ND	1
B-3	9.5 - 11	ND	ND	ND	ND	1
	19.5 - 21	ND	ND	ND	ND	1
	29.5 - 31	ND	ND	ND	ND	1
B-4	9.5 - 11	23	ND	4	20	1
	19.5 - 21	650,000	22,000	45,000	115,000	1
	29.5 - 31	ND	ND	ND	ND	1

All results expressed as ug/kg which is equivalent to parts per billion (ppb).

ND - Not Detected

Significant hydrocarbon concentrations were detected at a depth of 19.5 to 21 feet in soil boring B-4 in 1986.

TCT observed the excavation of a 1000 gallon diesel fuel tank at the site in January 1987. The approximate location of the tank is shown in Figure 2. The excavated soils were screened with an OVA-128 portable organic vapor detector. OVA readings of 98 parts per million (ppm) and 108 ppm total organic vapors were documented. Strong petroleum-like odors and staining were present in the soils.

The excavation was terminated when visual and olfactory evidence indicated that no contaminated soil remained in the subsurface. Approximately 50 cubic yards of soil was excavated and removed from the site. Sandy lean clay and clean fill from the original tank installation comprised the bulk of the excavated soils. TCT's report dated January 27, 1987 is included as Appendix A.

No groundwater contamination at or above the method detection limit was detected in the groundwater samples from monitoring wells MW-8 and MW-9. Trace concentrations of petroleum hydrocarbons were quantified in MW-7 during the second sampling event in January 1989. Subsequent chemical analysis performed in April and July 1989 on MW-7 indicated non-detected concentrations for all test parameters. As stated previously, TCT suspects that the water level indicator probe may be responsible for the trace concentrations detected in the water sample.

Based upon the results of the quarterly monitoring program it is TCT's opinion that no impact to the groundwater has occurred from the hydrocarbon-impacted soils remaining at the site. We would expect that the hydrocarbons remaining in the soil will disperse through biodegradation and other natural processes.

4.0 RECOMMENDATIONS

Based upon the results of the one year quarterly monitoring program and the prior remedial action consisting of contaminated soil excavation and removal, TCT feels that groundwater restoration at this site is not warranted. Having successfully met the directive guidelines required by MPCA, TCT recommends that no further site monitoring take place and the site be approved for project closure by the MPCA.

5.0 STANDARD OF CARE

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

This report was written by: Damon M. Powers
Damon M Powers
Geological Engineer/Project Manager

Date: August 2, 1989

This report was reviewed by: Robert A. Wojciak
Robert A Wojciak
Manager/UST Program

Date: August 2, 1989

Proofread by: JD

SITE #4
PRELIMINARY CONTAMINATION ASSESSMENT
MOBIL OIL CORPORATION
GOLDEN VALLEY, MINNESOTA
MOBIL SITE #O5GOD

DECEMBER 18, 1986

#4231 87-503

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SITE #4

PRELIMINARY CONTAMINATION ASSESSMENT

MOBIL OIL CORPORATION

GOLDEN VALLEY, MINNESOTA

MOBIL SITE #05GOD

#4231 87-503

1.0 INTRODUCTION

The purpose of this investigation was to determine if the subsurface environment had been contaminated by the on-site activities associated with the retail distribution of petroleum products contained in underground storage tanks. Authorization to proceed with these activities was given by Ms. Pauline Perrin of Mobil Oil Corporation. This investigation was conducted at the Mobil Oil Corporation gas station on the southeast corner of the intersection of County Highway 18 and Medicine Lake Road in Golden Valley, Minnesota.

Specifically, our work effort consisted of the following:

1. assessing the potential for the facility to impact the subsurface environment,
2. mobilizing a CME drill rig to perform a subsurface exploration,
3. drilling 4 standard penetration test borings around the tank pad,

4. evaluating the soil samples recovered using visual appearance and odor as criteria,
5. collecting representative subsurface soil samples for analysis for benzene, toluene, xylene and total hydrocarbons as gasoline concentrations, and
6. prepare a report presenting and evaluating the factual data.

2.0 PROJECT RESULTS

2.1 Soil Boring Data

Four borings, B-1 through B-4, were drilled to a depth of 30' below grade at the locations shown in Figure 1. Boring logs are presented in Appendix A. The drilling and sampling were completed in accordance with the methods presented in Section 4.0 of this report.

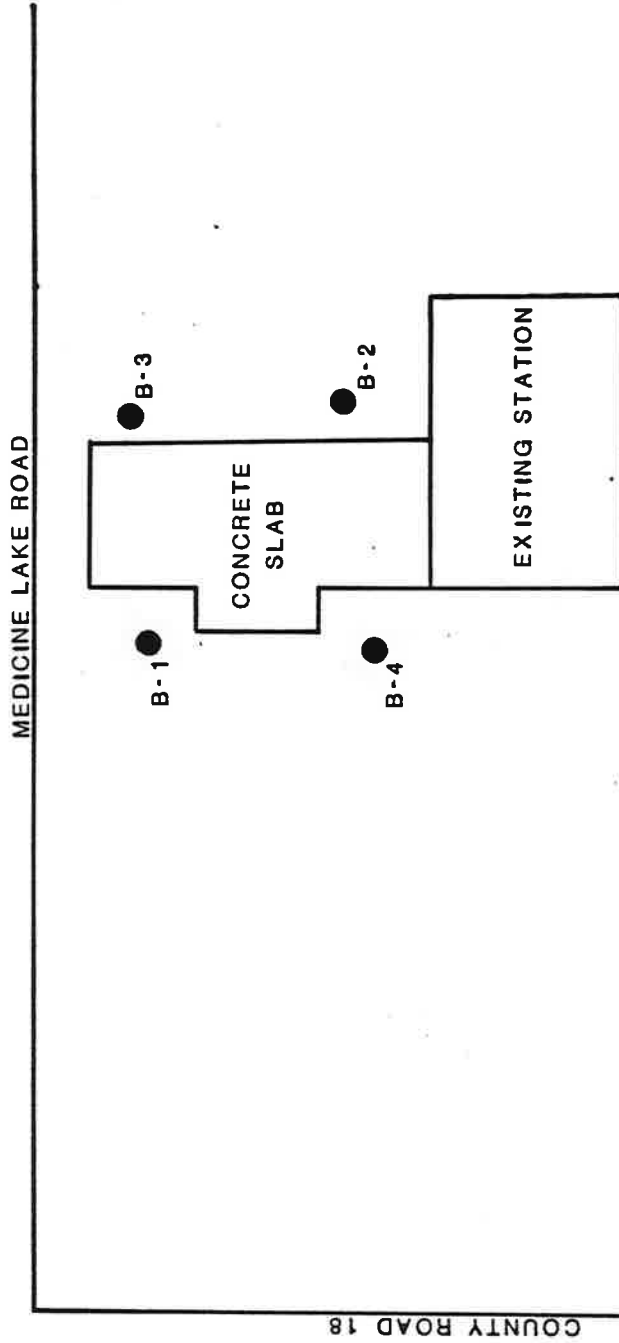
The site geology consists of fill underlain by a glacial till deposit. The till consists primarily of a sandy lean clay/clayey sand. At boring 2, the till deposits also included some silty sand with a little gravel.

In borings 2 and 4, the till was underlain by a fine alluvial deposit consisting of lean clay.

FIGURE 1
SITE #4 SKETCH

(COUNTY ROAD 18 & MEDICINE LAKE ROAD)

MOBIL OIL
PRELIMINARY CONTAMINATION ASSESSMENT
4231 87-503



LEGEND:
● SOIL BORING LOCATION

NOT TO SCALE

2.2 Ground Water

During the drilling of the 30' soil borings, no ground water was observed in the boreholes.

2.3 Contamination Observations

As the soil borings were advanced, the soils were screened for contamination using odor and appearance as criteria. A moderate petroleum odor was noted on the soils from boring 1 at a depth of 9 1/2' to 11' and in boring 4 at a depth of 19 1/2' to 21'. These observations are presented on the soil boring logs presented in Appendix A.

2.4 Chemistry Results

Twelve soil samples were submitted for chemical analysis. The samples were analyzed for benzene, toluene, xylene and total hydrocarbons as gasoline. The results of the analyses are presented in Table 1. The laboratory report is attached in Appendix B.

Hydrocarbon contaminants were detected on the soil samples from boring 1 at a depth of 9 1/2' to 11' and in boring 4 at a depth of 19 1/2' to 21'. The concentration of total hydrocarbons as gasoline ranged from 39 ug/kg at boring 1 to 650,000 ug/kg at boring 4.

TABLE 1
ANALYTICAL RESULTS
MOBIL SITE #05G0D
SITE #4

<u>Boring #</u>	<u>Sampling Interval</u>	<u>Total Hydrocarbons</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylene</u>
B-1	9.5'-11'	39	ND	1	8
B-1	19.5'-21'	ND	ND	ND	ND
B-1	29.5'-31'	ND	ND	ND	ND
B-2	9.5'-11'	ND	ND	ND	ND
B-2	19.5'-21'	ND	ND	ND	ND
B-2	29.5'-31'	ND	ND	ND	ND
B-3	9.5'-11'	ND	ND	ND	ND
B-3	19.5'-21'	ND	ND	ND	ND
B-3	29.5'-31'	ND	ND	ND	ND
B-4	9.5'-11'	23	ND	4	20
B-4	19.5'-21'	650,000	22,000	45,000	115,000
B-4	29.5'-31'	ND	ND	ND	ND

ND = Not Detected
Lower Detection Limit is 1 ug/kg
All results expressed as ug/kg



3.0 CONCLUSIONS

Based upon the results of the investigation, there is some degradation of the subsurface environment at soil boring 4. To determine the horizontal and vertical extent of contamination, it will be necessary to complete additional investigative work at the site.

4.0 METHODS

4.1 Contamination Reduction

The drill rig and sampling tools were cleaned prior to mobilization and between each boring. The wash water was disposed of through the sanitary sewer.

The split barrel sampler was washed with a trisodium phosphate solution and phosphate solution and rinsed in potable water prior to collecting each sample. Wash and rinse water were disposed of on-site through infiltration.

4.2 Soil Sampling

Soil sampling was done in accordance with ASTM: D 1586-84; however, the samples were collected on 10' intervals. Using this procedure, a 2" O.D. split barrel sampler is driven into the soil by a 140 lb weight falling 30".



After an initial set of 6", the number of blows required to drive the sampler an additional 12" is known as the penetration resistance or N value. The N value is an index of the relative density of cohesionless soils and the consistency of cohesive soils.

Soil samples were collected in the field immediately upon opening the split barrel sampler. The samples were collected by completely filling 40 ml glass bottles with soil and sealing the bottle with a Teflon lined septum sealed cap to prevent volatilization of organics from the soil sample.

The completed boreholes were abandoned by either backfilling with a cement grout or soil cuttings.

4.3 Soil Classification

As the samples were obtained in the field, they were visually and manually classified by the crew chief in accordance with ASTM: D 2487-84 and ASTM: D 2488. Representative portions of the samplers were then returned to the laboratory for further examination and for verification of the field classification.

Logs of the borings indicating the depth and identification of the various strata, the N value, water level information and pertinent information regarding the method of maintaining and advancing the drill holes are attached. Charts illustrating the soil classification procedure, the descriptive terminology and symbols used on the boring logs are also attached.

4.4 Chain of Custody

Upon completion of a sample, a chain of custody log was initiated. The chain of custody record included the following information: project, work order number, shipped by, shipped to, sampling point, location, field ID number, date and time taken, sample type, number of containers, analysis required, sampler(s) signature(s), etc.

The chain of custody records were delivered with the samples to the laboratory. Upon arrival at the laboratory, the samples were checked in and signed over to the appropriate laboratory personnel. A copy of the chain of custody was turned over to the Project Manager. Upon completion of the laboratory analysis, the completed chain of custody record was returned to the Project Manager.

4.6 Analytical Procedures

The soil samples were analyzed by using a Tekmar LSC-2 liquid sample concentrator linked to a HP-5890 Gas Chromatograph with flame ionization detector. Benzene, xylene and toluene concentrations were identified by retention time and quantified by comparison with known standards. Gasoline concentration was determined by the ratio of total peak area to a gasoline standard total peak area.

5.0 REMARKS

The subsurface conditions encountered at each test location are shown on the attached boring logs. We wish to point out that the subsurface conditions at other times and location on the site may differ from those found at our test locations. If different conditions are encountered during construction or other site activities, we request that you contact us so our recommendations can be reviewed.

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

This report was prepared by: Tom Gapinske (DK)
Tom Gapinske
Project Manager/Hydrogeologist

Dated: December 18, 1986

This report was reviewed by: Charles A. Job
Charles A. Job, Manager
Environmental Department

Dated: December 18, 1986

Proofread by: T

APPENDIX A
SOIL BORING LOGS

LOG OF TEST BORING

JOB NO. 4231 87-503 VERTICAL SCALE 1" = 5' BORING NO. B-1 (Site #4)
 PROJECT Mobil Oil Corporation; Preliminary Contamination Assessment; Cty 18 & Medicine Lake Road; Golden valley, MN

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE		PETROLEUM PRODUCT OBSERVATIONS
					NO.	TYPE	
3	FILL, MIXTURE OF LEAN CLAY AND SILTY SAND W/A LITTLE GRAVEL, brown, a 4" layer of blacktop at the surface	FILL	8		1	SB	
9 1/2	NO SAMPLE TAKEN						
12	SANDY LEAN CLAY W/A LITTLE GRAVEL, brown, rather stiff (CL)	WEATHERED TILL	11		2	SB	Moderate Gas Odor
	SANDY LEAN CLAY W/A LITTLE GRAVEL, brown and grayish brown, stiff (CL)	TILL					
			29		3	SB	
31			19		4	SB	
	End of Boring						

WATER LEVEL MEASUREMENTS							START <u>11-20-86</u> COMPLETE <u>11-20-86</u>
DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	BAILED DEPTHS	WATER LEVEL	METHOD <u>HSA 0'-29 1/2'</u> @ <u>10:30</u>
					to		
<u>11-20</u>	<u>10:30</u>	<u>31'</u>	<u>29 1/2'</u>	<u>30.8'</u>	to	None	
<u>11-20</u>	<u>10:45</u>	<u>31'</u>	<u>None</u>	<u>14.6'</u>	to	None	
					to		
CREW CHIEF <u>White</u>							

LOG OF TEST BORING

JOB NO. 4231 87-503 VERTICAL SCALE 1" = 5' BORING NO. B-2 (Site #4)
 PROJECT Mobil Oil Corporation; Preliminary Contamination Assessment; Cty Hwy 18 & Medicine Lake Road; Golden valley, MN

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE		PETROLEUM PRODUCT OBSERVATIONS
					NO.	TYPE	
	☐ SURFACE ELEVATION _____						
1 1/2	BLACKTOP OVER SILTY SAND						
3	FILL, MIXTURE OF SILTY SAND AND LEAN CLAY, brown	FILL	4		1	SB	
	NO SAMPLE TAKEN						
9 1/2							
11	SILTY SAND W/A LITTLE GRAVEL, brown, moist, dense	TILL (SM)	22		2	SB	
	NO SAMPLE TAKEN						
19 1/2							
21	CLAYEY SAND W/A LITTLE GRAVEL, (See #1)	TILL (SC)	17		3	SB	
	NO SAMPLE TAKEN						
29 1/2							
31	LEAN CLAY, gray, stiff (See #2)	FINE ALLUVIUM (CL)	51	▼	4	SB	
	End of Boring #1 - brown and grayish brown mottled, stiff, a few lenses of lean clay (SC) #2 - a lens of waterbearing sand at about 30' (CL)						

WATER LEVEL MEASUREMENTS

START 11-20-86 COMPLETE 11-20-86

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	BAILED DEPTHS	WATER LEVEL	METHOD	
					to			
11-20	12:50	31'	29 1/2'	30.8'	to	29.9'	HSA 0'-29 1/2'	@ 12:50
11-20	1:05	31'	29 1/2'	30.8'	to	29.9'		
11-20	1:20	31'	None	23.0'	to	None		

CREW CHIEF White

LOG OF TEST BORING

JOB NO. 4231 87-503 VERTICAL SCALE 1" = 5' BORING NO. B-3 (Site #4)
 PROJECT Mobil Oil Corporation; Preliminary Contamination Assessment; Cty Hwy 18 & Medicine Lake Road, Golden Valley, MN

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE		PETROLEUM PRODUCT OBSERVATIONS
					NO.	TYPE	
0.8	BLACKTOP OVER SILTY SAND						
	FILL, MIXTURE OF SILTY SAND, CLAYEY SAND AND SANDY LEAN CLAY W/A LITTLE GRAVEL, brown and gray	FILL	10		1	SB	
10½			18		2	SB	
	CLAYEY SAND, dark brown, stiff, (may be fill) (SC)	FILL OR TOPSOIL			3	SB	
13	NO SAMPLE TAKEN						
19½			18		4	SB	
21	SANDY LEAN CLAY W/A LITTLE GRAVEL, brown mottled, stiff (CL)	TILL					
	NO SAMPLE TAKEN						
29½			23		5	SB	
31	SANDY LEAN CLAY W/A LITTLE GRAVEL, gray, stiff (CL)	TILL					
	End of Boring						

WATER LEVEL MEASUREMENTS							START	COMPLETE
							11-20-86	11-20-86
DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	BAILED DEPTHS	WATER LEVEL	METHOD <u>HSA 0'-29½'</u> @ <u>2:10</u>	
					to			
11-20	2:10	31'	29½'	31.0'	to	30.9'		
11-20	2:25	31'	None	10'	to	None		
					to		CREW CHIEF <u>White</u>	

LOG OF TEST BORING


JOB NO. 4231 87-503 VERTICAL SCALE 1" = 5' BORING NO. B-4 (Site #4)
 PROJECT Mobil Oil Corporation; Preliminary Contamination Assessment; Cty Hwy 18 & Medicine Lake Road; Golden Valley, MN

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	N	WL	SAMPLE		PETROLEUM PRODUCT OBSERVATIONS
					NO.	TYPE	
0.8	BLACKTOP OVER SILTY SAND						
	FILL, MIXTURE OF SILTY SAND, SANDY LEAN CLAY AND CLAYEY SAND W/A LITTLE GRAVEL, brown and gray	FILL	5		1	SB	
12			11		2	SB	
	NO SAMPLE TAKEN						
19½							
21	LEAN CLAY, (See #1)	FINE ALLUVIUM	17		3	SB	Moderate Gas Odor
	NO SAMPLE TAKEN						
29½							
31	SANDY LEAN CLAY W/A (See #2) (CL)	TILL	42		4	SB	
	End of Boring						
	#1 - light gray and brown mottled, stiff (CL)						
	#2 - LITTLE GRAVEL, brownish gray, very stiff (CL)						

WATER LEVEL MEASUREMENTS							START	COMPLETE
							11-20-86	11-20-86
DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	BAILED DEPTHS	WATER LEVEL	METHOD <u>HSA 0'-29½'</u> @ <u>4:00</u>	
					to			
11-20	4:00	31'	29½'	31'	to	None		
11-20	4:10	31'	None	2½'	to	None		
					to		CREW CHIEF <u>White</u>	

GENERAL NOTES

DRILLING AND SAMPLING SYMBOLS

SYMBOL	DEFINITION
HSA	3 1/4" I.D. Hollow Stem Auger
_FA	4", 6" or 10" Diameter Flight Auger
_HA	2", 4" or 6" Hand Auger
_DC	2 1/2", 4", 5" or 6" Steel Drive Casing
_RC	Size A, B, or N Rotary Casing
PD	Pipe Drill or Cleanout Tube
CS	Continuous Split Barrel Sampling
DM	Drilling Mud
JW	Jetting Water
SB	2" O.D. Split Barrel Sample
_L	2 1/2" or 3 1/2" O.D. SB Liner Sample
_T	2" or 3" Thin Walled Tube Sample
3TP	3" Thin Walled Tube (Pitcher Sampler)
_TO	2" or 3" Thin Walled Tube (Osterberg Sampler)
W	Wash Sample
B	Bag Sample
P	Test Pit Sample
_Q	BQ, NQ, or PQ Wireline System
_X	AX, BX, or NX Double Tube Barrel
CR	Core Recovery - Percent
NSR	No Sample Recovered, classification based on action of drilling equipment and/or material noted in drilling fluid or on sampling bit.
NMR	No Measurement Recorded, primarily due to presence of drilling or coring fluid.
	Water Level Symbol

TEST SYMBOLS

SYMBOL	DEFINITION
W	Water Content - % of Dry Wt. - ASTM D 2216
D	Dry Density - Pounds Per Cubic Foot
LL, PL	Liquid and Plastic Limit - ASTM D 4318
Additional Insertions in Last Column	
Qu	Unconfined Comp. Strength-psf - ASTM D 2166
Pq	Penetrometer Reading - Tons/Square Foot
Ts	Torvane Reading - Tons/Square Foot
G	Specific Gravity - ASTM D 854
SL	Shrinkage Limits - ASTM D 427
OC	Organic Content - Combustion Method
SP	Swell Pressure - Tons/Square Foot
PS	Percent Swell
FS	Free Swell - Percent
pH	Hydrogen Ion Content, Meter Method
SC	Sulfate Content - Parts/Million, same as mg/L
CC	Chloride Content - Parts/Million, same as mg/L
C*	One Dimensional Consolidation - ASTM D 2435
Qc*	Triaxial Compression
D.S.*	Direct Shear - ASTM D 3080
K*	Coefficient of Permeability - cm/sec
D*	Dispersion Test
DH*	Double Hydrometer - ASTM D 4221
MA*	Particle Size Analysis - ASTM D 422
R	Laboratory Resistivity, in ohm - cm - ASTM G 57
E*	Pressuremeter Deformation Modulus - TSF
PM*	Pressuremeter Test
VS*	Field Vane Shear - ASTM D 2573
IR*	Infiltrometer Test - ASTM D 3385
RQD	Rock Quality Designation - Percent

* See attached data sheet or graph

WATER LEVEL

Water levels shown on the boring logs are the levels measured in the borings at the time and under the conditions indicated. In sand, the indicated levels may be considered reliable ground water levels. In clay soil, it may not be possible to determine the ground water level within the normal time required for test borings, except where lenses or layers of more pervious waterbearing soil are present. Even then, an extended period of time may be necessary to reach equilibrium. Therefore, the position of the water level symbol for cohesive or mixed texture soils may not indicate the true level of the ground water table. Perched water refers to water above an impervious layer, thus impeding in reaching the water table. The available water level information is given at the bottom of the log sheet.

DESCRIPTIVE TERMINOLOGY

DENSITY TERM	"N" VALUE	CONSISTENCY TERM	
Very Loose	0-4	Soft	Lamination Up to 1/2" thick stratum
Loose	5-8	Medium	Layer 1/2" to 6" thick stratum
Medium Dense	9-15	Rather Stiff	Lens 1/2" to 6" discontinuous stratum, pocket
Dense	16-30	Stiff	Varved Alternating laminations of clay, silt and /or fine grained sand, or colors thereof
Very Dense	Over 30	Very Stiff	Dry Powdery, no noticeable water
Standard "N" Penetration: Blows Per Foot of a 140 Pound Hammer Falling 30 inches on a 2 inch OD Split Barrel Sampler			Moist Below saturation
			Wet Saturated, above liquid limit
			Waterbearing Pervious soil below water

RELATIVE GRAVEL PROPORTIONS

RELATIVE SIZES

CONDITION	TERM	RANGE	
Coarse Grained Soils	A little gravel	2 - 14%	Boulder Over 12"
	With gravel	15 - 49%	Cobble 3" - 12"
Fine Grained Soils			Gravel
	15-29% + No. 200	A little gravel	Coarse 3/4" - 3"
	15-29% + No. 200	With gravel	Fine #4 - 3/4"
	30% + No. 200	A little gravel	Sand
	30% + No. 200	With gravel	Coarse #4 - #10
30% + No. 200	Gravelly	16 - 49%	Medium #10 - #40
			Fine #40 - #200
			Silt & Clay - #200, Based on Plasticity

CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES

ASTM Designation: D 2487 - 83

(Based on Unified Soil Classification System)

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification	
				Group Symbol	Group Name ^B
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines ^C	$C_u \geq 4$ and $1 \leq C_c \leq 3^E$	GW	Well graded gravel ^F
			$C_u < 4$ and/or $1 > C_c > 3^E$	GP	Poorly graded gravel ^F
		Gravels with Fines More than 12% fines ^C	Fines classify as ML or MH	GM	Silty gravel ^{F,G,H}
		Fines classify as CL or CH	GC	Clayey gravel ^{F,G,H}	
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines ^D	$C_u \geq 6$ and $1 \leq C_c \leq 3^E$	SW	Well-graded sand ^I
			$C_u < 6$ and/or $1 > C_c > 3^E$	SP	Poorly graded sand ^I
Sands with Fines More than 12% fines ^D		Fines classify as ML or MH	SM	Silty sand ^{G,H,I}	
		Fines classify as CL or CH	SC	Clayey sand ^{G,H,I}	
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silt and Clays Liquid limit less than 50	inorganic	$PI > 7$ and plots on or above "A" line ^J	CL	Lean clay ^{K,L,M}
			$PI < 4$ or plots below "A" line ^J	ML	Silt ^{K,L,M}
		organic	Liquid limit - oven dried < 0.75 Liquid limit - not dried	OL	Organic clay ^{K,L,M,N} Organic silt ^{K,L,M,O}
	Silt and Clays Liquid limit 50 or more	inorganic	PI plots on or above "A" line	CH	Fat clay ^{K,L,M}
			PI plots below "A" line	MH	Elastic silt ^{K,L,M}
		organic	Liquid limit - oven dried < 0.75 Liquid limit - not dried	OH	Organic clay ^{K,L,M,P} Organic silt ^{K,L,M,O}
Highly organic soils	Primarily organic matter, dark in color, and organic odor			PT	Peat

^ABased on the material passing the 3-in. (75-mm) sieve.

^BIf field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^CGravels with 5 to 12% fines require dual symbols:

- GW-GM well-graded gravel with silt
- GW-GC well-graded gravel with clay
- GP-GM poorly graded gravel with silt
- GP-GC poorly graded gravel with clay

^DSands with 5 to 12% fines require dual symbols:

- SW-SM well-graded sand with silt
- SW-SC well-graded sand with clay
- SP-SM poorly graded sand with silt
- SP-SC poorly graded sand with clay

$$C_u = D_{60} / D_{10} \quad C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^FIf soil contains $\geq 15\%$ sand, add "with sand" to group name.

^GIf fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^HIf fines are organic, add "with organic fines" to group name.

^IIf soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^JIf Atterberg limits plot in hatched area, soil is a CL-ML, silty clay.

^KIf soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^LIf soil contains $\geq 30\%$ plus no. 200, predominantly sand, add "sandy" to to group name.

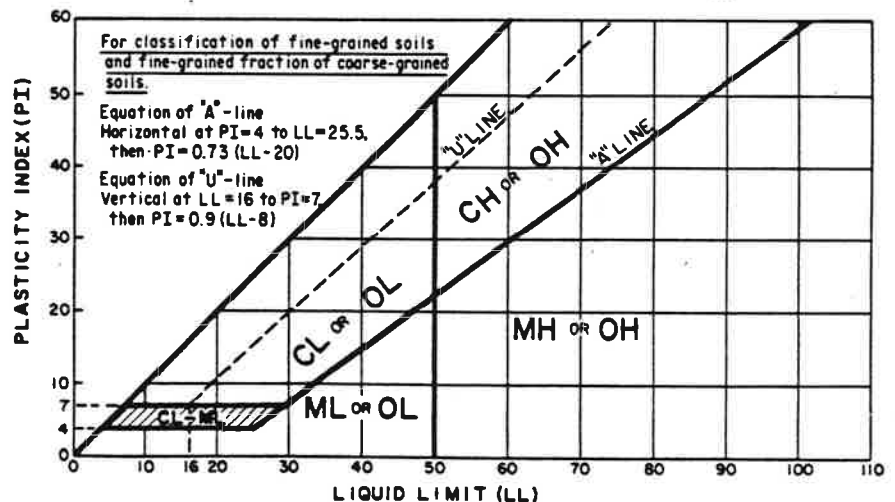
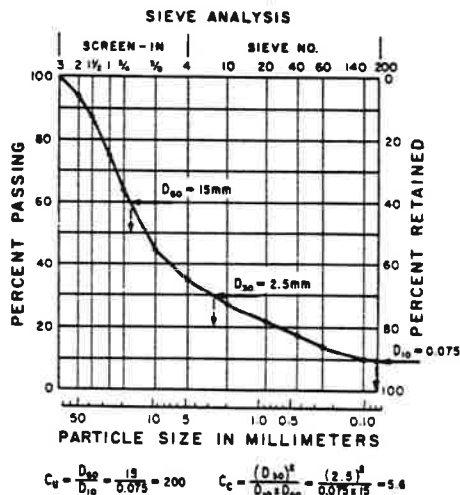
^MIf soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

^N $PI \geq 4$ and plots on or above "A" line.

^O $PI < 4$ or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.



APPENDIX B
LABORATORY REPORT



twin city testing
corporation

662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

REPORT OF CHEMICAL ANALYSIS

PROJECT: MOBIL

REPORTED TO: Twin City Testing
Attn: Tom Gapanski
662 Cromwell Ave
St Paul, MN 55114

DATE: Dec 18, 1986

LABORATORY No. 4400 87-1207

INTRODUCTION:

This report presents the results of our analysis of samples received by this laboratory on Nov 25, 1986 from representatives of Twin City Testing Corporation. The scope of our work was limited to analyzing the samples for the presence of total hydrocarbons as gasoline, benzene, toluene and xylenes using gas chromatographic techniques.

SAMPLE IDENTIFICATION:

Site 4 12 soil samples

METHODOLOGY:

Gasoline concentration was determined using a Tekmar LSC-2 liquid sample concentrator on an HP-5890 gas chromatograph equipped with flame ionization detectors. Compounds were identified by column retention time and quantified by peak area comparisons to those of know standards using a VG Laboratory data system.

RESULTS:

The results are listed in Table #1.

REMARKS:

The samples were consumed in the analysis.

TWIN CITY TESTING CORPORATION

Chris Bremer
Asst Laboratory Supervisor

Harold D Fisher
Chromatography Group Leader

TABLE 1

ANALYTICAL RESULTS
 MOBIL SITE #05G0D
 SITE #4

<u>Boring #</u>	<u>Sampling Interval</u>	<u>Total Hydrocarbons</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Xylene</u>
B-1	9.5'-11'	39	ND	1	8
B-1	19.5'-21'	ND	ND	ND	ND
B-1	29.5'-31'	ND	ND	ND	ND
B-2	9.5'-11'	ND	ND	ND	ND
B-2	19.5'-21'	ND	ND	ND	ND
B-2	29.5'-31'	ND	ND	ND	ND
B-3	9.5'-11'	ND	ND	ND	ND
B-3	19.5'-21'	ND	ND	ND	ND
B-3	29.5'-31'	ND	ND	ND	ND
B-4	9.5'-11'	23	ND	4	20
B-4	19.5'-21'	650,000	22,000	45,000	115,000
B-4	29.5'-31'	ND	ND	ND	ND

ND = Not Detected
 Lower Detection Limit is 1 ug/kg
 All results expressed as ug/kg