



# Minnesota Pollution Control Agency

520 Lafayette Road North | St. Paul, MN 55155-4194 | 651-296-6300 | 800-657-3864 | 651-282-5332 TTY | [www.pca.state.mn.us](http://www.pca.state.mn.us)

January 16, 2009

Ms. Nancy Radle  
Minnesota Department of Transportation  
Transportation Building  
395 John Ireland Boulevard  
St. Paul, MN 55155-1899

RE: Petroleum Tank Release Site File Closure  
Site: Former Clark Station, Highway 55 and Lake Street, Minneapolis  
Site ID#: LEAK00008324

Dear Ms. Radle:

We are pleased to let you know that the Minnesota Pollution Control Agency (MPCA) Petroleum Remediation Program (PRP) staff has determined that your investigation and/or cleanup has adequately addressed the petroleum tank release at the site listed above. Based on the information provided, the PRP staff has closed the release site file.

Closure of the file means that the PRP staff does not require any additional investigation and/or cleanup work at this time or in the foreseeable future. Please be aware that file closure does not necessarily mean that all petroleum contamination has been removed from this site. However, the PRP staff has concluded that any remaining contamination, if present, does not appear to pose a threat to public health or the environment.

The MPCA reserves the right to reopen this file and to require additional investigation and/or cleanup work if new information or changing regulatory requirements make additional work necessary. If you or other parties discover additional contamination (either petroleum or non-petroleum) that was not previously reported to the MPCA, Minnesota law requires that the MPCA be immediately notified.

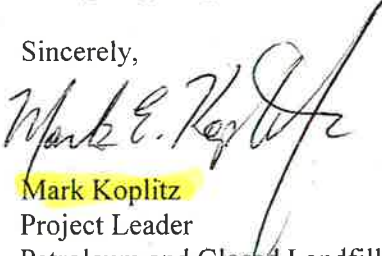
You should understand that this letter does not release any party from liability for the petroleum contamination under Minn. Stat. ch. 115C (2008) or any other applicable state or federal law. In addition, this letter does not release any party from liability for non-petroleum contamination, if present, under Minn. Stat. ch. 115B (2008), the Minnesota Superfund Law.


If future development of the site or the surrounding area is planned, it should be assumed that petroleum contamination may be present. State law requires that persons properly manage contaminated soil and water they uncover or disturb - even if they are not the party responsible for the contamination. For some properties, special construction may also be needed to prevent the further spreading of the contamination and/or to prevent petroleum vapors from entering buildings or utility corridors. The MPCA Petroleum Brownfields Program can assist with reviews and approvals of Development Response Action Plans required to address environmental risk from petroleum contamination. If contamination is encountered during development work, contact the MPCA immediately.

Ms. Nancy Radle  
Page 2  
January 16, 2009

For specific information regarding petroleum contamination that may remain at this leak site, please call the Petroleum Remediation File Request Program at 651-757-2799. Thank you for your response to this petroleum tank release and for your cooperation with the MPCA to protect public health and the environment. If you have any questions regarding this letter, please call Mark Koplitz at 651-757-2502 or site hydrogeologist Bassou Oulgout at 651-757-2632.

Sincerely,

  
Mark Koplitz  
Project Leader  
Petroleum and Closed Landfill Section  
Remediation Division

  
for  
Bassou Oulgout  
Hydrogeologist  
Petroleum and Closed Landfill Section  
Remediation Division

MK:tf

cc: Josh Goplin, City of Minneapolis, Environmental  
Bonnie Bleskachek, Fire Chief, Minneapolis  
Dave Jaeger, Hennepin County Solid Waste Officer  
Minnesota Department of Commerce Petrofund Staff



Transportation Building  
395 John Ireland Boulevard  
St. Paul, Minnesota 55155-1899

RECEIVED

FEB 22 2000

February 16, 2000

MPCA, Metro District  
Site Remediation

Mr. Mark Koplitz  
Minnesota Pollution Control Agency  
Metro Site Remediation Section  
520 Lafayette Road North  
Saint Paul, MN 55155-4194

RE: UPDATE – Petroleum Release Investigation and Corrective Action  
Former Clark Oil Station – T.H. 55/Lake Street Intersection, Minneapolis  
MPCA Leak Number 8324

Dear Mr. Koplitz:

The Minnesota Department of Transportation (Mn/DOT) has received your letter dated February 4, 2000 regarding the referenced site. In the November 19, 1996 memorandum from Mn/DOT to the MPCA, it was stated that "Once the construction project [for Hiawatha Avenue] is complete, Mn/DOT will evaluate the potential for replacing monitoring wells and recovering free product." At this point, construction activities are anticipated to be complete in the spring or summer of 2000. However, it is possible at this point to consider possible additional investigation/free product recovery activities.

As of the last site visit, only two monitoring wells remained from the initial monitoring network of nine wells that had been installed for the investigation of the referenced site and for Leaksite 360. Construction activities required the removal of the majority of the monitoring network. Because of the reconstruction, site conditions are vastly different from when the remedial investigation work was conducted. Much of the free product area may be inaccessible via traditional investigation methods.

Mn/DOT recommends that MPCA and Mn/DOT staff meet at the site to review existing conditions, compare current transportation infrastructure locations to figures depicting site conditions prior to reconstruction, and consider possible additional investigation/remediation measures if necessary.

Please contact me at (651) 284-3782 or via e-mail at [scott.reed@dot.state.mn.us](mailto:scott.reed@dot.state.mn.us) with any questions regarding information in this letter or to schedule the recommended site visit.

Sincerely,

Scott M. Reed, P.G.  
Project Manager/Hydrogeologist  
Environmental Compliance and Investigation Unit

cc:  
File

## **Kania, Lauralin [HWTSS]**

---

**From:** Kelly, James [GWSRS]  
**To:** Kania, Lauralin [HWTSS]  
**Cc:** Haas, Jennifer [GWSRS]  
**Subject:** Hiawatha Corridor Project  
**Date:** Wednesday, May 01, 1996 2:29PM

Jennifer and I have been invited to attend a meeting of the People of Phillips neighborhood group on Thursday evening, May 9th. We were invited after sending out a letter to their group in early April describing the environmental issues associated with the Hiawatha Corridor project. The letter basically summed up the issues related to contaminated soil handling (both petroleum and non-petroleum), air monitoring, and groundwater. We're not aware of any major concerns out there, so we're just planning on providing the basics and answering any questions they may have. The letter is also going to another neighborhood council on the other side of Hiawatha. We're doing all this mostly as a result of MnDOT's recalcitrance on this issue, and at the urging of a Minneapolis City Council member.

Anyway, we just wanted to let you know about the meeting. If there is any information that you think is especially important for the group to have regarding petroleum issues, or that we don't have, please let us know. Of course you could attend the meeting with us if you'd like - it's totally up to you. As I mentioned though, we're not aware of any major issues so it's more of an informational trip for us.

Lemme know if you have any questions, or info we're missing. Thanks -

Jim

**INVOICE**

**Customer Name**

**PAGE 1**

MINN ST TRANSPORTATION DEPT 0

**Remit to:**

MN POLLUTION CONTROL AGENCY  
FISCAL SERVICES  
520 LAFAYETTE ROAD NORTH

ST. PAUL MN 55155-4194

**Customer Number**

0000001353-L

**Invoice Number**

R32-34300000600

**Invoice Date**

04/29/96

**Amount Due**

600.00

**Due Date**

05/29/96

**Amount Enclosed**

**Bill to:**

MINN ST TRANSPORTATION DEPT 0  
3485 HADLEY AVE N  
OAKDALE MN 55128

Method of Payment: (Check Appropriate Box)

Check  Money Order

Please write INVOICE No. on front of check or Money Order. DO NOT MAIL CASH

Please check if address has changed.  
Write correct address on back of stub and enclose with payment.

Please detach the above stub and return with your remittance payable to: MN POLLUTION CONTROL AGENCY

**The State of Minnesota**

**INVOICE**

**PAGE 1**



Federal Tax ID: 41-6007162

<b>Customer Number</b>	<b>Billing Code</b>	<b>Orig. Inv. Date</b>
0000001353-L	32PA	

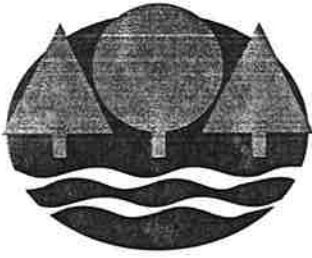
<b>Customer Name</b>	<b>Invoice Number</b>	<b>Invoice Date</b>	<b>Due Date</b>
MINN ST TRANSPORTATION DEPT 0	R32-34300000600	04/29/96	05/29/96

Ref Line No.	DESCRIPTION	Date of Service	No. of Units	Unit of Measure	Unit Price	CHARGES/CREDIT
01	TECHNICAL ASSISTANCE	03/01/96	10.00	HRS	60.000	600.00
ATTN: SCOTT REED RE: LEAK00008324, FORMER CLARK OIL SERVICE STATION, MPLS REVIEW OF RI/CAD, QUARTERLY MONITORING REPORTS, AND GEOTECHNICAL REPORTS ON MARCH 12-13, 1996. ALL WORK WAS DONE BY BASSOU OULGOUT. HE CAN BE REACHED AT 612/297-8597						
INVOICE TOTAL:						----- 600.00

KEY INV# EXACTLY AS SHOWN.  
V#200019012-00, SELL ACT TYPE  
02. PV TYPE 6. IF YOU NEED MORE  
INFO CONTACT PERSON ON INVOICE

IF YOU HAVE ANY QUESTIONS, PLEASE CALL: 612/297-8499  
CONTACT: LINDA CARROLL

GFNVO



# Minnesota Pollution Control Agency

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April 29, 1996

Mr. Scott M. Reed  
Minnesota Department of Transportation  
Environmental Compliance and Investigation Unit  
3485 Hadley Avenue North  
Oakdale, Minnesota 55128

RE: Hiawatha Corridor Construction, 28th Street to 32nd Avenue, Minneapolis  
Project Number 6020

Dear Mr. Reed:

The Minnesota Pollution Control Agency (MPCA) staff in the Voluntary Investigation and Cleanup (VIC) Unit has reviewed reports submitted for the Hiawatha Corridor construction project, from 28th Street to 32nd Avenue, Minneapolis (the Site). The reports reviewed (Site Documents) include the following:

1. "Environmental Profile - Hiawatha Avenue Reconstruction from I-94 to Lake Street," dated November 25, 1991, prepared by EnPro Assessment Corp;
2. "Drilling Investigation - Trunk Highway 55, Hiawatha Corridor - Southern Portion," dated December 29, 1994, prepared by Braun Intertec Corporation (Braun);
3. "Drilling Investigation Report - CMC Heartland Partners Property, Trunk Highway 55 and 28th Street, Minneapolis, Minnesota," dated January 17, 1995, prepared by Nova Environmental Services;
4. "Soil Response Action Plan, Southern Portion of Hiawatha Avenue Corridor, Lake Street to East 24th Street, Minneapolis, Minnesota," dated July 24, 1995, prepared by Braun;
5. "Hiawatha Corridor Site Assessment Review and Surface Soil Sampling Plan, Hiawatha Corridor (Trunk Highway 55), Minneapolis, Minnesota," dated November 6, 1995, prepared by Braun;
6. "Surface Soil Sampling Investigation Results and Soil Response Action Plan Implementation Addendum, Hiawatha Corridor (Trunk Highway 55), 28th Street to 32nd Avenue, Minneapolis, Minnesota," dated February 5, 1996, prepared by Braun;
7. "Response Action Plan Addendum, Hiawatha Corridor (Trunk Highway 55), 28th Street to 32nd Avenue, Minneapolis, Minnesota," dated March 12, 1996, prepared by Braun;

520 Lafayette Rd. N.; St. Paul, MN 55155-4194; (612) 296-6300 (voice); (612) 282-5332 (TTY)

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Mr. Scott M. Reed  
Page 2  
April 29, 1996

8. "Final Changes to Response Action Plan Addendum, Hiawatha Corridor (Trunk Highway 55), 28th Street to 32nd Avenue, Minneapolis, Minnesota," dated April 10, 1996, prepared by Braun; and
9. Various correspondence contained in MPCA files.

Based on MPCA staff's review of the Site Documents, the Response Action Plan with addenda (Site Documents numbered six through eight above) is hereby approved subject to the modifications listed in Attachment B. Please note that it is the MPCA staff's understanding that a deed notification will be placed on the property deed(s) indicating the location(s) of contaminated soil that is placed or remains on the Site.

Additionally, as you are aware, the MPCA staff strongly recommends (and has requested repeatedly during meetings and conference calls beginning in August 1995) that the Minnesota Department of Transportation (MnDOT) notify the public about the environmental problems that will be encountered during the construction project. The MPCA staff has sent a letter summarizing the contamination issues to local neighborhood groups and plans to attend a public meeting, due to MnDOT's failure to inform the public on this issue to date.

Please be advised that this letter is subject to the disclaimers listed in Attachment A.

If you have any questions concerning this letter, please contact Jim Kelly at (612) 296-7744 or Jennifer Haas at (612) 297-1802 of the VIC Unit staff.

Sincerely,



Deborah B. DeLuca  
Unit Supervisor  
Voluntary Investigation and Cleanup Unit  
Site Response Section  
Ground Water and Solid Waste Division

DBD:jlm

cc: Christine M. McCarthy, Braun Intertec Corp.  
R. Kannankutty, City of Minneapolis  
Cathy Thurber, Minneapolis City Councilperson, 9th Ward  
Joel Williams, MnDOT Metro Construction  
Laurie Kania, MPCA - HW/TERS  
Annie Young, The Green Institute  
Matt Williams, People of Phillips

ATTACHMENT A  
DISCLAIMERS  
Hiawatha Corridor Construction  
28th Street to 32nd Avenue

1. Reservation of Authorities

The MPCA Commissioner reserves the authority to take any appropriate actions with respect to any release, threatened release, or other conditions at the Site. The MPCA Commissioner also reserves the authority to take such actions if the voluntary party does not proceed in the manner described in this letter or if actions taken or omitted by the voluntary party with respect to the Site contribute to any release or threatened release, or create an imminent and substantial danger to public health and welfare.

2. No MPCA Assumption of Liability

The MPCA, its Commissioner and staff do not assume any liability for any release, threatened release or other conditions at the Site or for any actions taken or omitted by the voluntary party with regard to the release, threatened release, or other conditions at the Site, whether the actions taken or omitted are in accordance with this letter or otherwise.

3. Letter Based on Current Information

All statements, conclusions and representations in this letter are based upon information known to the MPCA Commissioner and staff at the time this letter was issued. The MPCA Commissioner and staff reserve the authority to modify or rescind any such statement, conclusion or representation and to take any appropriate action under his authority if the MPCA Commissioner or staff acquires information after issuance of this letter that provides a basis for such modification or action.

4. Disclaimer Regarding Use or Development of the Property

The MPCA, its Commissioner and staff do not warrant that the Site is suitable or appropriate for any particular use.

5. Disclaimer Regarding Investigative or Response Action at the Property

Nothing in this letter is intended to authorize any response action under Minn. Stat. § 115B.17, subd. 12.



ATTACHMENT B  
MODIFICATIONS  
Hiawatha Corridor Construction  
28th Street to 32nd Avenue

1. If significant volumes of ground water are encountered in excavations the MPCA shall be contacted to discuss options for handling the ground water.
2. Copies of air monitoring logs shall be provided to the MPCA staff on a weekly basis.
3. MnDOT shall make every effort to ensure that contaminated soil is not carried or spread off the Site by construction vehicles or through airborne dust.
4. A copy of the Site Health and Safety Plan shall be submitted to the MPCA staff for review.

**BRAUN**<sup>SM</sup>  
**INTERTEC**

Ground Water & Solid Waste Division  
Site Response Section

Braun Intertec Corporation

345 Northland Drive  
Mendota Heights, Minnesota 55120-1141  
612-683-8700 Fax: 683-8888

Site Name

Engineers and Scientists Serving  
the Built and Natural Environments

Category

Subcategory

Initials

Project No. CMXX-95-0125

April 10, 1996

Ms. Jennifer Haas  
Voluntary Investigation and Cleanup Program  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, MN 55155-4194

Dear Ms. Haas:

Re: Final Changes to Response Action Plan Addendum, Hiawatha Corridor (Trunk Highway 55),  
28th Street to 32nd Avenue, Minneapolis, Minnesota

On behalf of the City of Minneapolis and the Minnesota Department of Transportation (MnDOT),  
Braun Intertec Corporation (Braun Intertec) has made the following final changes to the Response  
Action Plan (RAP) Addendum presented to the Minnesota Pollution Control Agency (MPCA) on  
March 12, 1996:

#### Soil Stockpiles and Associated Sampling

- \* To evaluate the potential hazard of excavated non-petroleum contaminated soil, up to four composite soil samples will be collected from each stockpile generated from Site cc, Site ee, Site ff, Site j, and Site l. Each stockpile sample will be analyzed for polycyclic aromatic hydrocarbons (PAHs), total lead, and/or Resource Conservation and Recovery Act (RCRA) metals as stated in the March 12, 1996 RAP Addendum.
- \* To document the concentrations of petroleum contaminated fill placed in the northern and southern portions of the Lake Street Bridge structure, soil samples will be collected from locations petroleum contaminated soil has been placed. Grab soil samples will be collected from what appear representative portions of the fill based on the number of soil samples required in accordance with MPCA Tanks and Spills Fact Sheet #13.
- \* All petroleum and non-petroleum contaminated soil excavated and stockpiled during the Hiawatha reconstruction project will be placed within designated construction limits.

RECEIVED

APR 12 1996

MPCA  
Minnesota Pollution Control Agency

### Groundwater Sampling at Site M

- \* Groundwater likely encountered during the storm water utility excavations at the northwestern corner of Lake Street and Hiawatha Avenue (Site M), will be sampled and analyzed for parameters required by the Metropolitan Council - Office of Wastewater Services for sanitary sewer disposal. In addition, the groundwater from this site will be sampled for parameters likely associated with past site use including; petroleum related constituents (diesel range organics and gasoline range organics), total lead, and volatile organic compounds.
- \* If groundwater is encountered in any of the other excavations during construction activities, groundwater samples will be collected and analyzed for parameters likely associated with past site use.

### Air Monitoring

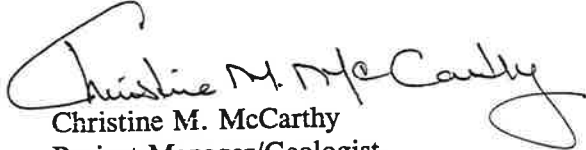
Air monitoring utilizing the MiniRam® (realtime aerosolization monitoring device) will be conducted in areas where construction activities involve non-petroleum (PAHs and RCRA metals) contaminated soils. On-site organic vapor monitoring will be conducted according to procedures outlined in the site specific Health and Safety Plan during construction activities in the petroleum contaminated areas.

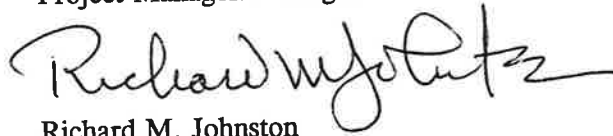
MiniRam® air monitoring activities will be conducted as follows:

- \* Measurements of total particulate concentrations will be obtained in the upwind (background), breathing zone (immediate work area), and downwind (at construction limit or edge of exclusion zone) locations twice daily. If weather conditions or construction activities cause for increases in dust suspension, the air monitoring frequency will be increased accordingly.
- \* Weather conditions, construction activities, and MiniRam® readings will be documented in the designated project field daily log.
- \* Based on the maximum concentrations of PAHs and RCRA metals identified in the soils at Sites cc, ee, ff, j, and l and the Occupational Safety and Health Administration's (OSHA) permissible exposure limits (PELs), the maximum allowable particulate suspension within the breathing zone and downwind locations will be 1 milligram per cubic meter ( $\text{mg}/\text{m}^3$ ) and  $5 \text{ mg}/\text{m}^3$ , respectively. If these levels are exceeded in either the breathing zone or downwind locations, dust suppression methods will be implemented. Since impact from dust associated with construction activities is anticipated to be less in areas further downwind than immediately downwind from the construction zone, air monitoring at the construction limit or edge of the exclusion zone should be sufficient to identify the potential for exposure to the surrounding community.
- \* To evaluate particulate suspension conditions upwind in relation to conditions on-site, background MiniRam® readings will be obtained on-site at a location immediately upwind of the excavation activity.

Following your review and agreement to these final RAP Addendum changes, please provide us with the appropriate written approval so that construction activities within the contaminated areas may begin as soon as possible. Should you have any questions regarding the above, please call Christine at (612) 683-8721 or Richard at (612) 683-8752.

Sincerely,

  
Christine M. McCarthy  
Project Manager/Geologist

  
Richard M. Johnston  
Project Coordinator, Principal

- c: Mr. Darnell Blume, City of Minneapolis
- Ms. Laurie Kania, MPCA
- Mr. Ramman Kannankutty, City of Minneapolis
- Mr. Leonard Krumm, City of Minneapolis
- Mr. Scott Reed, MnDOT

Invoice 2 hr + file

DEPARTMENT OF TRANSPORTATION - Office of Environmental Services

DATE: November 19, 1996

TO: Laurie Kania, Project Manager  
Voluntary Petroleum Investigation and Cleanup Program  
Minnesota Pollution Control Agency

FROM: Scott M. Reed, Hydrogeologist *SM Reed*  
Environmental Compliance and Investigation Unit

PHONE: 779-5103

SUBJECT: S.P. 2724-103, T.H. 55 (Hiawatha Avenue)  
Former Clark Oil Service Station, 2308 East Lake Street, Minneapolis  
MPCA Leak Number 8324

Enclosed for your review is a copy of the "Petroleum Release Remedial Investigation Addendum" prepared by Barr Engineering Company for the referenced site. This report summarizes the results of additional field investigation work requested in your letter dated April 18, 1996. Specifically, the report provides additional groundwater analytical results and vapor risk survey results.

The vapor risk survey did not detect any evidence of petroleum vapors in the sewer systems near the site. The additional round of groundwater sampling indicated that free product is still present in MW-102. No petroleum compounds were detected in MW-101 or MW-103, with the exception of 0.36 mg/L of diesel range organics (DRO) detected in MW-103. However, the chromatogram of the DRO analysis indicated that the result was likely caused by laboratory contamination or naturally occurring organic compounds. Since the groundwater sampling event, all monitoring wells except MW-3 from the Miller & Holmes remedial investigation and MW-103 have been abandoned during the reconstruction Hiawatha Avenue.

Once the construction project is complete, Mn/DOT will evaluate the potential for replacing monitoring wells and recovering free product. Please call if you have any questions or require additional information.

enclosure

cc (w/out encl):  
S. Kordosky  
E. Ruhland

cc (w/ encl.):  
File

**Office Memorandum**

DATE: May 6, 1996

TO: Lauralin Kania, Project Manager  
Voluntary Petroleum Investigation and Cleanup Unit  
Minnesota Pollution Control Agency

FROM: Scott M. Reed, Hydrogeologist *SML*  
Environmental Compliance and Investigation Unit

PHONE: 779-5103

SUBJECT: S.P. 2724-103, Trunk Highway 55 (Hiawatha Avenue)  
Former Clark Oil Station  
MPCA Leak Number 8324

**RECEIVED**

MAY 08 1996

MPCA, HAZARDOUS  
WASTE DIVISION

As part of the Hiawatha Avenue reconstruction project, Mn/DOT has abandoned several of the monitoring wells at the former Clark Oil site. Among these wells are MW-4 and MW-102, both of which have shown evidence of free product. Construction activities have necessitated the removal of these monitoring wells. Groundwater elevation measurements and analytical samples (from wells without free product) were taken at the site prior to well abandonment. Following completion of construction activities, Mn/DOT will work with the MPCA to determine which monitoring wells should be replaced to continue assessment of the contamination plume at the site.

One of the requests from the MPCA for continued monitoring of the Clark Oil site was to complete a vapor risk survey in the Lake Street utilities to the south. Traffic volumes on Lake Street and Hiawatha Avenue make this survey difficult to complete. However, at various times during this construction project, traffic will be diverted around the Hiawatha/Lake intersection. This will allow the vapor risk survey to be completed with minimal traffic hazards. Data should be available later this summer.

Please call if you have any questions or require additional information regarding this project.

cc:  
J. Williams  
B. Johnson/File

*3485 Hadley Ave No.  
Oakdale  
55128*



# Minnesota Pollution Control Agency

---

April 18, 1996

Mr. Scott Reed  
Minnesota Department of Transportation  
3485 Hadley Avenue North  
Oakdale, Minnesota 55128

RE: Petroleum Tanks Release Site Corrective Action Design Approval  
Site: Former Clark Oil Service Station, 2308 East Lake Street, Minneapolis  
Site ID#: LEAK00008324

Dear: Mr. Reed

Minnesota Pollution Control Agency (MPCA) Tanks and Emergency Response Section staff has reviewed your "Petroleum Release Remedial Investigation Report" dated February 1996 outlining a plan of response to the petroleum tank release(s) at the above-referenced site. The MPCA staff hereby approves the implementation of the proposed recommendations which consist of the following:

- A.- Leaving contaminated soils in place and addressing them as needed during road construction and utility installation,
- B.- Perform a vapor risk assessment on the Lake Street sewer line east of the Lake Street/Hiawatha Avenue intersection,
- C.- Continue the recovery of free product using passive product recovery at the existing monitoring wells where free product has been detected,
- D- Continue ground water monitoring using the existing monitoring network and analyse for benzene, toluene, xylene, gasoline range organics and diesel range organics.

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.

Approval of this CAD is based on its environmental merits for addressing the petroleum contamination only. This letter does not apply to other types of contamination that may be present on the subject property. You are responsible for insuring that this remedial system complies with all applicable building, electrical and fire codes and health department rules, and that all necessary state and local approvals are obtained.

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Mr. Scott Reed  
Page 2  
April 18, 1996

This approval qualifies you under Minn. Stat. § 115C.09, subd. 2(a)(3) (1994) to be eligible for Petrofund reimbursement of eligible cleanup costs. Applications for reimbursement must be made directly to the Petrofund. Decisions regarding Petrofund reimbursement are made by the Petro Board. Reimbursement decisions are based on factors such as the adequacy of cleanup, reasonableness of cost, compliance with notification laws, and cooperation with the MPCA. If you have questions regarding the investigation of ground water at this site, please contact MPCA staff hydrogeologist Bassou Oulout at 612/297-8597. If you have any other questions, please call me at 612/297-8600.

Sincerely,

Laurie Kania  
Voluntary Petroleum Investigation and Cleanup  
Tanks and Emergency Response Section

LK:bah

cc: Gary Rempke, Barr Engineering, Minneapolis  
Minnesota Department of Commerce Petrofund Staff





# Minnesota Pollution Control Agency

## Voluntary Petroleum Investigation and Cleanup



### Program Application Request for Assistance Form

Complete this form to request assistance from the Minnesota Pollution Control Agency (MPCA) staff in the Voluntary Petroleum Investigation and Cleanup (VPIC) Program pursuant to Minn. Stat. § 115C.03, subd. 9 (as amended by Minn. Laws, 1994). Answer all applicable questions.

If you have any questions about the services offered by the MPCA VPIC Program or this application, please contact Laurie Kania at 612/297-8600 or Bassou Olgout at 612/297-8597. The MPCA can also be reached at 1-800-657-3864.

Please mail the completed form to:

Laurie Kania  
Tanks and Spills Section  
Voluntary Petroleum Investigation and Cleanup  
Minnesota Pollution Control Agency  
520 Lafayette Road  
St. Paul, Minnesota 55155

#### Subject Property

Name Former Clark Oil Service Station <sup>360</sup> mnDOT / m#H  
Address 2308 East Lake Street 2308 E Lake St  
City (or Township) Minneapolis Zip Code 55406  
County Hennepin

#### Applicant\*

Name Scott M. Reed Title Hydrogeologist  
Organization Minnesota Department of Transportation  
Address 3485 Hadley Avenue North  
City Oakdale State MN Zip Code 55128  
Phone (612) 779-5103  
Minnesota Taxpayer ID N/A Federal Employer ID N/A  
Social Security Number (if individual) N/A

\* The applicant is the individual seeking review of a petroleum release site and/or issuance of a *General Liability, Determination, Verification* or *Confirmation* letter by the MPCA VPIC Program. The applicant is responsible for payment of MPCA costs to provide services as requested by application.

**Description of Applicant's Request**

Expedited review of a petroleum storage tank release site (e.g., MPCA Leak Site). Will provide *expedited review* of Remedial Investigation/Corrective Action Design (RI/CAD) and other reports required for these sites by the MPCA Tanks and Spills Section, Leaking Underground Storage Tank (LUST) Program.

MPCA ID# LEAK0000 8324 and LEAK00000360

\_\_\_\_\_ Review of a petroleum release site for which the contamination did not originate from a tank (e.g., petroleum non-tank release site). Will provide review of Phase I and II Environmental Site Assessment and other reports.

MPCA ID# SPILL0000 \_\_\_\_\_ (if applicable)

\_\_\_\_\_ Review of site development plan for a petroleum impacted property.  
MPCA ID# LEAK0000 \_\_\_\_\_ (if applicable)

\_\_\_\_\_ *General Liability* letter.

\_\_\_\_\_ Off-site Tank Release *Determination* letter.  
Suspected source MPCA ID# LEAK0000 \_\_\_\_\_

\_\_\_\_\_ Leak Site Tank Removal *Verification* letter.  
MPCA ID# LEAK0000 \_\_\_\_\_

\_\_\_\_\_ Leak Site File Closure *Confirmation* letter.  
MPCA ID# LEAK0000 \_\_\_\_\_

\_\_\_\_\_ Other technical assistance not specified above (Please attach separate sheet describing request).

**Applicant's Interest**

- Currently owns property  
 Considering purchasing property  
 Responsible party (as defined under Minn. Stat. 115C) → for leak # 8324 only  
 Mortgagee interest in property  
 Renting or leasing property  
 Other (explain) → Property development

**Current Property Owner (If Different from the Applicant)**

Name \_\_\_\_\_ Title \_\_\_\_\_  
 Organization \_\_\_\_\_ Phone \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

**General Information**

Has the subject property been entered into the MPCA Voluntary Investigation and Cleanup (VIC) Program which offers services pertaining to properties with non-petroleum contamination? Yes X No      → Surrounding TH 55 corridor, not leak sites specifically.

If yes, please attach a separate sheet describing VIC's involvement.

Please list the names of MPCA staff that you have spoken with regarding the subject property.  
Mitch Chiodi, Barb Hearley - Tanks & Emergency Response Section

**Contact Persons**

Please list the name(s) of your current environmental consultant and legal counsel, if applicable.

Consultant Gary Remple - Barr Engineering Phone (612) 832-2734  
Attorney Sherry Enzler - Office of the Attorney General Phone (612) 282-5705

**Authorization and Agreement to Pay for Services**

I hereby request the MPCA VPIC staff to provide services to me and the company/organization I represent, as requested by this application. I understand that if an expedited review of a Leak Site is the requested service, VPIC staff will retain review authority until the site file is closed or until the date they receive a written request from me to cease VPIC review of the site. I understand that I will be billed for these services at the rate of \$60.00 per hour and that I am required by Minn. Stat § 115C.03, subd. 9 (as amended by Minn. Laws, 1994) to reimburse the MPCA for the Agency's costs, as determined by the MPCA Commissioner. I further understand that legal or administrative action may be initiated against me by the State of Minnesota if I do not reimburse the MPCA.


I hereby agree to pay the costs of the MPCA to provide services to the applicant as requested in this application. Furthermore, I hereby certify that I have the authority to submit this application on behalf of the applicant named herein.

Name (type or print) Scott M. Reed Title Hydrogeologist  
Signature Scott M. Reed  
Date 2-27-96

**Office Memorandum**

DATE: May 22, 1995

TO: Jean Hanson, Project Leader  
Tanks and Spills Section  
Minnesota Pollution Control Agency

FROM: Scott M. Reed, Hydrogeologist   
Environmental Compliance and Investigation Unit

PHONE: 779-5103

SUBJECT: Former Clark Oil Service Station, T.H. 55 and Lake Street  
Mn/DOT S.P. 2724-103  
MPCA Leak Number 8324

This memorandum is in response to your letter dated May 9, 1995. The Minnesota Department of Transportation (Mn/DOT) has initiated free product recovery at the monitoring well (MW-4) located at the above referenced leak site. Approximately 0.5 gallons of product has been recovered since the initiation of recovery operations on April 10, 1995.

Free product was initially discovered during an investigation at the former Miller & Holmes (M&H) station (MPCA Leak Number 360) to the west of the former Clark Oil site. On July 18, 1991, Leggette, Brashears & Graham, Inc. (LBG), M&H's consultant, installed monitoring well MW-4 at the Clark Oil site to provide additional groundwater information for the investigation of leak 360. Free product was discovered in August 1991.

The investigation work completed by LBG and later by Geraghty & Miller, Inc. (M&H's second consultant) subsequently indicated that the free product found in MW-4 is likely associated with a release from the former Clark Oil site. In a telephone conversation with Michael Chiodi, MPCA hydrogeologist, on February 14, 1995, Mn/DOT was informed that the Clark Oil site was being considered a separate release and the MPCA requested Mn/DOT to initiate free product recovery. Mn/DOT agreed to install a passive free product recovery system in MW-4 and indicated that a remedial investigation would likely be completed at the site when funding is available.

Based on information from our files, Mn/DOT purchased the site on April 11, 1969. Three underground storage tanks (a 6,000 gallon tank, a 3,000 gallon tank, and a 1,000 gallon tank) were removed from the site sometime after September 10, 1970. The tanks reportedly contained gasoline.

Attached for your review is a copy of the "Free Product Recovery Worksheet" for leak 8324. Also included is the data from a Geraghty & Miller report showing the date of free product discovery. Mn/DOT will initiate a remedial investigation of the Clark Oil site in mid-1995, with work expected to be completed by fall 1995.

Page 2  
May 22, 1995

Please call if you have any questions or require additional information.

Enclosure

cc (w/ encl.):  
File

cc (w/out encl.):  
S. Enzler  
K. Rasmussen  
M. Spielmann  
B. Johnson

FREE PRODUCT RECOVERY REPORT WORKSHEET  
Fact Sheet #5  
Minnesota Pollution Control Agency  
LUST Cleanup Program  
April 1993

The completion and submittal of this worksheet fulfills the federal (U.S. Environmental Protection Agency) requirement to report to the Minnesota Pollution Control Agency (MPCA) regarding interim product recovery actions within 45 days of free product discovery. For further information on your obligations regarding free product, consult fact sheet #18 "Free Product: Evaluation and Recovery."

LEAK # 8324

Site name: Former Clark Oil Station  
Location: NE Corner of the TH 55/Lake Street Intersection

1. Free product discovery date: August 23, 1991  
discovery time: N/A

2. You are required to report free product within 24 hours of discovery by calling the State Duty Officer at 612-649-5451, 612-296-8100, or 1-800-422-4798.

Call date: N/A  
Call time: N/A  
Contact person: N/A

3. Circumstances of free product discovery (e.g., UST removal, during routine monitoring well sampling, etc.).

Free product discovered during RI investigation of adjacent leak site #360

4. Product type: gasoline

5. Free product thickness: at time of discovery - 0.05', latest reading 0.4'

If the thickness is greater than 0.1 foot, you are required to recover it and submit the worksheet for MPCA review as part of the remedial investigation/corrective action design (RI/CAD) within 90 days of product discovery date.

6. If product thickness is less than 0.1 foot or if an automated free product recovery system is required but not yet installed, describe the method of interim free product recovery.

Passive free product collector using a wicking action installed in MW-4

7. Volume recovered: ~ 0.5 gallons  
date: 4-10-95 to 5-12-95

(see reverse side)

8. Relevant observations concerning recharge rate of free product or expected volume present:

The passive collection system is recovering product quite slowly.

9. Obvious nearby receptors, including basements, utilities, water wells, etc.

Nearest buildings are slab on grade construction. Groundwater flow is generally to the north & northwest. No structures or wells are in the immediate vicinity of the site in this direction.

NOTE: A full risk assessment ("Petroleum Vapor Risk Assessment and Survey," "Hydrogeologic Setting and Ground Water Characterization," and "Ground Water Receptor Survey") will be required in the RI/CAD report.

10. Person preparing this report: Scott M. Reed - Mn/DOT  
date: 5-15-95

Send this Free Product Recovery Report to:

(Project Manager)  
Minnesota Pollution Control Agency  
Tanks and Spills Section  
520 Lafayette Road North  
St. Paul, Minnesota 55155

Upon request, this document can be made available in other formats, including Braille, large print and audio tape. TDD users, call the Minnesota State Relay Service, 612/297-5353 or Greater Minnesota TDD 1-800-627-3529.

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**SITE CLOSURE REPORT**

**MILLER & HOLMES, INC.  
2300 LAKE STREET  
MINNEAPOLIS, MINNESOTA  
LEAK SITE NO. 360**

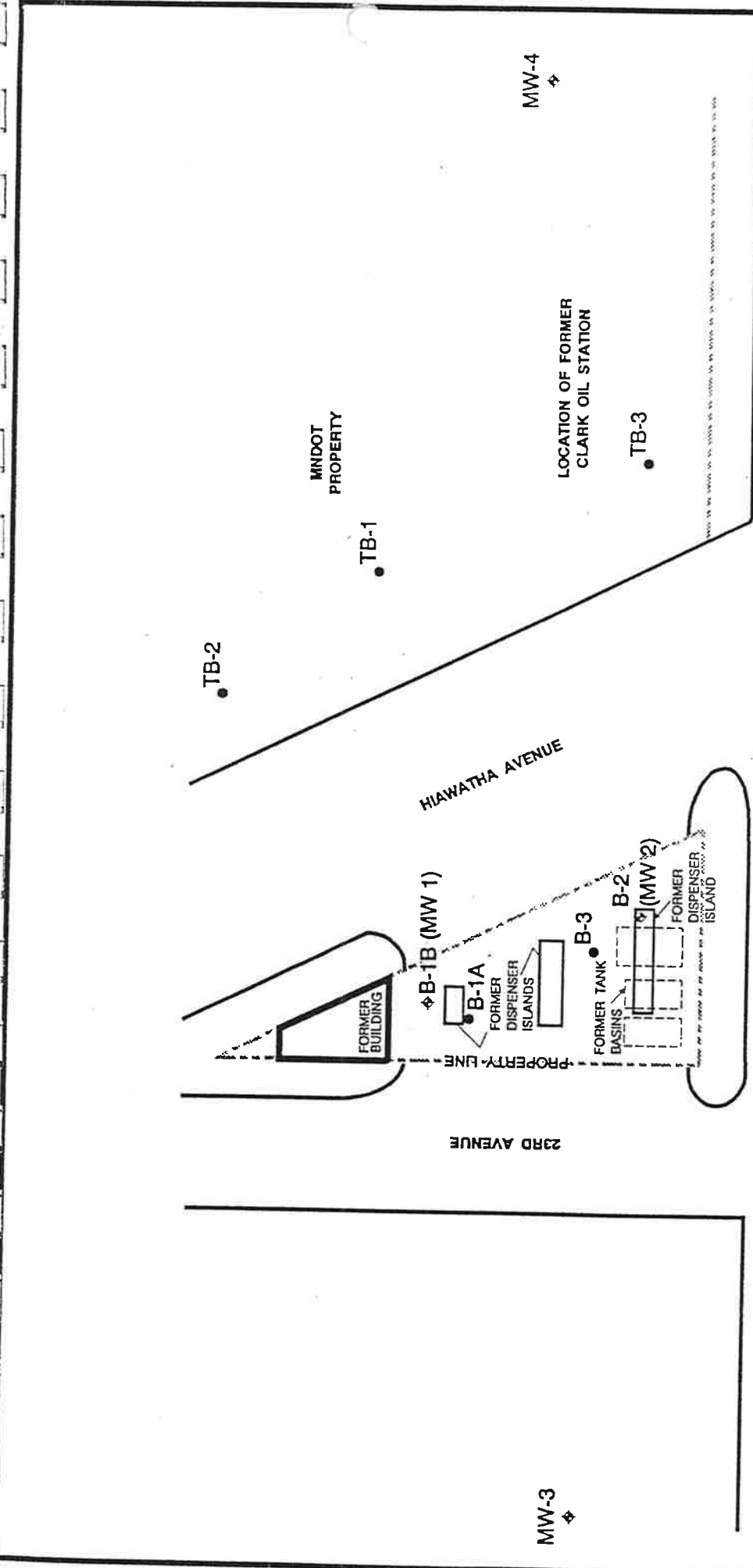
Prepared for:

Miller & Holmes, Inc.

Prepared by:

GERAGHTY & MILLER, INC.  
105 Fifth Avenue South, Suite 350  
Minneapolis, Minnesota 55401





**LEGEND**

- ◆ MW 2 MONITOR WELL
- B-3 TEST BORING LOCATION
- FORMER DISPENSER ISLAND
- ▭ FORMER TANK BASIN

<b>MILLER &amp; HOLMES, INC.</b> LAKE STREET	
<b>MONITOR - WELL LOCATION MAP</b>	
DATE	REVISED
8-28-91	BASEMAP
FILE	LAKE SITE.DRW
DATE:	FIGURE: 2
<b>LEGGETTE, BRASHEARS &amp; GRAHAM, INC.</b> Professional Ground-Water Consultants Northpark Corporate Center 1210 W. County Road E., Suite 700 St. Paul, MN 56112 (612) 490-1405	

TABLE 1  
MILLER & HOLMES, INC.  
STATION NO. 27  
MINNEAPOLIS, MINNESOTA

FLUID-LEVEL DATA

WELL NO.	DATE	DEPTH TO HYDROCARBON	DEPTH TO WATER	ELEVATION TOC	SPECIFIC GRAVITY	ELEVATION HYDROCARBON	ELEVATION WATER	PRODUCT THICKNESS	CORRECTED ELEVATION	WELL NO.
MW-1	07-Aug-89	21.40	21.65	845.76	0.76	824.36	824.11	0.25	824.30	MW-1
MW-1	10-Jan-90	22.34	23.47	845.76	0.76	823.42	822.29	1.13	823.15	MW-1
MW-1	06-Apr-90	23.14	24.84	845.76	0.76	822.62	820.92	1.70	822.21	MW-1
MW-1	09-Aug-90	20.23	20.39	845.76	0.76	825.53	825.37	0.16	825.49	MW-1
MW-1	15-Aug-90	20.06	20.11	845.76	0.76	825.70	825.65	0.05	825.69	MW-1
MW-1	23-Aug-90	19.81	19.98	845.76	0.76	825.95	825.78	0.17	825.91	MW-1
MW-1	07-Sep-90	19.69	19.90	845.76	0.76	826.07	825.86	0.21	826.02	MW-1
MW-1	12-Nov-90	20.35	20.87	845.76	0.76	825.41	824.89	0.52	825.29	MW-1
MW-1	30-Nov-90	20.44	21.10	845.76	0.76	825.32	824.66	0.66	825.16	MW-1
MW-1	14-Dec-90	20.66	21.34	845.76	0.76	825.10	824.42	0.68	824.94	MW-1
MW-1	27-Dec-90	20.85	21.49	845.76	0.76	824.91	824.27	0.64	824.76	MW-1
MW-1	04-Jan-91	20.97	21.65	845.76	0.76	824.79	824.11	0.68	824.63	MW-1
MW-1	11-Jan-91	21.06	21.81	845.76	0.76	824.70	823.95	0.75	824.52	MW-1
MW-1	01-Feb-91	21.37	22.09	845.76	0.76	824.39	823.67	0.72	824.22	MW-1
MW-1	08-Feb-91	21.43	22.18	845.76	0.76	824.33	823.58	0.75	824.15	MW-1
MW-1	22-Feb-91	21.64	22.36	845.76	0.76	824.12	823.40	0.72	823.95	MW-1
MW-1	01-Mar-91	21.70	22.51	845.76	0.76	824.06	823.25	0.81	823.87	MW-1
MW-1	15-Mar-91	21.88	22.75	845.76	0.76	823.88	823.01	0.87	823.67	MW-1
MW-1	26-Mar-91	21.85	22.84	845.76	0.76	823.81	822.92	0.64	823.60	MW-1
MW-1	29-Mar-91	22.04	22.88	845.76	0.76	823.72	822.88	0.84	823.52	MW-1
MW-1	05-Apr-91	22.05	22.92	845.76	0.76	823.71	822.84	0.87	823.50	MW-1
MW-1	12-Apr-91	22.10	22.94	845.76	0.76	823.66	822.82	0.84	823.46	MW-1
MW-1	18-Apr-91	22.13	22.97	845.76	0.76	823.63	822.79	0.84	823.43	MW-1
MW-1	01-May-91	22.15	22.93	845.76	0.76	823.61	822.83	0.78	823.42	MW-1
MW-1	09-May-91	22.15	22.93	845.76	0.76	823.61	822.83	0.78	823.42	MW-1
MW-1	17-May-91	---	21.82	845.76	0.76	---	823.94	---	823.94	MW-1
MW-1	31-May-91	---	21.03	845.76	0.76	---	824.73	---	824.73	MW-1
MW-1	14-Jun-91	---	20.42	845.76	0.76	---	825.34	---	825.34	MW-1
MW-1	11-Jul-91	---	19.49	845.76	0.76	---	826.27	---	826.27	MW-1
MW-1	19-Jul-91	---	19.40	845.76	0.76	---	826.36	---	826.36	MW-1
MW-1	12-Aug-91	---	19.29	845.76	0.76	---	826.47	---	826.47	MW-1
MW-1	23-Aug-91	---	19.36	845.76	0.76	---	826.40	---	826.40	MW-1
MW-1	13-Sep-91	---	19.44	845.76	0.76	---	826.32	---	826.32	MW-1
MW-1	04-Oct-91	---	18.80	845.76	0.76	---	826.96	---	826.96	MW-1
MW-1	12-Nov-91	---	19.31	845.76	0.76	---	826.45	---	826.45	MW-1
MW-1	09-Dec-91	---	18.82	845.76	0.76	---	826.94	---	826.94	MW-1
MW-1	10-Jan-92	---	18.99	845.76	0.76	826.77	826.77	---	826.77	MW-1
MW-1	30-Jan-92	---	19.30	845.76	0.76	826.46	826.46	---	826.46	MW-1
MW-2	07-Aug-89	---	21.90	845.55	0.76	---	823.65	---	823.65	MW-2
MW-2	10-Jan-90	---	21.55	845.55	0.76	---	824.00	---	824.00	MW-2
MW-2	06-Apr-90	---	22.24	845.55	0.76	---	823.31	---	823.31	MW-2
MW-2	09-Aug-90	---	---	845.55	0.76	---	---	---	---	MW-2
MW-2	15-Aug-90	---	18.71	845.55	0.76	---	826.84	---	826.84	MW-2
MW-2	23-Aug-90	---	18.65	845.55	0.76	---	826.90	---	826.90	MW-2
MW-2	07-Sep-90	---	18.94	845.55	0.76	---	826.61	---	826.61	MW-2
MW-2	12-Nov-90	---	19.58	845.55	0.76	---	825.97	---	825.97	MW-2
MW-2	30-Nov-90	---	19.50	845.55	0.76	---	826.05	---	826.05	MW-2
MW-2	14-Dec-90	---	19.87	845.55	0.76	---	825.68	---	825.68	MW-2
MW-2	27-Dec-90	---	20.02	845.55	0.76	---	825.53	---	825.53	MW-2
MW-2	04-Jan-91	---	20.22	845.55	0.76	---	825.33	---	825.33	MW-2
MW-2	11-Jan-91	---	20.28	845.55	0.76	---	825.27	---	825.27	MW-2

TABLE 1  
MILLER & HOLMES, INC.  
STATION NO. 27  
MINNEAPOLIS, MINNESOTA

FLUID-LEVEL DATA

WELL NO.	DATE	DEPTH TO HYDROCARBON	DEPTH TO WATER	ELEVATION TOC	SPECIFIC GRAVITY	ELEVATION HYDROCARBON	ELEVATION WATER	PRODUCT THICKNESS	CORRECTED ELEVATION	WELL NO.
MW-2	01-Feb-91	---	20.73	845.55	0.76	---	824.82	---	824.82	MW-2
MW-2	08-Feb-91	---	20.71	845.55	0.76	---	824.84	---	824.84	MW-2
MW-2	22-Feb-91	---	21.13	845.55	0.76	---	824.42	---	824.42	MW-2
MW-2	01-Mar-91	---	20.90	845.55	0.76	---	824.65	---	824.65	MW-2
MW-2	15-Mar-91	---	21.29	845.55	0.76	---	824.26	---	824.26	MW-2
MW-2	26-Mar-91	---	21.02	845.55	0.76	---	824.53	---	825.53	MW-2
MW-2	29-Mar-91	---	21.30	845.55	0.76	---	824.25	---	824.25	MW-2
MW-2	05-Apr-91	---	20.93	845.55	0.76	---	824.62	---	824.62	MW-2
MW-2	12-Apr-91	---	20.91	845.55	0.76	---	824.64	---	824.64	MW-2
MW-2	18-Apr-91	---	20.90	845.55	0.76	---	824.65	---	824.65	MW-2
MW-2	01-May-91	---	20.95	845.55	0.76	---	824.60	---	824.60	MW-2
MW-2	09-May-91	---	20.95	845.55	0.76	---	824.60	---	824.60	MW-2
MW-2	17-May-91	---	20.08	845.55	0.76	---	825.47	---	825.47	MW-2
MW-2	31-May-91	---	19.55	845.55	0.76	---	826.00	---	826.00	MW-2
MW-2	14-Jun-91	---	19.09	845.55	0.76	---	826.46	---	826.46	MW-2
MW-2	11-Jul-91	---	18.75	845.55	0.76	---	826.80	---	826.80	MW-2
MW-2	19-Jul-91	---	18.85	845.55	0.76	---	826.70	---	826.70	MW-2
MW-2	12-Aug-91	---	18.72	845.55	0.76	---	826.83	---	826.83	MW-2
MW-2	23-Aug-91	---	18.79	845.55	0.76	---	826.76	---	826.76	MW-2
MW-2	13-Sep-91	---	18.68	845.55	0.76	---	826.87	---	826.87	MW-2
MW-2	04-Oct-91	---	18.47	845.55	0.76	---	827.08	---	827.08	MW-2
MW-2	12-Nov-91	---	19.02	845.55	0.76	---	826.53	---	826.53	MW-2
MW-2	09-Dec-91	---	18.96	845.55	0.76	---	826.59	---	826.59	MW-2
MW-2	10-Jan-92	---	19.11	845.55	0.76	---	826.44	---	826.44	MW-2
MW-2	30-Jan-92	---	19.20	845.55	0.76	---	826.35	---	826.35	MW-2
MW-3	19-Jul-91	---	21.86	848.98	0.76	---	827.12	---	827.12	MW-3
MW-3	12-Aug-91	---	21.91	848.98	0.76	---	827.07	---	827.07	MW-3
MW-3	23-Aug-91	---	22.02	848.98	0.76	---	826.96	---	826.96	MW-3
MW-3	13-Sep-91	---	22.00	848.98	0.76	---	826.98	---	826.98	MW-3
MW-3	04-Oct-91	---	21.50	848.98	0.76	---	827.48	---	827.48	MW-3
MW-3	12-Nov-91	---	22.13	848.98	0.76	---	826.85	---	826.85	MW-3
MW-3	09-Dec-91	---	21.66	848.98	0.76	---	827.32	---	827.32	MW-3
MW-3	10-Jan-92	---	21.78	848.98	0.76	---	827.20	---	827.20	MW-3
MW-3	30-Jan-92	---	22.08	848.98	0.76	---	826.90	---	826.90	MW-3
MW-4	19-Jul-91	---	18.80	846.61	0.76	---	827.81	---	827.81	MW-4
MW-4	12-Aug-91	---	18.81	846.61	0.76	---	827.80	---	827.80	MW-4
MW-4	23-Aug-91	18.97	19.02	846.61	0.76	827.64	827.59	0.05	827.63	MW-4
MW-4	13-Sep-91	18.65	18.72	846.61	0.76	827.96	827.89	0.07	827.94	MW-4
MW-4	04-Oct-91	18.27	18.37	846.61	0.76	828.34	828.24	0.10	828.32	MW-4
MW-4	12-Nov-91	19.16	19.29	846.61	0.76	827.45	827.32	0.13	827.42	MW-4
MW-4	09-Dec-91	18.72	18.86	846.61	0.76	827.89	827.75	0.14	827.86	MW-4
MW-4	10-Jan-92	19.06	19.25	846.61	0.76	827.55	827.36	0.19	827.50	MW-4
MW-4	30-Jan-92	19.15	19.41	846.61	0.76	827.46	827.20	0.26	827.40	MW-4

TOC = Top of casing  
 --- = No data available  
 All elevations referenced to sea level



# Minnesota Pollution Control Agency

---

May 9, 1995

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. Scott Reed  
Office of Environmental Services  
Minnesota Department of Transportation  
Mail Stop 620  
3485 Hadley Avenue North  
Oakdale, Minnesota 55128-3307

Ms. Maureen Turman  
Clark Refining & Marketing, Inc.  
760 Pasquinelli Drive  
Suite 352  
Westmont, Illinois 60559

RE: Petroleum Storage Tank Release Investigation and Corrective Action  
Site: Former Clark Oil Service Station, Hiawatha and Lake Street,  
Minneapolis, Minnesota  
Site ID#: LEAK00008324

Dear Ms. Turman and Mr. Reed:

## Notice of Release

The Minnesota Pollution Control Agency (MPCA) has received notification that a release of petroleum has occurred from storage tank facilities at an old Clark Oil Service Station (located at the above-referenced site) that has resulted in contamination of soil and/or ground water. It is MPCA staff understanding that the property was purchased by the Minnesota Department of Transportation (MNDOT).

## Legal Obligations

Federal and state laws require that persons legally responsible for storage tank releases notify the MPCA of the release, investigate the extent of the release and take actions needed to ensure that the release is cleaned up. A person is considered legally responsible for a tank release if the person owned or operated the tank either during or after the release, unless specifically exempted under the law. See Minn. Stat. § 115C.021 (1992). If you believe that you are not legally responsible for this storage tank release, please submit a written explanation of your position to the MPCA within 30 days.

520 Lafayette Rd. N.; St. Paul, MN 55155-4194; (612) 296-6300 (voice); (612) 282-5332 (TTY)

Regional Offices: Duluth • Brainerd • Detroit Lakes • Marshall • Rochester

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CLARK

RECEIVED

REFINING & MARKETING, INC.

May 11, 1995

MAY 15 1995  
MPCA, HAZARDOUS  
WASTE DIVISION

1307 Butterfield Road, Suite 424  
Downers Grove, Illinois 60515

Minnesota Pollution Control Agency  
Ms. Jean Hanson  
Project Leader, Cleanup Unit II  
Tanks and Spills Section

RE: Petroleum Storage Tank Release Investigation and Corrective Action  
Site: Former Clark Oil Service Station, Hiawatha and Lake Street,  
Minneapolis, Minnesota  
Site ID#: LEAK00008324

Dear Ms. Hanson:


Please be advised that we are in receipt of the May 9, 1995 correspondence from you (copy attached) concerning the above site. Based on the date of sale of this property, June 24, 1969, this company has no involvement with respect to this site.

This company, Clark Refining & Marketing, Inc. ("Clark") was incorporated in February, 1988. Clark was incorporated to negotiate the purchase of certain assets of a company known at the time as Clark Oil & Refining Corporation, a Wisconsin corporation ("Clark Wisconsin"). Clark Wisconsin, which was owned by a company known as Apex Oil Company, had filed for Chapter 11 Bankruptcy protection along with Apex and other related companies in December, 1987. Clark negotiated with the debtors to purchase several of the assets owned by Clark Wisconsin. The Asset Purchase Agreement entered into between the debtors and Clark specifically provided that Clark would not assume any environmental liabilities, particularly pre-existing liabilities, of the debtor companies. That agreement was approved by the United States Bankruptcy Court for the Eastern District of Missouri by Order dated November 7, 1988, and this transaction and transfer of assets took place on November 22, 1988.

The relevant time period indicated for this site, prior to June 24, 1969, demonstrates that the site has not in any way been active for twenty years prior to Clark's existence. Moreover, the Bankruptcy Court's Order in connection with Clark Wisconsin's Bankruptcy makes clear that this company has not inherited any liability of that company for involvement it may have had with this site.

If we can be of further assistance with respect to this matter please do not hesitate to contact me.

Sincerely,  
Clark Refining & Marketing, Inc.

  
Maureen Turman  
Environmental Projects Manager

Enclosure

CC: Mr. Scott Reed, Minnesota Department of Transportation



Ms. Maureen Turman  
Mr. Scott Reed  
Page 2  
May 9, 1995

If you are not legally responsible for the release, but hold legal or equitable title to the property where the release occurred, you may volunteer to take corrective action. Responsible persons and volunteers who take corrective action may be eligible for reimbursement for a major portion of the costs of corrective action. The legislature has established the Petroleum Tank Release Cleanup Account to reimburse responsible persons and volunteers. The account is administered by the Petro Board which is part of the Minnesota Department of Commerce. Final decisions regarding the amount of reimbursement are made by the Petro Board. All questions about eligibility and reimbursement should be directed to the Petro Board at 612/297-1119 or 612/297-4203.

### **Request to Take Corrective Action**

The MPCA staff is requesting you to take the steps necessary to investigate and clean up the release in accordance with the enclosed MPCA fact sheets. The MPCA requires that you conduct a site investigation to define the full extent and magnitude of the soil and/or ground water contamination caused by the release. A report which details the results of the investigation or concludes that excavation was sufficient to address the release for cleanup (Excavation Report and/or Remedial Investigation/Corrective Action Design (RI/CAD)) must be submitted to this office within 10 months of the date of this letter. Please refer to MPCA fact sheets for information pertaining to the degree of investigative work necessary at petroleum release sites.

MPCA staff has been notified that monitoring well MW-4 has free product. Sites with free product, drinking water supply impacts, fire or explosion hazards, or ground water impacts which pose a significant threat to public health or the environment, are considered high priority for staff review. If one or more of these situations apply to your site, an RI/CAD report must be submitted within 90 days. In addition, if you know or discover that there is free-floating petroleum in a well, excavation, or borehole, you must notify the MPCA within 24 hours and IMMEDIATELY begin interim free product recovery.

If you have not already done so, the MPCA recommends that you hire a qualified consulting firm registered with the Petro Board that has experience in conducting petroleum release site investigations and in proposing and implementing appropriate corrective actions. A list of registered contractors and consultants is available from the Minnesota Department of Commerce. The MPCA reserves the right to reject proposed corrective actions if the requirements of the site investigation have not been fulfilled. Please note that, under Minn. Rules pt. 2890.0075, subp. 2, you must solicit a minimum of two competitive proposals on a form prescribed by the Petro Board to ensure that the consulting costs are reasonable. Questions about bidding requirements should be directed to Petro Board staff.

Ms. Maureen Turman  
Mr. Scott Reed

Page 3  
May 9, 1995

### Required Response

MPCA staff requests a written or verbal response to this letter within 30 days. In your response, please tell us whether you intend to comply with the above requirements. If you do not respond within this time frame, the MPCA staff will assume that you do not intend to comply, in which case the MPCA Commissioner may order you to take corrective action. If you do not comply with the Commissioner's order, it may be enforced in court or, alternatively, the MPCA could use state funds to clean up the release and then request the Attorney General to recover its costs from you through legal action. Failure to cooperate with the MPCA in a timely manner will also result in reduced reimbursement from the Petro Board. See Minn. Rules pt. 2890.0065, subp. 1, item C.

MPCA staff requests the following information be submitted by MNDOT staff by May 30, 1995:

1. Ground water measurements taken on September 8, 1991, which identify this as a separate release (report format).
2. Submit the enclosed "Free Product Report Worksheet", to MPCA.
3. The date MNDOT purchased the former Clark Oil Station site.
4. When were the underground storage tanks removed?

The enclosed fact sheets will provide you with the information necessary to complete a successful investigation and cleanup. If you have any questions concerning this letter or need additional information, please contact me at 612/297-8595. Please reference the above LEAK # in all correspondence.

Sincerely,



Jean Hanson  
Project Leader  
Cleanup Unit II  
Tanks and Spills Section

JH:bah

Enclosures

cc: Karen Nordby, Department of Operations and Regulatory Services  
Merry Keefe, City Clerk, Minneapolis  
Greg Lie, Hennepin County Solid Waste Officer  
Tom Dickinson, Fire Chief, Minneapolis



# Minnesota Pollution Control Agency

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May 9, 1995

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. Scott Reed #779-5103  
Office of Environmental Services  
Minnesota Department of Transportation  
Mail Stop 620  
3485 Hadley Avenue North  
Oakdale, Minnesota 55128-3307

Ms. Maureen Turman #708/434-5300 Ext. 209  
Clark Refining & Marketing, Inc.  
760 Pasquinelli Drive  
Suite 352  
Westmont, Illinois 60559

RE: Petroleum Storage Tank Release Investigation and Corrective Action  
Site: Former Clark Oil Service Station, Hiawatha and Lake Street,  
Minneapolis, Minnesota  
Site ID#: LEAK00008324

Dear Ms. Turman and Mr. Reed:

## Notice of Release

The Minnesota Pollution Control Agency (MPCA) has received notification that a release of petroleum has occurred from storage tank facilities at an old Clark Oil Service Station (located at the above-referenced site) that has resulted in contamination of soil and/or ground water. It is MPCA staff understanding that the property was purchased by the Minnesota Department of Transportation (MNDOT).

## Legal Obligations

Federal and state laws require that persons legally responsible for storage tank releases notify the MPCA of the release, investigate the extent of the release and take actions needed to ensure that the release is cleaned up. A person is considered legally responsible for a tank release if the person owned or operated the tank either during or after the release, unless specifically exempted under the law. See Minn. Stat. § 115C.021 (1992). If you believe that you are not legally responsible for this storage tank release, please submit a written explanation of your position to the MPCA within 30 days.



Ms. Maureen Turman  
Mr. Scott Reed  
Page 2  
May 9, 1995

If you are not legally responsible for the release, but hold legal or equitable title to the property where the release occurred, you may volunteer to take corrective action. Responsible persons and volunteers who take corrective action may be eligible for reimbursement for a major portion of the costs of corrective action. The legislature has established the Petroleum Tank Release Cleanup Account to reimburse responsible persons and volunteers. The account is administered by the Petro Board which is part of the Minnesota Department of Commerce. Final decisions regarding the amount of reimbursement are made by the Petro Board. All questions about eligibility and reimbursement should be directed to the Petro Board at 612/297-1119 or 612/297-4203.

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The MPCCA staff is requesting you to take the steps necessary to investigate and clean up the release in accordance with the enclosed MPCCA fact sheets. The MPCCA requires that you conduct a site investigation to define the full extent and magnitude of the soil and/or ground water contamination caused by the release. A report which details the results of the investigation or concludes that excavation was sufficient to address the release for cleanup (Excavation Report and/or Remedial Investigation/Corrective Action Design (RI/CAD)) must be submitted to this office within 10 months of the date of this letter. Please refer to MPCCA fact sheets for information pertaining to the degree of investigative work necessary at petroleum release sites. MPCCA staff has been notified that monitoring well MW-4 has free product. Sites with free product, drinking water supply impacts, fire or explosion hazards, or ground water impacts which pose a significant threat to public health or the environment, are considered high priority for staff review. If one or more of these situations apply to your site, an RI/CAD report must be submitted within 90 days. In addition, if you know or discover that there is free-floating petroleum in a well, excavation, or borehole, you must notify the MPCCA within 24 hours and IMMEDIATELY begin interim free product recovery.

If you have not already done so, the MPCCA recommends that you hire a qualified consulting firm registered with the Petro Board that has experience in conducting petroleum release site investigations and in proposing and implementing appropriate corrective actions. A list of registered contractors and consultants is available from the Minnesota Department of Commerce. The MPCCA reserves the right to reject proposed corrective actions if the requirements of the site investigation have not been fulfilled. Please note that, under Minn. Rules pt. 2890.0075, subp. 2, you must solicit a minimum of two competitive proposals on a form prescribed by the Petro Board to ensure that the consulting costs are reasonable. Questions about bidding requirements should be directed to Petro Board staff.

Ms. Maureen Turman  
Mr. Scott Reed

Page 3  
May 9, 1995

### Required Response

MPCA staff requests a written or verbal response to this letter within 30 days. In your response, please tell us whether you intend to comply with the above requirements. If you do not respond within this time frame, the MPCA staff will assume that you do not intend to comply, in which case the MPCA Commissioner may order you to take corrective action. If you do not comply with the Commissioner's order, it may be enforced in court or, alternatively, the MPCA could use state funds to clean up the release and then request the Attorney General to recover its costs from you through legal action. Failure to cooperate with the MPCA in a timely manner will also result in reduced reimbursement from the Petro Board. See Minn. Rules pt. 2890.0065, subp. 1, item C.

MPCA staff requests the following information be submitted by MNDOT staff by May 30, 1995:

1. Ground water measurements taken on September 8, 1991, which identify this as a separate release (report format).
2. Submit the enclosed "Free Product Report Worksheet", to MPCA.
3. The date MNDOT purchased the former Clark Oil Station site.
4. When were the underground storage tanks removed?

The enclosed fact sheets will provide you with the information necessary to complete a successful investigation and cleanup. If you have any questions concerning this letter or need additional information, please contact me at 612/297-8595. Please reference the above LEAK # in all correspondence.

Sincerely,



Jean Hanson  
Project Leader  
Cleanup Unit II  
Tanks and Spills Section

JH:bah

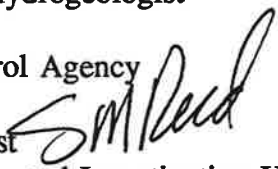
Enclosures

cc: Karen Nordby, Department of Operations and Regulatory Services  
Merry Keefe, City Clerk, Minneapolis  
Greg Lie, Hennepin County Solid Waste Officer  
Tom Dickinson, Fire Chief, Minneapolis

**Office Memorandum**

DATE: February 15, 1995

TO: Michael Chiodi, Project Hydrogeologist  
Tanks and Spills Section  
Minnesota Pollution Control Agency

FROM: Scott Reed, Hydrogeologist   
Environmental Compliance and Investigation Unit

PHONE: 779-5103

SUBJECT: Former M&H Site/Clark Oil Site- Lake Street and T.H. 55  
MPCA Leak Number 360  
Site History/Update

The following is a summary of the actions taken at the M&H site as understood by the Minnesota Department of Transportation:

- M&H operated a gas station at the site starting in 1949.
- M&H purchased the site from Carleton College in 1956 (it is assumed that M&H must have leased the property from Carleton College from 1949 to 1956).
- M&H sold the property to Mn/DOT in 1968, and continued to lease the property from Mn/DOT until 1987.
- Three underground storage tanks (USTs) were located on the property, two 4,000 gallon tanks installed in 1949 and one 10,000 gallon tank installed in 1956. The tanks reportedly contained gasoline and diesel fuel. The tanks were epoxy lined in 1983.
- The USTs were removed in 1987. Petroleum contamination was encountered and reported to Mn/DOT by the City of Minneapolis, who observed the tank removal. Mn/DOT reported the release to the MPCA on October 5, 1987. Information in MPCA files (correspondence between M&H and Mn/DOT) indicates that at that time, Mn/DOT and M&H had agreed that M&H would be responsible for any contamination found at the site.
- In 1988, M&H first retained Twin City Testing (TCT), then Leggette, Brashears & Graham (LBG) to complete an investigation of the site. Three soil borings were drilled at the site, two of which were completed as monitoring wells. Soil contamination was encountered between 10 and 28 feet below ground surface. Both monitoring wells indicated petroleum contamination had impacted the groundwater, with free product being present in MW-1. A program of free product removal was initiated at this time (free product was removed by bailing).
- Under the supervision of LBG on January 8-9, 1990, the M&H site was excavated to a depth of 18 feet to determine if any USTs remained on site. Soil samples were field screened for volatile petroleum contaminants. No volatile constituents were detected, however, the winter temperatures may have had a significant effect on field screening readings. No samples were collected for chemical analysis. Following removal, the soil was replaced in the excavation.

February 15, 1995

- LBG performed additional work at the site, summarized in a February 1991 report. Three borings were drilled to the east of the site. Elevated field screening readings were detected from approximately 12 to 20 feet below ground surface. No soil samples were collected for analysis. Water samples were collected from the boreholes. Analysis of these samples indicated that petroleum contamination was present in the groundwater (Mn/DOT is of the opinion that the collection of groundwater samples from soil borings is not a valid method and the contamination detected may have been caused by clean groundwater coming into contact with contaminated soil rather than true groundwater contamination). Free product removal from MW-1 was continued.
- In July 1991, LBG installed two additional monitoring wells, one each to the east and west of the site. MW-3, installed to the west of the site, showed no indication of significant petroleum contamination, however, analysis of groundwater samples revealed the presence of solvent related constituents. MW-4, installed to the east of the site on the former Clark Oil property, showed evidence of both petroleum and non-petroleum groundwater contamination.
- A report prepared by Geraghty & Miller, Inc. (the third consultant hired by M&H) stated that "groundwater appears to flow toward the site from the southeast and southwest as part of a more general northerly flow." The report also indicated that the contamination from the former Clark Oil site may be contributing to contamination to the west of Hiawatha Avenue (it was assumed this meant the M&H site). The Geraghty & Miller report recommended "site closure in terms of M&H's involvement" based on "widespread local ground-water contamination".
- An April 29, 1993 letter from the MPCA to M&H and Mn/DOT indicated that more work needs to be completed at the site, and that the MPCA is not in a position to determine whether M&H should remain involved with the site. The MPCA stated that "Only Mn/DOT and M&H can decide whether M&H remains involved with this project."
- A May 21, 1993 letter from M&H to the MPCA stated that "M&H's investigation and cooperation are not an acknowledgement that . . . M&H is responsible for any contamination found." M&H clearly indicated that they do not wish to have any involvement with the site beyond continued groundwater monitoring.
- A May 26, 1993 letter from Mn/DOT to M&H requested permission to access the monitoring wells to collect groundwater elevation data and possibly groundwater samples for chemical analysis.
- A soil boring completed in August 1994 at the M&H site by Braun Intertec during the T.H. 55 Corridor Drilling Investigation encountered soil contamination above the water table.
- During a September 7, 1994 meeting, Attorney General staff recommended that Mn/DOT measure groundwater elevations and determine groundwater flow direction at the M&H site. If the flow direction did not indicate that the M&H contamination was migrating from an off-site source, then Mn/DOT should request that M&H complete a thorough investigation of the M&H site.
- Mn/DOT measured groundwater elevations on September 8, 1994. The data indicated that the groundwater flow direction was to the north. Based on this data, no evidence of a

connection between contamination at the Clark Oil site and contamination at the M&H site was observed.

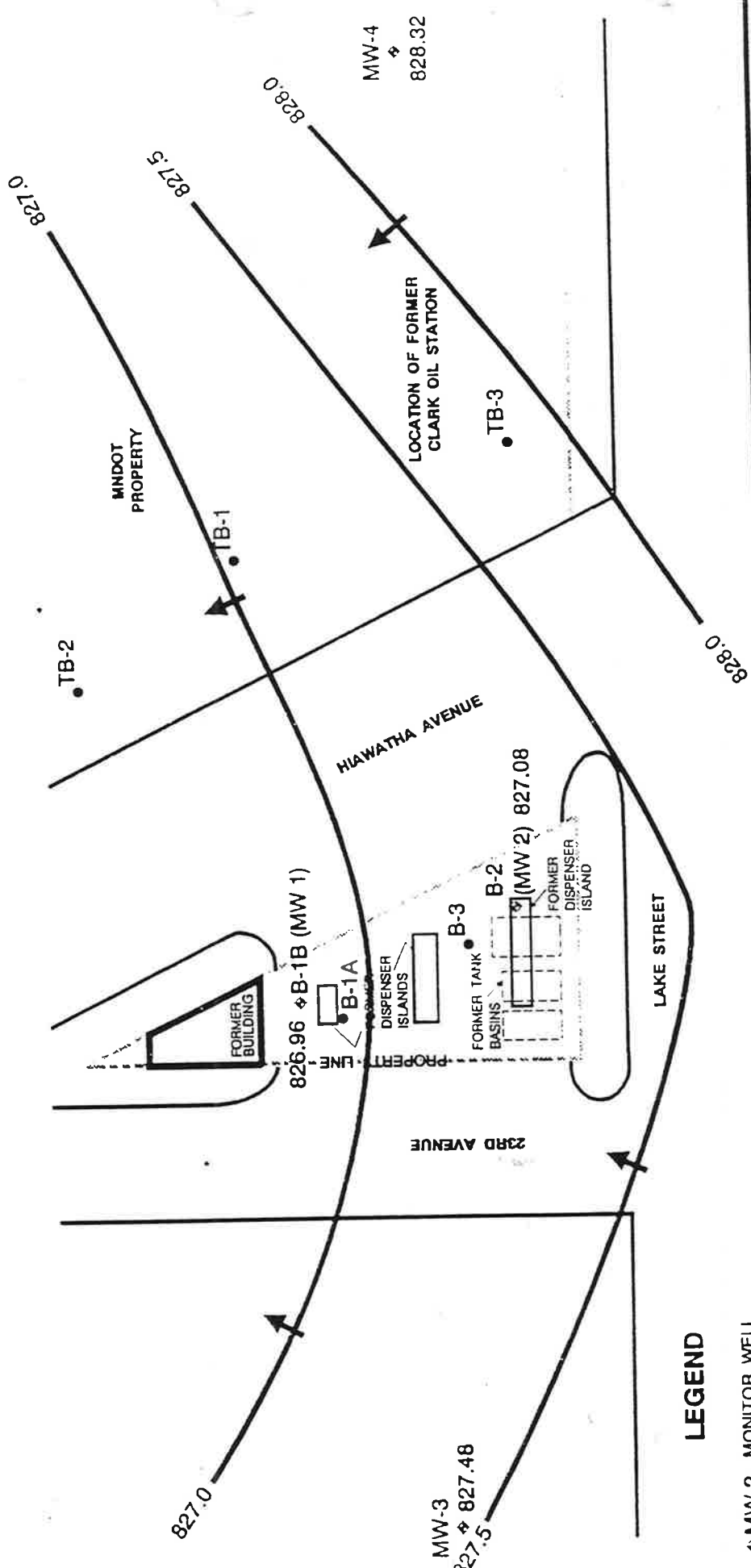
It was recently brought to Mn/DOT's attention that the free product detected in MW-4 may not only be unconnected with the M&H release, but may actually be associated with a possible release from the Clark Oil site. Mn/DOT has contacted Geraghty & Miller and confirmed that they will be measuring water levels and checking for free product. Upon confirmation that MW-4 has collectable free product, Mn/DOT will install a passive free product collector to provide immediate response to and evaluation of the free product at the Clark Oil site.

A complete investigation of these sites is required to determine if there is a connection between the observed contamination plumes. The work completed to date is not sufficient to assess the extent of contamination or determine possible remedial alternatives. Mn/DOT will proceed with an investigation of the former Clark Oil site, while M&H should continue the investigation of their own site. Due to budget and contractual constraints, Mn/DOT will not be able to initiate a remedial investigation of the Clark Oil site until late spring or early summer of 1995.

Please call if you have any questions or require additional information.

cc:

Sherry Enzler - Assistant Attorney General, Office of the Attorney General  
Karl Rasmussen - Director, Mn/DOT Office of Right of Way and Surveys  
Elliott Ruhland - Mn/DOT Metro Division Right of Way  
Lawrence Foote - Director, Mn/DOT Office of Environmental Services  
John Sampson - Director, Mn/DOT Environmental Analysis and Compliance Section  
Bruce Johnson - Mn/DOT Environmental Compliance and Investigation Unit Chief  
N. Radle/File



**LEGEND**

- ◆ MW 2 MONITOR WELL
- B-3 TEST BORING LOCATION
- ▭ FORMER DISPENSER ISLAND
- ▭ FORMER TANK BASIN
- 827.08 GROUND-WATER ELEVATION ON OCTOBER 4, 1991
- 827.0 GROUND-WATER ELEVATION CONTOUR
- ↗ GROUND-WATER FLOW DIRECTION



SCALE IN FEET

<b>MILLER &amp; HOLMES, INC.</b> LAKE STREET		DATE	FILE	DATE: FEB 1992	FIGURE: 9
		REVISED	LAKEGW01.DRW		
<b>GROUND-WATER ELEVATION CONTOUR MAP</b> <b>OCTOBER 4, 1991</b>					
LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water Consultants Northpark Corporate Center 1210 W. County Road E., Suite 700 St. Paul, MN 55112 (612) 490-1405					



**Minnesota Department of Transportation**

**Transportation Building**

395 John Ireland Boulevard  
Saint Paul, Minnesota 55155-1899

December 16, 2008

Mr. Mark Koplitz  
Ms. Stacey Hendry Van Patten  
Petroleum and Closed Landfill Section  
Minnesota Pollution Control Agency  
520 Lafayette Road  
St. Paul, MN 55155-4194

**RE: Petroleum Storage Tank Release Investigation and Corrective Action**  
**Site: Former Clark Station-T.H. 55/Lake Street Intersection, Minneapolis**  
**Site ID#: LEAK00008324**  
**Request for Site Closure**

Dear Mr. Koplitz and Ms. Hendry-Van Patten:

The Minnesota Department of Transportation (Mn/DOT) has received the Minnesota Pollution Control Agency's (MPCA) request, dated August 12, 2008, for additional information regarding the above referenced site (Site). As indicated in a follow-up email dated September 9, 2008, from Mn/DOT's consultant, Landmark Environmental, LLC (Landmark), additional research of archived files was required to address the request for a Site status update.

Based on the review of Mn/DOT files and consistent with the MPCA file status, no additional meetings, correspondence, investigation, or remedial activities have occurred on the Site since the monitoring wells were abandoned and bridge construction was completed in approximately 2000. A map showing the former monitoring well locations is included in Attachment A. It is Mn/DOT's opinion that no further investigation or remedial activities are warranted for the following reasons:

- **Source of Contamination has been Removed**  
The Site was purchased by Mn/DOT in 1969 and the underground storage tanks (USTs) were removed in 1970.
- **Soil Remediation has been Completed**  
Soil remediation was conducted in accordance with the MPCA approved Voluntary Response Action Plan, as documented in the Braun Intertec Corporation (Braun) *Response Action Implementation Report* and *Addendum* dated June 10, 1997, and August 11, 1997. These documents describe the management of petroleum contaminated soil that was encountered during reconstruction activities conducted during 1996 and the placement of petroleum contaminated soil in the Hiawatha/Lake Street Bridge approach during April 1997. The MPCA issued the "Completion of Voluntary Response Actions for

Petroleum Contamination" letter for the "Hiawatha Corridor" site—LEAK#9127 (which included LEAK#8324 and LEAK#360) on October 31, 1997. Soil excavated from the Site met cleanup goals for reuse on-site as fill material for the bridge embankment construction.

- **Adjacent Site with Free Product and Groundwater Contamination was Closed in 1996**

The MPCA issued a Site Closure letter, dated April 19, 1996, for the adjacent M&H Site (LEAK#360). Data from this site documents the presence of free product and petroleum-impacted groundwater from 1991 through 1995, when the MPCA issued the Site Closure letter. Groundwater analytical data and the Site Closure letter are included in Attachments A and B, respectively.

- **Groundwater Impacts are Localized and Stable**

Prior to sealing the monitoring wells on the Site and in the vicinity of the Site, Barr Engineering Company (Barr) conducted groundwater sampling as summarized in the *Petroleum Release Remedial Investigation Addendum* (RI Addendum), dated November 1996. The RI Addendum indicated free product was detected in one monitoring well (MW-102) located on the Site and in one monitoring well (MW-4) located east of the Site (the most recent product thickness readings in 1996 measured 0.13- and 0.04 feet, respectively). In addition, free product was also previously identified in monitoring wells MW-1 and MW-2, which were located at the west adjacent M&H Site (LEAK#360). Free product was shown to be decreasing in these wells up through 1995, when the MPCA issued a Site Closure letter for the M&H Site. No free product was observed in monitoring wells MW-3 and MW-6, which were located west of these wells. No free product or petroleum compounds were detected in monitoring wells MW-101 and MW103, located south and northeast of the Site, respectively, with the exception of 0.36 milligrams per liter (mg/L) of diesel range organics (DRO) in MW-103 (reported by Barr to likely be caused by laboratory contamination or naturally occurring organic compounds).

- **No Groundwater Receptors within 500 Feet of the Site**

According to the February 1996 *Petroleum Release Remedial Investigation Report* (RI Report), which was prepared by Barr, the potential risk posed by the identified petroleum-impacted groundwater plume to a resource aquifer was considered low. Barr indicated that since groundwater occurs within a glacial till unit with a low hydraulic conductivity, the unit is not considered to be a viable source of water and is not a resource aquifer. The 1991 well search summarized in the RI Report indicates that the nearest well is located 500 feet northeast of the Site. All identified wells within 1-mile of the Site are cased through the unconsolidated sediments and the Decorah Shale, and all but one well located 0.77 miles west of the Site, are also cased through the Platteville Limestone and Glenwood Formation. Additionally, none of the identified wells appear to be located generally downgradient of the Site. According to a City of Minneapolis ordinance, no new water supply wells (drinking and industrial) would have been



installed in the vicinity of the Site since the initial well search was conducted in 1991.

- **No Evidence of Vapors was Detected in the Sewer Systems near the Site**  
As discussed in the RI Addendum, a vapor survey was conducted along Lake Street and Hiawatha Avenue at the same time as free product was detected in the monitoring wells (1996). No evidence of vapors was detected in the sewer system near the Site, which indicates that soil vapor from the petroleum-impacted groundwater at the Site does not represent an exposure pathway. Additionally, the footprint of the bridge, its embankment, and the associated right-of-way would likely provide a buffer to the nearby properties from any potential soil vapors originating from the Site.
- **Contamination has likely Attenuated at the Site**  
The release from the USTs occurred prior to 1970, at which time the USTs were removed from the Site. Based on the type of contamination detected at the Site, available data from the Site and adjacent sites (Attachment A), and the length of time since the release, natural attenuation is likely to be occurring at the Site.
- **The Site is Capped by Bridge and Embankment, Limiting Access**  
The presence of the bridge and embankment limit access for future investigations at the Site. Further investigation would not likely be in close enough proximity of the Site to accurately define any potential remaining groundwater contamination associated with the Site, especially because free product was also previously identified at adjacent closed leak site locations.

Based on the reasons outlined above, Mn/DOT requests that MPCA issue a Site Closure letter for LEAK#8324. Please call me at 651-366-3621 with any questions.

Sincerely,

*Karlene A. French for*

Nancy Radle, P.G.

Attachments:

Attachment A: Monitoring Well Locations and Groundwater Data  
Attachment B: M&H Site Closure Letter

**ATTACHMENTS**

**ATTACHMENT A**

TABLE 3

GROUNDWATER QUALITY DATA  
LAKE AND HIAWATHA RI

(concentrations in ug/L)

	MW101		MW103		04/19/96	04/19/96	04/19/96	04/19/96	Duplicate	Sample	Duplicate	Sample	Duplicate
	11/02/95	12/04/95	11/02/95	12/04/95									
Acetone	<5.0	<5.0	<5.0	<5.0	--	--	<5.0	<5.0	<5.0	--	--	<5.0	<5.0
Allyl Chloride	<5.0	<5.0	<5.0	<5.0	--	--	<5.0	<5.0	<5.0	--	--	<5.0	<5.0
Benzene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromobenzene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Bromochloromethane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Bromodichloromethane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Bromomethane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Butylbenzene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Sec-butylbenzene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Tert-Butylbenzene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Carbon Tetrachloride	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Chlorobenzene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Chloroethane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Chloroform	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Chloromethane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
o-Chlorotoluene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
p-Chlorotoluene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,2-Dibromo-3-chloropropane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Chlorodibromomethane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Dichlorofluoromethane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,2-Dibromoethane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Dibromomethane (Methylene Bromide)	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,2-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,3-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,4-Dichlorobenzene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Dichlorodifluoromethane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,1-Dichloroethylene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,2-Dichloroethylene, cis	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,2-Dichloroethylene, trans	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,3-Dichloropropane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
2,2-Dichloropropane	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
1,1-Dichloro-1-propene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Cis-1,3-Dichloro-1-propene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Trans-1,3-Dichloro-1-propene	<1.0	<1.0	<1.0	<1.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyl Benzene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Ethyl Ether	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Hexachlorobutadiene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Cumene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
p-Cymene (Isopropyltoluene)	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Methyl Ethyl Ketone	<5.0	<5.0	<5.0	<5.0	--	--	<5.0	<5.0	<5.0	--	--	<5.0	<5.0
Methyl Isobutyl Ketone	<5.0	<5.0	<5.0	<5.0	--	--	<5.0	<5.0	<5.0	--	--	<5.0	<5.0
tert-Butyl Methyl Ether	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Methylene Chloride	<5.0	<5.0	<5.0	<5.0	--	--	<5.0	<5.0	<5.0	--	--	<5.0	<5.0
Naphthalene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Propylbenzene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0
Styrene	<1.0	<1.0	<1.0	<1.0	--	--	<1.0	<1.0	<1.0	--	--	<1.0	<1.0

-- Not analyzed.

lake2.prn

09/26/96

TABLE 3 (cont.)

GROUNDWATER QUALITY DATA  
LAKE AND HIAWATHA RI

(concentrations in ug/L, unless noted otherwise)

	MW101			MW103		
	11/02/95	12/04/95	04/19/96	11/02/95	12/04/95	04/19/96
1,1,1,2-Tetrachloroethane	<1.0	<1.0	--	<1.0	<1.0	--
1,1,2,2-Tetrachloroethane	<1.0	<1.0	--	<1.0	<1.0	--
Tetrachloroethylene	<1.0	<1.0	--	<1.0	<1.0	--
Tetrahydrofuran	<5.0	<5.0	--	<5.0	<5.0	--
Toluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichlorobenzene	<1.0	<1.0	--	<1.0	<1.0	--
1,2,4-Trichlorobenzene	<1.0	<1.0	--	<1.0	<1.0	--
1,1,1-Trichloroethane	<1.0	<1.0	--	<1.0	<1.0	--
1,1,2-Trichloroethane	<1.0	<1.0	--	<1.0	<1.0	--
Trichloroethylene	<1.0	<1.0	--	<1.0	<1.0	--
Trichlorofluoromethane	<1.0	<1.0	--	<1.0	<1.0	--
1,2,3-Trichloropropane	<1.0	<1.0	--	<1.0	<1.0	--
Trichlorotrifluoroethane	<1.0	<1.0	--	<1.0	<1.0	--
1,2,4-Trimethylbenzene	<1.0	<1.0	--	<1.0	<1.0	--
1,3,5-Trimethylbenzene	<1.0	<1.0	--	<1.0	<1.0	--
Vinyl Chloride	<1.0	<1.0	--	<1.0	<1.0	--
m & p Xylene	<2.0	<2.0	--	<2.0	<2.0	--
o-Xylene	<1.0	<1.0	--	<1.0	<1.0	--
Xylenes (total)	--	--	<1.0	--	--	<1.0
Gasoline Range Organics, mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diesel Range Organics, mg/L	<0.10	<0.10	<0.1	<0.10	<0.10	<0.10
Lead, mg/L	0.0013	0.0010	--	<0.0006	<0.0006	0.21 (1)

-- Not analyzed.

(1) Peak pattern atypical of diesel, single peak present.

lake2.prn

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TABLE 3. Groundwater Elevation and Product Thickness Data  
Miller & Holmes, Inc., Station No. 27, 2300 Lake Street, Minneapolis, Minnesota

Well No.	Date	Depth to Hydrocarbon (feet)	Depth to Water (feet)	Elevation TOC (ft. MSL)	Elevation Hydrocarbon (ft. MSL)	Elevation Water (ft. MSL)	Product Thickness (feet)	Specific Gravity	Corrected Elevation (ft. MSL)
MW-1	07-Aug-89	21.40	21.65	845.76	824.36	824.11	0.25	0.76	824.30
MW-1	10-Jan-90	22.34	23.47	845.76	823.42	822.29	1.13	0.76	823.15
MW-1	06-Apr-90	23.14	24.84	845.76	822.62	820.92	1.70	0.76	822.21
MW-1	09-Aug-90	20.23	20.39	845.76	825.53	825.37	0.16	0.76	825.49
MW-1	15-Aug-90	20.06	20.11	845.76	825.70	825.65	0.05	0.76	825.69
MW-1	23-Aug-90	19.81	19.98	845.76	825.95	825.78	0.17	0.76	825.91
MW-1	07-Sep-90	19.69	19.90	845.76	826.07	825.86	0.21	0.76	826.02
MW-1	12-Nov-90	20.35	20.87	845.76	825.41	824.89	0.52	0.76	825.29
MW-1	30-Nov-90	20.44	21.10	845.76	825.32	824.66	0.66	0.76	825.16
MW-1	14-Dec-90	20.66	21.34	845.76	825.10	824.42	0.68	0.76	824.94
MW-1	27-Dec-90	20.85	21.49	845.76	824.91	824.27	0.64	0.76	824.76
MW-1	04-Jan-91	20.97	21.65	845.76	824.79	824.11	0.68	0.76	824.63
MW-1	11-Jan-91	21.06	21.81	845.76	824.70	823.95	0.75	0.76	824.52
MW-1	01-Feb-91	21.37	22.09	845.76	824.39	823.67	0.72	0.76	824.22
MW-1	08-Feb-91	21.43	22.18	845.76	824.33	823.58	0.75	0.76	824.15
MW-1	22-Feb-91	21.64	22.36	845.76	824.12	823.40	0.72	0.76	823.95
MW-1	01-Mar-91	21.70	22.51	845.76	824.06	823.25	0.81	0.76	823.87
MW-1	15-Mar-91	21.88	22.75	845.76	823.88	823.01	0.87	0.76	823.67
MW-1	26-Mar-91	21.85	22.84	845.76	823.91	822.92	0.99	0.76	823.67
MW-1	29-Mar-91	22.04	22.88	845.76	823.72	822.88	0.84	0.76	823.52
MW-1	05-Apr-91	22.05	22.92	845.76	823.71	822.84	0.87	0.76	823.50
MW-1	12-Apr-91	22.10	22.94	845.76	823.66	822.82	0.84	0.76	823.46
MW-1	18-Apr-91	22.13	22.97	845.76	823.63	822.79	0.84	0.76	823.43
MW-1	01-May-91	22.15	22.93	845.76	823.61	822.83	0.78	0.76	823.42
MW-1	09-May-91	22.15	22.93	845.76	823.61	822.83	0.78	0.76	823.42
MW-1	17-May-91	---	21.82	845.76	---	823.94	---	0.76	823.94
MW-1	31-May-91	---	21.03	845.76	---	824.73	---	0.76	824.73
MW-1	14-Jun-91	---	20.42	845.76	---	825.34	---	0.76	825.34
MW-1	11-Jul-91	---	19.49	845.76	---	826.27	---	0.76	826.27
MW-1	19-Jul-91	---	19.40	845.76	---	826.36	---	0.76	826.36
MW-1	12-Aug-91	---	19.29	845.76	---	826.47	---	0.76	826.47
MW-1	23-Aug-91	---	19.36	845.76	---	826.40	---	0.76	826.40
MW-1	13-Sep-91	---	19.44	845.76	---	826.32	---	0.76	826.32
MW-1	04-Oct-91	---	18.80	845.76	---	826.96	---	0.76	826.96
MW-1	12-Nov-91	---	19.31	845.76	---	826.45	---	0.76	826.45
MW-1	09-Dec-91	---	18.82	845.76	---	826.94	---	0.76	826.94
MW-1	10-Jan-92	---	18.99	845.76	---	826.77	---	0.76	826.77
MW-1	30-Jan-92	---	19.30	845.76	---	826.46	---	0.76	826.46
MW-1	25-May-93	---	20.84	845.76	---	824.92	---	0.76	824.92
MW-1	13-Oct-93	---	18.29	845.76	---	827.47	---	0.76	827.47



FIGURES

TABLE 3. Groundwater Elevation and Product Thickness Data  
Miller & Holmes, Inc., Station No. 27, 2300 Lake Street, Minneapolis, Minnesota

Well No.	Date	Depth to		Elevation TOC (ft. MSL)	Elevation Hydrocarbon (ft. MSL)	Elevation Water (ft. MSL)	Product Thickness (feet)	Specific Gravity	Corrected Elevation (ft. MSL)
		Hydrocarbon (feet)	Water (feet)						
MW-1	06-Jan-94	--	20.00	845.76	--	825.76	--	0.76	825.76
MW-1	21-Mar-95	--	20.66	845.76	--	825.10	--	0.76	825.10
MW-1	12-Apr-95	--	20.55	845.62*	--	825.07	--	0.76	825.07
MW-1	03-May-95	--	20.64	845.62*	--	824.98	--	0.76	824.98
MW-2	07-Aug-89	--	21.90	845.55	--	823.65	--	0.76	823.65
MW-2	10-Jan-90	--	21.55	845.55	--	824.00	--	0.76	824.00
MW-2	06-Apr-90	--	22.24	845.55	--	823.31	--	0.76	823.31
MW-2	09-Aug-90	--	--	845.55	--	--	--	0.76	--
MW-2	15-Aug-90	--	18.71	845.55	--	826.84	--	0.76	826.84
MW-2	23-Aug-90	--	18.65	845.55	--	826.90	--	0.76	826.90
MW-2	07-Sep-90	--	18.94	845.55	--	826.61	--	0.76	826.61
MW-2	12-Nov-90	--	19.58	845.55	--	825.97	--	0.76	825.97
MW-2	30-Nov-90	--	19.50	845.55	--	826.05	--	0.76	826.05
MW-2	14-Dec-90	--	19.87	845.55	--	825.68	--	0.76	825.68
MW-2	27-Dec-90	--	20.02	845.55	--	825.53	--	0.76	825.53
MW-2	04-Jan-91	--	20.22	845.55	--	825.33	--	0.76	825.33
MW-2	11-Jan-91	--	20.28	845.55	--	825.27	--	0.76	825.27
MW-2	01-Feb-91	--	20.73	845.55	--	824.82	--	0.76	824.82
MW-2	08-Feb-91	--	20.71	845.55	--	824.84	--	0.76	824.84
MW-2	22-Feb-91	--	21.13	845.55	--	824.42	--	0.76	824.42
MW-2	01-Mar-91	--	20.90	845.55	--	824.65	--	0.76	824.65
MW-2	15-Mar-91	--	21.29	845.55	--	824.26	--	0.76	824.26
MW-2	26-Mar-91	--	21.02	845.55	--	824.53	--	0.76	824.53
MW-2	29-Mar-91	--	21.30	845.55	--	824.25	--	0.76	824.25
MW-2	05-Apr-91	--	20.93	845.55	--	824.62	--	0.76	824.62
MW-2	12-Apr-91	--	20.91	845.55	--	824.64	--	0.76	824.64
MW-2	18-Apr-91	--	20.90	845.55	--	824.65	--	0.76	824.65
MW-2	01-May-91	--	20.95	845.55	--	824.60	--	0.76	824.60
MW-2	09-May-91	--	20.95	845.55	--	824.60	--	0.76	824.60
MW-2	17-May-91	--	20.08	845.55	--	825.47	--	0.76	825.47
MW-2	31-May-91	--	19.55	845.55	--	826.00	--	0.76	826.00
MW-2	14-Jun-91	--	19.09	845.55	--	826.46	--	0.76	826.46
MW-2	11-Jul-91	--	18.75	845.55	--	826.80	--	0.76	826.80
MW-2	19-Jul-91	--	18.85	845.55	--	826.70	--	0.76	826.70
MW-2	12-Aug-91	--	18.72	845.55	--	826.83	--	0.76	826.83
MW-2	23-Aug-91	--	18.79	845.55	--	826.76	--	0.76	826.76
MW-2	13-Sep-91	--	18.68	845.55	--	826.87	--	0.76	826.87
MW-2	04-Oct-91	--	18.47	845.55	--	827.08	--	0.76	827.08
MW-2	12-Nov-91	--	19.02	845.55	--	826.53	--	0.76	826.53



# FIGURES

TABLE 3. Groundwater Elevation and Product Thickness Data  
Miller & Holmes, Inc., Station No. 27, 2300 Lake Street, Minneapolis, Minnesota

Well No.	Date	Depth to		Elevation TOC (ft. MSL)	Elevation Hydrocarbon (ft. MSL)	Elevation Water (ft. MSL)	Product Thickness (feet)	Specific Gravity	Corrected Elevation (ft. MSL)
		Hydrocarbon (feet)	Water (feet)						
MW-2	09-Dec-91	--	18.96	845.55	--	826.59	--	0.76	826.59
MW-2	10-Jan-92	--	19.11	845.55	--	826.44	--	0.76	826.44
MW-2	30-Jan-92	--	19.20	845.55	--	826.35	--	0.76	826.35
MW-2	25-May-93	--	19.62	845.55	--	825.93	--	0.76	825.93
MW-2	13-Oct-93	--	17.87	845.55	--	827.68	--	0.76	827.68
MW-2	06-Jan-94	--	18.82	845.55	--	826.73	--	0.76	826.73
MW-2	21-Mar-95	19.95	19.97	845.55	825.60	825.58	0.02	0.76	825.60
MW-2	12-Apr-95	19.71	19.72	845.41*	825.70	825.69	0.01	0.76	825.70
MW-2	03-May-95	19.55	19.56	845.41*	825.86	825.85	0.01	0.76	825.86
MW-3	19-Jul-91	--	21.86	848.98	--	827.12	--	0.76	827.12
MW-3	12-Aug-91	--	21.91	848.98	--	827.07	--	0.76	827.07
MW-3	23-Aug-91	--	22.02	848.98	--	826.96	--	0.76	826.96
MW-3	13-Sep-91	--	22.00	848.98	--	826.98	--	0.76	826.98
MW-3	04-Oct-91	--	21.50	848.98	--	827.48	--	0.76	827.48
MW-3	12-Nov-91	--	22.13	848.98	--	826.85	--	0.76	826.85
MW-3	09-Dec-91	--	21.66	848.98	--	827.32	--	0.76	827.32
MW-3	10-Jan-92	--	21.78	848.98	--	827.20	--	0.76	827.20
MW-3	30-Jan-92	--	22.08	848.98	--	826.90	--	0.76	826.90
MW-3	25-May-93	--	22.93	848.98	--	826.05	--	0.76	826.05
MW-3	13-Oct-93	--	21.28	848.98	--	827.70	--	0.76	827.70
MW-3	06-Jan-94	--	22.80	848.98	--	826.18	--	0.76	826.18
MW-3	21-Mar-95	--	22.18	848.98	--	826.80	--	0.76	826.80
MW-3	12-Apr-95	22.82	22.825	848.82*	826.00	825.995	0.005	0.76	826.00
MW-3	03-May-95	--	22.78	848.82*	--	826.04	--	0.76	826.04
MW-4	19-Jul-91	--	18.80	846.61	--	827.81	--	0.76	827.81
MW-4	12-Aug-91	--	18.81	846.61	--	827.80	--	0.76	827.80
MW-4	23-Aug-91	18.97	19.02	846.61	827.64	827.59	0.05	0.76	827.63
MW-4	13-Sep-91	18.65	18.72	846.61	827.96	827.89	0.07	0.76	827.94
MW-4	04-Oct-91	18.27	18.37	846.61	828.34	828.24	0.10	0.76	828.32
MW-4	12-Nov-91	19.16	19.29	846.61	827.45	827.32	0.13	0.76	827.42
MW-4	09-Dec-91	18.72	18.86	846.61	827.89	827.75	0.14	0.76	827.86
MW-4	10-Jan-92	19.06	19.25	846.61	827.55	827.36	0.19	0.76	827.50
MW-4	30-Jan-92	19.15	19.41	846.61	827.46	827.20	0.26	0.76	827.40
MW-4	25-May-93	19.47	20.37	846.61	827.14	826.24	0.90	0.76	826.92
MW-4	13-Oct-93	18.64	18.72	846.61	827.97	827.89	0.08	0.76	827.95
MW-4	06-Jan-94	19.50	19.55	846.61	827.11	827.06	0.05	0.76	827.10
MW-4	21-Mar-95	20.44	20.80	846.61	826.17	825.81	0.36	0.76	826.08
MW-4	12-Apr-95	NM	20.43	846.46*	----**	826.03	----**	0.76	826.03





# FIGURES

**TABLE 3. Groundwater Elevation and Product Thickness Data  
Miller & Holmes, Inc., Station No. 27, 2300 Lake Street, Minneapolis, Minnesota**

Well No.	Date	Depth to Hydrocarbon (feet)	Depth to Water (feet)	Elevation TOC (ft. MSL)	Elevation Hydrocarbon (ft. MSL)	Elevation Water (ft. MSL)	Product Thickness (feet)	Specific Gravity	Corrected Elevation (ft. MSL)
MW-4	03-May-95	NM	20.05	846.46*	---**	826.41	---**	0.76	826.41
MW-5	12-Apr-95	---	17.77	845.55*	---	827.78	---	0.76	827.78
MW-5	03-May-95	---	16.09	845.55*	---	829.46	---	0.76	829.46
MW-6	12-Apr-95	---	23.88	847.82*	---	823.94	---	0.76	823.94
MW-6	03-May-95	---	24.12	847.82*	---	823.70	---	0.76	823.70

. MSL Feet above Mean Sea Level as referenced to the National Geodetic Vertical Datum of 1929

feet

OC Top of casing.

- No measurable free product present.

\* New survey data, collected by R.E. Stransky Land Surveyors on April 12, 1995.

\* Well fitted with a passive CT-collector.

|| Elevations referenced to sea level.

PROJECTS\MN0136\001\TABLES\WTRLEVEL.XLS



TABLE 4. Summary of Analytical Results for Hydrocarbon Constituents Detected in Groundwater Samples Collected from Monitoring Wells MW-1 Through MW-6 Miller & Holmes, Inc., Station No.27, 2300 Lake Street, Minneapolis, Minnesota

Well I.D.	Sampling Date	Benzene	Ethyl Benzene	Toluene	Xylenes	Total BTEX	GRO	DRO	MTBE	Lead	MDH HRLs
MW-1	12-Aug-91	410	38	350	330	1,128	3,700	---	---	---	---
MW-1	21-Oct-91	9,400	1,300	8,000	6,700	25,400	34,000	---	4,000	---	---
MW-1	30-Jan-92	840	260	1,600	1,200	3,900	15,000	---	1,500	---	---
MW-1	25-May-93	11,000	1,200	6,000	4,500	22,700	43,000	7,300	3,300	---	---
MW-1	13-Oct-93	25,000	1,800	15,000	9,400	51,200	71,000	---	---	---	---
MW-1	06-Jan-94	22,000	2,000	13,000	9,100	46,100	61,000	---	---	---	---
MW-1	03-May-95	13,000	1,200	7,000	5,000	26,200	44,000	---	<5.0	---	---
MW-2	09-Aug-90	6,400	300	420	1,300	8,420	28,000	---	---	<100	---
MW-2	05-Apr-91	4,600	300	180	1,600	6,680	---	---	---	100	---
MW-2	12-Aug-91	5,100	410	7,500	1,100	14,110	23,000	---	---	---	---
MW-2	21-Oct-91	3,700	690	<5.0	770	5,160	9,800	---	1,900	---	---
MW-2	30-Jan-92	4,600	620	220	650	6,090	17,000	---	2,300	---	---
MW-2	13-Oct-93	5,800	1,300	220	1,500	8,820	18,000	---	---	---	---
MW-2	06-Jan-94	6,400	1,100	250	1,400	9,150	16,000	---	---	---	---
MW-3	12-Aug-91	<10	<10	11	<10	11	<500	---	---	<100	---
MW-3	21-Oct-91	<5.0	<5.0	<5.0	<5.0	NA	<500	---	<10	---	---
MW-3	30-Jan-92	<5.0	<5.0	<5.0	<5.0	NA	<500	---	<10	---	---
MW-3	25-May-93	<1.0	<1.0	<1.0	<1.0	NA	<100	<50	<5.0	---	---
MW-3	13-Oct-93	<1.0	<1.0	<1.0	<1.0	NA	<100	---	---	---	---
MW-3	06-Jan-94	<1.0	<1.0	<1.0	<1.0	NA	<100	---	---	---	---
MW-3	03-May-95	<1.0	<1.0	<1.0	<1.0	NA	<100	---	<5.0	---	---
MW-4	12-Aug-91	570	790	780	2,700	4,840	16,000	---	---	<100	---

TABLE 4. Summary of Analytical Results for Hydrocarbon Constituents Detected in Groundwater Samples Collected from Monitoring Wells MW-1 Through MW-6 Miller & Holmes, Inc., Station No.27, 2300 Lake Street, Minneapolis, Minnesota

Well I.D.	Sampling Date	Benzene 10	Ethyl Benzene 700	Toluene 1,000	Xylenes 10,000	Total BTX	GRO	DRO	MTBE	Lead	MDH HRLs
MW-5	12-Apr-95	<0.30	<0.30	<0.20	<0.90	NA	<100	---	<1.0	<0.0050	
MW-5	03-May-95	<1.0	<1.0	<1.0	<1.0	NA	<100	---	<5.0	---	
MW-6	12-Apr-95	520	55	82	27.8	685	410	---	<1.0	<0.0050	
MW-6(dup)	12-Apr-95	550	51	77	26.6	705	450	---	<1.0	<0.0050	
MW-6	03-May-95	320	23	7.0	17	367	490	---	<5.0	---	
MW-6(dup)	03-May-95	320	21	5.6	9.3	356	520	---	<12	---	
Trip Blank	25-May-93	<1.0	<1.0	<1.0	<1.0	NA	<100	<50	<5.0	---	
Trip Blank	06-Jan-94	<1.0	<1.0	<1.0	<1.0	NA	<100	---	---	---	
Trip Blank	12-Apr-95	<0.30	<0.30	<0.20	<0.90	NA	<100	---	<1.0	<0.0050	
Trip Blank	03-May-95	<1.0	<1.0	<1.0	<1.0	NA	<100	---	<5.0	---	

All results are in micrograms per liter (ug/L).  
 GRO data prior to 1993 were determined using a gas chromatograph-flame ionization detector (GC-FID).  
 > Not detected at or above detection limit specified.  
 --- Not analyzed  
 NA Not applicable  
 MDH HRLs Minnesota Department of Health Health Risk Limits (in ug/L)  
 - No MDH Health Risk Limit for this compound

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TABLE 5.

Summary of Analytical Results for Other Volatile Organic Compounds

Groundwater Samples Collected from Monitoring Wells MW-5 and MW-6  
 Miller & Holmes, Inc., Station No. 27, 2300 Lake Street, Minneapolis, Minnesota

Well ID	MDH HRLs	1,2 Dichloro-ethane	4	1,2 Dichloro-propane	5	Isopropylbenzene	--	n-propylbenzene	--	1,3,5 Trimethylbenzene	--	tert-Butylbenzene	--	sec-Butylbenzene	--	n-Butylbenzene	--	Naphthalene	300
MW-5	<0.30	<0.30	<1.0	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.20	<0.20	<0.20	<0.20	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
MW-6	21	1.0	3.5	4.6	10	19	22	2.2	13	1.8	11	20	18	9.3	4.3	3.4	1.0	20	11
MW-6 (dup)	20	1.0	3.4	4.3	9.3	18	20	1.8	11	20	18	9.3	4.3	3.4	1.0	20	18	9.3	4.3

All groundwater samples collected on April 12, 1995.  
 Results are in micrograms per liter (ug/L).

MDH HRLs Minnesota Department of Health Health Risk Limits (in ug/L)  
 -- No MDH Health Risk Limit for this compound.

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GERRAGHTY & MILLER, INC.

FIGURES



- ▲ Lake and Hiawatha Site Monitoring Well
- △ Abandoned Lake and Hiawatha Site Monitoring Well
- M&H Site Monitoring Well
- Abandoned M&H Site Monitoring Well
- Storm Sewer Alignment and Flow Direction
- Manhole
- ▤ Catch Basin
- ∕∕∕ Inaccessible

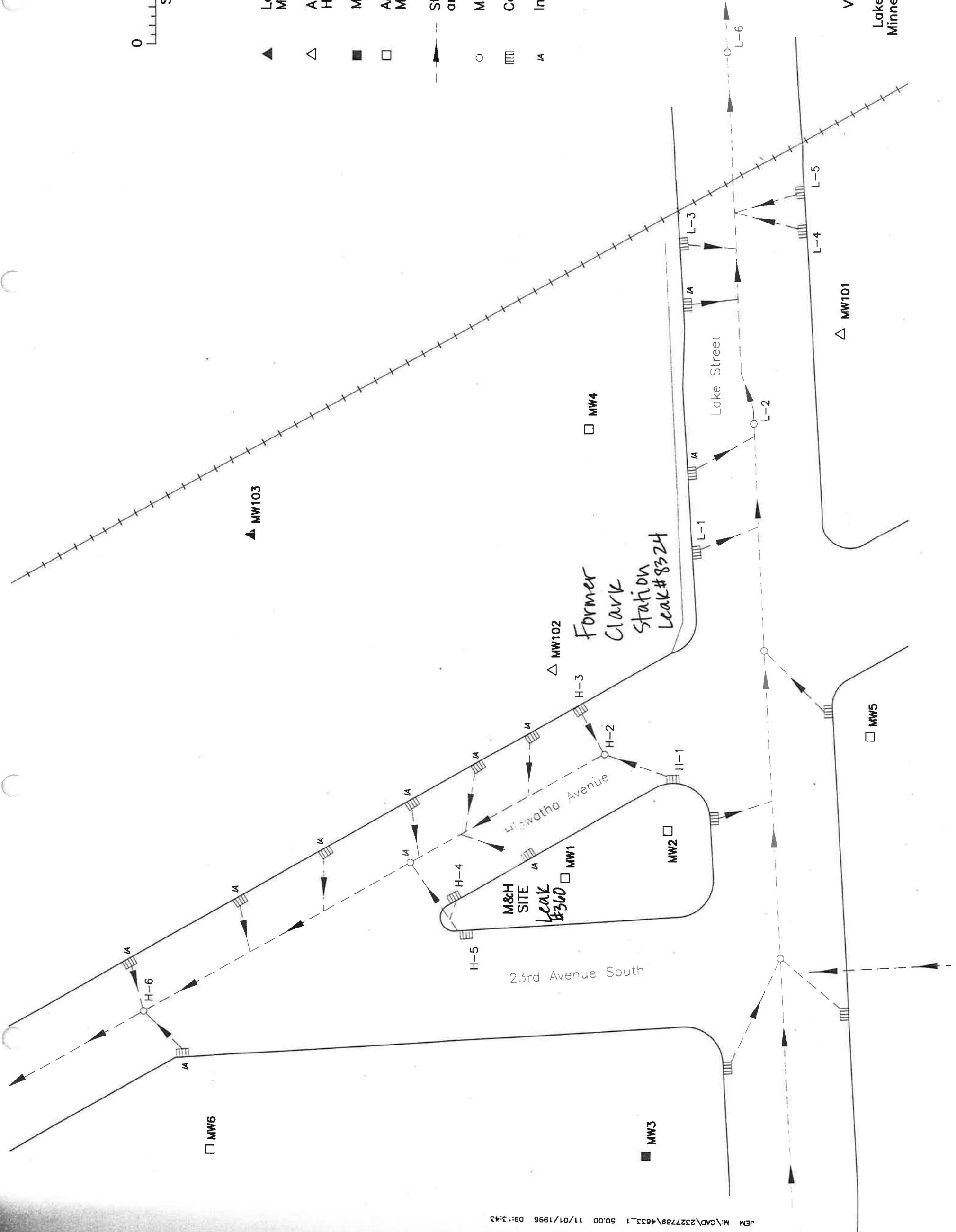


Figure 2  
 VAPOR SURVEY  
 LOCATIONS  
 Lake & Hiawatha RI  
 Minneapolis, Minnesota