DAHL & ASSOCIATES, INC.
Environmental Consultants, Contractors & Engineers

4390 McMENEMY ROAD
SAINT PAUL, MINNESOTA 55127

EXCAVATION REPORT
for
PETROLEUM RELEASE SITES

BARBARA RUSSELL PROPERTY
7721 PILLSBURY AVENUE
RICHFIELD, MINNESOTA

Report #VEMN3298-1

September 1, 1993

Report submitted to:
Ms. Barbara Russell, Property Owner
Ms. Sandra Miller, Minnesota Pollution Control Agency

EXCAVATION REPORT FOR PETROLEUM RELEASE SITES

MINNESOTA POLLUTION CONTROL AGENCY
LUST CLEANUP PROGRAM
April 1993

Complete the information below and submit to the Minnesota Pollution Control Agency (MPCA) Tanks and Spills Section to document excavation and treatment of petroleum contaminated soil. Excavations must be done in accordance with the MPCA document "Excavation of Petroleum Contaminated Soil" (Guidance Document 6). Please attach ant available preliminary site investigation reports to this excavation report.

I. BACKGROUND

A. Site:	**Barbara Russell Property**	**B.**Tank Owner/Operator:	
Street:	**7721 Pillsbury Avenue**	Mailing Address:	**Barbara Russell**
City, Zip:	**Richfield, MN**	Street:	**5912 Hansen Road**
		City, Zip	**Edina, MN 55436**
County:	**Hennepin**	Telephone:	**(612)929-7316**

MPCA Site ID#: **LEAK00006252**

C. Excavating Contractor:	**HRS Construction**	**D.** Consultant:	**Dahl and Associates**
Contact:	**Larry Weber**	Contact:	**Erik Peterson**
Telephone:	**(612)292-8576**	Street:	**4390 McMenemy Road**
Tank Contractor Certification Number:	**#0118**	City, Zip:	**St. Paul, MN 55127**
		Telephone:	**(612)-490-2905**

E. Others on-site during site work (e.g., fire marshal, local officials, MPCA staff, etc.):
Captain Loren Olsen, Richfield Department of Public Safety, Richfield Fire Department.

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

II. DATES

A. Date release reported to MPCA: **April 29, 1993. Duty Officer #46**

B. Date site work performed:

Work Performed	Date
Removed 3,360 gallons of fuel oil and water from UST #1	**04/29/93**
Removed 560 gallons of used oil from UST #2	**04/30/93**
Removed (1) 560 gallon used oil UST	**04/29/93**
Removed (1) 7,500 gallon fuel oil UST	**04/29/93**
Removed approximately 50 cubic yards of fuel oil impacted soil	**04/29-30/93**
Removed approximately 72 cubic yards of used oil impacted soil	**04/29-30/93**

III. RELEASE INFORMATION

A. Provide the following information for all tanks which have been removed.

Tank 1: Capacity: **7,500 gallons** Type: **Bare steel** Age: **Unknown**
Condition: **The UST was in fair condition upon removal. Shallow pits were observed in the UST.**
Product History: **Fuel oil**
Approximate quantity of petroleum released, if known: **Unknown**
Cause of Release: **Indications of release were observed in the soils surrounding the fill riser.**

Tank 2: Capacity: **560 gallons** Type: **Bare steel** Age: **Unknown**
Condition: **The UST was in poor condition upon removal. Pitting and perforations were observed in the UST.**
Product History: **Used motor oil**
Approximate quantity of petroleum released, if known: **Unknown**
Cause of release: **Indications of release were observed in the soils adjacent to the fill riser. In addition, perforations in the UST allowed fuel to migrate out of the UST and into the surrounding soil.**

B. Provide the following information for all existing tanks.

Tank No.	Capacity	Contents	Type	Age

No other underground storage tanks are known to exist on site.

If the release was associated with the lines or dispensers, briefly describe the problem:

Releases were not associated with lines or dispensers.

D. If the release was a surface spill, briefly describe the problem:

Indications of surface spillage were observed in the soil surrounding the fill risers of both USTs.

IV. EXCAVATION

A. Dimensions of excavation: **31 feet long X 28 feet wide X 13 feet below surface level**

B. Original tank backfill material (sand, gravel, etc.): **Brown medium grained sand**

C. Native soil type (clay, sand, etc.): **0 to 5 feet, brown medium grained silty sand fill, dry; to 13 feet, brown medium grained sand, dry.**

D. Quantity of contaminated soil removed (cubic yards): **72 cubic yards of used oil, and 50 cubic yards of fuel oil impacted soil.**
(Note: if more than 400 cubic yards removed, please attach copy of written approval from MPCA.)

E. Was ground water encountered or was there evidence of a seasonally high ground water table? At what depth?

Ground water was not encountered in the tank basin.

F. If a soil boring was necessary (as indicated in part VI of "Excavation of Petroleum Contaminated Soil" (Guidance Document 6) for sand and silty sand native soils) describe the soil analytical and soil vapor headspace results. Attach the boring logs and laboratory results to this report.

Test borings were not necessary at this UST site.

G. If ground water was encountered or if a soil boring was conducted, was there evidence of ground water contamination? Specify, e.g. free product (specify thickness), product sheen, ground water in contact with petroleum contaminated soil, water analytical results, etc.
(NOTE: If free product was observed, contact MPCA staff immediately as outlined in "Petroleum tank release reports" (Guidance Document 2).)

Not applicable.

H. Was bedrock encountered in the excavation? At what depth?

Bedrock was not encountered in the tank basin.

I. Were there other unique conditions associated with this site? If so, explain.

No unique conditions were associated with this site.

V. SAMPLING

A. Briefly describe the field methods (including use of a photoionization detector) used to distinguish contaminated from uncontaminated soil:

Initial observations of each sample's appearance were recorded. Soil samples were then field screened for petroleum hydrocarbon content using a Foxboro Model OVA 128 GC flame-ionization detector. The detector, sensitive to a range of volatile organic compounds (VOCs) and calibrated to methane, measured the concentration of certain VOCs by flame-ionization. The head space of each soil sample was screen for petroleum hydrocarbon content in accordance with the Minnesota Pollution Control Agency protocol for "Jar Soil Headspace Screening Procedures," dated May, 1992, Guidance Document 7. The instrument yielded a reading proportional to the concentration of VOCs.

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

SAMPLE CODE	SOIL TYPE	READING PPM	LOCATION (UST #1 = fuel oil) (UST #2 = used motor oil)
R-1 (3 feet)	Sand	62	Adjacent to UST #1 fill riser
R-2 (3 feet)	Sand	20	3 feet east of UST #1 fill riser
R-3 (3 feet)	Sand	3	3 feet east and 3 feet south of UST #1 fill riser
R-4 (6 feet)	Sand	2	4 feet west of UST #1 manway
R-5 (5.5 feet)	Sand	25	2 feet east of UST #1 manway

SAMPLE CODE	SOIL TYPE	READING PPM	LOCATION (UST #1 = fuel oil) (UST #2 = used motor oil)
R-6 (6.5 feet)	Sand	0	2 feet east of UST #1 manway
S-7 (3 feet)	Sand	58	2 feet north of UST #1 fill riser
R-8 (2 feet)	Sand	72	East side of UST #2 fill riser
R-9 (5 feet)	Sand	0	East side of UST #2, midsection
R-10 (7 feet)	Sand	0	East side of UST #2, midsection
R-11 (7 feet)	Sand	41	On top of UST #2
R-12 (7 feet)	Sand	0	East end UST #1
R-13 (9 feet)	Sand	14	East end of UST #1, south side
R-14 (9 feet)	Sand	0	South side of UST #2, midsection
R-15 (9 feet)	Sand	3	South side of UST #1, 5 feet west of center of manway
B-16 (11 feet)	Sand	1	Under west end of UST #1, on top of anchor pad
W(S)-17 (13 feet)	Sand	0	West sidewall , midsection, adjacent to anchor pad
B-18 (15 feet)	Sand	0	2-3 feet below western end of concrete UST anchor pad
R-19 (6.5 feet)	Sand	0	On top of south end of UST #2
R-20 (8.5 feet)	Sand	4	Adjacent to south end of UST #2
R-21 (8.5 feet)	Sand	12	West side of UST#2, midsection
R-22 (9.5 feet)	Sand	15	West side of UST #2, midsection
R-23 (11.5 feet)	Sand	14	Between UST #2 and anchor pad, midsection
R-24 (9 feet)	Sand	76	Under power pole
R-25 (11 feet)	Sand	38	4 feet west of power pole
P-26 (stockpile)	Sand	60	Stockpile
P-27 (stockpile)	Sand	0	Stockpile
W(S)-28 (10 feet)	Sand	0	East sidewall, adjacent to midsection of UST #2
B-29 (13 feet)	Sand	0	Under anchor pad, under midsection of UST #2
W(S)-30 (10 feet)	Sand	0	North sidewall, adjacent to UST #2
W(S)-31 (10 feet)	Sand	0	South sidewall, adjacent to UST #2
W(S)32 (10 feet)	Sand	0	South sidewall, adjacent to midsection of UST #1
W(S)-33 (11.5 feet)	Sand	0	North sidewall,6 feet west of power pole
W(S)-34 (6 feet)	Sand	0	North sidewall, adjacent to midsection of UST #1
W(S)-35 (7 feet)	Sand	0	South sidewall, adjacent to UST #1

C. Briefly describe the soil sampling and handling procedures used:
Soil samples collected for analytical laboratory analysis were packed in clean, laboratory-supplied 2 ounce glass jars equipped with nylon septums. Approximately 25 grams of soil was placed in each jar using a digital scale. Samples analyzed for diesel range organics (DRO) were preserved in the laboratory. Samples were kept in a cooler on site until arrival at DAHL where they were placed in a refrigerator. Proper sample chain of custody was maintained.

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

SAMPLE CODE	DRO PPM	BENZENE PPM	ETHYL BENZENE PPM	TOLUENE PPM	XYLENE PPM	LEAD PPM
B-18 (9 feet)	ND	ND	ND	ND	ND	NA
W(S)-28 (10 feet)	ND	ND	ND	ND	ND	NA
B-29 (13 feet)	ND	ND	ND	ND	ND	ND
W(S)-30 (10 feet)	ND	ND	ND	ND	ND	NA
W(S)-31 (10 feet)	ND	ND	ND	ND	ND	NA

***Samples labeled originally on COC as W-#, but renumbered as S-# to accommodate the most recent excavation report writing requirements.**

RCRA METALS

SAMPLE CODE	ARSENIC PPM	BARIUM PPM	CADMIUM PPM	CHROMIUM PPM	LEAD PPM	SELENIUM PPM	SILVER PPM
B-29 (13 feet)	**ND**	**38**	**ND**	**5.0**	**ND**	**ND**	**ND**

POLYCHLORINATED BIPHENYLS

SAMPLE CODE	PCB-1016 PPM	PCB-1221 PPM	PCB-1232 PPM	PCB-1242 PPM	PCB-1248 PPM	PCB-1254 PPM	PCB-1260 PPM
B-29 (13 feet)	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

NA = Not Analyzed
ND = Not Detected

Soil sample

MNDH 465D: VOLATILE ORGANICS IN A SOLID

SAMPLE CODE	METHYLENE CHLORIDE PPB
B-29 (13 feet)	58

The methylene chloride was found in the laboratory blank as well as in the sample.
NA = Not Analyzed
ND = Not Detected

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

VI. FIGURES

Attach the following figures to this report:

1. Site location map
2. Site map(s) drawn to scale illustrating the following:
   a. location (or former location) of all present and former tanks, lines, and dispensers;
   b. location of other structures (buildings, canopies, etc.);
   c. adjacent city, township, or county roadways;
   d. final extent of excavation;
   e. location of soil vapor analyses (e.g. R-1,) soil samples (e.g. B-1), and soil borings (e.g. SB-1). Also, attach all boring logs.
   f. north arrow and maps legend.

VII. SUMMARY

Briefly summarize evidence indicating whether or not additional investigation is necessary at the site, as discussed in part VI of the MPCA document "Excavation of Petroleum Contaminated Soil" (Guidance Document 6). If no further action is recommended, the MPCA staff will review this report following notification of soil treatment.

Prior to removal, 3,360 gallons of a fuel oil and water mixture was removed from UST #1 (fuel oil), and 560 gallons of used oil was removed from UST #2 (used oil). It appeared that the fuel oil UST had been partially filled with water some time ago as a form of abandonment as the UST and ancillary lines appeared to be intact upon removal. Detterman Tank & Welding, Minneapolis, Minnesota, pumped and disposed of the tank fluids.

Indications of product spillage were observed in the soils adjacent to the fill risers of USTs #1 (fuel oil) and #2 (used motor oil). Approximately 62 parts per million (ppm) petroleum hydrocarbons were detected with a flame ionization dtector (FID) in soil vapor sample R-1, collected from the discolored soil surrounding the UST #1 fill riser. R-4, collected adjacent to the UST #2 fill riser, contained 72 ppm. Petroleum hydrocarbon impacted soil extended along the south side of UST #1 to a depth of 10 feet and was also present in the soil surrounding UST #2. The impacted soil associated with UST #2 extended approximately 23 feet west, and 15 feet north of the UST. This soil extended under a cinder block wall located on the George Printing Company property directly north of the UST basin. Most of the wall fell into the basin during the removal of the impacted soil. Approximately 50 cubic yards of fuel oil impacted soil, and 70 yards of used oil impacted soil was removed from the basin and stockpiled separately on the asphalt paved surface. Both stockpiles were covered with plastic. Soil samples wer field screened with a FID using soil jar-headspace techniques as prescribed by the MPCA.

The excavation was extended until discolored soil was no longer observed, and jar headspace analysis indicated soil samples contained less than the MPCA field screening action limit of 10 ppm in organic vapors for fuel oil and used oil impacted soils. Organic vapors were not detected through FID field analysis in samples collected from the final extent of the basin sidewalls and floor. The two USTs were anchored to a concrete pad located approximately 13 feet below the surface. Soil sample B-18 (15 feet) was collected adjacent to and below the level

anchor pad on the basin floor to assess if any released hydrocarbons had migrated off the west end of the pad. Sample B-29 (13 feet) was collected from under the eastern end of the pad to assess if used oil had migrated through any seams in the concrete pad. Three confirmatory samples were collected from the sidewalls adjacent to the used oil UST, 10 feet below the surface, including W-28, W-30, and W-31. Five soil samples were submitted to a laboratory and analyzed for the presence of diesel range organics (DRO), benzene, ethyl-benzene, toluene, xylene (BETX). These parameters were not detected above laboratory detection limits in the soil samples. In addition, B-29 was analyzed for 7 heavy metals, 7 polychlorinated byphenyls (PCBs), and the MDH 465D list of volatile organic compounds (VOCs). Laboratory analysis detected 38 ppm barium, 5.0 ppm chromium, and 58 ppb methylene chloride. Methylene chloride was detected in the laboratory test blank as well as in the soil sample analysis, and thus was determined to be laboratory contamination inherent to the analytical testing methodology. No other tested analytes were present above laboratory detection limits.

Based on field observations and laboratory results from samples collected during tank closure activities performed in April, 1993, the sources of the petroleum release along with approximately 120 cubic yards of impacted soil have been removed. Laboratory tests performed on soil samples collected from under the USTs and basin sidewalls did not indicate petroleum hydrocarbon concentrations present above the MPCA action level of 50 ppm for sandy soils. Ground water was not encountered in the tank basin. Based on these results DAHL recommends that no further remedial investigation be implemented and that site closure be granted.

VIII. SOIL TREATMENT INFORMATION

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

B. Location of treatment site/facility: **SE ¼ of SW¼ of Section 15, Township 115N, Range 30W, Collins Township, McLeod County**

C. Date MPCA approved soil treatment (if thermal treatment was used after May 1, 1991, indicate date that the MPCA permitted thermal treatment facility agreed to accept soil): **July 22, 1993**

D. Identify the location of any stockpiled contaminated soil:

IX. CONSULTANT (OR OTHER) PREPARING THIS REPORT

Company Name:	**Dahl and Associates, Inc.**
Street/Box:	**4390 McMenemy Road**
City, Zip:	**St. Paul, MN 55127**
Telephone:	**(612)490-2905**
Contact:	**Erik Peterson**

Signature: _____ Date: 9-1-93

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

Ms. Sandra Miller, Project Manager
Minnesota Pollution Control Agency
Hazardous Waste Division
Tanks and Spills Section
520 Lafayette Road
St. Paul, Minnesota 55155

If additional investigation is required at the site, include this form as an appendix to the Remedial Investigation/Corrective Action Design report. Excavation reports indicating a remedial investigation (RI) is necessary will not be reviewed by MPCA staff until the RI has been completed.

FIGURES

Location Map
Site Map
Soil Sample Map

PROJECT SITE LOCATION

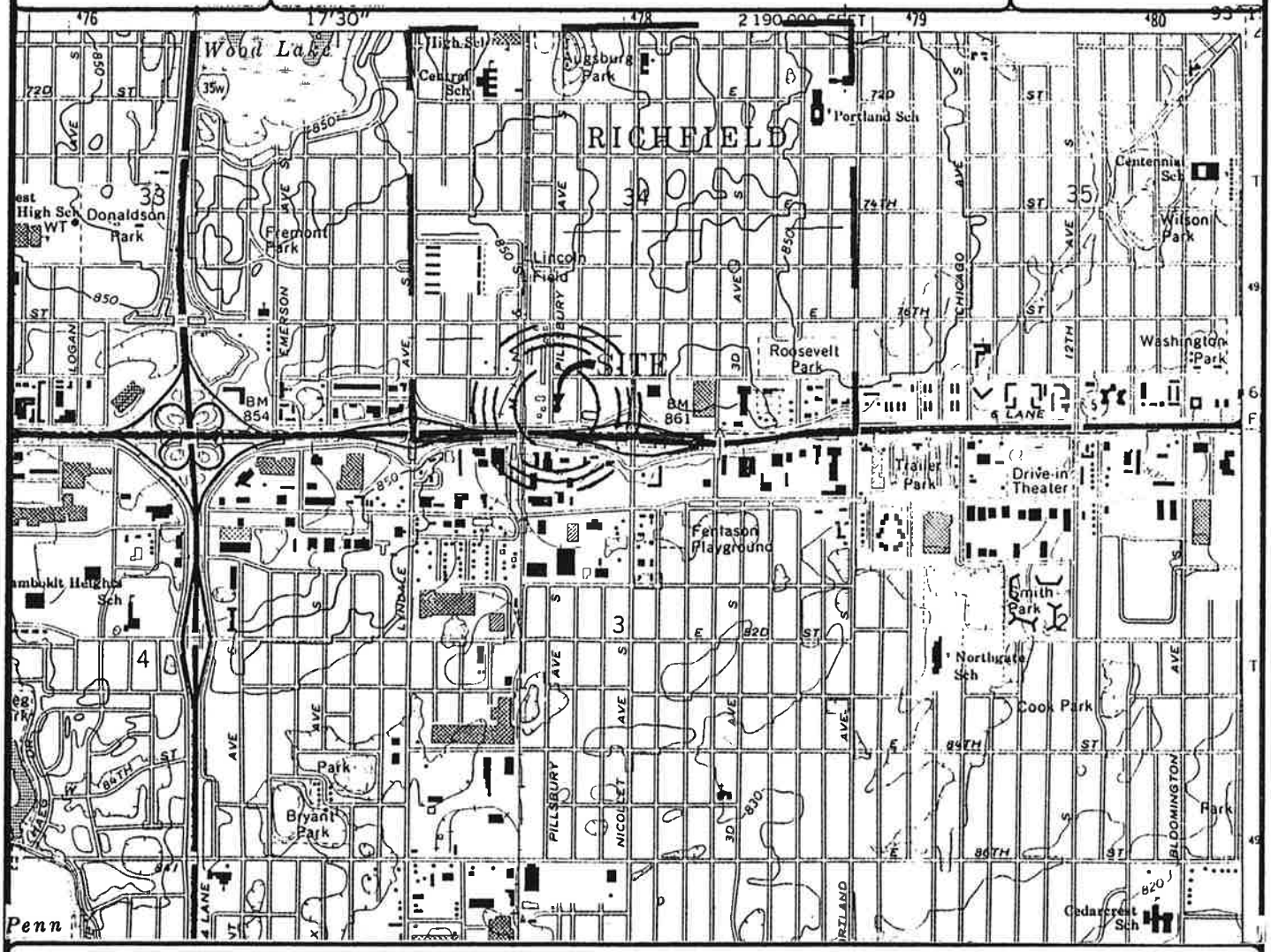
NORTH

W E S

LAT. N. 44° 51' 47"	T. 28 N
LONG. W. 93° 16' 53"	R. 24 W
	SEC. 34

U.S.G.S. STANDARD NAME
BLOOMINGTON, MINN.

QUADRANGLE LOCATION



SCALE 1:24000

1000 0 1000 2000 3000 4000 5000 6000 FEET

1 5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET

Heavy duty — Light duty

Medium duty — Unimproved dirt

Interstate Route U.S. Route State Route

BASED ON U.S.G.S. 7.5 MINUTE SERIES (TOPOGRAPHIC) MAP

4390 McMenemy Road
Saint Paul, MN. 55127
Phone (612)490-2905
FAX (612)490-3777

DAHL
& ASSOCIATES, INC.
Environmental Consultants, Contractors & Engineers

LOCATION MAP
MPS–PILLSBURY
7721 PILLSBURY AVENUE SOUTH
RICHFIELD, MINNESOTA

DATE DRAWN	05/05/93	DRAWN BY	Jim N.	APPR. BY	
PROJECT NUMBER	VEMN3298	DRAWING NUMBER	A- 01 -A	FIGURE NUMBER	1

PLOT DATE	05/05/93	AutoCAD FILE NAME	3298-01A	PLOT SCALE	1" = 2000'

GEORGE PRINTING COMPANY

RUSSELL PROPERTY

LOADING DOCK

CONC. WALK

AREA OF EXCAVATION

GRASS

GRASS

PILLSBURY AVENUE

W. 78th STREET

GRASS

NORTH

E

S

W

EXPLANATION

NOTE :
This drawing (including property lines, structures, and locations of buried utilities) is not exact. For precise locations, consult a registered land surveyor and appropriate utility company.

TANK#	VOLUME	CONTENTS
①	7,500gal.	FUEL OIL
②	560gal.	USED OIL

- UTILITY POLE
- P — OVERHEAD POWER
- E — UNDERGROUND ELECTRIC
- T — TELEPHONE LINE
- ST — STORM SEWER
- SS — SANITARY SEWER
- W — WATER
- G — GAS

SCALE:

0 10' 20' 1"

4390 McMenemy Road
Saint Paul, MN 55127
Phone (612)490-2905
FAX (612)490-3777

DAHL & ASSOCIATES, INC.
Environmental Consultants, Contractors & Engineers

DAHL STD NO: VEMN3298-B-00-A

PLOT SCALE 1" = 30'

AutoCAD FILE NAME 3298-03A

PLOT DATE 08/18/93

SITE MAP

MPS-PILLSBURY
7721 PILLSBURY AVENUE SOUTH
RICHFIELD, MINNESOTA

DATE DRAWN	05/07/93
DRAWN BY	Jim N.
APPROVED BY	
DRAWING NUMBER	B- 03 -A
PROJECT NUMBER	VEMN3298
FIGURE NUMBER	

GEORGE PRINTING COMPANY

RUSSELL PROPERTY

CONC. WALK

ASPHALT

ASPHALT

GRASS

PILLSBURY AVENUE

CINDER BLOCK WALL

TANK BASIN

AREA OF EXCAVATION

Analytical NO

N O R T H E S W

EXPLANATION

NOTE :
This drawing (including property lines, structures, and locations of buried utilities) is not exact. For precise locations, consult a registered land surveyor and appropriate utility company.

TANK#	VOLUME	CONTENTS
①	7,500gal.	FUEL OIL
②	560gal.	USED OIL

* B,R,S,W- SOIL VAPOR HEADSPACE ANALYSIS

⊛ B,R,S,W- SOIL SAMPLE SUBMITTED LABORATORY ANALYSIS

- UTILITY POLE
- P — OVERHEAD POWER
- E — UNDERGROUND ELECTRIC
- T — TELEPHONE LINE
- ST — STORM SEWER
- SS — SANITARY SEWER
- W — WATER
- G — GAS

SCALE:
0 10' 20'

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DAHL STD NO: VEMN3298-B-00-A

SOIL SAMPLE LOCATIONS

MPS-PILLSBURY
7721 PILLSBURY AVENUE SOUTH
RICHFIELD, MINNESOTA

PLOT SCALE 1" = 30'

AutoCAD FILE NAME 3298-09A

PLOT DATE 07/12/93

DATE DRAWN	06/30/93
DRAWN BY	Jim N.
APPROVED BY	
DRAWING NUMBER	B- 09 -A
PROJECT NUMBER	VEMN3298
FIGURE NUMBER	