EPA Region 5 Records Ctr.
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Fourth Quarter 2004 Tier 2 Monitoring Report

Former Nutting Truck and Caster Company Site Faribault, Minnesota

Prepared for
Prairie Avenue Leasing

January 2005

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Fourth Quarter 2004 Tier 2 Monitoring Report

Former Nutting Truck and Caster Company Site Faribault, Minnesota

Prepared for
Prairie Avenue Leasing

January 2005

BARR

4700 West 77th Street
Minneapolis, MN 55435
Phone: (952) 832-2600
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Fourth Quarter 2004 Tier 2 Monitoring Report
Former Nutting Truck and Caster Company Site

Nutting Truck and Caster Site **Monitoring Period:** Fourth Quarter 2004
Tier 2 Groundwater Monitoring Program **Date:** January 17, 2005

Sample Collection and Analysis Completeness: 100%

Thein Well Co. removed the pumps and electrical connections from wells PW17 and PW18, and prepared the wells to be used as monitoring wells. During the same mobilization Thein Well permanently sealed well B15 (Attachment A).

Samples were collected from wells B4, B5, B8, B12, W13, PW17, and PW18 and analyzed by Legend Technical Services for trichloroethylene, 1,1-dichlorothylene, cis-1,2-dichlorothylene, and trans-1,2-dichlorothylene. Two samples were collected from St. Peter well PW17. Sample PW17-TOP was collected 5 below the top of the screen and sample PW17-BTM was collected 5 feet above the bottom of the screen.

Contingency Plan Criteria Elements

Sentinel Wells B8, B12, W14
COC concentrations are less than detection limit. Yes

Wells PW17 and PW18
TCE concentration trend is stable or decreasing Yes, see Figures 3a and 3b

Quality Assurance Review (See Laboratory Report for Details):

Holding Time: All holding times were met by Legend Technical Services.
Duplicates: PW18, Relative Percent Differences were less than 10% for all parameters. Duplicate values are included on Table 2.
Blanks: All parameters were reported as less than the detection limit in the trip, field and method blanks.
Surrogate Recovery: Meets QA/QC requirements.
Matrix Spike Duplicate Recovery: Meets QA/QC requirements.

List of Tables:	**Table 1 Groundwater Elevations** **Table 2 Water Quality Data (including duplicates and blanks)**
List of Figures:	**Figure 1 Site Map** **Figure 2 Groundwater Elevations** **Figures 3A and 3B Mann Kendall Test Analysis**
Attachments	**Attachment A Well Sealing Record Well B15** **Attachment B Field Data Report** **Attachment C Laboratory Data Report**

Report was prepared by:

Janet B. Dalgleish **Janet B. Dalgleish PG No. 30407**	**Date:** **January 14, 2005**

Tables

Table 1
Tier 2 Groundwater Elevations
1996-2004
(elevations in ft./MSL)

Location	B4	B5	B8	B12	W13	W14	PW17	PW18
11/25/1987	974.44	--	972.37	972.06	974.83	973.51	972.38	972.41
12/03/1987	973.89	--	972.77	970.73	974.19	971.97	946.96	971.03
12/11/1987	974.83	--	972.66	971.86	975.15	972.90	933.59	971.14
12/21/1987	973.82	--	972.64	970.72	974.16	971.88	933.59	971.58
01/13/1988	973.71	--	972.64	970.62	974.03	971.85	940.38	971.56
02/04/1988	973.64	--	972.62	970.59	973.98	971.82	938.41	971.68
03/21/1988	974.16	--	972.86	970.89	974.36	972.10	933.29	972.17
05/18/1988	974.03	--	972.04	971.79	974.33	972.16	933.28	972.34
07/27/1988	973.58	--	971.45	971.35	973.74	971.61	942.56	972.02
09/01/1988	973.27	--	971.23	970.97	973.53	971.30	949.86	962.17
11/18/1988	973.14	--	971.15	970.93	973.35	971.27	951.68	961.94
04/07/1989	--	--	--	--	--	--	945.35	964.95
05/15/1989	973.46	--	971.51	971.30	973.65	971.63	950.04	965.89
08/16/1989	972.81	--	--	--	973.0	--	951.68	964.98
10/23/1989	972.54	--	970.45	970.50	972.76	970.86	947.09	964.49
01/02/1990	--	--	--	--	972.54	--	937.61	965.04
05/08/1990	972.55	--	970.66	970.76	972.76	970.89	950.17	962.97
08/20/1990	--	--	--	--	--	--	933.39	961.99
12/11/1990	973.15	--	971.02	971.11	973.40	971.42	932.99	959.76
03/11/1991	--	--	--	--	973.08	--	933.31	961.81
06/18/1991	974.63	--	972.67	972.47	974.85	972.79	933.53	--
09/10/1991	--	--	--	--	--	--	946.68	960.22
11/21/1991	974.09	--	972.11	971.87	974.43	972.22	943.93	962.04
06/11/1992	974.86	--	972.75	972.50	975.20	972.85	949.69	967.75
09/22/1992	--	--	--	--	--	--	955.49	965.84
11/24/1992	974.75	--	--	--	975.15	--	948.14	965.00
03/29/1993	--	--	--	--	--	--	961.48	965.09
07/14/1993	976.74	--	974.51	974.24	977.13	974.63	964.16	966.60
09/08/1993	--	--	--	--	--	--	974.28	970.89
11/11/1993	975.68	--	--	--	976.15	--	966.19	966.39
05/12/1994	975.41	978.84	973.13	972.86	975.80	973.24	973.44	966.51
10/25/1994	975.60	--	--	--	975.96	--	968.19	967.04
05/24/1995	975.03	978.34	972.73	972.50	975.39	972.86	967.87	963.09
09/25/1995	974.63	--	--	--	975.07	--	962.47	966.44
08/02/1996	975.30	978.34	972.58	972.36	975.35	972.70	969.02	962.29
11/20/1996	974.49	--	--	--	974.74	--	952.89	961.59
05/30/1997	974.58	--	972.42	972.16	975.00	972.54	950.75	965.39
11/26/1997	974.94	--	--	--	975.44	--	950.84	966.39
06/02/1999	975.51	978.90	973.38	973.12	975.95	973.50	958.19	963.59
05/02/2000	974.16	977.45	972.10	969.82	974.61	972.19	964.63	961.66
03/21/2001	973.75	976.84	971.76	971.52	974.15	971.88	966.74	961.61
05/08/2002	973.84	976.97	971.78	971.56	974.27	971.93	955.92	961.59
04/17/2003	973.48	976.36	971.50	971.25	973.84	971.60	966.41	972.03
05/12/2004	973.12	975.72	971.24	970.96	973.69	971.33	955.99	961.91
12/02/2004	974.10	976.99	972.08	971.84	974.39	972.17	972.78	972.75

-- Not measured.

Table 2
Tier 2 Groundwater Quality Data
1996-2004
(concentrations in ug/L)

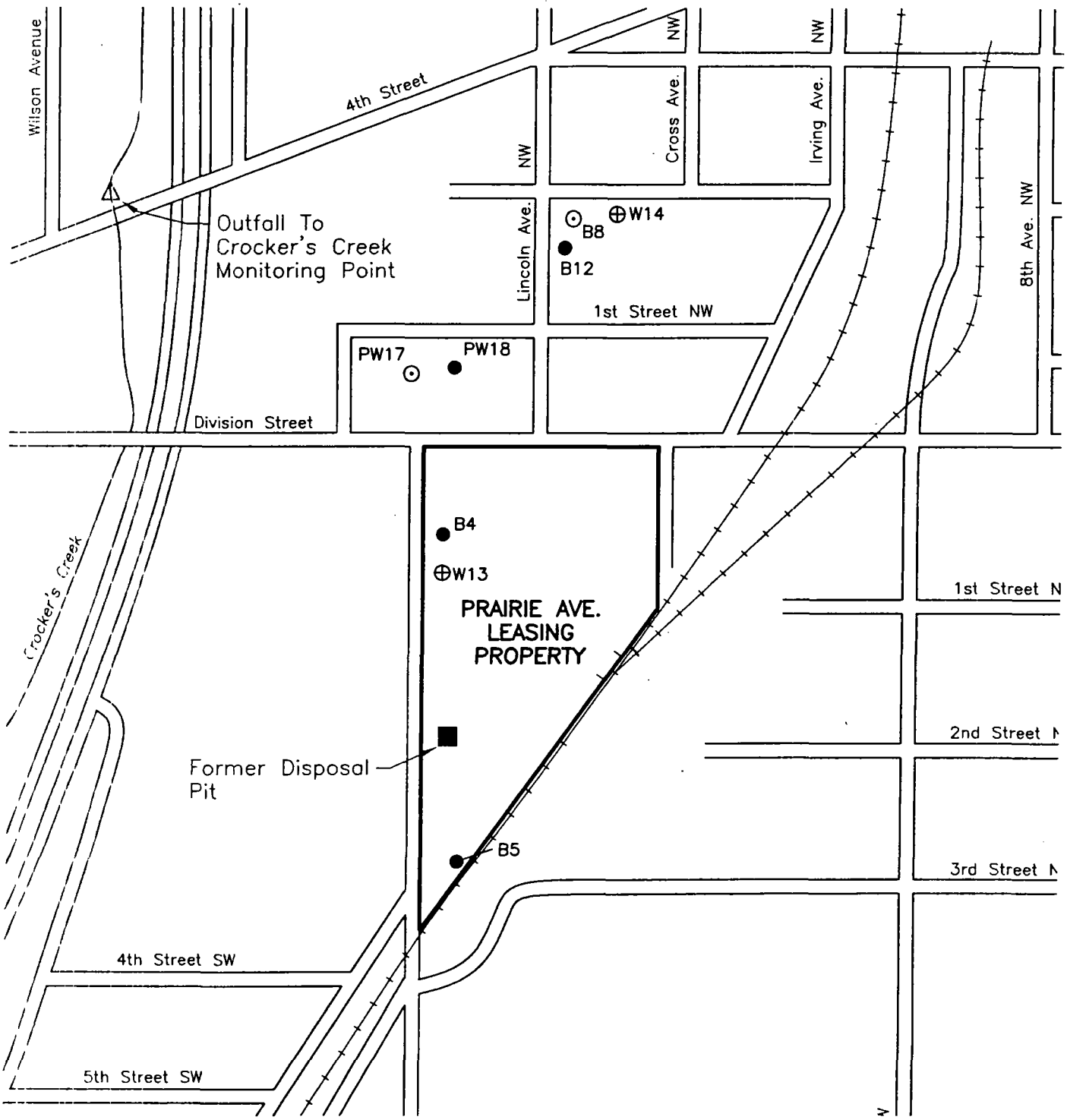
Location	Date	Dup	Trichloro-ethylene	1,1-Dichloro-ethylene	1,2-Dichloro-ethylene,cis	1,2-Dichloro-ethylene,trans
B4	08/02/1996		100	<2.5	<5.0	<5.0
B4	11/20/1996		68	<0.5	<1.0	<1.0
B4	05/30/1997		73	<0.50	<0.50	<0.50
B4	11/26/1997		82	<0.50	<0.50	<0.50
B4	05/19/1998		47	0.66	<0.50	<0.50
B4	06/02/1999		350	<0.50	0.57	<0.50
B4	05/02/2000		130	<0.20	<0.30	<0.30
B4	03/21/2001		200	<0.50	0.52	<0.50
B4	05/08/2002		150	<5.0	<5.0	<5.0
B4	04/17/2003		82	<1.0	<1.0	<1.0
B4	05/12/2004		35	<1.0	<1.0	<1.0
B4	12/02/2004	→	47	<1.0	<1.0	<1.0
B5	08/02/1996		4.9	<0.50	<1.0	<1.0
B5	05/19/1998		9.1	<0.50	<0.50	<0.50
B5	06/02/1999		1.7	<0.50	<0.50	<0.50
B5	05/02/2000		2.2	<0.20	<0.30	<0.30
B5	03/21/2001		2.4	<0.50	<0.50	<0.50
B5	05/08/2002		<5.0	<5.0	<5.0	<5.0
B5	04/17/2003		1.1	<1.0	<1.0	<1.0
B5	05/12/2004		1.0	<1.0	<1.0	<1.0
B5	12/02/2004		2.1	<1.0	<1.0	<1.0
B8	08/02/1996		<0.50	<0.50	<1.0	<1.0
B8	05/30/1997		<0.50	<0.50	<0.50	<0.50
B8	05/19/1998		<0.50	<0.50	<0.50	<0.50
B8	06/02/1999		<0.50	<0.50	<0.50	<0.50
B8	05/02/2000		0.77	<0.20	<0.30	<0.30
B8	03/21/2001		<0.50	<0.50	<0.50	<0.50
B8	05/08/2002		<5.0	<5.0	<5.0	<5.0
B8	04/17/2003		<1.0	<1.0	<1.0	<1.0
B8	05/12/2004		<1.0	<1.0	<1.0	<1.0
B8	12/02/2004		<1.0	<1.0	<1.0	<1.0
B12	08/02/1996		<0.50	<0.50	<1.0	<1.0
B12	05/30/1997		<0.50	<0.50	<0.50	<0.50
B12	05/19/1998		<0.50	<0.50	<0.50	<0.50
B12	06/02/1999		<0.50	<0.50	<0.50	<0.50
B12	05/02/2000		0.49	<0.20	<0.30	<0.30
B12	03/21/2001		<0.50	<0.50	<0.50	<0.50
B12	05/08/2002		<5.0	<5.0	<5.0	<5.0
B12	04/17/2003		<1.0	<1.0	<1.0	<1.0
B12	05/12/2004		<1.0	<1.0	<1.0	<1.0
B12	12/02/2004		<1.0	<1.0	<1.0	<1.0
B15	08/02/1996		2.2	<0.50	<1.0	<1.0
B15	11/20/1996		2.4	<0.5	1.2	<1.0
B15	05/30/1997		2.7	<0.50	0.44	<0.50
B15	11/26/1997		2.6	<0.50	<0.50	<0.50
B15	05/19/1998		2.3	<0.50	<0.50	<0.50
B15	06/02/1999		8.3	<0.50	<0.50	<0.50
B15	07/07/2000		3.5	<0.30	<0.30	<0.30
B15	03/21/2001		21	<0.50	5.6	<0.50
B15	05/08/2002		2.4 j	<5.0	<5.0	<5.0
B15	04/17/2003		12	<1.0	<1.0	<1.0
W13	08/02/1996		9.9	<0.50	2.4	<1.0
W13	11/20/1996		5.7	<0.5	1.4	<1.0

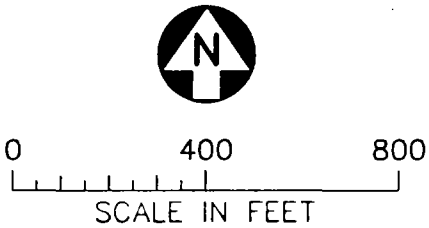
Table 2
Tier 2 Groundwater Quality Data
1996-2004
(concentrations in ug/L)

Location	Date	Dup	Trichloro-ethylene	1,1-Dichloro-ethylene	1,2-Dichloro-ethylene,cis	1,2-Dichloro-ethylene,trans
W13	05/30/1997		16	<0.50	2.6	<0.50
W13	11/26/1997		11	<0.50	2.2	<0.50
W13	05/19/1998		11	<0.50	3.3	<0.50
W13	06/02/1999		22	<0.50	5.5	<0.50
W13	05/02/2000		24	<0.20	1.3	<0.30
W13	04/17/2003		21	<1.0	2.4	<1.0
W13	05/12/2004		18	<1.0	2.9	<1.0
W13	12/02/2004	→	20	<1.0	2.6	<1.0
W13-TOP	03/21/2001		7.4	<0.50	<0.50	<0.50
W13-TOP	05/08/2002		13	<5.0	6.0	<5.0
W13-BTM	03/21/2001		54	<0.50	1.6	<0.50
W13-BTM	05/08/2002		18	<5.0	<5.0	<5.0
W14	08/02/1996		<0.50	<0.50	<1.0	<1.0
W14	05/30/1997		<0.50	<0.50	<0.50	<0.50
W14	05/19/1998		<0.50	<0.50	<0.50	<0.50
W14	06/02/1999		<0.50	<0.50	<0.50	<0.50
W14	05/02/2000		0.96	<0.20	<0.30	<0.30
W14	03/21/2001		<0.50	<0.50	<0.50	<0.50
W14	05/08/2002		<5.0	<5.0	<5.0	<5.0
W14	04/17/2003		<1.0	<1.0	<1.0	<1.0
W14	05/12/2004		<1.0	<1.0	<1.0	<1.0
W14	12/02/2004		<1.0	<1.0	<1.0	<1.0
PW17	08/02/1996		5.0	<0.50	1.1	<1.0
PW17	11/20/1996		4.2	<0.5	1.4	<1.0
PW17	05/30/1997		5.0	<0.50	0.99	<0.50
PW17	11/26/1997		5.0	<0.50	0.56	<0.50
PW17	05/19/1998		3.9	<0.50	0.51	<0.50
PW17	06/02/1999		4.9	<0.50	0.58	<0.50
PW17	05/02/2000		4.0	<0.20	0.53	<0.30
PW17	03/21/2001		4.0	<0.50	0.75	<0.50
PW17	05/08/2002		3.3 j	<5.0	<5.0	<5.0
PW17	04/17/2003		6.2	<1.0	<1.0	<1.0
PW17	05/12/2004		2.6	<1.0	<1.0	<1.0
PW17-TOP	12/02/2004		3.0	<1.0	<1.0	<1.0
PW17-BTM	12/02/2004	→	3.5	<1.0	1.2	<1.0
PW18	08/02/1996		9.2	<0.50	<1.0	<1.0
PW18	11/20/1996		5.9	<0.5	<1.0	<1.0
PW18	05/30/1997		11	<0.50	0.65	<0.50
PW18	05/30/1997	DUP	11	<0.50	0.63	<0.50
PW18	11/26/1997		11	<0.50	<0.50	<0.50
PW18	05/19/1998		9.9	<0.50	<0.50	<0.50
PW18	06/02/1999		11	<0.50	0.59	<0.50
PW18	05/02/2000		8.2	<0.20	<0.30	<0.30
PW18	03/21/2001		8.5	<0.50	<0.50	<0.50
PW18	05/08/2002		7.9	<5.0	<5.0	<5.0
PW18	04/17/2003		12	<1.0	<1.0	<1.0
PW18	05/12/2004		6.1	<1.0	<1.0	<1.0
PW18	12/02/2004	→	9.5	<1.0	<1.0	<1.0
PW18	12/02/2004	DUP	9.8	<1.0	<1.0	<1.0

j Reported value is less than the stated laboratory quantitation limit and is considered an estimated value.

Figures





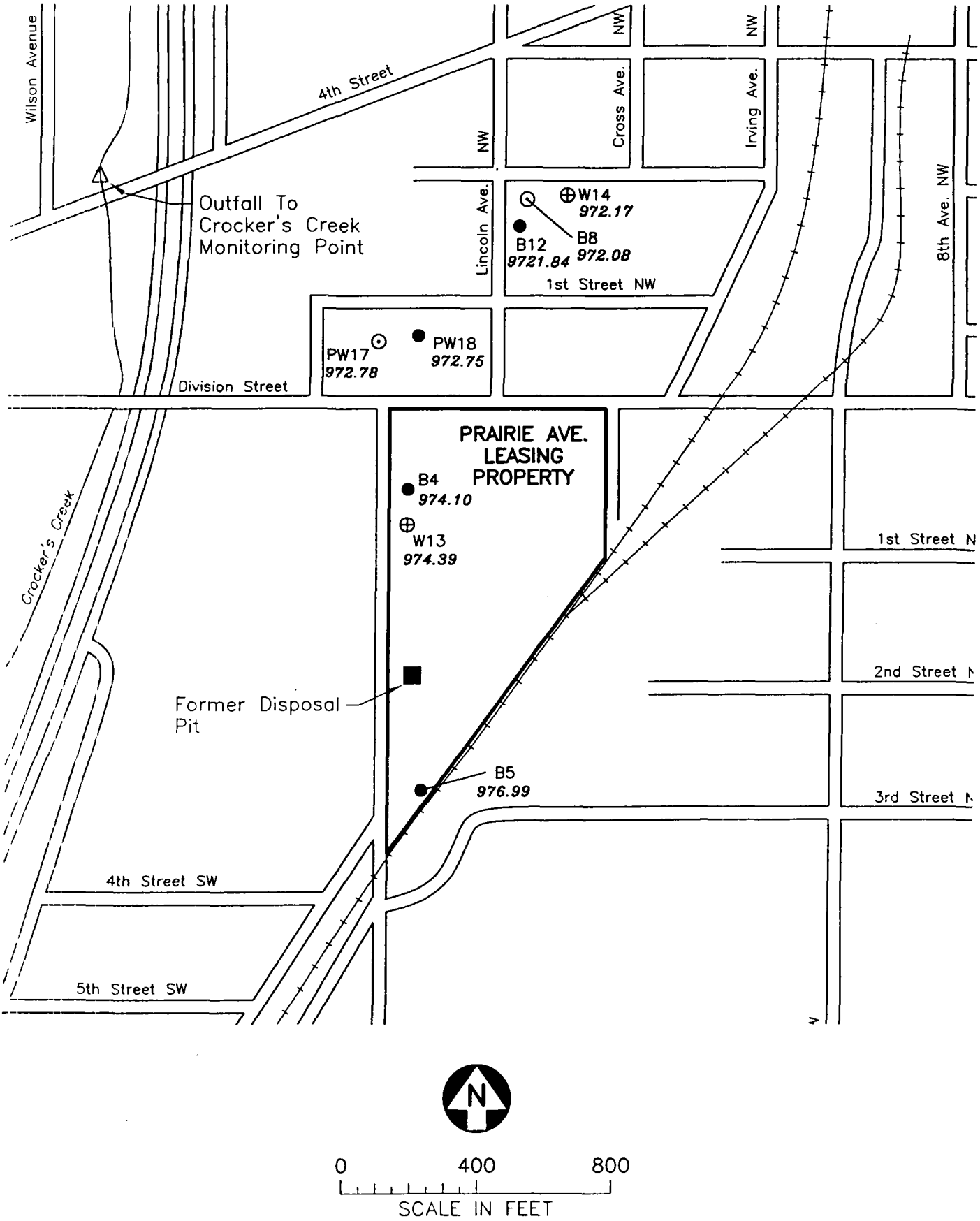
Monitoring Wells

- Glacial Drift Aquifer
- St. Peter Sandstone Aquifer
- Praire du Chien Aquifer

Figure 1

TIER 2 MONITORING LOCATIONS
Nutting Truck and Caster Site
Faribault, Minnesota

rlg M:\CAD\2366006\20996_1.DWG Plot at 1 01/12/2005 11:36:36



Monitoring Wells

- Glacial Drift Aquifer
- St. Peter Sandstone Aquifer
- Praire du Chien Aquifer

Figure 2

GROUNDWATER ELEVATIONS
DECEMBER 2004
Nutting Truck and Caster Site
Faribault, Minnesota

Figure 3A
MANN-KENDALL STATISTICAL ANALYSIS
PW-17 Trichloroethene

Date	05/30/1997	11/26/1997	05/19/1998	06/02/1999	05/02/2000	03/21/2001	05/08/2002	04/17/2003	05/12/2004	12/02/2004	
Sampling Event	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	
Trichloroethene Concentratio	5	5	3.9	4.9	4	4	3.3	6.2	2.6	3.5	**Sum of Rows**
Compare to Event 1		0	-1	-1	-1	-1	-1	1	-1	-1	-6
Compare to Event 2			-1	-1	-1	-1	-1	1	-1	-1	-6
Compare to Event 3				1	1	1	-1	1	-1	-1	1
Compare to Event 4					-1	-1	-1	1	-1	-1	-4
Compare to Event 5						0	-1	1	-1	-1	-2
Compare to Event 6							-1	1	-1	-1	-2
Compare to Event 7								1	-1	1	1
Compare to Event 8									-1	-1	-2
Compare to Event 9										1	1

Mann-Kendall Statistic (Total) =	-19
Confidence (from Lookup Table)	94.6%
MAROS Trend Conclusion	Probably Decreasi

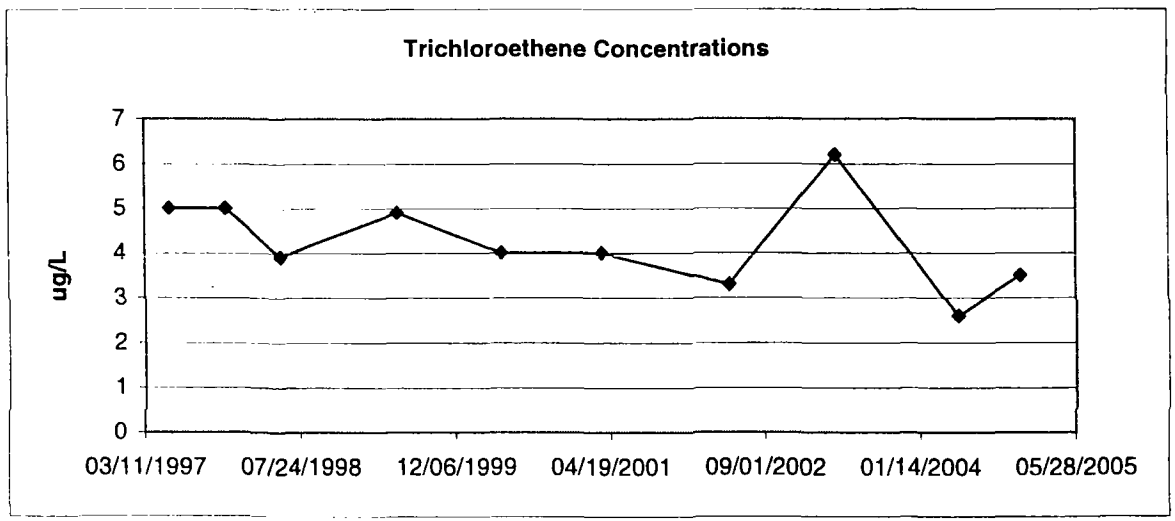
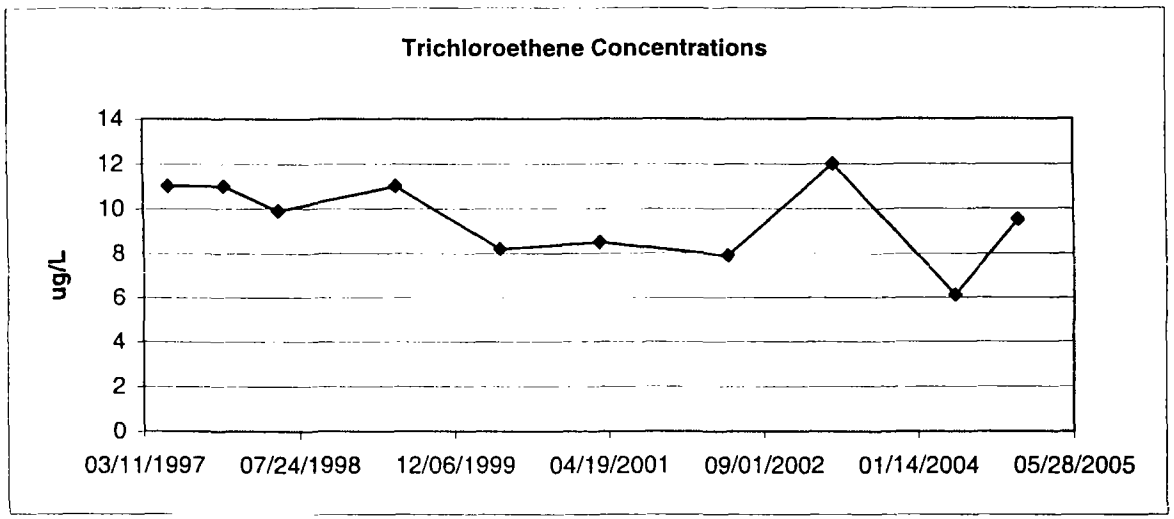


Figure 3B
MANN-KENDALL STATISTICAL ANALYSIS
PW-18

Trichloroethene Concentrations

Date	05/30/1997	11/26/1997	05/19/1998	06/02/1999	05/02/2000	03/21/2001	05/08/2002	04/17/2003	05/12/2004	12/02/2004	
Sampling Event	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	
Contaminant Concentration	11	11	9.9	11	8.2	8.5	7.9	12	6.1	9.5	**Sum of Rows**
Compare to Event 1		0	-1	0	-1	-1	-1	1	-1	-1	-5
Compare to Event 2			-1	0	-1	-1	-1	1	-1	-1	-5
Compare to Event 3				1	-1	-1	-1	1	-1	-1	-3
Compare to Event 4					-1	-1	-1	1	-1	-1	-4
Compare to Event 5						1	-1	1	-1	1	1
Compare to Event 6							-1	1	-1	1	0
Compare to Event 7								1	-1	1	1
Compare to Event 8									-1	-1	-2
Compare to Event 9										1	1

Mann-Kendall Statistic (Total) =	-16
Confidence (from Lookup Table)	90.7%
MAROS Trend Conclusion	Probably Decreasing



Attachments

Attachment A

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING SEALING RECORD

Minnesota Statutes, Chapter 103I

Minnesota Well and Boring Sealing No.
Minnesota Unique Well No. or W-series No. (Leave blank if not known)

H 223808

WELL OR BORING LOCATION

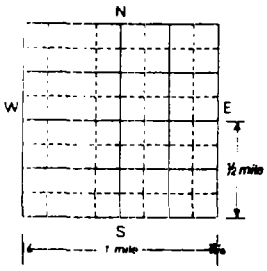
County Name: Rice

Township Name	Township No.	Range No.	Section No.	Fraction (sm → lg)
Wells	110	21	36	¼NE ¼NE ¼

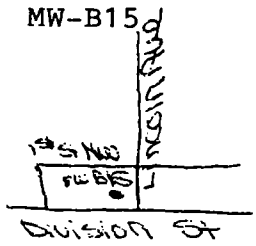
GPS LOCATION: Latitude _____ degrees _____ minutes _____ seconds
Longitude _____ degrees _____ minutes _____ seconds

Numerical Street Address or Fire Number and City of Well or Boring Location: Corner of Division St & Lincoln Ave, Faribault, MN

Show exact location of well or boring in section grid with "X"



Sketch map of well or boring location, showing property lines, roads, and buildings.



PROPERTY OWNER'S NAME/COMPANY NAME
Prairie Avenue Leasing Company

Property owner's mailing address if different than well location address indicated above
Attn: Stewart Shaft
5720 East 115th Street
Northfield, MN 55057

WELL OWNER'S NAME/COMPANY NAME
Same

Well owner's mailing address if different than property owner's address indicated above

GEOLOGICAL MATERIAL	COLOR	HARDNESS OR FORMATION	FROM	TO
(If not known, indicate estimated formation log from nearby well or boring)				
Sand & Gravel			0	42

REMARKS, SOURCE OF DATA, DIFFICULTIES IN SEALING

MINNESOTA DEPT. OF HEALTH COPY H 223808

Date Sealed: 8/17/04
Date Well or Boring Constructed: UNK

Depth Before Sealing: 42 ft.
Original Depth: 42 ft.

AQUIFER(S): ☒ Single Aquifer ☐ Multiaquifer

WELL/BORING: ☐ Water Supply Well ☒ Monit. Well ☐ Env. Bore Hole ☐ Other _____

STATIC WATER LEVEL: ☐ Measured ☒ Estimated
20 ft. ☒ below ☐ above land surface

CASING TYPE(S): ☒ Steel ☐ Plastic ☐ Tile ☐ Other _____

WELLHEAD COMPLETION
Outside: ☐ Well House ☐ Pitless Adapter/Unit ☐ Well Pit ☐ Buried
Inside: ☐ Basement Offset ☐ Well Pit ☐ Buried

CASING(S)

Diameter	Depth	Set in oversize hole?	Annular space initially grouted?
2 ft in.	from 0 to 38 ft.	☐ Yes ☒ No	☐ Yes ☒ No ☐ Unknown
in.	from to ft.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Unknown
in.	from to ft.	☐ Yes ☐ No	☐ Yes ☐ No ☐ Unknown

SCREEN/OPEN HOLE
Screen from 38 to 42 ft. Open Hole from _____ to _____ ft.

OBSTRUCTIONS
☐ Rods/Drop Pipe ☐ Check Valve(s) ☐ Debris ☐ Fill ☒ No Obstruction
Type of Obstructions (Describe) _____
Obstructions removed? ☐ Yes ☐ No Describe _____

PUMP
Type: Sub.
☒ Removed ☐ Not Present ☐ Other _____

METHOD USED TO SEAL ANNULAR SPACE BETWEEN 2 CASINGS, OR CASING AND BORE HOLE:
☒ No Annular Space Exists ☐ Annular space grouted with tremie pipe ☐ Casing Perforation/Removal
_____ in. from _____ to _____ ft. ☐ Perforated ☐ Removed
_____ in. from _____ to _____ ft. ☐ Perforated ☐ Removed
Type of perforator _____
☐ Other _____

GROUTING MATERIAL(S) (One bag of cement = 94 lbs., one bag of bentonite = 50 lbs.)
Grouting Material: Neat Cement from 0 to 42 ft. _____ yards 1-1/2 bags
_____ from _____ to _____ ft. _____ yards _____ bags
_____ from _____ to _____ ft. _____ yards _____ bags

OTHER WELLS AND BORINGS
Other unsealed and unused well or boring on property? ☐ Yes ☒ No How many? _____

LICENSED OR REGISTERED CONTRACTOR CERTIFICATION
This well or boring was sealed in accordance with Minnesota Rules, Chapter 4725. The information contained in this report is true to the best of my knowledge.

Thein Well Co., Inc. — *Contractor Business Name*
55079 — *License or Registration No.*
Dennis J. Thein — *Authorized Representative Signature*
1/18/05 — *Date*
Tim Olive — *Name of Person Sealing Well or Boring*

12/02 B

Attachment B

BARR

FIELD SAMPLING REPORT

Date: December 13, 2004

Project: Former Nutting Truck and Caster Company

Contact: Marta Nelson
Barr Engineering Company
4700 W. 77th Street
Minneapolis, MN 55435-4803

Field Sampling

Tier 2 groundwater monitoring was conducted at the former Nutting Company site on December 2, 2004.

Field Report

Attachments:

- Field log cover sheet
- Water level summary
- Field data summary
- Field log data sheets
- Meter calibration summary
- Chain-of-Custody #18015

Laboratory Analysis Status

Samples were delivered to Legend Analytical for analysis. Refer to chain-of-custody for specific information on analysis.

Kim Johannessen
Water Quality

::ODMA\PCDOCS\DOCS\245132\1

WATER LEVEL REPORT

Project: PRAIRIE AVE. LEASING

Project Number: 23/66-006

Staff: KSJ Date: 12-2-04

Monitoring Location	Measuring point elevation	Water level depth	Total well depth	Static water elevation	Comments
B4	1006.54	32.44	44.0	974.10	
B5	1008.74	31.75	40.0	976.99	
B8	999.28	27.20	67.0	972.08	
B12	998.16	26.32	47.0	971.84	
W13	1006.74	32.35	96.0	974.39	
W14	999.00	26.83	79.0	972.17	
B15	1007.43		43.0	--	
PW17	1007.39	34.61	73.0	972.78	
PW18	1007.39	34.64	48.5	972.75	

BARR

Barr Engineering Company
Field Log Data Sheet

Client:	Prairie Ave Leasing	Monitoring Point:	W14
Location:	Faribault	Date:	12-2-04
Project #:	23/66-006	Sample Time:	1230

GENERAL DATA		STABILIZATION TEST						
Barr lock:	YES							
Casing diameter:	4"	Time/ Volume	Temp. °C	Cond. @ 25	pH	Eh	D.O.	Turbidity Appearance
Total well depth:*	79	1044/34g	10.0	680	7.08	-118	0.09	clear
Static water level:*	26.83	1118/68g.	10.0	688	7.08	-85	0.35	"
Water depth:*	52.2	1152/102g	10.1	689	7.08	-78	0.41	"
Well volume: (gal)	34	1226/136g	10.1	691	7.08	-75	0.42	"
Purge method:	1.5" sub.							
Sample method:	bailer							
Start time:	1010	Odor: none detected						
Stop time:	1226	Purge Appearance: clear						
Duration: (minutes)	136	Sample Appearance: clear						
Rate, gpm:	1	Comments:						
Volume, purged:	136 gal							
Duplicate collected?	—							
Sample collection by:	KSJ	CO2-	Mn2-	Fe(T)-	Fe2-			

Others present:

WELL INSPECTION (answer for each category, state if lock replaced, detail any repairs needed on back of form)

CASING & CAP: COLLAR: LOCK: OTHER:

MW: groundwater monitoring well WS: water supply well SW: surface water SE: sediment other:

VOC- 3 semi-volatile- general- nutrient- cyanide- DRO- Sulfide-

oil,grease- bacteria- total metal- filtered metal- methane- filter-

Others:

*Measurements are referenced from top of riser pipe, unless otherwise indicated.

BARR

Barr Engineering Company
Field Log Data Sheet

Client:	Prairie Ave Leasing	Monitoring Point:	B12
Location:	Faribault	Date:	12-2-04
Project #:	23/66-006 DEP 200	Sample Time:	1405

GENERAL DATA		STABILIZATION TEST						
Barr lock:	Yes							
Casing diameter:	2" SS	Time/ Volume	Temp. °C	Cond. @ 25	pH	Eh	D.O.	Turbidity Appearance
Total well depth:*	47	1349/10g.	10.4	708	7.09	-19	4.93	clear
Static water level:*	26.32	1353/14g.	10.5	718	7.09	-12	3.78	"
Water depth:*	20.7	1356/17g.	10.5	722	7.09	-5	3.51	"
Well volume: (gal)	3.4							
Purge method:	Subm.							
Sample method:	bailer							
Start time:	1339	Odor: none detected						
Stop time:	1356	Purge Appearance: begin- cloudy red/brown end- clear						
Duration: (minutes)	17.	Sample Appearance: clear						
Rate, gpm:	1	Comments:						
Volume, purged:	17 gal							
Duplicate collected?	—							
Sample collection by:	KSJ	CO2-	Mn2-	Fe(T)-	Fe2-			

Others present:

WELL INSPECTION (answer for each category, state if lock replaced, detail any repairs needed on back of form)

CASING & CAP: COLLAR: LOCK: OTHER:

MW: groundwater monitoring well WS: water supply well SW: surface water SE: sediment other:

VOC- 3 semi-volatile- general- nutrient- cyanide- DRO- Sulfide-

oil,grease- bacteria- total metal- filtered metal- methane- filter-

Others:

*Measurements are referenced from top of riser pipe, unless otherwise indicated.

BARR

Barr Engineering Company
Field Log Data Sheet

Client:	Prairie Ave Leasing	Monitoring Point:	W13
Location:	Faribault	Date:	12-2-04
Project #:	23/66-006 DEP200	Sample Time:	1725

GENERAL DATA		STABILIZATION TEST						
Bar lock:	YES							
Casing diameter:	4"	Time/ Volume	Temp. °C	Cond. @ 25	pH	Eh	D.O.	Turbidity Appearance
Total well depth:*	96.0	1554/42g.	11.4	735	7.12	-108	1.11	clear
Static water level:*	32.35	1634/84g.	11.4	743	7.07	-89	1.19	"
Water depth:*	63.7	1718/126g.	11.3	749	7.04	-73	1.27	"
Well volume: (gal)	42							
Purge method:	Subm.							
Sample method:	bailer							
Start time:	1512	Odor: none detected						
Stop time:	1718	Purge Appearance: clear						
Duration: (minutes)	126	Sample Appearance: clear						
Rate gpm:	1	Comments:						
Volume, purged:	126 gal							
Duplicate collected?	—							
Sample collection by:	KSJ	CO2-	Mn2-	Fe(T)-	Fe2-			

Others present:

WELL INSPECTION (answer for each category, state if lock replaced, detail any repairs needed on back of form)

CASING & CAP: COLLAR: LOCK: OTHER:

MW: groundwater monitoring well WS: water supply well SW: surface water SE: sediment other:

VOC- 3 semi-volatile- general- nutrient- cyanide- DRO- Sulfide-

oil,grease- bacteria- total metal- filtered metal- methane- filter-

Others:

*Measurements are referenced from top of riser pipe, unless otherwise indicated.

BARR

Barr Engineering Company
Field Log Data Sheet

Client:	Prairie Ave Leasing	Monitoring Point:	PW 18
Location:	Faribault	Date:	12-2-04
Project #:	23/66-006DEP200	Sample Time:	1845

GENERAL DATA		STABILIZATION TEST						
Barr lock:	YES							
Casing diameter:	8"	Time/ Volume	Temp. °C	Cond. @ 25	pH	Eh	D.O.	Turbidity Appearance
Total well depth:*	48.5	1825/8g.	10.99	777	7.10	89	1.26	clear
Static water level:*	34.64	1833/16g	10.97	776	7.06	+127	1.46	"
Water depth:*	13.9	1841/24g.	10.95	776	7.07	+151	1.67	"
Well volume: (gal)	36							
Purge method:	Subm.							
Sample method:	"							

Start time:	1817	Odor:
Stop time:	1841	Purge Appearance: clear
Duration: (minutes)	24	Sample Appearance: clear
Rate, gpm:	1	Comments:
Volume, purged:	24gal	placed pump ≈ 5' from bottom of well
Duplicate collected?	M-1	
Sample collection by:	KSJ	CO2- Mn2- Fe(T)- Fe2-

Others present:

WELL INSPECTION (answer for each category, state if lock replaced, detail any repairs needed on back of form)

CASING & CAP: COLLAR: LOCK: OTHER:

MW: groundwater monitoring well WS: water supply well SW: surface water SE: sediment other:

VOC- 3+3 semi-volatile- general- nutrient- cyanide- DRO- Sulfide-

oil,grease- bacteria- total metal- filtered metal- methane- filter-

Others:

*Measurements are referenced from top of riser pipe, unless otherwise indicated.

BARR

Barr Engineering Company
Field Log Data Sheet

Client:	Prairie Ave Leasing	Monitoring Point:	PW-17-BOT
Location:	Faribault	Date:	12-2-04
Project #:	23/66-006 DEP 200	Sample Time:	2000

GENERAL DATA		STABILIZATION TEST						
Barr lock:	YES							
Casing diameter:	8"	Time/ Volume	Temp. °C	Cond. @ 25	pH	Eh	D.O.	Turbidity Appearance
Total well depth:*	73.0	1941/8g.	10.7	727	7.13	-94.8	0.10	clear
Static water level:*	34.61	1949/16g.	10.7	731	7.12	-75.8	0.12	"
Water depth:*	38.4	1957/24g.	10.7	741	7.12	-54.6	0.20	"
Well volume: (gal)	81							
Purge method:	Subm							
Sample method:	"							

Start time:	1933	Odor:	
Stop time:	1957	Purge Appearance:	clear
Duration: (minutes)	24	Sample Appearance:	clear
Rate, gpm:	1	Comments:	
Volume, purged:	24 gal	Placed pump ≈ 6' from bottom of well.	
Duplicate collected?	—		
Sample collection by:	KSJ	CO2- Mn2- Fe(T)- Fe2-	

Others present:

WELL INSPECTION (answer for each category, state if lock replaced, detail any repairs needed on back of form)

CASING & CAP: COLLAR: LOCK: OTHER:

MW: groundwater monitoring well WS: water supply well SW: surface water SE: sediment other:

VOC- 3 semi-volatile- general- nutrient- cyanide- DRO- Sulfide-

oil grease- bacteria- total metal- filtered metal- methane- filter-

Others:

*Measurements are referenced from top of riser pipe, unless otherwise indicated.

Attachment C

LEGEND
Technical Services, Inc.
www.legend-group.com

775 Vandalia Street
St. Paul, MN 55114
Tel: 651.642.1150
Fax: 651.642.1239

December 14, 2004 **REVISION**

RECEIVED
DEC 16 2004
BARR ENGINEERING CO.

Ms. Marta Nelson
Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Work Order Number: 0404278
RE 23/66-006 DEP 200

This is a revised report. The details of the revision are listed in the case narrative on the following page.

Enclosed are the results of analyses for samples received by the laboratory on 12/03/04. If you have any questions concerning this report, please feel free to contact me.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

Minnesota Certification # 027-123-295

Prepared by,
LEGEND TECHNICAL SERVICES, INC

Chris Bremer
Laboratory Director

Terri Olson
QA/QC Coordinator

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LEGEND
Technical Services, Inc.

775 Vandalia Street
St Paul, MN 55114
651.642.1150

Barr Engineering Co. 4700 W 77th St Minneapolis MN, 55435	Project: 23/66-006 DEP 200 Project Number: 23/66-006 DEP 200 Project Manager: Ms. Marta Nelson	**Date Reported:** December 14, 2004

VOC GCMS 8260B
LEGEND Technical Services, Inc

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
W14 (0404278-01) Groundwater	**Sampled: 12/02/04 12:30**			**Received: 12/03/04 12:00**						
1,1-Dichloroethene	<1.0	1.0	0.060	ug/L	1	B4L0311	12/03/04	12/04/04	EPA 8260B	
cis-1,2-Dichloroethene	<1.0	1.0	0.18	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.27	ug/L	1	"	"	"	"	
Trichloroethene	<1.0	1.0	0.26	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	*88.6*			*75-124 %*		"	"	"	"	
Surrogate: Dibromofluoromethane	*100*			*75-125 %*		"	"	"	"	
Surrogate: Toluene-d8	*93.8*			*75-125 %*		"	"	"	"	
B8 (0404278-02) Groundwater	**Sampled: 12/02/04 13:20**			**Received: 12/03/04 12:00**						
1,1-Dichloroethene	<1.0	1.0	0.060	ug/L	1	B4L0311	12/03/04	12/03/04	EPA 8260B	
cis-1,2-Dichloroethene	<1.0	1.0	0.18	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.27	ug/L	1	"	"	"	"	
Trichloroethene	<1.0	1.0	0.26	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	*87.4*			*75-124 %*		"	"	"	"	
Surrogate: Dibromofluoromethane	*97.2*			*75-125 %*		"	"	"	"	
Surrogate: Toluene-d8	*91.0*			*75-125 %*		"	"	"	"	
B12 (0404278-03) Groundwater	**Sampled: 12/02/04 14:05**			**Received: 12/03/04 12:00**						
1,1-Dichloroethene	<1.0	1.0	0.060	ug/L	1	B4L0311	12/03/04	12/03/04	EPA 8260B	
cis-1,2-Dichloroethene	<1.0	1.0	0.18	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.27	ug/L	1	"	"	"	"	
Trichloroethene	<1.0	1.0	0.26	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	*89.0*			*75-124 %*		"	"	"	"	
Surrogate: Dibromofluoromethane	*97.8*			*75-125 %*		"	"	"	"	
Surrogate: Toluene-d8	*92.2*			*75-125 %*		"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LEGEND
Technical Services, Inc.

775 Vandalia Street
St Paul, MN 55114
651.642.1150

Barr Engineering Co 4700 W 77th St Minneapolis MN, 55435	Project: 23/66-006 DEP 200 Project Number: 23/66-006 DEP 200 Project Manager: Ms. Marta Nelson	**Date Reported:** December 14, 2004

VOC GCMS 8260B
LEGEND Technical Services, Inc

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
PW17-TOP (0404278-07) Groundwater Sampled: 12/02/04 19:30 Received: 12/03/04 12:00										
1,1-Dichloroethene	<1.0	1.0	0.060	ug/L	1	B4L0311	12/03/04	12/03/04	EPA 8260B	
cis-1,2-Dichloroethene	<1.0	1.0	0.18	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.27	ug/L	1	"	"	"	"	
Trichloroethene	**3.0**	1.0	0.26	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	*86.4*			*75-124*	*%*	"	"	"	"	
Surrogate: Dibromofluoromethane	*98.2*			*75-125*	*%*	"	"	"	"	
Surrogate: Toluene-d8	*92.6*			*75-125*	*%*	"	"	"	"	
PW18 (0404278-08) Groundwater Sampled: 12/02/04 18:45 Received: 12/03/04 12:00										
1,1-Dichloroethene	<1.0	1.0	0.060	ug/L	1	B4L0311	12/03/04	12/03/04	EPA 8260B	
cis-1,2-Dichloroethene	<1.0	1.0	0.18	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.27	ug/L	1	"	"	"	"	
Trichloroethene	**9.5**	1.0	0.26	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	*84.0*			*75-124*	*%*	"	"	"	"	
Surrogate: Dibromofluoromethane	*98.2*			*75-125*	*%*	"	"	"	"	
Surrogate: Toluene-d8	*91.0*			*75-125*	*%*	"	"	"	"	
PW17-BOT (0404278-09) Groundwater Sampled: 12/02/04 20:00 Received: 12/03/04 12:00										
1,1-Dichloroethene	<1.0	1.0	0.060	ug/L	1	B4L0311	12/03/04	12/03/04	EPA 8260B	
cis-1,2-Dichloroethene	**1.2**	1.0	0.18	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.27	ug/L	1	"	"	"	"	
Trichloroethene	**3.5**	1.0	0.26	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	*85.4*			*75-124*	*%*	"	"	"	"	
Surrogate: Dibromofluoromethane	*99.4*			*75-125*	*%*	"	"	"	"	
Surrogate: Toluene-d8	*91.0*			*75-125*	*%*	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

LEGEND
Technical Services, Inc.

775 Vandalia Street
St Paul, MN 55114
651.642.1150

Barr Engineering Co. 4700 W 77th St Minneapolis MN, 55435	Project: 23/66-006 DEP 200 Project Number: 23/66-006 DEP 200 Project Manager: Ms. Marta Nelson	**Date Reported:** December 14, 2004

VOC GCMS 8260B - Quality Control
LEGEND Technical Services, Inc

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B4L0311 - Volatiles										
Blank (B4L0311-BLK1)				Prepared & Analyzed: 12/03/04						
1,1-Dichloroethene	<1.0	1.0	ug/L							
cis-1,2-Dichloroethene	<1.0	1.0	ug/L							
trans-1,2-Dichloroethene	<1.0	1.0	ug/L							
Trichloroethene	<1.0	1.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*44.1*		*ug/L*	*50.0*		88.2	*75-124*			
Surrogate: Dibromofluoromethane	*48.9*		*ug/L*	*50.0*		97.8	*75-125*			
Surrogate: Toluene-d8	*46.0*		*ug/L*	*50.0*		92.0	*75-125*			
LCS (B4L0311-BS1)				Prepared: 12/03/04 Analyzed: 12/04/04						
1,1-Dichloroethene	50.6	1.0	ug/L	50.0		101	76.1-120			
Trichloroethene	54.1	1.0	ug/L	50.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	*44.1*		*ug/L*	*50.0*		88.2	*75-124*			
Surrogate: Dibromofluoromethane	*49.6*		*ug/L*	*50.0*		99.2	*75-125*			
Surrogate: Toluene-d8	*46.3*		*ug/L*	*50.0*		92.6	*75-125*			
Matrix Spike (B4L0311-MS1)		**Source: 0404278-02**		Prepared: 12/03/04 Analyzed: 12/04/04						
1,1-Dichloroethene	47.7	1.0	ug/L	50.0	<1.0	95.4	80-120			
Trichloroethene	54.8	1.0	ug/L	50.0	<1.0	110	80-120			
Surrogate: 4-Bromofluorobenzene	*45.0*		*ug/L*	*50.0*		90.0	*75-124*			
Surrogate: Dibromofluoromethane	*49.1*		*ug/L*	*50.0*		98.2	*75-125*			
Surrogate: Toluene-d8	*46.3*		*ug/L*	*50.0*		92.6	*75-125*			
Matrix Spike Dup (B4L0311-MSD1)		**Source: 0404278-02**		Prepared: 12/03/04 Analyzed: 12/04/04						
1,1-Dichloroethene	48.1	1.0	ug/L	50.0	<1.0	96.2	80-120	0.835	20	
Trichloroethene	54.2	1.0	ug/L	50.0	<1.0	108	80-120	1.10	20	
Surrogate: 4-Bromofluorobenzene	*45.1*		*ug/L*	*50.0*		90.2	*75-124*			
Surrogate: Dibromofluoromethane	*48.7*		*ug/L*	*50.0*		97.4	*75-125*			
Surrogate: Toluene-d8	*46.4*		*ug/L*	*50.0*		92.8	*75-125*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

C 34018

BARR

Chain of Custody

4700 West 77th Street
Minneapolis, MN 55435-4803
(952) 832-2600

Project Number: 23/66-006 DEP 200

№ 18015

Project Manager: JBD

Project Contact: MSH

Laboratory: Legend

Remarks/ Analysis Required: VOC's 8260

	Sample Identification	Collection Date	Collection Time	Matrix: Water	Matrix: Soil	Matrix: Other	Type: Grab	Type: Comp.	Type: QC	Volatile Organic (Unpres.)	Volatile Organic (Pres.)	Semivolatile Organic	Total Metals (HNO_3)	Dissolved Metals (HNO_3)	General (Unpreserved)	Cyanide (NaOH, Asc. Acid)	Nutrients (H_2SO_4)	Oil and Grease (H_2SO_4)	TOC (H_2SO_4)	Sulfide (Zn Acetate)	Dioxin	Whirlpak	Total Phenol (H_2SO_4)	Methane	(HCL)/DRO, 1L Glass	Lugols, Glass, Amber	Formalin, Glass	Total No. Of Containers
1	1. W14	12-2-04	1230	✓			✓				3																	3
2	2. B8		1320	✓			✓				3																	3
3	3. B12		1405	✓			✓				3																	3
4	4. B5		1455	✓			✓				3																	3
5	5. W13		1725	✓			✓				3																	3
	6. B4		1755	✓			✓				3																	3
7	7. PW17-TOP		1930	✓			✓				3																	3
	8. PW18		1845	✓			✓				3																	3
	9. PW17-BOT		2000	✓			✓				3																	3
	10. M-1			✓			✓		✓		3																	3
	11. FB-1			✓					✓		3																	3
	12. TB			✓					✓		2																	2
	13.																											
	14.																											
	15.																											
	16.																											

Sampled By: Jim Johannessen

Remarks: received on ice @ 9°C

Relinquished By: Jim Johannessen — Date 12- — Time

Relinquished By: — Date — Time

Samples Shipped VIA: ☐ Air Freight ☐ Fed. Exp. ☐ Sampler ☐ Other Courier

Received by: Frank Rapp - Legend — Date 12/3/04 — Time 12:00

Received by: — Date — Time

Air Bill Number:

Distribution: White-Original Accompanies Shipment to Lab; Yellow - Field Copy; Pink - Lab Coordinator

Rev. 08/01/01

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