DAHL & Associates, Inc.

August 21, 1996

Environmental Consultants, Contractors & Engineers

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MPCA, HAZARDOUS WASTE DIVISION

Ms. Laura Hysjulien
Project Manager
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155

RE: Fact Sheets 3.25 and 3.31, Former Conoco Store #23034
1126 South Robert, West St. Paul, Minnesota
LEAK#00000858

Dear Ms. Hysjulien:

Enclosed are the Quarterly and Corrective Action Design System Monitoring Worksheets for the above referenced site. Per our telephone conversation yesterday, DAHL is re-evaluating the upgrade proposed earlier this year. Data collected from the last three consecutive quarters indicate that dissolved benzene concentrations have decreased to near MPCA established clean-up goals while concentrations of the other constituents are all below the clean-up goals. I will submit the information on the oxygen release compound (ORC) we discussed yesterday as soon as possible for your review.

In the meantime, if I can provide you with any additional information or if you have any questions, please me at our office.

Sincerely,

DAHL & Associates, Inc.

Mike Watson
Project Manager

MPW

enclosures

cc: Mr. Mark Silverstone, Conoco Inc.
Mr. John Ehret, Asst. Fire Chief, City of West St. Paul
Mr. Terry Maruska, Building Inspector, City of West St. Paul

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4390 McMenemy Street ◆ St. Paul, Minnesota 55127-6004 ◆ Phone: (612) 490-2905 ◆ Fax: (612) 490-3777 ◆ Toll Free: (800) 747-5325 ◆ E-Mail: dahl@minn.net

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Tanks and Emergency Response Section
Minnesota Pollution Control Agency

Quarterly Monitoring Report

Fact Sheet #3.25
April 1996

Use this worksheet to report quarterly site monitoring results **for the period of time after the *Remedial Investigation Report Form* is submitted until that form is reviewed by Minnesota Pollution Control Agency (MPCA) staff.** Assume that the RI Report Form will take up to 120 days for review. Following remedial investigation/corrective action design approval, report site monitoring annually using the *Annual Monitoring Report (fact sheet #3.26)*, unless directed otherwise by MPCA staff.

I. SITE INFORMATION

Site name and address: **Former Conoco Store #23034**
1126 South Robert Street
West St. Paul, MN

MPCA Leak Number: *LEAK #:* **00000858**

Date submitted: **7/31/96**

II. GROUND WATER MONITORING

Indicate the *cumulative* water table data for each monitoring well.

*** See Attached Table 2**

Well Number	Date	Depth of Water from Top of Casing	Product Thickness	Depth of Water Below Grade	Relative Groundwater Elevation
MW-1					
MW-2					

Notes: (GW above/below screen, etc.)

Tabulate the *cumulative* laboratory analytical results for water samples for each monitoring well (include sample blanks) using the format shown below. **Also, attach 1) copies of most recent laboratory reports for ground water analyses, including a copy of the Chain of Custody and 2) a ground water contour map based on the most recent ground water elevation data.**

*** See Attached Table 1**

Well #	Date	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	GRO	DRO
MW-1								
MW-2								
MW-3								

Notes: (e.g., free product, dry well, units, etc.)

III. VAPOR IMPACT MONITORING

If vapor impacts were detected during the remedial investigation, complete the following table with cumulative vapor monitoring data collected. **Also, attach a map of the surveyed area that includes the locations of all vapor monitoring points from the previous table.**

NA

Location #	Date	PID reading (ppm)	Percent of the LEL
#1			
#2			

Notes: (sample methodology, instrument types used, etc.)

NOTE: **If vapor concentrations exceed 10 percent of the lower explosive limit, exit the building and contact the local fire department immediately**. Then contact the Minnesota Duty Officer (24 hours) at 612/649-5451 (metro and outside Minnesota) or 1-800-422-0798

(Greater Minnesota). TTY users call 612/297-5353 (V/TTY) or 1-800-627-3529 (V/TTY). **Vapor mitigation is required.**

IV: CONSULTANT (OR OTHER) INFORMATION

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

Name and Title:	Signature:	Date signed:
Mark Smith, Project Manager	_____	**7/31/96**
_____	_____	___/___/___
_____	_____	___/___/___

Company and mailing address: **DAHL & Associates, Inc.**

4390 Mcmenemy Road

St. Paul, MN 55127

Phone: **(612) 490-2905**

Fax: **(612) 490-3777**

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

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TABLE 1

GROUNDWATER ANALYTICAL DATA

Former Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

WELL #	DATE	B	E	T	X	THG/GRO	MTBE
MW-1	05/03/90	ND	ND	ND	ND	ND	ND
	09/10/90	ND	ND	ND	ND	ND	ND
	03/13/91	ND	ND	ND	ND	ND	ND
	09/09/91	ND	ND	ND	ND	ND	ND
	12/26/91	ND	ND	ND	ND	ND	ND
	03/13/92	ND	ND	ND	ND	ND	ND
	06/12/92	ND	ND	ND	ND	ND	ND
	09/10/92	ND	ND	ND	ND	ND	ND
	12/23/92	ND	ND	ND	ND	ND	ND
	03/09/93	ND	ND	ND	ND	ND	ND
	06/10/93	ND	ND	ND	ND	ND	ND
	09/17/93	ND	ND	ND	ND	ND	ND
	12/21/93	ND	ND	ND	ND	ND	ND
	03/21/94	ND	ND	ND	ND	ND	ND
	06/30/94	ND	ND	ND	ND	ND	ND
	08/31/94	ND	ND	ND	ND	ND	ND
	12/27/94	ND	ND	ND	ND	36	ND
	03/09/95	ND	ND	ND	ND	ND	ND
	06/20/95	ND	ND	ND	ND	ND	ND
	09/21/95	ND	ND	ND	ND	ND	ND
	12/22/95	ND	ND	ND	ND	ND	ND
MW-2	05/03/90	6600	4	12	6900	27000	1600
	09/10/90	7300	950	17000	9600	48000	1600
	03/13/91	8200	1200	13000	10000	68000	3000
	09/09/91	8500	1300	9300	10000	48000	3000
	12/26/91	3800	1200	1100	4400	23000	ND
	03/13/92	2100	800	1200	2300	11000	ND
	06/12/92	2500	1100	1000	2600	17000	220
	09/10/92	4200	1300	1400	3100	19000	ND
	12/23/92	5800	1500	2800	4000	27000	ND
	03/09/93	5300	1300	3800	4500	21000	ND
	06/10/93	240	ND	120	230	1200	ND
	09/17/93	210	250	ND	370	3100	ND
	12/21/93	4100	1500	360	1900	15000	ND
	03/21/94	5300	1800	2800	4800	29000	270
	06/30/94	5700	1800	3700	6500	31000	200
	08/31/94	2700	630	1900	3400	15000	ND
	12/27/94	42	8	31	67	400	ND
	03/09/95	550	160	210	610	2700	ND
	06/20/95	170	59	240	480	1800	ND
	09/21/95	7	5.7	7.3	23	120	ND
	12/22/95	43.5	20	39	74.1	540	ND
	03/14/96	117	86	167	422	1980	ND
	06/07/96	102	98	164	612	2480	49.9

TABLE 1

GROUNDWATER ANALYTICAL DATA

Former Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

WELL #	DATE	B	E	T	X	THG/GRO	MTBE
MW-3	05/03/90						
	09/10/90	9700	2000	23000	16000	82000	1500
	03/13/91	9200	3900	23000	26000	110000	2600
	09/09/91	11000	3000	22000	20000	79000	4900
	12/26/91	7700	2300	10000	14000	77000	1600
	03/13/92	10000	2800	17000	15000	64000	ND
	06/12/92	8100	2500	16000	14000	72000	290
	09/10/92	9800	ND	22000	17000	75000	ND
	12/23/92	8100	2700	16000	15000	82000	ND
	03/09/93	6500	3000	20000	17000	74000	ND
	06/10/93	6400	2700	11000	13000	52000	ND
	09/17/93	4300	2200	14000	11000	40000	ND
	12/21/93	5900	3100	20000	16000	64000	ND
	03/21/94	9700	3500	24000	18000	79000	ND
	06/30/94 *	5600	2600	14000	14000	57000	ND
	08/31/94	3100	1800	3100	7900	28000	ND
	12/27/94	ND	ND	ND	ND	ND	ND
	03/09/95	3100	3000	1000	11000	53000	ND
	06/20/95	2000	3100	230	9300	43000	ND
	09/21/95	3140	2810	509	6490	38000	ND
	12/22/95	1650	3580	1730	6340	77500	<250
	03/14/96	889	2650	BDL	3790	21000	<100
	06/07/96	1370	26	<25	3790	24200	1190
MW-4	05/03/90	ND	ND	ND	2	41	ND
	09/10/90	ND	ND	ND	ND	19	ND
	03/13/91	ND	ND	ND	1	40	ND
	09/09/91	ND	ND	ND	ND	ND	16
	12/26/91	ND	ND	ND	ND	ND	ND
	03/13/92	ND	ND	ND	ND	ND	ND
	06/12/92	ND	ND	ND	ND	ND	ND
	09/10/92	ND	ND	ND	ND	ND	ND
	12/23/92	ND	ND	ND	ND	ND	ND
	03/09/93	ND	ND	ND	ND	ND	ND
	06/10/93	ND	ND	ND	ND	ND	ND
	09/17/93	ND	ND	ND	ND	ND	ND
	12/21/93	ND	ND	ND	ND	ND	ND
	03/21/94	ND	ND	ND	ND	ND	ND
	06/30/94	ND	ND	ND	ND	ND	ND
	08/31/94	ND	ND	ND	ND	ND	ND
	12/27/94	ND	ND	ND	ND	ND	ND
	03/09/95	ND	ND	ND	ND	ND	ND
	06/20/95	ND	ND	ND	ND	ND	ND
	09/21/95	ND	ND	ND	ND	ND	ND
	12/22/95	ND	ND	4	ND	ND	ND
MW-5	12/23/92	ND	ND	ND	ND	ND	ND
	03/09/93	ND	ND	ND	ND	ND	ND

TABLE 1

GROUNDWATER ANALYTICAL DATA

Former Conoco Store # 23034
1126 South Robert St., W. St. Paul, Minnesota (24930601)

WELL #	DATE	B	E	T	X	THG/GRO	MTBE
MW-5	06/10/93	ND	ND	ND	ND	ND	ND
	09/17/93	ND	ND	ND	ND	ND	ND
	12/21/93	ND	ND	ND	ND	ND	ND
	03/21/94	ND	ND	ND	ND	60	ND
	06/30/94	ND	ND	ND	ND	47	ND
	08/31/94	ND	ND	ND	ND	ND	ND
	12/27/94	ND	ND	ND	ND	56	ND
	03/09/95	ND	ND	ND	ND	ND	ND
	06/20/95	ND	ND	ND	ND	ND	ND
	09/21/95	ND	ND	ND	ND	ND	ND
	12/22/95	ND	ND	ND	ND	ND	ND

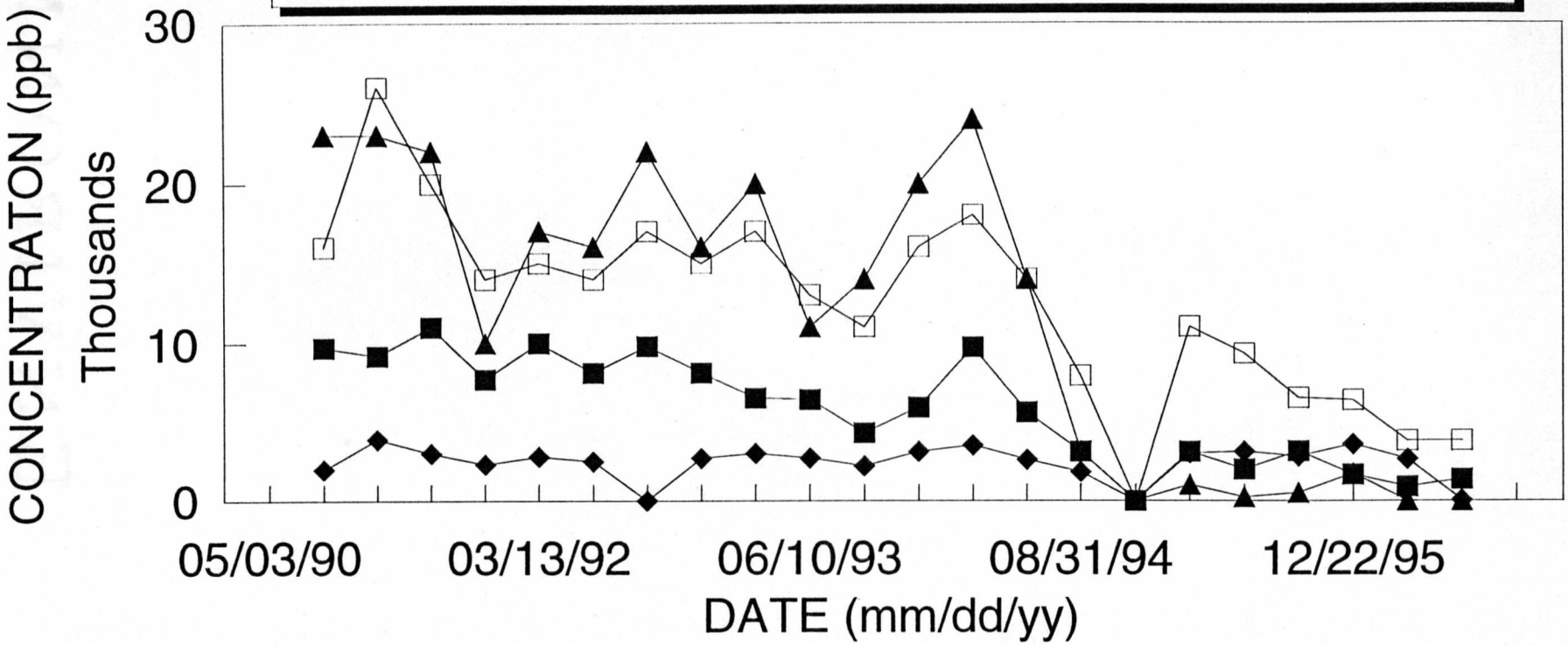
Explanation:

B=benzene
E=ethyl benzene
T=toluene
X=total xylenes
THG=total hydrocarbons as gasoline
MTBE=methyl-tert-butyl-ether
GRO=gasoline range organics
** = indicates sample contains higher boiling hydrocarbons*

DAHL

GROUNDWATER ANALYTICAL DATA MW-3

Conoco Store # 233034, W. St. Paul, MN (24930601)

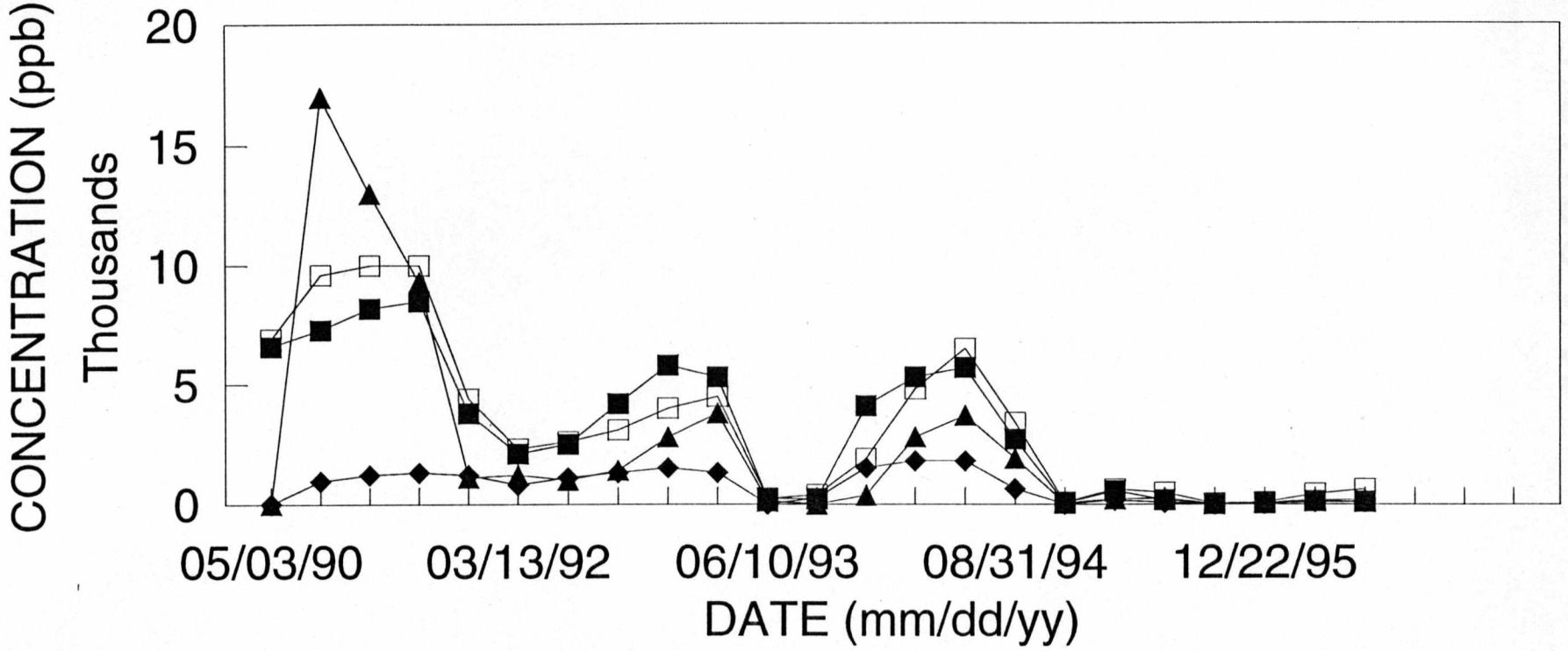


0601LABANAL2

BENZENE
ETHYL BENZENE
TOLUENE
XYLENES

GROUNDWATER ANALYTICAL DATA MW-2

Conoco Store # 23034, W. St. Paul, MN (24930601)



0601LABANAL

- BENZENE
- ETHYL BENZENE
- TOLUENE
- XYLENES

TABLE 2

GROUNDWATER ELEVATION DATA

Former Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

WELL #	ELEVATION	DATE	D.T.P	D.T.W	P.T.	W.T.E.
MW-1	100.47	10/23/89	0.00	17.99	0.00	82.48
	100.47	12/15/89	0.00	18.89	0.00	81.58
	100.47	01/08/90	0.00	19.15	0.00	81.32
	100.47	02/05/90	0.00	19.61	0.00	80.86
	100.47	03/13/90	0.00	20.12	0.00	80.35
	100.47	03/29/90	0.00	19.81	0.00	80.66
	100.47	04/24/90	0.00	19.94	0.00	80.53
*Resurvey	100.45	05/03/90	0.00	20.07	0.00	80.38
	100.45	05/15/90	0.00	19.66	0.00	80.79
	100.45	06/06/90	0.00	19.40	0.00	81.05
	100.45	06/12/90	0.00	18.75	0.00	81.70
	100.45	06/15/90	0.00	18.66	0.00	81.79
	100.45	06/29/90	0.00	17.82	0.00	82.63
	100.45	07/06/90	0.00	17.52	0.00	82.93
	100.45	07/13/90	0.00	17.30	0.00	83.15
	100.45	07/20/90	0.00	17.04	0.00	83.41
	100.45	08/22/90	0.00	15.90	0.00	84.55
	100.45	09/10/90	0.00	15.90	0.00	84.55
	100.45	10/10/90	0.00	15.90	0.00	84.55
	100.45	11/06/90	0.00	16.64	0.00	83.81
	100.45	01/14/91	0.00	17.77	0.00	82.68
	100.45	02/05/91	0.00	18.29	0.00	82.16
	100.45	03/13/91	0.00	18.76	0.00	81.69
	100.45	04/04/91	0.00	18.51	0.00	81.94
	100.45	05/10/91	0.00	17.81	0.00	82.64
	100.45	06/16/91	0.00	16.32	0.00	84.13
	100.45	07/03/91	0.00	15.56	0.00	84.89
	100.45	08/06/91	0.00	15.22	0.00	85.23
	100.45	09/09/91	0.00	15.15	0.00	85.30
	100.45	09/10/91	0.00	15.30	0.00	85.15
	100.45	10/08/91	0.00	14.68	0.00	85.77
	100.45	11/19/91	0.00	15.32	0.00	85.13
	100.45	12/26/91	0.00	14.93	0.00	85.52
	100.45	01/13/92	0.00	14.79	0.00	85.66
	100.45	02/10/92	0.00	15.02	0.00	85.43
	100.45	03/13/92	0.00	14.56	0.00	85.89
	100.45	04/20/92	0.00	14.27	0.00	86.18
	100.45	05/11/92	0.00	13.94	0.00	86.51
	100.45	06/12/92	0.00	14.11	0.00	86.34
	100.45	09/10/92	0.00	13.72	0.00	86.73
*Resurvey	100.45	12/23/92	0.00	14.30	0.00	86.15
	100.45	03/09/93	0.00	15.87	0.00	84.58
	100.45	06/10/93	0.00	13.90	0.00	86.55
	100.45	07/19/93	0.00	11.99	0.00	88.46
	100.45	07/28/93	0.00	12.08	0.00	88.37
	100.45	09/17/93	0.00	12.55	0.00	87.90
12:00 hrs.	100.45	09/29/93	0.00	12.75	0.00	87.70
14:30 hrs.	100.45	09/29/93	0.00	12.72	0.00	87.73
	100.45	09/30/93	0.00	12.40	0.00	88.05

TABLE 2

GROUNDWATER ELEVATION DATA

Former Conoco Store # 23034
1126 South Robert St., W. St. Paul, Minnesota (24930601)

WELL #	ELEVATION	DATE	D.T.P	D.T.W	P.T.	W.T.E.
MW-1	100.45	10/07/93	0.00	12.79	0.00	87.66
	100.45	10/22/93	0.00	13.51	0.00	86.94
	100.45	12/21/93	0.00	14.59	0.00	85.86
	100.45	01/25/94	0.00	15.46	0.00	84.99
12:00 hrs.	100.45	01/28/94	0.00	15.38	0.00	85.07
2:00 hrs.	100.45	01/28/94	0.00	15.38	0.00	85.07
2:30 hrs.	100.45	01/28/94	0.00	15.38	0.00	85.07
	100.45	02/03/94	0.00	15.65	0.00	84.80
	100.45	02/04/94	0.00	15.70	0.00	84.75
	100.45	02/11/94	0.00	15.93	0.00	84.52
	100.45	02/18/94	0.00	15.87	0.00	84.58
	100.45	03/21/94	0.00	16.48	0.00	83.97
	100.45	04/15/94	0.00	16.54	0.00	83.91
	100.45	05/31/94	0.00	15.37	0.00	85.08
	100.45	06/30/94	0.00	14.78	0.00	85.67
	100.45	07/08/94	0.00	14.71	0.00	85.74
	100.45	07/19/94	0.00	14.62	0.00	85.83
09:30	100.45	08/15/94	0.00	14.92	0.00	85.53
11:50	100.45	08/15/94	0.00	14.92	0.00	85.53
	100.45	08/31/94	0.00	14.91	0.00	85.54
	100.45	10/31/94	0.00	13.92	0.00	86.53
	100.45	11/17/94	0.00	13.83	0.00	86.62
	100.45	12/27/94	0.00	14.94	0.00	85.51
	100.45	01/16/95	0.00	15.22	0.00	85.23
	100.45	02/09/95	0.00	17.74	0.00	82.71
	100.45	03/09/95	0.00	16.51	0.00	83.94
	100.45	04/06/95	0.00	16.24	0.00	84.21
	100.45	05/11/95	0.00	15.52	0.00	84.93
	100.45	06/20/95	0.00	14.78	0.00	85.67
	100.45	07/31/95	0.00	13.82	0.00	86.63
	100.45	08/29/95	0.00	13.62	0.00	86.83
	100.45	09/21/95	0.00	14.11	0.00	86.34
	100.45	10/03/95	0.00	14.44	0.00	86.01
	100.45	11/21/95	0.00	15.02	0.00	85.43
	100.45	12/22/95	0.00	15.67	0.00	84.78
	100.45	01/12/96	0.00	16.10	0.00	84.35
	100.45	02/27/96	0.00	17.47	0.00	82.98
	100.45	03/14/96	0.00	16.92	0.00	83.53
	100.45	04/15/96	0.00	16.27	0.00	84.18
	100.45	05/09/96	0.00	15.99	0.00	84.46
	100.45	06/07/96	0.00	15.74	0.00	84.71
MW-2	100.77	10/23/89	0.00	19.23	0.00	81.54
	100.77	12/15/89	0.00	20.14	0.00	80.63
	100.77	01/08/90	0.00	20.40	0.00	80.37
	100.77	02/05/90	0.00	20.93	0.00	79.84
	100.77	03/13/90	0.00	21.30	0.00	79.47
	100.77	03/29/90	0.00	20.87	0.00	79.90
	100.77	04/24/90	0.00	21.18	0.00	79.59

TABLE 2

GROUNDWATER ELEVATION DATA

Former Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

WELL #	ELEVATION	DATE	D.T.P	D.T.W	P.T.	W.T.E.
Resurvey	100.74	05/03/90	0.00	21.48	0.00	79.26
MW-2	100.74	05/15/90	0.00	20.89	0.00	79.85
	100.74	06/06/90	0.00	20.62	0.00	80.12
	100.74	06/12/90	0.00	19.92	0.00	80.82
	100.74	06/15/90	0.00	19.85	0.00	80.89
	100.74	06/29/90	0.00	18.93	0.00	81.81
	100.74	07/06/90	0.00	18.63	0.00	82.11
	100.74	07/13/90	0.00	18.39	0.00	82.35
	100.74	07/20/90	0.00	18.15	0.00	82.59
	100.74	08/22/90	0.00	16.93	0.00	83.81
	100.74	09/10/90	0.00	17.00	0.00	83.74
	100.74	10/10/90	0.00	17.13	0.00	83.61
	100.74	11/06/90	0.00	17.81	0.00	82.93
	100.74	01/14/91	0.00	19.00	0.00	81.74
	100.74	02/05/91	0.00	19.50	0.00	81.24
	100.74	03/13/91	0.00	19.92	0.00	80.82
	100.74	04/04/91	0.00	19.51	0.00	81.23
	100.74	05/10/91	0.00	19.30	0.00	81.44
	100.74	06/16/91	0.00	17.38	0.00	83.36
	100.74	07/03/91	0.00	16.55	0.00	84.19
	100.74	08/06/91	0.00	16.29	0.00	84.45
	100.74	09/09/91	0.00	16.23	0.00	84.51
	100.74	09/10/91	0.00	16.36	0.00	84.38
	100.74	10/08/91	0.00	15.68	0.00	85.06
	100.74	11/19/91	0.00	16.30	0.00	84.44
	100.74	12/26/91	0.00	16.03	0.00	84.71
	100.74	01/13/92	0.00	15.94	0.00	84.80
	100.74	02/10/92	0.00	16.20	0.00	84.54
	100.74	03/13/92	0.00	15.65	0.00	85.09
	100.74	04/20/92	0.00	15.30	0.00	85.44
	100.74	05/11/92	0.00	14.85	0.00	85.89
	100.74	06/12/92	0.00	15.00	0.00	85.74
	100.74	09/10/92	0.00	14.70	0.00	86.04
*Resurvey	100.77	12/23/92	0.00	15.40	0.00	85.37
	100.77	03/09/93	0.00	16.96	0.00	83.81
	100.77	06/10/93	0.00	14.90	0.00	85.87
	100.77	07/19/93	0.00	12.85	0.00	87.92
	100.77	07/28/93	0.00	12.99	0.00	87.78
	100.77	09/17/93	0.00	13.49	0.00	87.28
12:00 hrs.	100.77	09/29/93	0.00	13.73	0.00	87.04
14:30 hrs.	100.77	09/29/93	0.00	13.70	0.00	87.07
	100.77	09/30/93	0.00	13.37	0.00	87.40
	100.77	10/07/93	0.00	13.78	0.00	86.99
	100.77	10/22/93	0.00	14.69	0.00	86.08
	100.77	12/21/93	0.00	15.67	0.00	85.10
	100.77	01/25/94	0.00	16.61	0.00	84.16
12:00 hrs.	100.77	01/28/94	0.00	16.50	0.00	84.27
2:00 hrs.	100.77	01/28/94	0.00	16.50	0.00	84.27
2:30 hrs.	100.77	01/28/94	0.00	16.50	0.00	84.27

TABLE 2

GROUNDWATER ELEVATION DATA

Former Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

WELL #	ELEVATION	DATE	D.T.P	D.T.W	P.T.	W.T.E.
MW-2	100.77	02/03/94	0.00	16.86	0.00	83.91
	100.77	02/04/94	0.00	16.99	0.00	83.78
	100.77	02/11/94	0.00	17.17	0.00	83.60
	100.77	02/18/94	0.00	17.11	0.00	83.66
	100.77	03/21/94	0.00	17.74	0.00	83.03
	100.77	04/15/94	0.00	17.94	0.00	82.83
	100.77	05/31/94	0.00	16.53	0.00	84.24
	100.77	06/30/94	0.00	15.95	0.00	84.82
	100.77	07/08/94	0.00	15.86	0.00	84.91
	100.77	07/19/94	0.00	15.76	0.00	85.01
09:30	100.77	08/15/94	0.00	16.00	0.00	84.77
11:50	100.77	08/15/94	0.00	16.00	0.00	84.77
	100.77	08/31/94	0.00	14.92	0.00	85.85
	100.77	10/31/94	0.00	14.97	0.00	85.80
	100.77	11/17/94	0.00	13.75	0.00	87.02
	100.77	12/27/94	0.00	14.91	0.00	85.86
	100.77	01/16/95	0.00	15.56	0.00	85.21
	100.77	02/09/95	0.00	18.07	0.00	82.70
	100.77	03/09/95	0.00	17.88	0.00	82.89
	100.77	04/06/95	0.00	16.73	0.00	84.04
	100.77	05/11/95	0.00	15.64	0.00	85.13
	100.77	06/20/95	0.00	14.69	0.00	86.08
	100.77	07/31/95	0.00	14.32	0.00	86.45
	100.77	08/31/95	0.00	13.78	0.00	86.99
	100.77	09/21/95	0.00	13.72	0.00	87.05
	100.77	10/03/95	0.00	13.94	0.00	86.83
	100.77	11/21/95	0.00	14.56	0.00	86.21
	100.77	12/22/95	0.00	17.16	0.00	83.61
	100.77	01/12/96	0.00	16.22	0.00	84.55
	100.77	02/27/96	0.00	17.50	0.00	83.27
	100.77	03/14/96	0.00	17.01	0.00	83.76
	100.77	04/15/96	0.00	15.38	0.00	85.39
	100.77	05/09/96	0.00	15.91	0.00	84.86
	100.77	06/07/96	0.00	15.45	0.00	85.32
MW-3	101.05	10/23/89	0.00	20.77	0.00	80.28
	101.05	12/15/89	21.54	22.35	0.81	78.70
	101.05	01/08/90	22.07	22.47	0.40	78.58
	101.05	02/05/90	22.53	22.91	0.38	78.14
	101.05	03/13/90	22.91	23.37	0.46	77.68
	101.05	03/29/90	22.82	23.14	0.32	77.91
	101.05	04/24/90	22.99	23.39	0.40	77.66
*Resurvey	101.05	05/03/90	22.99	23.30	0.31	77.75
	101.05	05/15/90	22.71	22.92	0.21	78.13
	101.05	06/06/90	21.33	22.60	1.27	78.45
	101.05	06/12/90	22.22	23.00	0.78	78.05
	101.05	06/15/90	21.20	21.74	0.54	79.31
	101.05	06/29/90	19.39	20.08	0.69	80.97
	101.05	07/06/90	19.67	19.70	0.03	81.35

TABLE 2

GROUNDWATER ELEVATION DATA

Former Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

WELL #	ELEVATION	DATE	D.T.P	D.T.W	P.T.	W.T.E.
MW-3	101.05	07/13/90	0.00	19.41	0.00	81.64
	101.05	07/20/90	0.00	19.22	0.00	81.83
	101.05	08/22/90	0.00	18.04	0.00	83.01
	101.05	09/10/90	0.00	18.27	0.00	82.78
	101.05	10/10/90	0.00	18.49	0.00	82.56
	101.05	11/06/90	0.00	19.24	0.00	81.81
	101.05	01/14/91	20.50	20.58	0.08	80.47
	101.05	02/05/91	21.00	21.05	0.05	80.00
	101.05	03/13/91	21.66	21.68	0.02	79.37
	101.05	04/04/91	0.00	21.28	0.00	79.77
	101.05	05/10/91	0.00	20.42	0.00	80.63
	101.05	06/16/91	0.00	18.26	0.00	82.79
	101.05	07/03/91	0.00	17.62	0.00	83.43
	101.05	08/06/91	0.00	17.36	0.00	83.69
	101.05	09/09/91	0.00	17.51	0.00	83.54
	101.05	09/10/91	0.00	17.67	0.00	83.38
	101.05	10/08/91	0.00	16.96	0.00	84.09
	101.05	11/19/91	0.00	17.81	0.00	83.24
	101.05	12/26/91	0.00	17.38	0.00	83.67
	101.05	01/13/92	0.00	17.39	0.00	83.66
	101.05	02/10/92	0.00	17.65	0.00	83.40
	101.05	03/13/92	0.00	17.28	0.00	83.77
	101.05	04/20/92	0.00	16.57	0.00	84.48
	101.05	05/11/92	0.00	16.04	0.00	85.01
	101.05	06/12/92	0.00	16.42	0.00	84.63
	101.05	09/10/92	0.00	16.00	0.00	85.05
*Resurvey	101.04	12/23/92	0.00	16.61	0.00	84.43
	101.04	03/09/93	0.00	18.38	0.00	82.66
	101.04	06/10/93	0.00	16.02	0.00	85.02
	101.04	07/19/93	0.00	13.79	0.00	87.25
	101.04	07/28/93	0.00	14.12	0.00	86.92
	101.04	09/17/93	0.00	14.71	0.00	86.33
12:00 hrs.	101.04	09/29/93	0.00	14.97	0.00	86.07
14:30 hrs.	101.04	09/29/93	0.00	15.52	0.00	85.52
	101.04	09/30/93	0.00	15.48	0.00	85.56
	101.04	10/07/93	0.00	15.08	0.00	85.96
	101.04	10/22/93	0.00	16.86	0.00	84.18
	101.04	12/21/93	0.00	17.17	0.00	83.87
	101.04	01/25/94	0.00	18.04	0.00	83.00
12:00	101.04	01/28/94	0.00	17.94	0.00	83.10
02:00	101.04	01/28/94	0.00	18.28	0.00	82.76
02:30	101.04	01/28/94	0.00	18.30	0.00	82.74
	101.04	02/03/94	0.00	19.02	0.00	82.02
	101.04	02/04/94	0.00	19.15	0.00	81.89
	101.04	02/11/94	0.00	19.34	0.00	81.70
	101.04	02/18/94	0.00	19.37	0.00	81.67
	101.04	03/21/94	0.00	19.90	0.00	81.14
	101.04	04/15/94	0.00	20.43	0.00	80.61
	101.04	05/31/94	0.00	18.52	0.00	82.52

TABLE 2

GROUNDWATER ELEVATION DATA

Former Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

WELL #		ELEVATION	DATE	D.T.P	D.T.W	P.T.	W.T.E.
MW-3		101.04	06/30/94	0.00	17.88	0.00	83.16
		101.04	07/08/94	0.00	17.78	0.00	83.26
		101.04	07/19/94	0.00	17.70	0.00	83.34
	09:30	101.04	08/15/94	0.00	17.34	0.00	83.70
	11:50	101.04	08/15/94	0.00	17.35	0.00	83.69
		101.04	08/31/94	0.00	17.51	0.00	83.53
		101.04	10/31/94	0.00	16.66	0.00	84.38
		101.04	11/17/94	0.00	16.93	0.00	84.11
		101.04	12/27/94	0.00	18.04	0.00	83.00
		101.04	01/16/95	0.00	18.41	0.00	82.63
		101.04	02/09/95	0.00	18.84	0.00	82.20
		101.04	03/09/95	0.00	19.84	0.00	81.20
		101.04	04/06/95	0.00	19.81	0.00	81.23
		101.04	05/11/95	0.00	19.08	0.00	81.96
		101.04	06/20/95	0.00	18.20	0.00	82.84
		101.04	07/31/95	0.00	16.21	0.00	84.83
		101.04	08/31/95	0.00	15.78	0.00	85.26
		101.04	09/21/95	0.00	18.00	0.00	83.04
		101.04	10/03/95	0.00	17.76	0.00	83.28
		101.04	11/21/95	0.00	18.48	0.00	82.56
		101.04	12/22/95	0.00	19.14	0.00	81.90
		101.04	01/12/96	0.00	19.36	0.00	81.68
		101.04	02/27/96	0.00	20.16	0.00	80.88
		101.04	03/14/96	0.00	20.34	0.00	80.70
		101.04	04/15/96	0.00	20.11	0.00	80.93
		101.04	05/09/96	0.00	19.38	0.00	81.66
		101.04	06/07/96	0.00	18.73	0.00	82.31
MW-4		100.68	10/23/89				
		100.68	12/15/89				
		100.68	01/08/90				
		100.68	02/05/90				
		100.68	03/13/90				
		100.68	03/29/90				
		100.68	04/24/90				
		100.68	05/03/90	0.00	23.93	0.00	76.75
		100.68	05/15/90				
		100.68	06/06/90				
		100.68	06/12/90				
		100.68	06/15/90				
		100.68	06/29/90				
		100.68	07/06/90				
		100.68	07/13/90	0.00	19.82	0.00	80.86
		100.68	07/20/90	0.00	19.65	0.00	81.03
		100.68	08/22/90	0.00	18.60	0.00	82.08
		100.68	09/10/90	0.00	18.94	0.00	81.74
		100.68	10/10/90	0.00	19.22	0.00	81.46
		100.68	11/06/90	0.00	19.99	0.00	80.69
		100.68	01/14/91	0.00	21.30	0.00	79.38

TABLE 2

GROUNDWATER ELEVATION DATA

Former Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

WELL #	ELEVATION	DATE	D.T.P	D.T.W	P.T.	W.T.E.
MW-4	100.68	02/05/91	0.00	21.83	0.00	78.85
	100.68	03/13/91	0.00	22.35	0.00	78.33
	100.68	04/04/91	0.00	22.21	0.00	78.47
	100.68	05/10/91	0.00	21.14	0.00	79.54
	100.68	06/16/91	0.00	18.53	0.00	82.15
	100.68	07/03/91	0.00	18.14	0.00	82.54
	100.68	08/06/91	0.00	18.10	0.00	82.58
	100.68	09/09/91	0.00	18.35	0.00	82.33
	100.68	09/10/91	0.00	18.40	0.00	82.28
	100.68	10/08/91	0.00	17.76	0.00	82.92
	100.68	11/19/91	0.00	17.70	0.00	82.98
	100.68	12/26/91	0.00	18.10	0.00	82.58
	100.68	01/13/92	0.00	18.18	0.00	82.50
	100.68	02/10/92	0.00	18.50	0.00	82.18
	100.68	03/13/92	0.00	17.88	0.00	82.80
	100.68	04/20/92	0.00	17.22	0.00	83.46
	100.68	05/11/92	0.00	16.63	0.00	84.05
	100.68	06/12/92	0.00	17.19	0.00	83.49
	100.68	09/10/92	0.00	16.84	0.00	83.84
*Resurvey	100.66	12/23/92	0.00	17.42	0.00	83.24
	100.66	03/09/93	0.00	19.19	0.00	81.47
	100.66	06/10/93	0.00	16.20	0.00	84.46
	100.66	07/19/93	0.00	14.42	0.00	86.24
	100.66	07/28/93	0.00	14.90	0.00	85.76
	100.66	09/17/93	0.00	15.57	0.00	85.09
12:00 hrs.	100.66	09/29/93	0.00	15.81	0.00	84.85
14:30 hrs.	100.66	09/29/93	0.00	15.78	0.00	84.88
	100.66	09/30/93	0.00	15.49	0.00	85.17
	100.66	10/07/93	0.00	15.96	0.00	84.70
	100.66	10/22/93	0.00	16.96	0.00	83.70
	100.66	12/21/93	0.00	18.07	0.00	82.59
	100.66	01/25/94	0.00	18.89	0.00	81.77
12:00 hrs.	100.66	01/28/94	0.00	18.80	0.00	81.86
2:00 hrs.	100.66	01/28/94	0.00	18.80	0.00	81.86
2:30 hrs.	100.66	01/28/94	0.00	18.80	0.00	81.86
	100.66	02/03/94	0.00	19.14	0.00	81.52
	100.66	02/04/94	0.00	19.15	0.00	81.51
	100.66	02/11/94	0.00	19.40	0.00	81.26
	100.66	02/18/94	0.00	19.40	0.00	81.26
	100.66	03/21/94	0.00	19.88	0.00	80.78
	100.66	04/15/94	0.00	20.15	0.00	80.51
	100.66	05/31/94	0.00	18.47	0.00	82.19
	100.66	06/30/94	0.00	19.93	0.00	80.73
	100.66	07/08/94	0.00	17.90	0.00	82.76
	100.66	07/19/94	0.00	17.79	0.00	82.87
09:30	100.66	08/15/94	0.00	18.17	0.00	82.49
11:50	100.66	08/15/94	0.00	18.17	0.00	82.49
	100.66	08/31/94	0.00	18.39	0.00	82.27
	100.66	10/31/94	0.00	16.56	0.00	84.10

TABLE 2

GROUNDWATER ELEVATION DATA

Former Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

WELL #	ELEVATION	DATE	D.T.P	D.T.W	P.T.	W.T.E.
MW-4	100.66	11/17/94	0.00	16.87	0.00	83.79
	100.66	12/27/94	0.00	18.23	0.00	82.43
	100.66	01/16/95	0.00	18.72	0.00	81.94
	100.66	02/09/95	0.00	19.15	0.00	81.51
	100.66	03/09/95	0.00	19.95	0.00	80.71
	100.66	04/06/95	0.00	19.61	0.00	81.05
	100.66	05/11/95	0.00	18.51	0.00	82.15
	100.66	06/20/95	0.00	17.83	0.00	82.83
	100.66	07/31/95	0.00	16.93	0.00	83.73
	100.66	08/31/95	0.00	16.59	0.00	84.07
	100.66	09/21/95	0.00	17.54	0.00	83.12
	100.66	10/03/95	0.00	17.78	0.00	82.88
	100.66	11/21/95	0.00	18.34	0.00	82.32
	100.66	12/22/95	0.00	19.12	0.00	81.54
	100.66	01/12/96	0.00	19.57	0.00	81.09
	100.66	02/27/96	0.00	20.27	0.00	80.39
	100.66	03/14/96	0.00	20.48	0.00	80.18
	100.66	04/15/96	0.00	19.77	0.00	80.89
	100.66	05/09/96	0.00	19.38	0.00	81.28
	100.66	06/07/96	0.00	18.85	0.00	81.81
MW-5	102.13	12/23/92	0.00	17.03	0.00	85.10
	102.13	03/09/93	0.00	18.73	0.00	83.40
	102.13	06/10/93	0.00	16.53	0.00	85.60
	102.13	07/19/93	0.00	14.40	0.00	87.73
	102.13	07/28/93	0.00	14.62	0.00	87.51
	102.13	09/17/93	0.00	15.15	0.00	86.98
	102.13	09/20/93				
	102.13	09/27/93				
12:00 hrs.	102.13	09/29/93	0.00	15.41	0.00	86.72
14:30 hrs.	102.13	09/29/93	0.00	15.43	0.00	86.70
	102.13	09/30/93	0.00	15.28	0.00	86.85
	102.13	10/07/93	0.00	15.10	0.00	87.03
	102.13	10/22/93	0.00	16.67	0.00	85.46
	102.13	12/08/93				
	102.13	12/21/93	0.00	17.54	0.00	84.59
	102.13	01/25/94	0.00	18.45	0.00	83.68
12:00 hrs.	102.13	01/28/94	0.00	18.35	0.00	83.78
2:00 hrs.	102.13	01/28/94	0.00	18.37	0.00	83.76
2:30 hrs.	102.13	01/28/94	0.00	18.37	0.00	83.76
	102.13	02/03/94	0.00	18.91	0.00	83.22
	102.13	02/04/94	0.00	19.05	0.00	83.08
	102.13	02/11/94	0.00	19.25	0.00	82.88
	102.13	02/18/94	0.00	19.26	0.00	82.87
	102.13	03/21/94	0.00	19.81	0.00	82.32
	102.13	04/15/94	0.00	20.15	0.00	81.98
	102.13	05/31/94	0.00	18.61	0.00	83.52
	102.13	06/30/94	0.00	17.91	0.00	84.22
	102.13	07/08/94	0.00	17.72	0.00	84.41

TABLE 2

GROUNDWATER ELEVATION DATA

Former Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

WELL #	ELEVATION	DATE	D.T.P	D.T.W	P.T.	W.T.E.
MW-5	102.13	07/19/94	0.00	17.73	0.00	84.40
09:30	102.13	08/15/94	0.00	17.77	0.00	84.36
11:50	102.13	08/15/94	0.00	17.78	0.00	84.35
	102.13	08/31/94	0.00	17.78	0.00	84.35
	102.13	10/31/94	0.00	16.82	0.00	85.31
	102.13	11/17/94	0.00	16.87	0.00	85.26
	102.13	12/27/94	0.00	18.17	0.00	83.96
	102.13	01/16/95	0.00	18.44	0.00	83.69
	102.13	02/09/95	0.00	18.97	0.00	83.16
	102.13	03/09/95	0.00	19.88	0.00	82.25
	102.13	04/06/95	0.00	19.64	0.00	82.49
	102.13	05/11/95	0.00	18.85	0.00	83.28
	102.13	06/20/95	0.00	17.99	0.00	84.14
	102.13	07/31/95	0.00	16.49	0.00	85.64
	102.13	08/31/95	0.00	16.14	0.00	85.99
	102.13	09/21/95	0.00	17.22	0.00	84.91
	102.13	10/03/95	0.00	17.40	0.00	84.73
	102.13	11/21/95	0.00	18.30	0.00	83.83
	102.13	12/22/95	0.00	19.12	0.00	83.01
	102.13	01/12/96	0.00	19.54	0.00	82.59
	102.13	02/27/96	0.00	19.83	0.00	82.30
	102.13	03/14/96	0.00	19.97	0.00	82.16
	102.13	04/15/96	0.00	19.92	0.00	82.21
	102.13	05/09/96	0.00	19.17	0.00	82.96
	102.13	06/07/96	0.00	18.99	0.00	83.14
RW-1	100.61	12/23/92	0.00	16.00	0.00	84.61
	100.61	03/09/93	0.00	17.92	0.00	82.69
	100.61	06/10/93	0.00	15.54	0.00	85.07
	100.61	07/19/93	0.00	13.82	0.00	86.79
	100.61	07/28/93	0.00	14.13	0.00	86.48
	100.61	09/17/93	0.00	14.74	0.00	85.87
	100.61	09/20/93	0.00	16.13	0.00	84.48
	100.61	09/27/93	0.00	14.12	0.00	86.49
12:00 hrs.	100.61	09/29/93	0.00	14.94	0.00	85.67
14:30 hrs.	100.61	09/29/93	0.00	25.40	0.00	75.21
	100.61	09/30/93	0.00	25.64	0.00	74.97
	100.61	10/07/93	0.00	15.10	0.00	85.51
	100.61	10/22/93	0.00	25.72	0.00	74.89
	100.61	12/08/93	0.00	16.65	0.00	83.96
	100.61	12/21/93	0.00	16.92	0.00	83.69
	100.61	01/25/94				
12:00 hrs.	100.61	01/28/94	0.00	17.71	0.00	82.90
2:00 hrs.	100.61	01/28/94	0.00	27.20	0.00	73.41
2:30 hrs.	100.61	01/28/94	0.00	27.35	0.00	73.26
	100.61	02/03/94	0.00	28.20	0.00	72.41
	100.61	02/04/94	0.00	27.05	0.00	73.56
	100.61	02/11/94	0.00	27.35	0.00	73.26

TABLE 2

GROUNDWATER ELEVATION DATA

Former Conoco Store # 23034
1126 South Robert St., W. St. Paul, Minnesota (24930601)

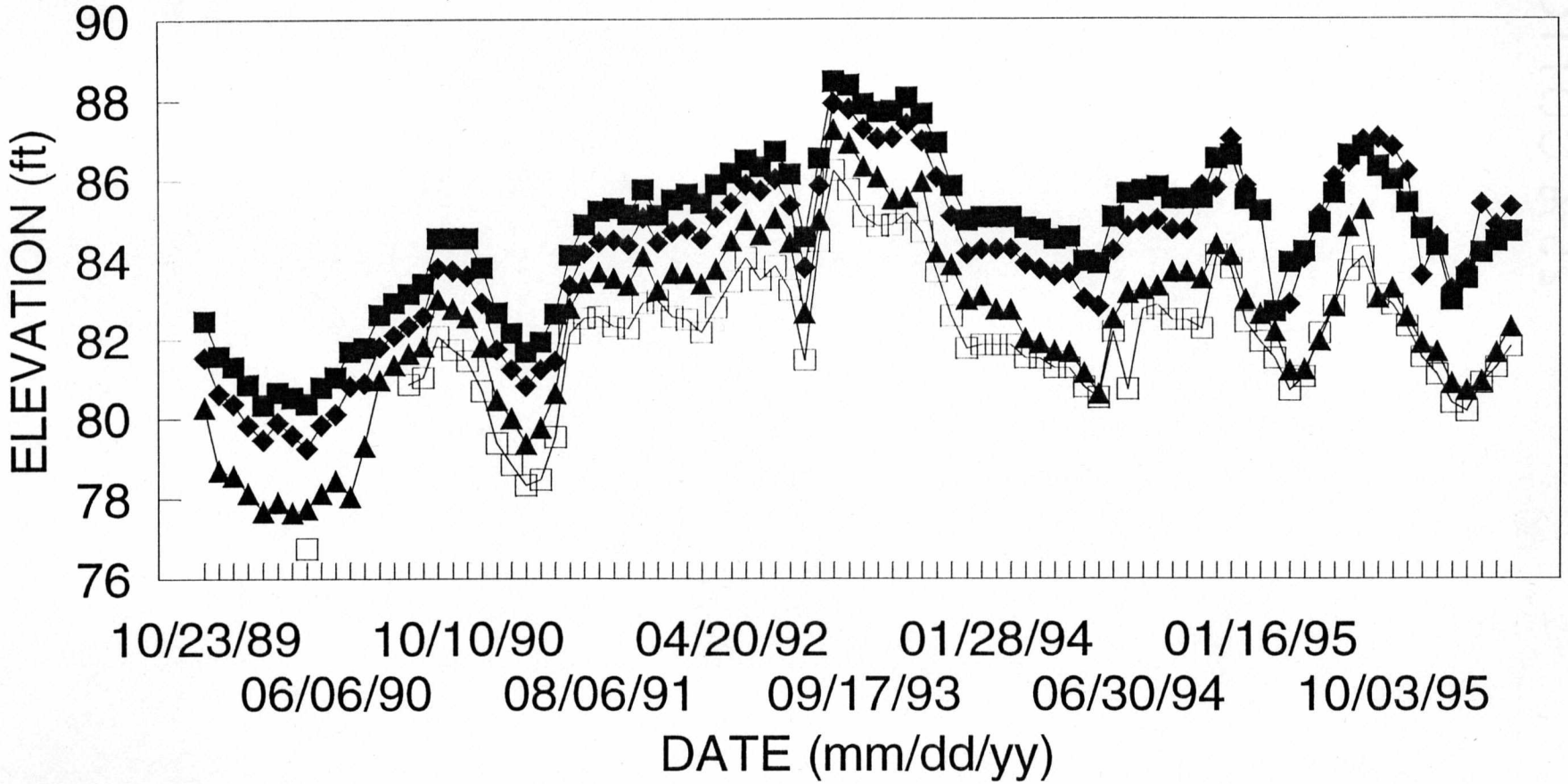
WELL #	ELEVATION	DATE	D.T.P	D.T.W	P.T.	W.T.E.
RW-1	100.61	02/18/94	0.00	28.35	0.00	72.26
	100.61	03/21/94	0.00	27.07	0.00	73.54
	100.61	04/15/94	0.00	28.62	0.00	71.99
	100.61	05/31/94	0.00	28.58	0.00	72.03
	100.61	06/30/94	0.00	26.96	0.00	73.65
	100.61	07/08/94	0.00	26.20	0.00	74.41
	100.61	07/19/94	0.00	25.98	0.00	74.63
	100.61	08/15/94				
	100.61	08/15/94	0.00	13.90	0.00	86.71
	100.61	08/31/94	0.00	17.39	0.00	83.22
	100.61	10/31/94	0.00	26.18	0.00	74.43
	100.61	11/17/94	0.00	26.80	0.00	73.81
	100.61	12/27/94	0.00	25.86	0.00	74.75
	100.61	01/16/95	0.00	16.22	0.00	84.39
	100.61	02/09/95	0.00	27.63	0.00	72.98
	100.61	03/09/95	0.00	26.58	0.00	74.03
	100.61	04/06/95	0.00	26.30	0.00	74.31
	100.61	05/11/95	0.00	27.31	0.00	73.30
	100.61	06/20/95	0.00	26.58	0.00	74.03
	100.61	07/31/95	0.00	14.32	0.00	86.29
	100.61	08/31/95	0.00	15.55	0.00	85.06
	100.61	09/21/95	0.00	26.52	0.00	74.09
	100.61	10/03/95	0.00	26.65	0.00	73.96
	100.61	11/21/95	0.00	26.35	0.00	74.26
	100.61	12/22/95	0.00	26.77	0.00	73.84
	100.61	01/12/96	0.00	20.69	0.00	79.92
	100.61	02/27/96	0.00	25.26	0.00	75.35
	100.61	03/14/96	0.00		0.00	
	100.61	04/15/96	0.00	24.14	0.00	76.47
	100.61	05/09/96	0.00		0.00	
	100.61	06/07/96	0.00		0.00	

Explanation:

All measurments are recorded in feet (ft).
D.T.P = Depth to product
D.T.W = Depth to water
P.T. = Product thickness
W.T.E = Water table elevation

GROUNDWATER ELEVATION DATA

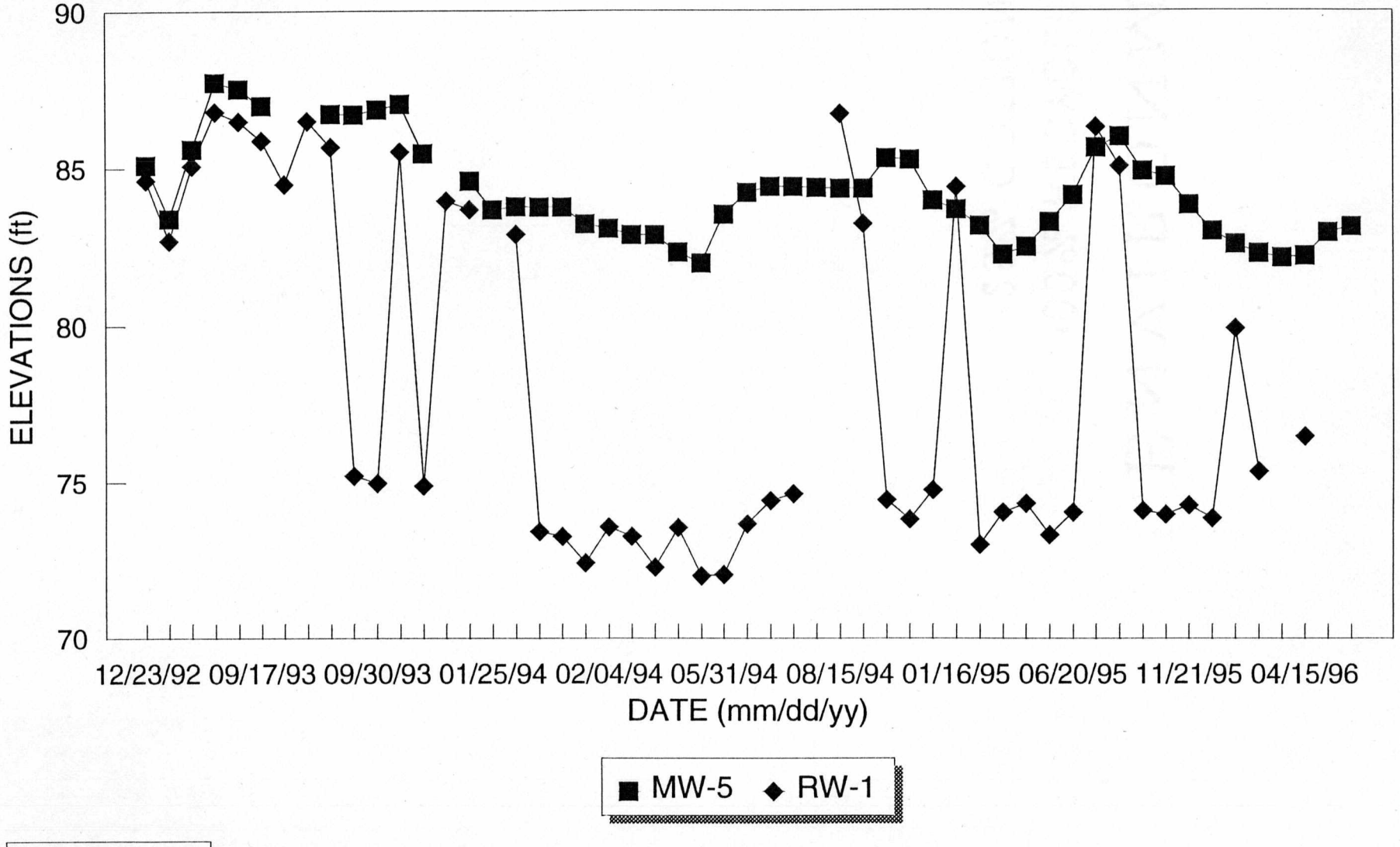
Former Conoco Store # 23034, W. St. Paul, MN (24930601)



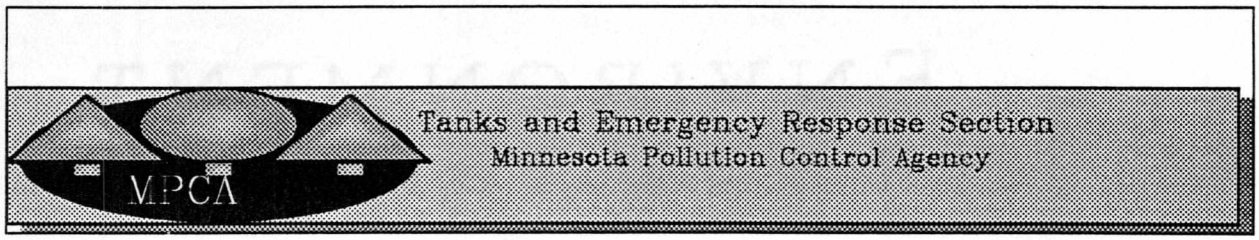
0601WTE.ALL

GROUNDWATER ELEVATIONS, MW-5 & RW-1

Former Conoco Store # 23034, W. St. Paul, MN (24930601)



0601MW5.RW1



Corrective Action Design System Monitoring Worksheet

Fact Sheet #3.31

April 1996

This worksheet documents ongoing system emissions and efficiency, in part to fulfill U.S. Environmental Protection Agency (EPA) requirements. Completion and submittal of this monitoring worksheet should be conducted on an annual schedule. You must also submit an annual monitoring report as described in fact sheet 3.26 *Annual Monitoring Report.* [Note: MPCA staff may vary the frequency of progress reporting on a site specific basis.]

For several remedial technologies, you are asked to provide contaminant mass removal rates in terms of gallons/day. To aid you in calculating these values, we provide a standard equation and have calculated the gallon/kilogram (gal/kg) values for various petroleum products. Please use these values in your calculations:

Product	gal/kg
gasoline	0.37
kerosene, JP4	0.33
fuel oil #1, diesel	0.31
fuel oil #2	0.3
fuel oil #4	0.29

Date Form Completed: **7/31/96**
MPCA Leak #: **00000858**
Site Name: **Conoco South Robert Street**

FREE PRODUCT RECOVERY SYSTEMS

NA

Attach a table of free product thickness in all monitoring and recovery wells (to 0.1 feet).

Free product recovery rate:_____ gallons/day
Total product recovered to date:_____ gallons

GROUND WATER PUMP-OUT SYSTEMS

Influent/Effluent concentrations

Table 3 Attach a table of cumulative ground water influent and effluent discharge concentrations (in parts per billion).

Operating parameters

Pumping rate: **30** gallons per minute
Amount of water table drawdown: **1.0** feet

Contaminant mass removal

Estimated contaminant mass removal rate: **0.039** gallons/day
Estimated contaminant mass removal to date: **16.318** gallons

SOIL VENTING SYSTEMS

Emission concentrations

Table 6 Attach a table containing field screening results for each vapor extraction point.

Table 7 Attach a table of soil vent system emissions concentrations. The table should include all analytical samples taken since system startup. The samples should be collected from a sampling port located before the blower. Samples should be analyzed for benzene, ethyl benzene, toluene and xylene (BETX) using EPA Method 18.

Operating parameters

Extraction airflow rate: **68** standard cubic feet/minute (scfm)

Table 5 Attach a table of cumulative vacuum data from vent points and monitoring points.

Bioactivity measurements

NA Attach a table of cumulative extraction system CO_2 and O_2 concentrations.

Contaminant mass removal:

Estimated contaminant mass removal rate:___ kg/day x ___ gal/kg = **0.514** gal/day
Estimated contaminant mass removal to date: **439.71** gallons

SOIL VENTING/AIR SPARGING SYSTEMS

(Complete the soil venting systems section above for all air sparge/soil venting combination systems)

Table 9 Attach a table of air injection rates for each sparge point in the system.

Total air injection rate: **3** scfm
Total air removal rate: **42.65** scfm

TOTAL SITE CONTAMINANT MASS REMOVAL

Fill out this section if ground water pump-out is used in combination with a soil venting system or a soil venting/air sparging system.

Total estimated contaminant mass removal rate for the site: **0.553** gallons/day
Total estimated contaminant mass removal to date for the site: **456.03** gallons

SYSTEM CHANGES

Use this space to describe in detail any changes in system operation or configuration that were made during this reporting period (attach additional pages if needed). Also explain any periods during which the system was not operating.

See cover letter.

RECOMMENDATIONS

Use this space to detail recommendations for modifying the monitoring schedule, system operation, system configuration or site closure (attach additional pages if needed):

DAHL recommends no changes in the systems current configuration.

OBSERVATIONS

Please detail significant observations made at the site and describe unusual circumstance that may have influenced the sampling results:

NA

TABLES & GRAPHS

Tables and graphs as requested above.

TABLE 3

INFLUENT/EFFLUENT ANALYTICAL DATA

Former Conoco Store # 23034
1126 South Robert St., W. St. Paul, Minnesota (24930601)

	DATE	B	E	T	X	THG/GRO	MTBE	COD (ppm)	TSS (ppm)
Influent	10/15/93	730	530	3700	3900	14000	ND		
	10/22/93	1100	440	4200	4600	16000	ND		
	02/04/94	120	14	270	600	2900	ND		
	03/21/94	56	ND	50	230	910	ND		
	06/30/94	ND	ND	ND	ND	190	ND		
	12/27/94	970	280	700	1200	7000	ND		
	03/09/95	510	170	740	1300	9200	ND		
	06/20/95	390	41	270	990	11000	ND		
	09/21/95	545	420	423	1910	7840	<50		
	12/22/95	266	163	239	985	4800	<20		
	03/14/96	159	152	147	425	2780	<10		
	06/07/96	311	204	410	1000	6840	366		
Effluent	10/15/93	ND	ND	21	30	210	ND		
	10/22/93	8	ND	32	47	310	ND		
	02/04/94	ND	ND	ND	ND	ND	ND	7	21
	02/11/94	ND	ND	ND	5	ND	ND	ND	26
	03/21/94	ND	ND	ND	ND	ND	ND	31	ND
	04/15/94	ND	ND	ND	ND	63	ND	27	ND
	06/01/94	ND	ND	ND	ND	ND	ND	100	12
	06/30/94	ND	ND	ND	ND	ND	ND	68	10
	07/19/94	ND	ND	ND	ND	ND	ND	61	ND
	10/31/94	ND	ND	ND	6	60	ND	ND	6
	11/17/94	ND	ND	ND	7	50	ND	39	4
	12/27/94	ND	ND	ND	ND	35	ND	85	20
	01/16/95	ND	ND	1.7	ND	11	ND	50	10
	02/09/95	ND	ND	ND	8.4	92	ND	490	ND
	03/09/95	2.3	ND	ND	20	160	ND	ND	ND
	04/08/95	ND	ND	ND	2.8	ND	ND	74	ND
	05/11/95	ND	ND	ND	3.6	46	ND	50	ND
	06/20/95	ND	ND	ND	28	ND	ND	ND	ND
	09/21/95	ND	ND	ND	6.7	ND	ND	53	7.2
	10/03/95	ND	ND	1.1	ND	ND	ND	30	17.6
	11/21/95	BDL	BDL	BDL	BDL	BDL	BDL	36	8.4
	12/22/95	1.3	BDL	2.2	BDL	BDL	BDL	30	11.6
	01/12/96	BDL	BDL	1.3	BDL	BDL	BDL	22	6.4
	02/27/96	BDL	BDL	BDL	BDL	BDL	BDL	32	9.2
	03/14/96	BDL	BDL	BDL	BDL	BDL	BDL	26	11.2
	04/15/96	BDL	BDL	BDL	BDL	BDL	BDL	39	9.6
	05/09/96	BDL	BDL	BDL	BDL	BDL	BDL	39	20.8
	06/07/96	BDL	BDL	BDL	BDL	BDL	BDL	27	21.6

Explanation:

All values are expressed in ug/L which is equivilant to parts-per-billion (ppb) unless otherwise specified.
B = benzene
E = ethyl benzene
T = toluene
X = xylenes
THG = total hydrocarbons as gasoline
GRO = gasoline range organics
MTBE = methyl-tert-butyl ether

TABLE 5

VACUUM DATA from SOIL VAPOR VENTS

Former Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

DATE	SVV-1	SVV-2	SVV-3	SVV-4	SVV-5	SVV-6	SVV-7	SVV-8	SVV-9	SVV-10	SVV-11	SVP-1(W)	SVP-1(E)	SVP-2(W)	SVP-2(E)	SVP-3(W)	SVP-3(E)	SVP-4(W)	SVP-4(E)
02/03/94	-23	-23	-24	-22	-19	-30	-21	-20	-24	-23	-23	-3.5	-6	-2.5	-0.7	-4	-4	-3.8	-3.6
02/04/94	-22	-20	-25	-23	-20	-19	-30	-19	-25	-24	-23	-4.6	-3.2	0	-2	-3.5	-3.5	-3.2	-3.2
02/11/94	-47	-47	-39	-46	-47	-18	-50	-51	-30	-24	-45	-1	-2.6	-0.6	0	-0.41	-0.85	-3.1	-2.9
02/18/94	-30	-40	-46	-20	-44	-24	-41	-22	-49	-21	-12	-0.07	12	-0.54	-0.52	*	*	*	*
03/21/94	-48	-48	-48	-48	-26	-10	-45	-48	-35	-20	-14	-1.2	-1.4	-0.62	-0.61	-0.66	-0.28	-2.9	-3.1
04/15/94	-10	-9	-15	-11	-22	-7	-30	-60	-19	-22	-14	-1.1	-1.2	0	-0.42	-0.22	-0.54	-2.5	-2.9
05/31/94	-46	-46	-39	-46	-50	-46	-40	-51	-39	-50	-42	-4.3	-4.8	-0.22	-3.1	-5.4	-3.4	-4	-4.1
06/30/94	-45	-47	-40	-49	-51	-46	-22	-52	-38	-51	-44	-3.8	-2.8	-2.7	0.03	-4.5	0	-2.2	-2.3
07/08/94	-43	-47	-20	-46	-28	-46	-19	-15	-48	-8	-43	-2.1	-2.2	-3	0	0	-4.6	-2.1	-2.1
08/15/94	-42	-48	-17	-44	-12	-44	-17	-31	-48	-14	-44	-3.9	-2.5	-2.4	0	-4.5	0	-2.4	-2.2
08/15/94	-42	-48	-17	-44	-12	-44	-17	-31	-48	-14	-44	-4	-2.8	-2.5	-0.1	-4.5	0	-2.4	-2.5
08/31/94	-20	-20	-20	-20	-20	-30	-20	-20	-20	-20	-20	-2.5	0	18	-1	-2.2	0	-1.8	-1.6
10/31/94	-21	-25	-24	-26	-25	-34	-41	-28	-29	-25	-19	-2.6	-0.05	-1.7	0	0	-2.4	0	-0.9
11/17/94	-22	-24	-22	-22	-38	-29	-44	-25	-20	-15	-15	-2	-0.02	-0.4	-0.02	-0.04	-1.6	-0.49	-0.48
12/27/94	-18	-24	-24	-18	-29	-34	-42	-11	-10	-12	-16	0	3.1	3.4	0	8.2	-2.2	-0.72	-0.74
01/16/95	-35	-39	-36	-20	-30	-13	-52	-4	-10	-16	-11	*	*	2.8	-1.6	-2.6	0	-0.08	-0.03
02/09/95	-30	-26	-36	-22	-32	-50	-50	-4	-7	-18	-8	*	*	*	*	*	*	*	*
03/09/95	SYSTEM SHUT DOWN																		
04/06/95	-26	-14	-26	-25	-27	-16	-16	-15	-20	-20	-19	-3.9	-4.5	-1.7	-1.5	-2.3	-1.8	-5	-4.4
05/11/95	-30	-15	-28	-28	-28	-26	-18	-16	-21	-22	-20	-3.8	-3.2	-1.4	-1.2	-1.8	-1	-4.8	-4
06/20/95	-24	-25	-16	-15	-15	-29	-24	-16	-18	-14	-20	-0.08	0.02	-1.6	1	0.02	-0.12	-0.16	-0.16
07/31/95	-34	-28	-20	-29	-27	-37	-33	-20	-34	-30	-30	-2.4	-0.4	-0.78	0.7	0	1.9	-1.4	0
08/31/95	-40	-44	-30	-36	-30	-41	-39	-38	-32	-27	-36	-1	0	0.16	0.3	0	-0.02	0	-0.49
09/21/95	-18	0	-10	-11	0	-13	-15	-10	-9	-2	-8	-0.8	0	-0.1	0.18	0	0	0	-0.4
10/03/95	-18	-15	-13	-12	-13	-16	-20	-28	-15	-14	-15	*	*	*	*	*	*	*	*
11/21/95	-20	-15	-16	-12	-14	-18	-34	-25	-15	-15	-9	-0.82	0	-1.1	0.1	0	0.02	*	*
12/22/95	-46	-14	-12	-13	-12	-15	-4	-25	-9	-12	-20	-1.5	-0.9	-0.8	-0.5	-1.7	-1.7	-1	-1.2
01/12/96	-46	-13	-15	-8	-9	-30	-8	-24	-10	-13	-26	*	*	*	*	*	*	*	*
02/27/96	-40	-48	-21	-49	-27	-22	-48	-51	-26	-18	-26	-2.1	-1.2	-1.0	-1.2	-0.72	-1.0	-3.0	-3.0
03/14/96	-26	-52	-28	-49	-4.1	-1.5	-50	-49	-1	-9	-8	*	*	*	*	*	*	*	*
04/15/96	-20	-15	-15	-15	-15	-15	-20	-18	-15	-15	-15	-1.4	-1	-.63	-1	-.41	-.86	-2.5	-2.2
05/09/96	-35	-21	-20	-25	-40	-25	-17	-11	-11	-20	-13	*	*	*	*	*	*	*	*
06/07/96	-22	-18	-20	-27	-40	-25	-19	-12	-12	-24	-6	*	*	*	*	*	*	*	*

Readings are measured in Inches of Water Column (IWCG)

** - indicates measurement not taken*

TABLE 6

FID READINGS from SOIL VAPOR VENTS

Former Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

DATE	SVV-1	SVV-2	SVV-3	SVV-4	SVV-5	SVV-6	SVV-7	SVV-8	SVV-9	SVV-10	SVV-11	SVP-1(W)	SVP-1(E)	SVP-2(W)	SVP-2(E)	SVP-3(W)	SVP-3(E)	SVP-4(W)	SVP-4(E)
02/03/94	2800	10000	5000	1000	10000	180	290	150	800	10000	10000	10000	10000	10000	10000	10000	10000	30	50
02/04/94	400	10000	800	400	10000	290	250	110	330	10000	10000	8000	8500	10000	10000	10000	10000	20	35
02/11/94	325	3600	500	225	9500	250	240	65	130	2000	2000	3000	3200	10000	10000	7000	7500	38	42
02/18/94	300	10000	2000	175	10000	500	225	210	150	3000	9500	42	45	80	1250	*	*	*	*
03/21/94	120	1000	4200	900	10000	3500	700	16	190	10000	10000	125	600	10000	150	10000	10000	20	50
04/15/94	150	3200	400	45	4000	70	200	14	18	1200	1250	*	*	*	*	*	*	*	*
05/31/94	40	1100	55	35	475	12	75	125	16	175	200	10	25	7	8	8	7	5	5
06/30/94	50	1200	38	10	400	10	50	80	10	175	175	7	25	18	8	12	15	6	6
07/08/94	40	500	12	12	150	10	30	50	5	135	90	15	20	30	1000	20	0	5	6
08/15/94	40	450	20	10	350	20	33	19	25	58	60	15	40	30	12	15	20	10	10
08/15/94	40	450	20	10	350	20	33	19	25	58	60	10	35	30	10	15	18	6	6
08/31/94	80	1200	200	250	450	10	18	14	12	48	95	22	70	10000	80	40	28	14	20
10/31/94	45	550	45	50	200	15	30	25	22	50	65	14	14	24	260	24	10	9	10
11/17/94	25	230	50	42	100	4	10	3	6	15	25	60	140	5100	9000	1000	18	5	4
12/27/94	16	375	68	60	100	12	15	10	8	36	30	75	200	10000	10000	1750	280	12	15
01/16/95	60	490	90	90	160	10	50	80	10	60	60	*	*	*	*	*	*	*	*
02/09/95	40	600	60	45	280	75	48	40	50	50	65	*	*	*	*	*	*	*	*
03/09/95	SYSTEM SHUT DOWN																		
04/06/95	100	700	125	65	350	30	35	14	20	100	150	30	25	450	1000	32	55	16	21
05/11/95	100	400	100	70	210	18	30	11	20	32	75	25	20	400	850	26	40	12	20
06/20/95	125	600	170	90	310	70	45	40	30	72	87	20	20	450	650	50	65	17	20
07/31/95	100	580	86	40	350	2	6	2	5	26	25	66	98	260	450	1000	18	2	1
08/31/95	150	700	90	38	650	75	27	30	39	36	20	45	120	660	600	10000	200	15	14
10/03/93	200	275	110	40	160	7	16	8	8	20	32	40	100	600	550	10000	180	20	22
09/21/95	55	300	35	21	160	17	7	7	10	14	14	*	*	*	*	*	*	*	*
11/21/95	60	250	40	30	150	14	14	8	10	12	20	40	80	500	500	10000	140	*	*
12/22/95	5	25	15	3	15	3	3	3	3	3	5	5	3	1	15	3	7	1.5	1.5
01/12/96	23	125	50	36	60	30	22	70	28	35	24	*	*	*	*	*	*	*	*
02/27/96	16	100	44	32	78	6	8	3	6	35	25	5	12	60	30	150	300	6	6
03/14/96	35	510	630	38	54	36	25	14	15	350	125	*	*	*	*	*	*	*	*
04/15/96	850	2000	890	59	160	55	30	28	19	2500	525	7	10	75	35	160	340	7	7
05/09/96	120	360	55	21	180	2	5	1	1	16	58	*	*	*	*	*	*	*	*
03/14/96	35	510	630	38	54	36	25	14	15	350	125	*	*	*	*	*	*	*	*

EXPLANATION:

Readings are measured in parts-per-million (ppm)

** - indicates measurement not taken*

TABLE 7

SOIL VENT SYSTEM ANALYTICAL DATA

Conoco Store # 23034
1126 South Robert St., W. St. Paul, Minnesota (24930601)

DATE	B	E	T	X	THG/GRO
02/04/94	21	24	63	73	3900
02/11/94	8.7	17	36	56	2000
02/18/94	7.7	23	46	77	2200
03/21/94	6.9	11	30	36	2400
06/30/94	9.6	26	68	120	1400
08/31/94	0.21	0.28	0.99	1.1	39
12/27/94	1.8	3.4	15	12	430
06/20/95	1.6	1.5	1.7	14	290
09/21/95	1.8	6.1	7.7	25	570
12/22/95	5.2	3.5	4.7	13	220
03/14/96	10	<4.0	7.7	8.3	619
06/07/96	1	3.5	3.8	15.0	180

EXPLANATION:

B=benzene
E=ethyl benzene
T=toluene
X=xylene
THG/GRO=total hydrocarbons as gasoline/gasoline range organics
All values are in parts-per-billion (ppb) unless otherwise specified.

DAHL

TABLE 9

GROUNDWATER VENT PERFORMANCE DATA

Former Conoco Store #23034
1126 South Robert St., W. St. Paul, Minnesota (24930601)

Monitoring Point	Date	Pressure 1 (PSI)	Pressure 2 (PSI)	Flow (Initial)	Flow (Adjusted)	Temperature (C)
GWV-1	08/15/94	11	11.8	2	2	50
	08/15/94	8	8.8	2	2	55
	08/31/94	9	9	2	2	57
	11/17/94	8.9	9.5	2.5	2.5	50
	12/27/94	9.3	9	2.5	2	52
	01/16/95	9.5	7.9	2	2	52
	02/09/95	9.2	0	2.5	2.5	49
	03/27/95	9		2.5		
	04/06/95	9.5	8.2	2.5	3.5	54
	05/11/95	9.6	8.2	3	2.5	58
	06/20/95	10	9.5	3.2	3.2	77
	07/31/95	10.4	9.4	3.4	3.4	74
	08/31/95	10	10	3	3.5	70
	09/21/95	11.4	10	4	3.5	67
	10/03/95	12.2	10.6	3	4	69
	11/21/95	11	10.7	4	3.5	62
	12/22/95	12.3	10.4	3.1	3.1	60
	01/12/96	12	10	3	3.5	64
	02/27/96	12	9.6	3.6	3.5	62
	03/14/96	12.25	9.5	3.25	3.5	
	04/15/96	12.3	11.2	3.5	3.5	58
	05/09/96	12.7	9.4	4	4	75
	06/07/96	12.80	10.6	3.0	3.0	74

Explanation:

GWV = Groundwater vent
PSI = Pounds per square inch
Flow rates are measured in standard cubic feet per minute (SCFM).
Temperature is measured in degrees Celcius (C).

TABLE 10

DISSOLVED OXYGEN DATA

Conoco Store # 23034

1126 South Robert St., W. St. Paul, Minnesota (24930601)

DATE	TIME	MW-1	MW-2	MW-3	MW-4	MW-5	SVV-1	SVV-2	SVV-3	SVV-4	SVV-5	SVV-6	SVV-7	SVV-8	SVV-9	SVV-10	SVV-11
07/08/94		2	1.5	2.1	3	6.5	7.5	7.5	1.8	1.4	2.2	2.6	2	1.9	2	*	1.8
08/15/94	09:30	0.6	0.6	1	2.5	2.5	7	6.5	1	*	1.5	6.2	2	1	1.5	*	1.5
08/15/94	11:50	0.7	0.7	1	2.6	2.7	7.2	6.5	1	*	1.5	6.5	2.1	1	1.5	*	1.4
01/16/95		*	1	*	*	*	1	7.8	*	4	6.2	1.1	1	0.8	*	*	1
03/09/95		0.5	0.4	0.5	0.5	1.3	*	*	*	2.4	*	*	*	*	*	*	*
04/06/95		*	*	*	*	*	*	10	2.8	*	1.6	*	*	*	*	*	*
05/11/95		*	*	*	*	*	3.6	9.6	2.1	2.6	9.2	3.8	0.6	1.6	4.2	2.1	2.4
06/20/95		1.5	1.2	1.4	1.8	1.5	1.6	8.2	0.7	2.8	1.4	0.8	1	1	1.2	1	0.9
08/02/95		0.9	0.8	1	1.2	1.4	1	6	0.6	2.2	1.4	1	1.2	0.8	1	1	0.8
08/29/95		1.4	1.5	1.6	1.6	4.2	2.6	6.4	3.1	2.2	3.2	1.3	1.6	1.3	6.2	1.6	1.3
09/21/95		1.2	1.2	1.4	1.5	2.8	2.8	6.8	4	3	3.8	2	2	1.5	6	2	1.2
10/03/95		0.6	1.4	1.1	1.4	1.5	0.7	3.6	0.9	1	*	*	*	*	*	*	*
11/21/95		1.0	1.0	1.3	1.1	3.0	1.0	3.8	*	1.0	1.8	*	*	*	*	*	*
12/22/95		*	*	*	*	*	0.6	4.2	0.5	2.2	*	*	*	*	*	*	*
01/12/96		*	*	*	*	*	*	7.0	*	6.2	9.8	*	*	*	*	*	*
02/27/96		*	*	*	*	*	5.5	DRY	7.2	10.4	*	*	*	*	*	*	*
03/14/96		2.0	1.2	1.7	1.0	9.3	*	*	*	*	*	*	*	*	*	*	*
04/15/96		1	*	*	*	*	5.8	*	*	7	10.2	*	*	*	*	*	*
05/09/96		3.8	1.1	0.9	1.3	8.1	*	*	*	*	*	*	*	*	*	*	*
06/07/96		3.4	2.7	0.7	0.9	7.1	*	*	*	*	*	*	*	*	*	*	*

Explaination:

Measurements in mg/l

** = Data not collected*

DAHL

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

MIDWEST ANALYTICAL SERVICES

MINNESOTA CERTIFIED LABORATORY
NUMBER 027-059-156

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

June 24, 1996

Mike Watson
Dahl & Associates
4390 McMenemy Street
St. Paul, MN 55127

Project ID:	24930601	
Chain of Custody:	17247	
Date Sampled:	06-07-96	
Date Received:	06-10-96	
Matrix:	Water	
Sample Identification:		
Lab ID:	96-05234	MW-2
	96-05235	MW-3
	96-05236	Influent
	96-05237	Effluent

Samples were analyzed for GRO by the Wisconsin Modified GRO procedure and for TPH as Gasoline by the California USGS Method. The results are reported on the following page.

Sincerely,

Chad Holznagel 6/24

Chad Holznagel
Chemist

Deb Marlton 6/24

Deb Marlton
Biologist

Date Analyzed: 06-18-96

Parameter:	MTBE	Benzene	Toluene	Ethyl Benzene	Xylenes	Total Hydrocarbons as GRO
Units:	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)
MDL:	10.0	1.0	1.0	1.0	3.0	0.1
96-05234 MW-2	49.9	102	164	97.8	612	2.48
96-05235 MW-3	1190	1370	<25.0	2590	3790	24.2

Date Analyzed: 06-18-96

Parameter:	MTBE	Benzene	Toluene	Ethyl Benzene	Xylenes	Total Petroleum Hydrocarbons as Gasoline
Units:	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)
MDL:	10.0	1.0	1.0	1.0	3.0	0.1
96-05236 Influent	366	311	410	204	1000	6.84
96-05237 Effluent	BDL	BDL	BDL	BDL	BDL	BDL

Parameter:	96-05237 Effluent	Date Analyzed
TSS (mg/L)	21.6	06-20-96
COD (mg/L)	27	06-18-96

BDL = Below Detection Limit. MDL = Method Detection Limit

MIDWEST ANALYTICAL SERVICES

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

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

№ 17247

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

CLIENT: Dahl & Assoc
SAMPLER NAME: R. Joyce
PROJECT I.D.: 24930601
SAMPLER SIGNATURE: Richard Joyce
REPORTS TO BE SENT TO: Mike Watson
REMARKS:

SHADED AREAS FOR LABORATORY USE ONLY

NO. OF CONTAINERS	COMP.	GRAB	DATE	TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX: OTHER	SAMPLE	SAMPLE NO.	LABORATORY I.D. NO.	GRO (Includes BTEX)	DRO	BTEX	VOC (465-D)	pH	Pb (Diss. or Total)	RCRA 8 METALS	BOD or CBOD	TSS	Fcol or Tcol	MTBE	THG	COD			PRESERVATIVE: HCl	PRESERVATIVE: HNO3	PRESERVATIVE: H2SO4	PRESERVATIVE: ICE	PRESERVATIVE: OTHER
3			6/7/96	1215	X			MW-2		96-05234	X										X									
↓				1245	↓			MW-3		5235	↓															↓				
↓				1310				influent		5236			X								X									
5				1320	↓			effluent		5237			X						X		X	X				3		1		1

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Richard Joyce	1500 6/7/96	[illegible]			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	nts Temperature:	Comments:

CHECK HERE FOR DRINKING WATER DETECTION LIMITS ☐

TURNAROUND TIME REQUIRED:
☐ NORMAL ☐ RUSH

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

MIDWEST ANALYTICAL SERVICES

MINNESOTA CERTIFIED LABORATORY
NUMBER 027-059-156

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

May 23, 1996

Mike Watson
Dahl & Associates
4390 McMenemy Road
St. Paul, MN 55127

Project ID:	24930601
Chain of Custody:	16711
Date Sampled:	05-09-96
Date Received:	05-10-96
Matrix:	Water
Sample Identification:	
Lab ID: 96-03972	Effluent

Samples were analyzed for TPH as Gasoline by the California USGS Method and for lead by atomic absorption spectrophotometry. The results are reported on the following page.

Sincerely,

Chad Holznagel 5/23

Chad Holznagel
Chemist

Deb Marlton 5/23

Deb Marlton
Biologist

Date Analyzed: 05-21-96

Parameter:	MTBE	Benzene	Toluene	Ethyl Benzene	Xylenes	Total Petroleum Hydrocarbons as Gasoline
Units:	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)
MDL:	10.0	1.0	1.0	1.0	3.0	0.1
96-03972 Effluent	BDL	BDL	BDL	BDL	BDL	BDL

BDL = Below Detection Limit, MDL = Method Detection Limit

Parameter:	96-03972 Effluent	Date Analyzed
TSS (mg/L)	20.8	05-14-96
COD (mg/L)	39	05-17-96

NOTE: Samples will be retained 30 days from the date of report or until the holding time for analyzed parameters expires, whichever comes first. Samples will be returned if requested within that time.

MIDWEST ANALYTICAL SERVICES

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

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

№ 16711

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

CLIENT: Dahl & Assoc.
SAMPLER NAME: R Joyce
PROJECT I.D.: 24930601
SAMPLER SIGNATURE: Richard Joyce
REPORTS TO BE SENT TO: Mike Watson
REMARKS:

SHADED AREAS FOR LABORATORY USE ONLY

NO. OF CONTAINERS	COMP.	GRAB	DATE	TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX: OTHER	SAMPLE	SAMPLE NO.	LABORATORY I.D. NO.	GRO (Includes BTEX)	DRO	BTEX	VOC (465-D)	pH	Pb (Diss. or Total)	RCRA 8 Metals	BOD or CBOD	TSS	Fcol or Tcol	THC	CCl4	MTBE				PRESERVATIVE: HCl	PRESERVATIVE: HNO3	PRESERVATIVE: H2SO4	PRESERVATIVE: ICE	PRESERVATIVE: OTHER
5			5/1/96	1220	X			effluent		96-03972			X						X		X	X	X				3		1		1

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Richard Joyce	5/1/96 8:15	Alan Clayton			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	ints Temperature:	Comments:
	5/ Date / Time				

CHECK HERE FOR DRINKING WATER DETECTION LIMITS ☐

TURNAROUND TIME REQUIRED
☑ NORMAL ☐ RUSH

DATE REQUIRED:

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

MIDWEST ANALYTICAL SERVICES

MINNESOTA CERTIFIED LABORATORY
NUMBER 027-059-156

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

April 29, 1996

Mike Watson
Dahl & Associates
4390 McMenemy Road
St. Paul, MN 55127

Project ID:	24930601
Chain of Custody:	16699
Date Sampled:	04-15-96
Date Received:	04-16-96
Matrix:	Water
Sample Identification:	
Lab ID: 96-02913	Effluent

Samples were analyzed for TPH as Gasoline by the USGS/California. The results are reported on the following page.

Sincerely,

Chad Holznagel 4/29

Chad Holznagel
Chemist

Deb Marlton 4/29

Deb Marlton
Biologist

Date Analyzed: 04-24-96

Parameter:	MTBE	Benzene	Toluene	Ethyl Benzene	Xylenes	Total Petroleum Hydrocarbons as Gasoline
Units:	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)
MDL:	10.0	1.0	1.0	1.0	3.0	0.1
96-02913 Effluent	BDL	BDL	BDL	BDL	BDL	BDL

BDL = Below Detection Limit, MDL = Method Detection Limit

Lab ID:	96-02913 Effluent	Date Analyzed
COD (mg/L)	39	04-23-96
TSS (mg/L)	9.6	04-18-96

NOTE: Samples will be retained 30 days from the date of report or until the holding time for analyzed parameters expires, whichever comes first. Samples will be returned if requested within that time.

MIDWEST ANALYTICAL SERVICES

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

CHAIN OF CUSTODY RECORD AND REQUEST FOR ANALYSIS

(Instructions on Back of Form)

No 16699

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

CLIENT: Dahl - Associates

SAMPLER NAME: Jeff Howard

PROJECT ID: 24930601

SAMPLER SIGNATURE:

REPORTS TO BE SENT TO: Mike Watson

REMARKS:

SHADED AREAS FOR LABORATORY USE ONLY

NO. OF CONTAINERS	COMP.	GRAB	DATE	TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX: OTHER	SAMPLE IDENTIFICATION: SAMPLE	SAMPLE NO.	LABORATORY I.D. NO.	GRO (Includes BTEX)	DRO	BTEX	VOC (465-D)	pH	Pb (Diss. or Total)	RCRA 8 METALS	BOD or CBOD	TSS	FCOL or TCOL	MTBE	THG	COD				PRESERVATIVE: HCl	PRESERVATIVE: HNO_3	PRESERVATIVE: H_2SO_4	PRESERVATIVE: ICE	PRESERVATIVE: OTHER
5			4/15/96	10:30	✓			EFFLUENT		9607913			✓						✓		/	/	✓				3		1		

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	4/16/96 10:25 AM				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Temperature:	Comments:
	4/16/96 12:00		04/16/96 1515		

CHECK HERE FOR DRINKING WATER DETECTION LIMITS ☐

TURNAROUND TIME REQUIRED:
☐ NORMAL ☐ RUSH

DATE REQUIRED:

LEGEND
TECHNICAL SERVICES, INC.

June 14, 1996

Mr. Mike Watson
Dahl and Associates
4390 McMenemy Road
St. Paul, MN 55127

SUBJECT: 24930601
LEGEND No. 96-1490

1.0 INTRODUCTION

LEGEND TECHNICAL SERVICES, INC. (LEGEND) received one charcoal tube sample from a representative of Dahl and Associates on June 11 , 1996. The parameters and analytical results are listed on the attached table.

2.0 SAMPLE IDENTIFICATION

LABORATORY NO.	CLIENT IDENTIFICATION
SN96-57435	SVS Stack

3.0 METHODOLOGY

Charcoal Tube

The charcoal tube contents were desorbed using carbon disulfide. The solution was analyzed using an HP 5890 gas chromatograph equipped with a flame ionization detector. Compounds were identified by retention times and quantified by comparison to known compounds using an HP Chemserver laboratory data system.

4.0 CASE NARRATIVE

The sample was taken on June 7, 1996, and was received in acceptable condition.

5.0 REMARKS

The sample was consumed in the analysis.

Submitted by,

LEGEND TECHNICAL SERVICES, INC.

Lisa M. Reuder

Lisa Reuder
Project Manager

Chris Bremer
Laboratory Manager

LR/CB/tls

LEGEND TECHNICAL SERVICES, INC.

TABLE #1

LEGEND No. 96-1490

DAHL AND ASSOCIATES, INC.

PETROLEUM VOLATILE ORGANIC COMPOUNDS

Compound	SVS Stack Front (μg/tube)	SVS Stack Back (μg/tube)	Method Blank (μg/tube)	PQL (μg/tube)
Total hydrocarbons as gasoline	1,800	<50	<50	50
Benzene	6.2	<4.0	<4.0	4.0
Toluene	38	<4.0	<4.0	4.0
Ethyl benzene	35	<4.0	<4.0	4.0
Total xylenes	150	<8.0	<8.0	8.0
DATE ANALYZED:	06/13/96	06/13/96	06/13/96	

< = Less than number shown

PQL = Practical quantitation limit

775 Vandalia Street St. Paul MN 55114 - Telephone: 612/642-1150 Fax: 612/642-1239

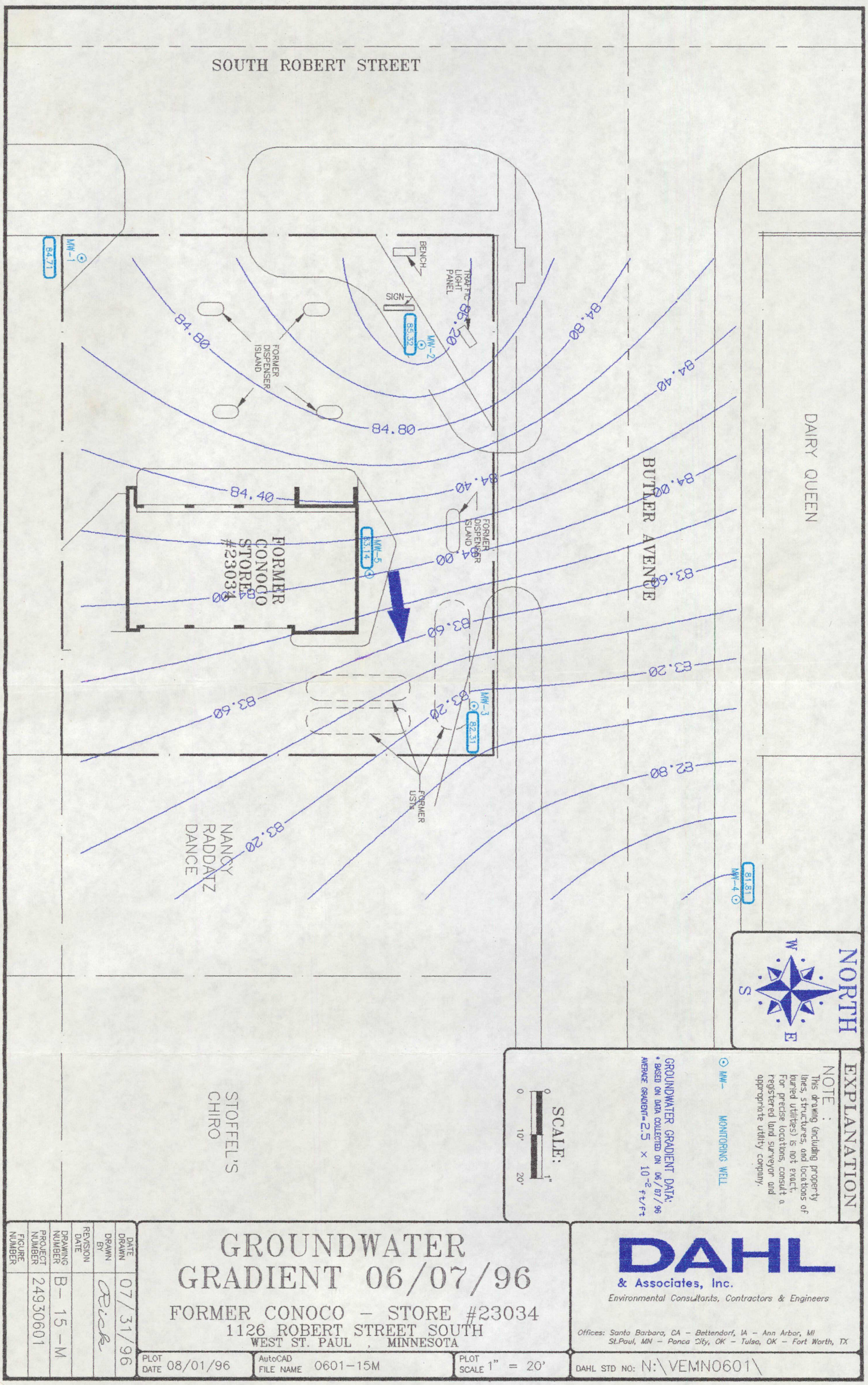
CHAIN-OF-CUSTODY RECORD

Client Name: Dahl & Assoc.	Laboratory Project No.: 96-1490	Analysis/# of Containers:
Report To: 4390 McMenemy St St Paul MN 55127	Turnaround Time:	PID FIELD READINGS: BETX, THC
Attn: Mike Watson	☒ Normal Date Needed:	
Sampled By: R Joyce	☐ Rush Date Needed:	
Project No.: 24930601	Condition Received:	

Item No.	Field ID No.	Sample Description	Collection Date	Collection Time	Sample Matrix	Lab ID No.	PID FIELD READINGS	BETX, THC
1		SVE - Stack	6/7/96	1149	Air	37435		X
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								

Transfer No.	Item No.	Relinquished By	Accepted By	Date	Time	Comments
1	1	Richard Joyce	Leilani Welles	6/11/96	3:4:28	
2						
3						
4						

FORM FLD 007 (3/95)



GROUNDWATER GRADIENT 06/07/96

FORMER CONOCO – STORE #23034

1126 ROBERT STREET SOUTH
WEST ST. PAUL , MINNESOTA

PLOT DATE	08/01/96
AutoCAD FILE NAME	0601-15M
PLOT SCALE	1" = 20'
DAHL STD NO:	N:\VEMN0601\

DATE DRAWN	07/31/96
DRAWN BY	Rick
REVISION DATE	
DRAWING NUMBER	B-15-M
PROJECT NUMBER	24930601
FIGURE NUMBER	

DAHL
& Associates, Inc.
Environmental Consultants, Contractors & Engineers
Offices: Santa Barbara, CA – Bettendorf, IA – Ann Arbor, MI
St.Paul, MN – Ponca City, OK – Tulsa, OK – Fort Worth, TX