METRIC
Corporation

SPARTON TECHNOLOGY, INC.
COORS ROAD FACILITY
GROUNDWATER MONITORING PROGRAM
SEMI ANNUAL PROGRESS REPORT

PREPARED FOR
SPARTON TECHNOLOGY, INC.
RIO RANCHO, NEW MEXICO

PREPARED BY
METRIC CORPORATION
ALBUQUERQUE, NEW MEXICO

FEBRUARY 1999

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Introduction

The first groundwater sampling event conducted under the "Revised Draft Groundwater Monitoring Program Plan, Sparton Technology, Inc., Coors Road Facility, Albuquerque, New Mexico, October 23, 1998", was conducted from November 10, 1998 to December 12, 1998. This first sampling event was conducted in general accordance with the above referenced document, and the sampling event was designated the annual event as described in TABLE 3-1 of the above referenced document.

This report contains the results of only one sampling event whereas future reports will contain the results of two sampling events.

Groundwater Monitoring Activities

On November 10, 1998 water levels were measured in all wells listed in TABLE 3-1 of the draft Groundwater Monitoring Program Plan as requiring quarterly water level measurements. Additionally, water levels were measured in the eight recovery wells at the site. A summary of the water level measurements is presented in APPENDIX A.

On November 25, 1998, the presence or absence of DNAPLS was measured, on a one-time basis, in wells MW-16, MW-18, MW-23 through MW-28, MW-32, and well PW-1. The results are presented in APPENDIX B.

Redox-potential and dissolved oxygen were measured in each well after purging but before it was sampled, and the results are presented in APPENDIX C.

All wells listed in TABLE 3-1 of the Draft Groundwater Monitoring Program Plan as requiring annual groundwater sampling were sampled between November 12, 1998 and December 8, 1998. Additionally, seven of the eight recovery wells were sampled (recovery well MW-28 was dry). Samples from each sampled well were analyzed for

volatile organic compounds (EPA method 8260B), unfiltered total chromium, and unfiltered hexavalent chromium.

Wells which are not equipped with operable dedicated bladder pumps were sampled with disposable bailers. Because the samples from the bailer sampled wells are generally turbid, samples from these wells were also analyzed for filtered total chromium and filtered hexavalent chromium. A summary of the analytical results is presented in APPENDIX D.

Maps

A series of maps based on the fourth quarter 1998 sampling event (annual event) is included as follows:

Figure 1 - Elevation of the Water Table (Upper Flow Zone)
Figure 2 - Elevation of the Water Levels in the Lower Flow Zone
Figure 3 - Horizontal extent of TCE Plume
Figure 4 - Horizontal Extent of 1,1-DCE Plume
Figure 5 - Horizontal Extent of 1,1,1-TCA Plume

Contacts

Groundwater sampling personnel did not have contact with government agencies or other groups during the fourth quarter 1998 sampling event, nor did anyone split samples with Sparton.

Problems/actions

A summary of potential problems encountered and remedies is presented in APPENDIX E.

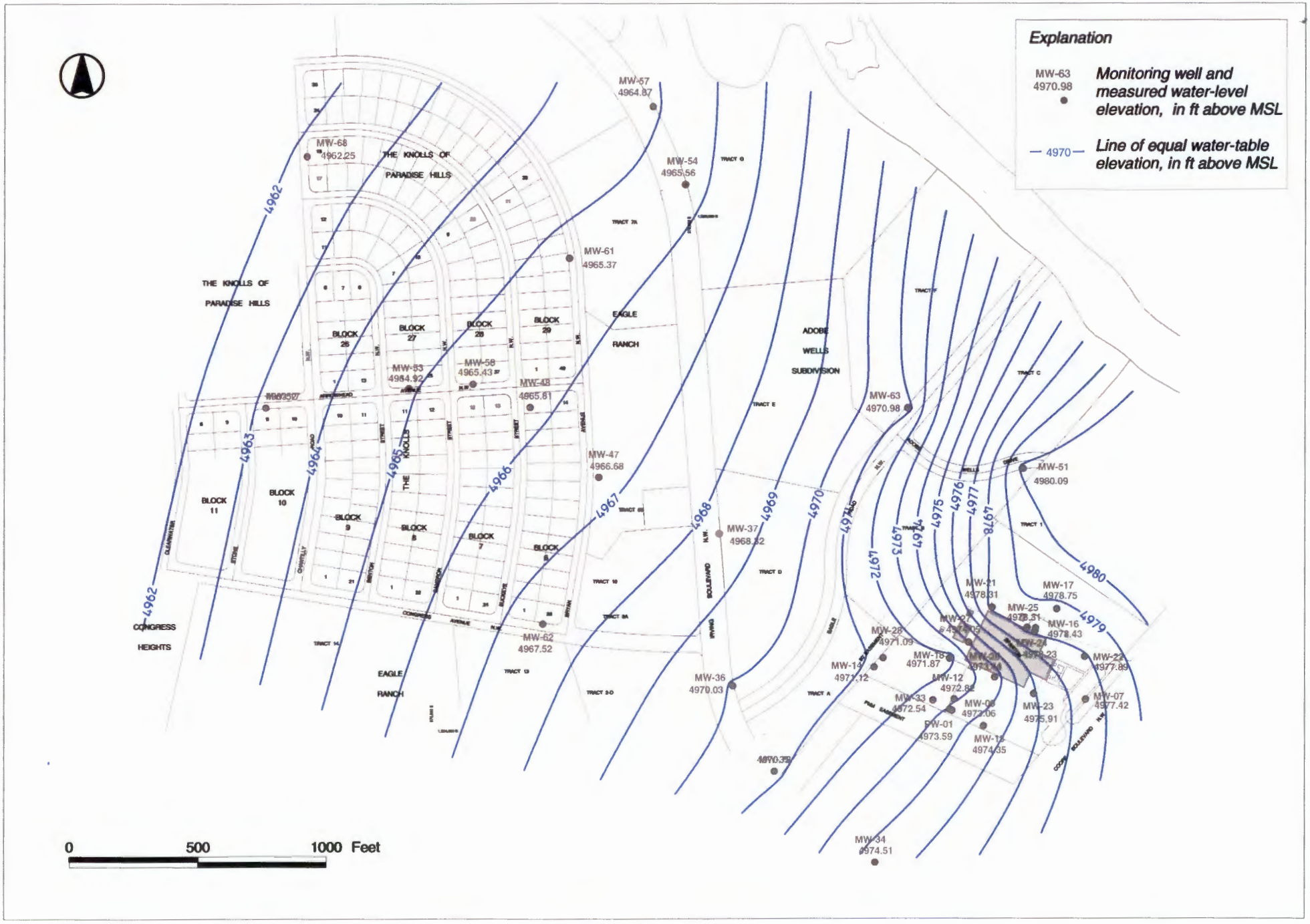

Figure 1 Elevation of the Water Table (Upper Flow Zone)

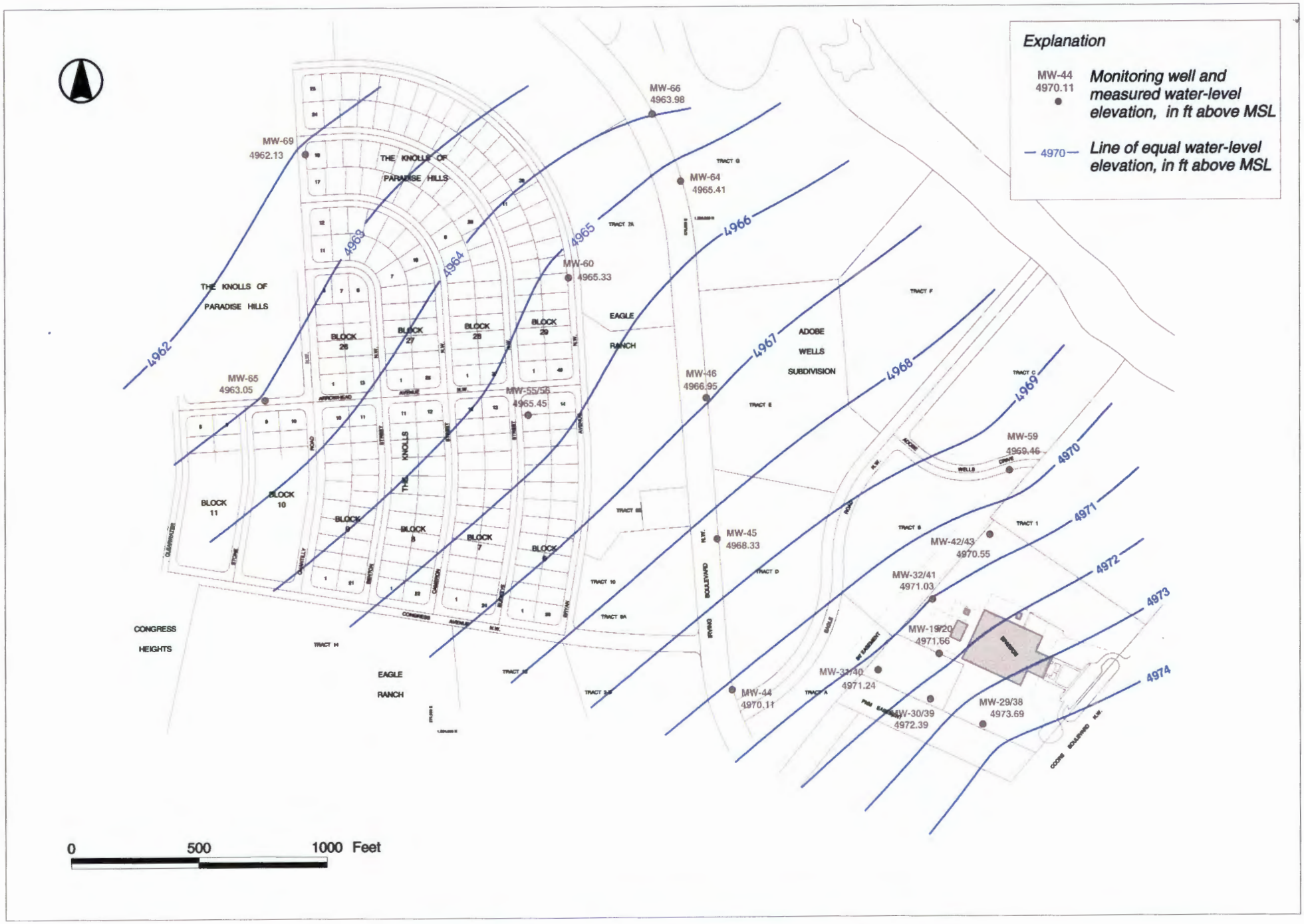

Figure 2 Elevation of the Water Levels in the Lower Flow Zone

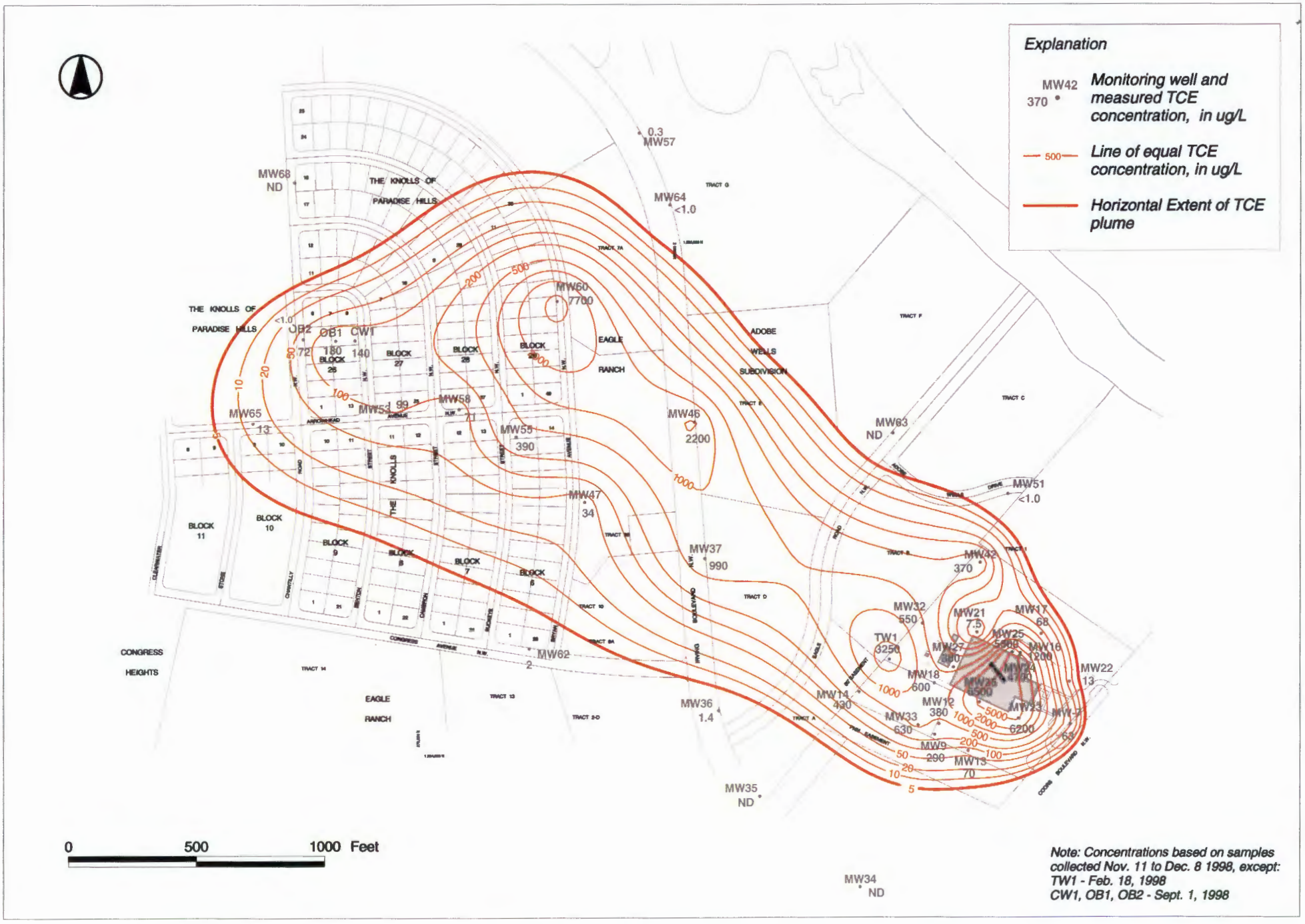

Figure 3 Horizontal Extent of TCE Plume

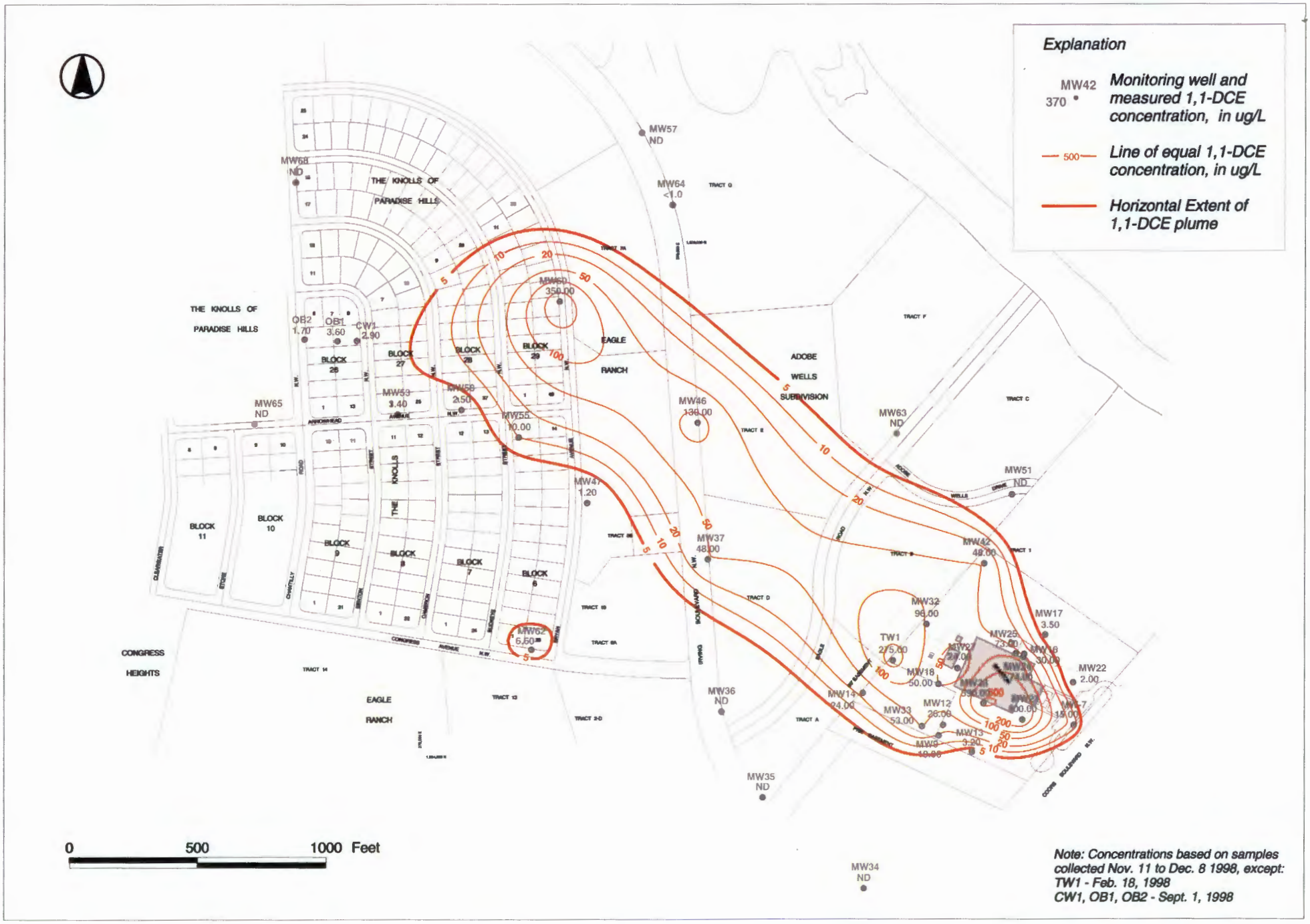

Figure 4 Horizontal Extent of 1,1-DCE Plume

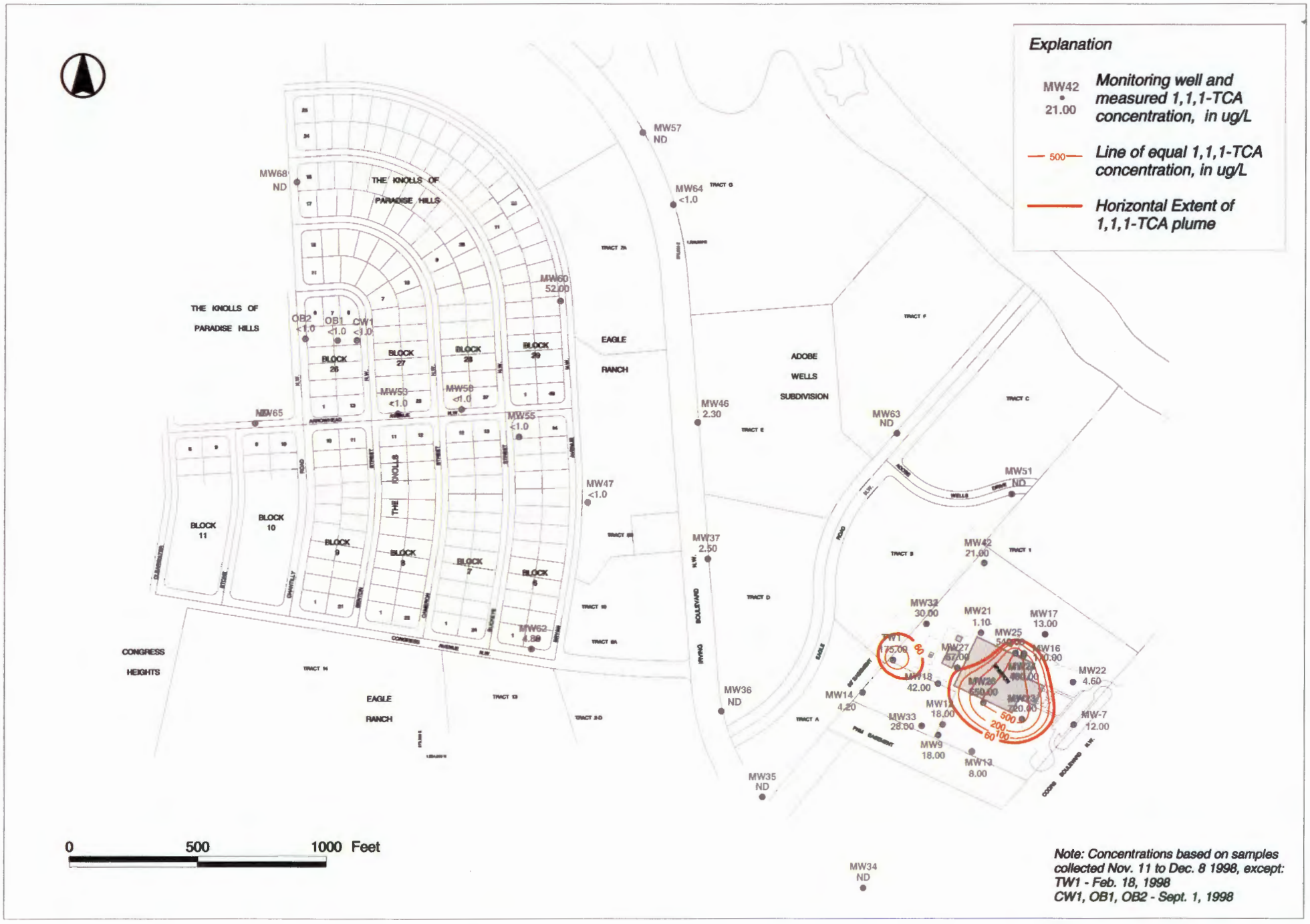

Figure 5 Horizontal Extent of 1,1,1-TCA Plume

APPENDIX A

FOURTH QUARTER 1998

WATER LEVEL MEASUREMENTS

SPARTON TECHNOLOGY, INC.
FOURTH QUARTER 1998 WATER LEVEL ELEVATIONS

WELL	MPE	SR	WLE
PW-1	5044.54	70.95	4973.59
PZ-1	5142.17	185.58	4956.59
MW-7	5044.80	67.38	4977.42
MW-9	5044.11	71.05	4973.06
MW-12	5042.58	69.76	4972.82
MW-13	5043.25	68.90	4974.35
MW-14	5043.04	71.92	4971.12
MW-15	5047.49	DRY	-
MW-16	5047.50	69.07	4978.43
MW-17	5049.28	70.53	4978.75
MW-18	5045.58	73.71	4971.87
MW-19	5046.25	74.40	4971.85
MW-20	5045.79	74.32	4971.47
MW-21	5048.36	70.05	4978.31
MW-22	5048.06	70.17	4977.89
MW-23	5048.51	72.60	4975.91
MW-24	5048.70	70.47	4978.23
MW-25	5049.00	70.69	4978.31
MW-26	5045.71	72.27	4973.44
MW-27	5045.50	71.45	4974.05
MW-28	5042.69	71.60	4971.09
MW-29	5044.51	70.83	4973.68
MW-30	5044.70	72.42	4972.28
MW-31	5043.53	72.30	4971.23
MW-32	5048.05	77.09	4970.96
MW-33	5044.29	71.75	4972.54
MW-34	5034.49	59.98	4974.51
MW-35	5042.50	71.72	4970.78
MW-36	5059.46	89.43	4970.03
MW-37	5090.85	122.53	4968.32
MW-38	5044.32	70.62	4973.70
MW-39	5044.06	71.57	4972.49

WELL	MPE	SR	WLE
MW-40	5043.35	72.10	4971.25
MW-41	5046.77	75.68	4971.09
MW-42	5057.33	86.68	4970.65
MW-43	5057.74	87.29	4970.45
MW-44	5058.75	88.64	4970.11
MW-45	5089.65	121.32	4968.33
MW-46	5118.98	152.03	4966.95
MW-47	5155.83	189.15	4966.68
MW-48	5168.31	202.50	4965.81
MW-49	5043.67	72.64	4971.03
MW-50	5211.21	DRY	-
MW-51	5058.94	78.85	4980.09
MW-52	5156.79	193.62	4963.17
MW-53	5164.24	199.32	4964.92
MW-54	5097.64	132.08	4965.56
MW-55	5168.61	203.48	4965.13
MW-56	5168.61	202.85	4965.76
MW-57	5103.54	138.67	4964.87
MW-58	5168.89	203.46	4965.43
MW-59	5059.18	89.72	4969.46
MW-60	5134.87	169.54	4965.33
MW-61	5135.23	169.86	4965.37
MW-62	5075.00	107.48	4967.52
MW-63	5065.74	94.76	4970.98
MW-64	5097.84	132.43	4965.41
MW-65	5156.45	193.40	4963.05
MW-66	5103.03	139.05	4963.98
MW-67	5169.21	210.65	4958.56
MW-68	5165.53	203.28	4962.25
MW-69	5165.46	203.33	4962.13
MW-70	5046.65	76.47	4970.18
MW-71	5134.59	176.08	4958.51

MPE - Measuring Point Elevation
SR - Sounder Reading
WLE - Water Level Elevation

Note: PW-1, MW-18 and MW-23 through MW-28 were sounded on November 25, 1998.
All other wells were sounded on November 10, 1998.

2/22/99

APPENDIX B
DNAPL RESULTS

DNAPL RESULTS

Well	Depth to Water (ft)	Depth to DNAPL (ft)	TD
MW-16	69.08	-	72.94
MW-18	73.69	-	79.88
MW-23	72.55	-	79.68
MW-24	70.46	-	76.25
MW-25	70.67	-	76.03
MW-26	72.26	-	81.60
MW-27	71.42	-	75.16
MW-32	77.19	-	122.79
MW-28	71.72	-	71.85
PW-1	70.92	-	74.70

Notes: Using Heron H-016 interface probe (INT-20-003).

LNAPL was also not present in any of the wells.

APPENDIX C

REDOX-POTENTIAL AND DISSOLVED OXYGEN RESULTS

SPARTON TECHNOLOGY, INC.

From: J. Rose
To: Pete Metzner/G. Richardson,Metric Corp.
File: MW4Q98b.XLS
Re: 4 Q 98-Dissolved Oxygen(DO)/Redo Page: 1 of 2

Well ID	Date Measured	DO(mg/l)	DO(%)	ORP mV	Temp(C)
MW-7	12/1/98	4.63	57.3	309	17.3
MW-9	12/3/98	3.63	46.5	297	18
MW-12	12/7/98	3.73	44.7	326	14.5
MW-13	12/1/98	4.58	54.6	332	15.1
MW-14	12/1/98	3.85	47.4	329	16.9
MW-15	DRY	NA	NA	NA	NA
MW-16	12/7/98	4.46	44.7	310	8.4
MW-17	12/1/98	6.19	77.1	353	17.6
MW-18	12/2/98	5.93	71	319	15.3
MW-19	11/23/98	6.80-7.09	84.0-86.2	454	17.1
MW-20	11/23/98	0.60-0.88	7.2-7.8	350	15.9
MW-21	12/2/98	6.71	78.4	356	13.9
MW-22	11/19/98	4.98-5.05	56.4-57.2	340	14.5
MW-23	12/3/98	4.01	49.9	265	16.9
MW-24	12/8/98	6.28	71.5	375	13.2
MW-25	12/8/98	7.77	97.7	355	15.6
MW-26	12/3/98	4.46	54.5	368	17.9
MW-27	12/2/98	6.86	79.5	310	15.7
MW-28	DRY	NA	NA	NA	NA
MW-29	11/19/98	0.84-0.86	10.1-10.5	325	17.7
MW-30	11/23/98	7.81-7.99	94.8-97.5	274	16.7
MW-31	11/23/98	0.41-0.46	4.2-4.8	489	17.6
MW-32	11/30/98	1.51-1.81	18.1-21.5	412	16.7
MW-33	12/2/98	5.78	64.5	298	13.7
MW-34	11/18/98	6.89-7.15	90.2-93.7	354	19.9
MW-35	DRY	NA	NA	NA	NA
MW-36	12/7/98	5.35	59.2	319	11.5
MW-37	12/2/98	4.57	52.6	297	13.1
MW-38	11/19/98	6.72-7.04	85.8-88.0	350	18.8
MW-39	11/23/98	8.50-8.60	90.9-100.1	225	14.9

MW-37	12/2/98	4.57	52.6	297	13.1
MW-38	11/19/98	6.72-7.04	85.8-88.0	350	18.8
MW-39	11/23/98	8.50-8.60	90.9-100.1	225	14.9
MW-40	11/30/98	8.36-8.53	102.0-100.6	430	15.5
MW-41	11/19/98	8.00-8.45	97.6-100.7	330	16
MW-42	11/19/98	3.13-3.25	40.0-41.1	380	16.5
MW-43	11/19/98	3.23-3.28	40.0-41.0	356	17.7
MW-44	11/18/98	6.89-7.15	90.2-93.7	354	19.9
MW-45	11/18/98	7.43-7.51	94.0-96.4	340	22.3
MW-46	11/18/98	4.20-5.05	55.4-64.0	457	18.5
MW-47	11/17/98	4.28-4.48	53.9-55.9	336	16.8
MW-48	11/17/98	3.87-4.07	97.9-95.4	439	16
MW-49	11/23/98	0.29-0.32	3.7-3.8	459	21
MW-50	DRY	NA	NA	NA	NA
MW-51	11/18/98	6.89-7.15	90.2-93.7	354	19.9
MW-52	11/16/98	4.20-4.54	47.9-49.0	412	20.7
MW-53	11/16/98	3.11-3.22	43.9-45.4	432	23.2
MW-55	11/16/98	2.43-2.64	31.1-32.2	200	15.2
MW-56	11/16/98	8.34-8.37	100.1-103.2	200	16.5
MW-57	12/8/98	9.02	100.4	375	13.7
MW-58	11/16/98	7.44	98.7-99.9	490	20
MW-59	11/18/98	7.25-7.99	91.8-98.5	375	18
MW-60	11/17/98	7.45-7.86	94.9-99.9	384	17.6
MW-61	12/7/98	6.3	72.5	296	13.5
MW-62	12/7/98	5.42	60.6	377	11.8
MW-63	12/2/98	6.48	74.7	284	13.3
MW-64	11/17/98	5.89-5.91	13.-13.41	427	16.5
MW-65	11/16/98	7.20-7.43	91.2-92.6	510	18.7
MW-66	11/17/98	6.70-6.92	83.9-86.4	450	17.5
MW-67	11/17/98	1.01-1.04	14.0-11.6	398-402	18.3
MW-68	11/12/98	5.56-5.61	63.9-65.5	378	14.2
MW-69	11/12/98	3.29-3.33	42.6-43.0	380	13.1
MW-70	11/23/98	0.15-0.20	1.8-2.0	353	18.2
MW-71	11/17/98	0.48-0.43	5.5-5.8	440-447	17.7
PW-1	12/3/98	6.91	3/14/00	208	10.9

notes: NA= Not Available

APPENDIX D

WATER QUALITY SUMMARY

SPARTON TECHNOLOGY, INC.
subsidiary of SPARTON CORPORATION
An ISO 9001 registered company

INTEROFFICE CORRESPONDENCE

Date: January 27, 1999

To: Those Listed

From: J. Rose

C: J. Appel
P. Chandler
R. Mico
G. Richardson
S. S. Papadopulos

Subject: Ground Water Monitoring Well Program (GWMWP) **Quarter:** 4Q98

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total mg/L	Unfiltered Cr +6 mg/L	Filtered Cr Total mg/L	Filtered Cr +6 mg/L
PZ-1								
PW-1	2/19/98	19	<1.0	1.2	NA	NA	NA	NA
EPA	2/19/98	22	<3.2	<2.5	NA	NA	NA	NA
	12/04/98	48	1.0	2.2	0.091	0.04	0.045	0.05
MW-7	12/01/98	63	15	12	0.33	0.18	0.014	0.02
MW-9	01/07/91	1700	130					
UFZ	04/01/91	1600	0					
	06/17/91	1400	120	430				
	07/08/91	1300	99					
	10/07/91	1000	79					
	01/14/92	1200	0					
	04/06/92	1400	72					
	07/13/92	930	47					
	09/23/92	1000	61					
	01/11/93	690	71	200				
	04/14/93	820	69	190				
	07/29/93	730	42	110	<0.02	<0.02		
	10/06/93	680	35	84				
	11/29/93	680	35	110				
	01/19/94	790	34	120				
	04/06/94	740	22	71				
	07/20/94	750	50	91	<0.010	<0.02		
	10/27/94	750	51	97				
	01/08/95	850	57	120				
	04/19/94	790	39	91				
	08/01/95	490	43	52	<0.01	<0.05		
	10/11/95	650	30	71				
	01/16/96	570	25	82	<0.01			
	04/24/96	710	46	91				
	07/17/96	460	49	51	<0.01	<0.01		
	10/04/96	540	48	63				
NMED	10/04/96	350	39	34	0.0030			
	02/04/97	550	32	48				
	04/24/97	580	99	100				

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered		Filtered	
					Cr Total mg/L	Cr +6 mg/L	Cr Total mg/L	Cr +6 mg/L
	08/20/97	390	32	36	<0.01	<0.02		
	10/23/97	500	41	43				
	01/22/98	410	31	<1.0				
	04/23/98	310	37	21				
	07/31/98	370	30	29	<0.01	<0.01		
	12/03/98	290	19	18	0.008	0.01	0.006	0.02
MW-12	12/07/98	380	26	18	0.05	0.02	0.02	0.02
MW-13	12/01/98	70	3.2	8	0.011	0.01	0.007	0.02
MW-14	01/08/91	1700	0					
UFZ	04/01/91	1400	0					
	06/17/91	1100	51	<50				
	07/02/91	1400	54					
	10/07/91	1100	56					
	01/14/92	1300	110					
	04/06/92	1400	<50					
	07/13/92	860	<50					
	09/23/92	1100	54					
	01/11/93	850	42	20				
	04/14/93	850	41	19				
	07/29/93	720	31	14	0.66	0.66		
	10/06/93	700	31	16				
	11/29/93	640	31	14				
	01/19/94	680	27	6.30				
	04/06/94	730	19	13				
	07/20/94	730	34	<25	0.573	0.60		
	10/27/94	700	50	16				
	02/08/95	690	33	12				
	04/19/95	1000	17	10				
	08/01/95	470	29	9	1	0.91		
	10/10/95	470	18	11				
	01/12/96	290	4.60	5.80	1.53			
	04/24/96	420	16	6.70				
	07/17/96	300	19	5.50	1.30	1.24		
	10/04/96	490	19	7.9				
NMED	10/04/96	295	21	<12.5	1			
	02/04/97	260	12	3.9				
	04/24/97	570	33	8.1				
	08/21/97	530	29	6.6	0.68	0.6		
	10/23/97	530	34	9.1				
	01/22/98	390	20	5.5				
	04/23/98	510	28	<20				
	07/31/98	450	27	5.4	0.6	0.6		
	12/01/98	430	24	4.2	0.11	<0.01	<0.005	0.01
MW-15	01/08/91	110	6					
UFZ	04/01/91	5	0	<50				
	06/20/91	91	6.3	36				
	07/02/91	110	0					
	10/08/91	80	5					
	01/15/92	64	<5					
	04/07/92	54	<5					
	07/14/92	49	<5					
	09/23/92	66	<5	20				

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered		Filtered	
					Cr Total mg/L	Cr +6 mg/L	Cr Total mg/L	Cr +6 mg/L
	01/12/93	52	5	16				
	04/15/93	1.90	<0.2	<0.2				
	07/27/93	56	3	23	<0.010			
	10/06/93	44	2.70	18				
	12/07/93	39	2	14				
	01/19/94	36	1.80	14				
DRY	04/06/94							
	07/20/94	52	2	15	<0.010	<0.02		
	10/28/94	31	0.80	11				
	02/08/95	45	2	13				
DRY	04/20/95							
	08/02/95	21	1 J	7	<0.01	<0.05		
	10/11/95	15	<0.2	2.40				
DRY	01/17/96							
DRY	04/24/96							
DRY	07/17/96							
DRY	10/04/96							
DRY	02/04/97							
DRY	04/24/97							
DRY	08/21/97							
DRY	10/23/97							
DRY	01/22/98							
DRY	04/23/98							
DRY	07/31/98							
MW-16	01/08/91	16000	0					
UFZ	04/01/91	12000	0					
	06/18/91	17000	1400	11000				
	07/02/91	16000	620					
	07/23/91	12000	650					
	01/15/92	13000	<1000					
	04/06/92	12000	540					
	07/14/92	15000	<500					
	09/23/92	14000	560					
	01/11/93	13000	400	5900				
	04/14/93	12000	470	5900				
	07/29/93	11000	310	4200	0.28	0.28		
	10/06/93	13000	360	6200				
	11/29/93	13000	360	5100				
	01/19/94	12000	360	4400				
	04/06/94	11000	190	3200				
	07/20/94	11000	230	3700	0.376	0.40		
	10/28/94	11000	280	4000				
	02/08/95	8700	340	3100				
	04/21/95	7100	200	2100				
	08/01/95	9100	280	2700				
	10/11/95	7400	140	2200	0.57	0.52		
	01/16/96	7600	93	1900	0.19			
	04/25/96	9700	110	1200				
	07/17/96	7400	170	1800	0.13	0.11		
	10/04/96	8300	200	2100				
NMED	10/04/96	6200	<500.0	1400				
	02/04/97	6000	130	1400				

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered		Filtered	
					Cr Total mg/L	Cr +6 mg/L	Cr Total mg/L	Cr +6 mg/L
	04/24/97	5300	82	1200				
	08/21/97	3000	<100	520	0.26	0.30		
	10/23/97	3900	<64	700				
	01/22/98	4100	<73	800				
	04/23/98	1900	23	400				
	07/31/98	2000	49	320	0.38	0.07		
	12/08/98	1200	30	170	1.1	<0.1	0.071	0.07
MW-17	12/01/98	68	3.5	13	0.8	0.8	0.75	0.77
MW-18	02/17/98	1100	120.0	100	NA	NA	NA	NA
EPA	02/17/98	1000	140.0	110	NA	NA	NA	NA
	12/02/98	600	50	42	<0.005	<0.01	<0.005	<0.01
MW-19	01/07/91	680	57					
ULFZ	04/02/91	690	55					
	06/17/91	570	48	<25				
	07/08/91	190	12					
	10/07/91	170	10					
	01/14/92	130	7.3					
	04/06/92	230	10					
	07/13/92	140	8.0					
	09/23/92	120	7.0					
	01/11/93	57	3	2				
	04/15/93	110	11	0.80				
	07/29/93	62	3	1	<0.02	<0.02		
	10/06/93	45	2.60	<0.2				
	11/29/93	39	2	<1				
	01/19/94	48	2.40	<0.2				
	04/06/94	81	2.80	0.80				
	07/20/94	61	<4	<4	<0.01	<0.05		
	10/27/94	47	2.50	1.10				
	02/08/95	72	4	2				
	04/19/95	92	3.10	<1				
	08/02/95	39	3 J	1 J	<0.01	<0.05		
	10/11/95	48	1.70	1.30				
	01/17/96	24	0.70	<1.0	<0.01			
	04/24/96	88	1.50	<1.0				
	07/17/96	11	1.10	<1.0	<0.01	<0.05		
	10/04/96	8.0	0.5	<1.0				
NMED	10/04/96	7.7	1.2	0.6	<0.0010			
	02/04/97	6.4	<0.2	<1.0				
	04/24/97	9.4	0.6	<1.0				
	08/20/97	13	1.0	<1.0	<0.01	<0.02		
	10/23/97	16	0.8	<1.0				
	01/22/98	12	1.1	<1.0				
	04/23/98	14	1.1	<1.0				
	07/31/98	18	1.4	<1.0	<0.01	<0.01		
	11/23/98	4.2	<1.0	<1.0	<0.005	<0.01	NA	NA
MW-20	01/07/91	28	<5					
LLFZ	06/17/91	12	<5	<5				
	07/08/91	12	<5					
	10/07/91	16	<5					
	01/14/92	5	<5	ND				

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total mg/L	Unfiltered Cr +6 mg/L	Filtered Cr Total mg/L	Filtered Cr +6 mg/L
	04/06/92	5	<5	ND				
	07/13/92	5	<5	ND				
	09/23/92	30	<5					
	01/11/93	3	<1	<1				
	04/15/93	31	1.60	13				
	07/29/93	7	<1	<1	<0.02	<0.02		
	10/06/93	23	1.10	1.00				
	12/02/93	6	<1	<1				
	01/19/94	1.10	<0.2	<0.2				
	04/06/94	0.20	<0.2	<0.2				
	07/20/94	8	<1	<1	<0.010	<0.02		
	10/27/94	44	1.10	1.40				
	02/08/95	5	<1	<1				
	04/19/95	0.20	<0.2	<1				
	08/02/95	11	<5	<5				
	10/11/95	26	1.20	2.10	<0.01	<0.05		
	01/17/96	1.30	<0.2	<1.0	<0.01			
	04/24/96	0.40	<0.2	<1.0				
	07/17/96	<1.0	<1.0	<1.0	<0.01	<0.05		
	10/04/96	0.4	<0.2	<1.0				
NMED	10/04/96	0.8	<0.5	<0.5	<0.0010			
	02/04/97	<0.3	<0.2	<1.0				
	04/24/97	<0.3	<0.2	<1.0				
	08/20/97	1.1	<1.0	<1.0	<0.01	<0.02		
	10/23/97	<0.3	<0.2	<1.0				
	01/22/98	<0.3	<0.2	<1.0				
	04/23/98	<0.3	<0.2	<1.0				
	07/31/98	3.1	<0.2	<1.0	<0.01	<0.01		
	11/23/98	<1.0	<1.0	<1.0	<0.005	<0.01	NA	NA
MW-21	01/08/91	910	76					
UFZ	04/01/91	400	29					
	06/18/91	500	77	470				
	07/02/92	440	40					
	10/08/91	880	79					
	01/14/92	680	62					
	04/06/92	360	<25					
	07/13/92	390	31					
	09/23/92	460	38					
	01/11/93	430	38	330				
	04/14/93	240	21	190				
	07/29/93	350	17	210	<0.02	<0.02		
	10/06/93	480	30	330				
	11/29/93	490	33	290				
	07/20/94	380	23	240				
	07/20/94	280	11	150				
	07/20/94	210	17	110	<0.010	<0.02		
	10/27/94	360	32	210				
	02/08/95	270	19	140				
	04/19/95	160	6.00	70				
	08/02/95	200	13	92	<0.01	<0.05		
	10/10/95	280	12	120				
	01/12/96	220	10	95	<0.01			

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total mg/L	Unfiltered Cr +6 mg/L	Filtered Cr Total mg/L	Filtered Cr +6 mg/L
	04/24/96	140	5.60	65				
	07/17/96	180	11	72	<0.01	<0.05		
	10/04/96	150	6.4	48				
NMED	10/04/96	79	<10.0	28				
	02/04/97	97	3.9	33				
	04/24/97	99	2.8	34				
	08/21/97	61	2.6	21	<0.01	<0.02		
	10/23/97	130	3.3	37				
	01/22/98	66	2.8	18				
	04/23/98	59	<4.0	<20				
	07/31/98	20	0.8	5	0.06	0.04		
	12/02/98	7.5	<1.0	1.1	0.1	<0.02	<0.005	<0.02
MW-22	01/08/91	75	47					
UFZ	04/01/91	92	31					
	06/20/91	110	30	130				
	07/02/91	110	30					
	10/08/91	93	30					
	01/15/92	65	40					
	04/07/92	90	31					
	07/14/92	72	21					
	09/23/92	48	25					
	01/11/93	51	26	75				
	04/15/93	55	22	68				
	07/29/93	47	13	47	<0.02	<0.02		
	10/06/93	41	22	51				
	12/07/93	41	20	51				
	01/19/94	50	22	57				
	04/06/94	62	14	52				
	07/20/94	44	18	50	<0.010	<0.02		
	10/28/94	45	16	31				
	02/08/95	72	20	54				
	04/21/95	100	10	48				
	08/02/95	32	8	23	<0.01	<0.05		
	10/11/95	34	6.90	23				
	01/16/96	46	6.20	29	<0.01			
	04/25/96	81	9.20	43				
	07/17/96	43	9.00	26	<0.01	<0.05		
	10/04/96	33	8.0	22				
NMED	10/04/96	18	5.6	12	0.001	0.0010		
	02/04/97	40	6.8	41				
	04/24/97	74	11	37				
	08/21/97	44	6.2	21	<0.01	<0.02		
	10/23/97	54	9.3	27				
	01/22/98	65	8.8	31				
	04/23/98	78	9.3	36				
	07/31/98	35	4.8	14	0.02	<0.01		
	11/19/98	13	2.0	4.6	<0.005	<0.01	NA	NA
MW-23	02/17/98	9900	770.0	1600.0	NA	NA	NA	NA
EPA	02/17/98	13000	890.0	1600.0	NA	NA	NA	NA
	12/03/98	6200	400	720	0.13	0.03	0.048	0.04
MW-24	02/19/98	6100	98	890	NA	NA	NA	NA
EPA	02/19/98	6800	120	900	NA	NA	NA	NA

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total mg/L	Unfiltered Cr +6 mg/L	Filtered Cr Total mg/L	Filtered Cr +6 mg/L
	12/08/98	4700	74	480	0.31	<0.01	0.015	0.02
MW-25	02/19/98	11000	230	1200	7.6	0.31	0.24	0.33
EPA	02/19/98	13000	62	1300	NA	NA	NA	NA
	12/08/98	5600	73	540	0.66	0.4	0.41	0.45
MW-26	02/18/98	4700	540	530	NA	NA	NA	NA
EPA	02/18/98	4600	500	490	NA	NA	NA	NA
	12/03/98	6500	590	550	0.19	0.05	0.043	0.05
MW-27	02/17/98	440	24	90	NA	NA	NA	NA
EPA	02/17/98	580	25	96	NA	NA	NA	NA
	12/02/98	380	24	57	0.027	<0.01	<0.005	0.01
MW-28	DRY							
MW-29	11/19/98				<0.005	<0.01	NA	NA
MW-30	11/23/98	5.4	<1.0	<1.0	0.025	0.03	NA	NA
MW-31	11/23/98	<1.0	<1.0	<1.0	0.014	0.02	NA	NA
MW-32	10/04/91	5100	540	<420				
LLFZ	11/06/91	2400	350	<250				
	12/12/91	2400	380	200				
	01/29/92	5100	850	440				
	04/22/92	6000	1100	510				
	07/22/92	7500	870	540				
	09/21/92	2600	550	260				
	01/12/93	830	130	74				
	04/14/93	1500	470	200				
	07/27/93	4400	1000	380	<0.010			
	10/06/93	780	140	71				
	12/07/93	490	80	40				
	01/18/94	580	98	45				
	04/05/94	1700	250	110				
	07/19/94	400	58	62				
	10/25/94	1700	310	88	<0.010			
	02/07/95	2000	430	99				
	04/18/95	1600	320	82				
	08/01/95	4200	810	170				
	10/10/95	2800	420	120				
	01/11/96	760	110	36	<0.01			
	04/23/96	2400	350	<250		<0.05		
	07/16/96	400	77	19				
	10/04/96	690	150	40				
NMED	10/04/96	500	120	25	<0.0010			
	02/03/97	390	71	20				
	04/24/97	1800	310	75				
	08/21/97	550	110	34				
	10/22/97	960	190	39				
	01/21/98	1600	320	66				
	04/23/98	1200	240	54				
	08/07/98	1300	260	54				
	11/30/98	550	96	30	<0.005	<0.01	NA	NA
MW-33	12/02/98	630	53	28	0.22	<0.01	<0.005	<0.01
MW-34	11/18/98				0.16	0.04	NA	NA
MW-35	12/08/98	<1.0	<1.0	<1.0	0.048	0.04	0.03	0.04
MW-36	10/02/91	19	<5.0	<5.0				
UFZ	01/08/92	15	<5.0	<5.0				

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered		Filtered	
					Cr Total mg/L	Cr +6 mg/L	Cr Total mg/L	Cr +6 mg/L
	04/02/92	14	<5.0	<5.0				
	07/21/92	10	<5.0	<5.0				
	09/22/92	8.3	<5.0	<5.0				
	01/14/93	7	<1	<1				
	04/13/93	4	<1	<1				
	07/27/93	25	5	2	0.052			
	10/05/93	3	<1	<1				
	12/07/93	3	<1	<1				
	01/17/94	3	<1	<1				
	04/04/94	2	<1	<1				
	07/18/94	3	<1	<1				
	02/07/95	3 J	<5	<5				
	04/18/95	3 J	<5	<5				
	08/01/95	2 J	<5	<5				
	10/10/95	2	<1	<1				
	01/10/96	1.90	<0.2	<1.0	0.03			
	04/24/96	<5.0	<5.0	<5.0				
	07/16/96	2.40	<1.0	<1.0				
	10/03/96	<5	<5	<5				
NMED	10/03/96	3.0	<0.5	<0.5				
	02/03/97	3.5	<1.0	<1.0				
	04/23/97	2.9	<1.0	<1.0				
	08/22/97	1.7	<1.0	<1.0				
	10/22/97	1.6	<1.0	<1.0				
	01/21/98	2.9	<1.0	<1.0				
	04/22/98	1.7	<1.0	<1.0				
	08/06/98	<1.0	<1.0	<1.0				
	12/07/98	1.4	<1.0	<1.0	0.065	0.05	0.043	0.05
MW-37	10/04/91	1400	<85	<85				
UFZ	01/08/92	1200	52	<50				
	04/02/92	960	<85	<85				
	07/21/92	800	37	<25				
	09/24/92	810	38	<33				
	01/14/93	510	19	4				
	04/13/93	340	18	4				
	07/28/93	800	28	8				
	10/04/93	600	<10	<10				
	11/30/93	980	46	<20				
	01/18/94	860	38	<10				
	04/05/94	850	37	<25				
	07/19/94	370	9	3				
	02/07/95	770	40	5				
	04/18/95	750	42	6				
	08/01/95	750	37	6				
	10/10/95	750	31	5				
	01/10/96	720	25	<10	<0.01			
	04/23/96	600	15	<50		<0.05		
	07/16/96	560	<50	<50				
	10/03/96	760	30	<30				
	02/03/97	660	23	<5.0				
	04/22/97	450	16	2				
	08/22/97	460	19	<10				

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total mg/L	Unfiltered Cr +6 mg/L	Filtered Cr Total mg/L	Filtered Cr +6 mg/L
	10/22/97	450	18	<5.0				
	01/21/98	640	21	9.8				
	04/23/98	1500	65	<5.0				
	08/07/98	990	46	<10.0				
	12/03/98	990	48	<5.0	0.016	0.02	<0.005	0.02
MW-38	11/19/98	<1.0	<1.0	<1.0	<0.005	<0.01	NA	NA
MW-39	11/23/98	<1.0	<1.0	<1.0	0.17	0.18	NA	NA
MW-40	11/30/98	<1.0	<1.0	<1.0	0.011	0.02	NA	NA
MW-41	11/19/98	170	26	<15.0	<0.005	<0.01	NA	NA
MW-42	10/04/91	930	120	170				
ULFZ	01/29/92	740	120	130				
	04/22/92	690	120	120				
	07/21/92	640	100	110				
	09/24/92	600	95	110				
	01/12/93	680	100	100				
	04/14/93	320	100	85				
	07/28/93	620	79	80				
	10/05/93	600	93	84				
	11/29/93	620	100	91				
	01/18/94	570	97	84				
	04/05/94	490	79	77				
	07/19/94	530	97	76				
	02/07/95	340	84	60				
	04/19/95	340	71	49				
	08/01/95	340	80	52				
	10/10/95	350	56	43				
	01/10/96	470	55	57	<0.01			
	04/24/96	250	64	39				
	07/16/96	330	72	42				
	10/03/96	460	80	50				
NMED	10/03/96	308	76	38	0.0020			
	02/03/97	370	68	41				
	04/22/97	370	68	41				
	08/22/97	320	46	33				
	10/22/97	290	50	30				
	01/22/98	310	48	27				
	04/23/98	300	45	25				
	08/07/98	320	45	26				
	11/19/98	370	48	21	<0.005	<0.01	NA	NA
MW-43	10/04/91	440	93	120				
LLFZ	01/29/92	260	68	88				
	04/22/92	340	58	69				
	07/21/92	200	37	59				
	09/24/92	180	41	46				
	01/12/93	200	41	61				
	04/14/93	130	38	54				
	07/28/93	850	150	200				
	10/05/93	160	31	41				
	11/29/93	150	32	48				
	01/18/94	150	38	49				
	04/05/94	120	25	31				
	07/19/94	160	46	39				

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total mg/L	Unfiltered Cr +6 mg/L	Filtered Cr Total mg/L	Filtered Cr +6 mg/L
	02/07/95	79	28	23				
	04/19/95	98	32	24				
	08/01/95	100	27	26				
	10/10/95	110	25	28				
	01/10/96	95	23	29	<0.01			
	04/24/96	87	24	18				
	07/16/96	73	21	18				
	10/03/96	73	21	18				
NMED	10/03/96	42.0	15.0	9.7	0.0010			
	02/03/97	78	19	16				
	04/24/97	65	15	14				
	08/22/97	48	10	12				
	10/22/97	41	11	11				
	01/22/98	69	16	15				
	04/23/98	49	11	11				
	08/08/98	37	8.6	9				
	11/19/98	25	5.1	5.4	<0.005	0.01	NA	NA
MW-44	11/18/98	1.3	<1.0	<1.0	<0.01	<0.01	NA	NA
MW-45	11/18/98	40.0	1.7	<1.0				
	11/30/98				0.04	0.05	NA	NA
MW-46	10/02/91	5200	<250	<250				
ULFZ	11/06/91	2600	90	80				
	01/08/92	2300	<100	<100				
	04/02/92	1300	<160	<160				
	07/21/92	960	41	77				
	09/24/92	4200	170	<170				
	01/14/93	1200	22	75				
	04/13/93	1200	7	17				
	07/28/93	1400	44	76				
	10/05/93	2100	73	68				
	12/01/93	1800	<100	<100				
	03/14/94	2500	60	110				
	04/05/94	2700	120	69				
	07/19/94	3200	230	<100				
	02/07/95	2600	120	65				
	04/18/95	2400	190	80				
	08/01/95	3000	130	76				
	10/10/95	3300	230	88				
	01/09/96	3200	220	96	0.19			
	04/23/96	2300	150	<250		0.19		
	07/16/96	1900	180	60				
	10/03/96	2400	220	<100				
NMED	10/01/96	1200	150	37	0.1200			
	02/03/97	1500	140	45				
	04/22/97	1700	130	42				
	08/22/97	900	66	<25				
	10/22/97	1000	67	<30				
	01/21/98	1200	81	20				
	04/22/98	1500	86	16				
	08/07/98	1400	88	19				
	11/19/98	2200	130	2.3				
	12/02/98				<0.01	<0.01	NA	NA

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total mg/L	Unfiltered Cr +6 mg/L	Filtered Cr Total mg/L	Filtered Cr +6 mg/L
MW-47	11/17/98	34	1.2	<1.0	0.04	0.04	NA	NA
MW-48	10/02/91	220	<25	<25				
UFZ	01/08/92	280	<10	<10				
	04/01/92	290	<25	<25				
	07/20/92	340	<12	<12				
	09/22/92	240	<20	<20				
	01/13/93	360	7	1				
	04/12/93	310	8	<1				
	07/28/93	330	12	<5				
	10/04/93	420	12	2				
	12/01/93	350	12	<10				
	01/17/94	350	10	<10				
	04/04/94	340	12	<10				
	07/18/94	370	16	<10				
	02/06/95	253	13	1 J				
	04/17/95	300	11	<5				
	07/31/95	250	10	<5				
	10/09/95	270	8	<2				
	01/08/96	350	7.0	<1.0	0.13			
	04/22/96	150	6	<5		0.11		
	07/15/96	130	5.40	<1.0				
	10/01/96	110	<5	<5				
NMED	10/01/96	64	2.0	<2.5	0.2100			
	01/30/97	73	2.4	<1.0				
	04/21/97	74	2.2	<1.0				
	08/19/97	46	<1.0	<1.0				
	10/20/97	40	1.4	<1.0				
	01/20/98	38	1.4	<1.0				
	04/20/98	36	1.1	<1.0				
	08/06/98	33	1.1	<1.0				
	11/17/98	28	1.0	<1.0				
	11/30/98				0.07	0.06	NA	NA
MW-49	11/23/98	<1.0	<1.0	<1.0	<0.005	<0.01	NA	NA
MW-50	DRY							
MW-51	10/02/91	<5.0	<5.0	<5.0				
UFZ	01/09/92	11	<5.0	<5.0				
	04/22/92	<5.0	<5.0	<5.0				
	07/21/92	<5.0	<5.0	<5.0				
	09/24/92	<5.0	<5.0	<5.0				
	01/14/93	<1	<1	<1				
	04/13/93	<1	<1	<1				
	07/28/93	<1	<1	<1				
	10/05/93	1	<1	<1				
	11/29/93	2	<1	<1				
	03/14/94	<1	<1	<1				
	04/05/94	0.6 J	<1	<1				
	07/19/94	<1	<1	<1				
	02/07/95	<5	<5	<5				
	04/18/95	1 J	<5	<5				
	08/01/95	<5	<5	<5				
	10/10/95	<1	<1	<1				
	01/11/96	<0.3	<0.2	<1.0	<0.01			

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered		Filtered	
					Cr Total mg/L	Cr +6 mg/L	Cr Total mg/L	Cr +6 mg/L
	04/23/96	<5.0	<5.0	<5.0				
	07/16/96	<1.0	<1.0	<1.0				
	10/02/96	<5	<5	<5				
NMED	10/02/96	0.5	<0.5	<0.5	<0.0010			
	01/30/97	<1.0	<1.0	<1.0				
	04/21/97	<1.0	<1.0	<1.0				
	08/21/97	<1.0	<1.0	<1.0				
	10/21/97	<1.0	<1.0	<1.0				
	01/20/98	<1.0	<1.0	<1.0				
	04/22/98	<1.0	<1.0	<1.0				
	08/07/98	<1.0	<1.0	<1.0				
	11/18/98	<1.0	<1.0	<1.0	<0.01	<0.01	NA	M/A
MW-52	06/05/90	<1						
UFZ	06/07/90	<1						
	06/13/91	<5	<5	<5	<0.010			
	12/01/93	<1	<1	<1				
	10/25/94	<5	<5	<5	0.010			
	01/09/96	<0.3	<0.2	<1.0	0.01			
	04/21/97	<1.0	<1.0	<1.0				
	10/20/97	<1.0	<1.0	<1.0				
	01/19/98	<1.0	<1.0	<1.0				
	04/21/98	<1.0	<1.0	<1.0				
	08/11/98	<1.0	<1.0	<1.0				
	11/30/98	<1.0	<1.0	<1.0	<0.01	0.02	NA	NA
MW-53	10/01/91	<5.0	<5.0	<5.0				
UFZ	01/07/92	6.8	<5.0	<5.0				
	04/01/92	9.8	<5.0	<5.0				
	07/21/92	14	<5.0	<5.0				
	09/22/92	16	<5.0	<5.0				
	01/14/93	21	<1	<1				
	04/13/93	23	<1	<1				
	07/26/93	33	<1	<1	0.109			
	10/04/93	30	<1	<1				
	12/02/93	32	<1	<1				
	01/17/94	38	<1	<1				
	04/04/94	34	0.6 J	<1				
	07/18/94	43	<2	<2				
	10/25/94	40	<5	<5	0.087			
	02/06/95	21	<5	<5				
	04/17/95	41	<5	<5				
	07/31/95	42	<5	<5				
	10/09/95	48	1	<1				
	01/09/96	100	1.10	<1.0	0.06			
	04/22/96	36	2	<5		<0.05		
	07/15/96	36	2.00	<1.0				
	10/01/96	36	<5	<5				
NMED	10/01/96	23	<5.0	<5.0	0.0370			
	01/30/97	30	1.7	<1.0				
	04/21/97	30	1.5	<1.0				
	08/19/97	33	1.8	<1.0				
	10/20/97	38	2.1	<1.0				
	01/19/98	59	2.6	<1.0				

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total mg/L	Unfiltered Cr +6 mg/L	Filtered Cr Total mg/L	Filtered Cr +6 mg/L
	04/20/98	82	3.2	<1.0				
	08/06/98	100	3.5	<1.0				
	11/16/98	99	3.4	<1.0	0.07	<0.01	NA	NA
MW-54	NA	NA	NA	NA	NA	NA	NA	NA
MW-55	10/01/91	74	<5.0	<5.0				
LLFZ	01/07/92	96	<5.0	<5.0				
	04/01/92	120	<10	<10				
	07/20/92	130	<5.0	<5.0				
	09/22/92	120	<8.5	<8.5				
	01/13/93	190	<1	<1				
	04/12/93	110	<1	<1				
	07/26/93	240	<1	<1	0.129			
	10/04/93	310	2	<1				
	12/01/93	380	<10	<10				
	01/17/94	370	<10	<10				
	04/04/94	390	<10	<10				
	07/18/94	550	<20	<20				
	10/24/94	580	5	<5	0.422	0.50		
	02/06/95	580	6	<5				
	04/17/95	640	8	<5				
	07/31/95	680	8	<5				
	10/09/95	130	<10	<1				
	01/08/96	940	8.40	<1.0	1.04			
	04/22/96	790	<25	<130		0.80		
	07/15/96	510	<25	<25				
	10/01/96	640	<30	<30				
NMED	10/01/96	490.0	<50.0	<50.0	0.7400			
	01/30/97	610	10.0	<5.0				
	04/21/97	530	9.9	<1.0				
	08/19/97	430	<5.0	<5.0				
	10/21/97	430	10	<10				
	01/20/98	440	13	<10				
	04/20/98	460	13	<10				
	08/06/98	420	12	<1.0				
	11/16/98	390	10	<1.0	0.18	0.16	NA	NA
MW-56	10/01/91	210	<5.0	<5.0				
ULFZ	01/07/92	260	<10	<10				
	04/01/92	290	<25	<25				
	07/20/92	290	<12	<12				
	09/22/92	240	<20	<20				
	01/13/93	370	4	<1				
	04/12/93	230	<2	<2				
	07/26/93	320	9	<1	0.421			
	10/04/93	430	7	<1				
	11/30/93	410	<10	<10				
	01/17/94	430	<10	<10				
	04/04/94	370	8 J	<10				
	07/18/94	370	10	<10				
	10/24/94	420	9	<5	0.391			
	02/06/95	340	8 J	<25				
	04/17/95	370	13	<5				
	07/31/95	360	11	<5				

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total mg/L	Unfiltered Cr +6 mg/L	Filtered Cr Total mg/L	Filtered Cr +6 mg/L
	10/09/95	350	9	<4				
	01/08/96	430	11	<1.0	0.26			
	04/22/96	330	<10	<50		0.18		
	07/15/96	240	<10	<10				
	10/01/96	310	<30	<30				
NMED	10/01/96	175	8.5	<5.0	0.1500			
	01/30/97	240	8.9	<5.0				
	04/21/97	240	8.0	<1.0				
	08/19/97	220	7.0	<5.0				
	10/21/97	210	9.2	<2.0				
	01/20/98	190	6.5	<2.0				
	04/20/98	170	5.6	<2.0				
	08/06/98	170	6.5	<1.0				
	11/16/98	140	4.7	<1.0	0.07	0.07	NA	NA
MW-57	08/31/90	<1						
UFZ	06/13/91	<5	<5	<5	0.044			
	12/01/93	<1	<1	<1				
	10/24/94	<5	<5	<5	0.020	<0.02		
	07/31/95	<5	<5	<5				
	10/10/95	<1	<1	<1				
	01/10/96	<0.3	<0.2	<1.0	0.02			
	04/23/96	<1	<1	<5		<0.05		
	07/16/96	<1	<1	<1				
	10/03/96	<5	<5	<5				
NMED	10/03/96	0.3 J	<0.5	<0.5				
	01/31/97	<1.0	<1.0	<1.0				
	04/22/97	<1.0	<1.0	<1.0				
	08/20/97	<1.0	<1.0	<1.0				
	11/06/97	<1.0	<1.0	<1.0				
	01/21/98	<1.0	<1.0	<1.0				
	04/22/98	<1.0	<1.0	<1.0				
	08/06/98	<1.0	<1.0	<1.0				
	12/08/98	<1.0	<1.0	<1.0	0.024	<0.01	<0.005	<0.01
MW-58	10/01/91	31	<5.0	<5.0				
UFZ	01/08/92	34	<5.0	<5.0				
	04/01/92	37	<5.0	<5.0				
	07/20/92	37	<5.0	<5.0				
	09/24/92	39	<5.0	<5.0				
	01/14/93	48	<1	<1				
	04/13/93	43	<1	<1				
	07/26/93	62	<1	<1	0.165			
	10/04/93	64	<1	<1				
	12/02/93	74	2	<1				
	01/17/94	85	2	<1				
	04/04/94	93	3	<1				
	07/18/94	110	4	1				
	02/06/95	100	4 J	<5				
	04/17/95	120	4 J	<5				
	07/31/95	130	4 J	<5				
	10/09/95	140	4	<4				
	01/08/96	270	3.40	<1.0	0.15			
	04/23/96	110	<5.0	<5.0				

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total mg/L	Unfiltered Cr +6 mg/L	Filtered Cr Total mg/L	Filtered Cr +6 mg/L
	07/15/96	130	5.40	<1.0				
	10/01/96	140	5	<5				
NMED	10/01/96	88	<10.0	<10.0	0.1200			
	01/30/97	170	5	<1.0				
	04/21/97	180	5.6	<5.0				
	08/19/97	180	5.9	<2.0				
	10/20/97	150	5.8	<1.0				
	01/19/98	130	4.8	<1.0				
	04/20/98	120	4.0	<1.0				
	08/06/98	95	3.8	<1.0				
	11/16/98	71	2.5	<1.0	0.06	0.06	NA	NA
MW-59	11/18/98	<1.0	<1.0	<1.0	<0.01	<0.01	NA	NA
MW-60	10/01/91	<5.0	<5.0	<5.0				
ULFZ	01/08/92	<5.0	<5.0	<5.0				
	04/01/92	<5.0	<5.0	<5.0				
	07/20/92	<5.0	<5.0	<5.0				
	09/24/92	<5.0	<5.0	<5.0				
	01/14/93	1	<1	<1				
	04/12/93	<1	<1	<1				
	07/27/93	4	<1	<1	<0.01			
	10/05/93	2	<1	<1				
	11/30/93	7	<1	<1				
	01/17/94	3	<1	<1				
	04/04/94	6	<1	<1				
	07/18/94	9	<1	<1				
	10/24/94	24	<5	<5	<0.01	<0.02		
	02/06/95	16	<5	<5				
	04/17/95	44	<5	<5				
	07/31/95	66	3 J	<5				
	10/09/95	100	4	<1				
	01/08/96	170	4.80	<1.0	<0.01			
	04/22/96	150	8	<5		<0.05		
	07/15/96	130	6.50	<1.0				
	10/01/96	640	16	<5				
NMED	10/01/96	320	<25.0	<25.0	0.0030			
	02/03/97	990	40.0	7.1				
	04/22/97	2400	81	17				
	08/20/97	2600	<100	<100				
	10/21/97	3900	150	27				
	01/20/98	4200	170	26				
	04/21/98	7300	280	<50				
	08/07/98	7500	290	56				
	11/17/98	7700	350	52	<0.01	<0.01	NA	NA
MW-61	10/04/90	<5.0	<5.0	<5.0	<0.010			
UFZ	10/15/90	<5.0	<5.0	<5.0	<0.010			
	06/10/91	<5.0	<5.0	<5.0	<0.010			
	07/27/93	490	15	7	<0.010			
	09/03/93	500	20	6				
	12/02/93	610	24	<20				
	01/18/94	530	18	<10				
	07/18/94	800	36	<25				
	10/25/94	870	32	8	<0.010	<0.02		

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered		Filtered	
					Cr Total mg/L	Cr +6 mg/L	Cr Total mg/L	Cr +6 mg/L
	02/09/95	960	52	11				
	04/17/95	1400	55	13				
	07/31/95	1700	70	17				
	10/09/95	2000	54	20				
	01/08/96	1900	34	13	0.04			
	04/22/96	1100	<50	<250		<0.05		
	07/15/96	760	35	<25				
	10/03/96	1000	<50	<50				
NMED	10/03/96	580	<50.0	<50.0	0.0320			
	02/03/97	880	37.0	<10				
	04/22/97	940	<50	<50				
	08/20/97	1000	38	<10				
	10/21/97	1000	39	<10				
	01/20/98	940	39	<10				
	04/21/98	900	36	<10				
	08/06/98	990	55	10				
	12/07/98	1000	54	11	0.086	0.08	0.08	0.08
MW-62	10/01/91	<5.0	8	10				
UFZ	01/08/92	<5.0	7.3	11				
	04/01/92	<5.0	7.2	10				
	07/20/92	<5.0	9.5	15				
	09/24/92	<5.0	8.3	11				
	01/13/93	2	6	9				
	04/12/93	2	6	9				
	07/26/93	3	18	14	<0.010			
	10/04/93	3	9	10				
	12/06/93	3	8	10				
	01/17/94	2	8	9				
	04/04/94	2	8	10				
	07/19/94	3	15	13				
	02/09/95	2 J	10	9				
	04/17/95	2 J	8	8				
	08/01/95	3 J	9	8				
	10/09/95	2	7	7				
	01/09/96	1.80	7.00	7.20	<0.01			
	04/24/96	<5.0	5.30	<5.0				
	07/16/96	1.70	7.20	6.50				
	10/01/96	<5	7	6				
NMED	10/01/96	1.8	4.8	7.0	0.0040			
	01/30/97	1.9	6.2	6.4				
	04/21/97	2.0	6.4	6.3				
	08/22/97	2.6	8.2	7.8				
	10/21/97	2.3	8.0	6.9				
	01/19/98	2.4	8.2	6.7				
	04/22/98	2.3	7.1	5.5				
	08/06/98	3.0	9.8	7.5				
	12/07/98	2.0	6.6	4.8	0.032	<0.01	0.007	<0.01
MW-63	12/02/98	<1.0	<1.0	<1.0	0.55	<0.01	<0.005	<0.01
MW-64	10/08/90	<5	<5	<5	<0.010			
ULFZ	10/15/90	<5	<5	<5	<0.010			
	06/14/91	<5	<5	<5	<0.010			
	11/30/93	<1	<1	<1				

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total mg/L	Unfiltered Cr +6 mg/L	Filtered Cr Total mg/L	Filtered Cr +6 mg/L
	10/24/94	10	<5	<5	<0.010	<0.02		
	02/06/95	11	<5	<5				
	04/18/95	18	<5	<5				
	07/31/95	17	<5	<5				
	10/09/95	8	<1	<1				
	01/10/96	15	0.60	<1	<0.01			
	04/24/96	25	<5.0	<5.0				
	07/15/96	32	<1.0	<1.0				
	10/01/96	29	<5	<5				
NMED	10/01/96	18.0	1.2	<1.0	<0.0010			
	01/30/97	27	1.2	<1.0				
	04/22/97	20	<1.0	<1.0				
	08/20/97	4.4	<1.0	<1.0				
	01/21/98	6.3	<1.0	<1.0				
	04/20/98	4.8	<1.0	<1.0				
	08/06/98	3.4	<1.0	<1.0				
	11/17/98	<1.0	<1.0	<1.0	<0.005	<0.005	NA	NA
MW-65	07/18/96	1.50	<1.0	<1.0	0.02			
LLFZ	10/02/96	8	<5	<5				
NMED	10/02/96	7.4	<0.5	<0.5	<0.0010			
	01/30/97	13	<1.0	<1.0				
	04/23/97	15	<1.0	<1.0				
	08/21/97	15	<1.0	<1.0				
	10/20/97	14	<1.0	<1.0				
	01/19/98	14	<1.0	<1.0				
	04/21/98	15	<1.0	<1.0				
	08/06/98	15	<1.0	<1.0				
	11/16/98	13	<1.0	<1.0				
	11/30/98				<0.01	<0.01	NA	NA
MW-66	06/27/96	<1.0	<1.0	<1.0				
LLFZ	07/18/96	<1.0	<1.0	<1.0	<0.01			
	10/03/96	<5	<5	<5				
NMED	10/03/96	<0.5	<0.5	<0.5	0.0010			
	01/30/97	<1.0	<1.0	<1.0				
	04/22/97	<1.0	<1.0	<1.0				
	08/22/97	<1.0	<1.0	<1.0				
	10/22/97	<1.0	<1.0	<1.0				
	01/21/98	<1.0	<1.0	<1.0				
	04/22/98	<1.0	<1.0	<1.0				
	08/06/98	<1.0	<1.0	<1.0				
	11/17/98	<1.0	<1.0	<1.0	<0.01	<0.01	NA	NA
MW-67	07/26/96	<1.0	<1.0	<1.0	<0.01			
3rdFZ	10/02/96	<5	<5	<5				
NMED	10/02/96	<0.5	<0.5	<0.5	0.0070			
	01/30/97	<1.0	<1.0	<1.0				
	04/21/97	<1.0	<1.0	<1.0				
	08/21/97	<1.0	<1.0	<1.0				
	10/21/97	<1.0	<1.0	<1.0				
	01/20/98	<1.0	<1.0	<1.0				
	04/20/98	<1.0	<1.0	<1.0				
	08/06/98	<1.0	<1.0	<1.0				
	11/17/98	<1.0	<1.0	<1.0				

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered		Filtered	
					Cr Total mg/L	Cr +6 mg/L	Cr Total mg/L	Cr +6 mg/L
	11/30/98				0.04	<0.01	NA	NA
MW-68	07/18/96	<1.0	<1.0	<1.0	<0.01			
UFZ	10/02/96	<5	<5	<5				
NMED	10/02/96	<0.5	<0.5	<0.5	<0.0010			
	01/30/97	<1.0	<1.0	<1.0				
	04/23/97	<1.0	<1.0	<1.0				
	08/19/97	<1.0	<1.0	<1.0				
	10/20/97	<1.0	<1.0	<1.0				
	01/19/98	<1.0	<1.0	<1.0				
	04/21/98	<1.0	<1.0	<1.0				
	08/06/98	<1.0	<1.0	<1.0				
	11/12/98	<1.0	<1.0	<1.0	<0.01	<0.01	NA	NA
MW-69	07/26/96	<1.0	<1.0	<1.0	<0.01			
LLFZ	10/02/96	<5	<5	<5				
NMED	10/02/96	<0.5	<0.5	<0.5	<0.0010			
	01/30/97	<1.0	<1.0	<1.0				
	04/23/97	<1.0	<1.0	<1.0				
	08/19/97	<1.0	<1.0	<1.0				
	10/20/97	<1.0	<1.0	<1.0				
	01/19/98	<1.0	<1.0	<1.0				
	04/21/98	<1.0	<1.0	<1.0				
	08/06/98	<1.0	<1.0	<1.0				
	11/12/98	<1.0	<1.0	<1.0	<0.01	<0.01	NA	NA
MW-70	02/18/98	<1.0	<1.0	<1.0				
EPA	02/18/98	<3.0	<2.5	<2.5				
3rdFZ	04/22/98	<1.0	<1.0	<1.0				
	08/06/98	<1.0	<1.0	<1.0				
	11/23/98	<1.0	<1.0	<1.0	<0.005	<0.01	NA	NA
MW-71	11/17/98	56	1.6	<1.0	<0.01	<0.01	NA	NA

J = Estimated value, analyte concentration below detection limit.

NA or Blanks indicate that the parameter was not analyzed.

Supplement

Ground Water Monitoring Well Program

Quarter: 4Q98

Updated 2/19/99

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total ug/L	Unfiltered Cr +6 ug/L	Filtered Cr Total ug/L	Filtered Cr +6 ug/L
Field Blank	02/08/95	<1.0	<1	1				
	04/21/95	<0.2	<0.2	<1.0				
	08/02/95	<5	<5	<5				
	10/11/95	1.1	<0.2	<1.0				
	01/24/96	<0.3	<0.2	<1.0				
	04/30/96	0.3	<0.2	<1.0				
	07/17/96	<1.0	<1.0	<1.0				
PZ-2	10/04/96	0.6	<0.2	<1.0				
	02/04/97	2.1	<0.2	<1.0				
	04/24/97	19	<0.2	<1.0				
	08/20/97	<1.0	<1.0	<1.0	0.03	<0.02		
	10/23/97	0.9	<0.2	<1.0				
	01/22/98	<0.3	<0.2	<1.0				
	04/23/98	<0.3	<0.2	<1.0				
	07/31/98	<0.3	<0.2	<1.0				
PZ-3	11/17/98	<1.0	<1.0	<1.0	NA	NA	NA	NA
PZ-4	11/16/98	96	3.6	<1.0	NA	NA	NA	NA
MW-53								
Bld. Dup.	10/25/94	38	<5	<5	0.086			

Well ID	Sample Date	TCE ug/L	1,1-DCE ug/L	1,1,1-TCA ug/L	Unfiltered Cr Total ug/L	Unfiltered Cr +6 ug/L	Filtered Cr Total ug/L	Filtered Cr +6 ug/L
CW-1	08/13/98	190	4.4	<1.0	-	-	-	-
	09/01/98	140	2.9	<1.0	26	30	-	-
	09/01/98	150	2.8	<1.0	5	-	-	-
	09/01/98	150	3.1	<1.0	5	-	-	-
	12/04/98	180	3.8	<1.0	36	30	-	-
	12/04/98	230	5.4	<1.0	30	30	-	-
	12/12/98	180	3.7	<1.0	21	-	-	-
	12/31/98	190	4.6	<1.0	23	-	-	-
	01/04/99	-	-	<1.0	-	30	-	-
	01/07/99	150	<1.0	<1.0	23	-	-	-
	01/11/99	-	-	<1.0	-	20	-	-
	01/15/99	164	3.7	<1.0	24	-	-	-
	01/18/99	-	-	<1.0	-	30	-	-
	01/21/99	150	4.2	<1.0	24	-	-	-
OB-1	09/01/98	180	3.6	<1.0	-	-	-	-
OB-2	09/01/98	72	1.7	<1.0	-	-	-	-
							-	-
TW-1	02/18/98	3100	280	180	-	-	-	-
TW-1 dup.	02/18/98	3400	270	170	-	-	-	-
							-	-
TW-2	02/19/98	18	<1	<1	-	-	-	-
TW-2 dup.	02/19/98	16	<1	<1	-	-	-	-

Well ID	Sample Date	As mg/L	MeCl ug/L	Clorfrm. ug/L	1,1-DCA ug/L	PCE ug/L	BDCM ug/L	Freon ug/L
MW-7								4.3
MW-9	08/20/97		93.0					
	10/23/97		190.0	2.2	1.3			
	12/03/98	185	1.2	1.2				1.2
Field Blank	08/02/95	13 B						
PZ-2	04/24/97			4.2				
	08/20/97			1.4			1.1	
	10/23/97			2.2			<0.02	
	01/22/98			<0.5			0.9	
	04/23/98			<0.5			<0.2	
	07/31/98			<0.5			<0.5	
PW-1	02/19/98		5.6					
EPA	02/19/98		8.0					
	12/04/98		6.6					
MW-12	12/07/98		1.7	<1.1	1.4	1.2		2.5
MW-14	12/01/98							1.4
MW-16	12/08/98					18		
MW-17	12/01/98							1.3
MW-18	02/17/98			<1.9		6.2		5.5
	02/17/98					6.4		
MW-23	02/17/98		20.0	10	11	51		
EPA	02/17/98		24.0	11	13	58		
	12/03/98		1.1	6.3	6.4	38		3.5
MW-24	02/19/98		130.0	5.0	2.6	50		1
EPA	02/19/98		64.0	4.7	2.9	60		NR
	12/08/98					60		NR
MW-25	02/19/98		2.4	7.5	3.6	87		3.2
	02/19/98		<6.4	7.3	4.2	93		
	12/08/98					60		
MW-26	02/18/98		41.0	12.0	11	28		10
EPA	02/18/98		49.0	11.0	12	29		NR
	12/03/98			13	13	41		11
MW-27	02/17/98					3.2		2.9
	02/17/98					3.7		
MW-32	10/04/96	0.0070						
NMED	01/21/98					15		
	04/23/98					11		27
	08/07/98					11		<20
	11/30/98					5.3		
MW-33	11/19/98					2.4		
MW-41	11/19/98				1.0	2.3		
MW-42	10/03/96	0.0050						
NMED	04/23/98					2.8		7.0

Well ID	Sample Date	As mg/L	MeCl ug/L	Clorfrm. ug/L	1,1-DCA ug/L	PCE ug/L	BDCM ug/L	Freon ug/L
	08/07/98					<10		<20
	11/19/98					3.2		
MW-43	10/03/96	0.0080						
NMED	04/23/98							3.3
	08/08/98							<2.0
	11/18/98					2.6		30
MW-46	10/01/96	0.0040						
NMED	04/22/97			4.2		14		
	04/22/98					13		22
	08/07/98					14		<2.0
MW-48								
NMED	10/01/96	0.0070						
MW-51								
NMED	10/02/96	0.0090						
MW-53								
NMED	10/01/96	0.0050						
MW-55								
NMED	10/01/96	0.0030						
MW-56								
NMED	10/01/96	0.0040						
MW-57								
NMED	10/03/96							
MW-58								
NMED	10/01/96	0.0060						
MW-60								
NMED	10/01/96	0.0040						
	02/03/97							7.8
	04/22/97			1.5		12		
	08/20/97					<100		
	10/21/97					20		
	01/20/98					21		
	08/07/98			4.2		51		
	11/17/98			4.1	2.3	63		45
MW-61								
NMED	10/03/96	0.0060						
	02/03/97							13
	08/06/98			1.3		8.2		
	12/07/98					10		13
MW-62								
NMED	10/01/96	<0.0010						
MW-64								
NMED	10/01/96	0.0060						
MW-65								
NMED	10/02/96	0.0040						
MW-66								
NMED	10/03/96	0.0040						
MW-67								
NMED	10/02/96	0.0030						
MW-68								
NMED	10/02/96	0.0040						
MW-69								
NMED	10/02/96	0.0040						

Well ID	Sample Date	Acetone *1 ug/L	t 1,2 DCE ug/L	c 1,2 DCE ug/L	Benzene ug/L	1,1,2 TCA ug/L	2-Butanone ug/L	MIBK ug/L
PW-1	2/19/98	16						
EPA	2/19/98	21						
	12/4/98					1.0		
MW-16	12/8/98					2.0		
MW-18	2/17/98					1.9		
	2/17/98					<2.8		
MW-23	2/17/98					11.0		
EPA	2/17/98					13.0		
	12/3/98					8.0		
MW-24	2/19/98				1			
EPA	2/19/98				1.1			
MW-25	2/19/98				1	19.0		
EPA	2/19/98				1.3	24.0		
MW-26	2/18/98				3			
	2/18/98				3.3			
	12/3/98				3.9	9.0		
MW-27	2/17/98					1.3		
	2/17/98					<2.8		
MW-36	01/21/98	11						
	08/06/98	<20						
MW-37	04/22/97		2.1					
	01/21/98			6.6				
	04/23/98			<10.0				
	12/03/98			6.4				
MW-56	10/21/97				2.0			
MW-60	04/22/97		1.6			1.7		
	08/07/98			7.7		4.9		
	11/17/98			4.7		5.2		
MW-66	01/21/98	11						
MW-67	01/20/98	17						
	08/06/98						140	1.6
	11/17/98						34	

Well ID	Sample Date	MEK ug/L	Carbon Disulfide	DBCM ug/L	1,1-DCA ug/L	Toluene ug/L	Chloro Benzene ug/L
PZ-2	01/22/98			0.7			
	04/23/98			<0.5			
	07/31/98			<0.5			
MW-23							1.2
MW-24	02/19/98					7.3	
EPA	02/19/98					4.1	
MW-26							2.4
MW-32	01/21/98				15		
	04/23/98				10		
	08/07/98				12		
MW-36	02/03/97					1.6	
	04/23/97					<1.0	
	08/06/98					<1.0	
MW-43	02/03/97					1.6	
	04/24/97					<1.0	
	02/03/97					38	
	04/22/97					<1.0	
MW-60	08/07/98				2		
MW-67							
NMED	10/02/96	10				2.0	
	01/30/97	67				1.9	
	04/21/97	71	1.7			1	
	08/21/97	61	1.7			<1.0	
	10/21/97	73	2.2			<1.0	
	01/20/98	73	2.4			<1.0	
	04/20/98	140	3.1				
	08/06/98		6.1				

*1 AEN supplied Trip Blank had <21 ppb acetone, "detection limit raised due to contamination suspected from Wheaton brand vial, not found in AEN refrigerator Blank." D.L. raised from <10 to <21. Affecting project no. 801361.

APPENDIX E

SUMMARY OF POTENTIAL PROBLEMS AND REMEDIES

Ground Water Monitoring Wells
Summary of Potential Problems and Remedies
4Q98

PZ-1	Did not sample 4Q98
PW-1	Bailed; slow recharge rate rate
MW-7	Bailed; no problems observed
MW-9	Bailed; no problems observed
MW-12	Bailed; no problems observed
MW-13	Bailed; no problems observed
MW-14	Bailed; no problems observed
MW-15	Well is dry
MW-16	Duplicate samples purgeable halocarbons labeled PZ-5; bailed
MW-17	Bailed; no problems observed
MW-18	Bailed
MW-19	No problems observed
MW-20	No problems observed
MW-21	Bailed; slow recharge rate
MW-22	Sand in purge water; cleared up at sample time
MW-23	Bailed; no problems observed
MW-24	Bailed; no problems observed
MW-25	Bailed; no problems observed
MW-26	Bailed; no problems observed
MW-27	Bailed; no problems observed; slow recharge rate
MW-28	Well is dry
MW-29	No problems observed
MW-30	No problems observed
MW-31	No problems observed
MW-32	No problems observed
MW-33	Bailed; no problems observed
MW-34	Purge water started off with a rusty coloration and cleared
MW-35	Bailed; no problems observed
MW-36	Bailed; no problems observed
MW-37	Bailed; slow recharge rate
MW-38	No problems observed
MW-39	No problems observed
MW-40	No problems observed
MW-41	No problems observed
MW-42	No problems observed
MW-43	No problems observed
MW-44	No problems observed
MW-45	Resample CR+6 outside 24 hr. hold time
MW-46	No problems observed; resample CR+6 outside 24 hr. hold time
MW-47	No problems observed

MW-48	Resample CR+6 outside 24 hr. hold time
MW-49	No problems observed
MW-50	Well is dry
MW-51	No problems observed
MW-52	Resample CR+6 outside 24 hr. hold time
MW-53	Duplicate samples purgeable halocarbons labeled PZ-4
MW-54	Did not sample 4Q98
MW-55	No problems observed
MW-56	No problems observed
MW-57	Bailed; no problems observed
MW-58	No problems observed
MW-59	No problems observed
MW-60	No problems observed
MW-61	Bailed; no problems observed; scheduled on 2/12/99 to reinstall pump and troubleshoot pump performance
MW-62	Bailed; no problems observed
MW-63	Bailed; sand in well; scheduled to bail sand 2/12/99
MW-64	No problems observed
MW-65	Resample CR+6 outside 24 hr. hold time
MW-66	Duplicate samples; purgeable halocarbons labeled PZ-3
MW-67	Resample CR+6 outside 24 hr. hold time
MW-68	No problems observed
MW-69	No problems observed
MW-70	No problems observed
MW-71	No problems observed
Canal	No water; dry