

November 15, 1999
Job #386707

Mr. Robert Cochran
Chevron Products Company
P.O. Box 6004
San Ramon, CA 94583

RE: Second Semi-Annual 1999 Groundwater Monitoring & Sampling Report
Former Chevron Service Station No. 9-2609/State Facility ID:
Seward Highway – Mile 79
Portage, Alaska

Dear Mr. Cochran:

This report documents the semi-annual groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R). On October 14, 1999, field personnel were on-site to monitor and sample eight wells (MW-1 through MW-8) at the above referenced site.

Static groundwater levels were measured and the wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in any of the wells. Static water level data and groundwater elevations are presented in Table 1. A Potentiometric Map is included as Figure 1. Purge water was subsequently discharged.

Groundwater samples were collected from the monitoring wells as specified by G-R Standard Operating Procedure - Groundwater Sampling (attached). The field data sheets for this event are attached. The samples were analyzed by Severn Trent Laboratories, Inc. an approved Alaska facility. Analytical results are presented in Tables 1 and 2. An Isoconcentration Map is included as Figure 2 and a Concentration Map is included as Figure 3. The chain of custody document and laboratory analytical reports are attached.

Please call if you have any questions or comments regarding this report. Thank you.

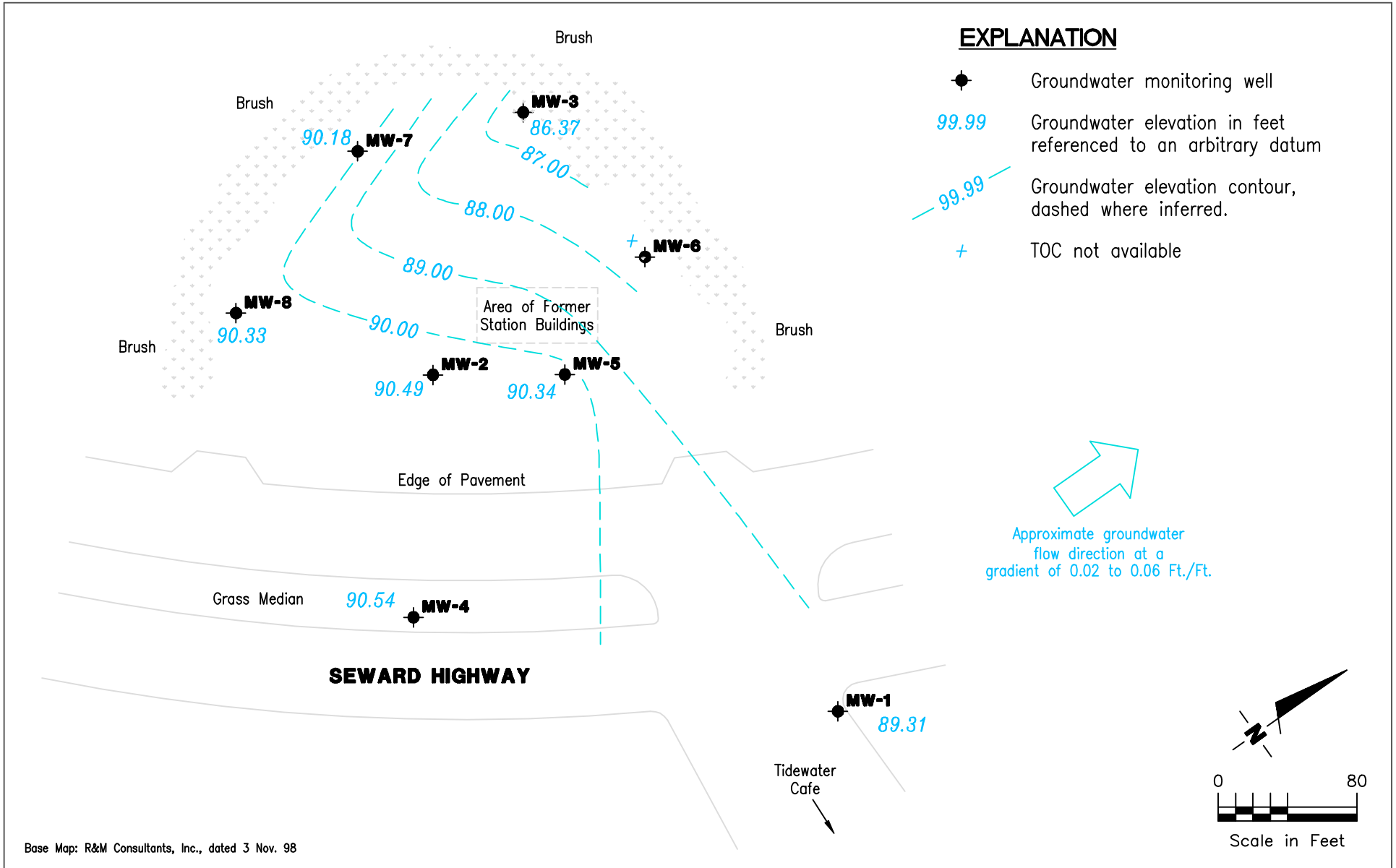
Sincerely,

Deanna L. Harding
Project Coordinator

Stephen J. Carter
Senior Geologist

Figure 1: Potentiometric Map
Figure 2: Isoconcentration Map – Diesel Range Organics
Figure 3: Concentration Map
Table 1: Groundwater Monitoring Data and Analytical Results
Table 2: Groundwater Analytical Results
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports

cc: Ms. Eileen Olson, State of Alaska, DOEC, 555 Cordova Street, Anchorage, AK 99501
Mr. Rusty Benkosky, Secor International, 9912 Business Park Drive, Sacramento, CA 95827



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 Dublin, CA 94568

POTENTIOMETRIC MAP

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FIGURE

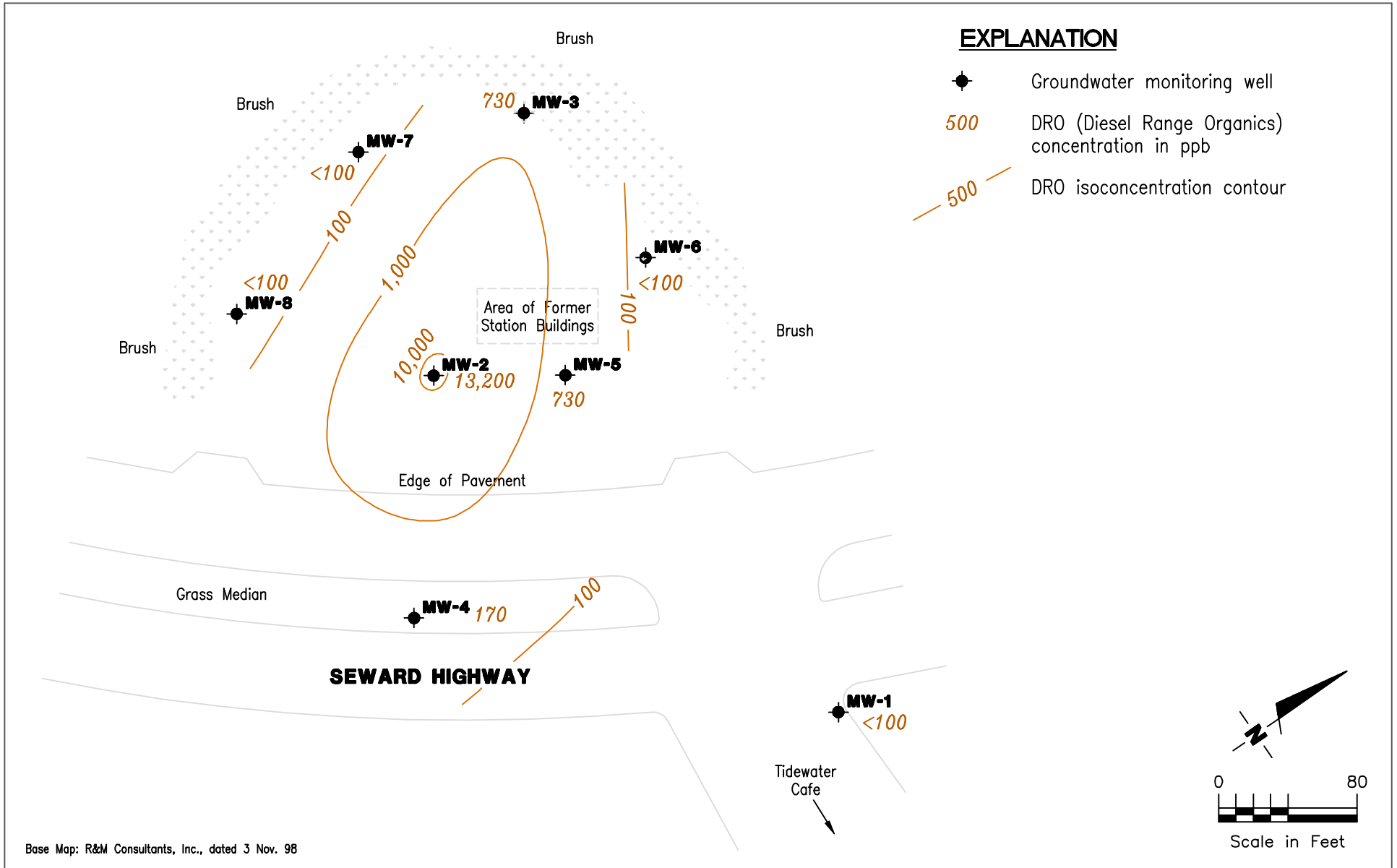
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DATE
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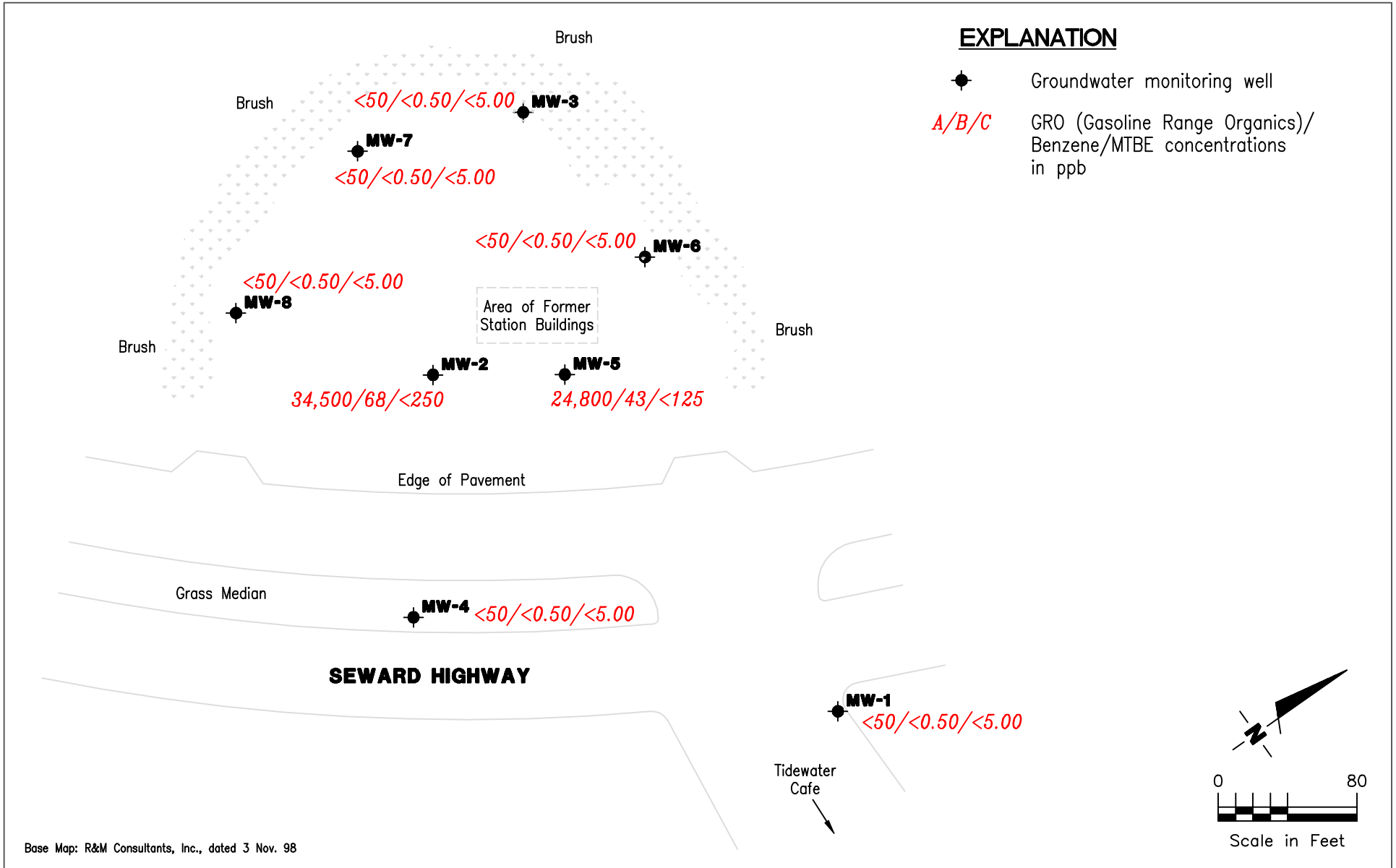
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DRO ISOCONCENTRATION MAP

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FIGURE

2



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CONCENTRATION MAP

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FIGURE

3

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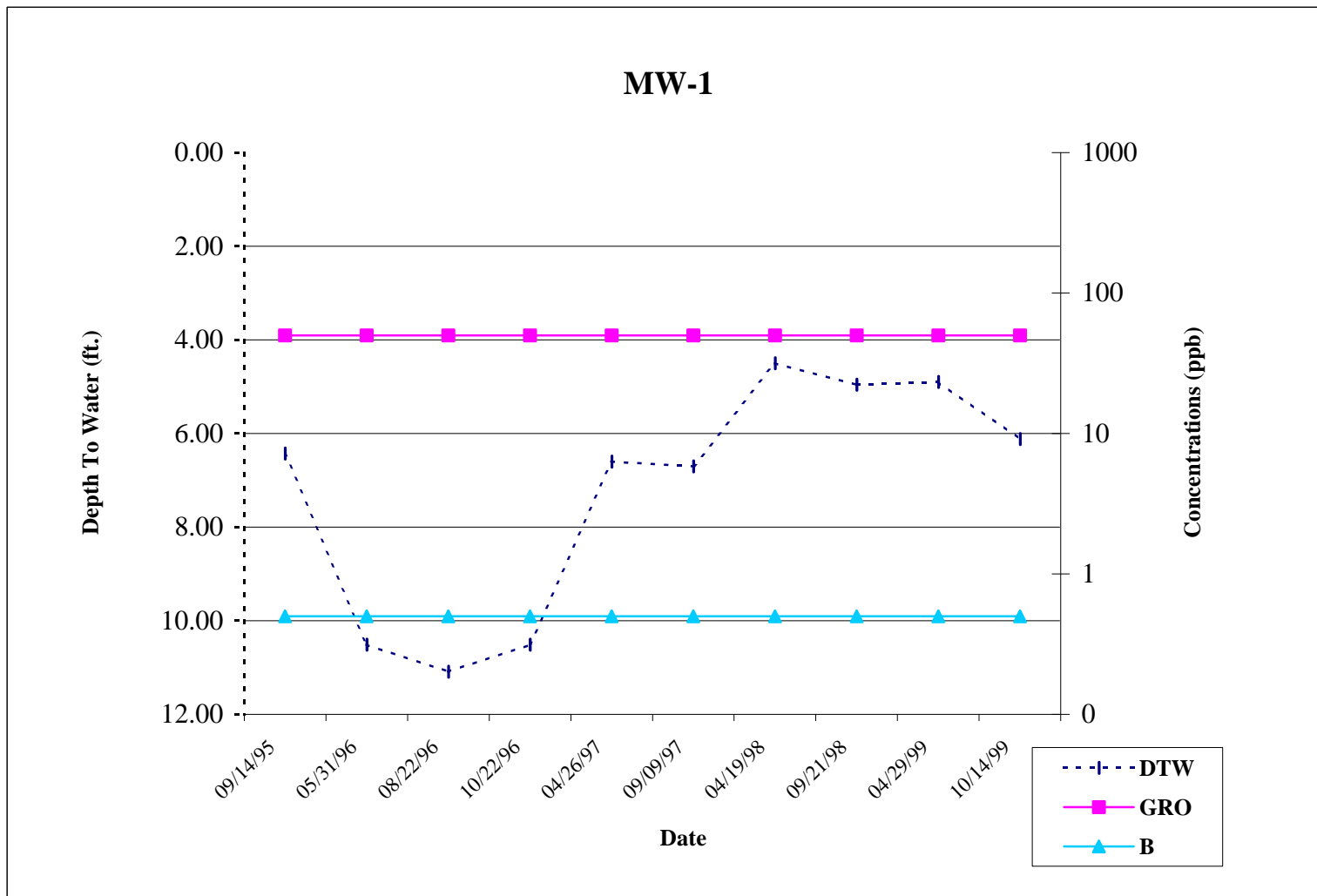
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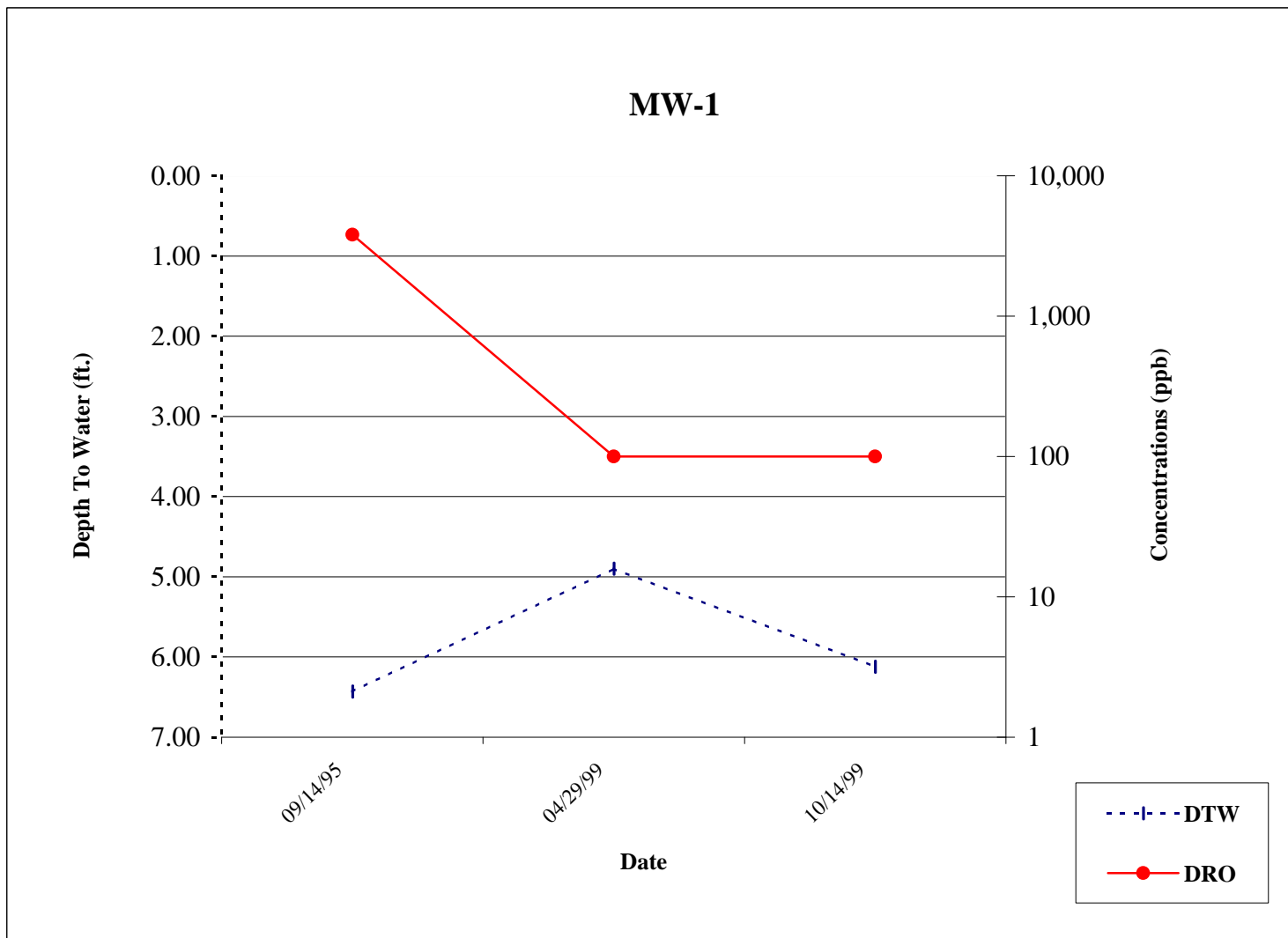
Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	GWE (ft.)	DRO (ppb)	GRO (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppm)
MW-1											
25.60	09/14/95	6.43	19.17	3,800	ND	ND	ND	ND	ND	--	240
	05/31/96	10.51	15.09	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	08/22/96	11.09	14.51	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
(D)	08/22/96	11.09	14.51	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	10/22/96	10.51	15.09	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	04/26/97	6.60	19.00	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	09/09/97	6.70	18.90	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	04/19/98	4.50	21.10	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	09/21/98	4.96	20.64	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
95.43	04/29/99	4.90	90.53	100	<50	<0.50	<0.50	<0.50	<0.50	<5.00	--
	10/14/99	6.12	89.31	<100^c	<50	<0.50	<0.50	<0.50	<0.50	<5.00	--

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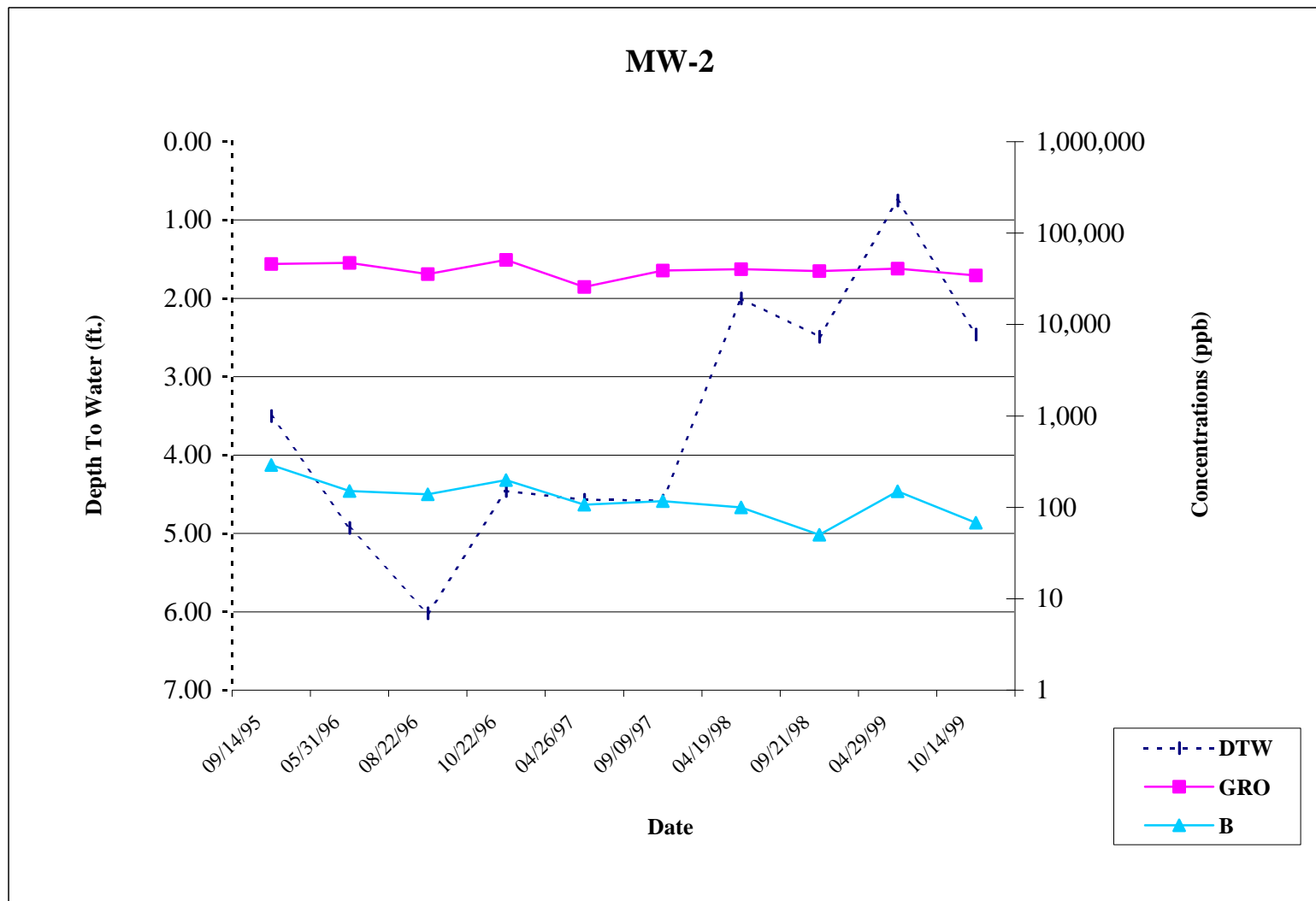


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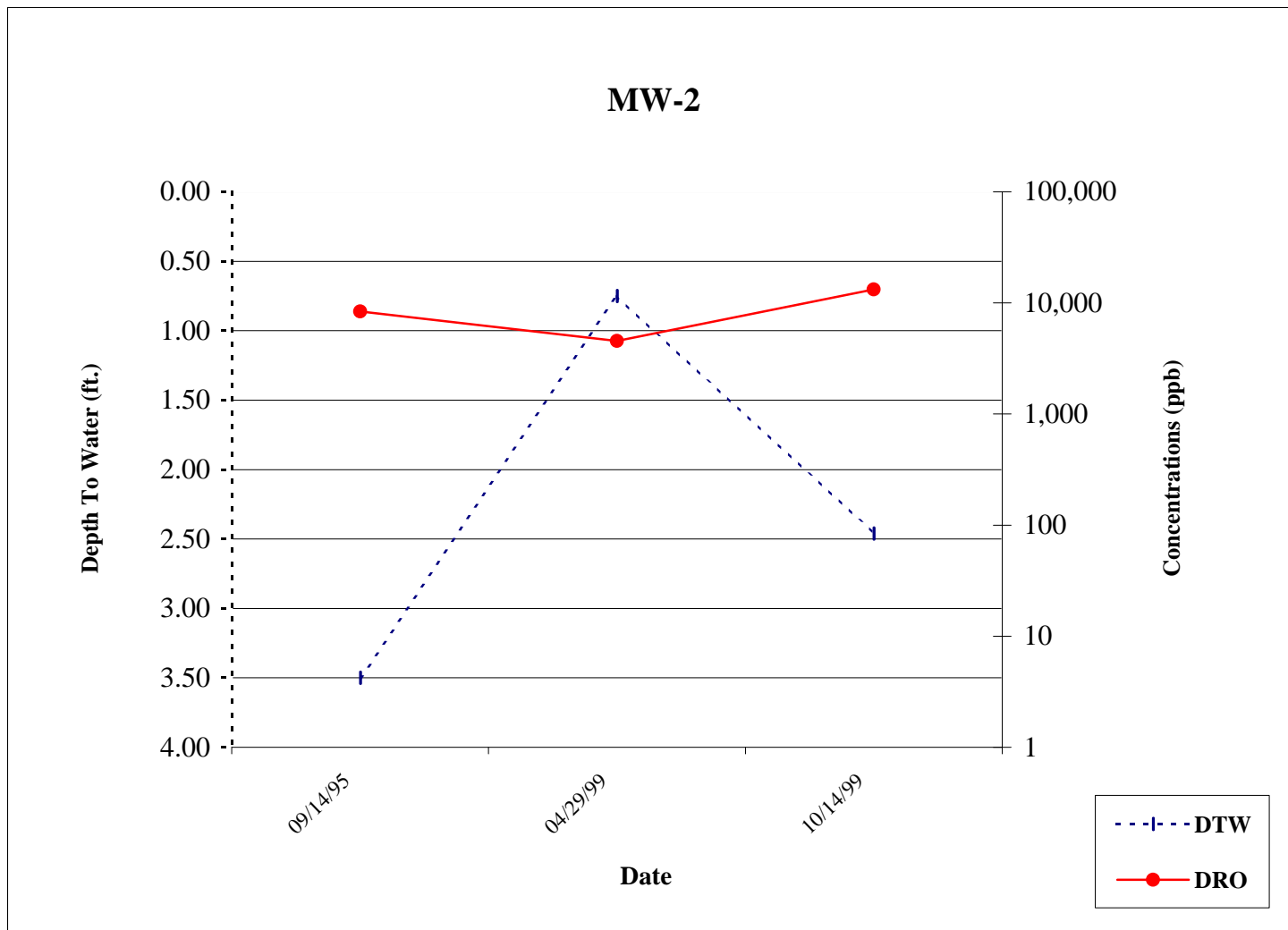
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MW-2											
23.13	09/14/95	3.50	19.63	8,400	46,000	290	8,900	760	4,700	--	310
	(D) 09/14/95	--	--	--	46,000	--	--	--	--	--	--
	05/31/96	4.93	18.20	--	47,400	151	6,990	848	4,850	--	--
	08/22/96	6.02	17.11	--	35,500	139	4,430	984	5,490	--	--
	10/22/96	4.46	18.67	--	50,800	199	7,500	1,080	6,190	--	--
	04/26/97	4.57	18.56	--	25,800	107	2,750	492	2,850	--	--
	(D) 04/26/97	4.57	18.56	--	28,100	114	3,020	505	2,980	--	--
	09/09/97	4.58	18.55	--	39,000	117	7,070	1,400	6,900	--	--
	(D) 09/09/97	4.58	18.55	--	39,800	118	6,950	1,410	6,930	--	--
	04/19/98	2.00	21.13	--	40,300	<100	6,800	1,380	7,580	--	--
	09/21/98	2.49	20.64	--	38,500	<50	4,770	1,200	7,020	--	--
92.95	04/29/99	0.75	92.20	4,540	40,800	150	3,160	1,030	5,740	232/<50 ¹	--
	10/14/99	2.46	90.49	13,200²	34,500	68	4,400	1,220	6,990	<250	--
	(D) 10/14/99	--	--	--	35,000	53	4,570	1,250	7,400	<250	--

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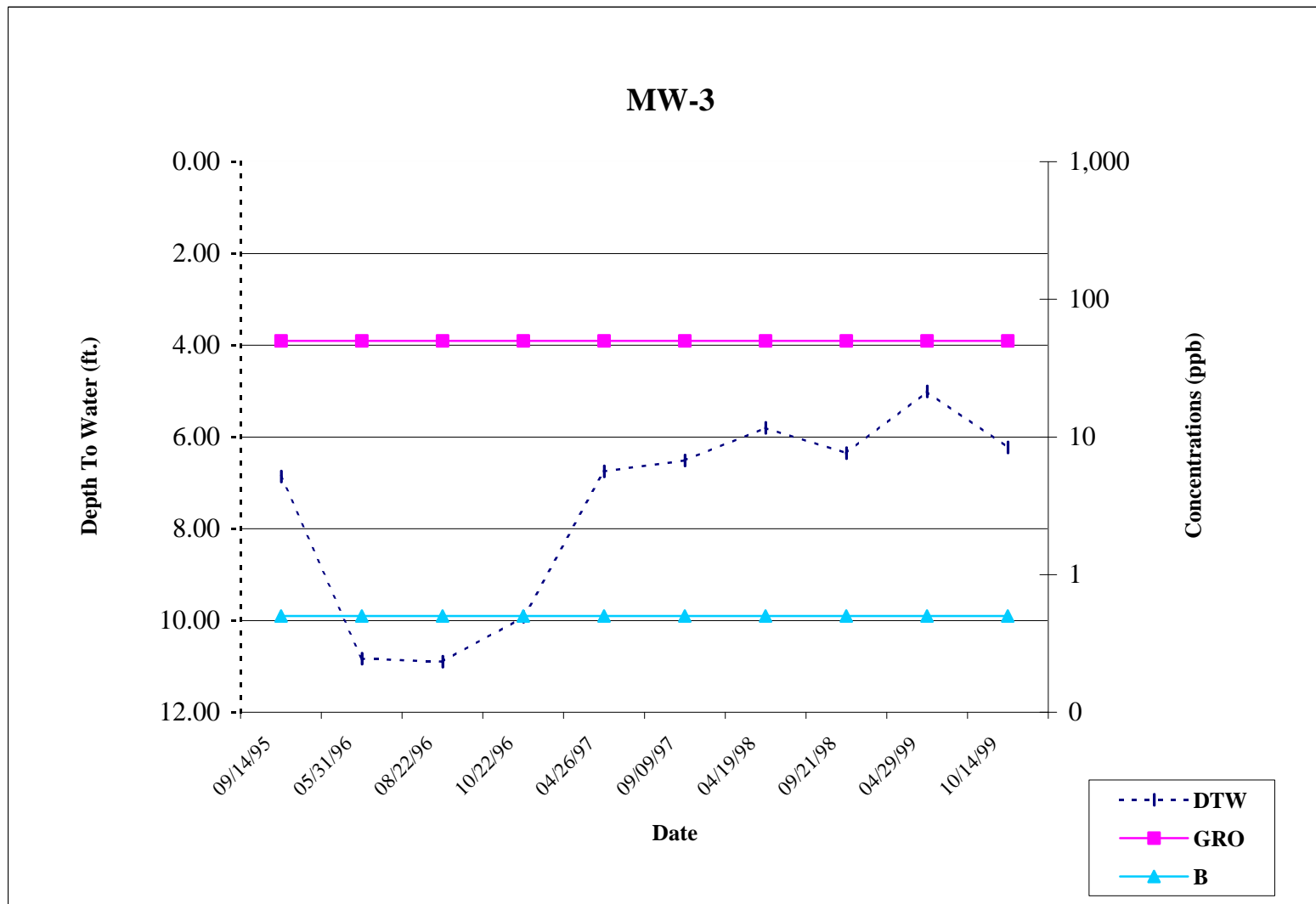


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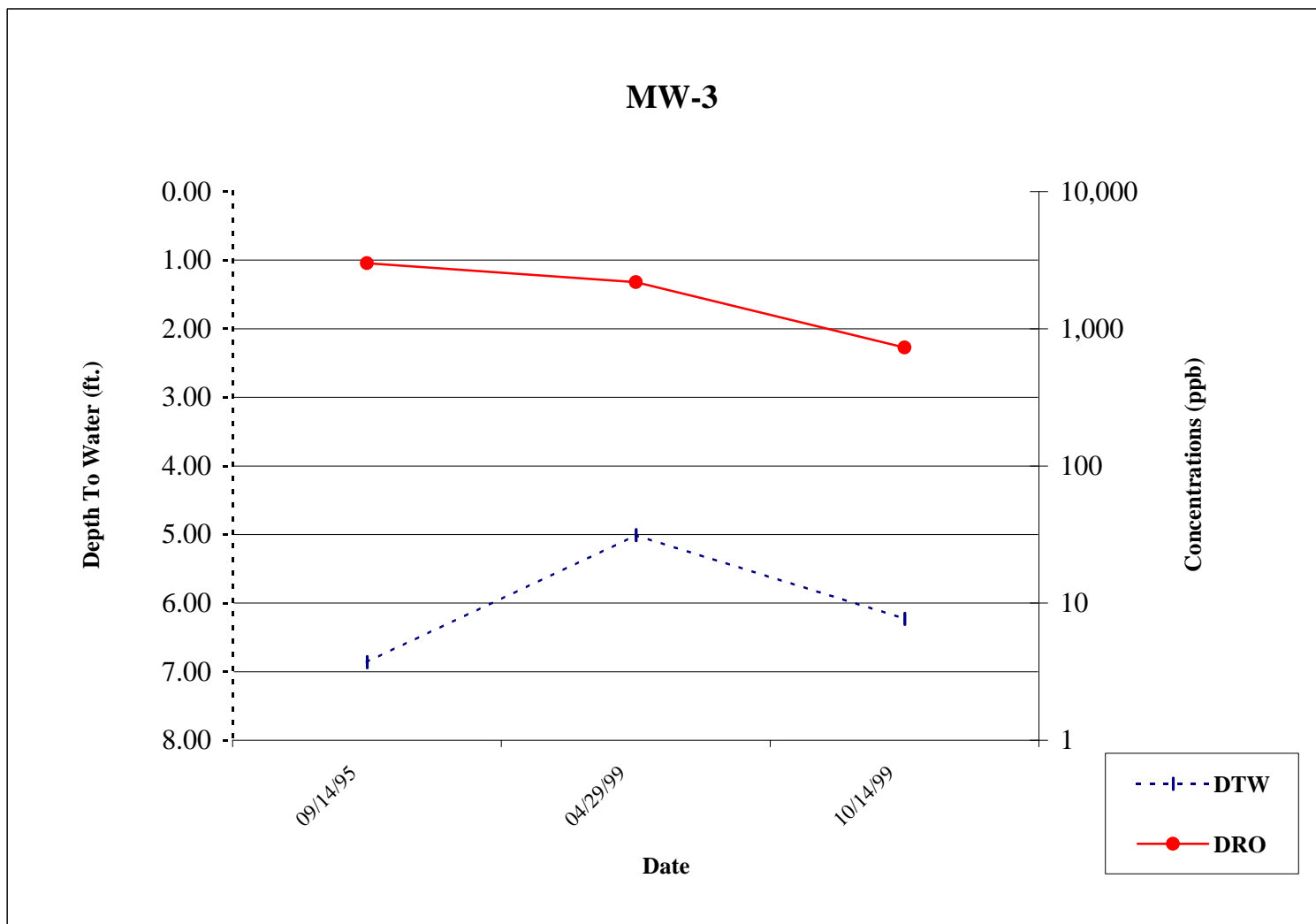
Table 1
Groundwater Monitoring Data and Analytical Results

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	GWE (ft.)	DRO (ppb)	GRO (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppm)
MW-3											
25.78	09/14/95	6.86	18.92	3,000	ND	ND	0.63	ND	ND	--	140
	05/31/96	10.83	14.95	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	08/22/96	10.90	14.88	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	10/22/96	9.92	15.86	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
(D)	10/22/96	--	--	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	04/26/97	6.75	19.03	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	09/09/97	6.51	19.27	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	04/19/98	5.80	19.98	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
(D)	04/19/98	--	--	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	09/21/98	6.35	19.43	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
(D)	09/21/98	--	--	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
92.60	04/29/99	5.01	87.59	2,190	<50	<0.50	<0.50	<0.50	<0.50	<5.00	--
	10/14/99	6.23	86.37	730^e	<50	<0.50	5.67	<0.50	3.32	<5.00	--

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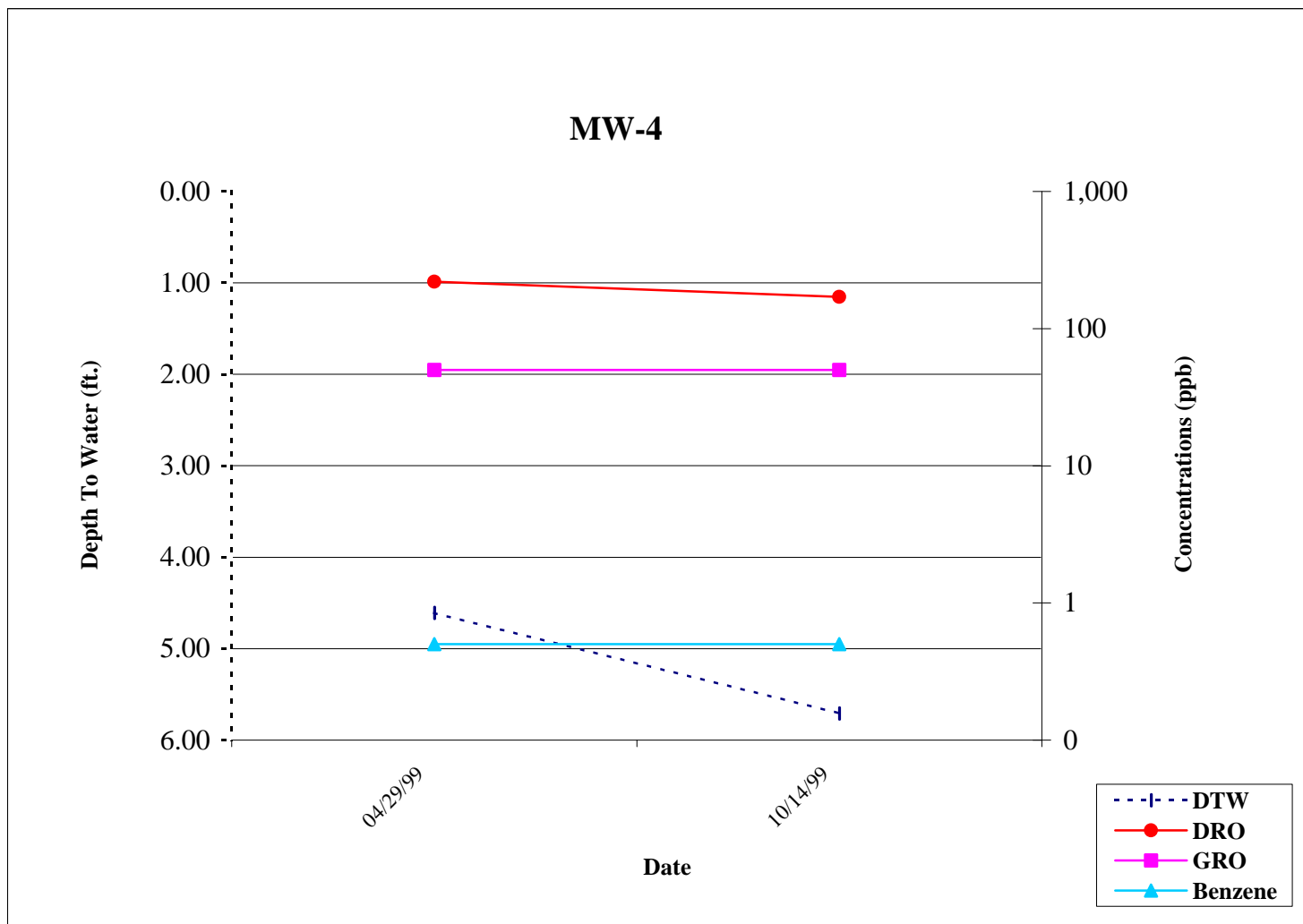


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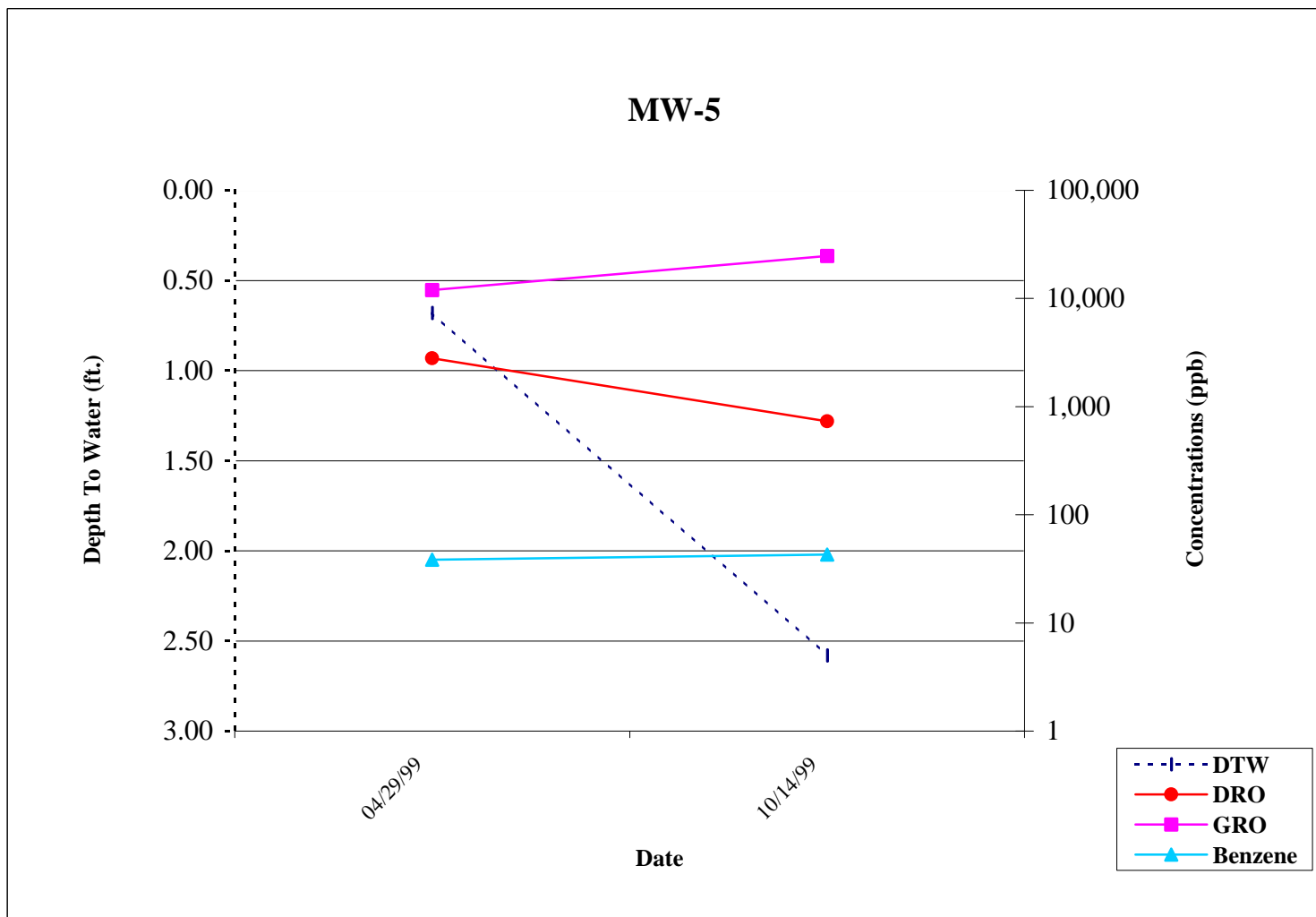
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WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	GWE (ft.)	DRO (ppb)	GRO (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppm)
MW-4											
96.25	09/17/98	--	--	<100	<50	<0.5	<0.5	<0.5	<1.0	--	--
	09/27/98	6.52	89.73	--	--	--	--	--	--	--	--
	04/29/99	4.61	91.64	220	<50	<0.50	<0.50	<0.50	<0.50	<5.00	--
	10/14/99	5.71	90.54	170^z	<50	<0.50	2.18	<0.50	0.95	<5.00	--
MW-5											
92.92	09/17/98	--	--	4,730	49,400	<100	5,650	2,030	10,300	--	--
	09/27/98	3.54	89.38	--	--	--	--	--	--	--	--
	04/29/99	0.68	92.24	2,800	12,000	38.4	1,310	257	1,520	89.5	--
	04/29/99	--	--	--	15,300	44.2	1,660	328	1,910	104	--
	10/14/99	2.58	90.34	730^z	24,800	43	1,810	806	4,670	<125	--

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WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	GWE (ft.)	DRO (ppb)	GRO (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppm)	
MW-6												
	09/17/98	--	--	445	222	<0.5	<0.5	2.77	6.64	--	--	
	09/27/98	5.64	--	--	--	--	--	--	--	--	--	
	04/29/99	UNABLE TO LOCATE - AREA UNDER SNOW/FLOODED					--	--	--	--	--	--
	10/14/99	3.15	--	<100^z	<50	<0.50	2.41	<0.50	2.80	<5.00	--	
MW-7												
91.76	09/17/98	--	--	7,500	7,100	<27.0	<12.0	21.2	52.0	--	--	
	09/27/98	2.28	89.48	--	--	--	--	--	--	--	--	
	04/29/99	UNABLE TO LOCATE - AREA UNDER SNOW/FLOODED					--	--	--	--	--	
	10/14/99	1.58	90.18	<100^z	<50	<0.50	0.62	<0.50	0.76	<5.00	--	
MW-8												
93.22	09/17/98	--	--	134	<50	<0.5	<0.5	<0.5	<1.0	--	--	
	09/27/98	3.72	89.50	--	--	--	--	--	--	--	--	
	04/29/99	UNABLE TO LOCATE - AREA UNDER SNOW/FLOODED					--	--	--	--	--	
	10/14/99	2.89	90.33	<100^z	<50	<0.50	<0.50	<0.50	<0.50	<5.00	--	

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WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	GWE (ft.)	DRO (ppb)	GRO (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	TDS (ppm)
Trip Blank											
TB-LB	09/14/95	--	--	--	--	ND	ND	ND	ND	--	--
	05/31/96	--	--	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	08/22/96	--	--	--	<50	<0.5	0.683	<0.5	<1.0	--	--
	10/22/96	--	--	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	04/26/97	--	--	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	09/09/97	--	--	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	04/19/98	--	--	--	<50	<0.5	<0.5	<0.5	<1.0	--	--
	04/29/99	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.00	--
	10/14/99	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.00	--

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Table 1
Groundwater Monitoring Data and Analytical Results

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to April 29, 1999, were compiled from reports prepared by Blaine Tech Services, Inc. and Secor International Inc.

TOC = Top of Casing elevation
(ft.) = Feet
DTW = Depth to Water
GWE = Groundwater Elevation
DRO = Diesel Range Organics
GRO = Gasoline Range Organics

B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl tertiary butyl ether
TDS = Total Dissolved Solids

ppb = Parts per billion
ppm = Parts per million
ND = Not Detected
-- = Not Measured/Not Analyzed
D = Duplicate

* TOC elevation are relative to an arbitrary datum of 100.00 feet assumed for Benchmark "CP2" located along highway approximately 950 feet North of site.

¹ MTBE by EPA Method 8260B.

² DRO with silica gel cleanup.

NOTE:

In order to plot data in the charts, all NDs have been assigned an arbitrary number consistent with the detection limit for each constituent analyzed. Please refer to table for specific results/detection limits.

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Table 2
Groundwater Analytical Results

WELL ID	DATE	D.O. BEFORE PURGE (mg/L)	D.O. AFTER PURGE (mV)	TOTAL ALKALINITY (ppm)	NITRATE/ NITRITE NITROGEN (ppb)	FERROUS IRON (ppm)	SULFATE (ppm)
MW-1	04/19/98	8.6	-56	33	43.2	0.827	1.2
	09/21/98	8.0	9.0	111	621	<0.5	14.6
MW-2	04/19/98	3.3	-60	120	<10	68	3.62
	09/21/98	2.8	-10	239	<10	386	<0.2
MW-3	04/19/98	7.2	-54	107	26.1	<0.5	4.79
	(D) 04/19/98	--	--	27	23.8	<0.5	9.43
	09/21/98	6.3	0.0	61.2	<10	23.4	2.89
	(D) 09/21/98	--	--	60	22.3	86.4	2.84

EXPLANATIONS:

Groundwater laboratory analytical results were compiled from reports prepared by Blaine Tech Services, Inc.

D.O. = Dissolved Oxygen

mg/L = Milligrams per Liter

mV = Millivolts

ppm = Parts per million

ppb = Parts per billion

(D) = Duplicate

-- = Not Measured/Not Analyzed