Appendix A: Tables A-1 through A-10

Table A-1. Well-data summary for wells 1-16.

Well #	MBMG M #	LOCATION	DATE INVENTORIED	DATE DRILLED	PUMP	SURF ELEV (ft)	TOTAL DEPTH (ft)	BOTTOM ELEV (ft)	CASING DIAM (inches)	COMPLETION	LITHOLOGY			SWL (ft)	WL ELEV (ft)	WATER USE	SAMPLE TAKEN
											From	To	Description				
1	M:166836	21N 01W 02 CCBC	28-Apr-98	Jun-97	Sub	3882	35	3847	6	Perfs: 15-35'	0	9	Clay-Gravel	14.2	3868	Dom	Y
											9	22	Gravel				
											22	35	Shale				
2	M:140907	21N 01W 04 ABBB	28-Apr-98	Oct-93	Jet	3900	30	3870	6	Open bottom, no perfs	0	4	Topsoil	11.2	3889	Dom	Y
											4	31	Gravel				
											31	40	Shale				
3	M:123421	21N 02W 01 CCCA	28-Apr-98	Apr-91	Sub	4016	33	3983	6	Open bottom, no perfs	0	8	Topsoil	18.9	3997	Dom	Y
											8	34	Gravel-Sand				
											34	40	Shale				
4	M:166839	22N 02W 06 DAAD	30-Apr-98	Apr-87	Sub	3986	50	3936	6	Open bottom, perfs: 10-50'	0	5	Top Soil	7.5	3979	Dom	Y
											5	9	Gravel				
											9	12	Cemented Gravel				
											12	16	Gravel				
											16	47	Gray Clay				
											47	50	Blue Colorado Shale				
5	M:75563	21N 03W 03 CBBC	27-Apr-98	Apr-94	Sub	4000	26	3974	6	Slotted screen, 20-26'	0	24	Gravel	23.6	3976	Dom	Y
											24	26	Clay				
6	M:75586	21N 03W 11 ABAB	27-Apr-98	Oct-85	Jet	4030	24	4006	6	Open bottom, perfs: 18-24'	0	16	Gravel-Rock	11.4	4019	Dom	Y
											16	24	Sand-Gravel				
											24	36	Yellow Clay				
7	M:76513	22N 01W 10 BBBB	30-Apr-98	Oct-78	Jet	3738	30	3708	4.5	Open bottom, perfs: 15-30'	0	5	Sandy Loam	19.5	3719	Dom	Y
											5	23	Sand & Gravel				
											23	26	Yellow Clay				
											26	30	Blue Clay to Shale				
8	M:166837	22N 01W 20 DAAA	28-Apr-98		Sub	3845	18.2	3826.8	6	Perfs: 17-20'	0	20	Gravel	10.2	3835	Dom	Y
											20	25	Blue Shale				
9	M:76500	22N 02W 02 DDDD	29-Apr-98	Apr-75	Sub	3812	27	3785	5	Open bottom, perfs: 7-27'	0	5	Sandy Loam	9.9	3802	Dom	Y
											5	26	Sand & Gravel				
											26	27	Shale				
10	M:76565	22N 02W 08 BCCC	28-Apr-98	May-49	Sub	3890	16	3874	6	Open bottom, no perfs	0	6	Gumbo	9.8	3880	Irr/Dom	Y
											6	16	Gravel				
11	M:149990	22N 02W 15 AADD	28-Apr-98	May-95	Jet	3835	18.5	3816.5	6	Open bottom, no perfs	0	7	Clay & Topsoil	9.0	3826	Dom	Y
											7	20	Gravel				
											20	22	Clay (shale)				
12	M:76598	22N 02W 24 BABC	29-Apr-98	Oct-77	Sub	3855	50	3805	4	Open bottom, perfs: 10-50'	0	15	Sandy Loam	33.0	3822	Dom	Y
											15	30	Damp Sand				
											30	40	Yellow Clay				
											40	50	Sand & Gravel				
13	M:166840	22N 02W 26 DDAA	28-Apr-98		Jet	3901	14.8	3886.2	9.8	No well log*	0	14.8	Clay,Silt,Sand & Gravel*	9.6	3891	Dom	Y
14	M:135323	22N 02W 30 DADB	27-Apr-98	Apr-93	Sub	3908	28	3880	5	Slotted screen, 13-28'	0	8	Gravel, Clayish Silt	10.9	3897	Dom	Y
											8	20	Gravel Till				
											20	27	Gravel and Silt				
											27	28	Clay				
15	M:166838	22N 03W 11 AAAB	29-Apr-98		MS	3908	23	3885	4	Perforated lateral pipe	0	22	Gravel		#REF!	Public	Y
											22	23	Shale				
16	M:76669	22N 03W 23 BAAB	29-Apr-98	Oct-91	Jet	3949	63	3886	4.5	Open bottom, perfs: 43-63'	0	5	Sandy Loam	42.0	3907	Dom	Y
											5	62	Sand, Gravel, Boulders				
											62	63	Blue Shale				

* *No well log, lithology based on surrounding wells.*

Table A-2. Inorganic ground-water quality - Basic Parameters.

MBMG QW #	MBMG ID #	LOCATION	SAMPLE SOURCE	WELL DEPTH (ft)	AQUIFER	SAMPLE DATE	TDS CALC'D (mg/l)	TDS SUM OF DIS CONST (mg/l)	FLD SC (umho/cm)	LAB SC (umho/cm)	FIELD pH	LAB pH	HRDNS AS CaCO3 (mg/l)	ALK AS CaCO3 (mg/l)	RYZNAR STAB IND	LANGLIER SAT IND	SAR	AIR TEMP (deg C)	WATER TEMP (deg C)
98Q0923	M:166836	21N 01W 02 CCBC	1	16	M	28-Apr-98	428	637	485	797	8.6	7.91	393	337	7.27	0.32	0.67	21	8
98Q0916	M:140907	21N 01W 04 ABBB	2	33	M	28-Apr-98	357	536	399	649	7.6	7.6	305	289	7.2	0.2	0.45	24	6.5
98Q0920	M:123421	21N 02W 01 CCCA	3	15	M	28-Apr-98	577	781	647	999	7.9	7.9	308	329	7.25	0.32	2.83	21	8
98Q0912	M:166839	22N 02W 06 DAAD	4	50	M	30-Apr-98	1992	2219	1517	2610	7.1	7.72	1140	366	5.58	1.07	3.25	17	7.5
98Q0915	M:75563	21N 03W 03 CBBCC	5	30	M	28-Apr-98	189	287	247	364	7.5	7.5	168	159	8.24	-0.37	0.24	24	10.9
98Q0919	M:75586	21N 03W 11 ABAB	6	24	Q OR M	27-Apr-98	330	443	502	850	7.5	7.64	369	182	7.6	0.02	0.68	20	7.5
98Q0922	M:76513	22N 01W 10 BBBB	7	30	M	30-Apr-98	500	732	530	933	7.6	7.8	411	375	6.63	0.58	0.77	20	8.5
98Q0924	M:166837	22N 01W 20 DAAD	8	18	Q	28-Apr-98	344	482	346	607	8.8	7.93	317	223	7.17	0.38	0.36	24	7.5
98Q0921	M:76500	22N 02W 02 DDDD	9	63	M	29-Apr-98	391	590	411	717	7.5	7.89	318	321	6.95	0.47	0.69	24	9
98Q0917	M:76565	22N 02W 08 BCCC	10	30	Q	28-Apr-98	336	523	347	620	9.3	7.95	296	302	7.26	0.35	0.54	16	6.5
98Q0913	M:149990	22N 02W 15 AADD	11	22	M	28-Apr-98	802	978	648	1172	9.0	7.55	481	285	6.78	0.39	1.78	24	7
98Q0918	M:76598	22N 02W 24 BABC	12	27	M	29-Apr-98	399	595	428	706	7.1	7.58	307	316	7.53	0.02	1.01	18	9.5
98Q0914	M:166840	22N 02W 26 DDAA	13	25	Q	28-Apr-98	555	796	590	1008	8.5	7.6	353	390	7.36	0.12	2.1	24	7.5
98Q0926	T:135323	22N 02W 30 DADB	14	50	Q	29-Apr-98	318	496	368	611	7.6	7.91	317	287	6.72	0.59	0.18	20	8.5
98Q0911	M:166839	22N 03W 11 AAAB	15	23	M	27-Apr-98	305	479	287	589	7.8	7.82	299	281	7.43	0.2	0.27	24	7.5
98Q0925	M:76669	22N 03W 23 BAAB	16	63	M	29-Apr-98	268	416	254	556	8.1	7.67	273	240	7.81	-0.07	0.17	27	10
01Q0226	183253	22N02W29CCCC	OW-1	30	Q	18-Jul-00	645	884	NA	1112	NA	7.85	504	387	7.01	0.42	1.21	NA	NA
01Q0225	183252	22N02W29CCCA	OW-2	31	M	18-Jul-00	272	433	NA	486	NA	8.01	246	260	7.04	0.49	0.22	NA	NA
01Q0223	183250	22N02W29CCCB	OW-3	28	Q/M	18-Jul-00	155	246	NA	265	NA	8.03	144	147	7.66	0.19	0.09	NA	NA
01Q0224	183251	22N02W24BADD	OW-4		Q	18-Jul-00	426	677	NA	763	NA	7.97	384	406	6.59	0.69	0.35	NA	NA

Statistics:

Min	155	246	247	265	7.1	7.5	144	147	5.58	-0.37	0.09
Max	1992	2219	1517	2610	9.3	8.03	1140	406	8.24	1.07	3.25
Average	479	661	500	821	8.0	7.79	367	294	7.154	0.32	0.893
Median	374	563	420	712	7.7	7.84	317	295	7.225	0.34	0.605
STD	388	412	299	483	0.7	0.17	202	76	0.554	0.31	0.908

Table A-3. Inorganic ground-water quality - Common Ions.

MBMG QW #	MBMG ID #	LOCATION	well no.	WELL DEPTH (ft)	AQUIFER	SAMPLE DATE	TDS SUM OF DIS CONST (mg/l)	Ca (mg/l)	Ca (meq/L)	Mg (mg/l)	Mg (meq/L)	Na (mg/l)	Na (meq/L)	K (mg/l)	K (meq/L)	Fe (mg/l)	Mn (mg/l)	SiO2 (mg/l)	HCO3 (mg/l)	HCO3 (meq/L)	CO3 (mg/l)	Cl (mg/l)	Cl (meq/L)	SO4 (mg/l)	SO4 (meq/L)	NO3 as N (mg/l)	F (mg/l)	Ortho-PO4 (mg/l)
98Q0923	M:166836	21N 01W 02 CCBC	1	30	M	28-Apr-98	637	24.1	1.2	80.88	6.65	30.7	1.3	1.216	0.03	0.007	<.001	8.5	410.9	6.7	0.0	7.157	0.2	64.6	1.3	7.68 P	0.8	<.05
98Q0916	M:140907	21N 01W 04 ABBB	2	30	M	28-Apr-98	536	43.5	2.17	47.6	3.92	18.1	0.8	1.7	0.043	<.005	<.001	9.2	351.8	5.8	0.0	6.26	0.2	52.2	1.1	4.71 P	0.69	<.05
98Q0920	M:123421	21N 02W 01 CCCA	3	33	M	28-Apr-98	781	25.5	1.27	59.4	4.89	114.3	5.0	1.987	0.05	<.005	<.001	8.6	401.4	6.6	0.0	<10.	0.0	151.5	3.2	16.8 P	1.04	<1.
98Q0912	M:166839	22N 02W 06 DAAD	4	50	M	30-Apr-98	2,219	194	9.68	159.2	13.1	252.1	11.0	3.32	0.083	0.192	0.198	9.7	445.7	7.3	0.0	190.5	5.4	959.8	20.0	3.06 P	0.7	<1.
98Q0915	M:75563	21N 03W 03 CBBCC	5	25	M	28-Apr-98	287	26.8	1.34	24.5	2.02	7.2	0.3	0.831	0.021	<.005	<.001	7.1	193.7	3.2	0.0	2.01	0.1	23.24	0.5	1.34 P	0.214	<.05
98Q0919	M:75586	21N 03W 11 ABAB	6	24	Q/M	27-Apr-98	443	41.8	2.09	64.4	5.3	29.98	1.3	1.454	0.036	<.005	<.001	9	221.4	3.6	0.0	12.12	0.3	52.5	1.1	9.53 P	0.353	<.05
98Q0922	M:76513	22N 01W 10 BBBB	7	30	M	30-Apr-98	732	51.2	2.55	68.9	5.67	35.8	1.6	1.429	0.036	<.005	<.001	9.9	457.3	7.5	0.0	<10.	0.0	101.9	2.1	4.04 P	1.25	<1.
98Q0924	M:166837	22N 01W 20 DAAD	8	18	Q	28-Apr-98	482	39.94	1.99	52.9	4.35	14.77	0.6	0.765	0.019	<.005	<.001	8.045	272.3	4.5	0.0	12.6	0.4	75.1	1.6	5.16 P	0.208	<.05
98Q0921	M:76500	22N 02W 02 DDDD	9	27	M	29-Apr-98	590	37.6	1.88	54.4	4.47	28.4	1.2	1.301	0.033	<.005	<.001	9.1	391.9	6.4	0.0	5.59	0.2	57.6	1.2	2.80 P	0.829	<.05
98Q0917	M:76565	22N 02W 08 BCCC	10	16	Q	28-Apr-98	523	26.1	1.3	56.04	4.61	21.4	0.9	1.027	0.026	<.005	<.001	8.2	368.4	6	0.0	4.89	0.1	31.19	0.6	4.72 P	1.3	<.05
98Q0913	M:149990	22N 02W 15 AADD	11	22	M	28-Apr-98	978	76.2	3.8	70.6	5.81	89.6	3.9	1.612	0.04	0.013	0.001	9.5	347.2	5.7	0.0	<10.	0.0	375.4	7.8	7.01 P	1.08	<1.
98Q0918	M:76598	22N 02W 24 BABC	12	50	M	29-Apr-98	595	27.84	1.39	57.65	4.47	40.48	1.8	1.186	0.03	<.005	<.001	10.08	385	6.3	0.0	5.41	0.2	61.93	1.3	3.87 P	1.32	<.05
98Q0914	M:166840	22N 02W 26 DDAA	13	15	Q	28-Apr-98	796	27	1.35	69.4	5.71	90.8	3.9	2.05	0.051	<.005	<.001	8.8	475.3	7.8	0.0	14.8	0.4	83.6	1.7	23.0 P	1.45	<.05
98Q0926	M:135323	22N 02W 30 DADB	14	28	Q/M	27-Apr-98	496	53.02	2.65	44.97	3.7	7.267	0.3	1.048	0.026	<.005	<.001	8.8	350.4	5.7	0.0	3.27	0.1	22.93	0.5	3.58 P	0.389	<.05
98Q0911	M:166838	22N 03W 11 AAAB	15	23	Q	29-Apr-98	479	26.8	1.34	56.5	4.65	10.8	0.5	1.121	0.028	<.005	<.001	8	342.6	5.6	0.0	3.9	0.1	23.5	0.5	4.9 P	0.851	<.05
98Q0925	M:76669	22N 03W 23 BAAB	16	63	M	29-Apr-98	416	24.1	1.2	51.6	4.24	6.4	0.3	1.4	0.035	<.005	<.001	8.6	292.8	4.8	0.0	3.66	0.1	20.14	0.4	7.20 P	0.411	<.05
01Q0226	183253	22N02W29CCCC	OW-1	30	Q	18-Jul-00	884	30.3	1.51	104.0	8.55	62.6	2.7	3.4	0.085	0.02	0.003	10.6	472.4	7.7	0.0	6.0	0.2	177.0	3.7	16.7	1.19	<.05
01Q0225	183252	22N02W29CCCA	OW-2	31	M	18-Jul-00	433	36.4	1.82	37.7	3.1	8.0	0.3	7.8	0.194	0.01	0.003	10.3	317.4	5.2	0.0	0.6	0.0	14.2	0.3	<.5	0.934	<.05
01Q0223	183250	22N02W29CCCB	OW-3	28	Q/M	18-Jul-00	246	30.8	1.54	16.2	1.33	2.5	0.1	0.9	0.023	<.005	0.003	5.9	178.9	2.9	0.0	<.5	0.0	10.3	0.2	<.5	0.266	<.05
01Q0224	183251	22N02W24BADD	OW-4	30	Q	18-Jul-00	677	40.9	2.04	68.4	5.62	15.9	0.7	6.7	0.168	0.02	0.363	14.2	494.8	8.1	0.0	1.9	0.1	26.4	0.5	6.4	0.636	<.05
			Statistics:			Min	246	24.1	1.2	16.2	1.3	2.5	0.1	0.8	0.02	<.005	<.001	5.9	178.9	2.9	0.0	<.5	0.0	10.3	0.2	<.5	0.2	<.05
						Max	2,219	194.0	9.7	159.2	13.1	252.1	11.0	7.8	0.19	0.2	0.4	14.2	494.8	8.1	0.0	190.5	5.4	959.8	20.0	16.7	1.5	0
						Average	661	44.2	2.2	62.3	5.1	44.4	1.9	2.1	0.05	0.0	0.1	9.1	358.6	5.9	0.0	17.5	0.4	119.3	2.5	11.5	0.8	0
						Median	563	33.6	1.7	57.1	4.6	24.9	1.1	1.4	0.04	0.0	0.0	8.9	360.1	5.9	0.0	5.5	0.1	55.1	1.1	11.5	0.8	0
						STD	412	37.5	1.9	29.7	2.4	58.3	2.5	1.9	0.05	0.1	0.2	1.6	92.1	1.5	0.0	46.3	1.2	214.7	4.5	7.3	0.4	0

Table A-4. Inorganic ground-water quality - Trace Elements.

MBMG QW #	MBMG ID #	LOCATION	Well no.	WELL DEPTH (ft)	AQUIFER	SAMPLE DATE	Al (ug/l)	Sb (ug/l)	As (ug/l)	Ba (ug/l)	Be (ug/l)	B (ug/l)	Br (ug/l)	Cd (ug/l)	Cr (ug/l)	Co (ug/l)	Cu (ug/l)	Pb (ug/l)	Li (ug/l)	Mo (ug/l)	Ni (ug/l)	PO4 tot dis (mg/l)	Se (ug/l)	Ag (ug/l)	Sr (ug/l)	Tl (ug/l)	Ti (ug/l)	Va (ug/l)	Zn (ug/l)	Zr (ug/l)
98Q0923	M:166836	21N 01W 02 CCBC	1	30	M	28-Apr-98	<15	<2.	<1.	41.9	<2.	137.8	29	<2.	8.7	<2.	17.5	<2.	47	<10.	2.2	<.1	4.1	<1.	504.6	<5	<10.	10.2	31.9	<5.
98Q0916	M:140907	21N 01W 04 ABBB	2	30	M	28-Apr-98	<30	<2.	1.1	128.6	<2.	72.8	32	<2.	4.9	<2.	62.1	<2.	38	<10.	4	<.1	2.2	<1.	662.1	<5	<10.	8.7	3.5	<5.
98Q0920	M:123421	21N 02W 01 CCCA	3	33	M	28-Apr-98	<15	<2.	2.6	45.1	<2.	190.8	<500.	<2.	7	<2.	17	<2.	51.1	<10.	2.2	<.1	23.4	<1.	508.8	<5	<10.	10.6	16.5	<5.
98Q0912	M:166839	22N 02W 06 DAAD	4	50	M	30-Apr-98	<30	<2.	2.2	40.1	<2.	357.6	1220	<2.	8.6	<2.	7.4	<2.	138.1	<10.	16.1	<.1	10.3	<1.	3133		14.1	5.34	32.1	<5.
98Q0915	M:75563	21N 03W 03 CBBCC	5	25	M	28-Apr-98	<15	<2.	<1.	78.3	<2.	32.8	<25.	<2.	2.6	<2.	8.2	<2.	12.5	<10.	2.2	<.1	<1.	<1.	376.1		31.4	<5.	11.1	<5.
98Q0919	M:75586	21N 03W 11 ABAB	6	24	Q/ M	27-Apr-98	<30	<2.	<1.	125.6	<2.	92.9	30	<2.	6.3	<2.	3.7	<2.	46.3	<10.	3.9	<.05	2.8	<1.	977	<5	<10.	7.1	9.3	<5.
98Q0922	M:76513	22N 01W 10 BBBB	7	30	M	30-Apr-98	<30	<2.	<1.	59.3	<2.	187.6	<500.	<2.	7	<2.	5.2	<2.	61.2	<10.	6.1	<.1	5.2	<1.	773.2	<5	<10.	<5.	12	<5.
98Q0924	M:166837	22N 01W 20 DAAD	8	18	Q	28-Apr-98	<30	<2.	1.1	128.8	<2.	38.5	<25.	<2.	4.3	<2.	3.8	<2.	31	<10.	3.4	<.1	5.1	<1.	683.1	<5	<10.	8	3.7	<5.
98Q0921	M:76500	22N 02W 02 DDDD	9	27	M	29-Apr-98	<30	<2.	<1.	41.2	<2.	134	32	<2.	5.3	<2.	12.6	<2.	49.7	<10.	3.3	<.1	1.8	<1.	700	<5	<10.	5.3	3.3	7.6
98Q0917	M:76565	22N 02W 08 BCCC	10	16	Q	28-Apr-98	<15	<2.	<1.	64.6	<2.	148.6	<25.	<2.	13.8	<2.	12	<2.	42.8	<10.	4.8	<.1	2	<1.	615.8	<5	<10.	<5.	46.4	<5.
98Q0913	M:149990	22N 02W 15 AADD	11	22	M	28-Apr-98	<30	<2.	<1.	16.3	<2.	244.5	<500.	<2.	5.4	<2.	4.8	<2.	73.5	<10.	6.4	<.1	6.4	<1.	1184		27.4	<5.	16.9	<5.
98Q0918	M:76598	22N 02W 24 BABC	12	50	M	29-Apr-98	<15	<2.	<1.	34.1	<2.	299.1	28	<2.	2.8	<2.	<2.	<2.	40	<10.	<2.	<.1	2.5	<1.	664.4	<5	<10.	<5.	11.3	<5.
98Q0914	M:166840	22N 02W 26 DDAA	13	15	Q	28-Apr-98	<15	<2.	1.3	50.2	<2.	269	29	<2.	5.6	<2.	4.9	<2.	72.4	<10.	4.1	<.1	6.7	<1.	627.2	<5	<10.	8.2	32.2	<5.
98Q0926	M:135323	22N 02W 30 DADB	14	28	Q / M	27-Apr-98	<30	<2.	<1.	96.4	<2.	56.5	<25.	<2.	6.4	<2.	63.1	<2.	25.3	<10.	5.2	<.1	<1.	<1.	663	<5	<10.	<5.	10.5	5.6
98Q0911	M:166838	22N 03W 11 AAAB	15	23	Q	29-Apr-98	<15	<2.	<1.	81.8	<2.	90.9	<25.	<2.	9.4	<2.	6.9	<2.	33.9	<10.	<2.	<.1	4.3	<1.	664.7	<5	<10.	<5.	4	<5.
98Q0925	M:76669	22N 03W 23 BAAB	16	63	M	29-Apr-98	<15	<2.	<1.	82.5	<2.	61	<25.	<2.	2.4	<2.	3.6	<2.	37.4	<10.	<2.	<.1	<1.	<1.	628.5	<5	<10.	<5.	13.9	<5.
01Q0226	183253	22N02W29CCCC	OW-1	30	Q	18-Jul-00	<30	<2	1.9	53.8	<2	818	<500	<2	4.19	<2	4.53	<2	43.8	18.6	2.28	0.07	7.50	<1	790	<5	<1	<5	<2	<2
01Q0225	183252	22N02W29CCCA	OW-2	31	M	18-Jul-00	<30	<2	<1	86.2	<2	67.2	<50	<2	<2	<2	9.59	<2	22.4	<10	2.24	<.05	<1	<1	369	<5	<1	<5	<2	<2
01Q0223	183250	22N02W29CCCB	OW-3	28	Q/M	18-Jul-00	<30	<2	<1	85.6	<2	<30	<50	<2	<2	<2	<2	<2	7.3	<10	<2	<.05	<1	<1	224	<5	<1	<5	<2	<2
01Q0224	183251	22N02W24BADD	OW-4	30	Q	18-Jul-00	<30	<2	2.8	176.0	<2	119	<50	<2	2.49	<2	<2	<2	53.0	17.4	4.31	<.05	<1	<1	743	<5	<1	<5	6.91	<2
			Statistics:			Min	<15	<2	<1	16.3	<2	<30	<25.	<2	<2	<2	<2	<2	7.3	<10	<2	<.05	<1	<1	224.0	<5	<1	<5	<2	<2
						Max	NA	NA	2.8	176.0	NA	818.0	1,220	NA	13.8	NA	63.1	NA	138.1	18.6	16.1	NA	23.4	NA	3,133.0	NA	31.4	10.6	46.4	7.6
						Average	NA	NA	1.9	75.8	NA	179.9	200	NA	6.0	NA	14.5	NA	46.3	18.0	4.5	NA	6.0	NA	774.6	NA	24.3	7.9	15.6	6.6
						Median	NA	NA	1.9	71.5	NA	134.0	30	NA	5.5	NA	7.4	NA	43.3	18.0	4.0	NA	4.7	NA	663.7	NA	27.4	8.1	11.3	6.6
						STD	NA	NA	0.7	39.9	NA	180.2	450	NA	2.9	NA	18.6	NA	27.6	0.8	3.4	NA	5.6	NA	592.6	NA	9.1	2.0	12.6	1.4

Table A-5. Inorganic surface-water quality - Basic Parameters.

MBMG QW #	MBMG ID #	LOCATION	SITE	SAMPLE SOURCE	DISCHARGE (in cfs)	SAMPLE DATE	TDS CALC'D (mg/l)	TDS SUM OF DIS CONST (mg/l	FLD SC (umho/cm)	LAB SC (umho/cm)	FIELD pH	LAB pH	Dissolved Oxygen (mg/L)	HRDNS AS CaCO3 (mg/l)	ALK AS CaCO3 (mg/l)	RYZNAR STAB IND	LANGLIER SAT IND	SAR	AIR TEMP (deg C)	WATER TEMP (deg C)	Sample Type*
99Q0638	M:170248	22N03W29DDABC	S-1 (TJADEN DITCH)	surf. water	0.4	19-Apr-99	666.6	810	1009	989	8.7	8.4		480	254	5.91	1.26	0.78		16	DISS
1999Q0668	M:170248	22N03W29DDABC	S-1 (TJADEN DITCH)	surf. water	0.72	04-May-99	--	--	846	--	8.5	--	7.0	451.5	--	--	--	0.58	11	9.1	TOR
2000Q0063	M:170248	22N03W29DDABC	S-1 (TJADEN DITCH)	surf. water	7.3	19-Jul-99	281.7	405	436	475	8.9	8.5		244.9	215	6.56	0.95	0.32	17.5	12.6	DISS
99Q0642	M:170250	22N03W5ADDAA	S-2 (NORTH SUPPLY DITCH)	surf. water	0.8	20-Apr-99	957.2	1156	1399	1355	8.6	8.4		708.9	337	5.88	1.25	1.18	14	7.1	DISS
1999Q0667	M:170250	22N03W5ADDAA	S-2 (NORTH SUPPLY DITCH)	surf. water	0.72	04-May-99	--	--	4258	--	8.4	--	7.1	2621	--	--	--	2.42	14	14.7	DISS
2000Q0067	M:170250	22N03W5ADDAA	S-2 (NORTH SUPPLY DITCH)	surf. water	21.4	19-Jul-99	227.8	319	372	392	8.9	8.3		192.6	151	7.2	0.56	0.29	30	16	DISS
99Q0640	M:170249	22N03W29BCCDD	S-3 (FREEZEOUT LAKE)	surf. water	NA	22-Apr-99	4507	4896	1060	5060		8.7		1581	739	5.11	1.81	9.96		6.4	DISS
2000Q0061	M:170249	22N03W29BCCDD	S-3 (FREEZEOUT LAKE)	surf. water	NA	21-Jul-99	4154	4428	4200	4480	9.4	9.1		1429	641	5.31	1.88	9.44	26	22	DISS
99Q0643	M:170251	22N02W4CCBCC	S-4 (GID DRAIN-LEE)	surf. water	7.9	21-Apr-99	323.7	477	595	604	8.2	8.7		291.2	274	6.72	0.96	0.45	16	9.4	DISS
1999Q0670	M:170251	22N02W4CCBCC	S-4 (GID DRAIN-LEE)	surf. water	9.39	04-May-99	--	--	640	--	8.9	--	11.0	346.7	--	--	--	0.51	13	15.9	TOR
2000Q0066	M:170251	22N02W4CCBCC	S-4 (GID DRAIN-LEE)	surf. water	16.7	19-Jul-99	290.1	424	482	490	9.1	8.5		269.1	230	6.74	0.88	0.36	34	17	DISS
99Q0637	M:170247	23N01W31AAABA	S-5 (GID DRAIN-BUREC)	surf. water	2	21-Apr-99	634	738	802	1123	7.7	8.4		505	175	6.5	0.93	1.37	9.5	9.4	DISS
1999Q0671	M:170247	23N01W31AAABA	S-5 (GID DRAIN-BUREC)	surf. water	3.73	05-May-99	--	--	1042	--	8.3	--	8.3	503	--	--	--	1.16	14.5	15.6	TOR
2000Q0065	M:170247	23N01W31AAABA	S-5 (GID DRAIN-BUREC)	surf. water	23.4	19-Jul-99	371.4	513	589	581	9.3	8.7		285.9	258	6.22	1.23	0.7	33	19	DISS
99Q0645	M:170253	22N01W2BDBB	S-6 (FISH & WILDLIFE)	surf. water	0.3	20-Apr-99	1043	1242	1505	1463	7.9	8.5		663.5	346	5.58	1.44	1.93	9.5	10	DISS
1999Q0672	M:170253	22N01W2BDBB	S-6 (FISH & WILDLIFE)	surf. water	0.40	04-May-99	--	--	1502	--	8.3	--	12.3	712.5	--	--	--	1.35	12	12.9	TOR
2000Q0068	M:170253	22N01W2BDBB	S-6 (FISH & WILDLIFE)	surf. water	19.7	20-Jul-99	382.8	547	595	620	8.6	8.2		291.6	266	6.59	0.81	0.69	20	14	DISS
99Q0639	M:6163	22N01W14BDC	S-7 (SPRING COULEE)	surf. water	4.6	21-Apr-99	498.3	677	814	804	7.4	8.4		383.5	301	6.13	1.13	1.1	9	8.8	DISS
1999Q0673	M:6163	22N01W14BDC	S-7 (SPRING COULEE)	surf. water	3.94	05-May-99	--	--	760	--	8.4	--	11.7	360.4	--	--	--	0.87	10	5.4	TOR
2000Q0062	M:6163	22N01W14BDC	S-7 (SPRING COULEE)	surf. water	39.6	20-Jul-99	403.5	564	629	631	8.8	8.4		343.8	268	6.19	1.08	0.49	31	15	DISS
99Q0641	M:6168	22N01W24CDB	S-8 (TANK COULEE)	surf. water	4.8	20-Apr-99	739.1	917	1130	1112	8.6	8.2		509.2	288	6.02	1.1	1.31	17	12.6	DISS
1999Q0666	M:6168	22N01W24CDB	S-8 (TANK COULEE)	surf. water	4.85	05-May-99	--	--	1097	--	8.4	--	10.2	512.8	--	--	--	1.17	12.5	7.4	DISS
2000Q0069	M:6168	22N01W24CDB	S-8 (TANK COULEE)	surf. water	73.5	20-Jul-99	335	460	526	539	9.1	8.6		270.7	231	6.22	1.2	0.48	26	20	DISS
99Q0644	M:170252	22N01E31DDBBA	S-9	surf. water	0.9	20-Apr-99	674.9	853	1034	1017	8.5	8.3		493.3	289	5.94	1.17	0.93			DISS
1999Q0675	M:170252	22N01E31DDBBA	S-9	surf. water	0.84	15-May-99	--	--	1041	--	8.6	--	10.4	555.3	--	--	--	0.73	14	12.1	TOR
2000Q0064	M:170252	22N01E31DDBBA	S-9	surf. water	34.1	20-Jul-99	276.8	385	421	435	8.7	8.2		227.4	174	6.82	0.71	0.24	33	21	DISS
01Q0228	183255	22N02W24BBDD	MAIN CANAL	surf. water	NA	19-Jul-00	117.0	178	NA	241	NA	8.2		116.5	98	7.8	0.21	0.06	NA	NA	DISS
01Q0227	183254	22N02W30DDDD	MAIN CANAL	surf. water	NA	19-Jul-00	122.5	189	NA	242	NA	8.2		113.6	108	7.74	0.23	0.06	NA	NA	DISS
			Statistics:			Min	117	178	372	241	7.4	8.2	7	113.59	98	5.11	0.21	0.06	9	5.4	
						Max	4506.8	4896	4258	5060	9.4	9.1	12.3	2621.5	739	7.8	1.88	9.96	34	22	
						Average	850.31	1009	1107	1133	8.6	8.4	9.735	552.3	282	6.359	1.04	1.462	18.54	13.18	
						Median	393.14	556	830	625.5	8.6	8.4	10.28	417.5	262	6.22	1.09	0.755	14.5	12.9	
						STD	1218.1	1284	974	1295	0.5	0.2	2.03	524.5	156	0.703412	0.425	2.39	8.633	4.667	

* Sample Type: Diss = dissolved constituents; sample filtered in the field. TOR = total recoverable constituents; no field-filt ration

Table A-6. Inorganic surface-water quality - Common Ions.

MBMG QW #	MBMG ID #	LOCATION	SITE	DISCHARGE (cfs)	SAMPLE DATE	TDS SUM OF DIS CONST (mg/l)	Ca (mg/l)	Ca (meq/L)	Mg (mg/l)	Mg (meq/L)	Na (mg/l)	Na (meq/L)	K (mg/l)	K (meq/L)	Fe (mg/l)	Mn (mg/l)	SiO2 (mg/l)	HCO3 (mg/l)	HCO3 (meq/L)	CO3 (mg/l)	Cl (mg/l)	Cl (meq/L)	SO4 (mg/l)	SO4 (meq/L)	NO3 as N (mg/l)	F (mg/l)	PO4 (mg/l)	Sample Type*
USGS		22N01E30CAB	FLUME 5	0.1	13-May-82		217	10.8	105	8.6	75.8	3.3	4.3	0.1	<.002	0.081	9.0	318.0	5.2	0	6.7	0.19	847	17.6	0.04	0.86		DISS
99Q0638	M:170248	22N03W29DDABC	S-1 (TJADEN DITCH)	0.4	19-Apr-99	810	85.4	4.3	64.8	5.3	39.2	1.7	4.1	0.1	<.025	0.17	8.4	282.6	4.6	13.4	5.2	0.15	305	6.4	1.80	<.5	<.5	DISS
1999Q0668	M:170248	22N03W29DDABC	S-1 (TJADEN DITCH)	0.72	04-May-99	--	80.1	4.0	61.1	5.0	28.5	1.2	2.0	0.1	0.046	0.007	--	--		--	--		--		--	--	--	TOR
2000Q0063	M:170248	22N03W29DDABC	S-1 (TJADEN DITCH)	7.3	19-Jul-99	405	46.3	2.3	31.4	2.6	11.5	0.5	1.3	0.0	<.01	0.005	5.3	243.0	4.0	9.12	1.6	0.04	54.23	1.1	.846 P	0.39	<.05	DISS
99Q0667	M:170250	22N03W5ADDAA	S-2 (NORTH SUPPLY DITC	0.8	20-Apr-99	1156	69.6	3.5	130	10.7	72.2	3.1	1.9	0.0	<.025	0.87	6.4	392.8	6.4	9.12	9.4	0.26	462.8	9.6	1.60	0.67	<.5	DISS
1999Q0667	M:170250	22N03W5ADDAA	S-2 (NORTH SUPPLY DITC	0.72	04-May-99	--	135	6.7	555	45.7	285	12.4	6.2	0.2	0.082	0.166	6.6	--		--	--		--		--	--	--	DISS
1999Q0669	M:170250	22N03W5ADDAA	S-2 (NORTH SUPPLY DITC	0.72	04-May-99		137	6.8	504	41.5	220	9.6	5.4	0.1	0.95	0.193	--	--		--	--		--		--	--	--	TOR
2000Q0067	M:170250	22N03W5ADDAA	S-2 (NORTH SUPPLY DITC	21.4	19-Jul-99	319	36.1	1.8	24.9	2.0	9.27	0.4	1.0	0.0	0.021	0.015	4.6	179.8	2.9	2.4	1.4	0.04	58.89	1.2	.507 P	0.25	<.05	DISS
99Q0640	M:170249	22N03W29BCCDD	S-3 (FREEZEOUT LAKE)	NA	22-Apr-99	4896	51.2	2.6	353	29.0	910	39.6	8.9	0.2	<.025	0.006	<.5	767.4	12.6	66	169.3	4.78	2563.9	53.4	<.5	6.45	<2.5	DISS
2000Q0061	M:170249	22N03W29BCCDD	S-3 (FREEZEOUT LAKE)	NA	21-Jul-99	4428	31.8	1.6	328	27.0	820	35.7	7.3	0.2	<.1	<.02	<2	540.5	8.9	119	156.8	4.42	2424.8	50.5	<.5 P	<2.5	<2.5	DISS
99Q0643	M:170251	22N02W4CCBCC	S-4 (GID DRAIN-LEE)	7.9	21-Apr-99	477	23.8	1.2	56.3	4.6	17.7	0.8	1.1	0.0	0.49	<.005	7.1	302.8	5.0	15.1	5.8	0.16	41.9	0.9	4.77	0.78	<.5	DISS
1999Q0670	M:170251	22N02W4CCBCC	S-4 (GID DRAIN-LEE)	9.39	04-May-99	--	31.7	1.6	65	5.3	21.8	0.9	1.2	0.0	0.163	0.007	--	--		--	--		--		--	--	--	TOR
2000Q0066	M:170251	22N02W4CCBCC	S-4 (GID DRAIN-LEE)	16.7	19-Jul-99	424	33.1	1.7	45.3	3.7	13.4	0.6	1.7	0.0	<.01	0.003	6.6	263.8	4.3	8.4	4.1	0.12	43.76	0.9	3.178 P	0.62	<.05	DISS
99Q0637	M:170247	23N01W31AAABA	S-5 (GID DRAIN-BUREC)	2	21-Apr-99	738	66.4	3.3	82.4	6.8	70.6	3.1	2.2	0.1	0.35	0.97	5.8	205.0	3.4	3.84	13.3	0.38	283.8	5.9	3.37	0.84	<.5	DISS
1999Q0671	M:170247	23N01W31AAABA	S-5 (GID DRAIN-BUREC)	3.73	05-May-99	--	64.8	3.2	82.9	6.8	59.8	2.6	2.6	0.1	0.738	0.108	--	--		--	--		--		--	--	--	TOR
2000Q0065	M:170247	23N01W31AAABA	S-5 (GID DRAIN-BUREC)	23.4	19-Jul-99	513	43.3	2.2	43.2	3.6	27.1	1.2	2.8	0.1	<.01	0.007	6.8	278.7	4.6	17.8	6.6	0.19	82.99	1.7	2.786 P	0.65	0.097	DISS
99Q0645	M:170253	22N01W2BDBB	S-6 (FISH & WILDLIFE)	0.3	20-Apr-99	1242	87.7	4.4	108	8.9	114	5.0	2.4	0.1	<.025	0.12	2.7	391.4	6.4	14.9	20.3	0.57	496.9	10.3	2.02	1.67	<.5	DISS
1999Q0672	M:170253	22N01W2BDBB	S-6 (FISH & WILDLIFE)	0.40	04-May-99	--	92.5	4.6	117	9.6	82.9	3.6	2.3	0.1	0.092	0.039	--	--		--	--		--		--	--	--	TOR
2000Q0068	M:170253	22N01W2BDBB	S-6 (FISH & WILDLIFE)	19.7	20-Jul-99	547	47.4	2.4	42.1	3.5	26.9	1.2	3.6	0.1	<.025	0.008	7.4	324.5	5.3	0	5.6	0.16	87.35	1.8	1.887 P	0.67	0.119	DISS
USGS	M:6163	22N01W14BDC	S-7 (SPRING COULEE)	41	13-May-82		53.3	2.7	20.3	1.7	10.8	0.5	0.9	0.0	0.011	0.013	5.1	218.6	3.6	0	1.0	0.03	57.7	1.2	0.14	0.33		DISS
99Q0639	M:6163	22N01W14BDC	S-7 (SPRING COULEE)	4.6	21-Apr-99	677	58.8	2.9	57.5	4.7	49.6	2.2	2.2	0.1	0.027	0.026	4.3	351.8	5.8	7.2	5.9	0.17	137	2.9	1.70	0.78	<.5	DISS
1999Q0673	M:6163	22N01W14BDC	S-7 (SPRING COULEE)	3.94	05-May-99	--	50.2	2.5	57.1	4.7	37.9	1.6	2.1	0.1	0.774	0.031	--	--		--	--		--		--	--	--	TOR
2000Q0062	M:6163	22N01W14BDC	S-7 (SPRING COULEE)	39.6	20-Jul-99	564	63.5	3.2	45	3.7	20.9	0.9	3.2	0.1	<.025	0.011	9.2	317.2	5.2	4.8	2.7	0.08	95.3	2.0	1.855 P	0.69	0.122	DISS
USGS	M:6168	22N01W24CDB	S-8 (TANK COULEE)	10	13-May-82		102	5.1	69.1	5.7	78.2	3.4	2.3	0.1	0.01	0.033	3.4	361.0	5.9	0	18.5	0.52	354	7.4	1.03	0.69		DISS
99Q0641	M:6168	22N01W24CDB	S-8 (TANK COULEE)	4.8	20-Apr-99	917	83.1	4.1	73.3	6.0	67.9	3.0	2.6	0.1	<.025	0.017	3.2	350.9	5.8	0	8.7	0.24	325.3	6.8	1.35	0.71	<.5	DISS
1999Q0666	M:6168	22N01W24CDB	S-8 (TANK COULEE)	4.85	05-May-99	--	87.5	4.4	71.5	5.9	60.9	2.6	2.3	0.1	<.025	0.03	4.3	--		--	--		--		--	--	--	DISS
1999Q0674	M:6168	22N01W24CDB	S-8 (TANK COULEE)	4.85	05-May-99		91.4	4.6	78.7	6.5	55.5	2.4	2.2	0.1	0.365	0.047	--	--		--	--		--		--	--	--	TOR
2000Q0069	M:6168	22N01W24CDB	S-8 (TANK COULEE)	73.5	20-Jul-99	460	51.2	2.6	34.7	2.9	18.3	0.8	2.4	0.1	0.142	0.011	8.6	245.7	4.0	17.8	2.8	0.08	76.24	1.6	1.235 P	0.48	0.075	DISS
99Q0675	M:170252	22N01E31DDBBA	S-9	0.9	20-Apr-99	853	84.8	4.2	68.4	5.6	47.5	2.1	2.8	0.1	0.109	0.039	4.0	351.8	5.8	0	6.5	0.18	285.1	5.9	1.64	0.71	<.5	DISS
1999Q0675	M:170252	22N01E31DDBBA	S-9	0.84	15-May-99	--	95.8	4.8	76.8	6.3	39.5	1.7	2.2	0.1	0.17	0.043	--	--		--	--		--		--	--	--	TOR
2000Q0064	M:170252	22N01E31DDBBA	S-9	34.1	20-Jul-99	385	54.3	2.7	22.3	1.8	8.39	0.4	1.5	0.0	0.01	0.006	6.1	212.3	3.5	0	1.3	0.04	77.46	1.6	.627 P	0.29	<.05	DISS
USGS		22N01E32BDA	WEIR 3	6.5	13-May-82		73.3	3.7	31.9	2.6	19.7	0.9	1.3	0.0	<.002	0.028	6.1	255.0	4.2	0	2.3	0.06	137	2.9	0.37	0.44		DISS
01Q0228	183255	22N02W24BBDD	Main Canal	NA	19-Jul-00	178	32.0	1.6	8.9	0.7	1.5	0.1	0.7	0.0	0.03	0	3.9	119.3	2.0	0.0	0.0	0.00	11.1	0.2	0.00	0.06	0	DISS
01Q0227	183254	22N02W30DDDD	Main Canal	NA	19-Jul-00	189	31.3	1.6	8.6	0.7	1.5	0.1	0.6	0.0	0.01	0	3.8	131.8	2.2	0.0	0.0	0.00	11.6	0.2	0.00	0.07	0	DISS
	USGS	21N03W4DDDA	MAIN CANAL (@ A-DROP	NA	23-Jul-91		32	1.6	7.7	0.6	1.4	0.1	0.6	0.0	0.007	<.001	4.0	127.5	2.1	0	<0.10		8.6	0.2	<0.05	0.10	<0.01	DISS
		21N03W4DDDA	MAIN CANAL (@ A-DROP	NA	14-May-82		51.2	2.6	13.5	1.1	2.3	0.1	0.7	0.0	<.002	<.001	4.8	178.1	2.9	0	0.4	0.01	36.7	0.8	0.02	0.21		DISS
		22N01W19BBBB	MAIN CANAL (@ J DRAIN	NA	26-Apr-81		31	1.5	7.8	0.6	1.5	0.1	0.7	0.0	0.012	0.001	4.7	117.1	1.9	6	1.1	0.03	10.9	0.2	0.05	0.05		DISS
			Statistics:		Min	178	24	1	8	1	1	0	0.6	0.0	<.002	<.001	2.7	117.1	1.9	0	<0.10	<0.11	9	0	<0.05	0.05	<0.01	
					Max	4896	217	11	555	46	910	40	8.9	0.2	1.0	1.0	9.2	767.4	12.6	119	169.3	4.8	2,564	53	4.77	6.45	0.1	
					Average	1009	68	3	96	8	93	4	2.5	0.1	0.2	0.1	5.6	289.9	4.8	12	17.6	0.5	347	7	1.24	0.78	0.1	
					Median	556	59	3	61	5	38	2	2.2	0.1	0.1	0.0	5.3	278.7	4.6	4	5.4	0.2	87	2	1.19	0.65	0.1	
					STD	1284	38	2	128	11	196	9	1.9	0.0	0.3	0.2	1.8	137.4	2.3	25	43.2	1.2	649	14	1.36	1.23	0.1	

* Sample Type: Diss = dissolved constituents; sample filtered in the field. TOR = total recoverable constituents; no field-filtration

Table A-7. Inorganic surface-water quality - Trace Elements.

MBMG ID #	LOCATION	Site	SAMPLE SOURCE	DISCHARGE (cfs)	SAMPLE DATE	Al (ug/l)	Sb (ug/l)	As (ug/l)	Ba (ug/l)	Be (ug/l)	B (ug/l)	Br (ug/l)	Cd (ug/l)	Cr (ug/l)	Co (ug/l)	Cu (ug/l)	Pb (ug/l)	Li (ug/l)	Mo (ug/l)	Ni (ug/l)	P tot dis (mg/l)	Se (ug/l)	Ag (ug/l)	Sr (ug/l)	Tl (ug/l)	Ti (ug/l)	Va (ug/l)	Zn (ug/l)	Zr (ug/l)	Sample Type*
M:170248	22N03W29DDABC	S-1 (TJADEN DITCH)	surf. water		19-Apr-99	<30	<2	<1	107	<2	156	<500	<2	<2	<2	2.34	<2	<250	<10	7.28	<.5	2.7	<1	1430	<5	<50	<5	<15	<25	DISS
M:170248	22N03W29DDABC	S-1 (TJADEN DITCH)	surf. water	0.72	04-May-99	--	<2	1	110	<2	--	--	<2	<2	<2	<2	<2	<50	<10	5.8	<.1	2.7	18.4	120	<5	<10	<5	4.65	<5	TOR
M:170248	22N03W29DDABC	S-1 (TJADEN DITCH)	surf. water		19-Jul-99	<30	<2	<1	118	<3	60.9	<50	<2	<2	<2	<2	<2	<100	<10	<2	<.2	<1	<1	542	<5	<20	<5	<2	<10	DISS
M:170250	22N03W5ADDAA	S-2 (NORTH SUPPLY DITCH)	surf. water		20-Apr-99	<30	<2	1.2	98.5	<2	170	<500	<2	<2	<2	<2	<2	<250	<10	6.43	<.5	8.2	<1	1100	<5	<50	<5	<15	<25	DISS
M:170250	22N03W5ADDAA	S-2 (NORTH SUPPLY DITCH)	surf. water	0.72	04-May-99	97.5	<2	3.3	122	<2	209	--	<2	<2	<2	2.2	<2	<250	<10	11	<.5	24.3	<1	2070	<5	<50	<5	<15	<25	DISS
M:170250	22N03W5ADDAA	S-2 (NORTH SUPPLY DITCH)	surf. water	0.72	04-May-99	--	<2	3.7	131	<2	--	--	<2	<2	<2	3.65	<2	<50	<10	11.8	<.1	22.8	<1	1970	<5	<10	<5	7.05	<5	TOR
M:170250	22N03W5ADDAA	S-2 (NORTH SUPPLY DITCH)	surf. water		19-Jul-99	<30	<2	<1	83.4	<3	<60	<50	<2	<2	<2	<2	<2	<100	<10	<2	<.2	1.2	<1	264	<5	<20	<5	<2	<10	DISS
M:170249	22N03W29BCCDD	S-3 (FREEZEOUT LAKE)	surf. water		22-Apr-99	<30	<2	9.5	54.9	<2	794	<500	<2	<2	<2	4.91	<2	<250	<10	3.65	<.5	10.9	<1	2830	<5	<50	<5	<15	<25	DISS
M:170249	22N03W29BCCDD	S-3 (FREEZEOUT LAKE)	surf. water		21-Jul-99	<30	<2	21	57.1	<3	822	<2500	<2	<2	<2	4.88	<2	<1000	<10	<2	<2.0	9.1	<1	2590	<5	<200	6.77	3.02	<100	DISS
M:170251	22N02W4CCBCC	S-4 (GID DRAIN-LEE)	surf. water		21-Apr-99	38.8	<2	<1	75.3	<2	87.4	<500	<2	<2	<2	<2	<2	<250	<10	2.52	<.5	1.9	<1	725	<5	<50	<5	<15	<25	DISS
M:170251	22N02W4CCBCC	S-4 (GID DRAIN-LEE)	surf. water	9.39	04-May-99	--	<2	1.2	78.7	<2	--	--	<2	<2	<2	<2	<2	<50	<10	2.54	<.1	3.2	<1	713	<5	<10	<5	14.7	<5	TOR
M:170251	22N02W4CCBCC	S-4 (GID DRAIN-LEE)	surf. water		19-Jul-99	<30	<2	<1	78.8	<3	78.4	<50	<2	<2	<2	<2	<2	<100	<10	<2	<.2	1.9	<1	509	<5	<20	<5	<2	<10	DISS
M:170247	23N01W31AAABA	S-5 (GID DRAIN-BUREC)	surf. water		21-Apr-99	283	<2	1.3	63.5	<2	199	<500	<2	<2	<3	<2	<2	<250	<10	14.2	0.59	4.2	<1	947	<5	<50	<5	<15	<25	DISS
M:170247	23N01W31AAABA	S-5 (GID DRAIN-BUREC)	surf. water	3.73	04-May-99	--	<2	2.3	91.6	<2	--	--	<2	<2	<4	<2	<2	<50	<10	12.5	<.1	4.4	<1	897	<5	<10	<5	29	<5	TOR
M:170247	23N01W31AAABA	S-5 (GID DRAIN-BUREC)	surf. water		19-Jul-99	42.1	<2	1.6	70	<3	126	<50	<2	<2	<2	<2	<2	<100	<10	2.79	<.2	2.1	<1	525	<5	<20	<5	<2	<10	DISS
M:170253	22N01W2BDBB	S-6 (FISH & WILDLIFE)	surf. water		20-Apr-99	<30	<2	1.2	38.9	<2	414	<500	<2	<2	<2	<2	<2	<250	<10	12.6	<.5	8.1	<1	788	<5	<50	<5	<15	<25	DISS
M:170253	22N01W2BDBB	S-6 (FISH & WILDLIFE)	surf. water	0.40	04-May-99	--	<2	1.9	38.8	<2	--	--	<2	<2	<2	<2	<2	59.1	<10	13.8	<.1	8.9	<1	769	<5	<10	<5	8.82	<5	TOR
M:170253	22N01W2BDBB	S-6 (FISH & WILDLIFE)	surf. water		20-Jul-99	<30	<2	1.9	81.6	<3	<150	<50	<2	<2	<2	<2	<2	<250	<10	2.52	<.5	2.0	<1	465	<5	<50	<5	<2	<25	DISS
M:6163	22N01W14BDC	S-7 (SPRING COULEE)	surf. water		21-Apr-99	<30	<2	1.1	73	<2	193	<500	<2	<2	<2	<2	<2	<250	<10	5.77	<.5	2.1	<1	785	<5	<50	<5	<15	<25	DISS
M:6163	22N01W14BDC	S-7 (SPRING COULEE)	surf. water	3.94	05-May-99	--	<2	1.5	57.9	<2	--	--	<2	<2	<2	<2	<2	<50	<10	6.1	<.1	2.3	<1	618	<5	<10	<5	<3	<5	TOR
M:6163	22N01W14BDC	S-7 (SPRING COULEE)	surf. water		20-Jul-99	<30	<2	1.8	102	<3	<150	<50	<2	<2	<2	4.57	<2	<250	<10	3.48	<.5	1.7	<1	575	<5	<50	<5	<2	<25	DISS
M:6168	22N01W24CDB	S-8 (TANK COULEE)	surf. water		20-Apr-99	<30	<2	1.1	58.4	<2	197	<500	<2	<2	<2	<2	<2	<250	<10	7.38	<.5	2.7	<1	926	<5	<50	<5	<15	<25	DISS
M:6168	22N01W24CDB	S-8 (TANK COULEE)	surf. water	4.85	05-May-99	<30	<2	1.3	63.4	<2	1.77	--	<2	<2	<2	1.31	<2	<250	<10	7.44	<.5	3.3	<1	900	<5	<50	<5	<15	<25	DISS
M:6168	22N01W24CDB	S-8 (TANK COULEE)	surf. water	4.85	05-May-99	--	<2	1.6	71.8	<2	--	--	<2	<2	<2	<2	<2	<50	<10	9.23	<.1	3.1	<1	879	<5	<10	<5	10.7	<5	TOR
M:6168	22N01W24CDB	S-8 (TANK COULEE)	surf. water		20-Jul-99	118	<2	1.9	103	<3	96.8	<50	<2	<2	<2	<2	<2	<100	<10	2.94	<.2	1.1	<1	427	<5	<20	<5	<2	<10	DISS
M:170252	22N01E31DDBBA	S-9	surf. water		20-Apr-99	71.2	<2	<1	69	<2	168	<500	<2	<2	<2	<2	<2	<250	<10	11.4	<.5	1.9	<1	749	<5	<50	<5	<15	<25	DISS
M:170252	22N01E31DDBBA	S-9	surf. water	0.84	15-May-99	--	<2	1.4	67.8	<2	--	--	<2	<2	<2	<2	<2	58.7	<10	11.8	<.1	2.8	<1	716	<5	<10	<5	3.01	<5	TOR
M:170252	22N01E31DDBBA	S-9	surf. water		20-Jul-99	<30	<2	1.1	84	<3	<60	<50	<2	<2	<2	<2	<2	<100	<10	2.93	<.2	<1	<1	285	<5	<20	<5	<2	<10	DISS
183255	22N02W24BBDD	Main Canal	surf. water		7/19/2000	61.7	<2	<1	86.1	<2	<30	<50	<2	<2	<2	<2	<2	2.6	<10	<2	<.05	<1	<1	108	<5	<1	<5	<2	<2	DISS
183254	22N02W30DDDD	Main Canal	surf. water		7/19/2000	<30	<2	<1	84.7	<2	<30	<50	<2	<2	<2	<2	<2	2.3	<10	<2	<.05	<1	<1	105	<5	<1	<5	<2	<2	DISS
		Statistics:			Min	<30	NA	<1	39	NA	<30	NA	NA	NA	NA	<2	NA	<50	NA	<2	<.05	<1	<1	105	NA	NA	<5	<2	NA	
					Max	283	NA	21	131	NA	822	NA	NA	NA	NA	5	NA	59	NA	14	0.59	24.3	18	2,830	NA	NA	7	29	NA	
					Average	102	NA	3	81	NA	236	NA	NA	NA	NA	3	NA	31	NA	7	NA	5.4	NA	878	NA	NA	NA	10	NA	
					Median	71	NA	2	79	NA	169	NA	NA	NA	NA	4	NA	31	NA	7	NA	2.7	NA	737	NA	NA	NA	8	NA	
					STD	85	NA	5	23	NA	241	NA	NA	NA	NA	1	NA	33	NA	4	NA	6.0	NA	676	NA	NA	NA	9	NA	

* Sample Type: Diss = dissolved constituents; sample filtered in the field. TOR = total recoverable constituents; no field-filtration

Table A-8. Nitrate data for ground water.

Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
1	M:166836	21N01W02CCBC	MBMG	QTg	D	35	28-Apr-98	14.2	7.7	6.5			5
	M:166836	21N01W02CCBC	MDA	QTg	D	35	20-Jul-98	4.9	5.8				7
	M:166836	21N01W02CCBC	MDA	QTg	D	35	20-Oct-98	8.7	6.0				7
	M:166836	21N01W02CCBC	MDA	QTg	D	35	08-Dec-98	11.8	6.3				
	M:166836	21N01W02CCBC	MDA	QTg	D	35	13-Apr-99	6.0	14.2				
2	M:6109	21N01W03DCDD	MBMG	QTg	D	21	03-Apr-81	15.8	3.3	3.9			5
	M:6110	21N01W03DCDD	MBMG	QTg	D	21	03-Sep-81	5.1	4.1				5
	M:6111	21N01W03DCDD	MBMG	QTg	D	21	13-May-82	17.8	4.4				5
3	M:140907	21N01W04ABBB	MBMG	QTg	D	30	28-Apr-98	11.2	4.7	8.6			5
	M:140907	21N01W04ABBB	MDA	QTg	D	30	21-Jul-98	6.7	8.1				7
	M:140907	21N01W04ABBB	MDA	QTg	D	30	21-Oct-98	11.0	13.0				7
	M:140907	21N01W04ABBB	MDA	QTg	D	30	08-Dec-98	11.0	10.0				
	M:140907	21N01W04ABBB	MDA	QTg	D	30	14-Apr-99	4.3	11.0				
4	15	21N01W06DCC	USGS	QTg	D	20	20-Aug-86	4.6	3.4	7.6			1
	M:6112	21N01W06DCCC	MBMG	QTg	D	19.1	02-Apr-81	10.1	16.0				5
	M:6113	21N01W06DCCC	MBMG	QTg	D	19.1	03-Sep-81	5.7	4.4				5
	M:6114	21N01W06DCCC	MBMG	QTg	D	19.1	13-May-82	10.3	7.8				5
	M:6112	21N01W06DCCC	MBMG	QTg	D	19.1	15-Jun-95	6.5	6.5				4
5	M:123421	21N02W01CCCA	MBMG	QTg	D	33	28-Apr-98	18.9	16.8	10.7			5
	M:123421	21N02W01CCCA	MDA	QTg	D	33	20-Jul-98	6.7	5.3				7
	M:123421	21N02W01CCCA	MDA	QTg	D	33	20-Oct-98	12.6	10.0				7
	M:123421	21N02W01CCCA	MDA	QTg	D	33	08-Dec-98	15.7	12.0				
	M:123421	21N02W01CCCA	MDA	QTg	D	33	12-Apr-99	19.0	11.0				
6	M:6115	21N02W01DDDA	MBMG	QTg	M	28	13-Oct-81	20.0	1.6	1.6			5
7	M:6116	21N02W02DDDD	MBMG	QTg	D	24	24-Jun-81	9.7	21.5	18.5			5
	M:6117	21N02W02DDDD	MBMG	QTg	D	24	04-Sep-81	15.5	16.0				5
	M:6118	21N02W02DDDD	MBMG	QTg	D	24	13-May-82	18.8	17.9				5
8	M:166839	21N02W06DAAD	MBMG	QTg/KC	D	50	30-Apr-98	7.5	3.1	2.6			5
	M:166839	21N02W06DAAD	MDA	QTg/KC	D	50	19-Jul-98	5.8	3.3				7
	M:166839	21N02W06DAAD	MDA	QTg/KC	D	50	21-Oct-98	7.1	1.3				7
	M:166839	21N02W06DAAD	MDA	QTg/KC	D	50	09-Dec-98	7.3	2.1				
	M:166839	21N02W06DAAD	MDA	QTg/KC	D	50	12-Apr-99	7.3	2.0				
9	M:6119	21N02W09BAAA	MBMG	QTg	D	20.6	04-Feb-81	8.1	17.1	23.3			5
	M:6120	21N02W09BAAA	MBMG	QTg	D	20.6	03-Sep-81	9.8	30.6				5
	M:6121	21N02W09BAAA	MBMG	QTg	D	20.6	12-May-82	8.6	22.2				5
10	M:6122	21N02W09DADA	MBMG		D		24-Jun-81	14.8	23.7	24.3			5
	M:6123	21N02W09DADA	MBMG		D		04-Sep-81	14.7	24.9				5
	M:6124	21N02W09DADA	MBMG		D		12-May-82	15.9	24.4				5
	M:6124	21N02W09DADA	MBMG		D		16-Dec-98		44.7				
11		21N02W23	MDA		D		22-Jan-97		12.0	12.0	0.2		7
12	M:75539	21N03W02AAAA	MBMG	QTg	D	30	15-Jun-95	7.9	4.3	4.3			4
13	#'4567	21N03W03	CO	QTg/KC	P#4-7		18-Jun-93		2.6	1.5			8
	#'4567	21N03W03	CO	QTg/KC	P#4-7		27-Dec-94		1.7				8
	#'4567	21N03W03	CO	QTg/KC	P#4-7		23-Oct-95		1.0				8
	#'4567	21N03W03	CO	QTg/KC	P#4-7		16-Dec-96		1.3				8
	#'4567	21N03W03	CO	QTg/KC	P#4-7		19-Mar-97		2.3				8
	#'4567	21N03W03	CO	QTg/KC	P#4-7		13-Jun-97		2.1				8

*CO = Certified Operator
**QTg = Quaternary and Tertiary Gravel, Kc = Uppper Cretaceous (shales)
***Well Type: D = Domestic, P = Public, M = Monitor, I = Irrigation

Table A-8. Nitrate data for ground water.

Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
	#'4567	21N03W03	CO	QTg/KC	P#4-7		10-Sep-97		0.6				8
	#'4567	21N03W03	CO	QTg/KC	P#4-7		10-Dec-97		1.1				8
	#'4567	21N03W03	CO	QTg/KC	P#4-7		27-May-98		2.6				8
	#'4567	21N03W03	CO	QTg/KC	P#4-7		14-Aug-98		0.9				8
14	M:151648	21N03W03ADDDB	MBMG	QTg	D	18	27-Sep-95	4.7	1.0	1.0			3; 4
15	M:6125	21N03W03BAAA	MBMG	QTg	P#3	32	01-Apr-81	12.4	1.2	1.8			5
	M:6126	21N03W03BAAA	MBMG	QTg	P#3	32	02-Sep-81	8.9	2.9				5
	M:6127	21N03W03BAAA	MBMG	QTg	P#3	32	02-Apr-82	13.1	1.7				5
	M:6125	21N03W03BAAA	CO	QTg	P#3	32	18-Jun-93		2.0				8
	M:6125	21N03W03BAAA	CO	QTg	P#3	32	27-Dec-94		2.0				8
	M:6125	21N03W03BAAA	CO	QTg	P#3	32	16-Dec-96		1.4				8
	M:6125	21N03W03BAAA	CO	QTg	P#3	32	19-Mar-97		1.9				8
	M:6125	21N03W03BAAA	CO	QTg	P#3	32	13-Jun-97		2.0				8
	M:6125	21N03W03BAAA	CO	QTg	P#3	32	10-Sep-97		2.0				8
	M:6125	21N03W03BAAA	CO	QTg	P#3	32	10-Dec-97		0.7				8
	M:6125	21N03W03BAAA	CO	QTg	P#3	32	27-May-98		1.3				8
16	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	18-Jun-93		10.3	8.2			8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	23-Jun-93		11.1				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	18-Oct-93		8.2				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	21-Oct-93		8.5				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	01-Apr-94		8.9				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	24-Jun-94		8.8				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	16-Aug-94		6.0				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	27-Dec-94		7.0				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	21-Mar-95		8.1				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	30-May-95		6.9				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	26-Jul-95		6.9				8
	M:76705	21N03W03BBAAB	MBMG	QTg	P#2	22	28-Sep-95	10.1	8.0				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	23-Oct-95		9.2				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	10-May-96		10.5				8
	M:76705	21N03W03BBAAB	CO	QTg	P*#2	22	21-May-96		9.2				3; 4
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	05-Dec-96		7.6				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	19-Mar-97		9.2				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	30-May-97		10.0				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	10-Sep-97		6.6				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	10-Dec-97		6.1				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	23-Mar-98		7.3				8
	M:76705	21N03W03BBAAB	CO	QTg	P#2	22	27-May-98		5.5				8
17	M:75566	21N03W03BDACD	CO	QTg/KC	P#6	40	23-Mar-98		1.5	1.5			8
18	M:75567	21N03W03BDBAD	MBMG	QTg/KC	P*#5	40	07-Sep-95	6.9	1.6	1.6			3; 4
19	M:75565	21N03W03BDDB	MBMG	QTg/KC	P*#7	41	07-Sep-95	3.7	0.8	0.8			3; 4
20	M:75563	21N03W03CBBC	MBMG	QTg	D	26	27-Apr-98	23.6	1.3	0.8			4
	M:75563	21N03W03CBBC	MDA	QTg	D	26	19-Jul-98	9.2	1.1				7
	M:75563	21N03W03CBBC	MDA	QTg	D	26	20-Oct-98	14.3	0.0				7
	M:75563	21N03W03CBBC	MDA	QTg	D	26	20-Oct-98	16.4					
	M:75563	21N03W03CBBC	MDA	QTg	D	26	12-Apr-99	22.4	1.0				
	M:75563	21N03W03CBBCC	MBMG	QTg	D	25	08-Sep-95	9.0	1.5				3; 4

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***Well Type: D = Domestic, P = Public, M = Monitor, I = Irrigation

Table A-8. Nitrate data for ground water.

Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
21	W-37	21N03W04AAAB	USGS	QTg	D	27	05-Mar-91	12.1	4.5	4.4	<.01	<.01	2
	W-37	21N03W04AAAB	USGS	QTg	D	27	06-Aug-91	7.2	4.3		<.01	0.01	2
22	M:75576	21N03W04AADAA	CO	QTg	P#1	22	18-Jun-93		2.4	6.8			8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	30-Dec-93		7.8				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	01-Apr-94		8.9				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	27-Dec-94		6.2				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	21-Mar-95		6.4				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	30-May-95		8.5				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	23-Oct-95		9.1				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	21-May-96		9.2				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	05-Dec-96		6.8				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	16-Dec-96		1.3				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	19-Mar-97		6.3				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	13-Jun-97		7.8				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	10-Sep-97		7.2				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	10-Dec-97		6.2				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	23-Mar-98		6.7				8
	M:75576	21N03W04AADAA	CO	QTg	P#1	22	27-May-98		7.8				8
23	M:75579	21N03W04DDDCA	MBMG	Kc	D	90.5	29-Sep-95	27.2	4.5	4.5			3; 4
24	M:75586	21N03W11ABAB	MBMG	QTg	D	24	27-Apr-98	11.4	9.5	7.4			4
	M:75586	21N03W11ABAB	MDA	QTg	D	24	19-Jul-98	9.0	6.5				7
	M:75586	21N03W11ABAB	MDA	QTg	D	24	21-Oct-98	9.7	6.3				7
	M:75586	21N03W11ABAB	MDA	QTg	D	24	08-Dec-98	10.4	7.3				
	M:75586	21N03W11ABAB	MDA	QTg	D	24	12-Apr-99	12.3	7.1				
25	20	22N01W03CCCC	DEQ		D		05-May-80		4.1	3.9			6
	20	22N01W03CCCC	DEQ		D		22-May-80		3.8				6
	20	22N01W03CCCC	DEQ		D		03-Jun-80		3.5				6
	20	22N01W03CCCC	DEQ		D		18-Jun-80		3.5				6
	20	22N01W03CCCC	DEQ		D		02-Jul-80		3.5				6
	20	22N01W03CCCC	DEQ		D		16-Jul-80		3.7				6
	20	22N01W03CCCC	DEQ		D		30-Jul-80		3.8				6
	20	22N01W03CCCC	DEQ		D		13-Aug-80		4.1				6
	20	22N01W03CCCC	DEQ		D		28-Aug-80		4.2				6
	20	22N01W03CCCC	DEQ		D		09-Sep-80		4.5				6
	20	22N01W03CCCC	DEQ		D		24-Sep-80		4.1				6
	20	22N01W03CCCC	DEQ		D		14-Oct-80		4.0				6
	20	22N01W03CCCC	DEQ		D		29-Oct-80		4.0				6
	20	22N01W03CCCC	DEQ		D		11-Nov-80						6
	20	22N01W03CCCC	DEQ		D		06-Dec-80						6
26	PWD	22N01W04DADB	MDA				01-Apr-97	11.6	4.8	4.8			7
27	M:6160	22N01W04DDCD	MBMG	QTg	D	19	03-Sep-81	15.0	3.5	3.5			5
	M:6161	22N01W04DDCD	MBMG	QTg	D	19	11-May-82	16.4	3.3				5
	M:6162	22N01W04DDCD	MBMG	QTg	D	19	02-Apr-81	16.1	3.6				5
28	4	22N01W05CCCC	DEQ	QTg	D	35	05-May-80		4.8	3.8			6
	4	22N01W05CCCC	DEQ	QTg	D	35	22-May-80		3.6				6
	4	22N01W05CCCC	DEQ	QTg	D	35	03-Jun-80		4.0				6
	4	22N01W05CCCC	DEQ	QTg	D	35	18-Jun-80		4.3				6

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Table A-8. Nitrate data for ground water.

Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
	4	22N01W05CCCC	DEQ	QTg	D	35	02-Jul-80		4.3				6
	4	22N01W05CCCC	DEQ	QTg	D	35	16-Jul-80		4.2				6
	4	22N01W05CCCC	DEQ	QTg	D	35	30-Jul-80		2.5				6
	4	22N01W05CCCC	DEQ	QTg	D	35	13-Aug-80		3.6				6
	4	22N01W05CCCC	DEQ	QTg	D	35	28-Aug-80		4.5				6
	4	22N01W05CCCC	DEQ	QTg	D	35	09-Sep-80		3.3				6
	4	22N01W05CCCC	DEQ	QTg	D	35	24-Sep-80		2.7				6
	4	22N01W05CCCC	DEQ	QTg	D	35	14-Oct-80		3.8				6
	4	22N01W05CCCC	DEQ	QTg	D	35	29-Oct-80						6
	4	22N01W05CCCC	DEQ	QTg	D	35	11-Nov-80						6
	4	22N01W05CCCC	DEQ	QTg	D	35	06-Dec-80						6
29	21	22N01W07BCCC	DEQ	QTg	D	21	05-May-80		2.3	2.6			6
	21	22N01W07BCCC	DEQ	QTg	D	21	22-May-80		4.0				6
	21	22N01W07BCCC	DEQ	QTg	D	21	03-Jun-80		2.9				6
	21	22N01W07BCCC	DEQ	QTg	D	21	18-Jun-80		3.8				6
	21	22N01W07BCCC	DEQ	QTg	D	21	02-Jul-80		4.0				6
	21	22N01W07BCCC	DEQ	QTg	D	21	16-Jul-80		2.5				6
	21	22N01W07BCCC	DEQ	QTg	D	21	30-Jul-80		1.5				6
	21	22N01W07BCCC	DEQ	QTg	D	21	13-Aug-80		1.0				6
	21	22N01W07BCCC	DEQ	QTg	D	21	28-Aug-80		1.5				6
	21	22N01W07BCCC	DEQ	QTg	D	21	09-Sep-80		2.0				6
	21	22N01W07BCCC	DEQ	QTg	D	21	24-Sep-80		1.6				6
	21	22N01W07BCCC	DEQ	QTg	D	21	14-Oct-80		2.2				6
	21	22N01W07BCCC	DEQ	QTg	D	21	29-Oct-80		3.4				6
	21	22N01W07BCCC	DEQ	QTg	D	21	11-Nov-80		2.8				6
	21	22N01W07BCCC	DEQ	QTg	D	21	06-Dec-80		3.3				6
30	13	22N01W09ABB	USGS	QTg	D	18	20-Aug-86	7.4	4.4	4.4			1
31	M:76513	22N01W10BBBB	MBMG	QTg/Kc	D	30	30-Apr-98	19.5	4.0	3.0			4
	M:76513	22N01W10BBBB	MDA	QTg/Kc	D	30	20-Jul-98	17.6	2.9				7
	M:76513	22N01W10BBBB	MDA	QTg/Kc	D	30	20-Oct-98	17.8	2.1				7
	M:76513	22N01W10BBBB	MDA	QTg/Kc	D	30	08-Dec-98	18.8	2.4				
	M:76513	22N01W10BBBB	MDA	QTg/Kc	D	30	13-Apr-99	19.4	3.2				
32	1	22N01W11CCDD	DEQ	QTg	D	18	05-May-80		4.1	1.5			6
	1	22N01W11CCDD	DEQ	QTg	D	18	22-May-80		1.0				6
	1	22N01W11CCDD	DEQ	QTg	D	18	03-Jun-80		1.1				6
	1	22N01W11CCDD	DEQ	QTg	D	18	18-Jun-80		0.7				6
	1	22N01W11CCDD	DEQ	QTg	D	18	02-Jul-80		1.0				6
	1	22N01W11CCDD	DEQ	QTg	D	18	16-Jul-80		0.3				6
	1	22N01W11CCDD	DEQ	QTg	D	18	30-Jul-80		2.2				6
	1	22N01W11CCDD	DEQ	QTg	D	18	13-Aug-80		2.2				6
	1	22N01W11CCDD	DEQ	QTg	D	18	28-Aug-80		1.5				6
	1	22N01W11CCDD	DEQ	QTg	D	18	09-Sep-80		1.9				6
	1	22N01W11CCDD	DEQ	QTg	D	18	24-Sep-80		1.5				6
	1	22N01W11CCDD	DEQ	QTg	D	18	14-Oct-80		1.3				6
	1	22N01W11CCDD	DEQ	QTg	D	18	29-Oct-80		1.4				6
	1	22N01W11CCDD	DEQ	QTg	D	18	11-Nov-80		1.4				6
	1	22N01W11CCDD	DEQ	QTg	D	18	06-Dec-80		1.4				6

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Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
33	2	22N01W14CCCD	DEQ	QTg	D	32	05-May-80		4.5	4.3			6
	2	22N01W14CCCD	DEQ	QTg	D	32	22-May-80		4.1				6
	2	22N01W14CCCD	DEQ	QTg	D	32	03-Jun-80		4.0				6
	2	22N01W14CCCD	DEQ	QTg	D	32	18-Jun-80		4.4				6
	2	22N01W14CCCD	DEQ	QTg	D	32	02-Jul-80		4.8				6
	2	22N01W14CCCD	DEQ	QTg	D	32	16-Jul-80		4.8				6
	2	22N01W14CCCD	DEQ	QTg	D	32	30-Jul-80		5.3				6
	2	22N01W14CCCD	DEQ	QTg	D	32	13-Aug-80		4.2				6
	2	22N01W14CCCD	DEQ	QTg	D	32	28-Aug-80		3.3				6
	2	22N01W14CCCD	DEQ	QTg	D	32	09-Sep-80		3.5				6
	2	22N01W14CCCD	DEQ	QTg	D	32	24-Sep-80		3.6				6
	2	22N01W14CCCD	DEQ	QTg	D	32	14-Oct-80		4.2				6
	2	22N01W14CCCD	DEQ	QTg	D	32	29-Oct-80		4.3				6
	2	22N01W14CCCD	DEQ	QTg	D	32	11-Nov-80		4.4				6
	2	22N01W14CCCD	DEQ	QTg	D	32	06-Dec-80		4.7				6
34	M:6164	22N01W15DDCC	MBMG	QTg	D	40	03-Apr-81	34.2	3.8	7.0			5
	M:6164	22N01W15DDCC	MBMG	QTg	D	40	03-Sep-81	26.5	11.3				5
	M:6164	22N01W15DDCC	MBMG	QTg	D	40	12-May-82	34.2	8.1				5
	M:141146	22N01W15DDCC	MDA	QTg	D	40	01-Jul-95		4.8				7
35	M:76518	22N01W15DDDB	MDA				08-May-90		5.8	4.9			7
	M:76518	22N01W15DDDB	MDA				25-Jul-95		3.9				7
36	M:122338	22N01W15DDDC	MBMG	QTg	M	34.7	25-Jun-91	20.5	5.1	4.6			5
	M:122338	22N01W15DDDC	MDA	QTg	M	34.7	19-Sep-91	26.0	4.3				7
	M:122338	22N01W15DDDC	MDA	QTg	M	34.7	11-Dec-91	28.2	2.1				7
	M:122338	22N01W15DDDC	MDA	QTg	M	34.7	11-Mar-92	32.2	1.5				7
	M:122338	22N01W15DDDC	MDA	QTg	M	34.7	11-Jun-92		8.7				7
	M:122338	22N01W15DDDC	MBMG	QTg	M	34.7	06-Jun-94	31.4	6.3				5
	M:122338	22N01W15DDDC	MBMG	QTg	M	34.7	16-Oct-94		3.9				5
	M:122338	22N01W15DDDC	MBMG	QTg	M	34.7	04-Jun-95	31.0	5.8				5
	M:122338	22N01W15DDDC	MBMG	QTg	M	34.7	12-Jul-95	19.7	3.5				5
	M:122338	22N01W15DDDC	MBMG	QTg	M	34.7	25-Sep-95	27.3	4.7				5
37	3	22N01W16DCCC	DEQ	Kc	D	120	05-May-80		0.4	3.0			6
	3	22N01W16DCCC	DEQ	Kc	D	120	22-May-80		0.3				6
	3	22N01W16DCCC	DEQ	Kc	D	120	03-Jun-80		0.0				6
	3	22N01W16DCCC	DEQ	Kc	D	120	18-Jun-80		0.5				6
	3	22N01W16DCCC	DEQ	Kc	D	120	02-Jul-80		0.2				6
	3	22N01W16DCCC	DEQ	Kc	D	120	16-Jul-80		0.0				6
	3	22N01W16DCCC	DEQ	Kc	D	120	30-Jul-80		2.0				6
	3	22N01W16DCCC	DEQ	Kc	D	120	13-Aug-80		5.1				6
	3	22N01W16DCCC	DEQ	Kc	D	120	28-Aug-80		5.8				6
	3	22N01W16DCCC	DEQ	Kc	D	120	09-Sep-80		6.1				6
	3	22N01W16DCCC	DEQ	Kc	D	120	24-Sep-80		5.9				6
	3	22N01W16DCCC	DEQ	Kc	D	120	14-Oct-80		6.2				6
	3	22N01W16DCCC	DEQ	Kc	D	120	29-Oct-80		5.6				6
	3	22N01W16DCCC	DEQ	Kc	D	120	11-Nov-80		5.8				6
	3	22N01W16DCCC	DEQ	Kc	D	120	06-Dec-80		1.7				6
38	22	22N01W19ADDD	DEQ	QTg	D	18	05-May-80		33.0	20.8			6

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**QTg = Quaternary and Tertiary Gravel, Kc = Uppper Cretaceous (shales)
***Well Type: D = Domestic, P = Public, M = Monitor, I = Irrigation

Table A-8. Nitrate data for ground water.

Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
	22	22N01W19ADDD	DEQ	QTg	D	18	22-May-80		20.0				6
	22	22N01W19ADDD	DEQ	QTg	D	18	03-Jun-80		20.5				6
	22	22N01W19ADDD	DEQ	QTg	D	18	18-Jun-80		28.5				6
	22	22N01W19ADDD	DEQ	QTg	D	18	02-Jul-80		28.0				6
	22	22N01W19ADDD	DEQ	QTg	D	18	16-Jul-80		16.5				6
	22	22N01W19ADDD	DEQ	QTg	D	18	30-Jul-80		19.0				6
	22	22N01W19ADDD	DEQ	QTg	D	18	13-Aug-80		13.4				6
	22	22N01W19ADDD	DEQ	QTg	D	18	28-Aug-80		21.5				6
	22	22N01W19ADDD	DEQ	QTg	D	18	09-Sep-80		20.5				6
	22	22N01W19ADDD	DEQ	QTg	D	18	24-Sep-80		14.5				6
	22	22N01W19ADDD	DEQ	QTg	D	18	14-Oct-80		23.0				6
	22	22N01W19ADDD	DEQ	QTg	D	18	29-Oct-80		25.0				6
	22	22N01W19ADDD	DEQ	QTg	D	18	11-Nov-80		24.5				6
	22	22N01W19ADDD	DEQ	QTg	D	18	06-Dec-80		24.5				6
	M:122774	22N01W19ADDD	MDA	QTg	D	18	29-Dec-87		18.0				7
	M:122774	22N01W19ADDD	MDA	QTg	D	18	01-Mar-88		18.0				7
	M:122774	22N01W19ADDD	MDA	QTg	D	18	21-Apr-88		7.3				7
	M:122774	22N01W19ADDD	MDA	QTg	D	18	01-Jan-89		28.0				7
	M:122774	22N01W19ADDD	MBMG	QTg	D	18	01-Sep-91		15.9				4
	M:122774	22N01W19ADDD	MDA	QTg	D	18	13-Jun-94		18.0				7
39		22N01W20AAAA	MDA	QTg	D	16	29-Aug-95	9.1	10.0	16.0	0.12		7
		22N01W20AAAA	MDA	QTg	D	16	15-Apr-97		17.0				7
		22N01W20AAAA	MDA	QTg	D	16	15-Jul-97		21.0				7
40	M:166837	22N01W20DAAA	MBMG	QTg	D	18.2	28-Apr-98	10.2	5.2	2.1			4
	M:166837	22N01W20DAAA	MDA	QTg	D	18.2	20-Jul-98	5.3	0.0				7
	M:166837	22N01W20DAAA	MDA	QTg	D	18.2	20-Oct-98	6.9	1.2				7
	M:166837	22N01W20DAAA	MDA	QTg	D	18.2	08-Dec-98	8.0	1.7				
	M:166837	22N01W20DAAA	MDA	QTg	D	18.2	14-Apr-99	9.3	3.0				
41	M:6169	22N01W29BBBB	MBMG	QTg	D	18	03-Sep-81	6.5	5.1	5.0			5
	M:6170	22N01W29BBBB	MBMG	QTg	D	18	12-May-82	8.0	6.5				5
	M:6171	22N01W29BBBB	MBMG	QTg	D	18	03-Apr-81	7.4	3.4				5
42	24	22N01W29BCBB	DEQ	QTg	D	18	05-May-80		1.5	1.7			6
	24	22N01W29BCBB	DEQ	QTg	D	18	22-May-80		1.5				6
	24	22N01W29BCBB	DEQ	QTg	D	18	03-Jun-80		1.6				6
	24	22N01W29BCBB	DEQ	QTg	D	18	18-Jun-80		1.6				6
	24	22N01W29BCBB	DEQ	QTg	D	18	02-Jul-80		1.9				6
	24	22N01W29BCBB	DEQ	QTg	D	18	16-Jul-80		1.9				6
	24	22N01W29BCBB	DEQ	QTg	D	18	30-Jul-80		1.6				6
	24	22N01W29BCBB	DEQ	QTg	D	18	13-Aug-80		1.4				6
	24	22N01W29BCBB	DEQ	QTg	D	18	28-Aug-80		1.5				6
	24	22N01W29BCBB	DEQ	QTg	D	18	09-Sep-80		1.7				6
	24	22N01W29BCBB	DEQ	QTg	D	18	24-Sep-80		1.6				6
	24	22N01W29BCBB	DEQ	QTg	D	18	14-Oct-80		1.7				6
	24	22N01W29BCBB	DEQ	QTg	D	18	29-Oct-80		1.8				6
	24	22N01W29BCBB	DEQ	QTg	D	18	11-Nov-80		1.8				6
	24	22N01W29BCBB	DEQ	QTg	D	18	06-Dec-80		1.8				6
43	M:6172	22N01W33ABBB	MBMG	QTg/Kc?	D	59	03-Apr-81	10.0	5.7	5.6			5

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Table A-8. Nitrate data for ground water.

Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
	M:6173	22N01W33ABBB	MBMG	QTg/Kc?	D	59	03-Sep-81	4.6	5.6				5
	M:6174	22N01W33ABBB	MBMG	QTg/Kc?	D	59	12-May-82	7.4	5.6				5
44	25	22N01W33BAAA	DEQ	QTg	D	25	05-May-80		8.8	6.9			6
	25	22N01W33BAAA	DEQ	QTg	D	25	22-May-80		9.0				6
	25	22N01W33BAAA	DEQ	QTg	D	25	03-Jun-80		7.4				6
	25	22N01W33BAAA	DEQ	QTg	D	25	18-Jun-80		7.5				6
	25	22N01W33BAAA	DEQ	QTg	D	25	02-Jul-80		6.9				6
	25	22N01W33BAAA	DEQ	QTg	D	25	16-Jul-80		6.9				6
	25	22N01W33BAAA	DEQ	QTg	D	25	30-Jul-80		4.2				6
	25	22N01W33BAAA	DEQ	QTg	D	25	13-Aug-80		5.4				6
	25	22N01W33BAAA	DEQ	QTg	D	25	28-Aug-80		6.2				6
	25	22N01W33BAAA	DEQ	QTg	D	25	09-Sep-80		6.2				6
	25	22N01W33BAAA	DEQ	QTg	D	25	24-Sep-80		6.3				6
	25	22N01W33BAAA	DEQ	QTg	D	25	14-Oct-80		6.5				6
	25	22N01W33BAAA	DEQ	QTg	D	25	29-Oct-80		8.8				6
	25	22N01W33BAAA	DEQ	QTg	D	25	11-Nov-80						6
	25	22N01W33BAAA	DEQ	QTg	D	25	06-Dec-80						6
45	17	22N01W33CDDC	DEQ	QTg	D	20	05-May-80		2.4	0.8			6
	17	22N01W33CDDC	DEQ	QTg	D	20	22-May-80		0.5				6
	17	22N01W33CDDC	DEQ	QTg	D	20	03-Jun-80		0.2				6
	17	22N01W33CDDC	DEQ	QTg	D	20	18-Jun-80		0.2				6
	17	22N01W33CDDC	DEQ	QTg	D	20	02-Jul-80		0.2				6
	17	22N01W33CDDC	DEQ	QTg	D	20	16-Jul-80		0.3				6
	17	22N01W33CDDC	DEQ	QTg	D	20	30-Jul-80		0.6				6
	17	22N01W33CDDC	DEQ	QTg	D	20	13-Aug-80		0.5				6
	17	22N01W33CDDC	DEQ	QTg	D	20	28-Aug-80		0.4				6
	17	22N01W33CDDC	DEQ	QTg	D	20	09-Sep-80		0.6				6
	17	22N01W33CDDC	DEQ	QTg	D	20	24-Sep-80		0.7				6
	17	22N01W33CDDC	DEQ	QTg	D	20	14-Oct-80		0.7				6
	17	22N01W33CDDC	DEQ	QTg	D	20	29-Oct-80		1.3				6
	17	22N01W33CDDC	DEQ	QTg	D	20	11-Nov-80		1.5				6
	17	22N01W33CDDC	DEQ	QTg	D	20	06-Dec-80		1.6				6
46	18	22N01W35CDDC	DEQ	QTg	D	20	05-May-80		1.9	1.5			6
	18	22N01W35CDDC	DEQ	QTg	D	20	22-May-80		1.8				6
	18	22N01W35CDDC	DEQ	QTg	D	20	03-Jun-80		1.2				6
	18	22N01W35CDDC	DEQ	QTg	D	20	18-Jun-80		1.4				6
	18	22N01W35CDDC	DEQ	QTg	D	20	02-Jul-80		1.6				6
	18	22N01W35CDDC	DEQ	QTg	D	20	16-Jul-80		1.7				6
	18	22N01W35CDDC	DEQ	QTg	D	20	30-Jul-80		1.7				6
	18	22N01W35CDDC	DEQ	QTg	D	20	13-Aug-80		1.7				6
	18	22N01W35CDDC	DEQ	QTg	D	20	28-Aug-80		1.5				6
	18	22N01W35CDDC	DEQ	QTg	D	20	09-Sep-80		0.3				6
	18	22N01W35CDDC	DEQ	QTg	D	20	24-Sep-80		1.5				6
	18	22N01W35CDDC	DEQ	QTg	D	20	14-Oct-80		1.3				6
	18	22N01W35CDDC	DEQ	QTg	D	20	29-Oct-80		1.3				6
	18	22N01W35CDDC	DEQ	QTg	D	20	11-Nov-80		1.4				6
	18	22N01W35CDDC	DEQ	QTg	D	20	06-Dec-80		1.4				6

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Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
47	19	22N01W35DDDC	DEQ	QTg	D	30	05-May-80		3.2	2.9			6
	19	22N01W35DDDC	DEQ	QTg	D	30	22-May-80		3.0				6
	19	22N01W35DDDC	DEQ	QTg	D	30	03-Jun-80		1.8				6
	19	22N01W35DDDC	DEQ	QTg	D	30	18-Jun-80		3.5				6
	19	22N01W35DDDC	DEQ	QTg	D	30	02-Jul-80		2.3				6
	19	22N01W35DDDC	DEQ	QTg	D	30	16-Jul-80		7.3				6
	19	22N01W35DDDC	DEQ	QTg	D	30	30-Jul-80		3.1				6
	19	22N01W35DDDC	DEQ	QTg	D	30	13-Aug-80		2.4				6
	19	22N01W35DDDC	DEQ	QTg	D	30	28-Aug-80		4.2				6
	19	22N01W35DDDC	DEQ	QTg	D	30	09-Sep-80		3.1				6
	19	22N01W35DDDC	DEQ	QTg	D	30	24-Sep-80		3.3				6
	19	22N01W35DDDC	DEQ	QTg	D	30	14-Oct-80		1.6				6
	19	22N01W35DDDC	DEQ	QTg	D	30	29-Oct-80		1.5				6
	19	22N01W35DDDC	DEQ	QTg	D	30	11-Nov-80		1.6				6
	19	22N01W35DDDC	DEQ	QTg	D	30	06-Dec-80		1.5				6
48	M:6175	22N02W01AACA	MBMG	QTg	D	15	02-Apr-81	8.2	0.9	0.9			5
	M:6176	22N02W01AACA	MBMG	QTg	D	15	03-Sep-81	8.3	1.3				5
	M:6177	22N02W01AACA	MBMG	QTg	D	15	11-May-82	9.3	0.5				5
49	6	22N02W01ABDC	DEQ	QTg	D	16	05-May-80		2.7	2.3			6
	6	22N02W01ABDC	DEQ	QTg	D	16	22-May-80		2.3				6
	6	22N02W01ABDC	DEQ	QTg	D	16	03-Jun-80		2.4				6
	6	22N02W01ABDC	DEQ	QTg	D	16	18-Jun-80		1.9				6
	6	22N02W01ABDC	DEQ	QTg	D	16	02-Jul-80		1.8				6
	6	22N02W01ABDC	DEQ	QTg	D	16	16-Jul-80						6
	6	22N02W01ABDC	DEQ	QTg	D	16	30-Jul-80		1.6				6
	6	22N02W01ABDC	DEQ	QTg	D	16	13-Aug-80		1.4				6
	6	22N02W01ABDC	DEQ	QTg	D	16	28-Aug-80		1.7				6
	6	22N02W01ABDC	DEQ	QTg	D	16	09-Sep-80		2.9				6
	6	22N02W01ABDC	DEQ	QTg	D	16	24-Sep-80		2.4				6
	6	22N02W01ABDC	DEQ	QTg	D	16	14-Oct-80		3.8				6
	6	22N02W01ABDC	DEQ	QTg	D	16	29-Oct-80		2.8				6
	6	22N02W01ABDC	DEQ	QTg	D	16	11-Nov-80		2.2				6
	6	22N02W01ABDC	DEQ	QTg	D	16	06-Dec-80		1.9				6
50	7	22N02W02AADA	DEQ	QTg	D	16	05-May-80		1.8	4.4			6
	7	22N02W02AADA	DEQ	QTg	D	16	22-May-80		2.5				6
	7	22N02W02AADA	DEQ	QTg	D	16	03-Jun-80		3.4				6
	7	22N02W02AADA	DEQ	QTg	D	16	18-Jun-80		5.3				6
	7	22N02W02AADA	DEQ	QTg	D	16	02-Jul-80		5.6				6
	7	22N02W02AADA	DEQ	QTg	D	16	16-Jul-80		4.8				6
	7	22N02W02AADA	DEQ	QTg	D	16	30-Jul-80		5.3				6
	7	22N02W02AADA	DEQ	QTg	D	16	13-Aug-80		6.6				6
	7	22N02W02AADA	DEQ	QTg	D	16	28-Aug-80		5.2				6
	7	22N02W02AADA	DEQ	QTg	D	16	09-Sep-80		4.5				6
	7	22N02W02AADA	DEQ	QTg	D	16	24-Sep-80		5.6				6
	7	22N02W02AADA	DEQ	QTg	D	16	14-Oct-80		4.8				6
	7	22N02W02AADA	DEQ	QTg	D	16	29-Oct-80		4.1				6
	7	22N02W02AADA	DEQ	QTg	D	16	11-Nov-80		3.6				6

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Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
	7	22N02W02AADA	DEQ	QTg	D	16	06-Dec-80		2.9				6
51	M:76555	22N02W02DDDD	MBMG	QTg	D	27	29-Apr-98	9.9	2.8	3.7			4
	M:76555	22N02W02DDDD	MDA	QTg	D	27	20-Jul-98	6.7	3.0				7
	M:76555	22N02W02DDDD	MDA	QTg	D	27	19-Oct-98	8.8	5.3				7
	M:76555	22N02W02DDDD	MDA	QTg	D	27	07-Dec-98	9.1	4.7				
	M:76555	22N02W02DDDD	MDA	QTg	D	27	13-Apr-99	9.6	3.3				
52	8	22N02W05BCDC	DEQ		D		05-May-80		1.6	2.4			6
	8	22N02W05BCDC	DEQ		D		22-May-80		0.7				6
	8	22N02W05BCDC	DEQ		D		03-Jun-80		2.2				6
	8	22N02W05BCDC	DEQ		D		18-Jun-80		0.5				6
	8	22N02W05BCDC	DEQ		D		02-Jul-80		0.5				6
	8	22N02W05BCDC	DEQ		D		16-Jul-80		1.2				6
	8	22N02W05BCDC	DEQ		D		30-Jul-80		9.3				6
	8	22N02W05BCDC	DEQ		D		13-Aug-80		9.2				6
	8	22N02W05BCDC	DEQ		D		28-Aug-80		1.1				6
	8	22N02W05BCDC	DEQ		D		09-Sep-80		1.1				6
	8	22N02W05BCDC	DEQ		D		24-Sep-80		1.2				6
	8	22N02W05BCDC	DEQ		D		14-Oct-80		0.9				6
	8	22N02W05BCDC	DEQ		D		29-Oct-80		1.5				6
	8	22N02W05BCDC	DEQ		D		11-Nov-80						6
	8	22N02W05BCDC	DEQ		D		06-Dec-80						6
53	S-4	22N02W06CBBB	DEQ	QTg	M	10	22-May-80		4.3	4.2			6
	S-4	22N02W06CBBB	DEQ	QTg	M	10	07-Jun-80		11.5				6
	S-4	22N02W06CBBB	DEQ	QTg	M	10	27-Jun-80		9.8				6
	S-4	22N02W06CBBB	DEQ	QTg	M	10	08-Jul-80		7.0				6
	S-4	22N02W06CBBB	DEQ	QTg	M	10	28-Jul-80		0.3				6
	S-4	22N02W06CBBB	DEQ	QTg	M	10	13-Aug-80		0.3				6
	S-4	22N02W06CBBB	DEQ	QTg	M	10	23-Aug-80		0.6				6
	S-4	22N02W06CBBB	DEQ	QTg	M	10	02-Sep-80		1.1				6
	S-4	22N02W06CBBB	DEQ	QTg	M	10	15-Sep-80		1.9				6
	S-4	22N02W06CBBB	DEQ	QTg	M	10	02-Oct-80		2.2				6
	S-4	22N02W06CBBB	DEQ	QTg	M	10	20-Oct-80		7.0				6
54	S-5	22N02W06CBCD	DEQ	QTg	M	10	22-May-80		4.0	4.2			6
	S-5	22N02W06CBCD	DEQ	QTg	M	10	07-Jun-80		14.5				6
	S-5	22N02W06CBCD	DEQ	QTg	M	10	27-Jun-80		10.8				6
	S-5	22N02W06CBCD	DEQ	QTg	M	10	08-Jul-80		2.5				6
	S-5	22N02W06CBCD	DEQ	QTg	M	10	28-Jul-80		0.5				6
	S-5	22N02W06CBCD	DEQ	QTg	M	10	13-Aug-80		0.0				6
	S-5	22N02W06CBCD	DEQ	QTg	M	10	23-Aug-80		0.3				6
	S-5	22N02W06CBCD	DEQ	QTg	M	10	02-Sep-80		1.8				6
	S-5	22N02W06CBCD	DEQ	QTg	M	10	15-Sep-80		4.0				6
	S-5	22N02W06CBCD	DEQ	QTg	M	10	02-Oct-80		2.5				6
	S-5	22N02W06CBCD	DEQ	QTg	M	10	20-Oct-80		5.0				6
55	S-6	22N02W06CCDC	DEQ	QTg	M	10	22-May-80		4.3	2.3			6
	S-6	22N02W06CCDC	DEQ	QTg	M	10	07-Jun-80		2.5				6
	S-6	22N02W06CCDC	DEQ	QTg	M	10	27-Jun-80		1.2				6
	S-6	22N02W06CCDC	DEQ	QTg	M	10	08-Jul-80		2.0				6

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Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
	S-6	22N02W06CCDC	DEQ	QTg	M	10	28-Jul-80		0.9				6
	S-6	22N02W06CCDC	DEQ	QTg	M	10	13-Aug-80		1.8				6
	S-6	22N02W06CCDC	DEQ	QTg	M	10	23-Aug-80		4.4				6
	S-6	22N02W06CCDC	DEQ	QTg	M	10	02-Sep-80		1.6				6
	S-6	22N02W06CCDC	DEQ	QTg	M	10	15-Sep-80						6
	S-6	22N02W06CCDC	DEQ	QTg	M	10	02-Oct-80						6
	S-6	22N02W06CCDC	DEQ	QTg	M	10	20-Oct-80						6
56	9	22N02W07BACC	DEQ		D		05-May-80		4.4	3.2			6
	9	22N02W07BACC	DEQ		D		22-May-80		3.5				6
	9	22N02W07BACC	DEQ		D		03-Jun-80		3.5				6
	9	22N02W07BACC	DEQ		D		18-Jun-80		3.5				6
	9	22N02W07BACC	DEQ		D		02-Jul-80		3.2				6
	9	22N02W07BACC	DEQ		D		16-Jul-80		3.1				6
	9	22N02W07BACC	DEQ		D		30-Jul-80		2.6				6
	9	22N02W07BACC	DEQ		D		13-Aug-80		2.6				6
	9	22N02W07BACC	DEQ		D		28-Aug-80		2.7				6
	9	22N02W07BACC	DEQ		D		09-Sep-80		2.7				6
	9	22N02W07BACC	DEQ		D		24-Sep-80		2.9				6
	9	22N02W07BACC	DEQ		D		14-Oct-80		3.3				6
	9	22N02W07BACC	DEQ		D		29-Oct-80						6
	9	22N02W07BACC	DEQ		D		11-Nov-80						6
	9	22N02W07BACC	DEQ		D		06-Dec-80						6
57	M:76565	22N02W08BCCC	MBMG	QTg	I	16	28-Apr-98	9.8	4.7	5.2			4
	M:76565	22N02W08BCCC	MDA	QTg	I	16	21-Jul-98	9.0	5.2				7
	M:76565	22N02W08BCCC	MDA	QTg	I	16	19-Oct-98	9.7	5.8				7
	M:76565	22N02W08BCCC	MDA	QTg	I	16	07-Dec-98	9.8	5.6				
	M:76565	22N02W08BCCC	MDA	QTg	I	16	13-Apr-99	9.7	5.2				
58	12	22N02W09AAAD	DEQ	QTg	D	20	05-May-80		6.2	12.5			6
	12	22N02W09AAAD	DEQ	QTg	D	20	22-May-80		7.8				6
	12	22N02W09AAAD	DEQ	QTg	D	20	03-Jun-80		11.8				6
	12	22N02W09AAAD	DEQ	QTg	D	20	18-Jun-80		7.2				6
	12	22N02W09AAAD	DEQ	QTg	D	20	02-Jul-80		9.5				6
	12	22N02W09AAAD	DEQ	QTg	D	20	16-Jul-80		7.8				6
	12	22N02W09AAAD	DEQ	QTg	D	20	30-Jul-80		19.0				6
	12	22N02W09AAAD	DEQ	QTg	D	20	13-Aug-80		14.8				6
	12	22N02W09AAAD	DEQ	QTg	D	20	28-Aug-80		20.5				6
	12	22N02W09AAAD	DEQ	QTg	D	20	09-Sep-80		23.0				6
	12	22N02W09AAAD	DEQ	QTg	D	20	24-Sep-80		16.0				6
	12	22N02W09AAAD	DEQ	QTg	D	20	14-Oct-80		16.0				6
	12	22N02W09AAAD	DEQ	QTg	D	20	29-Oct-80		13.0				6
	12	22N02W09AAAD	DEQ	QTg	D	20	11-Nov-80		10.5				6
	12	22N02W09AAAD	DEQ	QTg	D	20	06-Dec-80		4.7				6
59	13	22N02W11CBBB	DEQ	QTg	D	12.8	05-May-80		4.6	4.1			6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	22-May-80						6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	03-Jun-80		1.6				6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	18-Jun-80						6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	02-Jul-80		4.9				6

*CO = Certified Operator
**QTg = Quaternary and Tertiary Gravel, Kc = Uppper Cretaceous (shales)
***Well Type: D = Domestic, P = Public, M = Monitor, I = Irrigation

Table A-8. Nitrate data for ground water.

Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
	13	22N02W11CBBB	DEQ	QTg	D	12.8	16-Jul-80		2.7				6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	30-Jul-80		2.7				6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	13-Aug-80		3.3				6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	28-Aug-80		4.9				6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	09-Sep-80		5.0				6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	24-Sep-80		4.7				6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	14-Oct-80		4.1				6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	29-Oct-80		4.1				6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	11-Nov-80		3.8				6
	13	22N02W11CBBB	DEQ	QTg	D	12.8	06-Dec-80		3.5				6
	M:6181	22N02W11CBBB	MBMG	QTg	D	12.8	01-Apr-81	11.4	3.8				5
	M:6182	22N02W11CBBB	MBMG	QTg	D	12.8	03-Sep-81	4.8	4.9				5
	M:6183	22N02W11CBBB	MBMG	QTg	D	12.8	11-May-82	11.4	5.1				5
60	M:6184	22N02W14BBBB	MBMG	QTg	D	20	06-Oct-81	4.0	4.4	2.3			5
	M:6184	22N02W14BBBB	MBMG	QTg	D	20	26-Jul-96	5.7	0.3				4
61	M:149990	22N02W15AADD	MBMG	QTg	D	18.5	28-Apr-98	9.0	7.0	7.2			4
	M:149990	22N02W15AADD	MDA	QTg	D	18.5	22-Jul-98	5.8	8.1				7
	M:149990	22N02W15AADD	MDA	QTg	D	18.5	19-Oct-98	6.8	6.5				7
	M:149990	22N02W15AADD	MDA	QTg	D	18.5	07-Dec-98	7.3	6.1				
	M:149990	22N02W15AADD	MDA	QTg	D	18.5	13-Apr-99	8.5	6.9				
62	11	22N02W17DAAA	DEQ	QTg	D	20	05-May-80		6.2	5.6			6
	11	22N02W17DAAA	DEQ	QTg	D	20	22-May-80		6.2				6
	11	22N02W17DAAA	DEQ	QTg	D	20	03-Jun-80		6.1				6
	11	22N02W17DAAA	DEQ	QTg	D	20	18-Jun-80		6.4				6
	11	22N02W17DAAA	DEQ	QTg	D	20	02-Jul-80		5.9				6
	11	22N02W17DAAA	DEQ	QTg	D	20	16-Jul-80		5.4				6
	11	22N02W17DAAA	DEQ	QTg	D	20	30-Jul-80		5.6				6
	11	22N02W17DAAA	DEQ	QTg	D	20	13-Aug-80		5.1				6
	11	22N02W17DAAA	DEQ	QTg	D	20	28-Aug-80		5.2				6
	11	22N02W17DAAA	DEQ	QTg	D	20	09-Sep-80		5.3				6
	11	22N02W17DAAA	DEQ	QTg	D	20	24-Sep-80		5.0				6
	11	22N02W17DAAA	DEQ	QTg	D	20	14-Oct-80		5.3				6
	11	22N02W17DAAA	DEQ	QTg	D	20	29-Oct-80		5.5				6
	11	22N02W17DAAA	DEQ	QTg	D	20	11-Nov-80						6
	11	22N02W17DAAA	DEQ	QTg	D	20	06-Dec-80						6
63	M:6185	22N02W20BABA	MBMG	QTg	D	13.3	02-Apr-81	10.9	0.1	0.1			5
	M:6186	22N02W20BABA	MBMG	QTg	D	13.3	02-Sep-81	8.0	0.1				5
	M:6187	22N02W20BABA	MBMG	QTg	D	13.3	11-May-82	10.5	0.1				5
64	S-1	22N02W21BBCB	DEQ	QTg	M	10	22-May-80		5.7	8.3			6
	S-1	22N02W21BBCB	DEQ	QTg	M	10	07-Jun-80		10.5				6
	S-1	22N02W21BBCB	DEQ	QTg	M	10	27-Jun-80		6.8				6
	S-1	22N02W21BBCB	DEQ	QTg	M	10	08-Jul-80		8.5				6
	S-1	22N02W21BBCB	DEQ	QTg	M	10	28-Jul-80		8.8				6
	S-1	22N02W21BBCB	DEQ	QTg	M	10	13-Aug-80		5.8				6
	S-1	22N02W21BBCB	DEQ	QTg	M	10	23-Aug-80		7.8				6
	S-1	22N02W21BBCB	DEQ	QTg	M	10	02-Sep-80		6.0				6
	S-1	22N02W21BBCB	DEQ	QTg	M	10	15-Sep-80		9.2				6

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Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
	S-1	22N02W21BBCB	DEQ	QTg	M	10	02-Oct-80		11.5				6
	S-1	22N02W21BBCB	DEQ	QTg	M	10	20-Oct-80		10.5				6
65	S-2	22N02W21CBBB	DEQ	QTg	M	9.8	22-May-80			7.1			6
	S-2	22N02W21CBBB	DEQ	QTg	M	9.8	07-Jun-80		12.0				6
	S-2	22N02W21CBBB	DEQ	QTg	M	9.8	27-Jun-80		8.2				6
	S-2	22N02W21CBBB	DEQ	QTg	M	9.8	08-Jul-80		6.5				6
	S-2	22N02W21CBBB	DEQ	QTg	M	9.8	28-Jul-80		7.2				6
	S-2	22N02W21CBBB	DEQ	QTg	M	9.8	13-Aug-80		3.8				6
	S-2	22N02W21CBBB	DEQ	QTg	M	9.8	23-Aug-80		5.2				6
	S-2	22N02W21CBBB	DEQ	QTg	M	9.8	02-Sep-80		5.2				6
	S-2	22N02W21CBBB	DEQ	QTg	M	9.8	15-Sep-80		6.2				6
	S-2	22N02W21CBBB	DEQ	QTg	M	9.8	02-Oct-80		8.0				6
	S-2	22N02W21CBBB	DEQ	QTg	M	9.8	20-Oct-80		8.8				6
66	S-3	22N02W21CCBB	DEQ	QTg	M	8.2	22-May-80			5.1			6
	S-3	22N02W21CCBB	DEQ	QTg	M	8.2	07-Jun-80		8.5				6
	S-3	22N02W21CCBB	DEQ	QTg	M	8.2	27-Jun-80		2.8				6
	S-3	22N02W21CCBB	DEQ	QTg	M	8.2	08-Jul-80		0.5				6
	S-3	22N02W21CCBB	DEQ	QTg	M	8.2	28-Jul-80		1.8				6
	S-3	22N02W21CCBB	DEQ	QTg	M	8.2	13-Aug-80						6
	S-3	22N02W21CCBB	DEQ	QTg	M	8.2	23-Aug-80		2.8				6
	S-3	22N02W21CCBB	DEQ	QTg	M	8.2	02-Sep-80		2.2				6
	S-3	22N02W21CCBB	DEQ	QTg	M	8.2	15-Sep-80		3.4				6
	S-3	22N02W21CCBB	DEQ	QTg	M	8.2	02-Oct-80		8.0				6
	S-3	22N02W21CCBB	DEQ	QTg	M	8.2	20-Oct-80		9.2				6
67	14	22N02W22AAAA	DEQ		D		05-May-80		2.7	3.2			6
	14	22N02W22AAAA	DEQ		D		22-May-80		5.4				6
	14	22N02W22AAAA	DEQ		D		03-Jun-80		4.8				6
	14	22N02W22AAAA	DEQ		D		18-Jun-80		2.9				6
	14	22N02W22AAAA	DEQ		D		02-Jul-80		3.0				6
	14	22N02W22AAAA	DEQ		D		16-Jul-80		3.1				6
	14	22N02W22AAAA	DEQ		D		30-Jul-80		3.2				6
	14	22N02W22AAAA	DEQ		D		13-Aug-80		4.0				6
	14	22N02W22AAAA	DEQ		D		28-Aug-80		5.6				6
	14	22N02W22AAAA	DEQ		D		09-Sep-80		3.7				6
	14	22N02W22AAAA	DEQ		D		24-Sep-80		2.7				6
	14	22N02W22AAAA	DEQ		D		14-Oct-80		2.6				6
	14	22N02W22AAAA	DEQ		D		29-Oct-80		2.2				6
	14	22N02W22AAAA	DEQ		D		11-Nov-80		2.0				6
	14	22N02W22AAAA	DEQ		D		06-Dec-80		1.5				6
	M:141481	22N02W22AAAA	MDA		D		01-Apr-88		1.8				7
68	23	22N02W23DDAA	DEQ	QTg	D	14	05-May-80		2.2	3.3			6
	23	22N02W23DDAA	DEQ	QTg	D	14	22-May-80		3.2				6
	23	22N02W23DDAA	DEQ	QTg	D	14	03-Jun-80		3.4				6
	23	22N02W23DDAA	DEQ	QTg	D	14	18-Jun-80		2.4				6
	23	22N02W23DDAA	DEQ	QTg	D	14	02-Jul-80		2.7				6
	23	22N02W23DDAA	DEQ	QTg	D	14	16-Jul-80		3.5				6
	23	22N02W23DDAA	DEQ	QTg	D	14	30-Jul-80		5.2				6

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Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
	23	22N02W23DDAA	DEQ	QTg	D	14	13-Aug-80		4.5				6
	23	22N02W23DDAA	DEQ	QTg	D	14	28-Aug-80		5.0				6
	23	22N02W23DDAA	DEQ	QTg	D	14	09-Sep-80		4.7				6
	23	22N02W23DDAA	DEQ	QTg	D	14	24-Sep-80		3.1				6
	23	22N02W23DDAA	DEQ	QTg	D	14	14-Oct-80		3.9				6
	23	22N02W23DDAA	DEQ	QTg	D	14	29-Oct-80		2.3				6
	23	22N02W23DDAA	DEQ	QTg	D	14	11-Nov-80		2.2				6
	23	22N02W23DDAA	DEQ	QTg	D	14	06-Dec-80		1.9				6
69	M:75598	22N02W24BABC	MBMG	QTg	D	50	29-Apr-98	33.0	3.9	3.4			4
	M:75598	22N02W24BABC	MDA	QTg	D	50	22-Jul-98	29.7	2.9				7
	M:75598	22N02W24BABC	MDA	QTg	D	50	20-Oct-98	27.2	3.4				7
	M:75598	22N02W24BABC	MDA	QTg	D	50	07-Dec-98	29.5	3.3				
	M:75598	22N02W24BABC	MDA	QTg	D	50	14-Apr-99	32.7	3.2				
70	14	22N02W24CCD	USGS	QTg	D	40	20-Aug-86	10.0	6.4	6.4			1
71	15	22N02W26CBBB	DEQ	QTg	D	19.8	05-May-80		5.4	13.8			6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	22-May-80		5.0				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	03-Jun-80		7.9				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	18-Jun-80		6.9				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	02-Jul-80		7.7				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	16-Jul-80		5.1				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	30-Jul-80		1.9				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	13-Aug-80		12.0				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	28-Aug-80		28.0				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	09-Sep-80		3.4				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	24-Sep-80		32.0				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	14-Oct-80		37.0				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	29-Oct-80		35.0				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	11-Nov-80		29.0				6
	15	22N02W26CBBB	DEQ	QTg	D	19.8	06-Dec-80		17.9				6
	M:6188	22N02W26CBBB	MBMG	QTg	D	19.8	01-Apr-81	9.5	6.3				5
	M:6189	22N02W26CBBB	MBMG	QTg	D	19.8	03-Sep-81	6.0	12.2				5
	M:6190	22N02W26CBBB	MBMG	QTg	D	19.8	12-May-82	8.7	6.1				5
	M:6188	22N02W26CBBB	MDA	QTg	D	19.8	01-Apr-88		4.6				7
	M:6188	22N02W26CBBB	MDA	QTg	D	19.8	16-Apr-91		12.0				7
72	M:166840	22N02W26DDAA	MBMG	QTg	D	14.8	28-Apr-98	9.6	23.0	18.7			4
	M:166840	22N02W26DDAA	MDA	QTg	D	14.8	21-Jul-98	8.0	17.0				7
	M:166840	22N02W26DDAA	MDA	QTg	D	14.8	20-Oct-98	8.1	16.0				7
	M:166840	22N02W26DDAA	MDA	QTg	D	14.8	09-Dec-98	8.7	15.0				
	M:166840	22N02W26DDAA	MDA	QTg	D	14.8	14-Apr-99	9.2	16.0				
73	M:76605	22N02W28AAAA	CO	QTg	P		10-Sep-93		7.2	6.3			8
	M:76605	22N02W28AAAA	CO	QTg	P		26-Sep-94		6.7				8
	M:76605	22N02W28AAAA	CO	QTg	P		12-Mar-96		6.4				8
	M:76605	22N02W28AAAA	CO	QTg	P		28-Jul-97		4.8				8
74	M:135323	22N02W30DADB	MBMG	QTg	D	28	27-Apr-98	10.9	3.6	4.7			4
	M:135323	22N02W30DADB	MDA	QTg	D	28	22-Jul-98	8.4	6.4				7
	M:135323	22N02W30DADB	MDA	QTg	D	28	19-Oct-98	10.1	4.0				7
	M:135323	22N02W30DADB	MDA	QTg	D	28	09-Dec-98	10.5	3.4				

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Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
	M:135323	22N02W30DADB	MDA	QTg	D	28	13-Apr-99	10.9	3.7				
75	M:6191	22N02W31CCCC	MBMG	QTg	S	14.2	01-Apr-81	10.5	0.5	0.7			5
	M:6192	22N02W31CCCC	MBMG	QTg	S	14.2	02-Sep-81	14.2	1.0				5
	M:6193	22N02W31CCCC	MBMG	QTg	S	14.2	12-May-82	13.9	0.6				5
76	16	22N02W33DAAA	DEQ	QTg	D	20	05-May-80		14.0	12.1			6
	16	22N02W33DAAA	DEQ	QTg	D	20	22-May-80		10.8				6
	16	22N02W33DAAA	DEQ	QTg	D	20	03-Jun-80		9.2				6
	16	22N02W33DAAA	DEQ	QTg	D	20	18-Jun-80		11.4				6
	16	22N02W33DAAA	DEQ	QTg	D	20	02-Jul-80		12.4				6
	16	22N02W33DAAA	DEQ	QTg	D	20	16-Jul-80		10.2				6
	16	22N02W33DAAA	DEQ	QTg	D	20	30-Jul-80		14.4				6
	16	22N02W33DAAA	DEQ	QTg	D	20	13-Aug-80		15.2				6
	16	22N02W33DAAA	DEQ	QTg	D	20	28-Aug-80		11.8				6
	16	22N02W33DAAA	DEQ	QTg	D	20	09-Sep-80		12.0				6
	16	22N02W33DAAA	DEQ	QTg	D	20	24-Sep-80		7.8				6
	16	22N02W33DAAA	DEQ	QTg	D	20	14-Oct-80		12.0				6
	16	22N02W33DAAA	DEQ	QTg	D	20	29-Oct-80		13.0				6
	16	22N02W33DAAA	DEQ	QTg	D	20	11-Nov-80		13.4				6
	16	22N02W33DAAA	DEQ	QTg	D	20	06-Dec-80		13.6				6
77	W-9	22N03W02CCCC	USGS	QTg	D	15	27-Feb-91	12.3	5.2	4.1	<.01	<.01	2
	W-9	22N03W02CCCC	USGS	QTg	D	15	05-Aug-91	7.1	3.0		<.01	0.01	2
78	10	22N03W02DADC	DEQ		D		05-May-80		5.6	4.3			6
	10	22N03W02DADC	DEQ		D		22-May-80		4.2				6
	10	22N03W02DADC	DEQ		D		03-Jun-80		3.6				6
	10	22N03W02DADC	DEQ		D		18-Jun-80		4.0				6
	10	22N03W02DADC	DEQ		D		02-Jul-80		4.4				6
	10	22N03W02DADC	DEQ		D		16-Jul-80		5.0				6
	10	22N03W02DADC	DEQ		D		30-Jul-80		4.3				6
	10	22N03W02DADC	DEQ		D		13-Aug-80		4.4				6
	10	22N03W02DADC	DEQ		D		28-Aug-80		3.9				6
	10	22N03W02DADC	DEQ		D		09-Sep-80		4.4				6
	10	22N03W02DADC	DEQ		D		24-Sep-80		4.2				6
	10	22N03W02DADC	DEQ		D		14-Oct-80		4.2				6
	10	22N03W02DADC	DEQ		D		29-Oct-80		4.3				6
	10	22N03W02DADC	DEQ		D		11-Nov-80						6
	10	22N03W02DADC	DEQ		D		06-Dec-80						6
79	W-11	22N03W10BBAA	USGS	QTg	D	28	25-Feb-91	12.7	1.3	1.2	<.01	<.01	2
	W-11	22N03W10BBAA	USGS	QTg	D	28	05-Aug-91	8.4	1.1		<.01	0.01	2
80	W-5C	22N03W10BBAD	USGS	Kc	M	50	17-Apr-92	8.9	0.0	0.0	<.01	0.94	2
	W-5C	22N03W10BBAD	USGS	Kc	M	50	12-Aug-92	6.9	0.0		<.01	0.96	2
81	W-5B	22N03W10BBAD	USGS	QTg	M	21	15-Apr-92	7.9	1.8	1.7	<.01	0.03	2
	W-5B	22N03W10BBAD	USGS	QTg	M	21	28-Jul-92	1.2	1.6		<.01	<.01	2
82	W-5A	22N03W10BBAD	USGS	QTg	M	11	10-Mar-92	7.3	1.9	1.6	<.01	<.01	2
	W-5A	22N03W10BBAD	USGS	QTg	M	11	12-Aug-92	1.4	1.3		<.01	<.01	2
83	W-15	22N03W10CDDD	USGS	QTg	D	48	06-Aug-91	9.9	1.4	1.4	<.01	<.01	2
84	12	22N03W11AAA	USGS	QTg	P	23	20-Aug-86	10.8	4.1	5.4			1
	M:166838	22N03W11AAAB	CO	QTg	P	23	28-Sep-93		5.8				8

*CO = Certified Operator
**QTg = Quaternary and Tertiary Gravel, Kc = Uppper Cretaceous (shales)
***Well Type: D = Domestic, P = Public, M = Monitor, I = Irrigation

Table A-8. Nitrate data for ground water.

Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
	M:166838	22N03W11AAAB	CO	QTg	P	23	19-May-94		4.3				8
	M:166838	22N03W11AAAB	CO	QTg	P	23	24-Jul-95		5.8				8
	M:166838	22N03W11AAAB	CO	QTg	P	23	01-Aug-96		6.5				8
	M:166838	22N03W11AAAB	CO	QTg	P	23	30-Oct-96		6.1				8
	M:166838	22N03W11AAAB	CO	QTg	P	23	10-Mar-97		5.6				8
	M:166838	22N03W11AAAB	CO	QTg	P	23	12-May-97		5.7				8
	M:166838	22N03W11AAAB	CO	QTg	P	23	16-Sep-97		5.3				8
	M:166838	22N03W11AAAB	MBMG	QTg	P*	23	29-Apr-98	16.8	4.9				5
	M:166838	22N03W11AAAB	MDA	QTg	P*	23	21-Jul-98	8.9	5.7				7
	M:166838	22N03W11AAAB	MDA	QTg	P*	23	19-Oct-98	9.4	5.5				7
	M:166838	22N03W11AAAB	MDA	QTg	P*	23	07-Dec-98	9.5	5.4				
	M:166838	22N03W11AAAB	MDA	QTg	P*	23	13-Apr-99	12.5	5.4				
85	M:6194	22N03W14CDDD	MBMG	QTg	D	59	02-Apr-81	36.9	2.6	3.3			5
	M:6195	22N03W14CDDD	MBMG	QTg	D	59	02-Sep-81	16.9	3.6				5
	M:6196	22N03W14CDDD	MBMG	QTg	D	59	11-May-82	38.6	3.8				5
86	W-4C	22N03W15BAAD	USGS	Kc	M	92	16-Apr-92	22.4	0.0	0.1	<.01	0.7	2
	W-4C	22N03W15BAAD	USGS	Kc	M	92	12-Aug-92	19.1	0.1		<.01	0.71	2
87	W-4B	22N03W15BAAD	USGS	QTg	M	47	15-Apr-92	27.1	4.7	4.6	<.01	0.04	2
	W-4B	22N03W15BAAD	USGS	QTg	M	47	28-Jul-92	9.0	4.4		<.01	<.01	2
88	W-4A	22N03W15BAAD	USGS	QTg	M	30	10-Mar-92	25.7	9.4	10.7	<.01	<.01	2
	W-4A	22N03W15BAAD	USGS	QTg	M	30	12-Aug-92	8.9	12.0		<.01	<.01	2
	W-4A	22N03W15BAAD	USGS	QTg	M	30	16-Dec-98		5.5				
89	W-23	22N03W21DDDA	USGS	Ql	D	39	26-Feb-91	12.4	7.5	6.8	<.01	<.01	2
	W-23	22N03W21DDDA	USGS	Ql	D	39	07-Aug-91	9.2	6.0		<.01	<.01	2
90	M:76669	22N03W23BAAB	MBMG	QTg	D	63	29-Apr-98	42.0	7.2	6.0			4
	M:76669	22N03W23BAAB	MDA	QTg	D	63	21-Jul-98	26.4	6.9				7
	M:76669	22N03W23BAAB	MDA	QTg	D	63	19-Oct-98	18.9	6.7				7
	M:76669	22N03W23BAAB	MDA	QTg	D	63	07-Dec-98	33.1	5.6				
	M:76669	22N03W23BAAB	MDA	QTg	D	63	13-Apr-99	41.5	5.4				
	W-20	22N03W23BACA	USGS	QTg	D	63	27-Feb-91	39.1	5.6		<.01	<.01	2
91	M:6197	22N03W27AAAA	MBMG	QTg	D	64	14-May-82	51.0	5.0	5.0			5
92	W-1C	22N03W28AAAA	USGS	Kc	M	81	16-Apr-92	16.0	0.0	0.0	<.01	0.46	2
	W-1C	22N03W28AAAA	USGS	Kc	M	81	27-Jul-92	16.0	0.0		<.01	0.6	2
93	W-1B	22N03W28AAAA	USGS	Kc	M	37	16-Apr-92	7.8	0.0	0.0	<.01	0.06	2
	W-1B	22N03W28AAAA	USGS	Kc	M	37	27-Jul-92	7.2	0.0		<.01	0.1	2
94	W-1A	22N03W28AAAA	USGS	Ql	M	17	16-Apr-92	7.7	1.0	0.8	<.01	0.04	2
	W-1A	22N03W28AAAA	USGS	Ql	M	17	13-Aug-92	3.3	0.6		<.01	0.03	2
95	W-2C	22N03W28ABBB	USGS	Kc	M	80	16-Apr-92	5.9	0.0	0.0	<.01	0.31	2
	W-2C	22N03W28ABBB	USGS	Kc	M	80	13-Aug-92	5.2	0.0		<.01	0.07	2
96	W-2B	22N03W28ABBB	USGS	Kc	M	37	16-Apr-92	4.2	0.0	0.0	<.01	0.45	2
	W-2B	22N03W28ABBB	USGS	Kc	M	37	27-Jul-92	3.5	0.0		<.01	0.44	2
97	W-2A	22N03W28ABBB	USGS	Ql	M	16	16-Apr-92	6.3	11.0	11.0	<.01	0.04	2
	W-2A	22N03W28ABBB	USGS	Ql	M	16	27-Jul-92	4.5	11.0		<.01	<.01	2
98	W-31	22N03W33AAAB	USGS	Kc	D	200	25-Feb-91	66.3	6.4	9.5	<.01	0.1	2
	W-31	22N03W33AAAB	USGS	Kc	D	200	05-Aug-91	58.2	9.6		<.01	0.13	2
	M:76687	22N03W33AAACA	MBMG	Kc	I	200	27-Sep-95	48.1	12.5				3
99	M:151647	22N03W33CDDBD	MBMG	QTg	D	21.6	26-Sep-95	5.9	11.3	11.3			3

*CO = Certified Operator
**QTg = Quaternary and Tertiary Gravel, Kc = Uppper Cretaceous (shales)
***Well Type: D = Domestic, P = Public, M = Monitor, I = Irrigation

Table A-8. Nitrate data for ground water.

Ref.#	Report /GWIC Ref. #	Sample Location	Sample Collected by*:	Principal Aquifer*	Well Type***	Well Depth	Sample Date	SWL	Nitrite plus nitrate (mg/L as N)	Average Nitrite plus nitrate (mg/L as N)	Nitrite (mg/L as N)	Ammonia (mg/L as N)	Source of Data
Source of Data: 1. Walther, 1981 2. Osborne et al., 1983 3. Nimick & Lambing, 1996 4. Miller, 1998 5. GWIC (MBMG) 6. Knapton, 1988 7. MDA 8. DEQ													
100	M:151646	22N03W33DBBAB	MBMG		D		28-Sep-95		0.2	0.2			3
101	M:130520	22N03W34DABCC	MBMG	QTg	D	30	07-Sep-95	6.2	11.3	11.3			3
102	M:122833	22N03W34DBACC	MBMG	QTg	D	25.8	07-Sep-95	5.4	5.5	5.5			3
103	M:124239	22N03W34DCCCB	MBMG	QTg	P	30	07-Sep-95	6.9	2.3	2.3			3
								Count	683.0				
								Ave	5.7				

*CO = Certified Operator
**QTg = Quaternary and Tertiary Gravel, Kc = Uppper Cretaceous (shales)
***Well Type: D = Domestic, P = Public, M = Monitor, I = Irrigation

Table A-9. Ground-water Assert, nitrate, and water-level data.

Well	Well Depth (ft)	Date Sampled	Static Water Level (ft)	Assert ug/L (ppb)	Assert Metabolite (met.) ug/L (ppb)	Nitrate as Nitrogen mg/L (ppm)	Correlation coeff. p, Met.vs. NO3	Correlation coeff., p, Assert vs. NO3	Correlation coeff., p, Assert met. vs. SWL	Correlation coeff., p, Assert vs. SWL
1	35	28-Apr-98	14.2	0.31	0.60	7.7	0.684	0.845	0.430	0.504
		20-Jul-98	4.9	0.00	0.28	5.8				
		20-Oct-98	8.7	0.00	0.63	6.0				
		08-Dec-98	11.8	0.00	0.56	6.2				
		13-Apr-99	14.2	0.00	0.24	6.0				
		12-Jul-99	4.9	0.00	0.19	4.8				
2	30	28-Apr-98	11.2	0.27	0.22	4.7	-0.520	-0.520		
		21-Jul-98	6.7	0.00	0.00	8.1				
		21-Oct-98	11.0	0.00	0.00	13.0				
		08-Dec-98	11.0	0.00	0.00	10.7				
		14-Apr-99	11.0	0.00	0.00	4.3				
		12-Jul-99	8.4	0.00	0.00	9.0				
3	33	28-Apr-98	18.9	0.00	0.00	16.8	NA	NA		
		20-Jul-98	6.7	0.00	0.00	5.3				
		20-Oct-98	12.6	0.00	0.00	10.0				
		08-Dec-98	15.7	0.00	0.00	11.6				
		12-Apr-99	19.0	0.00	0.00	11.0				
		12-Jul-99	7.1	N.S.	N.S.	N.S.				
4	50	30-Apr-98	7.5	0.35	0.73	3.1	0.287	0.325		
		19-Jul-98	5.8	0.00	0.00	3.3				
		21-Oct-98	7.1	0.00	0.00	1.3				
		09-Dec-98	7.3	0.00	0.00	1.7				
		12-Apr-99	7.3	0.26	0.69	2.0				
		12-Jul-99	7.1	0.00	0.32	2.3				
5	26	27-Apr-98	23.6	0.00	0.00	1.3				
		19-Jul-98	9.2	0.00	0.00	1.1				
		20-Oct-98	14.3	0.00	0.00	0.0				
		08-Dec-98	16.4	N.S.	N.S.	N.S.				
		12-Apr-99	22.4	0.00	0.00	1.0				
		12-Jul-99	8.2	N.S.	N.S.	N.S.				
6	24	27-Apr-98	11.4	0.38	0.74	9.5	0.786	0.874	0.229	0.792
		19-Jul-98	9.0	0.00	0.45	6.5				
		21-Oct-98	9.7	0.00	0.32	6.3				
		08-Dec-98	10.4	0.24	0.46	7.3				
		12-Apr-99	12.3	0.25	0.49	7.1				
		12-Jul-99	11.7	0.23	0.30	7.6				
7	30	30-Apr-98	19.5	0.41	0.37	4.0	-0.052	0.575	-0.517	-0.285
		20-Jul-98	17.6	0.44	0.42	2.9				
		20-Oct-98	17.8	0.24	0.40	2.1				
		08-Dec-98	18.8	0.20	0.22	2.3				
		13-Apr-99	19.4	0.20	0.00	3.2				
		13-Jul-99	16.7	0.34	0.32	3.3				
8	18.2	28-Apr-98	10.2	0.00	0.10	5.2	0.441	NA		
		20-Jul-98	5.3	0.00	0.00	0.0				
		20-Oct-98	6.9	0.00	0.00	1.2				
		08-Dec-98	8.0	0.00	0.29	1.7				
		14-Apr-99	9.3	0.00	0.25	3.0				
		13-Jul-99	3.0	0.00	0.00	0.0				

Table A-9. Ground-water Assert, nitrate, and water-level data.

Well	Well Depth (ft)	Date Sampled	Static Water Level (ft)	Assert ug/L (ppb)	Assert Metabolite (met.) ug/L (ppb)	Nitrate as Nitrogen mg/L (ppm)	Correlation coeff. p, Met.vs. NO3	Correlation coeff., p, Assert vs. NO3	Correlation coeff., p, Assert met. vs. SWL	Correlation coeff., p, Assert vs. SWL
9	27	29-Apr-98	9.9	0.37	0.49	2.8	-0.035	0.111	0.042	-0.352
		20-Jul-98	6.7	0.48	0.64	3.0				
		19-Oct-98	8.8	0.55	0.88	5.3				
		07-Dec-98	9.1	0.29	0.49	4.6				
		13-Apr-99	9.6	0.37	0.44	3.3				
		13-Jul-99	6.9	0.39	0.33	6.3				
10	16	28-Apr-98	9.8	0.40	1.10	4.7	0.948	0.953	0.267	0.205
		21-Jul-98	9.0	0.89	1.60	5.2				
		19-Oct-98	9.7	1.70	3.20	5.8				
		07-Dec-98	9.8	1.50	2.60	5.6				
		13-Apr-99	9.7	0.60	1.40	5.2				
		12-Jul-99	8.6	0.77	1.60	5.2				
11	18.5	28-Apr-98	9.0	1.80	3.90	7.0	0.461	0.572	-0.061	-0.179
		22-Jul-98	5.8	3.20	5.00	8.1				
		19-Oct-98	6.8	1.80	3.50	6.5				
		07-Dec-98	7.3	1.10	2.60	5.9				
		13-Apr-99	8.5	0.93	2.00	6.9				
		13-Jul-99	4.3	1.10	2.40	7.7				
12	50	29-Apr-98	33.0	0.00	0.16	3.9	0.706	NA		
		22-Jul-98	29.7	0.00	0.00	2.9				
		20-Oct-98	27.2	0.00	0.22	3.4				
		07-Dec-98	29.5	0.00	0.00	3.3				
		14-Apr-99	32.7	0.00	0.00	3.2				
		12-Jul-99	27.9	0.00	0.00	3.0				
13	14.8	28-Apr-98	9.6	0.60	4.20	23.0	0.610	0.577	0.577	0.733
		21-Jul-98	8.0	0.49	3.80	17.0				
		20-Oct-98	8.1	0.28	3.50	16.0				
		09-Dec-98	8.7	0.34	2.90	14.8				
		14-Apr-99	9.2	0.23	2.60	16.0				
		12-Jul-99	6.1	0.00	2.10	17.0				
14	28	27-Apr-98	10.9	0.36	0.00	3.6	0.908	0.882	-0.727	-0.779
		22-Jul-98	8.4	0.85	0.53	6.4				
		21-Oct-98	10.1	0.32	0.00	4.0				
		09-Dec-98	10.5	0.28	0.00	3.4				
		13-Apr-99	10.9	0.00	0.00	3.7				
		13-Jul-99	4.7	0.77	0.35	7.3				
15	23	29-Apr-98	16.8	0.51	0.91	4.9	0.945	0.918	-0.049	-0.300
		21-Jul-98	8.9	0.95	1.40	5.7				
		19-Oct-98	9.4	0.79	1.40	5.5				
		07-Dec-98	9.5	0.79	1.30	5.3				
		13-Apr-99	12.5	0.61	1.30	5.4				
		13-Jul-99	7.1	0.43	0.63	4.8				
16	63	29-Apr-98	42.0	1.30	1.50	7.2	0.861	0.977	-0.306	-0.371
		21-Jul-98	26.4	1.30	1.80	6.9				
		19-Oct-98	18.9	1.20	1.30	6.7				
		07-Dec-98	33.1	0.97	0.95	5.5				
		13-Apr-99	41.5	0.89	1.00	5.4				
		13-Jul-99	27.6	1.20	1.40	6.9				

Table A-10. Pesticide and nitrate data for surface water.

Site #	Name	Location	Date Sampled	Discharge (cfs)	Assert ug/L	Assert Metabolite ug/L	Nitrate as Nitrogen mg/L	Phenoxy MRM ug/L	2,4-D (ug/L)
S-1	Tjaden Ditch	22N03W29DDABC	19-Apr-99	0.4	N.D.	N.D.	1.80	N.D.	N.D.
			19-Jul-99	7.3	N.D.	0.20	0.85	N.D.	N.D.
			10-Apr-00	0.4	N.D.	N.D.	10.06	N.D.	N.D.
			17-Jul-00	8.6	N.D.	N.D.	N.S.	N.D.	N.D.
S-2	North Supply Ditch	22N03W05ADDAA	20-Apr-99	0.7	N.D.	0.31	1.60	N.D.	N.D.
			19-Jul-99	21.4	N.D.	N.D.	0.51	N.D.	N.D.
			10-Apr-00	0.9	N.D.	0.28	3.10	N.D.	N.D.
			17-Jul-00	25.9	0.70	0.29	N.S.	N.D.	N.D.
S-3	Freezeout Lake	22N03W29BCCDD	22-Apr-99	N.A.	N.D.	N.D.	<0.5	N.D.	N.D.
			21-Jul-99	N.A.	N.D.	N.D.	<0.5	N.D.	N.D.
			11-Apr-00	N.A.	N.D.	0.28	<0.5	N.D.	N.D.
			18-Jul-00	N.A.	N.D.	0.33	N.S.	N.D.	N.D.
S-4	GID Drain	22N02W04CCBCC	21-Apr-99	7.9	0.28	0.63	4.77	N.D.	N.D.
			19-Jul-99	16.7	0.36	0.55	3.19	N.D.	N.D.
			10-Apr-00	7.7	0.22	0.62	7.91	N.D.	N.D.
			17-Jul-00	30.0	N.D.	0.21	N.S.	N.D.	N.D.
S-5	GID Drain (Burec)	23N01W31AAABA	21-Apr-99	2.0	0.49	0.95	3.37	N.D.	N.D.
			19-Jul-99	23.4	0.81	0.74	2.79	N.D.	N.D.
			10-Apr-00	2.0	0.38	0.92	14.62	N.D.	N.D.
			17-Jul-00	N.A.			N.S.	N.D.	N.D.
S-6	Culvert 11(Fish & Wildlife)	22N01W02BDBB	20-Apr-99	0.3	0.34	1.10	2.02	N.D.	N.D.
			20-Jul-99	19.7	0.85	0.60	1.89	N.D.	N.D.
			10-Apr-00	0.3	0.34	1.50	2.16	N.D.	N.D.
			18-Jul-00	6.7	0.56	0.89	N.S.	N.D.	N.D.
S-7	Spring Coulee	22N01W14BDCCB	21-Apr-99	4.6	N.D.	N.D.	1.70	N.D.	N.D.
			20-Jul-99	39.6	0.42	0.34	0.14	N.D.	N.D.
			11-Apr-00	5.6	N.D.	0.20	<0.5	N.D.	N.D.
			17-Jul-00	62.3	0.24	N.D.	N.S.	N.D.	N.D.
S-8	Tank Coulee	22N01W24CDBAD	20-Apr-99	4.8	N.D.	0.48	1.35	N.D.	N.D.
			20-Jul-99	73.5	0.34	0.37	1.86	N.D.	0.59
			11-Apr-00	4.3	N.D.	0.58	3.73	N.D.	N.D.
			17-Jul-00	38.6	0.31	0.36	N.S.	N.D.	N.D.
S-9	GID Drain	22N01E31DDBBA	20-Apr-99	0.9	N.D.	N.D.	1.64	N.D.	N.D.
			20-Jul-99	34.1	N.D.	N.D.	0.63	N.D.	N.D.
			11-Apr-00	1.3	N.D.	N.D.	1.73	N.D.	N.D.
			18-Jul-00	23.8	N.D.	N.D.	N.S.	N.D.	N.D.
S-10	Muddy Creek near Vaughn	22N01E32BAAA	11-Apr-00	24.0	N.D.	0.45	2.59	N.D.	N.D.
			18-Jul-00	230.0	0.34	0.33	N.S.	N.D.	N.D.

N.D. = No detections above the Limit of Quantitation
N.S. = Not sampled

Appendix A - Figures A-1 through A-5

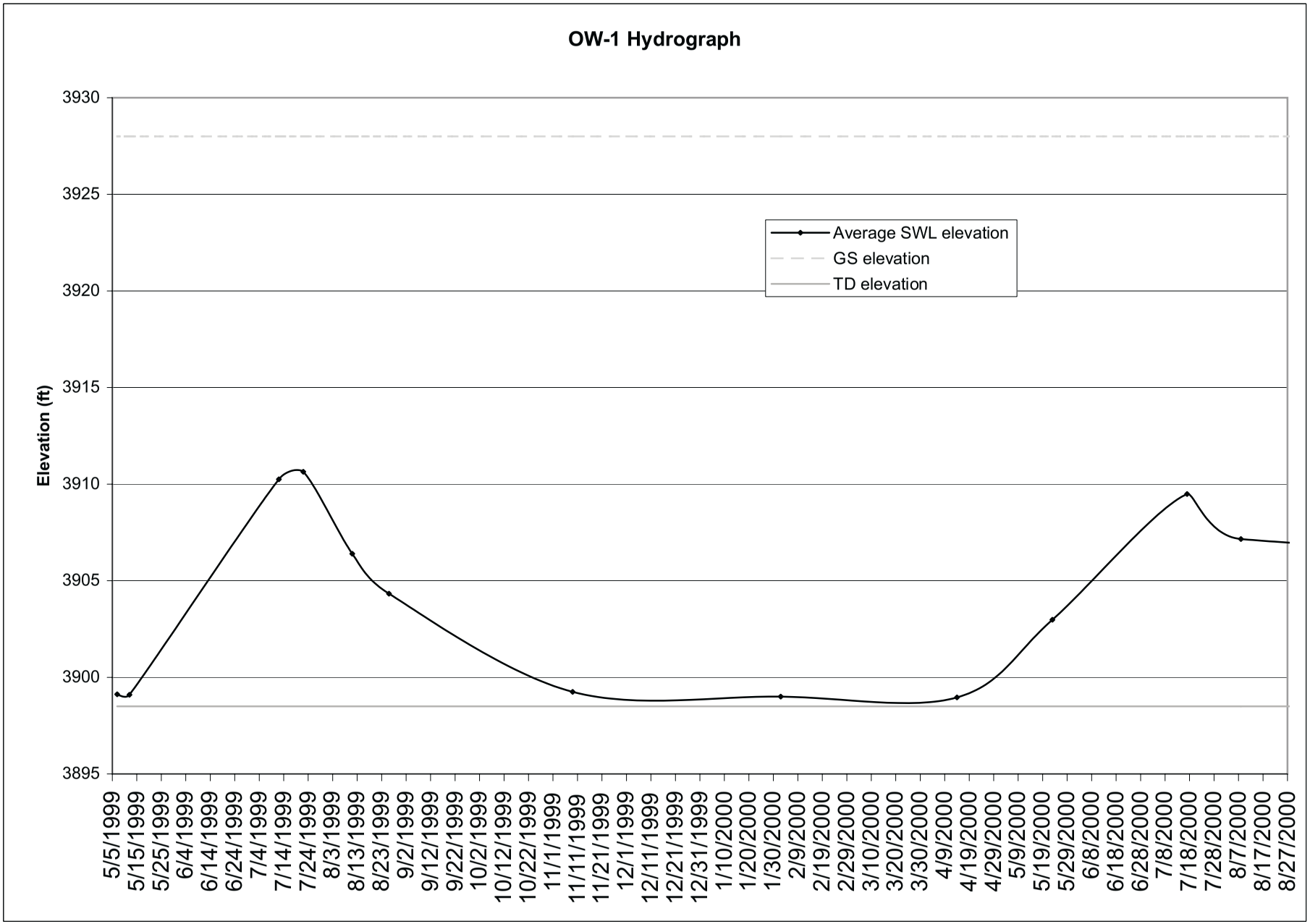

Figure A-1. Hydrograph for well OW1.

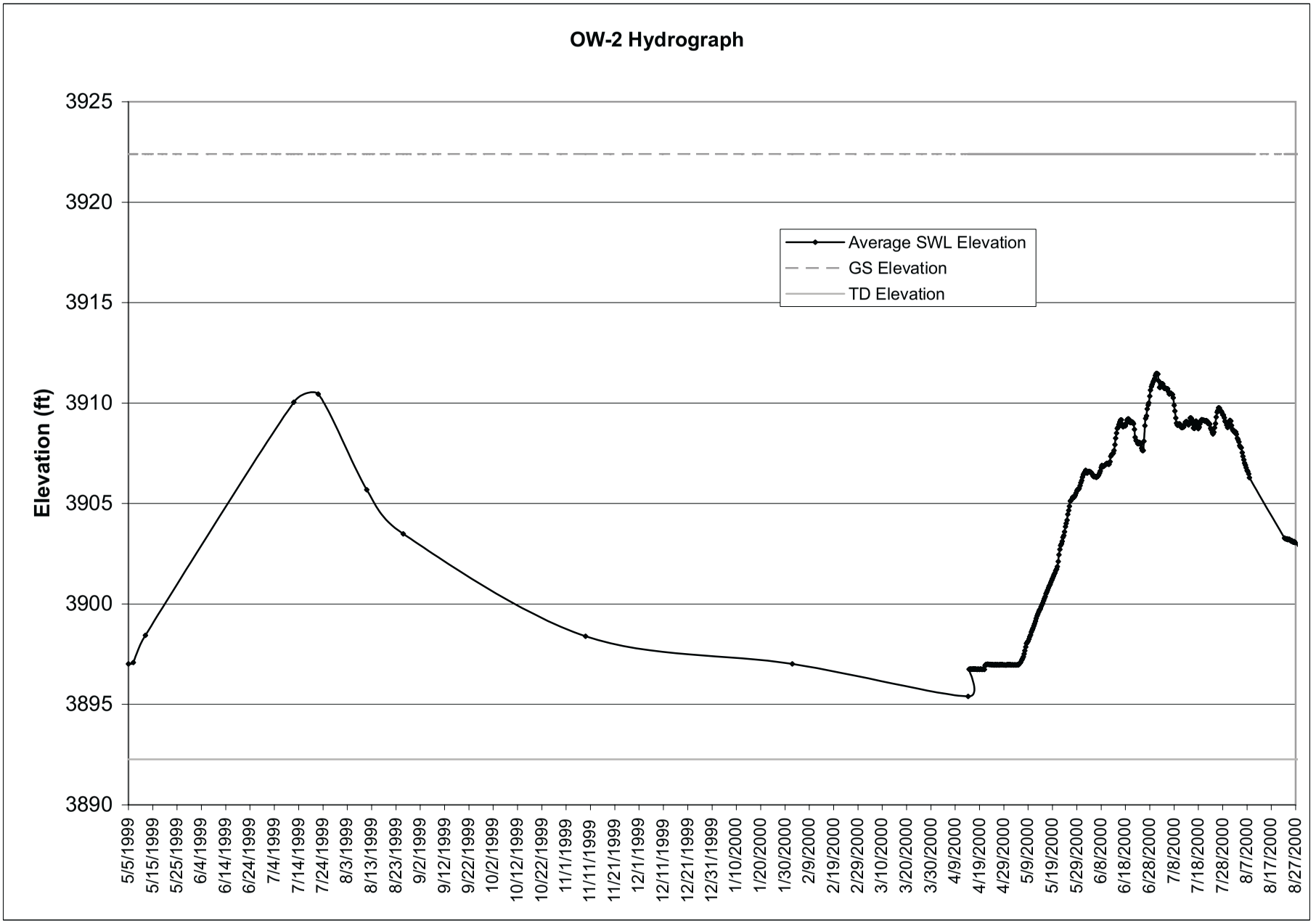

Figure A-2. Hydrograph for well OW2.

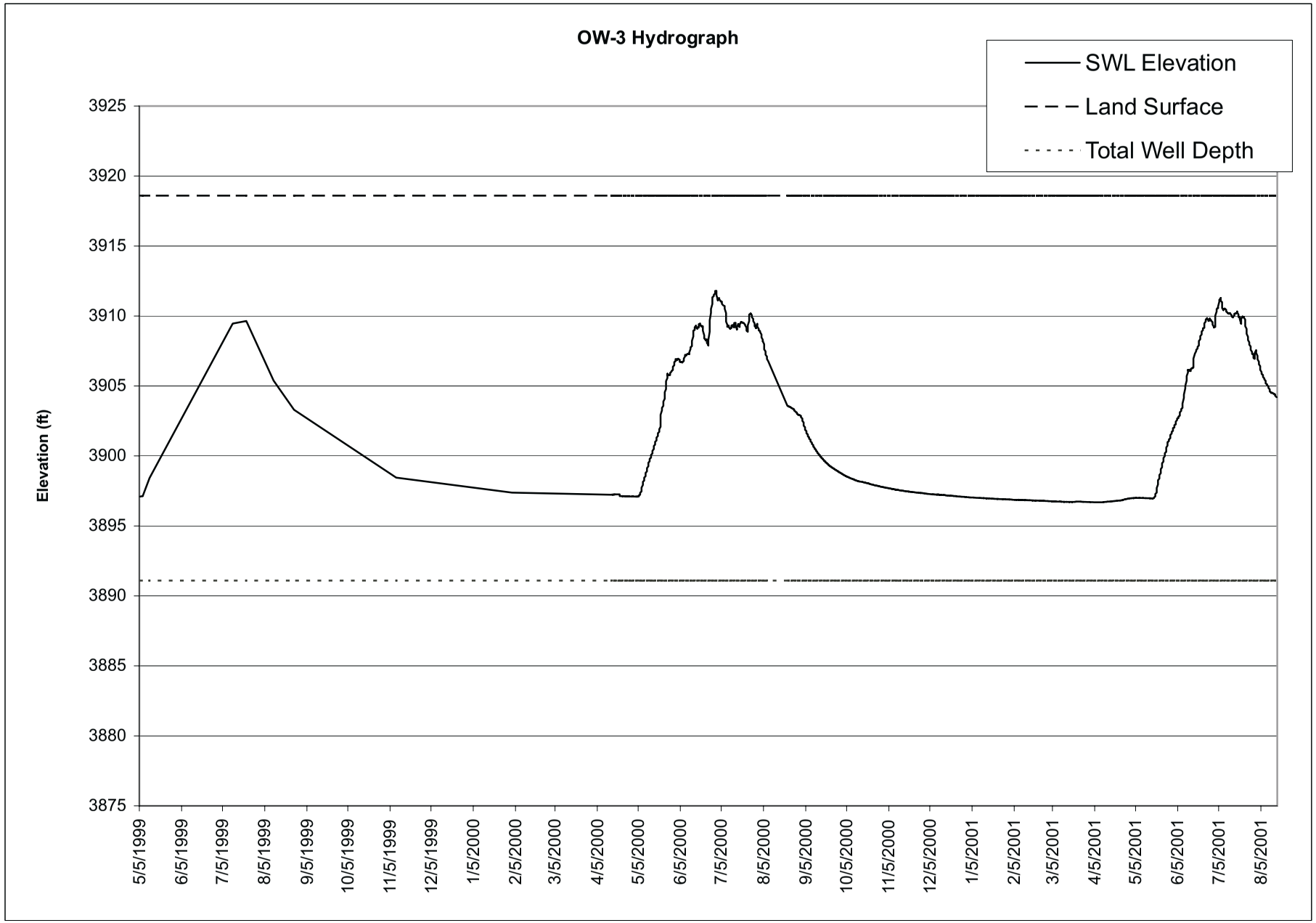

Figure A-3. Hydrograph for well OW3.

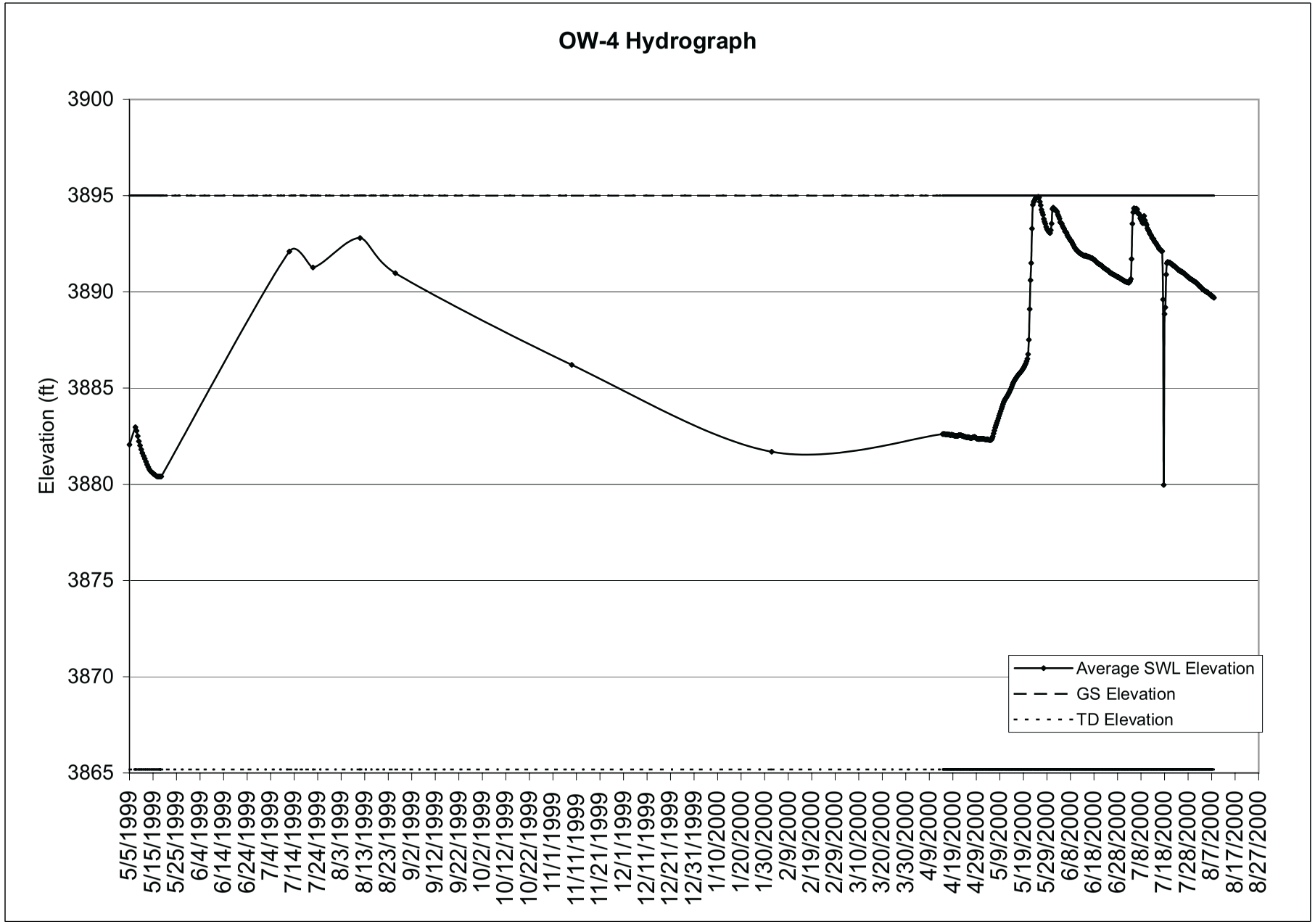

Figure A-4. Hydrograph for well OW4.

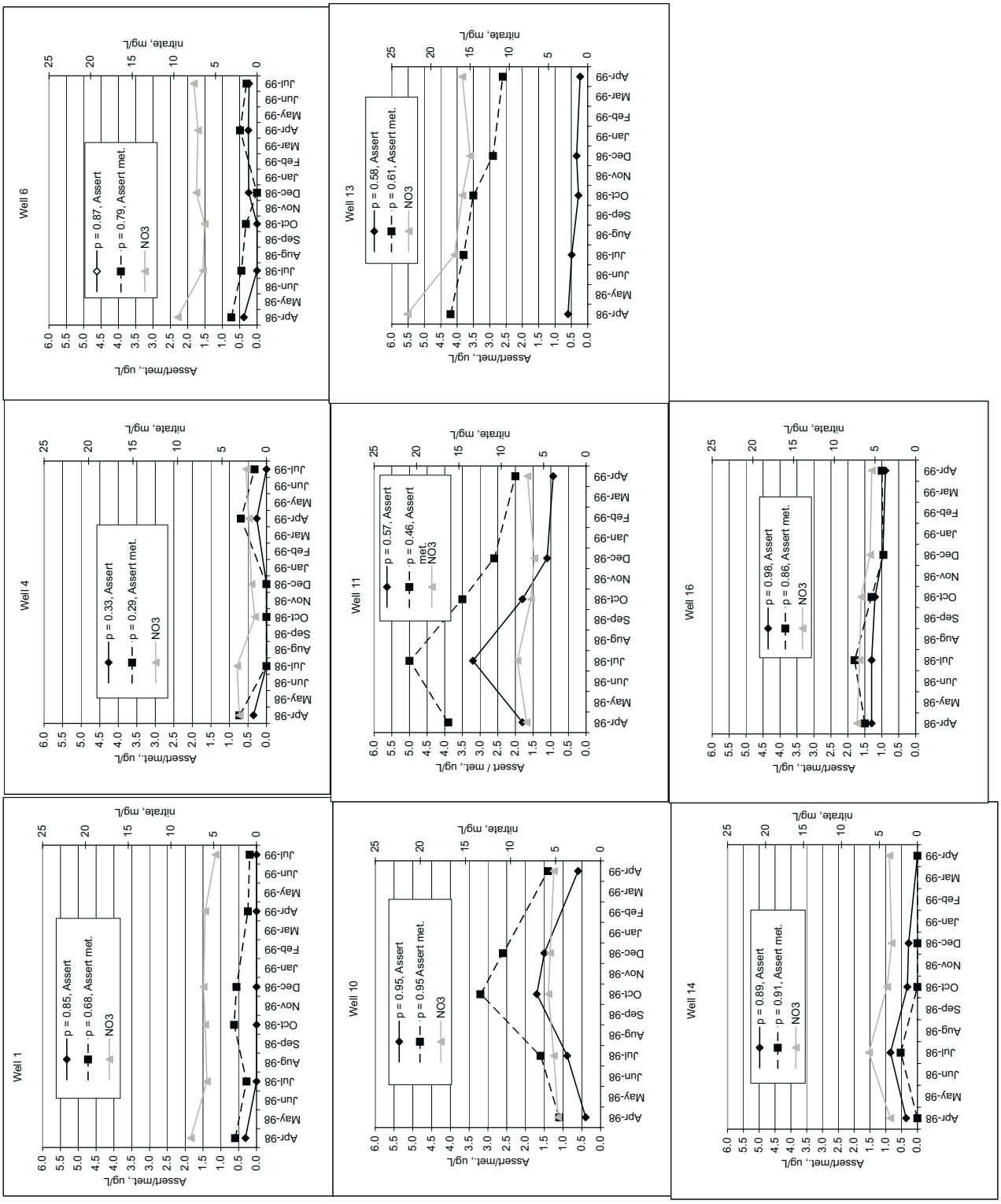

Figure A-5. Graphs showing correlation coefficients between Assert/met. and nitrate.

Appendix A: Well logs for observation wells

Montana Bureau of Mines and Geology
Ground-Water Information Center Site Report
SHAW KEITH * OW-1

Location Information

GWIC Id: 181936
Location (TRS): 22N 02W 29 CCCC
County (MT): TETON
DNRC Water Right:
PWS Id:
Block:
Lot:
Addition:

Source of Data: LOG/INV
Latitude (dd): 47.6251
Longitude (dd): -111.9007
Geomethod: TRS-TWN
Datum: NAD27
Altitude (feet): 3928.00
Certificate of Survey:
Type of Site: WELL

Well Construction and Performance Data

Total Depth (ft): 29.50
Static Water Level (ft): 28.90
Pumping Water Level (ft):
Yield (gpm):
Test Type:
Test Duration:
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):
Well Notes:

How Drilled: HOLLOW STEM AUGER
Driller's Name: MBMG
Driller License:
Completion Date (m/d/y): 4/20/1999
Special Conditions:
Is Well Flowing?:
Shut-In Pressure:
Geology/Aquifer: Not Reported
Well/Water Use: MONITORING

Hole Diameter Information

From	To	Diameter
0.0	29.5	2.0

Casing Information[1]

From	To	Dia	Wall Thickness	Pressure Rating	Joint	Type
-1.4	29.5	2.0				PVC

Annular Seal Information

From	To	Description
0.0	1.0	BENTONITE

Completion Information[1]

From	To	Dia	# of Openings	Size of Openings	Description
19.5	29.5	2.0			.020 SLOTTED SCREEN

Lithology Information

From	To	Description
0.0	0.5	TOPSOIL
0.5	5.0	LT BROWN CLAYEY SILTY SAND W/ 3/4 IN GRAVEL
5.0	6.0	SILTY FINE SAND W/CLAY
6.0	10.0	AS ABOVE W/ 2 IN GVL
10.0	13.0	LT BROWN CLAYEY SILTY FINE SAND SOME GRAVELS W/CALICHE RINDS FEW CUTTINGS
13.0	15.0	SAME SLIGHTLY LARGER GRAVELS
15.0	22.0	NO CUTTING
22.0	25.0	CLAYEY SILTY FINE SAND
25.0	30.0	LT BROWN SANDY SILT SATURATED

[1] - All diameters reported are **inside** diameter of the casing.

Montana Bureau of Mines and Geology
Ground-Water Information Center Site Report
SHAW KEITH * OW-2

Location Information

GWIC Id: 181937
Location (TRS): 22N 02W 29 CCCA
County (MT): TETON
DNRC Water Right:
PWS Id:
Block:
Lot:
Addition:

Source of Data: LOG/INV
Latitude (dd): 47.6261
Longitude (dd): -111.8993
Geomethod: TRS-TWN
Datum: NAD27
Altitude (feet): 3922.00
Certificate of Survey:
Type of Site: WELL

Well Construction and Performance Data

Total Depth (ft): 30.10
Static Water Level (ft): 24.00
Pumping Water Level (ft):
Yield (gpm):
Test Type:
Test Duration:
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):
Well Notes:

How Drilled: HOLLOW STEM AUGER
Driller's Name: MBMG
Driller License:
Completion Date (m/d/y): 4/22/1999
Special Conditions:
Is Well Flowing?:
Shut-In Pressure:
Geology/Aquifer: Not Reported
Well/Water Use: MONITORING

Hole Diameter Information

From	To	Diameter
0.0	30.1	2.0

Annular Seal Information

From	To	Description
0.0	1.0	BENTONITE

Casing Information[1]

From	To	Dia	Wall Thickness	Pressure Rating	Joint	Type
-1.3	30.1	2.0				PVC

Completion Information[1]

From	To	Dia	# of Openings	Size of Openings	Description
20.1	30.1	2.0			.020 SLOTTED SCREEN

Lithology Information

From	To	Description
0.0	0.5	BROWN SILTY LOAM
0.5	5.0	GRAY BROWN SILTY CLAY W/FEW BOUNDED GRAVELS
5.0	8.0	SAME AS ABOVE SLIGHTLY MORE SILT SLIGHTLY MOIST
8.0	10.0	SAME AS ABOVE FEW GRAVELS
10.0	12.5	SILTY CLAY
12.5	15.0	SILTY CLAY W/ROUNDED GRAVELS CALICHE COATING ON GRAVELS
15.0	17.0	NO CUTTING RETURNED BIT GRINDING ON GRAVELS
17.0	20.0	CLAYEY FINE SAND W/FEW GRAVELS COATED W/CALICHE GRAVELS UP TO 1 1/2
20.0	22.0	CLAYEY FINE SANDS
22.0	26.0	MOIST SILTY CLAYEY FINE SAND LIGHT GRAY BROWN & FEW GRAVELS DAMP
26.0	31.0	SILTY CLAY W/SAND & GVL GRAVELS UP TO 2 IN SLOW DRILLING GRINDING ON GRAVELS WET

[1] - All diameters reported are **inside** diameter of the casing.

Montana Bureau of Mines and Geology
Ground-Water Information Center Site Report
LEWIS GENE * OW-3

Location Information

GWIC Id: 181938
Location (TRS): 22N 02W 29 CCCB
County (MT): TETON
DNRC Water Right:
PWS Id:
Block:
Lot:
Addition:

Source of Data: LOG/INV
Latitude (dd): 47.6261
Longitude (dd): -111.9007
Geomethod: TRS-TWN
Datum: NAD27
Altitude (feet): 3919.00
Certificate of Survey:
Type of Site: WELL

Well Construction and Performance Data

Total Depth (ft): 27.50
Static Water Level (ft): 20.10
Pumping Water Level (ft):
Yield (gpm):
Test Type:
Test Duration:
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):
Well Notes:

How Drilled: HOLLOW STEM AUGER
Driller's Name: MBMG
Driller License:
Completion Date (m/d/y): 4/21/1999
Special Conditions:
Is Well Flowing?:
Shut-In Pressure:
Geology/Aquifer: Not Reported
Well/Water Use: MONITORING

Hole Diameter Information

From	To	Diameter
0.0	27.5	2.0

Casing Information[1]

From	To	Dia	Wall Thickness	Pressure Rating	Joint	Type
-1.1	27.5	2.0				PVC

Annular Seal Information

From	To	Description
0.0	1.0	BENTONITE

Completion Information[1]

From	To	Dia	# of Openings	Size of Openings	Description
17.5	27.5	2.0			.020 SLOTTED SCREEN

Lithology Information

From	To	Description
0.0	0.5	TOPSOIL
0.5	7.0	LT BROWN SANDY CLAYEY SILT W/SUBANGULAR GRAVEL
7.0	8.0	LT BROWN CLAY MINOR GRAVEL
8.0	14.0	LT BROWN CLAY W/RED ANGULAR GRAVEL CALICHE RIND ON GRAVELS
14.0	23.0	SILTY SAND CLAY W/GRAVEL
23.0	26.0	GRAVELLY SANDY CLAY MOIST
26.0	28.0	CLAYEY GRAVEL & COBBLES

[1] - All diameters reported are **inside** diameter of the casing.

Montana Bureau of Mines and Geology
Ground-Water Information Center Site Report
KIRKHORN BRIAN * OW-4

Location Information

GWIC Id: 181939
Location (TRS): 22N 02W 24 AADA
County (MT): TETON
DNRC Water Right:
PWS Id:
Block:
Lot:
Addition:

Source of Data: LOG/INV
Latitude (dd): 47.6517
Longitude (dd): -111.7942
Geomethod: TRS-TWN
Datum: NAD27
Altitude (feet): 3895.00
Certificate of Survey:
Type of Site: WELL

Well Construction and Performance Data

Total Depth (ft): 29.80
Static Water Level (ft): 9.80
Pumping Water Level (ft):
Yield (gpm):
Test Type:
Test Duration:
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):
Well Notes:

How Drilled: HOLLOW STEM AUGER
Driller's Name: MBMG
Driller License:
Completion Date (m/d/y): 4/21/1999
Special Conditions:
Is Well Flowing?:
Shut-In Pressure:
Geology/Aquifer: Not Reported
Well/Water Use: MONITORING

Hole Diameter Information

From	To	Diameter
0.0	29.8	2.0

Casing Information[1]

From	To	Dia	Wall Thickness	Pressure Rating	Joint	Type
-1.5	29.8	2.0				PVC

Annular Seal Information

From	To	Description
0.0	1.0	BENTONITE

Completion Information[1]

From	To	Dia	# of Openings	Size of Openings	Description
19.8	29.8	2.0			.020 SLOTTED SCREEN

Lithology Information

From	To	Description
0.0	1.0	MED BROWN SANDY CLAY TOPSOIL
1.0	6.0	LT GRAYISH BROWN CLAY W/GRAVEL
6.0	7.0	LT REDDISH BROWN SANDY SILT W/1/4 IN TO 3/4 IN GVLS
7.0	8.0	YELLOW SANDY CLAY
8.0	14.5	AS ABOVE FEW CUTTINGS
14.5	30.0	YELLOWISH SILTY CLAY W/VERY FEW GRAVELS

[1] - All diameters reported are **inside** diameter of the casing.

Montana Bureau of Mines and Geology
Ground-Water Information Center Site Report
KIRKHORN BRIAN * OW-5

Location Information

GWIC Id: 181940
Location (TRS): 22N 02W 24 AACB
County (MT): TETON
DNRC Water Right:
PWS Id:
Block:
Lot:
Addition:

Source of Data: LOG/INV
Latitude (dd): 47.6517
Longitude (dd): -111.7983
Geomethod: TRS-TWN
Datum: NAD27
Altitude (feet): 3850.00
Certificate of Survey:
Type of Site: WELL

Well Construction and Performance Data

Total Depth (ft): 37.90
Static Water Level (ft): 0.00
Pumping Water Level (ft):
Yield (gpm):
Test Type:
Test Duration:
Drill Stem Setting (ft):
Recovery Water Level (ft):
Recovery Time (hrs):
Well Notes:

How Drilled: HOLLOW STEM AUGER
Driller's Name: MBMG
Driller License:
Completion Date (m/d/y): 4/22/1999
Special Conditions:
Is Well Flowing?:
Shut-In Pressure:
Geology/Aquifer: Not Reported
Well/Water Use: MONITORING

Hole Diameter Information

From	To	Diameter
0.0	37.9	2.0

Casing Information[1]

From	To	Dia	Wall Thickness	Pressure Rating	Joint	Type
-1.3	37.9	2.0				PVC

Annular Seal Information

From	To	Description
0.0	1.0	BENTONITE

Completion Information[1]

From	To	Dia	# of Openings	Size of Openings	Description
27.9	37.9	2.0			.020 SLOTTED SCREEN

Lithology Information

From	To	Description
0.0	1.0	TOPSOIL
1.0	3.0	LT BROWN CLAY SILT & SAND W/FEW GRVLS
3.0	4.0	BROWN CLAY W/FEW GVLS SLIGHTLY MOIST
4.0	9.0	LT YELLOW BROWN SILTY STIFF CLAY W/SMALL GRVLS MOIST
9.0	10.0	SILTY CLAY W/SOME SAND
10.0	11.0	SILTY CLAY W/GVL
11.0	12.0	SILTY CLAY W/MINOR SAND SHALE
12.0	14.5	SILTY CLAY W/MINOR OF GRVL
14.5	20.0	REDDISH BROWN SILTY GRAY W/SMALL ROCK FRAGMENTS
20.0	34.5	CLAYEY SILTS W/MINOR GRVLS
34.5	39.5	SILTY CLAYS W/FINE SANDS

[1] - All diameters reported are **inside** diameter of the casing.