

APPENDIX B

WHITE RIVER, WIND RIVER, AND TAILINGS WATER QUALITY DATA

TABLE OF CONTENTS – TABLES

	<u>Page Number</u>
B-1. Cl, SO ₄ , pH, TDS, Conductivity, As, Se, U, Ra ₂₂₆ , Ra ₂₂₈ , and Ra ₂₂₆₊₂₂₈ For White River Aquifer Wells	B-1
B-2. Th ₂₃₀ , Gross Alpha, Ba, Be, Cd, Cr, NO ₃ , Fe, Pb, Mo, and Ni For White River Aquifer Wells	B-9
B-3. Cl, SO ₄ , pH, TDS, Conductivity, As, Se, U, Ra ₂₂₆ , Ra ₂₂₈ , and Ra ₂₂₆₊₂₂₈ For Wind River Aquifer Wells	B-16
B-4. Th ₂₃₀ , Gross Alpha, Ba, Be, Cd, Cr, NO ₃ , Fe, Pb, Mo, and Ni For Wind River Aquifer Wells	B-19
B-5. Cl, SO ₄ , pH, TDS, Conductivity, As, Se, U, Ra ₂₂₆ , Ra ₂₂₈ , and Ra ₂₂₆₊₂₂₈ For Tailings Wells	B-21
B-6. Th ₂₃₀ , Gross Alpha, Ba, Be, Cd, Cr, NO ₃ , Fe, Pb, Mo, and Ni For Tailings Wells	B-24

TABLE B-1. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY.

CI THROUGH Ra226+228

Sample Point Name	Date	CI (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
MC02	2/15/1979	6.00	35.0	—	340	—	0	—	—	—	—	—
	2/20/1979	—	—	—	—	—	—	—	—	0.900	—	—
	10/15/1979	—	—	—	—	—	—	—	—	0.400	—	—
	9/23/1983	—	—	—	—	390	—	—	—	—	—	—
	3/29/1984	—	—	—	—	419	—	—	—	—	—	—
	4/18/1984	8.00	25.0	—	476	—	—	—	0.0800	0.540	—	—
	10/30/1985	8.00	24.0	7.90	250	350	0.0080	< 0.0010	0.0800	0.300	—	—
	10/17/1986	5.00	18.0	8.20	226	335	< 0.0040	0.0310	—	—	—	—
	10/20/1988	5.00	25.0	7.90	228	285	< 0.0040	0.0470	0.0500	1.60	—	—
	3/16/1989	6.00	28.0	7.80	212	285	—	—	0.0266	0.400	—	—
	6/30/1989	5.00	19.0	7.20	204	285	—	—	0.0207	0.400	—	—
	3/5/1998	11.7	26.6	7.68	236	1681	0.0030	0.0770	0.0529	< 0.200	< 1.000	< 1.20
	6/23/1998	12.4	22.1	6.46	252	349	0.0040	0.125	0.0333	< 0.200	< 1.000	< 1.20
	9/23/1998	5.10	26.7	7.45	211	339	—	—	—	—	—	—
	12/10/1998	7.90	22.1	7.64	221	363	0.0050	0.103	0.0382	< 0.200	< 1.000	< 1.20
	3/8/1999	6.50	—	6.35	187	329	—	—	—	—	—	—
	6/9/1999	15.0	26.0	6.67	250	—	0.0030	0.0900	0.0337	< 0.200	< 1.000	< 1.20
	9/3/1999	18.8	30.5	6.60	240	417	—	—	—	—	—	—
	12/6/1999	6.60	25.3	7.30	183	239	0.0030	0.117	0.0404	< 0.200	< 1.000	< 1.20
	2/29/2000	7.10	24.7	6.55	204	325	—	—	—	—	—	—
	5/30/2000	8.00	25.5	6.85	188	312	0.0042	0.130	0.0448	< 0.200	2.80	< 3.00
	8/29/2000	15.2	26.6	7.50	213	342	—	—	—	—	—	—
	11/20/2000	7.90	26.5	6.85	204	328	0.0048	0.132	0.0406	0.600	< 1.000	< 1.60
	2/19/2001	8.40	25.5	7.35	178	333	—	—	—	—	—	—
	5/9/2001	12.0	24.2	7.00	231	369	0.0040	0.130	0.0435	< 0.200	< 1.000	< 1.20
	8/20/2001	13.7	33.8	7.40	226	330	—	—	—	—	—	—
	10/24/2001	7.40	26.2	6.85	197	325	< 0.0010	0.130	0.0390	< 0.200	2.80	< 3.00
WH-9	11/5/1986	64.0	100.0	7.50	468	900	0.0010	< 0.0010	—	—	—	—
	12/17/1986	—	—	7.80	—	665	—	—	—	—	—	—

TABLE B-1. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

Cl THROUGH Ra226+228

Sample Point Name	Date	Cl (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
WH-9	5/6/1987	133	96.0	6.58	589	1030	< 0.0010	< 0.0010	—	1.77	—	—
	8/17/1993	447	294	7.40	2001	2816	< 0.0010	0.0100	—	1.80	9.90	11.7
	5/18/1994	461	263	7.30	2005	2500	< 0.0010	0.0100	—	2.10	< 1.000	< 3.10
	5/18/1994	—	—	—	—	3300	—	—	—	—	—	—
	8/14/1995	652	305	7.30	2540	3149	< 0.0010	0.0070	0.198	2.50	2.70	5.20
	3/5/1998	617	294	7.24	1980	3288	0.0020	0.0130	0.304	2.20	< 1.000	< 3.20
	6/23/1998	576	302	6.78	1870	2956	0.0020	0.0130	0.338	1.10	—	—
	9/9/1998	670	326	7.37	2780	3393	—	—	—	—	—	—
	12/15/1998	607	329	6.62	1710	3215	0.0020	0.0120	0.327	1.30	< 1.000	< 2.30
	3/24/1999	625	285	6.69	2000	3172	0.0020	0.0120	0.404	3.80	—	—
	6/23/1999	551	274	6.55	1750	—	0.0010	0.0090	0.432	2.80	—	—
	9/7/1999	649	303	6.52	1780	2921	—	—	—	—	—	—
	10/4/1999	617	468	6.21	1780	4173	0.0020	0.0090	0.0455	2.00	—	—
	12/20/1999	708	316	6.70	1790	3630	< 0.0010	< 0.0010	0.359	1.30	2.90	4.20
	4/12/2000	613	279	6.65	1540	2770	< 0.0010	< 0.0010	0.337	0.500	—	—
	6/27/2000	578	272	6.90	1780	2830	< 0.0010	0.0045	0.353	1.20	—	—
	9/6/2000	698	320	5.50	1940	3000	0.0025	0.0133	0.406	3.30	—	—
	2/14/2001	618	307	6.20	1810	2870	0.0020	0.0150	0.377	3.40	< 1.000	< 4.40
	5/30/2001	649	291	6.65	1850	2950	0.0019	0.0129	0.378	2.40	—	—
	8/24/2001	570	270	6.70	2110	2970	0.0020	0.0110	0.360	3.50	—	—
	11/14/2001	810	380	6.50	2150	3240	0.0020	0.0150	0.710	12.0	10.7	22.7
WW-22	1/15/1978	30.0	30.0	—	221	—	< 0.0100	< 0.0100	—	—	—	—
	8/20/1979	33.0	40.0	—	269	—	< 0.0020	0.0015	—	2.80	—	—
	10/15/1979	—	—	—	—	—	—	—	—	0.900	—	—
	5/21/1980	25.0	30.0	—	240	—	0.0040	0.0030	—	1.17	—	—
	11/20/1980	9.00	64.0	—	470	—	< 0.0200	< 0.0100	—	0.890	—	—
	6/11/1981	7.00	21.0	—	190	—	< 0.0200	< 0.0300	—	1.10	—	—
	12/3/1981	10.00	< 10.00	—	200	—	< 0.0200	< 0.0300	—	2.80	—	—
	4/6/1982	—	—	—	—	—	—	—	—	0.890	—	—

TABLE B-1. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

CI THROUGH Ra226+228

Sample Point Name	Date	Cl (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
WW-22	5/20/1982	19.0	24.0	—	264	—	—	—	—	6.40	—	—
	8/12/1982	14.0	21.0	—	192	—	< 0.0100	0.0200	—	0.600	—	—
	10/12/1982	26.0	24.0	—	264	—	< 0.0200	< 0.0050	—	0.810	—	—
	2/3/1983	18.0	21.0	—	218	340	—	—	—	1.06	—	—
	6/1/1983	22.0	22.0	—	292	365	—	—	—	0.590	—	—
	8/30/1983	21.0	24.0	7.90	186	670	< 0.0050	< 0.0050	—	0.400	—	—
	12/22/1983	28.0	23.0	—	218	—	—	—	—	0.600	—	—
	3/29/1984	30.0	24.0	—	236	410	—	—	—	—	—	—
	5/15/1984	18.0	22.0	7.90	174	330	—	—	—	1.10	—	—
	9/19/1984	8.00	21.0	7.90	124	561	—	—	—	1.60	—	—
	11/15/1984	10.00	20.0	7.60	176	320	—	—	—	0.200	—	—
	3/21/1985	26.0	25.0	8.20	344	340	—	—	—	0.600	—	—
	5/8/1985	14.0	24.0	7.80	220	300	—	—	—	0.600	—	—
	8/23/1985	22.0	26.0	7.50	206	365	—	—	—	0.200	—	—
	11/19/1985	30.0	23.0	7.80	240	345	—	—	—	3.00	—	—
	3/12/1986	14.0	17.0	7.70	194	305	—	—	—	0.300	—	—
	5/27/1986	16.0	19.0	7.80	210	—	—	—	—	0.400	—	—
	9/15/1986	7.00	16.0	7.80	160	—	< 0.0040	0.0580	—	0.600	—	—
	11/24/1986	5.00	20.0	7.90	175	245	< 0.0040	< 0.0010	—	0.100	—	—
	3/23/1987	5.00	19.0	7.70	162	245	—	—	—	0.800	—	—
	5/5/1987	5.00	20.0	7.60	162	255	—	—	—	0.800	—	—
	5/8/1987	6.50	16.0	6.62	191	—	< 0.0010	< 0.0010	—	1.87	—	—
	8/18/1987	2.00	23.0	7.70	148	—	—	—	—	1.000	—	—
	11/12/1987	6.00	25.0	7.50	170	—	< 0.0040	0.0740	—	0.700	—	—
	2/24/1988	5.00	24.0	7.50	216	—	—	—	—	0.300	—	—
	5/19/1988	4.00	27.0	7.40	192	—	—	—	—	1.90	—	—
	8/23/1988	6.00	29.0	7.70	266	—	—	—	—	1.10	—	—
	10/20/1988	5.00	27.0	7.80	210	285	< 0.0040	0.0609	—	1.70	—	—
	3/20/1989	6.00	26.0	7.80	182	245	—	—	—	0.600	—	—
	6/27/1989	6.00	26.0	7.70	206	—	—	—	—	1.20	—	—

TABLE B-1. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

CI THROUGH Ra226+228

Sample Point Name	Date	Cl (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
VW-22	8/17/1989	—	—	7.40	—	—	—	—	—	0.600	1.40	2.00
	8/17/1989	—	—	—	—	—	—	—	—	0.400	0.700	1.10
	10/13/1989	5.00	28.0	7.40	200	260	0.0033	0.643	—	1.40	6.70	8.10
	6/20/1990	—	—	8.10	—	270	—	—	—	—	—	—
	12/18/1990	5.20	34.8	7.70	105	285	< 0.0010	0.0320	—	0.400	< 1.000	< 1.40
	6/11/1991	5.30	31.7	7.70	187	310	< 0.100	0.0250	0.0260	0.300	< 1.000	< 1.30
	11/19/1991	18.7	33.9	7.50	164	369	< 0.100	0.0380	0.0200	0.200	1.40	1.60
	5/5/1992	5.20	36.5	7.30	173	363	—	—	—	0.900	—	—
	12/7/1992	6.80	33.2	7.50	160	476	0.0030	0.0530	—	0.300	1.30	1.60
	12/15/1992	18.9	322	7.50	752	476	—	—	—	1.30	—	—
	6/15/1993	20.1	63.7	7.70	186	300	—	—	—	0.600	—	—
	8/11/1993	7.02	33.9	7.40	218	455	< 0.0010	0.0410	—	1.10	< 1.000	< 2.10
	10/20/1993	5.30	35.9	7.70	229	402	< 0.0010	0.0300	—	2.40	< 1.000	< 3.40
	11/11/1993	5.60	34.0	7.80	318	402	—	—	—	1.10	—	—
	5/20/1994	7.10	36.9	7.70	222	402	< 0.0010	0.0430	—	1.40	2.50	3.90
	7/16/1994	5.39	40.1	—	215	—	—	—	0.0270	0.500	—	—
	12/8/1994	6.40	39.2	7.50	240	469	< 0.0010	0.0460	—	1.000	1.50	2.50
	5/19/1995	6.50	39.0	7.60	207	472	0.0020	0.0330	0.0280	0.800	< 1.000	< 1.80
	6/16/1995	6.50	62.5	7.60	251	472	—	—	0.0319	0.600	—	—
	11/15/1995	8.10	41.7	7.42	253	470	< 0.0010	0.0330	0.0310	0.700	< 1.000	< 1.70
	5/22/1996	10.1	49.1	7.30	267	499	—	0.0310	0.0410	0.900	< 1.000	< 1.90
	5/28/1996	—	—	—	—	—	< 0.0010	—	0.0410	—	< 1.000	—
	6/6/1996	7.80	42.2	—	284	—	—	—	0.0370	0.700	—	—
	11/18/1996	11.9	53.0	7.30	285	457	—	< 0.0010	0.0456	1.000	< 1.000	< 2.00
	5/22/1997	12.1	32.2	7.47	239	360	—	0.0420	0.103	1.10	< 1.000	< 2.10
	12/17/1997	11.0	46.5	7.78	264	824	—	0.0530	0.0480	1.10	< 1.000	< 2.10
	6/17/1998	9.80	45.2	7.05	242	1105	0.0030	0.0590	0.0522	0.500	< 1.000	< 1.50
	9/15/1998	14.4	84.5	7.88	339	393	0.0030	0.0470	0.0491	0.800	—	—
	12/16/1998	12.4	34.6	7.45	255	512	0.0030	0.0560	0.0512	0.900	< 1.000	< 1.90
	3/24/1999	33.8	110	6.78	382	731	0.0020	0.0160	0.192	7.60	—	—

TABLE B-1. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

CI THROUGH Ra226+228

Sample Point Name	Date	CI (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
WW-22	6/23/1999	35.0	122	6.79	485	784	0.0010	0.0200	0.171	4.50	8.20	12.7
	9/22/1999	18.0	50.0	6.06	265	417	0.0030	0.0430	0.160	2.90	—	—
	12/8/1999	23.1	54.4	7.30	253	471	0.0020	0.0470	0.171	< 0.200	< 1.000	< 1.20
	3/8/2000	21.7	50.6	6.70	259	416	0.0020	0.0450	0.145	1.30	—	—
	6/15/2000	21.1	56.0	7.20	272	485	0.0030	0.0970	1.45	1.60	6.60	8.20
	9/12/2000	22.4	52.4	6.90	294	423	< 0.0010	0.0530	0.161	1.30	—	—
	12/11/2000	19.6	52.4	6.40	254	419	0.0030	0.0568	0.160	0.800	4.60	5.40
	3/5/2001	17.0	45.5	7.40	271	419	0.0023	0.0644	0.149	1.10	—	—
	5/29/2001	20.1	52.5	5.75	274	434	0.0028	0.0556	0.167	0.900	< 1.000	< 1.90
	9/11/2001	16.6	47.8	6.70	274	435	< 0.0010	0.0500	0.150	1.000	—	—
	11/8/2001	19.0	48.0	7.25	281	428	0.0070	0.435	1.49	0.700	< 1.000	< 1.70
WW-23	10/22/1986	7.00	30.0	8.00	284	350	< 0.0040	0.0040	—	—	—	—
	11/24/1986	4.00	34.0	7.90	267	365	< 0.0040	< 0.0010	0.0300	0.400	—	—
	5/5/1987	4.00	32.0	7.70	202	375	—	—	0.0210	0.500	—	—
	5/8/1987	11.0	21.2	6.59	260	420	< 0.0010	< 0.0010	0.0350	1.15	—	—
	8/18/1987	—	—	7.70	—	395	—	—	—	—	—	—
	12/9/1987	—	—	7.60	—	325	< 0.0040	0.0130	0.0190	0.700	—	—
	2/24/1988	4.00	31.0	7.60	249	340	—	—	0.0200	0.600	—	—
	5/19/1988	5.00	34.0	7.30	266	355	—	—	0.0200	1.50	—	—
	10/19/1988	5.00	31.0	8.00	264	315	< 0.0040	0.0116	0.0200	2.10	—	—
	3/20/1989	6.00	28.0	7.90	203	300	—	—	0.207	0.500	—	—
	6/29/1989	6.00	31.0	7.40	222	300	—	—	0.0266	0.400	—	—
	10/13/1989	6.00	30.0	7.50	240	300	0.0027	0.0114	0.0330	0.300	8.60	8.90
	2/7/1991	7.00	31.0	7.70	231	305	< 0.0010	0.0160	0.0160	0.500	< 1.000	< 1.50
	6/11/1991	—	—	7.80	—	325	—	—	—	—	—	—
	11/19/1991	—	—	7.60	—	483	—	—	—	—	—	—
	6/8/1992	6.80	26.4	7.30	203	402	0.0020	< 0.0010	0.436	0.700	< 1.000	< 1.70
	12/7/1992	10.2	37.7	7.60	216	544	0.0020	0.0340	0.0170	1.50	3.00	4.50
	8/11/1993	7.66	30.6	7.60	229	704	< 0.0010	0.0230	0.0140	0.300	< 1.000	< 1.30

TABLE B-1. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

Cl THROUGH Ra226+228

Sample Point Name	Date	Cl (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
WWV-23	10/20/1993	9.10	31.2	7.90	220	462	< 0.0010	0.0150	0.0090	0.700	< 1.000	< 1.70
	5/20/1994	8.40	32.2	7.70	235	462	0.0020	0.0240	0.0170	0.600	< 1.000	< 1.60
	12/8/1994	9.20	32.2	—	248	—	< 0.0010	0.0220	0.0190	0.800	< 1.000	< 1.80
	5/19/1995	8.70	34.0	7.70	201	441	< 0.0010	0.0190	0.0180	0.900	< 1.000	< 1.90
	11/15/1995	9.30	32.2	7.60	267	470	< 0.0010	0.0230	0.0200	—	< 1.000	—
	5/22/1996	11.3	31.7	7.40	246	—	—	0.0240	0.0260	0.500	< 1.000	< 1.50
	11/18/1996	—	—	—	—	—	—	—	—	—	—	< 1.70
	11/18/1996	11.4	43.0	7.40	281	466	—	0.0170	0.0191	0.700	< 1.000	—
	5/22/1997	15.8	25.6	7.30	243	500	—	0.0380	0.0280	0.900	< 1.000	< 1.90
	12/17/1997	12.8	38.7	7.89	269	1608	—	0.0270	0.0190	0.900	< 1.000	< 1.90
	6/17/1998	12.2	37.3	6.85	242	804	0.0010	0.0310	0.0183	0.500	< 1.000	< 1.50
	9/21/1998	12.7	32.1	7.32	278	1217	0.0020	0.0310	0.0194	< 0.200	—	—
	12/14/1998	12.3	36.9	7.42	301	449	0.0020	0.0340	0.0359	0.500	< 1.000	< 1.50
	3/19/1999	15.7	40.9	7.11	264	449	0.0020	0.0300	0.0222	0.600	—	—
	6/23/1999	16.0	39.0	6.90	289	475	0.0020	0.0320	0.0262	0.700	4.60	5.30
	9/22/1999	23.0	62.0	5.07	300	5700	0.0020	0.0290	0.0511	2.50	—	—
	12/8/1999	18.8	40.8	7.35	239	333	0.0010	0.0320	0.0189	< 0.200	< 1.000	< 1.20
	3/8/2000	17.6	39.1	6.30	289	437	0.0010	0.0300	0.0166	0.700	—	—
	6/9/2000	11.1	36.5	6.40	258	425	0.0017	0.0315	0.0169	< 0.200	—	—
	9/6/2000	17.9	39.3	7.15	267	434	0.0020	0.0326	0.0187	0.400	—	—
	12/11/2000	14.7	43.4	6.50	276	460	0.0021	0.0355	0.0184	0.800	< 1.000	< 1.80
	2/19/2001	16.2	39.6	7.30	250	445	0.0028	0.0359	0.0180	0.700	—	—
	5/29/2001	15.0	39.5	6.20	270	446	0.0020	0.0348	0.0183	0.700	< 1.000	< 1.70
	8/29/2001	18.0	36.0	7.10	299	432	0.0013	0.0300	0.0100	0.600	—	—
	11/8/2001	15.0	36.0	7.25	302	448	< 0.0010	0.0340	0.0164	0.400	1.40	1.80
WWL-10A	5/23/1983	—	—	7.36	—	—	—	—	—	—	—	—
	6/1/1983	10.00	97.0	7.30	470	—	—	—	—	21.0	—	—
	8/17/1983	15.0	< 1.000	7.70	300	653	—	—	—	—	—	—
	8/17/1983	8.00	93.0	—	320	—	—	—	—	—	—	—

TABLE B-1. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

CI THROUGH Ra226+228

Sample Point Name	Date	CI (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
WWL-10A	1/14/1986	13.0	110	7.60	348	520	—	—	0.0200	4.00	—	—
	12/12/1986	9.00	100.0	7.90	418	485	—	—	0.0100	4.50	—	—
	11/25/1987	11.0	105	7.60	334	470	—	—	0.0740	2.80	—	—
	11/14/1988	55.0	78.0	7.70	456	560	—	—	0.0500	5.70	—	—
	10/17/1991	10.8	117	7.60	394	544	0.0020	< 0.0010	0.0239	2.70	9.80	12.5
	8/16/1993	95.7	128	7.80	407	854	< 0.0010	0.0040	0.0280	2.20	< 1.000	< 3.20
	12/1/1998	11.0	254	—	609	—	0.0010	0.0020	0.0221	1.90	< 1.000	< 2.90
	10/11/1999	41.7	84.3	6.46	424	616	0.0040	0.132	0.0748	0.600	< 1.000	—
	11/8/2000	26.6	78.9	6.60	366	590	< 0.0010	0.121	0.0729	2.00	< 1.000	< 3.00
	9/24/2001	162	183	6.90	775	1191	< 0.0010	0.130	0.120	4.00	2.60	6.60
WWL-16A	8/16/1983	22.0	6.00	7.20	1100	1782	—	—	—	1.20	—	—
	8/16/1983	21.0	700	—	1300	—	—	—	—	1.000	—	—
	10/1/1986	15.0	509	6.87	836	1080	< 0.0010	< 0.0010	0.0550	11.8	—	—
	5/7/1987	15.0	556	6.31	934	1190	0.0060	< 0.0010	0.0220	1.08	—	—
	8/5/1992	35.7	244	—	579	—	—	—	—	—	—	—
	8/18/1993	19.1	641	7.20	1238	1920	0.0020	0.0060	0.0010	3.40	2.20	4.50
	8/7/1994	—	—	7.30	—	2142	—	—	—	—	—	—
	8/10/1995	19.6	569	7.10	1075	1867	< 0.0010	< 0.0010	0.0180	3.50	< 1.000	< 4.50
WWL-18A	8/16/1983	32.0	90.0	7.70	460	720	—	—	—	0.400	—	—
	8/16/1983	—	—	—	—	—	—	—	—	0.920	—	—
	10/9/1986	37.0	430	6.26	1011	1570	0.0010	< 0.0010	0.0840	—	—	—
	8/19/1993	30.8	789	7.50	1196	1980	0.0080	< 0.0010	0.0350	2.40	2.10	4.50
	8/7/1994	—	—	7.30	—	2394	—	—	—	—	—	—
	8/11/1995	35.9	738	7.50	1361	2345	< 0.0010	< 0.0010	0.0250	1.60	1.20	2.80
WWL-20A	6/1/1983	216	272	7.29	1148	—	—	—	—	0.400	—	—
	8/10/1983	230	320	7.40	1200	1825	—	—	—	—	—	—
	6/13/1985	198	304	7.30	1070	1480	—	—	0.200	3.10	—	—

TABLE B-1. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

CI THROUGH Ra226+228

Sample Point Name	Date	CI (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
WWL-20A	1/16/1986	140	204	7.40	940	1105	—	—	0.130	3.00	—	—
	10/29/1986	110	142	7.20	636	890	0.0010	< 0.0010	—	—	—	—
	12/12/1986	103	149	7.60	670	835	—	—	0.110	2.20	—	—
	5/7/1987	123	180	6.54	713	1060	< 0.0010	0.0010	0.0770	1.37	—	—
	11/25/1987	125	174	7.50	760	895	—	—	0.0860	2.60	—	—
	11/7/1988	135	182	7.40	850	940	—	—	0.100	3.90	—	—
	12/5/1989	125	204	—	830	—	—	—	0.131	3.50	—	—
	10/18/1991	151	224	7.50	675	1139	0.0060	0.0650	0.0913	1.80	8.60	10.4
	8/16/1993	128	262	7.50	984	1890	0.0050	0.0600	0.158	4.20	1.20	5.40
	7/20/1994	136	326	7.70	1112	1612	0.0040	0.0860	0.395	6.90	9.20	16.1
	8/27/1996	115	250	—	1010	—	< 0.0010	0.0590	0.184	1.80	< 1.000	—
	8/29/1996	—	—	7.20	—	2176	—	—	—	—	—	—
	10/7/1997	133	257	—	997	—	< 0.0010	0.0540	0.230	1.40	< 1.000	—
	6/30/1998	115	247	7.58	1060	1422	0.0040	0.0620	0.328	3.20	—	—
	9/23/1998	112	238	7.35	1070	1500	0.0050	0.0690	0.258	1.20	< 1.000	< 2.20
	1/14/1999	122	266	7.18	1000	1498	0.0050	0.0650	0.270	1.30	—	—
	3/24/1999	118	245	6.26	1050	1588	0.0040	0.0630	0.265	2.40	—	—
	6/25/1999	107	238	6.48	1030	1493	0.0030	0.0620	0.275	2.60	—	—
	10/4/1999	212	256	6.50	1140	2171	0.0050	0.0540	0.0455	2.40	—	—
	12/16/1999	124	258	6.75	989	1122	0.0020	0.0640	0.286	4.30	—	—
	3/15/2000	116	238	6.80	771	1421	0.0010	0.0550	0.332	6.10	—	—
	6/27/2000	107	240	7.30	983	1399	0.0028	0.0587	0.257	1.20	—	—
	10/31/2000	113	271	6.10	978	1345	0.0033	0.0601	0.448	11.2	1.40	12.6
	12/12/2000	110	234	6.80	1010	1360	0.0030	0.0660	0.264	3.20	—	—
	4/20/2001	116	287	6.00	971	1404	0.0030	0.0590	0.341	6.30	—	—
	6/19/2001	112	234	6.70	992	1417	0.0037	0.0606	0.248	2.20	—	—
	9/11/2001	94.4	211	6.80	984	1382	< 0.0010	0.0600	0.230	2.10	—	—
	11/13/2001	110	260	6.85	1030	1394	0.0030	0.0670	0.208	1.10	—	—

TABLE B-2. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY.

Th-230 THROUGH Ni

Sample Point Name	Date	Th230 (pCi/l)	Alpha (pCi/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	NO3 (mg/l)	Fe (mg/l)	Pb (mg/l)	Mo (mg/l)	Ni (mg/l)
MC02	2/15/1979	---	---	---	---	< 0.0050	< 0.0050	---	0.400	< 0.0100	---	---
	10/30/1985	---	---	---	---	0.0200	< 0.0500	---	0.190	---	< 0.0200	< 0.0400
	10/17/1986	---	---	---	---	< 0.0100	< 0.0500	---	0.170	---	< 0.0200	< 0.0500
	10/20/1988	0.100	---	---	---	< 0.0100	< 0.0500	---	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/16/1989	1.70	---	---	---	---	---	---	---	---	---	---
	6/30/1989	0.200	---	---	---	---	---	---	---	---	---	---
	9/13/1991	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.970	---	< 0.0500	< 0.100	< 0.0500
	9/13/1991	< 0.0003	---	---	---	---	---	---	---	---	---	---
	3/5/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	---	---	< 0.0500	< 0.100	< 0.0500
	6/23/1998	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	---	---	< 0.0500	< 0.100	< 0.0500
	12/10/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	---	---	< 0.0500	< 0.100	< 0.0500
	6/9/1999	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	---	---	< 0.0500	< 0.100	< 0.0500
	12/6/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	---	---	< 0.0500	< 0.100	< 0.0500
	2/29/2000	---	---	---	---	---	---	0.870	---	---	---	---
	5/30/2000	< 0.200	< 1.000	---	< 0.0100	< 0.0050	< 0.0500	0.450	---	< 0.0500	< 0.100	< 0.0500
	8/29/2000	---	---	---	---	---	---	0.450	---	---	---	---
	11/20/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.700	---	< 0.0500	< 0.100	< 0.0500
	2/19/2001	---	---	---	---	---	---	0.500	---	---	---	---
	5/9/2001	< 1.000	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.650	---	< 0.0500	< 0.100	< 0.0500
	8/20/2001	---	---	---	---	---	---	0.450	---	---	---	---
	10/24/2001	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.500	---	< 0.0500	< 0.100	< 0.0500
WH-9	11/5/1986	---	---	0.0500	---	< 0.0100	< 0.0100	4.93	0.0500	< 0.0100	< 0.0500	< 0.0300
	5/6/1987	---	---	< 0.0500	---	< 0.0100	< 0.0100	6.65	0.0400	< 0.0500	< 0.0500	< 0.0300
	8/17/1993	< 1.000	---	0.120	---	< 0.0100	< 0.0500	5.52	---	< 0.0500	< 0.100	< 0.0500
	5/18/1994	< 0.200	---	0.100	---	< 0.0100	< 0.0500	7.50	---	< 0.0500	< 0.100	< 0.0500
	8/14/1995	14.9	9.30	0.120	< 0.0100	< 0.0100	< 0.0500	9.70	---	< 0.0500	< 0.100	< 0.0500
	3/5/1998	< 0.200	2.50	< 0.100	< 0.0100	< 0.0050	< 0.0500	---	---	< 0.0500	< 0.100	< 0.0500
	6/23/1998	---	---	< 0.100	---	< 0.0050	< 0.0500	---	< 0.0500	< 0.0500	< 0.100	< 0.0500
	12/15/1998	---	2.90	< 0.100	---	< 0.0050	< 0.0500	5.24	< 0.0500	< 0.0500	< 0.100	< 0.0500

TABLE B-2. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

Th-230 THROUGH Ni

Sample Point Name	Date	Th230 (pCi/l)	Alpha (pCi/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	NO3 (mg/l)	Fe (mg/l)	Pb (mg/l)	Mo (mg/l)	Ni (mg/l)
WH-9	3/24/1999	—	—	0.100	—	0.0050	0.0500	6.44	0.0500	0.0500	0.100	0.0500
	6/23/1999	—	—	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	10/4/1999	—	—	< 0.100	—	< 0.0050	< 0.0500	—	0	< 0.0500	< 0.100	< 0.0500
	12/20/1999	—	2.00	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0300	< 0.0500	< 0.100	< 0.0500
	4/12/2000	—	—	< 0.100	—	< 0.0050	< 0.0500	5.77	0.100	< 0.0500	< 0.100	< 0.0500
	6/27/2000	—	—	< 0.100	—	< 0.0050	< 0.0500	5.69	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/6/2000	—	—	< 0.100	—	< 0.0050	< 0.0500	6.59	< 0.0300	< 0.0500	< 0.100	< 0.0500
	2/14/2001	—	—	< 0.100	—	< 0.0050	< 0.0500	6.27	0.0700	< 0.0500	< 0.100	< 0.0500
	5/30/2001	—	—	< 0.100	—	< 0.0050	< 0.0500	6.49	< 0.0300	< 0.0500	< 0.100	< 0.0500
	8/24/2001	—	—	< 0.100	—	< 0.0050	< 0.0500	6.05	< 0.0500	< 0.0500	< 0.100	< 0.0500
	11/14/2001	—	14.3	< 0.100	—	< 0.0050	< 0.0500	6.60	0.150	< 0.0500	< 0.100	< 0.0500
WW-22	1/10/1978	—	—	—	—	—	—	—	—	< 0.0040	—	—
	1/15/1978	—	—	0.0500	—	0	< 0.0100	0.200	0.700	—	< 0.0500	< 0.0400
	8/20/1979	—	—	0.330	—	0.0500	0.0280	1.50	0.660	0.0200	0.0800	0.0600
	5/21/1980	—	—	0.0700	—	0.0060	0.0050	0.890	0.0300	0.0050	0.0200	0.0100
	11/20/1980	1.10	—	0.200	—	< 0.0040	< 0.0100	1.000	9.20	0.0700	< 0.0500	< 0.0300
	6/11/1981	0.900	—	< 0.100	—	< 0.0200	0.0200	0.210	9.60	0.0700	< 0.100	< 0.0300
	12/3/1981	5.30	—	< 0.100	—	< 0.0200	< 0.0100	0.300	2.40	< 0.0300	< 0.100	< 0.0300
	8/12/1982	0.600	—	—	—	—	—	< 0.0100	—	—	< 0.100	—
	10/12/1982	0.800	—	—	—	< 0.0200	< 0.0100	—	0.990	—	< 0.100	< 0.0300
	2/3/1983	1.20	—	—	—	—	—	—	—	—	—	—
	8/30/1983	0.400	—	—	—	< 0.0040	0.0050	—	2.20	—	< 0.0100	< 0.0100
	12/22/1983	0.400	—	—	—	—	—	—	—	—	—	—
	5/15/1984	0.400	—	—	—	—	—	—	—	—	—	—
	9/19/1984	0.100	—	—	—	—	—	—	—	—	—	—
	11/15/1984	0.100	—	—	—	—	—	—	—	—	—	—
	3/21/1985	0.600	—	—	—	—	—	—	—	—	—	—
	5/8/1985	1.000	—	—	—	—	—	—	—	—	—	—
	8/23/1985	0.700	—	—	—	—	—	—	—	—	—	—

TABLE B-2. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

Th-230 THROUGH NI

Sample Point Name	Date	Th230 (pCi/l)	Alpha (pCi/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	NO3 (mg/l)	Fe (mg/l)	Pb (mg/l)	Mo (mg/l)	Ni (mg/l)
WW-22	11/19/1985	0.900	---	---	---	< 0.0100	< 0.0500	---	1.60	---	< 0.0200	< 0.0400
	3/12/1986	0.100	---	---	---	---	---	---	---	---	---	---
	5/27/1986	0.300	---	---	---	---	---	---	---	---	---	---
	9/15/1986	0.200	---	---	---	< 0.0100	< 0.0500	---	0.220	---	< 0.0200	< 0.0500
	11/24/1986	0.100	---	0.130	---	< 0.0100	< 0.0500	0.400	< 0.0500	< 0.0500	< 0.0200	< 0.0500
	3/23/1987	0.100	---	---	---	---	---	---	---	---	---	---
	5/8/1987	---	---	< 0.0500	113	< 0.0100	< 0.0100	0.350	< 0.0300	< 0.0500	< 0.0500	< 0.0300
	8/18/1987	0.200	---	---	---	---	---	---	---	---	---	---
	11/12/1987	0.100	---	---	---	< 0.0100	< 0.0500	---	< 0.0500	---	< 0.0200	< 0.0500
	2/24/1988	1.000	---	---	---	---	---	---	---	---	---	---
	5/19/1988	0.100	---	---	---	---	---	---	---	---	---	---
	8/23/1988	0.200	---	---	---	---	---	---	---	---	---	---
	10/20/1988	0.100	---	---	---	< 0.0100	< 0.0500	---	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/20/1989	2.00	---	---	---	---	---	---	---	---	---	---
	6/27/1989	0.800	---	---	---	---	---	---	---	---	---	---
	10/13/1989	0.400	---	< 0.100	---	< 0.0050	< 0.0100	---	0.506	< 0.0500	< 0.100	< 0.0500
	12/18/1990	< 0.200	---	< 0.100	---	< 0.0100	< 0.0500	0.160	---	< 0.0500	< 0.100	< 0.0500
	6/11/1991	< 0.0010	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.140	---	< 0.0500	< 0.100	< 0.0500
	11/19/1991	< 0.200	< 1.000	---	< 0.0100	< 0.0100	< 0.0500	< 0.0100	---	< 0.0500	< 0.100	< 0.0500
	5/5/1992	---	---	---	---	---	---	< 0.100	---	---	---	---
	12/7/1992	< 0.200	---	< 0.100	---	< 0.0100	< 0.0500	< 0.100	---	< 0.0500	< 0.0500	< 0.0500
	12/7/1992	---	---	---	---	---	---	---	---	---	< 0.100	---
	12/15/1992	---	---	---	---	---	---	< 0.100	---	---	---	---
	6/15/1993	---	---	---	---	---	---	0.200	---	---	---	---
	8/11/1993	< 0.200	---	< 0.100	---	< 0.0100	< 0.0500	0.280	---	< 0.0500	< 0.100	< 0.0500
	10/20/1993	< 1.000	---	< 0.100	---	< 0.0100	< 0.0500	0.110	---	< 0.0500	< 0.100	< 0.0500
	11/11/1993	---	---	---	---	---	---	0.280	---	---	---	---
	5/20/1994	< 0.200	---	< 0.100	---	< 0.0100	< 0.0500	0.170	---	< 0.0500	< 0.100	< 0.0500
	7/16/1994	---	---	---	---	---	---	1.10	---	---	---	---
	12/8/1994	< 0.200	---	< 0.100	---	< 0.0100	< 0.0500	0.270	---	< 0.0500	< 0.100	< 0.0500

TABLE B-2. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

Th-230 THROUGH Ni

Sample Point Name	Date	Th230 (pCi/l)	Alpha (pCi/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	NO3 (mg/l)	Fe (mg/l)	Pb (mg/l)	Mo (mg/l)	Ni (mg/l)
WWV-22	5/19/1995	< 0.200	3.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.830	—	< 0.0500	< 0.100	< 0.0500
	6/16/1995	—	—	—	—	—	—	0.530	—	—	—	—
	11/15/1995	1.50	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.360	—	< 0.0500	< 0.100	< 0.0500
	5/28/1996	0.900	1.30	< 0.100	< 0.0050	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/18/1996	—	< 1.000	—	—	—	—	—	—	—	—	—
	5/22/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	12/17/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	6/17/1998	—	1.20	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/15/1998	—	—	< 0.100	—	< 0.0050	< 0.0500	0.350	< 0.0500	< 0.0500	< 0.100	< 0.0500
	12/16/1998	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	0.110	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/24/1999	—	—	0.100	—	0.0050	0.0500	0.0600	0.0500	0.0500	0.100	0.0500
	6/23/1999	—	5.90	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/22/1999	—	—	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	12/8/1999	—	2.50	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/8/2000	—	—	< 0.100	—	< 0.0050	< 0.0500	0.850	< 0.0300	< 0.0500	< 0.100	< 0.0500
	6/15/2000	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	0.680	< 0.0300	< 0.0500	< 0.100	< 0.0500
	9/12/2000	—	—	< 0.100	—	< 0.0050	< 0.0500	0.670	< 0.0300	< 0.0500	< 0.100	< 0.0500
	12/11/2000	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	0.660	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/5/2001	—	—	< 0.100	—	< 0.0050	< 0.0500	0.680	< 0.0300	< 0.0500	< 0.100	< 0.0500
	5/29/2001	—	1.40	< 0.100	—	< 0.0050	< 0.0500	0.660	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/11/2001	—	—	< 0.100	—	< 0.0050	< 0.0500	0.700	< 0.0300	< 0.0500	< 0.100	< 0.0500
	11/8/2001	—	< 1.000	0.600	—	< 0.0050	< 0.0500	0.600	< 0.0300	< 0.0500	< 0.100	< 0.0500
WWV-23	10/22/1986	—	—	—	—	< 0.0100	< 0.0500	—	< 0.0500	—	< 0.0200	< 0.0500
	11/24/1986	0.100	—	0.120	—	< 0.0100	< 0.0500	0.300	< 0.0500	< 0.0500	< 0.0200	< 0.0500
	5/5/1987	0.100	—	—	—	—	—	—	—	—	—	—
	5/8/1987	—	—	< 0.0500	—	< 0.0100	< 0.0100	0.280	< 0.0300	< 0.0500	< 0.0500	< 0.0300
	12/9/1987	3.20	—	—	—	< 0.0100	< 0.0500	—	< 0.0500	—	0.0300	< 0.0500
	10/19/1988	0.200	—	—	—	< 0.0100	< 0.0500	—	0.240	< 0.0500	< 0.100	< 0.0500
	3/20/1989	1.20	—	—	—	—	—	—	—	—	—	—

TABLE B-2. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

Th-230 THROUGH Ni

Sample Point Name	Date	Th230 (pCi/l)	Alpha (pCi/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	NO3 (mg/l)	Fe (mg/l)	Pb (mg/l)	Mo (mg/l)	Ni (mg/l)
WW-23	6/29/1989	0.400	—	—	—	—	—	—	—	—	—	—
	10/13/1989	—	12.5	< 0.100	< 0.0100	< 0.0050	0.0420	—	5.41	0.124	< 0.100	< 0.0500
	2/7/1991	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.400	—	< 0.0500	< 0.100	< 0.0500
	6/11/1991	< 0.0010	0.0300	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.470	—	< 0.0500	< 0.100	< 0.0500
	6/8/1992	< 0.200	< 1.000	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	12/7/1992	< 0.200	1.60	0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/11/1993	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	10/20/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.590	—	< 0.0500	< 0.100	< 0.0500
	5/20/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.620	—	< 0.0500	< 0.100	< 0.0500
	12/8/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.810	—	< 0.0500	< 0.100	< 0.0500
	5/19/1995	0.500	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.40	—	< 0.0500	< 0.100	< 0.0500
	11/15/1995	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.990	—	< 0.0500	< 0.100	< 0.0500
	11/18/1996	—	< 1.000	—	—	—	—	—	—	—	—	—
	5/22/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	12/17/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	6/17/1998	—	1.30	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/21/1998	—	—	< 0.100	—	< 0.0050	< 0.0500	1.07	< 0.0500	< 0.0500	< 0.100	< 0.0500
	12/14/1998	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	0.960	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/19/1999	—	—	0.100	—	0.0050	0.0500	1.03	0.0500	0.0500	0.100	0.0500
	6/23/1999	—	1.70	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/22/1999	—	—	< 0.100	—	< 0.0050	< 0.0500	—	3.82	< 0.0500	< 0.100	< 0.0500
	12/8/1999	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/8/2000	—	—	< 0.100	—	< 0.0050	< 0.0500	1.12	< 0.0300	< 0.0500	< 0.100	< 0.0500
	6/9/2000	—	—	< 0.100	—	< 0.0050	< 0.0500	1.02	< 0.0300	< 0.0500	< 0.100	< 0.0500
	9/6/2000	—	—	< 0.100	—	< 0.0050	< 0.0500	1.11	< 0.0300	< 0.0500	< 0.100	< 0.0500
	12/11/2000	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	1.06	< 0.0500	< 0.0500	< 0.100	< 0.0500
	2/19/2001	—	—	< 0.100	—	< 0.0050	< 0.0500	1.12	< 0.0300	< 0.0500	< 0.100	< 0.0500
	5/29/2001	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	1.19	< 0.0500	< 0.0500	< 0.100	< 0.0500
	8/29/2001	—	—	0.0200	—	< 0.0050	0.0005	1.000	0.0090	0.0004	0.0050	0.0010
	11/8/2001	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	1.000	< 0.0300	< 0.0500	< 0.100	< 0.0500

TABLE B-2. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

Th-230 THROUGH Ni

Sample Point Name	Date	Th230 (pCi/l)	Alpha (pCi/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	NO3 (mg/l)	Fe (mg/l)	Pb (mg/l)	Mo (mg/l)	Ni (mg/l)
WWL-10A	10/17/1991	< 0.200	3.00	0.110	< 0.0100	< 0.0100	< 0.0500	0.0400	—	< 0.0500	< 0.100	< 0.0500
	8/16/1993	< 1.000	2.30	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.100	—	< 0.0500	< 0.100	< 0.0500
	12/1/1998	0.700	3.80	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/11/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/8/2000	< 0.200	1.70	< 0.100	< 0.0100	< 0.0050	< 0.0500	1.55	—	< 0.0500	< 0.100	< 0.0500
	9/24/2001	< 0.200	5.50	< 0.100	< 0.0100	< 0.0100	< 0.0500	3.80	—	< 0.0500	< 0.100	< 0.0500
WWL-16A	10/1/1986	—	—	0.0700	—	< 0.0100	< 0.0100	0.100	0.570	< 0.0500	< 0.0500	0.0500
	5/7/1987	—	—	< 0.0500	—	< 0.0100	< 0.0100	0.0400	0.470	< 0.0500	< 0.0500	0.0400
	8/5/1992	—	—	—	—	—	—	0.400	—	—	—	—
	8/18/1993	< 1.000	6.70	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/10/1995	8.90	7.50	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.290	—	< 0.0500	< 0.100	< 0.0500
WWL-18A	10/9/1986	—	—	0.100	—	< 0.0100	< 0.0100	0.180	0.0300	< 0.0500	0.100	< 0.0300
	8/19/1993	< 1.000	5.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/11/1995	< 0.200	8.00	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.380	—	< 0.0500	< 0.100	< 0.0500
WWL-20A	10/29/1986	—	—	< 0.0500	—	< 0.0100	< 0.0100	3.21	0.0600	< 0.0100	< 0.0500	< 0.0300
	5/7/1987	—	—	< 0.0500	—	< 0.0100	< 0.0100	4.00	< 0.0300	< 0.0500	< 0.0500	< 0.0300
	10/18/1991	< 0.200	2.00	< 0.100	< 0.0100	< 0.0100	< 0.0500	5.20	—	< 0.0500	< 0.100	< 0.0500
	10/18/1991	< 0.0003	0.0030	—	—	—	—	—	—	—	—	—
	8/16/1993	< 1.000	6.00	< 0.100	< 0.0050	< 0.0100	< 0.0500	4.13	—	< 0.0500	< 0.100	< 0.0500
	7/20/1994	< 0.200	20.9	< 0.100	< 0.0500	< 0.0100	< 0.0500	3.81	—	< 0.0500	< 0.100	< 0.0500
	8/27/1996	1.10	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/7/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	6/30/1998	—	—	< 0.100	—	< 0.0050	< 0.0500	5.45	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/23/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	1/14/1999	—	—	< 0.100	—	< 0.0050	< 0.0500	—	0.240	< 0.0500	< 0.100	< 0.0500
	3/24/1999	—	—	0.100	—	0.0050	0.0500	4.85	0.0800	0.0500	0.100	0.0500

TABLE B-2. SHIRLEY BASIN MINE WHITE RIVER AQUIFER WATER QUALITY. (cont'd.)

Th-230 THROUGH NI

Sample Point Name	Date	Th230 (pCi/l)	Alpha (pCi/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	NO3 (mg/l)	Fe (mg/l)	Pb (mg/l)	Mo (mg/l)	Ni (mg/l)
WWL-20A	6/25/1999	—	—	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	10/4/1999	—	—	< 0.100	—	< 0.0050	< 0.0500	—	0.0300	< 0.0500	< 0.100	< 0.0500
	12/16/1999	—	—	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/15/2000	—	—	< 0.100	—	< 0.0050	< 0.0500	5.32	< 0.0300	< 0.0500	< 0.100	< 0.0500
	6/27/2000	—	—	< 0.100	—	< 0.0050	< 0.0500	5.23	< 0.0500	< 0.0500	< 0.100	< 0.0500
	10/31/2000	—	17.4	< 0.100	—	< 0.0050	< 0.0500	5.50	0.0733	< 0.0500	< 0.100	< 0.0500
	12/12/2000	—	—	< 0.100	—	< 0.0050	< 0.0500	5.38	< 0.0500	< 0.0500	< 0.100	< 0.0500
	4/20/2001	—	—	< 0.100	—	< 0.0050	< 0.0500	5.85	< 0.0500	< 0.0500	< 0.100	< 0.0500
	6/19/2001	—	—	< 0.100	—	< 0.0050	< 0.0500	5.83	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/11/2001	—	—	< 0.100	—	< 0.0050	< 0.0500	7.30	< 0.0300	< 0.0500	< 0.100	< 0.0500
	11/13/2001	—	—	< 0.100	—	< 0.0050	< 0.0500	5.75	< 0.0300	< 0.0500	< 0.100	< 0.0500

TABLE B-3. SHIRLEY BASIN MINE WIND RIVER AQUIFER WATER QUALITY.

CI THROUGH Ra226+228

Sample Point Name	Date	CI (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
WW-20	10/15/1979	---	---	---	---	---	---	---	---	0.320	---	---
	5/20/1982	---	---	---	---	---	---	---	---	0.400	---	---
	8/12/1982	---	---	---	---	---	---	---	---	0.200	---	---
	11/2/1982	140	212	8.10	918	960	---	---	---	0.200	---	---
	2/25/1983	8.00	216	---	526	1850	---	---	---	---	---	---
	6/1/1983	8.00	224	8.20	636	855	---	---	---	0.600	---	---
	9/1/1983	10.00	220	8.10	484	1615	---	---	---	0.200	---	---
	12/22/1983	11.0	236	---	528	---	---	---	---	0.200	---	---
	3/21/1984	14.0	228	---	506	860	---	---	---	---	---	---
	5/18/1984	14.0	232	7.80	550	770	---	---	---	0.400	---	---
	9/20/1984	14.0	224	8.00	466	792	---	---	---	5.90	---	---
	11/16/1984	12.0	232	7.90	504	860	---	---	---	0.700	---	---
	3/21/1985	14.0	238	8.00	642	790	---	---	---	0.700	---	---
	5/8/1985	12.0	---	8.10	580	825	---	---	---	0.500	---	---
	8/20/1985	15.0	264	7.60	504	780	---	---	---	0.500	---	---
	11/6/1985	21.0	252	7.90	552	800	---	---	---	0.200	---	---
	3/13/1986	17.0	234	7.90	564	825	---	---	---	0.500	---	---
	5/20/1986	12.0	232	7.90	556	760	---	---	---	1.10	---	---
	9/18/1986	7.00	224	7.80	546	725	---	---	---	0.300	---	---
	11/4/1986	15.0	223	7.52	569	840	0.0010	< 0.0010	---	---	---	---
	11/24/1986	11.0	246	8.10	506	700	---	---	---	2.60	---	---
	3/23/1987	9.00	244	8.00	556	765	---	---	---	1.40	---	---
	5/5/1987	2.00	240	7.90	544	725	---	---	---	0.700	---	---
	5/7/1987	13.0	242	6.52	558	850	< 0.0010	< 0.0010	---	7.93	---	---
	8/18/1987	9.00	248	8.00	572	740	---	---	---	1.000	---	---
	11/12/1987	11.0	238	7.70	530	715	---	---	---	1.40	---	---
	2/25/1988	10.00	232	7.70	536	680	---	---	---	0.700	---	---
	5/19/1988	9.00	242	7.70	530	705	---	---	---	1.30	---	---
	8/23/1988	10.00	254	8.00	612	---	---	---	---	0.400	---	---
	10/19/1988	9.00	232	8.00	532	660	< 0.0040	< 0.0010	---	1.40	---	---

TABLE B-3. SHIRLEY BASIN MINE WIND RIVER AQUIFER WATER QUALITY. (cont'd)

CI THROUGH Ra226+228

Sample Point Name	Date	CI (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
WW-20	3/20/1989	9.00	229	8.00	534	650	—	—	—	0.500	—	—
	5/5/1989	—	—	—	—	—	< 0.0040	< 0.0010	—	—	—	—
	6/26/1989	10.00	252	7.80	490	660	—	—	—	0.500	—	—
	8/17/1989	8.00	244	7.70	536	660	—	—	—	0.500	—	—
	10/13/1989	5.00	238	7.70	556	660	< 0.0020	< 0.0010	—	0.500	3.90	4.40
	2/7/1991	8.70	268	7.90	568	675	< 0.0010	< 0.0010	—	0.200	1.40	1.60
	5/21/1991	11.2	247	8.10	550	675	< 0.0010	< 0.0010	—	0.700	< 1.000	< 1.70
	12/5/1991	11.7	86.7	7.80	528	962	< 0.0010	< 0.0010	—	1.10	1.50	2.60
	6/8/1992	8.80	—	7.70	462	910	< 0.0010	< 0.0010	—	2.80	< 1.000	< 3.80
	12/7/1992	9.20	252	7.80	524	990	< 0.0010	0.0160	—	1.000	2.40	3.40
	8/11/1993	8.93	257	7.90	559	1134	< 0.0010	0.0020	—	1.000	3.40	4.40
	10/27/1993	7.50	246	8.00	590	910	< 0.0010	< 0.0010	—	0.900	3.30	4.20
	5/20/1994	11.1	258	7.90	569	—	< 0.0010	< 0.0010	—	1.90	3.80	5.70
	12/8/1994	8.50	266	—	569	—	< 0.0010	0.0010	—	1.50	1.70	3.20
	5/20/1995	9.40	254	7.80	539	1054	0.0020	< 0.0010	0.0040	1.50	< 1.000	< 2.50
	11/15/1995	9.90	259	7.61	610	1030	< 0.0010	< 0.0010	0.0060	0.600	< 1.000	< 1.60
	5/22/1996	9.90	273	7.60	619	—	—	< 0.0010	0.0085	0.600	< 1.000	< 1.60
	11/19/1996	12.0	279	7.50	639	1300	—	< 0.0010	0.0043	0.700	< 1.000	< 1.70
	5/22/1997	10.5	266	7.40	596	900	—	< 0.0010	0.0070	1.40	< 1.000	< 2.40
	12/17/1997	9.20	23.1	7.01	600	2504	—	< 0.0010	0.0065	0.600	< 1.000	< 1.60
	6/17/1998	9.20	261	7.15	582	1669	< 0.0010	< 0.0010	0.0077	< 0.200	1.50	< 1.70
	9/15/1998	11.4	259	7.77	602	1078	< 0.0010	< 0.0010	0.0095	0.700	—	—
	12/14/1998	10.00	282	7.75	583	828	< 0.0010	< 0.0010	0.0082	0.700	< 1.000	< 1.70
	3/17/1999	13.4	252	7.21	564	1120	0.0010	0.0010	0.0073	0.700	—	—
	6/23/1999	12.0	263	6.50	618	927	< 0.0010	< 0.0010	0.0158	0.700	< 1.000	< 1.70
	10/4/1999	13.3	275	6.50	598	2171	< 0.0010	< 0.0010	0.0095	0.500	2.80	3.30
	12/8/1999	15.7	272	7.50	585	976	< 0.0010	< 0.0010	0.0081	< 0.200	< 1.000	< 1.20
	2/10/2000	13.5	252	7.10	590	925	< 0.0010	< 0.0010	0.0067	0.900	2.10	3.00
	6/9/2000	—	—	7.30	—	896	—	—	—	—	—	—
	9/12/2000	12.7	264	7.25	619	909	< 0.0010	0.0010	0.0083	0.900	—	—

TABLE B-3. SHIRLEY BASIN MINE WIND RIVER AQUIFER WATER QUALITY. (cont'd)

CI THROUGH Ra226+228

Sample Point Name	Date	Cl (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
WW-20	12/11/2000	12.2	283	6.70	615	918	< 0.0010	0.0014	0.0075	0.900	3.60	4.50
	2/27/2001	12.5	283	5.90	598	934	< 0.0010	< 0.0010	0.0011	0.600	—	—
	5/29/2001	12.4	260	5.90	619	916	< 0.0010	< 0.0010	0.0072	1.30	< 1.000	< 2.30
	9/11/2001	9.90	235	7.00	602	921	< 0.0010	< 0.0010	0.0140	0.900	—	—
	11/8/2001	14.0	250	7.30	645	940	< 0.0010	< 0.0010	0.0065	1.000	< 1.000	< 2.00

TABLE B-4 SHIRLEY BASIN MINE WIND RIVER AQUIFER WATER QUALITY.

Th-230 THROUGH Ni

Sample Point Name	Date	Th230 (pCi/l)	Alpha (pCi/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	NO3 (mg/l)	Fe (mg/l)	Pb (mg/l)	Mo (mg/l)	Ni (mg/l)
WW-20	7/15/1976	0.500	---	---	---	---	---	---	---	---	---	---
	2/16/1977	0.200	---	---	---	---	---	---	---	---	---	---
	5/20/1982	0.300	---	---	---	---	---	---	---	---	---	---
	8/12/1982	0.300	---	---	---	---	---	---	---	---	---	---
	6/1/1983	0.300	---	---	---	---	---	---	---	---	---	---
	5/18/1984	0.100	---	---	---	---	---	---	---	---	---	---
	9/20/1984	0.100	---	---	---	---	---	---	---	---	---	---
	11/16/1984	0.100	---	---	---	---	---	---	---	---	---	---
	3/21/1985	0.300	---	---	---	---	---	---	---	---	---	---
	5/8/1985	0.600	---	---	---	---	---	---	---	---	---	---
	8/20/1985	0.400	---	---	---	---	---	---	---	---	---	---
	11/6/1985	0.200	---	---	---	---	---	---	---	---	---	---
	3/13/1986	0.200	---	---	---	---	---	---	---	---	---	---
	5/20/1986	0.100	---	---	---	---	---	---	---	---	---	---
	9/18/1986	0.100	---	---	---	---	---	---	---	---	---	---
	11/4/1986	---	---	< 0.0500	---	< 0.0100	< 0.0100	0.130	0.0900	< 0.0100	< 0.0500	< 0.0300
	3/23/1987	0.100	---	---	---	---	---	---	---	---	---	---
	5/7/1987	---	---	< 0.0500	---	< 0.0100	< 0.0100	0.250	0.420	< 0.0500	< 0.0500	< 0.0300
	8/18/1987	0.100	---	---	---	---	---	---	---	---	---	---
	11/12/1987	0.300	---	---	---	---	---	---	---	---	---	---
	2/25/1988	0.500	---	---	---	---	---	---	---	---	---	---
	5/19/1988	0.100	---	---	---	---	---	---	---	---	---	---
	8/23/1988	0.200	---	---	---	---	---	---	---	---	---	---
	10/19/1988	0.300	---	---	---	< 0.0100	< 0.0500	---	0.110	< 0.0500	< 0.100	< 0.0500
	3/20/1989	0.400	---	---	---	---	---	---	---	---	---	---
	5/5/1989	---	---	---	---	< 0.0100	< 0.0500	---	0.110	< 0.0500	< 0.100	< 0.0500
	6/26/1989	0.200	---	---	---	---	---	---	---	---	---	---
	10/13/1989	0.100	---	< 0.100	---	< 0.0050	< 0.0100	---	0.103	< 0.0500	< 0.100	< 0.0500
	2/7/1991	< 0.200	---	< 0.100	---	< 0.0100	< 0.0500	0.410	---	< 0.0500	< 0.100	< 0.0500
	2/7/1991	< 0.0003	---	---	---	---	---	---	---	---	---	---

TABLE B-4 SHIRLEY BASIN MINE WIND RIVER AQUIFER WATER QUALITY. (cont'd.)

Th-230 THROUGH Ni

Sample Point Name	Date	Th230 (pCi/l)	Alpha (pCi/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	NO3 (mg/l)	Fe (mg/l)	Pb (mg/l)	Mo (mg/l)	Ni (mg/l)
WW-20	5/21/1991	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	0.490	—	< 0.0500	< 0.100	< 0.0500
	12/5/1991	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	< 0.0100	—	< 0.0500	< 0.100	< 0.0500
	6/8/1992	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	12/7/1992	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/11/1993	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	10/27/1993	< 1.000	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/20/1994	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/20/1994	3.80	—	—	—	—	—	—	—	—	—	—
	12/8/1994	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/20/1995	0.400	1.60	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.720	—	< 0.0500	< 0.100	< 0.0500
	11/15/1995	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.220	—	< 0.0500	< 0.100	< 0.0500
	11/19/1996	—	< 1.000	—	—	—	—	—	—	—	—	—
	5/22/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	12/17/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	6/17/1998	—	1.10	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/15/1998	—	—	< 0.100	—	< 0.0050	< 0.0500	0.570	< 0.0500	< 0.0500	< 0.100	< 0.0500
	12/14/1998	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/17/1999	—	—	0.100	—	0.0050	0.0500	—	0.0500	0.0500	0.100	0.0500
	6/23/1999	—	1.70	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	10/4/1999	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	—	0.0700	< 0.0500	< 0.100	< 0.0500
	12/8/1999	—	1.70	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	2/10/2000	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	1.22	0.0900	< 0.0500	< 0.100	< 0.0500
	9/12/2000	—	—	< 0.100	—	< 0.0050	< 0.0500	< 0.100	0.120	< 0.0500	< 0.100	< 0.0500
	12/11/2000	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	< 0.100	0.110	< 0.0500	< 0.100	< 0.0500
	2/27/2001	—	—	< 0.100	—	< 0.0050	< 0.0500	< 0.100	0.130	< 0.0500	< 0.100	< 0.0500
	5/29/2001	—	1.20	< 0.100	—	< 0.0050	< 0.0500	< 0.100	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/11/2001	—	—	< 0.100	—	< 0.0050	< 0.0500	< 0.100	0.120	< 0.0500	< 0.100	< 0.0500
	11/8/2001	—	< 1.000	< 0.100	—	< 0.0050	< 0.0500	< 0.100	0.0600	< 0.0500	< 0.100	< 0.0500

TABLE B-5. SHIRLEY BASIN MINE TAILINGS WATER QUALITY.

CI THROUGH Ra226+228

Sample Point Name	Date	CI (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
TW4-1C	4/29/1993	3008	10819	2.57	20835	16720	0.105	0.416	28.7	1173	—	—
	7/27/1995	—	—	2.49	—	20940	—	—	—	—	—	—
TW4-2C	7/27/1993	3921	11654	3.06	21776	15300	0.0580	0.395	6.71	320	—	—
TW4-3C	8/2/1993	5402	12000	2.31	25986	21070	0.892	0.399	29.6	530	—	—
TW4-4C	6/18/1993	2127	7696	3.22	1435	10750	0.0160	< 0.0010	4.09	447	—	—
TW4-4CA	8/1/1995	—	—	3.98	—	17410	—	—	—	—	—	—
TW4-5C	4/1/1993	4067	11106	2.40	22972	19370	0.0940	0.536	21.2	1249	—	—
TW4-6C	7/14/1995	5932	13574	2.52	27775	26310	0.255	< 0.0010	34.2	2366	—	—
	7/26/1995	—	—	3.46	—	22530	—	—	—	—	—	—
	7/26/1995	—	—	3.45	—	21490	—	—	—	—	—	—
TW4-6CA	7/12/1995	—	—	2.89	—	30310	—	—	—	—	—	—
TW4-6CB	7/14/1995	—	—	3.44	—	15880	—	—	—	—	—	—
TW4-7C	8/3/1995	5992	16030	2.81	31270	24960	0.336	0.582	52.4	1379	—	—
TW4-8C	7/7/1995	2539	8912	2.73	16455	14570	0.215	0.731	18.2	714	—	—
	7/14/1995	—	—	2.27	—	20210	—	—	—	—	—	—
TW4-8CA	7/27/1995	—	—	4.47	—	16140	—	—	—	—	—	—
TW4-8CB	7/27/1995	—	—	4.17	—	24180	—	—	—	—	—	—
TW4-8CC	3/22/1999	2000	15200	2.50	24900	20461	0.294	0.833	48.0	1470	39.5	1510

TABLE B-5. SHIRLEY BASIN MINE TAILINGS WATER QUALITY. (cont'd.)

CI THROUGH Ra226+228

Sample Point Name	Date	Cl (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
TW4-9C	6/30/1995	339	3687	3.38	5338	5320	0.154	0.0750	2.02	235	—	—
	12/17/1997	—	—	3.02	—	5346	—	—	—	—	—	—
TW4-9CA	6/30/1995	167	3915	3.58	5703	5850	0.272	0.0290	0.593	377	—	—
TW4-10C	8/1/1995	5457	14461	3.30	27280	21920	0.0540	0.538	23.1	811	—	—
TW4-10CA	8/1/1995	—	—	2.92	—	21850	—	—	—	—	—	—
TW4-11C	7/10/1995	5200	13900	3.28	26324	22990	0.110	0.262	6.55	1062	—	—
TW4-11CA	8/1/1995	—	—	3.07	—	19730	—	—	—	—	—	—
TW4-11CB	7/25/1995	—	—	5.65	—	14040	—	—	—	—	—	—
TW4-11CC	7/12/1995	—	—	4.72	—	12330	—	—	—	—	—	—
TW4-21C	2/3/1999	—	—	—	19700	—	—	—	3.42	243	5.40	—
TW5-1C	3/31/1993	1732	9342	5.26	16518	14780	0.0240	0.0050	1.27	212	—	—
TW5-2C	4/1/1993	4745	17822	3.24	35049	22480	0.0050	0.330	30.0	1578	—	—
	1/9/1998	2360	14100	3.53	28500	25036	—	—	8.28	—	—	—
TW5-3	3/24/1993	2542	3901	5.41	9439	10770	0.0360	0.0060	0.521	263	—	—
	12/17/1997	—	—	3.68	—	20461	—	—	—	—	—	—
TW5-4C	1/24/1994	1578	2943	5.81	7264	7490	0.0960	0.0020	1.07	198	—	—
	12/17/1997	—	—	5.18	—	20673	—	—	—	—	—	—

TABLE B-5. SHIRLEY BASIN MINE TAILINGS WATER QUALITY. (cont'd.)

CI THROUGH Ra226+228

Sample Point Name	Date	Cl (mg/l)	SO4 (mg/l)	pH(f) (std. units)	TDS (mg/l)	Cond(f) (µmhos)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
TW5-4CA	7/26/1995	—	—	5.48	—	20930	—	—	—	—	—	—
TW5-5C	3/2/1994	2097	5151	3.85	11584	8910	0.0400	0.0160	0.492	447	—	—
TW5-6C	3/2/1994	2194	7992	2.60	15152	9250	0.107	0.0490	4.38	532	—	—
TW5-7C	7/26/1995	4111	7372	3.15	18035	16000	0.101	0.286	9.62	306	—	—
TW5-8C	7/26/1995	3215	9840	3.81	18284	15300	0.0310	0.126	12.4	172	—	—
TW5-9C	7/26/1995	—	—	3.56	—	24950	—	—	—	—	—	—

TABLE B-6. SHIRLEY BASIN MINE TAILINGS WATER QUALITY.

Th-230 THROUGH Ni

Sample Point Name	Date	Th230 (pCi/l)	Alpha (pCi/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	NO3 (mg/l)	Fe (mg/l)	Pb (mg/l)	Mo (mg/l)	Ni (mg/l)
TW4-1C	4/29/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	0.300	1770	< 0.0500	< 0.100	3.21
TW4-2C	7/27/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	1740	< 0.0500	0.100	4.74
TW4-3C	8/2/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	0.410	1635	< 0.0500	< 0.100	3.99
TW4-4C	6/18/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	0.130	943	< 0.0500	< 0.100	2.14
TW4-5C	4/1/1993	—	—	< 0.100	—	< 0.0100	0.570	< 0.100	1338	< 0.0500	< 0.100	4.23
TW4-6C	7/14/1995	—	—	< 0.100	—	< 0.0100	0.970	0.360	1711	< 0.0500	< 0.100	0.490
TW4-7C	8/3/1995	—	—	< 0.100	—	0.140	1.35	< 0.100	2093	< 0.0500	< 0.100	5.00
TW4-8C	7/7/1995	—	—	< 0.100	—	< 0.0100	0.270	0.180	1177	< 0.0500	< 0.100	1.90
TW4-8CC	3/22/1999	—	3320	0.100	—	0.0580	0.450	—	2500	0.350	0.100	3.60
TW4-9C	6/30/1995	—	—	< 0.100	—	< 0.0100	0.120	< 0.100	532	< 0.0500	< 0.100	0.500
TW4-9CA	6/30/1995	—	—	< 0.100	—	< 0.0100	0.0600	< 0.100	559	< 0.0500	< 0.100	0.640
TW4-10C	8/1/1995	—	—	< 0.100	—	< 0.0100	0.0800	< 0.100	1342	< 0.0500	< 0.100	4.70
TW4-11C	7/10/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	1520	< 0.0500	< 0.100	4.00
TW5-1C	3/31/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	1942	< 0.0500	< 0.100	4.17
TW5-2C	4/1/1993	—	—	0.510	—	< 0.0100	1.17	< 0.100	2136	< 0.0500	< 0.100	6.12
TW5-3	3/24/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	705	< 0.0500	< 0.100	< 0.0500

TABLE B-6. SHIRLEY BASIN MINE TAILINGS WATER QUALITY. (cont'd.)

Th-230 THROUGH Ni

Sample Point Name	Date	Th230 (pCi/l)	Alpha (pCi/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	NO3 (mg/l)	Fe (mg/l)	Pb (mg/l)	Mo (mg/l)	Ni (mg/l)
TW5-4C	1/24/1994	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	178	< 0.0500	< 0.100	< 0.0500
TW5-5C	3/2/1994	—	—	< 0.100	—	< 0.0100	< 0.0500	0.400	800	< 0.0500	—	2.40
TW5-6C	3/2/1994	—	—	< 0.100	—	< 0.0100	< 0.0500	0.380	1403	< 0.0500	< 0.100	3.87
TW5-7C	7/26/1995	—	—	< 0.100	—	0.0900	0.0600	0.630	567	< 0.0500	< 0.100	2.01
TW5-8C	7/26/1995	—	—	< 0.100	—	< 0.0100	0.160	0.260	1226	< 0.0500	< 0.100	3.34

APPENDIX C
SURFACE WATER QUALITY DATA

Page Number

C-1. pH, Conductivity, SO₄, Cl, TDS, TSS, U, Ra₂₂₆, Th₂₃₀, Pb₂₁₀ and Po₂₁₀

C-1

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY.

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-1A	4/15/1979	7.60	612	16.0	11.0	—	—	0.0300	0.310	—	—	—
	10/15/1979	7.10	682	15.0	21.0	—	—	0.0400	0.270	—	—	—
	4/15/1980	7.40	133	2.00	4.00	—	—	0.0020	0.180	—	—	—
	11/15/1980	7.50	548	32.0	1.000	—	—	0.0710	0.240	—	—	—
	5/15/1981	7.70	558	41.0	30.0	—	—	0.0800	0.210	—	—	—
	11/15/1981	7.70	568	36.0	110	—	—	0.0340	0.150	—	—	—
	4/15/1982	8.50	335	15.0	4.00	—	—	0.0600	—	—	—	—
	10/15/1982	8.40	256	12.0	4.00	—	< 0.400	0.0100	—	—	—	—
	4/15/1983	7.80	84.0	8.00	22.0	—	—	0.0100	—	—	—	—
	10/15/1983	8.30	280	14.0	5.00	—	—	—	—	—	—	—
	10/10/1984	8.20	266	—	—	—	—	0.0200	0.600	0.100	1.30	0.100
	4/16/1985	7.90	320	21.0	10.00	232	8.00	0.0300	0.200	0.100	0.700	1.60
	10/10/1985	7.90	255	14.0	6.00	204	21.8	0.0200	0.300	0.200	1.70	0.100
	10/21/1985	—	271	13.0	6.00	200	—	—	—	—	—	—
	3/5/1986	7.90	325	39.0	12.0	250	41.0	0.0400	2.70	0.600	0.100	0.300
	11/4/1986	6.23	260	13.0	7.00	230	—	0.0180	2.49	—	—	—
	11/20/1986	8.30	240	15.0	5.00	244	4.20	0.0200	0.600	—	2.10	0.100
	4/6/1987	7.50	75.0	8.00	1.000	58.0	75.0	0.0200	0.500	0.100	0.300	0.200
	7/16/1987	—	—	14.0	2.00	226	—	—	—	—	—	—
	9/9/1987	—	240	13.0	3.00	228	—	—	—	—	—	—
	10/8/1987	8.00	230	15.0	7.00	188	< 1.000	0.0160	1.000	0.100	0	0.100
	10/21/1987	8.30	289	11.0	3.00	247	—	0.0240	1.10	—	—	—
	12/16/1987	—	200	12.0	6.00	260	—	—	—	—	—	—
	4/12/1988	7.70	220	30.0	4.00	218	8.80	0.0300	1.20	0.500	1.40	0.200
	5/17/1988	—	310	33.0	6.00	308	—	—	—	—	—	—
	6/21/1988	—	255	12.0	3.00	250	—	—	—	—	—	—
	10/6/1988	7.90	225	12.0	2.00	212	3.80	0.0200	0.800	0.400	0	0.100
	4/6/1989	8.10	225	14.0	3.00	240	7.40	24.0	0.100	0.700	0	0.200
	10/24/1989	7.40	695	352	20.0	730	1.20	120	0.200	0.300	0.100	0
	5/31/1990	8.40	1005	456	51.6	912	5.10	0.209	< 0.200	< 0.200	3.70	< 1.000

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-1A	10/23/1990	7.90	1035	617	63.3	1191	2.00	0.393	1.30	< 0.200	9.00	17.2
	4/4/1991	7.70	825	—	—	—	—	—	—	—	—	—
	10/8/1991	7.70	1207	—	—	—	—	—	—	—	—	—
	4/8/1992	7.60	816	—	—	—	—	—	—	—	—	—
	4/27/1992	—	—	443	40.0	789	26.0	0.0130	0.400	< 0.200	1.80	7.30
	10/17/1992	8.20	317	27.1	1.90	1.92	0	0.0150	< 0.200	< 0.200	< 1.000	< 1.000
	5/3/1993	8.10	726	166	25.8	400	5.40	0.146	< 0.200	< 0.200	1.50	< 1.000
	11/9/1993	7.90	375	16.3	1.60	249	2.50	0.0190	0.500	< 1.000	3.20	< 1.000
	4/12/1995	8.00	412	17.9	3.40	196	2.13	0.0190	0.400	< 0.200	< 1.000	< 1.000
	10/20/1995	7.70	393	15.8	< 1.000	257	17.6	11.8	0.200	< 0.200	< 1.000	1.60
	4/9/1996	7.50	355	30.7	6.50	242	17.6	0.0400	< 0.200	< 0.200	< 1.000	< 1.000
	10/22/1996	7.60	389	14.9	1.10	230	1.40	0.0146	< 0.200	< 0.200	< 1.000	< 1.000
	6/20/1997	7.50	290	13.4	1.40	214	31.0	0.0160	< 0.200	0.600	< 1.000	6.20
	12/15/1997	8.50	261	18.5	2.10	227	6.90	0.0191	< 0.200	< 0.200	10.8	4.10
	6/3/1998	6.67	346	13.9	2.60	251	6.80	0.0190	0.800	< 0.200	< 1.000	< 1.000
	12/1/1998	8.02	394	17.4	1.40	251	—	0.203	< 0.200	< 0.200	< 1.000	< 1.000
	6/18/1999	6.14	770	92.0	33.0	486	1.50	0.0260	< 0.200	< 0.200	< 1.000	< 1.000
	9/8/1999	6.86	307	19.2	2.20	217	—	0.0216	< 0.200	—	—	—
	12/7/1999	7.65	246	22.2	3.80	213	1.000	0.0246	< 0.200	< 0.200	< 1.000	< 1.000
	6/7/2000	6.85	635	—	—	—	—	—	—	—	—	—
	11/21/2000	6.25	796	91.0	32.4	525	—	0.0625	< 0.200	< 0.200	< 1.000	< 1.000
	5/23/2001	6.90	513	42.6	23.1	340	—	0.0438	0.500	< 0.200	< 1.000	< 1.000
	10/29/2001	7.25	646	76.1	40.1	436	—	0.0642	0.900	< 0.200	< 2.73	< 2.70
SW-2	4/15/1979	7.80	1079	128	14.0	—	—	0.140	0.170	—	—	—
	10/15/1979	7.50	1421	284	12.0	—	—	0.490	0.520	—	—	—
	4/15/1980	7.60	360	91.0	13.0	—	—	0.0570	2.80	—	—	—
	11/15/1980	8.40	600	140	13.0	—	—	0.160	0.540	—	—	—
	5/15/1981	8.10	680	160	21.0	—	—	0.150	0.410	—	—	—
	11/15/1981	8.40	333	29.0	40.0	—	—	0.0250	—	—	—	—

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-2	4/15/1982	8.40	462	15.0	6.00	—	—	0.0700	0.500	—	—	—
	10/15/1982	8.20	365	—	—	—	—	0.0100	—	—	—	—
	10/18/1982	—	399	—	18.3	—	—	—	—	—	—	—
	10/21/1982	—	—	23.0	10.00	—	< 0.400	—	—	—	—	—
	4/15/1983	7.90	—	32.0	4.00	—	—	0.0200	—	—	—	—
	10/15/1983	8.30	295	16.0	7.00	—	—	—	—	—	—	—
	10/10/1984	8.20	305	—	—	—	—	0.0200	0.300	0.100	1.90	0.300
	4/17/1985	7.90	340	25.0	12.0	266	16.4	0.0400	0.600	0.200	0.700	0.100
	10/10/1985	7.90	310	18.0	11.0	200	5.40	0.0200	0.300	0.200	2.10	0.100
	3/5/1986	7.70	595	37.0	22.0	220	18.3	0.0300	0.800	0.300	0.700	0.600
	11/21/1986	8.30	455	17.0	10.00	276	3.00	0.0200	0.600	0.200	2.50	0.200
	4/7/1987	7.30	90.0	7.00	3.00	50.0	54.0	0.0160	0.100	0.100	1.10	0.300
	5/27/1987	—	—	—	38.0	403	—	—	—	—	—	—
	7/16/1987	—	375	16.0	6.00	220	—	—	—	—	—	—
	8/13/1987	—	290	16.0	6.00	192	—	—	—	—	—	—
	9/9/1987	—	300	16.0	7.00	240	—	—	—	—	—	—
	10/8/1987	8.00	280	16.0	12.0	190	3.00	0.0240	0.700	0.100	0	0.100
	12/17/1987	—	245	20.0	7.00	302	—	—	—	—	—	—
	4/12/1988	7.60	220	33.0	15.0	264	24.6	0.0300	1.70	0.700	4.00	0.100
	5/17/1988	—	385	42.0	18.0	314	—	—	—	—	—	—
	6/21/1988	—	300	17.0	5.00	266	—	—	—	—	—	—
	10/6/1988	8.00	300	20.0	8.00	194	1.80	0.0200	0.600	—	24.0	0.100
	4/6/1989	8.00	365	38.0	30.0	328	4.40	32.0	0.500	1.60	0	0.300
	10/24/1989	7.50	720	352	29.0	744	2.00	106	0.200	0.200	1.20	0.100
	5/31/1990	8.20	935	391	51.6	841	23.1	0.174	< 0.200	< 0.200	< 1.000	< 1.000
	10/23/1990	8.00	1040	599	67.0	1159	2.40	0.377	< 0.200	< 0.200	< 1.000	< 1.000
	4/5/1991	8.00	1030	—	—	—	—	—	—	—	—	—
	10/8/1991	7.80	1242	—	—	—	—	—	—	—	—	—
	4/6/1992	7.80	648	181	28.2	437	17.0	0.106	0.400	< 0.200	< 1.000	< 1.000
	10/17/1992	7.90	483	44.9	17.7	257	19.0	—	0.600	1.000	—	< 1.000

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-2	10/18/1992	—	—	72.4	20.6	297	16.0	0.0240	0.400	< 0.200	1.30	< 1.000
	11/21/1992	7.70	488	44.9	17.7	257	19.0	0.0390	0.600	1.000	—	< 1.000
	5/4/1993	7.90	850	192	35.8	633	30.0	0.161	0.700	< 0.200	3.60	6.10
	11/9/1993	8.10	600	40.5	14.4	326	16.0	0.0280	0.700	< 1.000	4.30	< 1.000
	4/12/1995	8.20	512	33.2	11.6	244	3.66	0.0240	0.400	< 0.200	< 1.000	< 1.000
	10/20/1995	8.20	529	44.5	16.6	333	14.8	0.0200	0.700	< 0.200	1.000	< 1.000
	4/9/1996	7.70	558	52.0	15.8	304	32.0	0.0500	1.40	0.800	< 1.000	1.000
	10/22/1996	7.60	507	—	—	—	—	—	—	—	—	—
	6/20/1997	7.87	419	30.0	8.40	271	24.0	0.0200	< 0.200	< 0.200	< 1.000	< 1.000
	12/15/1997	7.05	392	42.8	9.20	289	4.30	0.0255	< 0.200	< 0.200	< 1.000	< 1.000
	6/3/1998	7.45	475	44.9	11.9	286	9.90	0.0242	< 0.200	< 0.200	< 1.000	4.40
	12/1/1998	8.18	646	62.3	22.6	375	—	0.0314	< 0.200	< 0.200	< 1.000	< 1.000
	6/8/1999	6.59	2094	64.4	20.5	348	6.00	0.0356	< 0.200	< 0.200	< 1.000	< 1.000
	9/8/1999	6.93	679	42.8	10.4	276	—	0.0244	< 0.200	—	—	—
	12/3/1999	7.20	552	58.8	18.8	324	3.00	0.0420	< 0.200	< 0.200	< 1.000	< 1.000
	6/2/2000	6.90	432	37.9	13.6	285	4.00	0.0227	0.400	< 0.200	—	< 1.000
	11/15/2000	6.30	435	43.4	< 1.000	293	—	0.0264	0.500	< 0.200	< 1.000	< 1.000
	5/23/2001	6.60	444	40.8	16.5	297	—	0.0294	0.500	< 0.200	< 1.000	< 1.000
	10/30/2001	7.40	413	35.9	11.8	297	—	0.0224	0.900	< 0.200	< 2.73	< 2.70
SW-3	4/15/1979	7.85	1076	118	15.0	—	—	0.170	0.170	—	—	—
	10/15/1979	7.60	1332	277	14.0	—	—	0.480	0.320	—	—	—
	4/15/1980	7.60	414	80.0	12.0	—	—	0.0590	3.00	—	—	—
	11/15/1980	8.50	592	140	14.0	—	—	0.160	0.0600	—	—	—
	5/15/1981	8.00	728	140	21.0	—	—	0.120	3.40	—	—	—
	11/15/1981	8.40	468	43.0	29.0	—	—	0.0200	1.90	—	—	—
	4/15/1982	8.40	441	15.0	3.00	—	—	0.0700	1.70	—	—	—
	10/15/1982	8.10	396	—	—	—	—	0.0200	0.540	—	—	—
	10/18/1982	—	389	—	32.0	—	—	—	—	—	—	—
	10/21/1982	—	—	29.0	19.0	—	81.6	—	—	—	—	—

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-3	4/15/1983	8.10	118	10.00	2.00	—	—	0.0200	1.70	—	—	—
	10/15/1983	8.70	310	24.0	8.00	—	—	—	—	—	—	—
	10/11/1984	8.20	587	—	—	—	—	0.0200	1.80	0.100	4.50	0.700
	4/16/1985	7.90	280	23.0	10.00	236	1515	0.0300	3.80	0.500	4.20	0.900
	10/10/1985	8.20	325	19.0	10.00	284	92.8	0.0300	0.300	0.400	1.70	0.100
	3/5/1986	7.70	300	38.0	16.0	198	152	0.0400	1.50	0.400	0.800	1.70
	11/4/1986	6.46	350	21.0	13.0	273	—	0.0470	0.840	—	—	—
	11/21/1986	8.30	305	19.0	11.0	306	23.4	0.0200	1.10	0.100	1.60	0.200
	4/7/1987	7.60	90.0	9.00	2.00	106	382	0.0250	1.90	0.100	0.100	0.400
	5/27/1987	—	—	—	27.0	365	—	—	—	—	—	—
	7/16/1987	—	325	18.0	5.00	252	—	—	—	—	—	—
	8/13/1987	—	305	20.0	9.00	204	—	—	—	—	—	—
	9/9/1987	—	295	19.0	9.00	245	—	—	—	—	—	—
	10/8/1987	8.30	275	19.0	14.0	256	76.0	0.0200	1.10	0.100	0	0.200
	12/17/1987	—	305	22.0	11.0	296	—	—	—	—	—	—
	4/12/1988	7.60	185	21.0	7.00	190	123	0.0090	1.40	0.700	2.00	0.100
	5/17/1988	—	415	44.0	20.0	338	—	—	—	—	—	—
	6/21/1988	—	325	—	9.00	310	—	—	—	—	—	—
	10/6/1988	8.20	290	20.0	9.00	206	24.4	0.0300	0.400	0.400	0	0.400
	4/6/1989	8.00	295	—	—	—	—	—	—	—	—	—
	10/24/1989	7.70	820	—	—	—	—	—	—	—	—	—
	5/31/1990	8.20	1055	467	67.9	976	27.7	0.189	0.400	< 0.200	< 1.000	< 1.000
	10/23/1990	8.00	1045	590	65.4	1181	4.80	0.369	0.800	< 0.200	< 1.000	< 1.000
	10/23/1990	—	—	—	69.0	—	—	—	—	—	—	—
	4/5/1991	8.20	780	—	—	—	—	—	—	—	—	—
	10/8/1991	8.10	1172	—	—	—	—	—	—	—	—	—
	4/6/1992	8.30	759	250	36.8	546	36.0	0.135	0.200	< 0.200	< 1.000	< 1.000
	10/12/1992	8.30	497	—	—	—	—	—	—	—	—	—
	10/19/1992	8.30	497	58.3	24.2	296	33.0	0.0210	0.700	< 0.200	< 1.000	< 1.000
	5/4/1993	8.20	748	157	33.3	470	54.0	0.107	6.10	< 0.200	3.50	2.00

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-3	11/9/1993	8.20	600	57.6	18.7	387	15.0	0.0310	0.300	< 1.000	< 1.000	< 1.000
	4/13/1995	8.10	485	43.2	15.0	260	33.5	0.0300	0.600	< 0.200	< 1.000	1.50
	10/25/1995	8.10	609	70.4	20.3	387	19.2	0.0300	0.500	< 0.200	4.00	1.60
	4/9/1996	8.00	626	61.1	21.3	335	39.2	0.0500	1.10	< 0.200	< 1.000	< 1.000
	10/22/1996	8.00	669	—	—	—	—	—	—	—	—	—
	6/23/1997	8.30	370	37.5	9.50	238	17.0	0.0210	< 0.200	< 0.200	< 1.000	< 1.000
	12/16/1997	6.87	435	47.1	11.7	312	3.70	0.0298	0.600	< 0.200	< 1.000	< 1.000
	6/3/1998	8.06	765	56.9	13.2	313	7.00	0.0261	0.800	< 0.200	< 1.000	< 1.000
	12/9/1998	8.16	512	65.2	19.2	390	—	0.0329	< 0.200	< 0.200	< 1.000	< 1.000
	6/16/1999	6.55	831	66.0	21.0	349	8.10	0.0269	< 0.200	< 0.200	< 1.000	< 1.000
	9/8/1999	6.46	407	49.0	10.4	309	—	0.0246	< 0.200	—	—	—
	12/3/1999	7.50	565	63.3	16.9	314	10.00	0.0450	< 0.200	< 0.200	< 1.000	< 1.000
	6/8/2000	7.85	399	—	—	—	—	—	—	—	—	—
	11/21/2000	6.70	501	48.9	15.7	314	—	0.0294	< 0.200	< 0.200	< 1.000	< 1.000
	5/24/2001	6.90	481	42.4	17.5	326	—	0.0313	0.900	< 0.200	< 1.000	< 1.000
	10/30/2001	7.50	430	42.9	12.3	290	—	0.0244	1.000	< 0.200	< 2.73	< 2.70
SW-4	10/21/1982	—	—	14.0	4.00	—	0.800	—	—	—	—	—
	10/10/1984	—	293	—	—	—	—	0.0100	0.100	0.300	3.10	0.300
	4/16/1985	7.70	140	10.00	6.00	116	94.0	0.0040	1.000	0.100	0.500	0.100
	10/10/1985	8.10	285	19.0	8.00	144	8.00	< 0.0002	1.50	0.300	2.00	0.100
	10/21/1985	—	322	16.0	6.00	186	—	—	—	—	—	—
	3/5/1986	7.60	190	14.0	6.00	156	12.8	0.0100	1.40	0.300	0.500	0.300
	11/21/1986	8.20	200	13.0	4.00	212	13.8	0.0100	0.900	0.100	2.40	0
	4/7/1987	7.40	115	6.00	2.00	80.0	63.0	0.0074	0.500	0.100	0.100	0.600
	10/8/1987	8.10	290	26.0	10.00	196	3.00	0.0180	1.30	0.100	0	0.100
	4/12/1988	7.40	115	12.0	2.00	112	118	0.0090	1.80	0.300	1.40	0.100
	10/6/1988	8.10	265	16.0	3.00	212	2.40	0.0200	0.700	0.500	0.500	0.100
	4/6/1989	7.90	175	8.00	3.00	152	16.8	10.00	0.400	0.900	0	0.100
	10/24/1989	7.50	250	18.0	4.00	262	4.00	5.90	0.200	0.400	0	0.100

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-4	5/31/1990	8.50	235	16.0	< 0.100	199	5.40	0.0112	< 0.200	< 0.200	3.70	< 1.000
	10/23/1990	8.10	240	18.9	3.30	262	6.40	0.0165	0.200	< 0.200	< 1.000	< 1.000
	4/5/1991	7.90	150	—	—	—	—	—	—	—	—	—
	10/8/1991	8.20	330	—	—	—	—	—	—	—	—	—
	4/7/1992	7.80	150	10.8	1.30	107	131	0.0040	< 0.200	< 0.200	5.20	< 1.000
	10/19/1992	8.00	426	19.1	3.20	179	18.0	0.0170	0.400	< 0.200	< 1.000	6.20
	5/3/1993	7.80	214	14.9	0.400	129	221	0.0030	< 0.200	< 0.200	2.30	< 1.000
	11/10/1993	7.90	375	17.1	4.10	262	2.00	0.0140	1.40	< 1.000	< 1.000	< 1.000
	4/13/1995	7.90	199	9.80	0.680	111	10.9	0.0050	< 0.200	< 0.200	< 1.000	1.50
	11/16/1995	7.40	239	15.4	1.10	163	14.0	0.0070	0.300	0.600	1.000	< 1.000
	4/10/1996	7.50	1.26	9.30	< 1.000	86.0	60.4	0.0015	0.600	< 0.200	< 1.000	2.40
	10/22/1996	7.70	309	14.8	2.90	194	7.40	0.0071	< 0.200	< 0.200	< 1.000	< 1.000
	6/23/1997	8.20	390	33.4	9.10	240	14.0	0.0220	< 0.200	< 0.200	< 1.000	< 1.000
	12/16/1997	7.23	305	15.8	2.80	210	3.40	0.0298	< 0.200	< 0.200	< 1.000	< 1.000
	6/3/1998	8.37	862	20.9	3.70	234	1.40	0.0156	0.900	< 0.200	< 1.000	< 1.000
	12/9/1998	6.35	305	—	—	—	—	—	—	—	—	—
	6/16/1999	6.61	369	9.00	4.00	155	4.30	0.0055	< 0.200	< 0.200	< 1.000	< 1.000
	9/8/1999	6.73	378	21.4	4.70	202	—	0.0144	< 0.200	—	—	—
	12/3/1999	7.50	646	22.6	4.90	103	3.00	0.0165	0.400	< 0.200	< 1.000	< 1.000
	6/8/2000	7.90	278	—	—	—	—	—	—	—	—	—
	11/21/2000	6.75	309	14.8	4.18	185	—	0.0131	< 0.200	< 0.200	< 1.000	< 1.000
SW-5	5/24/2001	7.00	215	6.60	< 1.000	170	—	0.0082	< 0.200	< 0.200	< 1.000	< 1.000
	10/30/2001	7.45	290	27.9	3.52	194	—	0.0114	0.600	< 0.200	< 2.73	< 2.70
	10/21/1982	—	—	17.0	4.00	—	1.20	—	—	—	—	—
	10/10/1984	8.40	294	—	—	—	—	0.0100	0.500	0.100	1.50	0.100
	4/16/1985	7.80	140	9.00	6.00	136	118	0.0040	0.500	0.200	0.900	0.100
	10/10/1985	8.20	295	20.0	8.00	196	47.2	0.0200	0.500	0.200	1.30	0.100
	3/5/1986	7.60	230	22.0	10.00	162	80.8	0.0200	3.00	1.90	0.400	1.10
	11/4/1986	6.30	240	14.0	7.00	201	—	0.0150	0.510	—	—	—

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-5	11/21/1986	8.20	200	14.0	5.00	216	15.2	0.0100	1.000	0.100	3.40	0.400
	4/7/1987	7.50	115	8.00	3.00	114	189	0.0130	0.600	0.100	0.300	1.10
	10/8/1987	8.20	310	27.0	11.0	210	9.00	0.0160	1.30	2.40	0	0.100
	10/21/1987	8.40	316	21.0	8.00	250	—	0.0380	2.90	—	—	—
	4/12/1988	7.40	115	10.00	2.00	126	180	0.0100	1.30	0.500	2.30	0.100
	10/6/1988	8.10	260	19.0	6.00	182	9.00	0.0400	0.700	0.200	7.00	0.400
	4/6/1989	8.00	195	12.0	5.00	174	30.0	12.0	0.100	0.500	0	0.200
	10/24/1989	7.60	645	264	20.0	590	10.2	94.4	0.500	—	1.000	0.100
	6/1/1990	8.10	335	60.9	8.40	268	4.90	0.0337	< 0.200	< 0.200	< 1.000	< 1.000
	10/23/1990	8.10	570	216	25.0	572	3.00	0.204	0.400	< 0.200	< 1.000	< 1.000
	4/5/1991	8.00	250	—	—	—	—	—	—	—	—	—
	10/8/1991	8.20	330	—	—	—	—	—	—	—	—	—
	4/7/1992	7.20	150	12.4	1.70	108	185	0.0050	< 0.200	< 0.200	8.20	< 1.000
	10/19/1992	8.10	426	17.9	2.90	190	7.00	0.0180	4.80	< 0.200	< 1.000	2.20
	5/4/1993	7.70	228	15.4	< 0.100	116	236	0.0030	0.500	< 0.200	3.30	< 1.000
	11/10/1993	8.00	375	17.1	4.10	241	1.50	0.0170	1.20	< 1.000	< 1.000	< 1.000
	4/13/1995	7.90	223	9.90	0.340	100.0	14.6	0.0050	0.400	< 0.200	< 1.000	< 1.000
	11/16/1995	7.50	224	15.5	1.10	162	21.2	0.0080	0.400	0.300	< 1.000	1.90
	4/10/1996	7.30	1.24	9.40	2.10	91.0	77.6	0.0021	0.800	< 0.200	< 1.000	< 1.000
	10/22/1996	7.60	331	14.3	2.50	193	4.30	0.0064	< 0.200	< 0.200	< 1.000	< 1.000
	6/23/1997	7.33	310	13.3	1.10	159	2.80	0.0110	< 0.200	< 0.200	< 1.000	< 1.000
	12/16/1997	7.33	346	24.2	3.90	235	2.80	0.0194	< 0.200	< 0.200	7.70	< 1.000
	6/3/1998	8.41	801	29.2	6.30	244	3.10	0.0176	1.20	< 0.200	< 1.000	< 1.000
	12/9/1998	6.41	348	37.9	7.50	292	—	0.0261	< 0.200	< 0.200	< 1.000	< 1.000
	6/16/1999	6.41	339	13.0	4.00	142	3.20	0.0058	< 0.200	< 0.200	< 1.000	< 1.000
	9/8/1999	6.86	355	30.0	7.00	236	—	0.0175	0.400	< 0.200	—	—
	12/3/1999	7.60	1938	34.3	8.30	123	3.00	0.0258	0.600	< 0.200	< 1.000	< 1.000
	6/8/2000	7.65	318	—	—	—	—	—	—	—	—	—
	11/21/2000	6.80	349	22.9	5.20	205	—	0.0179	0.600	< 0.200	< 1.000	< 1.000
	5/24/2001	7.10	239	9.00	2.70	168	—	0.0102	< 0.200	< 0.200	< 1.000	< 1.000

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-5	10/30/2001	7.50	325	22.5	5.60	232	—	0.0148	< 0.200	< 0.200	< 2.73	< 2.70
SW-6	10/21/1982	—	—	7.00	4.00	—	0.400	—	—	—	—	—
	10/10/1984	8.30	312	—	—	—	—	0.0200	0.400	0.100	1.000	0.100
	4/16/1985	7.90	360	13.0	8.00	298	8.00	0.0200	0.300	0.200	0.500	0.100
	10/10/1985	8.10	480	18.0	6.00	226	5.20	0.0300	0.700	0.100	1.80	0
	10/21/1985	—	382	16.0	6.00	210	—	—	—	—	—	—
	3/5/1986	7.70	210	14.0	5.00	148	32.8	0.0100	0.900	0.200	0.100	0.600
	11/4/1986	6.14	310	15.0	7.00	247	—	0.0330	0.980	—	—	—
	11/20/1986	8.40	290	16.0	4.00	266	5.40	0.0300	1.40	—	2.00	0.200
	4/7/1987	7.70	375	10.00	2.00	170	15.0	0.0290	0.300	0.200	0.400	0.200
	10/8/1987	8.10	290	16.0	7.00	238	1.000	0	0.500	1.40	0	0.200
	10/21/1987	8.50	337	21.0	3.00	272	—	0.0330	2.00	—	—	—
	4/12/1988	7.50	135	4.00	2.00	86.0	16.6	0.0300	0.900	0.700	1.000	0.100
	10/6/1988	8.10	275	16.0	4.00	270	2.20	0.0300	0.700	0.400	0.800	0.100
	4/6/1989	8.10	325	12.0	4.00	268	7.00	27.0	0.500	1.000	0.200	0.200
	10/24/1989	7.50	275	15.0	2.50	254	2.00	11.8	0.200	—	1.70	0
	5/31/1990	8.30	335	15.7	1.70	221	15.4	0.0236	< 0.200	< 0.200	< 1.000	< 1.000
	10/23/1990	8.10	270	16.8	2.50	319	4.20	0.0212	1.000	< 0.200	< 1.000	< 1.000
	4/5/1991	8.00	315	—	—	—	—	—	—	—	—	—
	10/8/1991	7.90	319	—	—	—	—	—	—	—	—	—
	4/3/1992	7.80	426	—	—	—	—	—	—	—	—	—
	4/27/1992	—	—	22.9	1.000	2299	15.0	0.0070	0.500	< 0.200	< 1.000	7.30
	10/18/1992	8.20	426	28.9	1.90	315	315	0.0090	0.600	< 0.200	< 1.000	12.2
	5/3/1993	8.20	462	19.7	1.40	182	10.00	0.0820	0.700	< 0.200	3.10	1.10
	11/9/1993	7.90	600	19.0	2.20	312	8.00	0.0240	0.300	< 1.000	< 1.000	< 1.000
	4/12/1995	8.20	503	17.7	1.02	219	12.0	0.0240	< 0.200	< 0.200	< 1.000	2.50
	10/20/1995	8.20	482	16.7	< 1.000	294	6.40	14.8	0.400	< 0.200	2.80	< 1.000
	4/9/1996	7.80	432	18.9	1.40	277	8.80	0.0330	< 0.200	< 0.200	38.1	< 1.000
	10/22/1996	7.80	434	16.4	1.10	256	14.0	0.0215	0.600	< 0.200	< 1.000	< 1.000

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-6	6/20/1997	7.90	300	13.9	1.40	241	15.0	0.0190	0.800	< 0.200	< 1.000	< 1.000
	12/16/1997	7.70	297	15.5	1.40	241	2.20	0.0230	< 0.200	< 0.200	< 1.000	< 1.000
	6/3/1998	7.85	626	14.6	2.30	259	5.60	0.0223	0.600	< 0.200	10.3	< 1.000
	12/1/1998	8.30	440	19.1	1.40	274	—	0.0253	3.60	< 0.200	< 1.000	< 1.000
	6/8/1999	6.42	946	21.6	3.10	241	4.30	0.0293	1.000	< 0.200	< 1.000	< 1.000
	9/8/1999	6.99	556	18.3	2.00	274	—	0.0245	< 0.200	< 0.200	—	—
	12/3/1999	7.65	2980	14.9	2.40	224	5.00	0.0261	0.400	< 0.200	< 1.000	< 1.000
	6/23/2000	7.65	357	—	—	—	—	—	—	—	—	—
	11/21/2000	6.40	366	17.6	3.10	252	—	0.0269	0.500	< 0.200	< 1.000	< 1.000
	5/23/2001	7.25	326	13.2	3.90	229	—	0.0269	0.600	< 0.200	< 1.000	< 1.000
	10/30/2001	7.65	370	17.3	7.04	267	—	0.0240	1.000	< 0.200	< 2.73	< 2.70
SW-7	10/21/1982	—	—	30.0	4.00	—	30.8	—	—	—	—	—
	10/10/1984	8.40	476	—	—	—	—	0.0300	1.60	0.200	2.10	0.100
	4/16/1985	7.80	150	15.0	6.00	112	159	0.0100	1.10	0.200	0.700	0.100
	10/10/1985	8.20	750	256	16.0	500	11.6	0.470	0.500	0.200	2.10	0
	3/5/1986	7.60	315	76.0	10.00	220	116	0.0600	1.40	0.300	0.700	1.40
	11/21/1986	8.30	800	520	19.0	920	4.60	0.960	1.50	—	1.10	0.200
	4/7/1987	7.60	190	44.0	2.00	156	275	0.0550	1.10	0.100	0.400	0.400
	10/8/1987	8.30	760	328	19.0	590	6.00	0.0220	1.000	—	0.500	0.200
	4/12/1988	7.50	180	46.0	4.00	122	295	0.480	1.60	0.500	1.000	0.200
	10/6/1988	8.10	645	256	20.0	536	5.60	0.170	1.000	0.200	0.800	0
	4/6/1989	7.80	380	100.0	9.00	340	60.4	24.0	0.700	0.900	0.900	0.100
	10/24/1989	7.60	765	328	23.0	644	7.60	100	0.700	—	0	0.100
	6/1/1990	8.10	335	62.8	7.90	289	6.60	0.0348	0.600	< 0.200	< 1.000	< 1.000
	10/23/1990	8.10	655	294	34.4	669	13.6	0.181	0.500	< 0.200	< 1.000	< 1.000
	4/5/1991	8.00	260	—	—	—	—	—	—	—	—	—
	10/8/1991	8.30	1216	—	—	—	—	—	—	—	—	—
	4/7/1992	7.80	300	60.7	9.50	211	118	0.0300	< 0.200	< 0.200	10.8	< 1.000
	10/19/1992	8.20	442	33.5	6.80	218	19.0	0.0220	0.400	0.200	< 1.000	< 1.000

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-7	5/4/1993	7.80	247	21.7	< 0.100	142	346	0.0110	0.400	< 0.200	3.80	< 1.000
	11/10/1993	8.10	450	25.8	6.90	279	7.00	0.0170	0.700	< 1.000	< 1.000	< 1.000
	4/13/1995	8.00	260	15.0	1.000	123	46.9	0.0090	0.600	< 0.200	< 1.000	1.50
	11/16/1995	7.60	299	21.1	5.10	183	41.6	7.50	0.700	< 0.200	< 1.000	2.20
	4/10/1996	7.50	1.21	12.7	< 1.000	102	120	0.0036	0.600	< 0.200	< 1.000	3.00
	4/11/1996	—	—	11.3	0.710	132	117	0.0031	0.900	< 0.200	< 1.000	2.30
	10/22/1996	7.70	381	32.1	6.90	230	22.0	0.0212	0.500	< 0.200	< 1.000	< 1.000
	6/23/1997	7.80	320	17.7	2.80	165	3.20	0.0130	< 0.200	< 0.200	< 1.000	1.40
	12/16/1997	7.50	348	25.9	5.30	261	3.10	0.0209	< 0.200	< 0.200	10.2	6.00
	6/3/1998	8.39	1078	31.1	6.20	250	1.40	0.0181	0.700	< 0.200	< 1.000	< 1.000
	12/9/1998	6.61	305	39.5	7.50	297	—	0.0292	< 0.200	< 0.200	< 1.000	< 1.000
	6/16/1999	6.95	211	11.0	5.00	148	7.00	0.0062	< 0.200	< 0.200	< 1.000	3.70
	9/8/1999	6.95	473	32.1	7.70	244	—	0.0172	< 0.200	< 0.200	—	—
	12/3/1999	7.70	2599	30.8	7.00	224	3.00	0.0234	0.400	< 0.200	< 1.000	< 1.000
	6/8/2000	7.70	303	—	—	—	—	—	—	—	—	—
	11/21/2000	6.80	350	24.7	5.20	221	—	0.0176	< 0.200	< 0.200	< 1.000	< 1.000
	5/24/2001	7.15	232	8.60	1.60	151	—	0.0094	< 0.200	< 0.200	< 1.000	< 1.000
	10/30/2001	7.55	322	19.2	5.10	222	—	0.0144	< 0.200	< 0.200	< 2.73	< 2.70
SW-8	10/21/1982	—	—	1120	1270	—	85.2	—	—	—	—	—
	10/10/1984	7.80	4367	—	—	—	—	0.190	0.400	—	0.700	1.10
	4/17/1985	7.50	760	144	144	672	126	0.0500	4.80	0.600	2.00	0.100
	3/5/1986	7.50	3150	840	710	2956	4.00	1.22	4.70	3.00	1.40	1.90
	4/7/1987	7.30	1180	274	222	1060	56.0	0.0310	6.50	0.600	2.00	0.400
	4/12/1988	7.30	1240	316	300	1140	3.30	0.510	4.10	0.800	2.60	2.00
	10/6/1988	7.90	2590	940	600	3084	2.60	1.39	2.00	0.300	1.60	0.500
	4/6/1989	7.60	1285	330	260	1388	11.5	130	4.80	1.50	1.60	1.60
	10/24/1989	7.40	1135	376	137	1114	8.00	23.0	3.00	0.200	1.20	0.200
	5/31/1990	8.00	1230	374	149	1112	1.70	0.0932	4.90	< 0.200	< 1.000	< 1.000
	9/14/1990	7.90	1415	386	182	1167	2.00	0.0300	—	—	—	—

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-8	10/23/1990	7.80	1255	421	210	1336	8.00	0.0621	4.30	0.800	3.20	2.90
	4/5/1991	—	1120	—	—	—	—	—	—	—	—	—
	7/31/1991	7.90	1416	744	172	1120	19.0	0.0385	—	—	—	—
	9/3/1991	8.10	1624	546	150	1095	40.0	—	2.20	—	—	—
	10/7/1991	—	—	411	143	1070	5.00	0.0350	4.90	—	—	—
	10/8/1991	7.70	1368	—	—	—	—	—	—	—	—	—
	11/4/1991	7.30	1425	438	147	1137	8.00	0.0400	—	—	—	—
	12/3/1991	7.20	1350	381	137	1050	5.00	0.500	—	—	—	—
	3/2/1992	—	—	365	92.3	863	29.0	0.0490	3.00	—	—	—
	4/3/1992	7.50	1440	—	—	—	—	—	—	—	—	—
	4/27/1992	—	—	358	95.8	849	8.00	0.0030	3.50	< 0.200	< 1.000	< 1.000
	5/4/1992	—	—	392	110	1014	13.0	0.0220	2.80	—	—	—
	6/1/1992	—	—	363	111	948	8.00	0.0230	1.60	—	—	—
	7/6/1992	—	—	343	134	1137	40.0	0.102	1.90	—	—	—
	8/1/1992	—	—	260	135	998	—	< 0.0003	1.70	—	—	—
	9/1/1992	—	—	352	125	1085	2.00	0.0260	2.50	—	—	—
	10/12/1992	—	—	375	113	1035	14.0	0.0200	3.00	—	—	—
	10/18/1992	8.00	1496	371	96.8	1062	17.0	0.0300	3.80	< 0.200	2.00	< 1.000
	11/2/1992	—	—	366	103	1026	1.000	0.0200	3.60	—	—	—
	12/5/1992	—	—	405	89.1	1014	110	0.0190	3.40	—	—	—
	1/3/1993	7.30	1650	342	82.0	—	—	0.332	7.20	—	—	—
	3/30/1993	6.87	1215	297	76.1	766	1.70	0.0950	2.90	< 1.000	—	—
	4/21/1993	7.20	1924	368	115	1055	20.7	0.0790	6.20	—	—	—
	5/3/1993	7.70	1496	374	136	1757	36.0	0.0600	0.300	< 0.200	1.000	3.80
	6/7/1993	7.80	1495	288	122	952	33.2	0.0320	3.80	—	—	—
	7/2/1993	8.00	1830	362	131	1079	4.50	0.0230	2.00	—	—	—
	8/1/1993	7.90	1680	420	128	1136	6.60	0.0140	2.10	—	—	—
	9/2/1993	7.90	1690	345	108	1062	4.90	0.0050	1.50	—	—	—
	10/2/1993	8.04	1499	352	81.1	1002	3.20	0.0250	1.000	—	—	—
	11/2/1993	7.40	1704	383	78.0	1238	2.00	0.0320	4.00	—	—	—

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-8	11/9/1993	8.30	1725	403	84.2	1151	21.0	0.0310	3.70	< 1.000	< 1.000	< 1.000
	12/1/1993	—	—	338	64.7	876	11.2	0.0250	3.60	—	—	—
	1/4/1994	7.36	1554	—	—	—	—	—	—	—	—	—
	2/4/1994	7.38	1460	—	—	—	—	—	—	—	—	—
	3/1/1994	7.48	1480	—	—	—	—	—	—	—	—	—
	4/5/1994	8.00	1628	—	—	—	—	—	—	—	—	—
	5/4/1994	8.00	1430	—	—	—	—	—	—	—	—	—
	6/3/1994	8.10	1508	—	—	—	—	—	—	—	—	—
	7/5/1994	8.20	1995	—	—	—	—	—	—	—	—	—
	8/3/1994	8.10	1485	—	—	—	—	—	—	—	—	—
	9/3/1994	7.80	1240	—	—	—	—	—	—	—	—	—
	10/5/1994	8.00	1495	—	—	—	—	—	—	—	—	—
	11/4/1994	7.60	1628	—	—	—	—	—	—	—	—	—
	12/1/1994	7.30	2072	409	57.8	952	18.4	0.0290	1.80	—	—	—
	1/7/1995	7.20	1480	331	42.0	877	—	0.161	1.90	—	—	—
	2/2/1995	7.30	1500	338	44.8	822	16.3	0.0220	1.40	—	—	—
	3/8/1995	—	1754	290	38.1	814	11.4	0.0210	3.70	—	—	—
	4/5/1995	7.80	1428	298	41.0	723	4.70	0.0130	1.10	—	—	—
	4/12/1995	7.80	1503	298	44.3	765	1.49	0.0140	3.40	< 0.200	< 1.000	< 1.000
	6/2/1995	7.70	1749	336	76.0	934	14.0	0.0440	2.90	—	—	—
	7/12/1995	7.70	1680	380	111	902	5.60	0.0131	0.400	—	—	—
	8/2/1995	7.50	1730	365	106	1058	23.6	0.0130	4.00	—	—	—
	9/7/1995	—	—	357	88.0	990	5.20	0.0100	2.70	—	—	—
	10/11/1995	7.70	1708	353	66.0	904	10.4	0.0140	2.20	—	—	—
	10/20/1995	7.90	1596	357	68.7	992	10.00	10.00	4.40	2.20	1.60	< 1.000
	11/6/1995	—	—	326	54.0	845	4.80	0.0190	5.70	—	—	—
	4/9/1996	7.50	1260	250	55.5	730	9.20	0.0500	3.90	1.20	< 1.000	< 1.000
	10/22/1996	7.20	1632	356	42.7	919	< 1.000	0.0262	4.40	< 0.200	< 1.000	< 1.000
	6/20/1997	7.80	1050	271	520	817	3.20	0.0140	0.600	< 0.200	< 1.000	3.80
	12/15/1997	6.91	1044	291	28.0	756	12.0	0.0550	3.70	< 0.200	< 1.000	< 1.000

TABLE C-1. SHIRLEY BASIN MINE SURFACE WATER QUALITY. (cont'd.)

pHf THROUGH Po210

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	SO4 (mg/l)	Cl (mg/l)	TDS (mg/l)	TSS (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Th230 (pCi/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-8	6/3/1998	7.70	1287	339	46.8	828	1.20	0.0319	1.90	< 0.200	< 1.000	< 1.000
	12/9/1998	7.94	1171	338	46.9	827	—	0.0435	2.40	< 0.200	< 1.000	< 1.000
	6/8/1999	6.51	2737	305	46.9	757	3.70	0.0339	1.000	0.800	< 1.000	< 1.000
	9/8/1999	6.89	1182	290	34.0	708	—	0.0184	1.40	< 0.200	—	—
	12/4/1999	7.30	3229	262	23.6	648	< 1.000	0.0260	1.30	< 0.200	< 1.000	< 1.000
	6/2/2000	7.20	1015	230	29.1	698	3.00	0.0156	—	< 0.200	—	< 1.000
	11/15/2000	7.00	997	269	8.70	694	—	0.0218	2.00	< 0.200	< 1.000	< 1.000
	5/23/2001	7.25	1014	251	26.6	687	—	0.0279	2.30	< 0.200	< 1.000	1.10
	10/30/2001	7.40	1008	270	18.7	697	—	0.0221	2.20	< 0.200	< 2.73	< 2.70
SW-9	4/6/1994	8.10	497	35.5	8.70	246	8.60	0.0260	< 0.200	< 0.200	< 1.000	1.80
	10/12/1994	8.30	414	16.2	3.20	229	4.60	0.0170	0.200	< 0.200	< 1.000	< 1.000
	4/12/1995	8.00	480	18.8	4.08	223	1.43	0.0200	0.400	< 0.200	< 1.000	< 1.000
	10/20/1995	8.00	448	18.8	4.30	279	37.6	12.0	< 0.200	0.200	1.70	1.10
	4/9/1996	7.60	383	36.0	9.90	249	16.0	0.0430	< 0.200	0.900	< 1.000	< 1.000
WEIR 1	10/6/1999	6.80	2046	19.0	8.00	214	—	0.0222	< 0.200	< 0.200	—	—
WEIR 2	10/6/1999	6.76	784	20.0	14.0	248	—	0.0271	< 0.200	< 0.200	—	—
WEIR 3	10/6/1999	6.51	484	43.0	15.0	295	—	0.0315	0.700	< 0.200	—	—
WEIR 4	10/6/1999	6.52	394	16.2	5.00	246	—	0.0397	—	—	—	—
WEIR 5	10/6/1999	6.60	1354	52.0	15.0	298	—	0.0397	< 0.200	—	—	—