

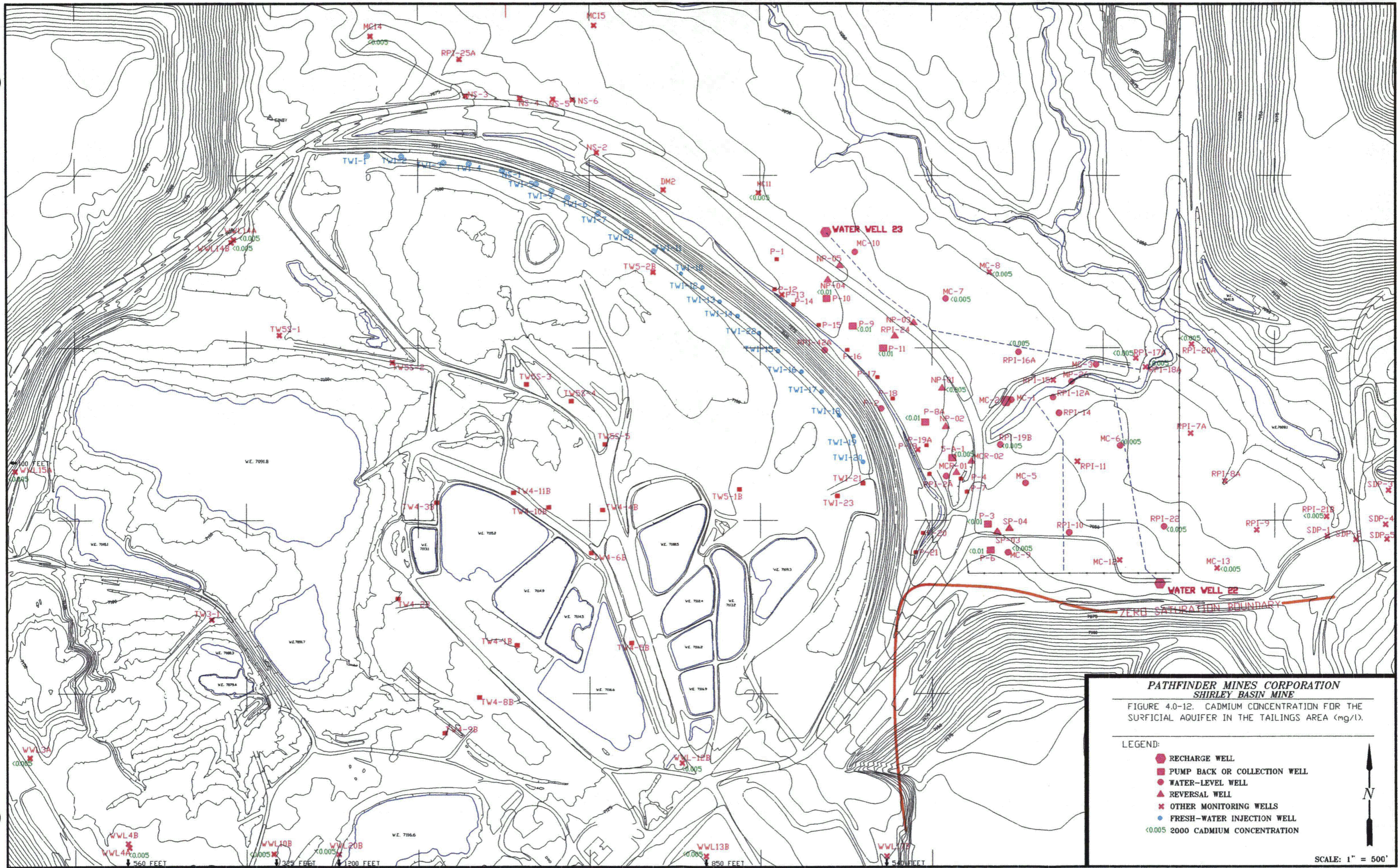
PATHFINDER MINES CORPORATION
SHIRLEY BASIN MINE

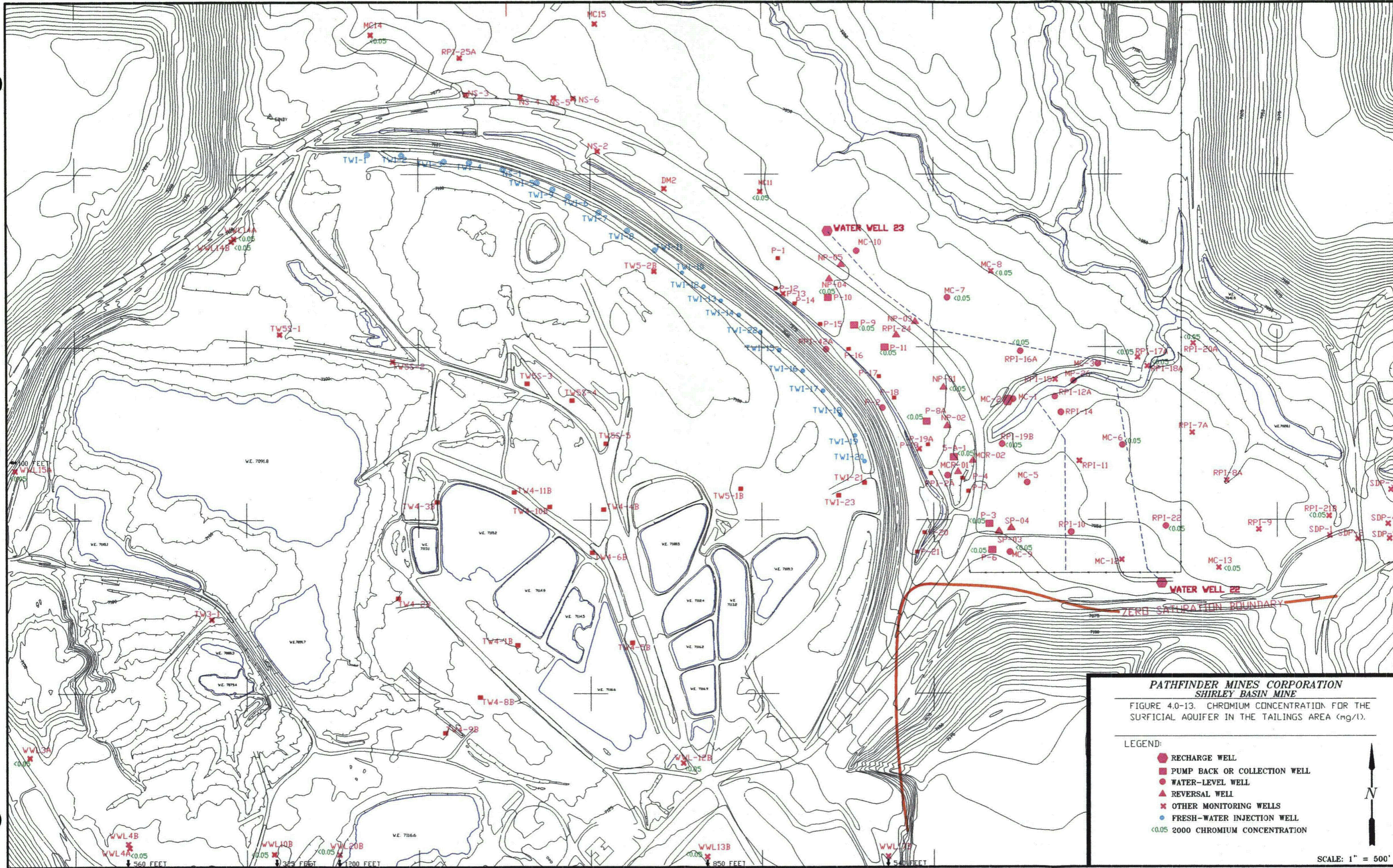
FIGURE 4.0-11. BERYLLIUM CONCENTRATION FOR THE SURFICIAL AQUIFER IN THE TAILINGS AREA (mg/l).

LEGEND:

- RECHARGE WELL
- PUMP BACK OR COLLECTION WELL
- WATER-LEVEL WELL
- ▲ REVERSAL WELL
- ✕ OTHER MONITORING WELLS
- FRESH-WATER INJECTION WELL
- <0.01 2000 BERYLLIUM CONCENTRATION

SCALE: 1" = 500'





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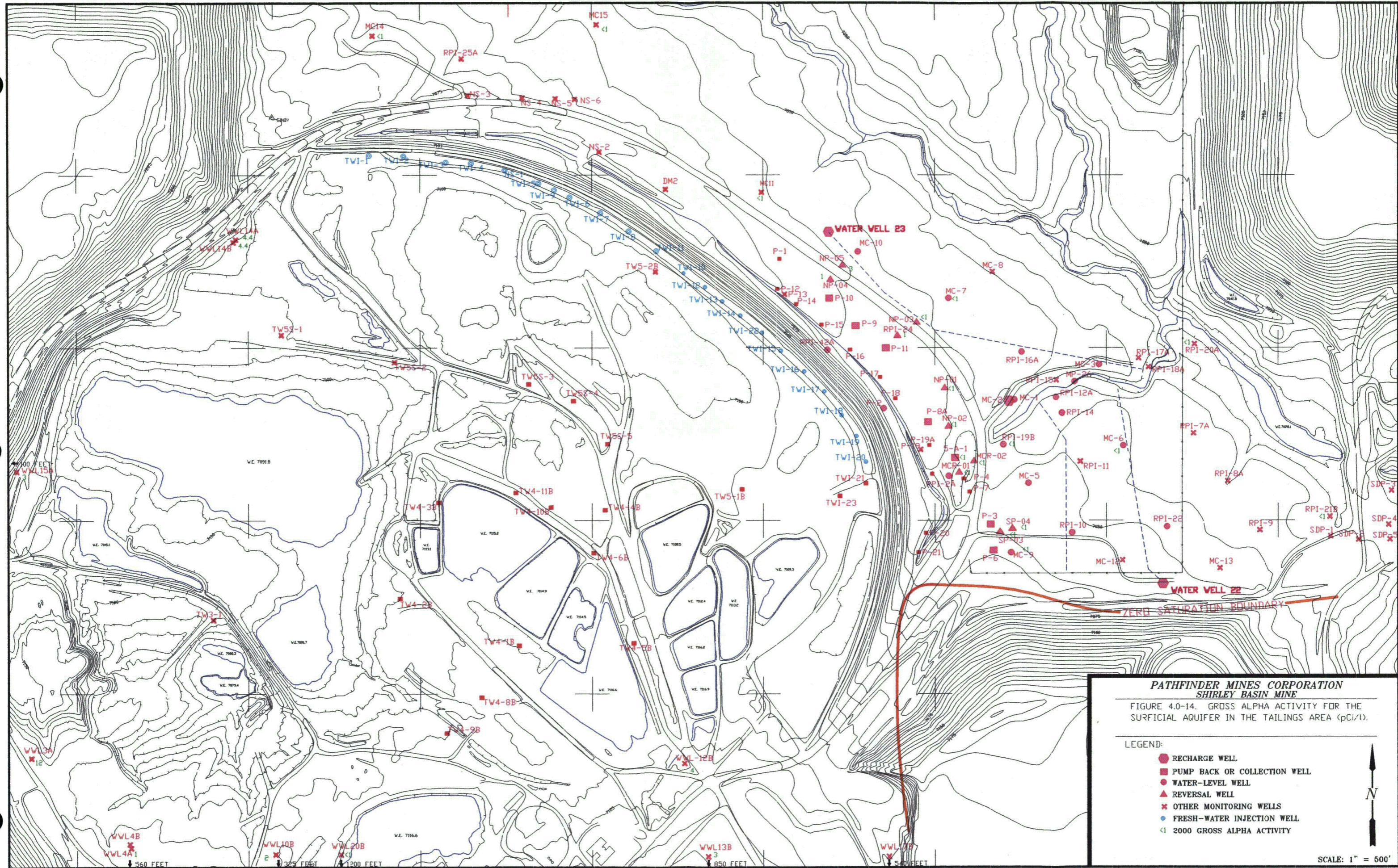
FIGURE 4.0-13. CHROMIUM CONCENTRATION FOR THE SURFICIAL AQUIFER IN THE TAILINGS AREA (mg/l).

LEGEND:

- RECHARGE WELL
- PUMP BACK OR COLLECTION WELL
- WATER-LEVEL WELL
- ▲ REVERSAL WELL
- × OTHER MONITORING WELLS
- FRESH-WATER INJECTION WELL
- x <0.05 2000 CHROMIUM CONCENTRATION

N

SCALE: 1" = 500'



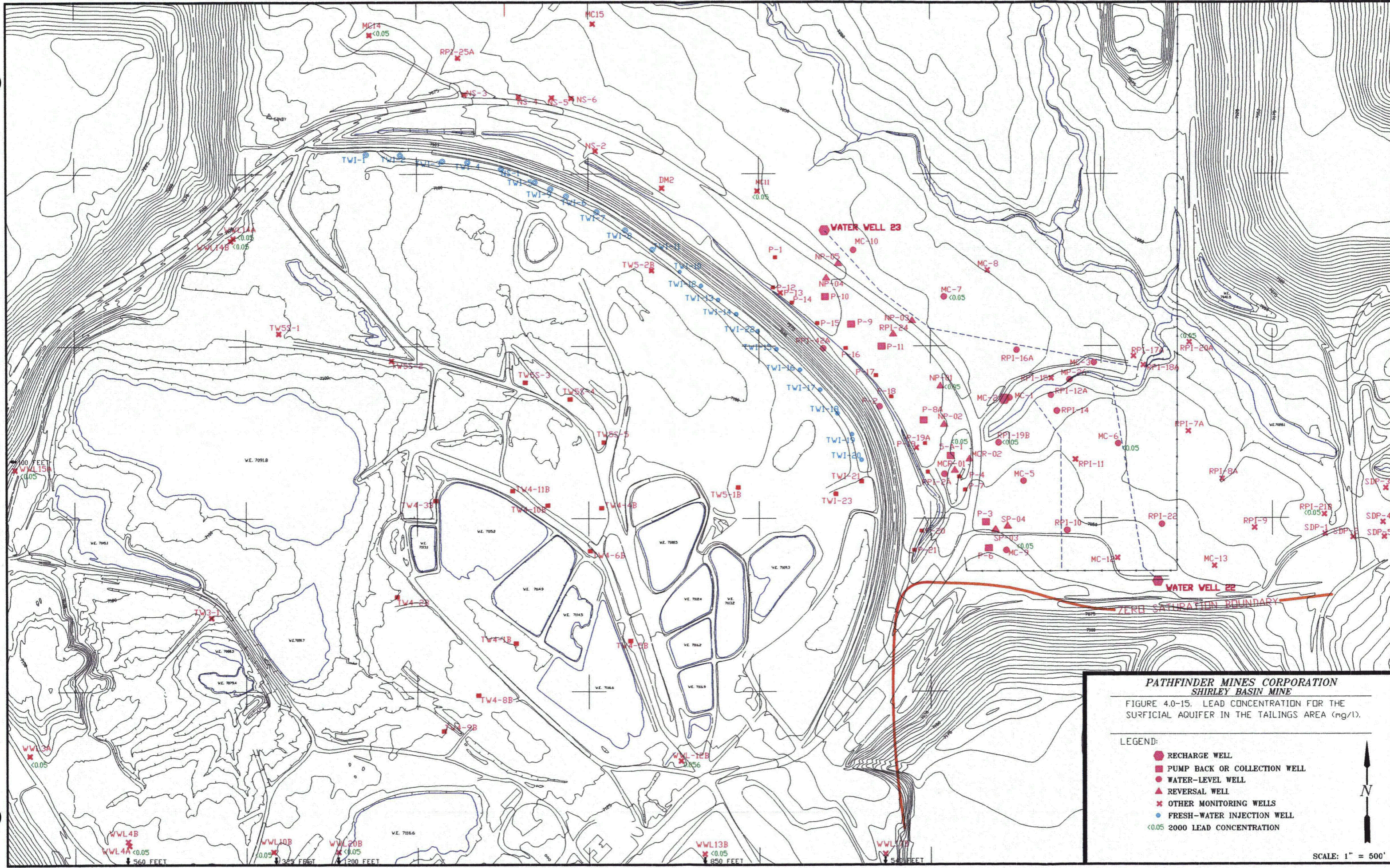
PATHFINDER MINES CORPORATION
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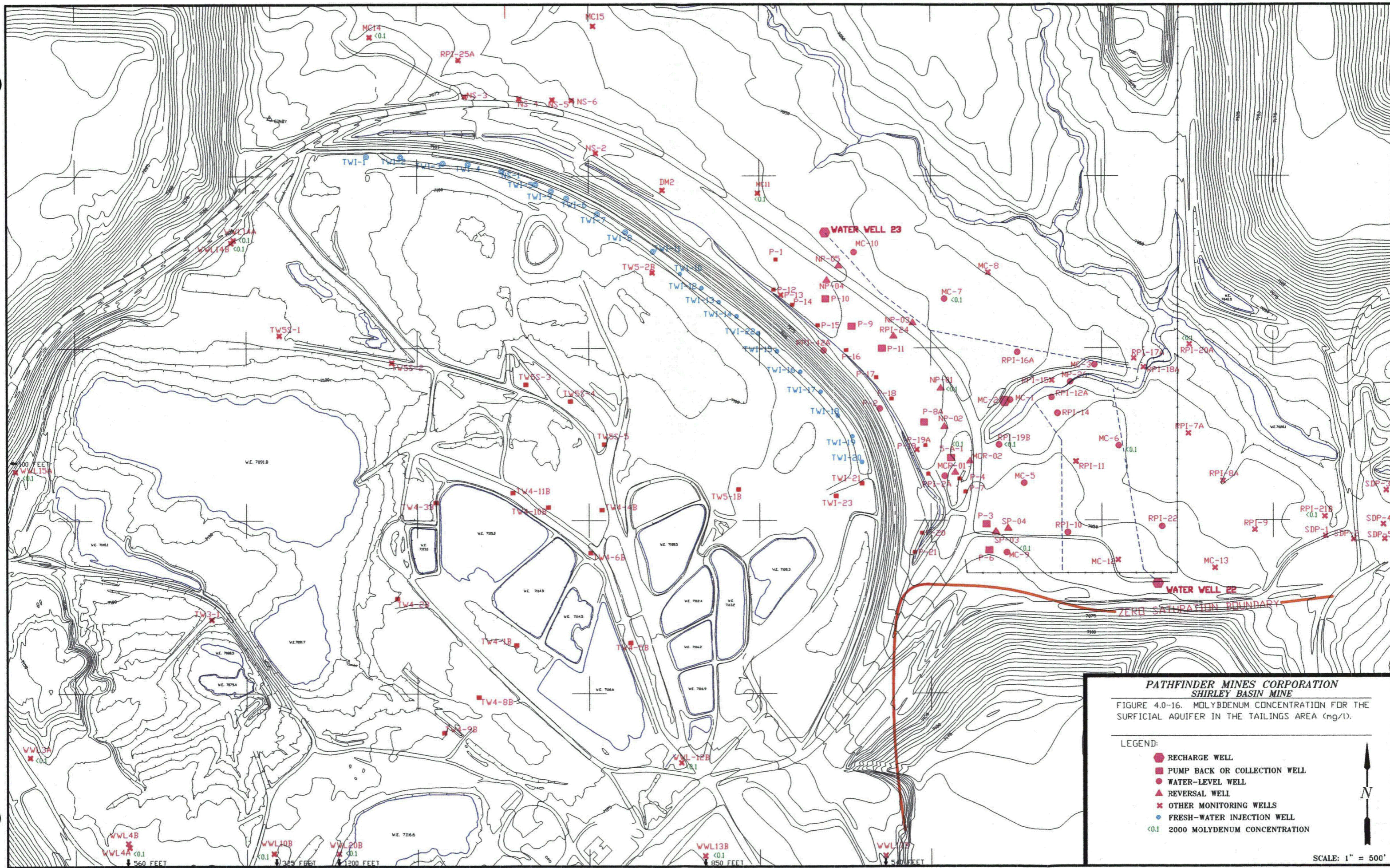
FIGURE 4.0-14. GROSS ALPHA ACTIVITY FOR THE SURFICIAL AQUIFER IN THE TAILINGS AREA (pCi/l).

LEGEND:

- RECHARGE WELL
- PUMP BACK OR COLLECTION WELL
- ▲ WATER-LEVEL WELL
- ▲ REVERSAL WELL
- × OTHER MONITORING WELLS
- FRESH-WATER INJECTION WELL
- <1 2000 GROSS ALPHA ACTIVITY

SCALE: 1" = 500'

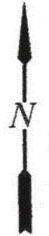




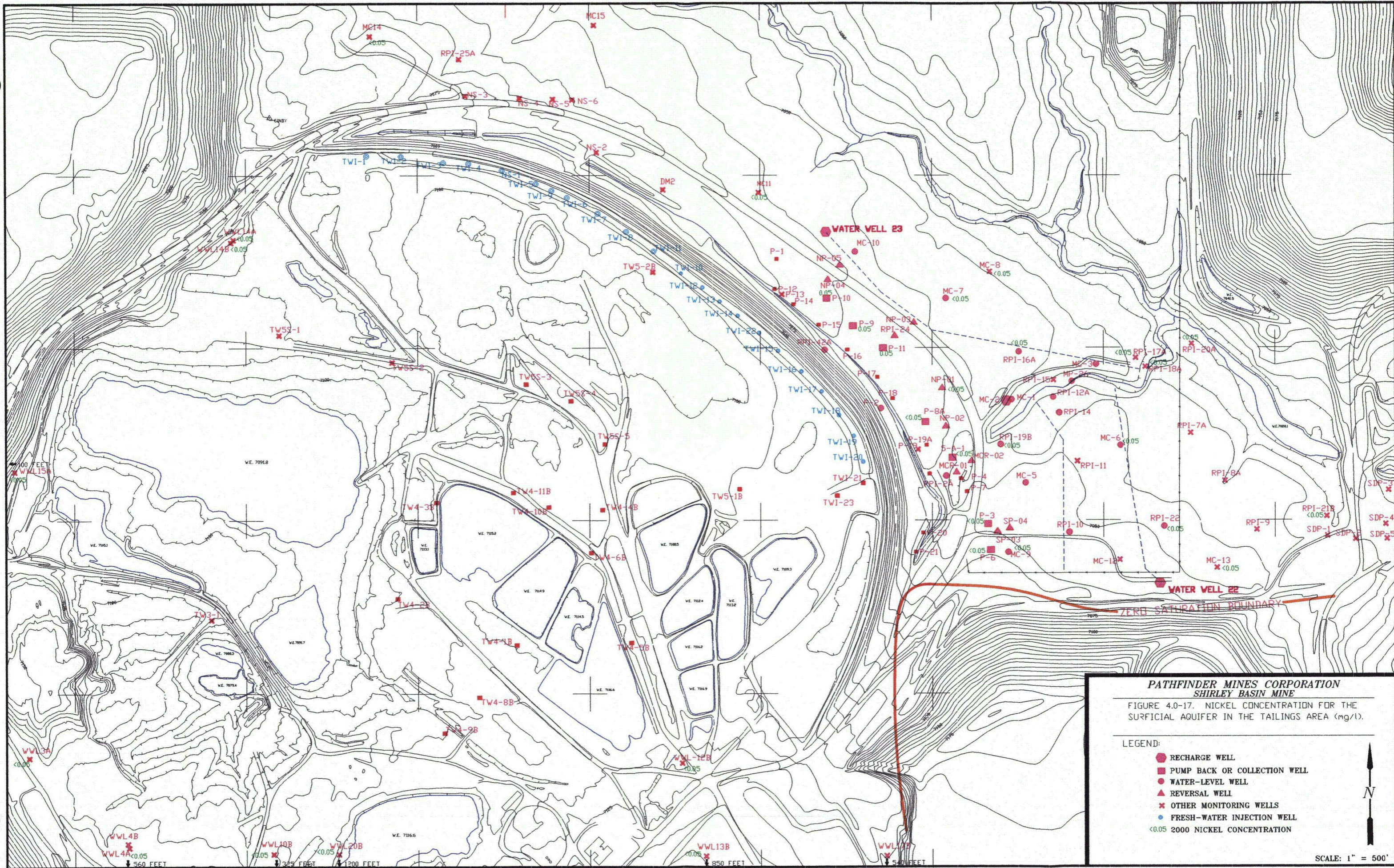
**PATHFINDER MINES CORPORATION
SHIRLEY BASIN MINE**

FIGURE 4.0-16. MOLYBDENUM CONCENTRATION FOR THE SURFICIAL AQUIFER IN THE TAILINGS AREA (mg/l).

- LEGEND:
- RECHARGE WELL
 - PUMP BACK OR COLLECTION WELL
 - WATER-LEVEL WELL
 - ▲ REVERSAL WELL
 - ★ OTHER MONITORING WELLS
 - FRESH-WATER INJECTION WELL
 - <0.1 2000 MOLYBDENUM CONCENTRATION



SCALE: 1" = 500'



4.1 NORTH MINE CREEK RECHARGE AREA

Most of the north Mine Creek recharge area downgradient of the recharge line shows vastly improved groundwater quality. Based on chloride concentration and TDS, these wells show water quality similar to recharge water from wells WW23 and WW20 (Table 4.1-1). The north plume aquifer downgradient of the recharge line is essentially free of contaminants. Efforts will continue to center on maintenance of strong reversal gradients and continuous operation of the recharge system. General water quality data taken upgradient of the recharge system shows very little change in 2000. Water quality in wells NP04 and NP05 improved dramatically following reestablishment of gradient reversal.

Concentrations of TDS and chloride downgradient of the north recharge line have stabilized at levels roughly equal to those of the recharge water. Well MC-11 is located northwest of the northern end of the recharge line, and both TDS and chloride concentrations in the Surficial aquifer in this area have increased slightly over the last five years (see Figures 4.1-1 and 4.1-2) and there was a fairly abrupt increase in 1998 followed by a dramatic increase in mid-1999. Concentrations for samples in late 1999 dropped dramatically to levels consistent with those before the spikes and remained consistent through 2000. Prior to 1998, these changes were within natural variations for this aquifer. Chloride concentrations in well MC-11 had been somewhat erratic, and this was attributed to seasonal natural recharge prior to 1998. It is postulated that the injection well operation has pushed a small "pulse" of impacted ground water through the MC-11 area. TDS and chloride concentrations at well NP05 have declined since 1997 due to reestablishment of reversal (see Figures 4.1-1 and 4.1-2). This decline continued through 2000.

Chloride and TDS concentration data correspond with the conductivity data for the north recharge area. Chloride concentrations for wells MC-7 and MC-8 are at background levels (see Figure 4.1-3). TDS concentration values appear to be representative of the mixed recharge water (see Figures 4.0-2 and 4.1-4).

TABLE 4.1-1. MONITOR WELL DATA COMPARED TO RECHARGE WATER DATA.

RECHARGE WATER	2000 DATA	
	TDS	CHLORIDE
WW23	276 (12-11-2000)	14.7 (12-11-2000)
WW20	615 (12-10-2000)	12.2 (12-10-2000)

MONITOR WELLS	2000 DATA	
	TDS	CHLORIDE
MC-7	330 (11-20-2000)	13.5 (11-20-2000)
MC-8	515 (11-20-2000)	23.2 (11-20-2000)

NOTE: All concentrations in mg/l.

4.1-3

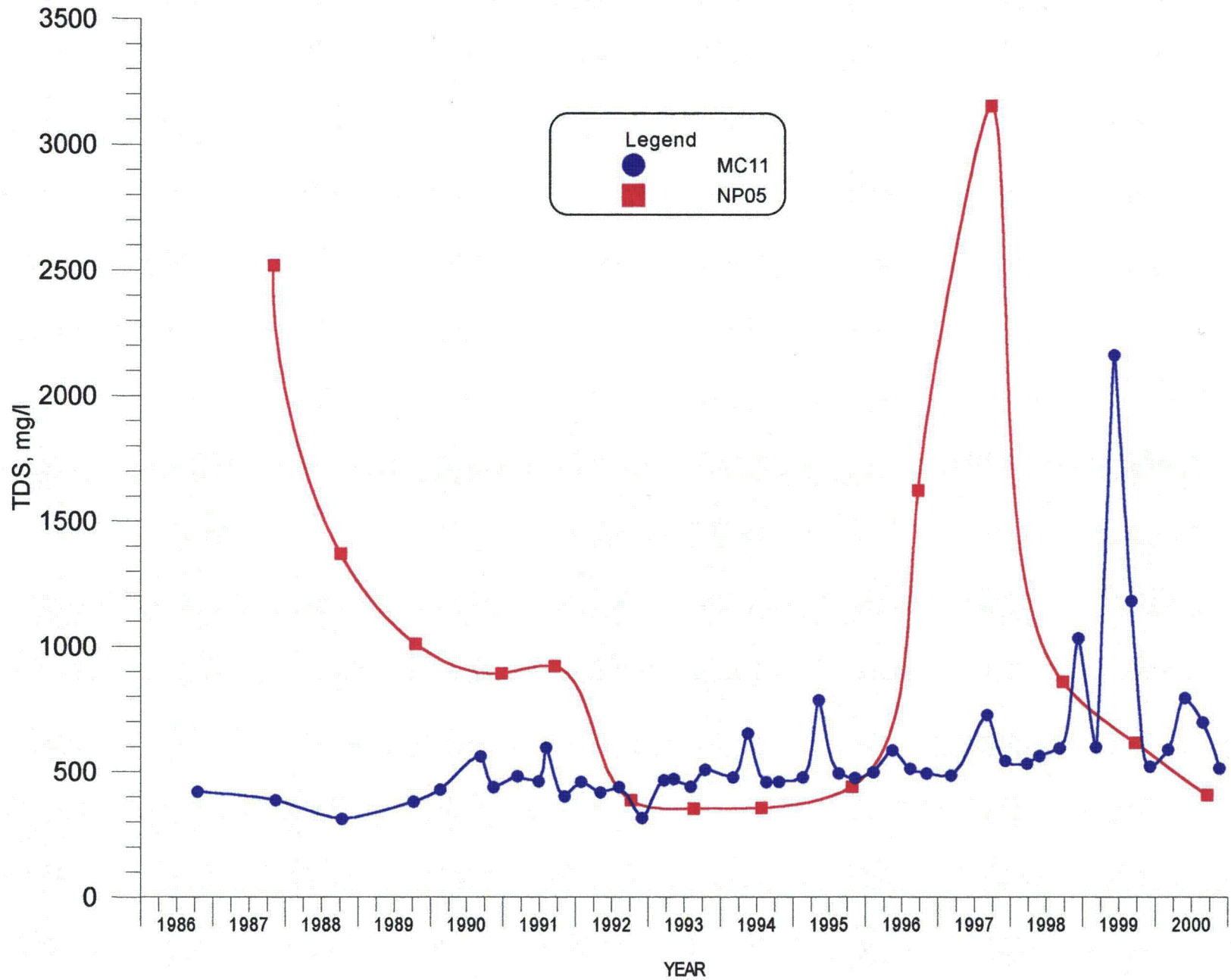


FIGURE 4.1-1. TDS CONCENTRATIONS FOR WELLS MC11 AND NP05.

4.1-4

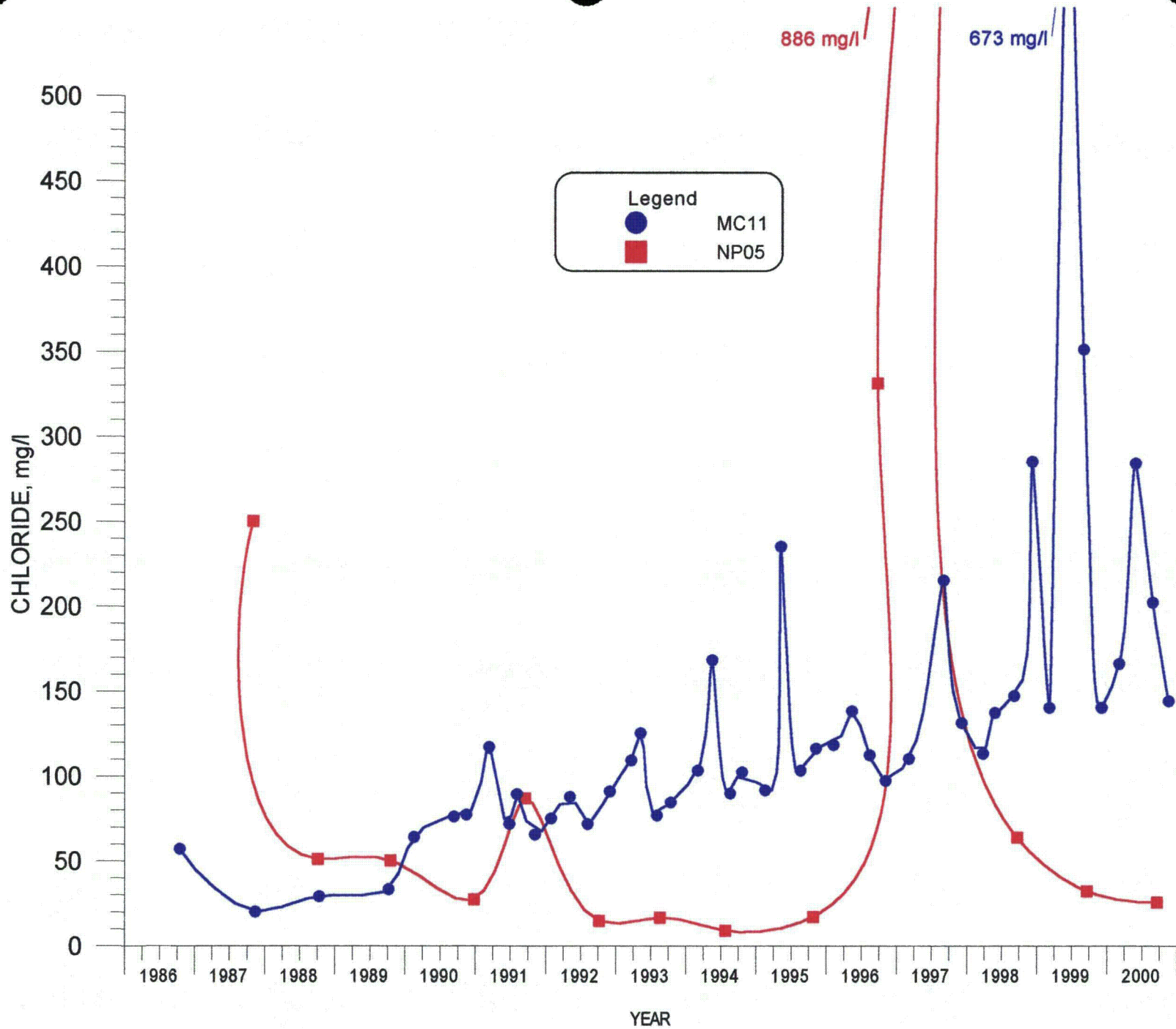


FIGURE 4.1-2. CHLORIDE CONCENTRATIONS FOR WELLS MC11 AND NP05.

4.1-5

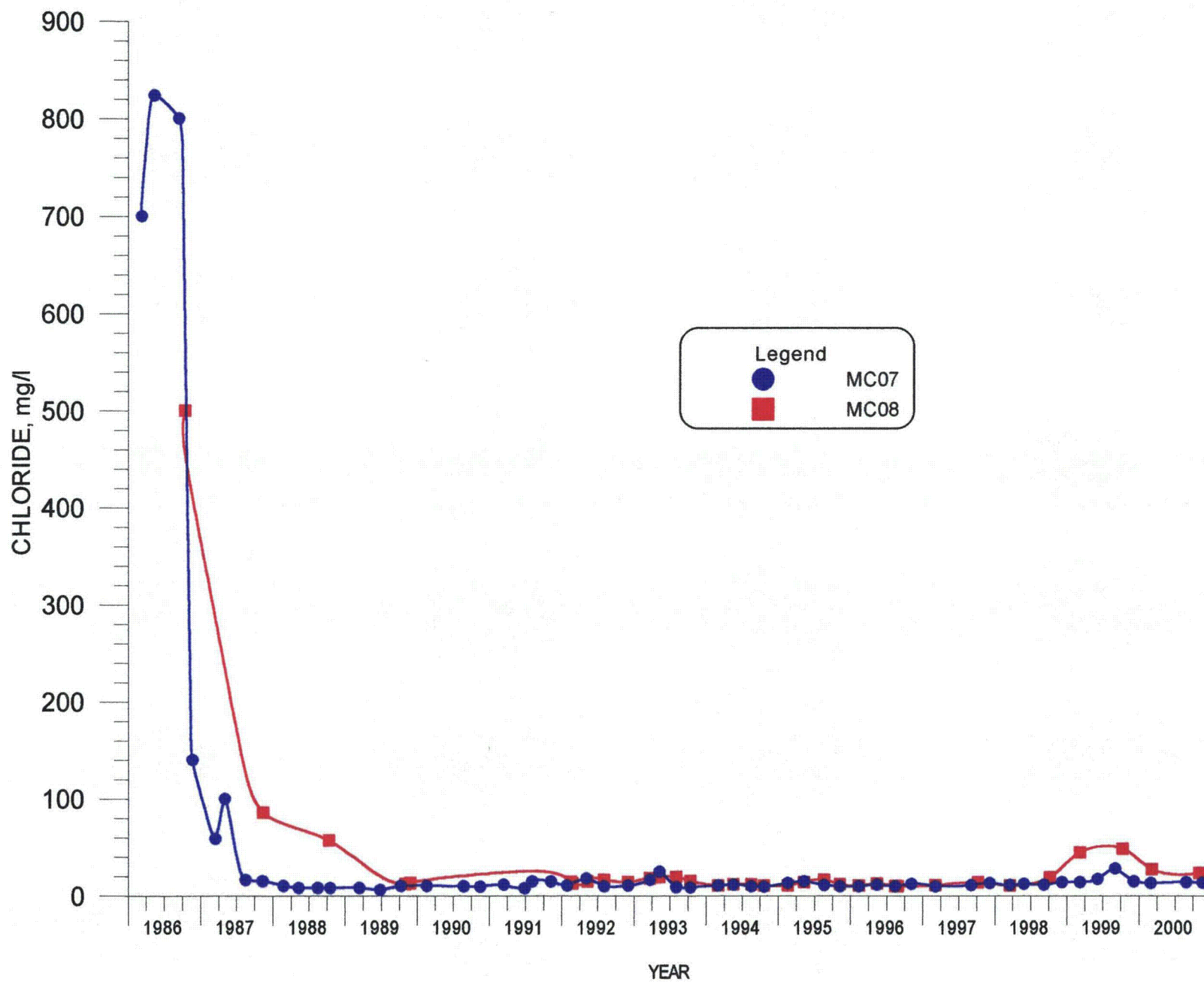


FIGURE 4.1-3. CHLORIDE CONCENTRATIONS FOR WELLS MC07 AND MC08.

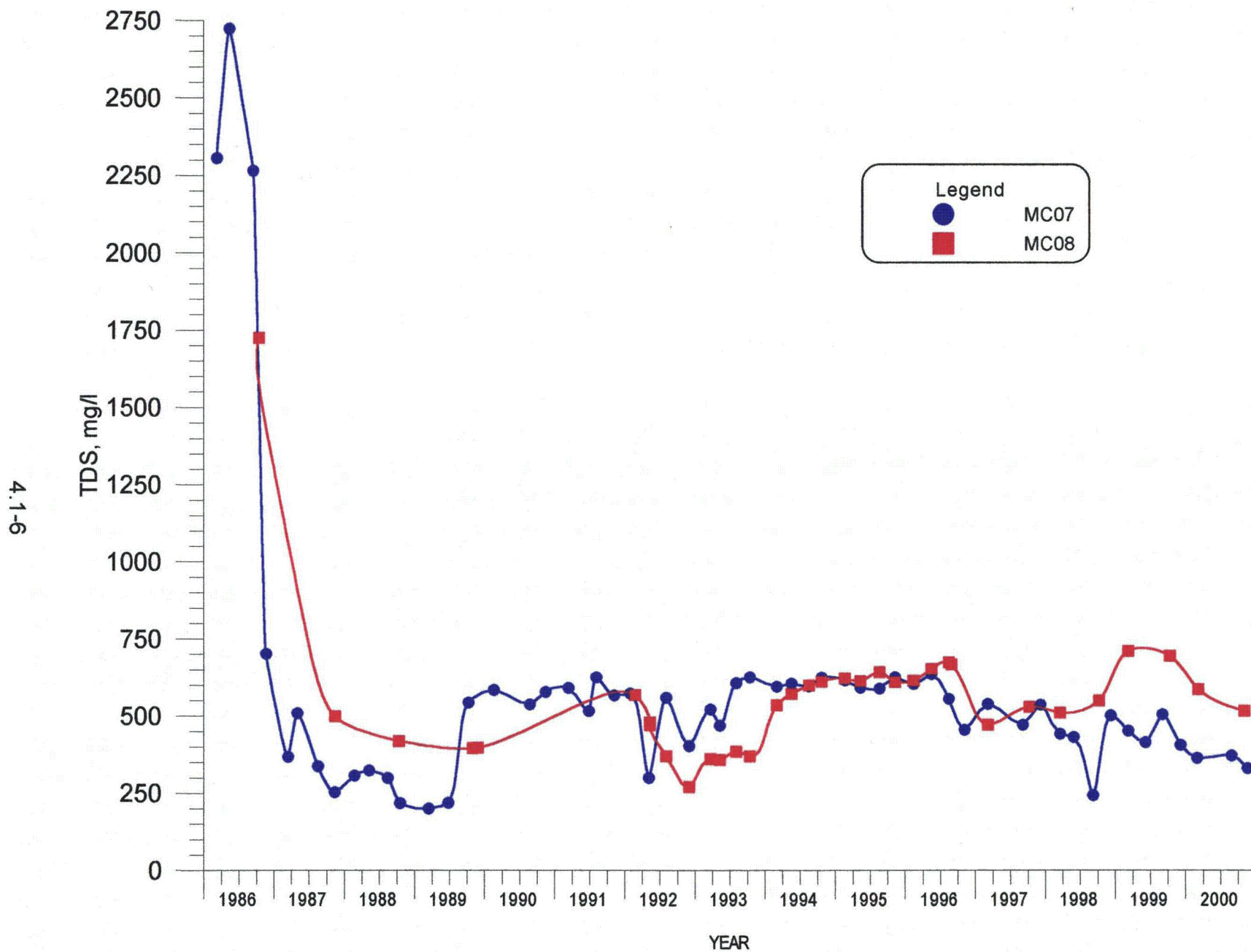


FIGURE 4.1-4. TDS CONCENTRATIONS FOR WELLS MC07 AND MC08.

4.2 SOUTH MINE CREEK RECHARGE AREA

The water quality in wells east of the recharge lines for the south Mine Creek recharge area has been restored to nearly background conditions. Figure 4.2-1 shows that the TDS values in wells RPI-9 and RPI-21B have been reduced to essentially the recharge water concentration. The August 1996 analysis for well RPI-21B is thought to be anomalous. A very minor historic elevation of chloride concentrations at these wells appears to be dissipating.

Monitor well data from RPI-8A and RPI-7A show restoration in 1996 (see Figure 4.2-2). Samples were not taken from these two wells from 1997 through 2000, but the historic data shows no significant changes in the past five years. Chloride concentrations in well RPI-9 have remained slightly above background during that same period. Further seepage effects on wells RPI-7A, RPI-8A and RPI-9 seem unlikely because the groundwater mound in the vicinity of wells MC-6 and RPI-22 should provide a barrier to seepage. The chloride concentrations in well RPI-9 are continuing to decline at a relatively slow rate, but a sample was not taken in 2000.

Figure 4.0-1 illustrates that the recharge/collection system has nearly restored the Surficial aquifer water quality to within a few hundred feet of the collection system. Water quality on the east side of the recharge lines shows only very minor residual elevation of constituent concentrations above recharge or background conditions. Water quality west of the recharge lines will continue to improve as the fresh water mound expands. There are some elevated TDS or chloride values at wells MC-6, RPI-11 and RPI-14, and it is speculated that this is a result of flushing of previously stagnant areas of the aquifer, and possibly solubilization of constituents with a cycling water table. The gradient towards the tailings and water quality of wells RPI-19B and MC-5 indicate that the slightly elevated concentrations in wells RPI-11, RPI-14 and MC-6 are not a result of continued seepage from the tailings.

The rate of restoration of the Surficial aquifer to the west of the south recharge line increased dramatically in 1996, but the rate of restoration slowed during 1997 and the concentrations have essentially

remained the same for the last several years. Water quality in well RPI-10 improved quickly with the new recharge and is essentially restored to background conditions. Gradient reversal between wells RPI-11 and MC-5 was strengthened significantly in 1996 and remains strong. The slow restoration progress in these wells prior to 1996 was considered to be indicative of lower transmissivity in this area and the difficulty in achieving a strong gradient reversal. The addition of a recharge line in the south area has been very successful in restoring water quality in this area. Figure 4.2-3 presents the TDS concentrations in wells MC-9, SP03 and SP04.

4.2-3

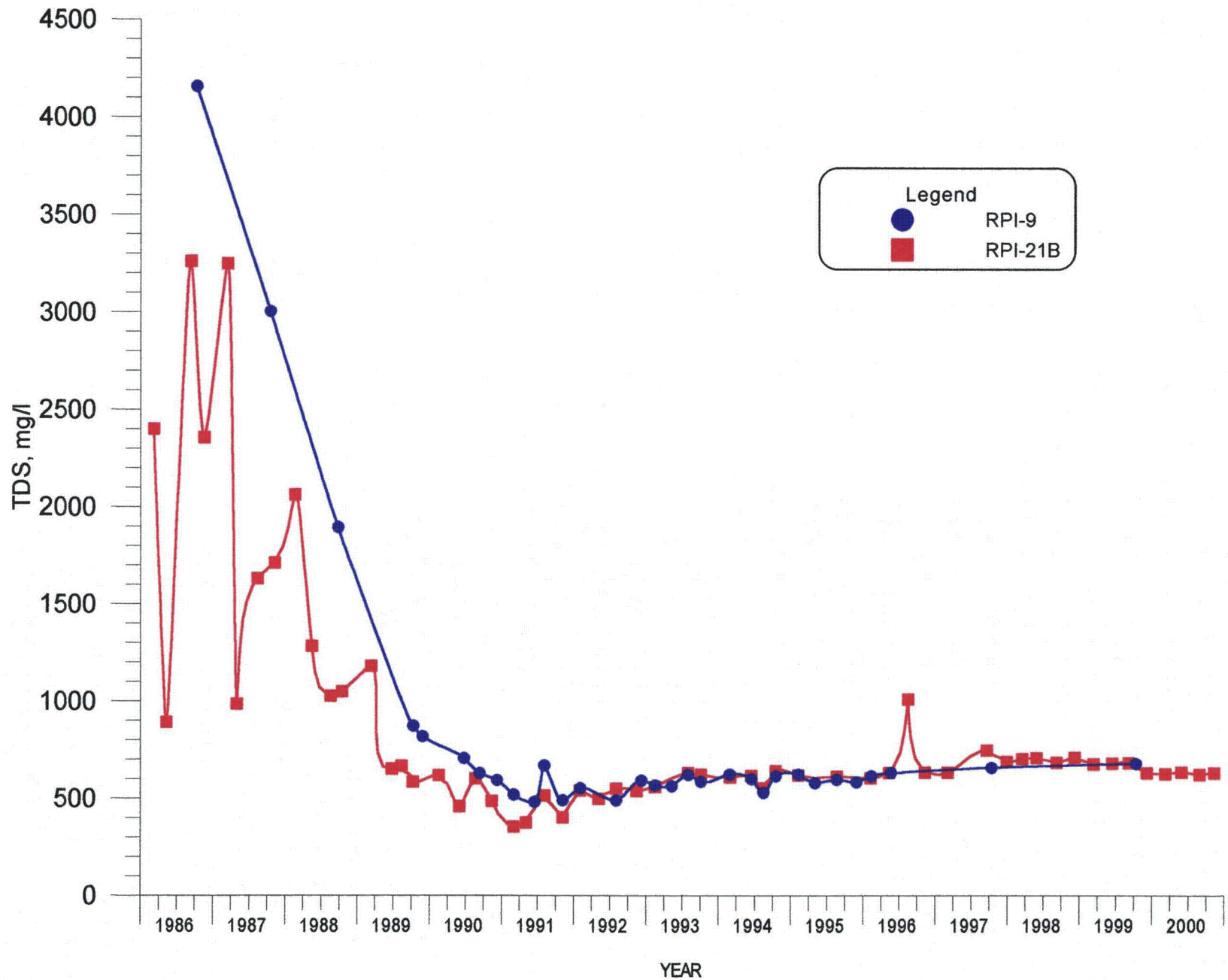


FIGURE 4.2-1. TDS CONCENTRATIONS FOR WELLS RPI-9 AND RPI-21B.

4.2-4

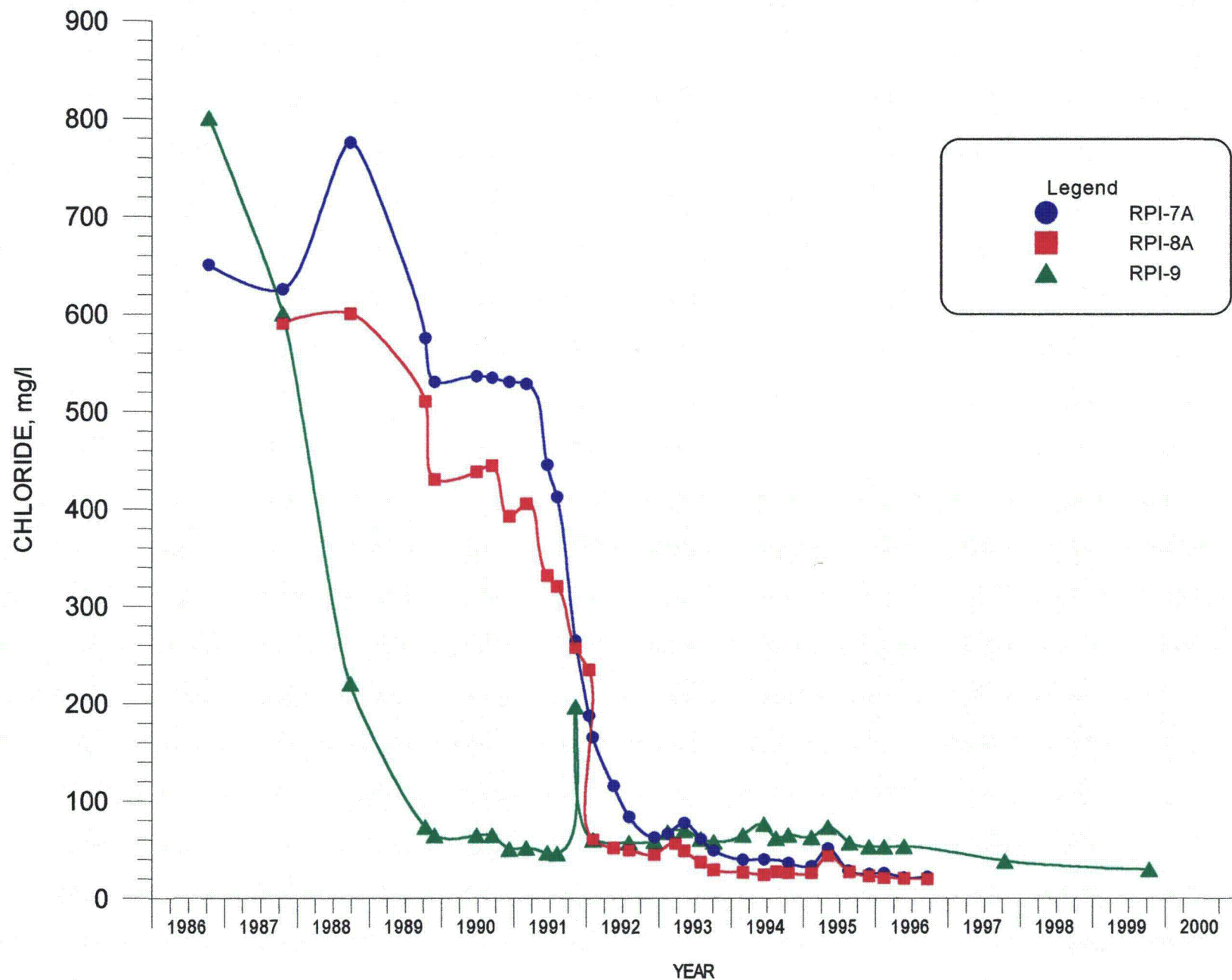


FIGURE 4.2-2. CHLORIDE CONCENTRATIONS FOR WELLS RPI-7A, RPI-8A AND RPI-9.

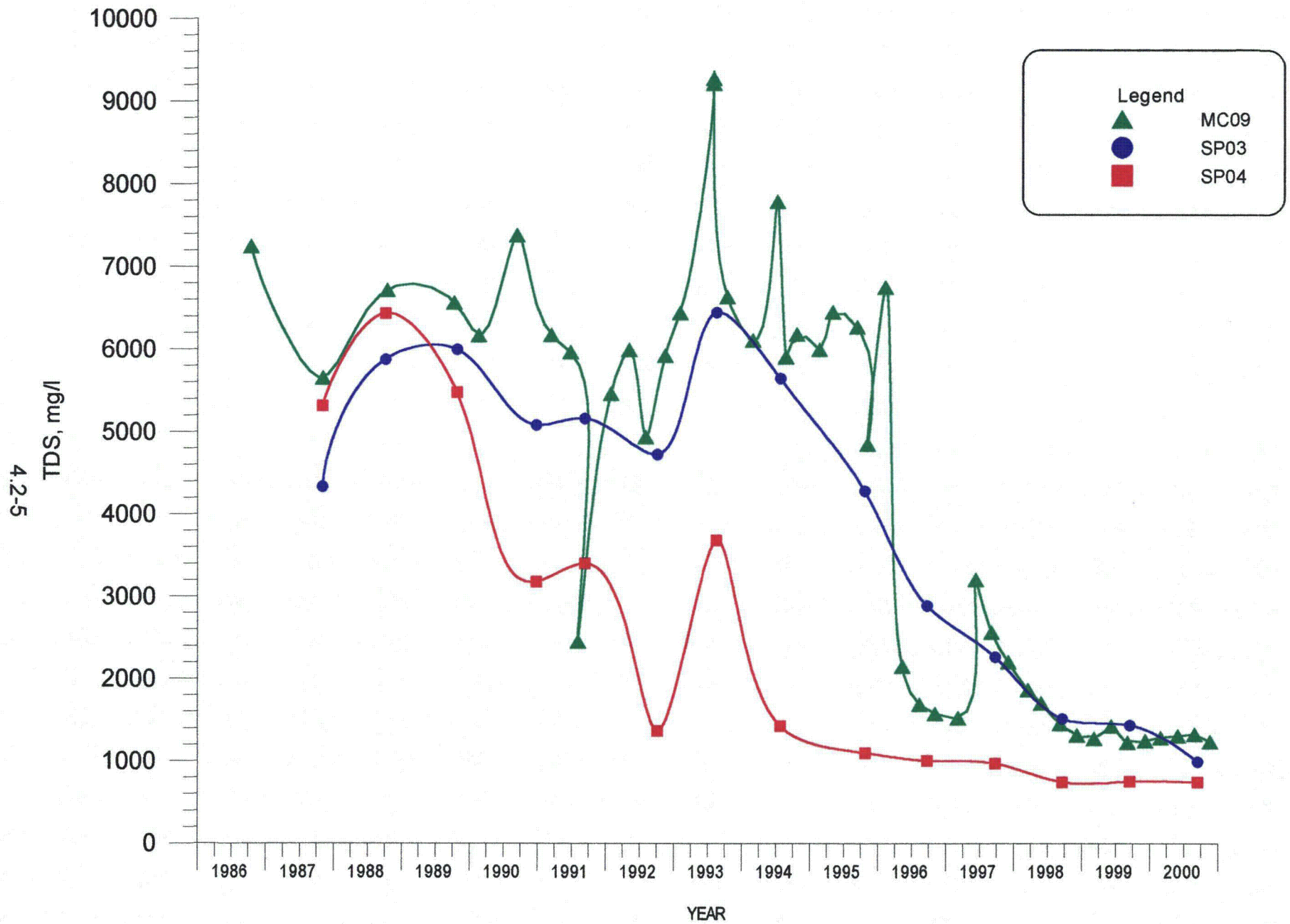


FIGURE 4.2-3. TDS CONCENTRATIONS FOR WELLS MC09, SP03 AND SP04.

4.3 MINE CREEK CHANNEL AREA

Contaminant concentrations in monitor wells RPI-19B, MCR02, and MCR01, are considered indicative of the effectiveness of collection/recharge efforts in the Mine Creek area. Figure 4.3-1 presents the chloride concentrations for wells RPI-19B and MCR02. The ground water in this area is nearly restored and continues to show modest declines in constituent concentrations.

Contaminant concentrations in the Surficial aquifer of the lower Mine Creek area have been significantly affected by the recharge lines. Figure 4.3-2 illustrates that TDS concentrations in wells RPI-17A and RPI-18A have been relatively stable for over nine years, while well RPI-20A has shown a modest but consistent decline over the same period.

4.3-2

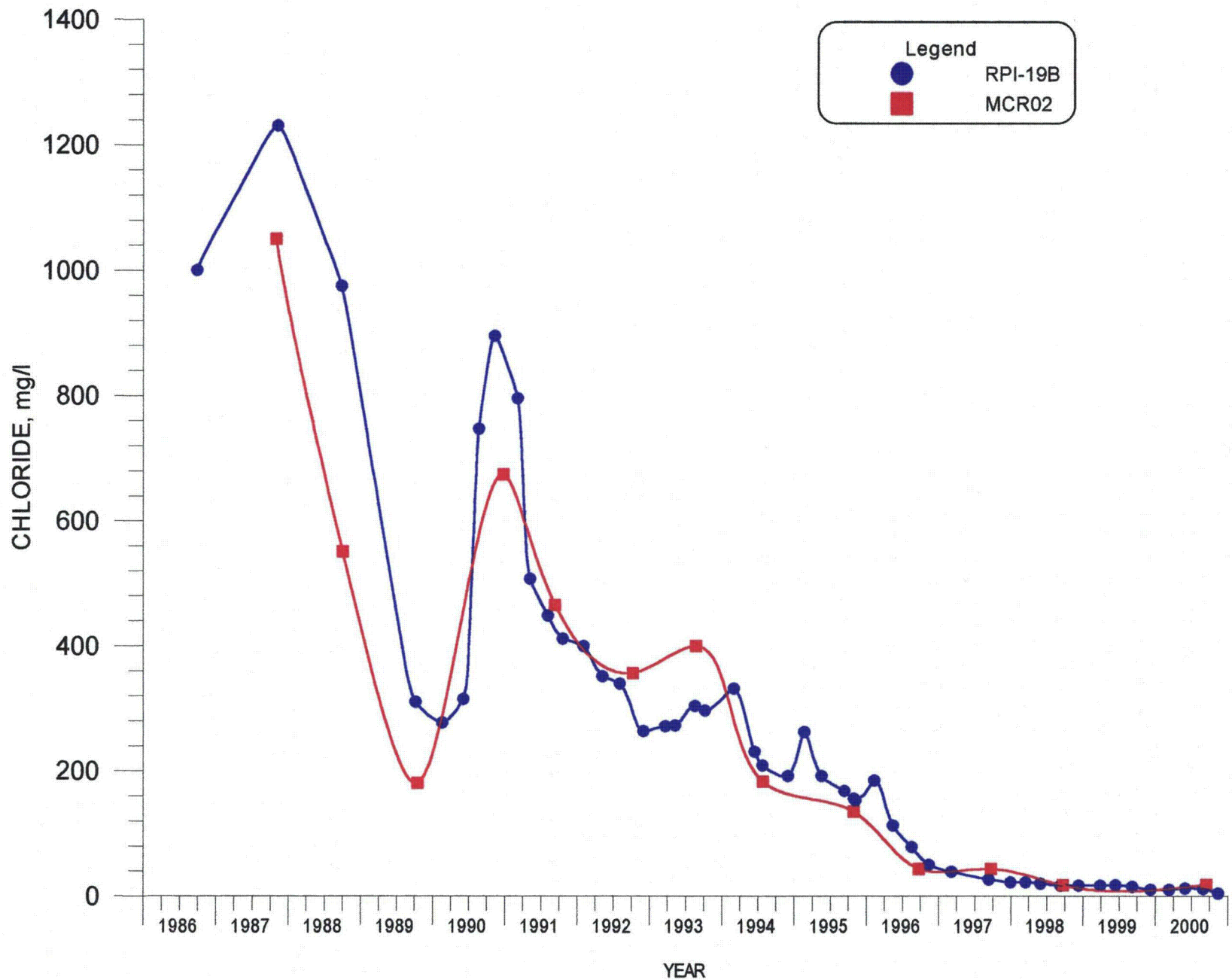


FIGURE 4.3-1. CHLORIDE CONCENTRATIONS FOR WELLS RPI-19B AND MCR02.

4.3-3

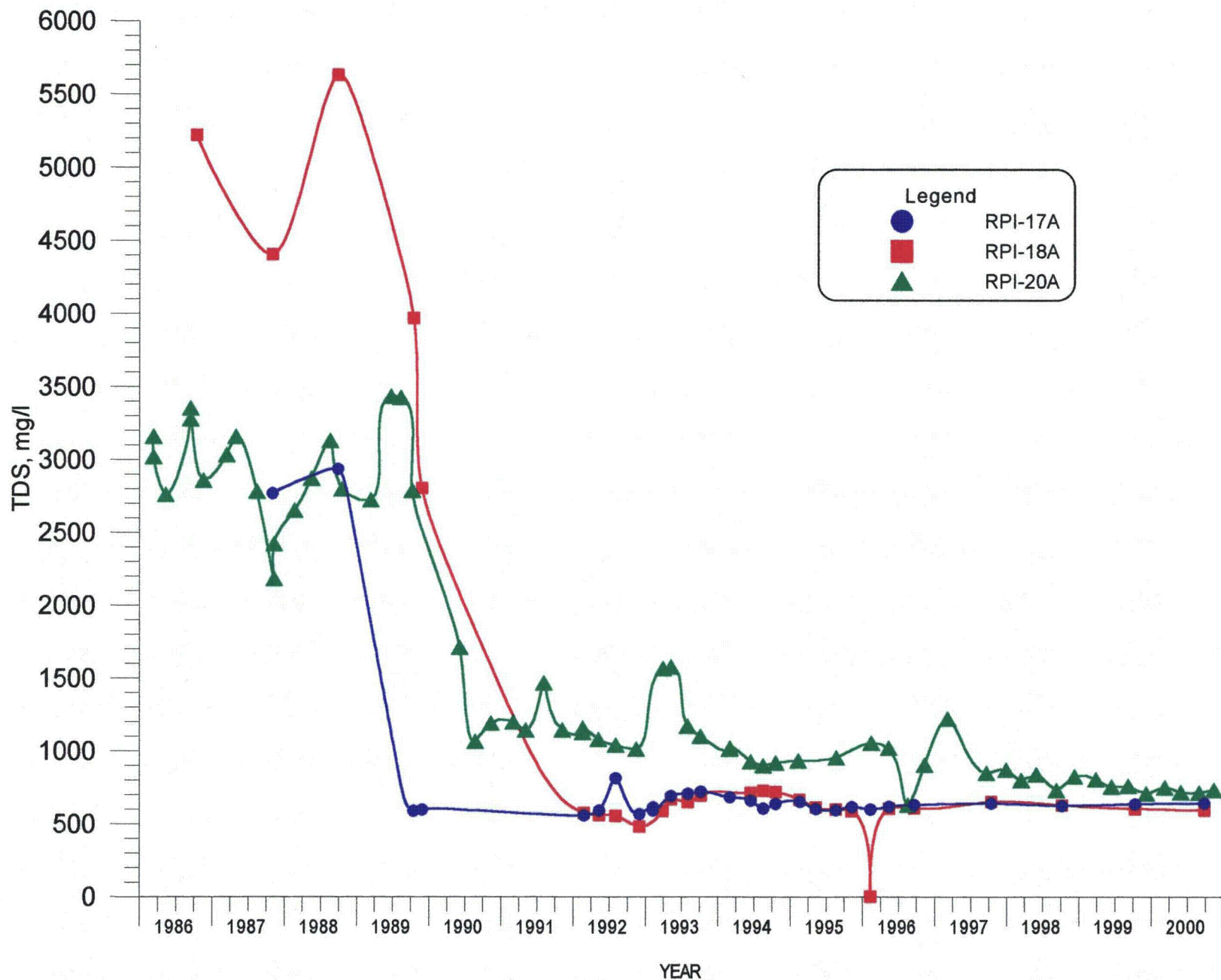


FIGURE 4.3-2. TDS CONCENTRATIONS FOR WELLS RPI-17A, RPI-18A AND RPI-20A.

4.4 NORTH INJECTION WELL AREA

An injection and monitoring well system for the northern perimeter of the No. 5 dam was installed in 1994. Water quality samples were taken from wells to monitor the performance of this system. The data in Tables A-1 and A-2 of Appendix A and Figures 4.4-1 and 4.4-2 indicate some changes in the water quality of wells NS-2 and MC-15 that is thought to reflect the influence of injection water. The recent water quality changes in well MC15 also indicate a seasonal cycling. A three year declining trend in TDS concentration for well MC15 through 2000 (see Figure 4.4-2) is promising and indicates that restoration is progressing.

4.4-2

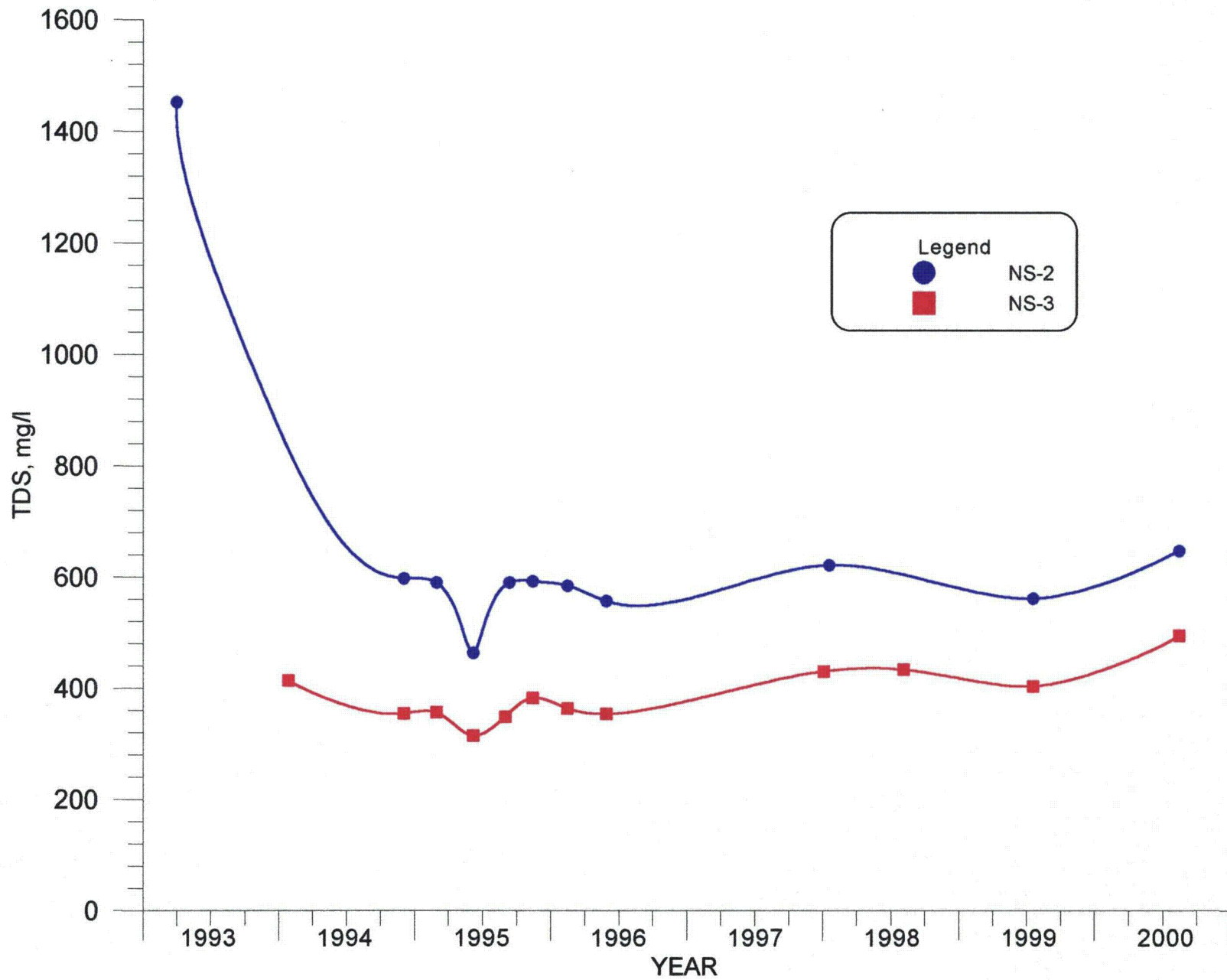


FIGURE 4.4-1. TDS CONCENTRATIONS FOR WELLS NS-2 AND NS-3.

4.4-3

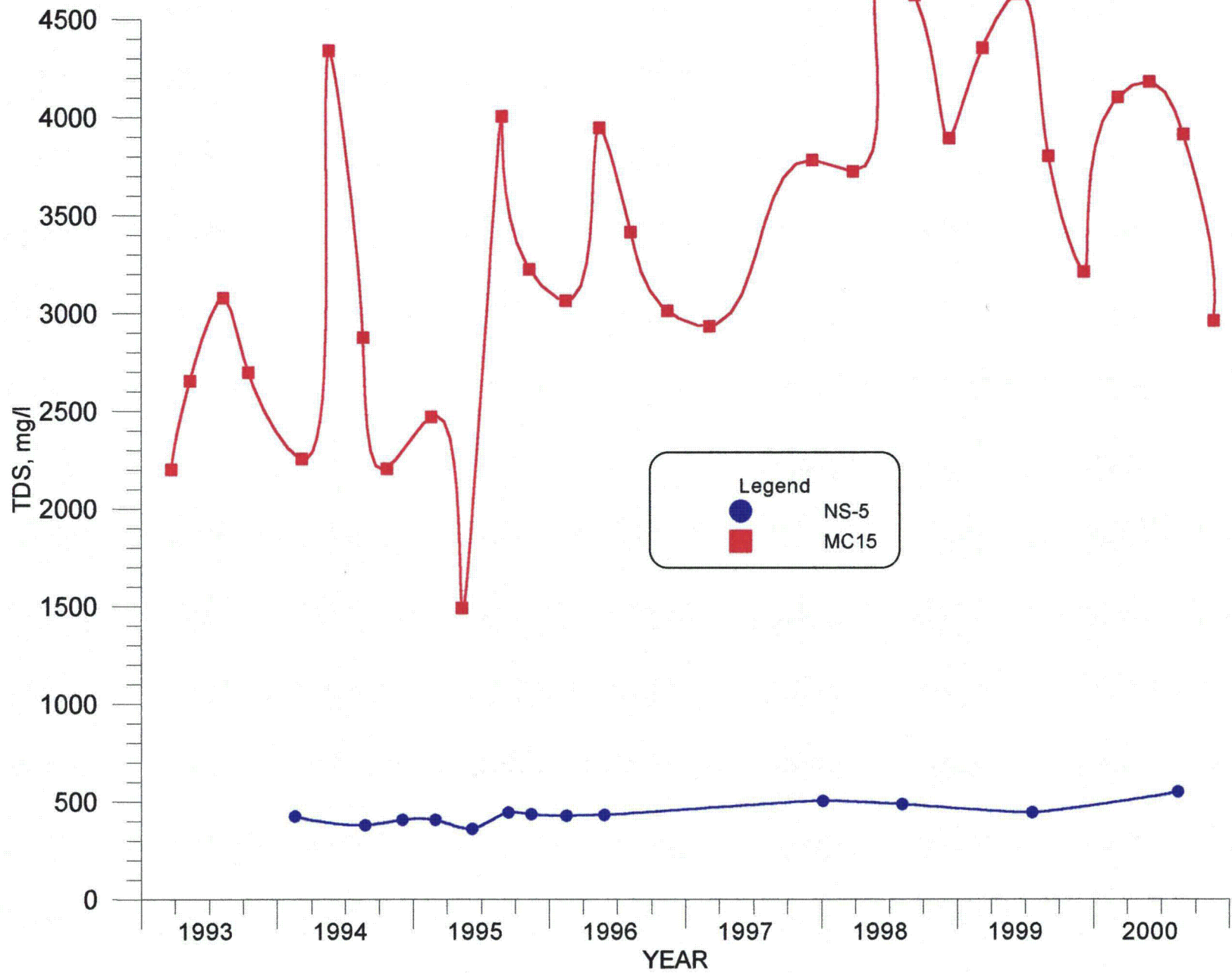


FIGURE 4.4-2. TDS CONCENTRATIONS FOR WELLS NS-5 AND MC15.

4.5 GENERAL TAILINGS AREA

The water quality in the Surficial aquifer to the west and south of the tailings impoundments varies widely. Water quality data for this area is presented in Tables A-1 and A-2 of Appendix A. Within the immediate area of the tailings, all Surficial aquifer wells show seepage effects. These effects range from relatively mild contamination at injection well TWI-3 on the northern perimeter of the tailings impoundment, to severe contamination at well TW4-5B.

Contamination at well WWL-3A appears to be mild to moderate, and the water quality had been relatively consistent until the conductivity measurement of 1996. There is likely some remnant contamination at this well.

Well WWL-10B on the southwest side of the tailings appears to be unaffected by tailings seepage, although the data is somewhat erratic. Much of the recharge for this well likely comes through mine spoil materials, and the erratic nature of the water quality is likely a result of seasonal or cyclic recharge. Well WWL12B shows mild to moderate seepage impacts. Well WWL-13B, which is located south of the former mill location shows elevated concentrations which likely result from activity in the mill area. Figures 4.5-1 and 4.5-2 present the TDS and chloride concentrations, respectively, for wells WWL-12B and WWL-13B. Seepage impacts in well WWL-12B have gotten progressively worse over the period of record and this well is probably affected by both tailings seepage and mill area activity. While both chloride and TDS concentrations in well WWL-13B have changed over the period of record, there is only a readily discernible trend in TDS. This tends to indicate that the source is local, and that cessation of mill related activities may allow natural processes to alleviate the contamination.

Data for well WWL-15A west of the tailings indicate mild to moderate seepage impacts with a distinct deteriorating trend in water quality in recent years. Well WWL-20B is located south of the tailings, and has shown relatively mild impacts, that are not thought to be related to the tailings (Figure 4.5-3). The tailings are

located downgradient of well WWL-20B and it is unlikely that this gradient has been reversed strongly enough to cause movement to this well.

Wells WWL-4B and WWL-4A do not appear to be impacted by seepage based on chloride, TDS and uranium concentrations. However, radium 226 activities for these wells as noted in Table A-1 are very erratic and elevated. Radium 226 has proven to be nearly immobile in the tailings area. The presence of radium 226 at high levels in these wells without attendant major ions usually associated with tailings seepage is a strong indication that the wells are affected by a source other than tailings seepage. Well WWL-4B has typically shown very limited saturation in a shallow sand within the Surficial aquifer and recently went dry. The source of the radium 226 is unknown, but the lack of other contaminants at levels typical of tailings seepage indicates that this could be a natural mineralized zone.

Chloride concentrations for the remainder of the tailings area indicate moderate seepage effects for the Surficial aquifer beneath much of the No. 4 Tailings pond, the No. 5 Tailings pond, and extending through the No. 3 Solution pond area. With the exception of well MC-15, the seepage impacts to the north of the tailings are very mild and contained relatively close to the tailings. On the northwest side of the tailings, Surficial aquifer wells WWL14A and WWL14B exhibit mild to moderate contamination. Well WWL14A is believed to be a representative Surficial aquifer well and showed almost no indication of seepage impacts until 1996, when water quality deteriorated significantly. The 2000 water quality data for this well indicates no substantial change. One possible explanation for this change in water quality is that the nearby injection well operation has altered gradients and pushed seepage affected water to this well. If this is the case, eventual termination of injection/collection efforts will reduce gradients and will likely leave this area as a relatively stagnant portion of the Surficial aquifer. Well WWL14B is believed to be representative of a perched zone above the Surficial aquifer. The water level indicates nearly direct recharge from nearby evaporation ponds and spray systems, and the water quality is correspondingly impacted.

Figure 4.0-2 presents the TDS contours for the Surficial aquifer near the tailings for 2000. In the Mine Creek area, TDS concentration contours closely resemble the chloride concentration contours. In the remainder of the tailings area, the chloride and TDS contours indicate a similar degree of seepage impacts and progress in restoration of the Surficial aquifer water quality.

The latest field conductivity data for the Surficial aquifer near the containment system are presented in Figure 4.0-3. There is a modest improvement in water quality in the collection area east of the tailings and a modest deterioration of water quality in the Surficial aquifer beneath the tailings indicated by the field conductivity. The conductivity contours resemble those of chloride and TDS concentrations.

Uranium concentrations in the Surficial aquifer tend to reflect the presence of some areas with characteristics that enhance uranium mobility. The zone of greatest uranium concentration is immediately around the Mine Creek area collection wells (Figure 4.0-4). Although uranium concentrations are not particularly large anywhere in the Surficial aquifer, it is peculiar that many of the larger concentrations are in the collection area outside of the tailings impoundments. Uranium appears to be somewhat selectively mobile as indicated by dramatic variations in concentrations, particularly when compared to the level of contamination indicated by chloride, TDS or field conductivity. It is postulated that there is a combination of pH and the presence of carbonates in the formation that enhances the solubility of uranium in specific areas. In general, uranium concentrations have decreased slightly during 2000 throughout the tailings area. However, due to low levels and more erratic historic records for uranium, a large change in uranium concentration or a substantial historic record of change is necessary before much confidence can be associated with the changes. Well WWL13B exhibits anomalously high uranium concentrations, and this is believed to be a local phenomenon related to mill area activity.

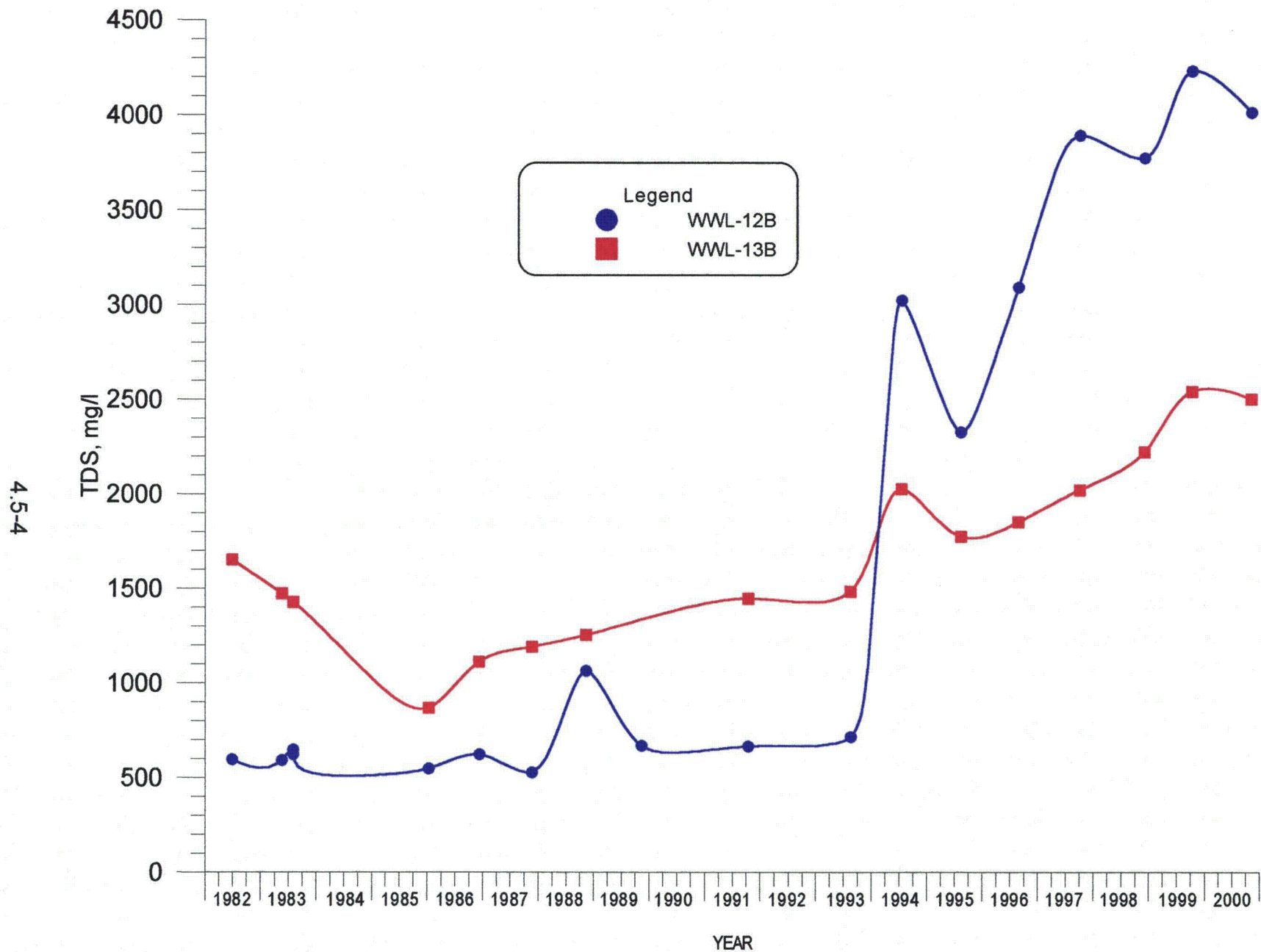


FIGURE 4.5-1. TDS CONCENTRATIONS FOR WELLS WWL-12B AND WWL-13B.

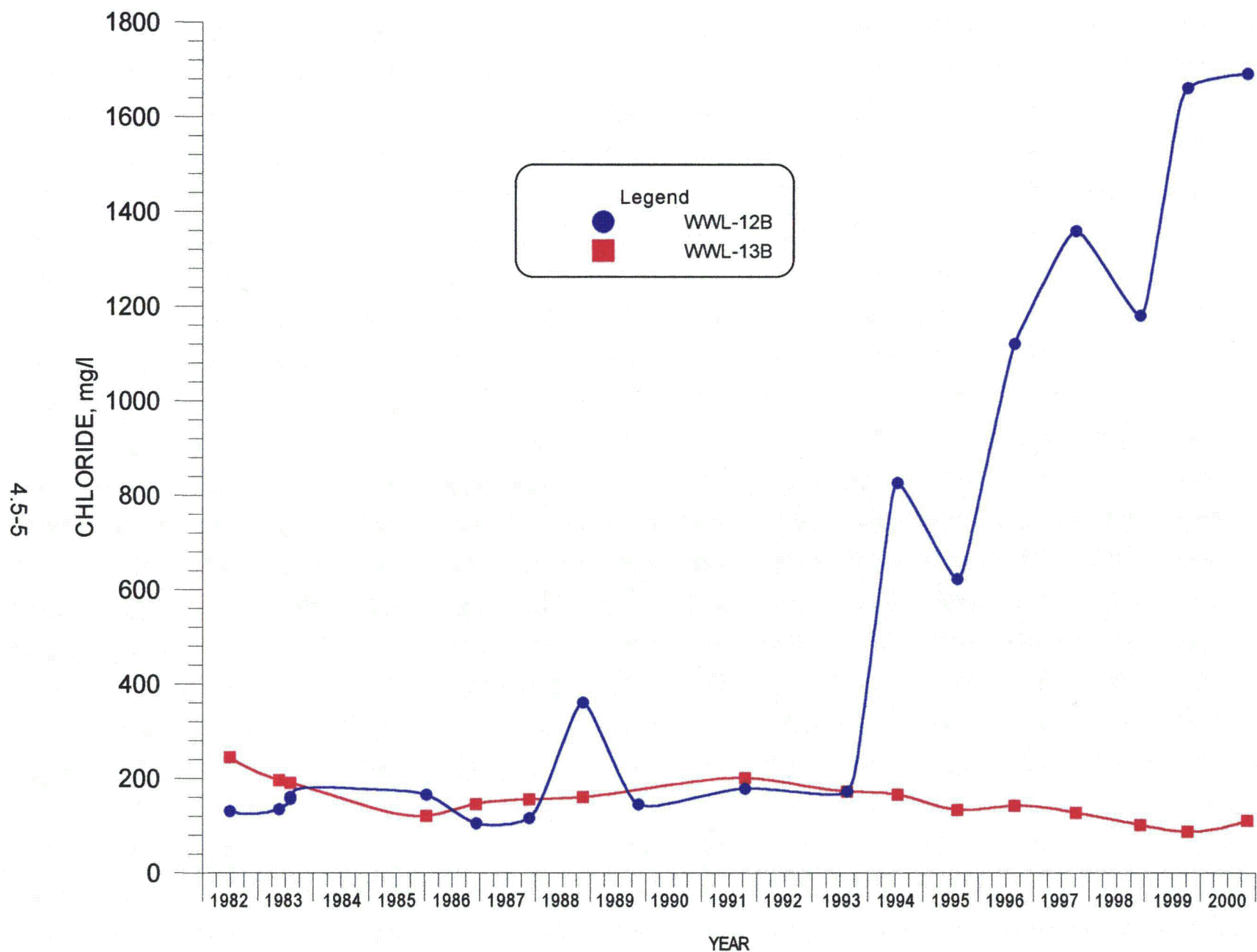


FIGURE 4.5-2. CHLORIDE CONCENTRATIONS FOR WELLS WWL-12B AND WWL-13B.

4.5-6

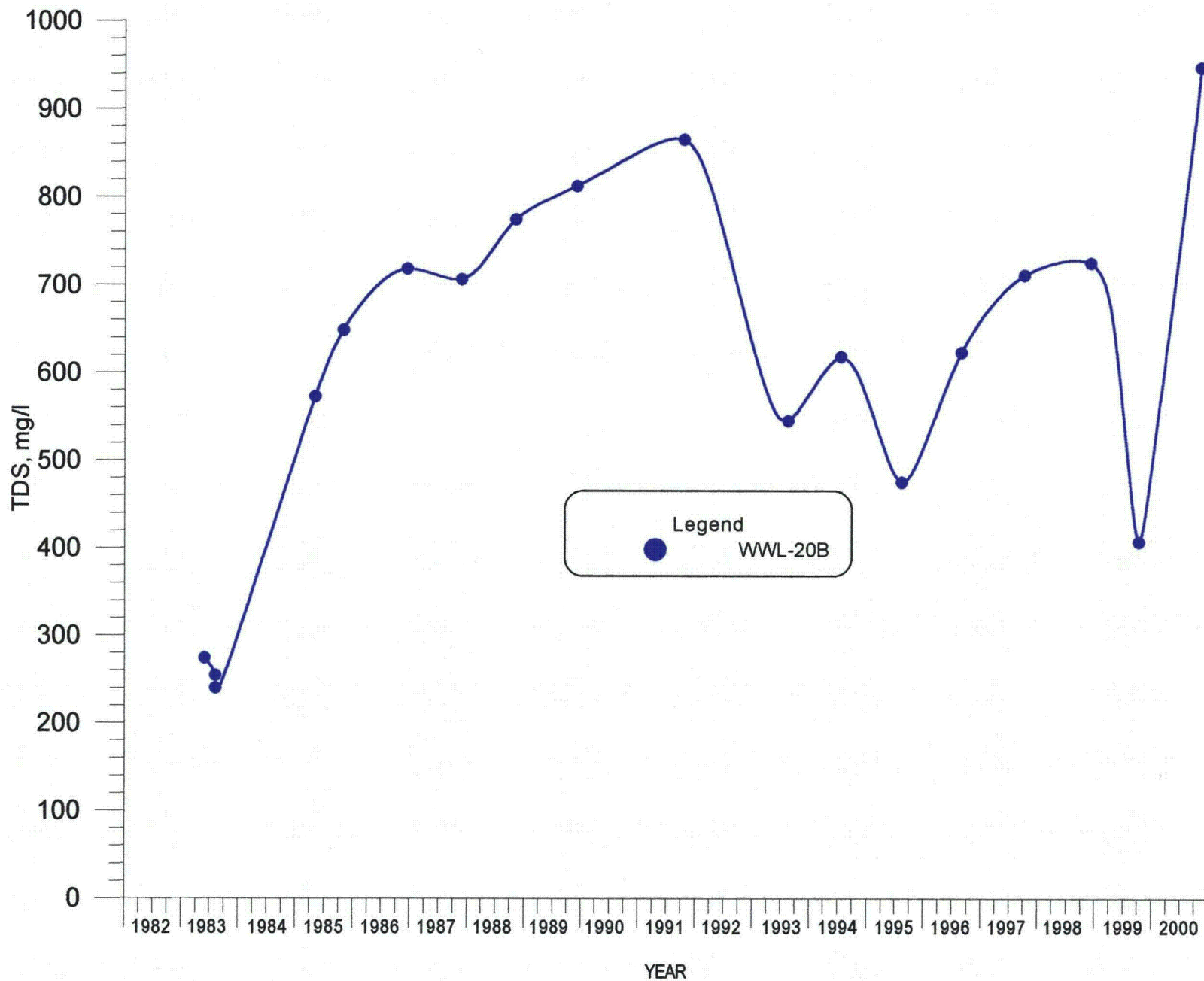


FIGURE 4.5-3. TDS CONCENTRATIONS FOR WELL WWL-20B.

5.0 SURFACE WATER MONITORING

Surface-water monitoring of Spring Creek in the past has been used to show the minimal impact of seepage on surface-water quality in Spring Creek (Spring Creek intercepts the flow from the Surficial aquifer). With the restoration of the Surficial aquifer, particularly in the Mine Creek area, the tailings-impacted seepage contribution to Spring Creek has been all but eliminated. One indication of seepage impact on Spring Creek is measured at Mine Creek, site SW8. This is where the surface water from Mine Creek is sampled before entering Spring Creek. Typical late season base flow in Spring Creek is in excess of 300 gpm, and thus the Mine Creek contribution of approximately 5 gpm is only a fraction of the composite flow. Table 5.0-1 shows several years monitoring results at SW8. Water quality at SW8 has stabilized over recent years with only seasonal changes. The SW8 site shows only very slightly elevated concentrations of indicator constituents.

The SW2 site is in Spring Creek just downstream of Mine Creek while the SW3 site is downstream of all of the Surficial discharge (see Figure 5.0-1). Like site SW8, the general water quality at these two sites has shown only seasonal fluctuations in recent years, with very little or no impacts of tailings seepage (see Table 5.0-1).

The SW1A site is located upstream of any site impacts and is considered representative of background surface water quality conditions. The 1992 water quality data for SW1A (see Table 5.0-1) show drastic improvement as a result of cessation of mine dewatering discharge. The major constituent concentration values are considered representative of background. Prior to 1992, mine dewatering discharge (under an NPDES permit) upstream of site SW1A influenced water quality at this monitoring point. The 2000 water quality data exhibits some quality deterioration and this is thought to be anomalous.

Five additional samples were taken during 1999 in conjunction with a program to measure flow in Spring Creek. These locations were labeled Weir-1, Weir-2, Weir-3, Fox Creek (labeled as Weir-4 in Table C-1) and Weir-5. The weir and flume locations are shown on Figure 5.0-1. The water quality at these locations (see Appendix C) is consistent with that at the SW sites. There is a very slight increase in constituent concentrations while moving downstream on Spring Creek.

TABLE 5.0-1. SURFACE-WATER MONITORING (mg/l).

	<u>SW8 1988</u>	<u>SW8 1989</u>	<u>SW8 1991</u>	<u>SW8 1992</u>	<u>SW8 1993</u>	<u>SW8 1994</u>	<u>SW8 1995</u>	<u>SW8 1996</u>	<u>SW8 1997</u>	<u>SW8 1998</u>	<u>SW8 1999</u>	<u>SW8 2000</u>
	<u>10-06-88</u>	<u>10-24-89</u>	<u>11-12-91</u>	<u>10-18-92</u>	<u>10-02-93</u>	<u>10-12-94</u>	<u>10-20-95</u>	<u>10-22-96</u>	<u>12-16-97</u>	<u>6-03-98</u>	<u>12-04-99</u>	<u>11-15-00</u>
TSS	2.6	8.0	-	17	-	4.7	10.0	<1.0	12	1.2	<1.0	-
TDS	3084	1114	1070	1062	1002	1131	992	919	756	828	648	694
Cl	600	137	144	96.8	81.1	54	69	42.7	28	46.8	23.6	8.7
SO ₄	316	376	415	371	352	377	357	356	291	339	262	269
U-Nat	1.39	0.03	0.04	0.03	0.025	0.01	0.01	0.0262	0.055	0.0319	0.0260	0.0218
Ra ^{226*}	2.0±0.5	3.0±0.6	5.6±0.5	3.8	1.0	1.0	2.5	4.4±0.4	3.7±0.3	1.9	1.3	2.0
Th ^{230*}	0.3±0.2	0.2±0.2	0.8±<0.2	<0.2	-	<0.2	2.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pb ^{210*}	1.6±0.9	1.2±1.6	-	2.0	-	2.4	1.6	<1.0	<1.0	<1.0	<1.0	<1.0
Po ^{210*}	0.5±0.2	0.2±0.2	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
pH	7.9	7.4	7.7	8.0	8.0	8.3	7.9	7.2	6.91	7.7	7.3	7.0
Cond.	2590	1135	1368	1496	1449	1755	1596	1632	1044	1287	3229	997

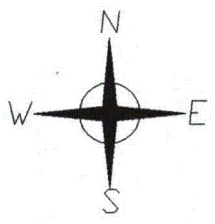
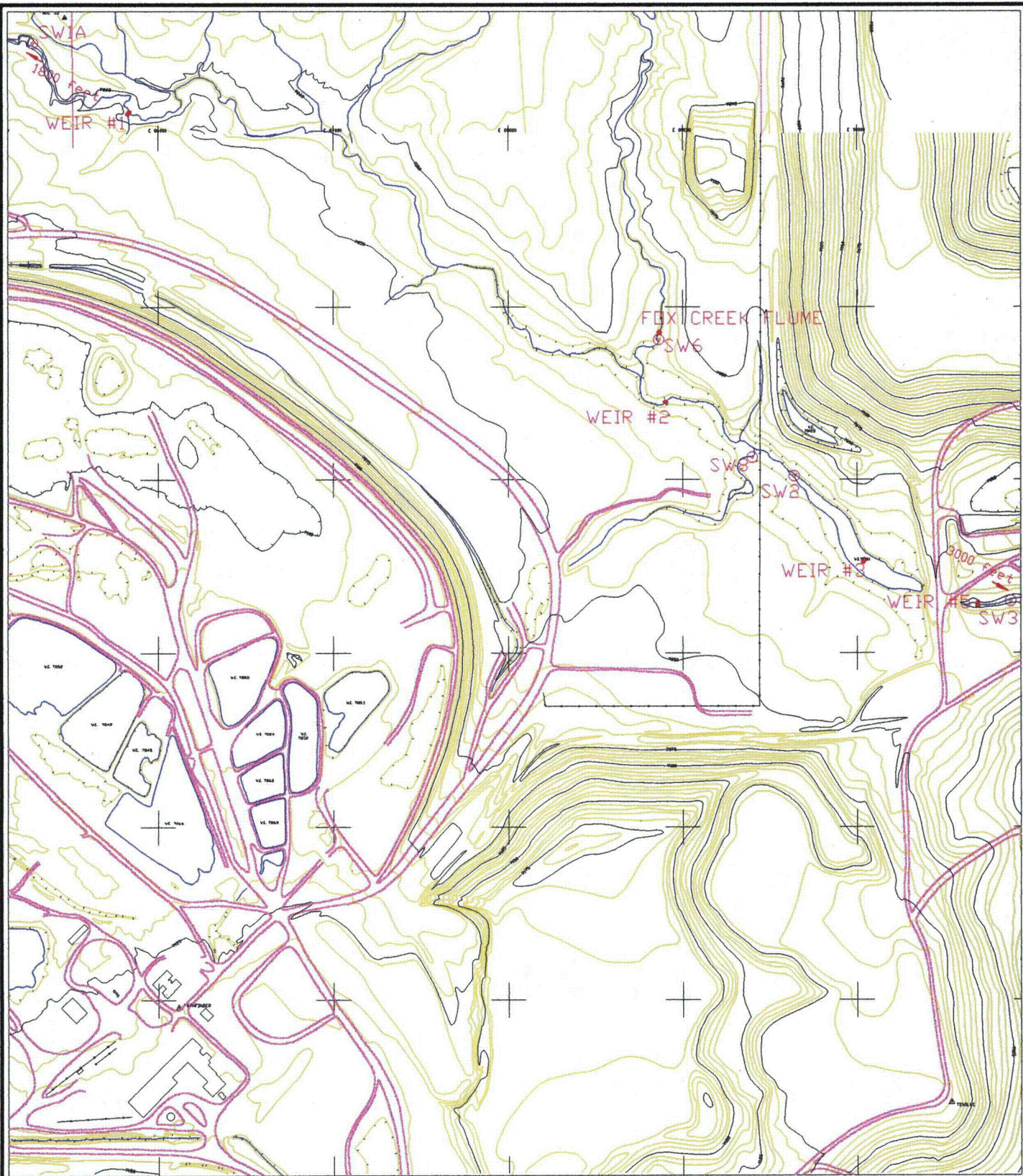
	<u>SW1A 1991</u>	<u>SW1A 1992</u>	<u>SW1A 1993</u>	<u>SW1A 1994</u>	<u>SW1A 1995</u>	<u>SW1A 1996</u>	<u>SW1A 1997</u>	<u>SW1A 1998</u>	<u>SW1A 1999</u>	<u>SW1A 2000</u>
	<u>11-12-91</u>	<u>10-17-92</u>	<u>11-09-93</u>	<u>10-12-94</u>	<u>10-20-95</u>	<u>10-22-96</u>	<u>12-15-97</u>	<u>6-03-98</u>	<u>12-07-99</u>	<u>11-21-00</u>
TSS	-	0	2.5	2.0	17.6	1.4	6.9	6.8	1.0	-
TDS	975	192	312	220	257	230	227	251	213	525
Cl	57.9	1.9	2.2	<1.0	<1.0	1.1	2.1	2.6	3.8	32.4
SO ₄	599	27.1	16.3	13.9	15.8	14.9	18.5	13.9	22.2	91.0
U-Nat	0.45	0.015	0.019	0.02	0.02	0.0146	0.0191	0.0190	0.0246	0.0625
Ra ^{226*}	0.7±0.3	<0.2	0.5	<0.2	0.20	<0.2	<0.2	0.8	<0.2	<0.2
Th ^{230*}	<0.2	<0.2	<1.0	<0.2	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2
Pb ^{210*}	-	<1.0	3.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Po ^{210*}	-	<1.0	<1.0	<1.0	1.6	<1.0	<1.0	<1.0	<1.0	<1.0
pH	7.7	8.2	7.9	8.0	7.7	7.2	6.5	6.67	7.65	6.25
Cond.	1207	317	375	449	393	389	261	346	246	796

TABLE 5.0-1. SURFACE-WATER MONITORING (mg/l) (cont.)

	<u>SW2 1991</u> <u>11-12-91</u>	<u>SW2 1992</u> <u>11-21-92</u>	<u>SW2 1993</u> <u>11-09-93</u>	<u>SW2 1994</u> <u>10-12-94</u>	<u>SW2 1995</u> <u>10-20-95</u>	<u>SW2 1996</u> <u>10-22-96</u>	<u>SW2 1997</u> <u>12-15-97</u>	<u>SW2 1998</u> <u>6-03-98</u>	<u>SW2 1999</u> <u>12-03-99</u>	<u>SW2 2000</u> <u>11-15-00</u>
TSS	-	19	16.0	6.0	14.8	15.0	4.3	9.9	3.0	-
TDS	947	257	326	303	333	292	289	286	324	293
Cl	61.5	17.7	14.4	13.8	16.6	15.9	9.2	11.9	18.8	<1
SO ₄	548	44.9	40.5	40	44	37.4	42.8	44.9	58.8	43.4
U-Nat	0.43	0.03	0.028	0.02	0.02	0.0202	0.0255	0.0242	0.0420	0.0264
Ra ²²⁶ *	0.4±0.2	0.6	0.7	<0.2	1.4	0.6±0.2	<0.2	<0.2	<0.2	0.5
Th ²³⁰ *	<2.0	<1.0	<1.0	<0.2	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2
Pb ²¹⁰ *	-	<1.0	4.3	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Po ²¹⁰ *	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.4	<1.0	<1.0
pH	7.8	7.9	8.1	8.3	8.2	7.6	7.05	7.45	7.20	6.30
Cond.	1242	483	600	528	529	345	392	475	552	435

	<u>SW3 1991</u> <u>11-12-91</u>	<u>SW3 1992</u> <u>10-19-92</u>	<u>SW3 1993</u> <u>11-09-93</u>	<u>SW3 1994</u> <u>10-12-94</u>	<u>SW3 1995</u> <u>10-20-95</u>	<u>SW3 1996</u> <u>10-22-96</u>	<u>SW3 1997</u> <u>12-16-97</u>	<u>SW3 1998</u> <u>6-03-98</u>	<u>SW3 1999</u> <u>12-03-99</u>	<u>SW3 2000</u> <u>11-21-00</u>
TSS	-	33	15.0	39	19.2	57	3.7	7.0	10.0	-
TDS	902	296	387	303	387	388	312	313	314	314
Cl	53.3	24.2	18.7	17.7	20	21.0	11.7	13.2	16.9	15.7
SO ₄	519	58.3	57.6	56.0	70	80.7	47.1	56.9	63.3	48.9
U-Nat	0.43	0.021	0.031	0.03	0.03	0.0232	0.0298	0.0261	0.0450	0.0294
Ra ²²⁶ *	0.9±0.3	0.7	0.3	0.9	0.30	0.6±0.2	0.6	0.8	<0.2	<0.2
Th ²³⁰ *	<0.2	<0.2	<1.0	2.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Pb ²¹⁰ *	-	<0.1	<1.0	<1.0	4.0	<1.0	<1.0	<1.0	<1.0	<1.0
Po ²¹⁰ *	-	<0.1	<1.0	2.3	1.6	<1.0	<1.0	<1.0	<1.0	<1.0
pH	8.1	8.3	8.2	8.6	8.1	8.0	6.87	8.06	7.50	6.7
Cond.	1172	497	600	528	609	669	435	765	565	501

* = pCi/L



PATHFINDER PATHFINDER MINES CORPORATION SHIRLEY BASIN, WYOMING		
FIGURE 5.0-1. SURFACE WATER MONITORING LOCATIONS		
DRAWN BY: TGM	DATE: 3-2000	SCALE: 1"=800' FIG5_0-1.DWG
REVIS. NO.:	HYDRO-ENGINEERING	

6.0 WHITE RIVER AQUIFER MONITORING

Water quality for White River aquifer wells is presented in Tables B-1 and B-2 of Appendix B. White River wells WW-22 and WW-23 are located downgradient of the tailings. Data obtained during 2000 from these wells is typical of historical data. Well WW-22 was only used as a recharge supply well for the first few weeks of 1999. Chloride concentrations are less than 23 mg/l, and sulfate concentration is in the expected range of values. TDS concentrations are fairly steady. The uranium concentration in well WW-22 is greater than that in well WW-23, but there are no indications of seepage impacts based on chloride and TDS concentrations. Uranium concentrations have historically been highly variable in the White River aquifer in this area indicating the likely presence of natural mineralized zones..

White River aquifer water in wells WWL-16A and WWL-18A has shown significantly higher TDS and SO₄ concentrations than other unaffected White River wells in the tailings area. However, chloride concentrations for these wells do not indicate any significant seepage effects, and the tailings or mill area activities are not likely sources of these constituents. Well WWL-16A is located approximately 4,000 feet south of the Industrial Pond and Well WWL-18A is located approximately 3000 feet south west of the Industrial Pond. Because of the great distance from the active tailings area, and the lower chloride concentrations, the constituent concentrations in these wells are believed to be the result of natural variations.

Well WWL-20A (see Figure 2.1-1 for location) has shown elevated chloride concentrations since it was sampled in 1983. Subsequent water quality analyses have not indicated any substantive change in water quality. Elevated chloride concentrations are usually indicative of contamination by tailings solution. However, the adjacent Surficial aquifer well, WWL-20B, is only mildly impacted. If the elevated constituent concentrations were due to seepage from a source in the tailings area, the concentrations would be expected to continue to increase and the nearby Surficial well would be expected to show equivalent or more severe seepage impacts. The ratio of SO₄ concentration to chloride concentration is also different than most analyses for impacted

Surficial wells. The SO_4/CL ratio was consistently greater than 1 for well WWL-20A, while the ratio is less than 1 for many impacted Surficial wells. This combination of factors seems to indicate that the constituents in this well result from natural conditions.

White River well WH-9 (see Figure 2.1-1 for location) has shown elevated concentrations of major ions for several years. The general gradient between wells WH-9 on the west side of the tailings and well WW-22 and WW-23 on the east side of the tailings is to the southeast. The magnitude of the gradient has increased as a result of pumping of wells WW-22 and WW-23 to supply injection water. With the general White River aquifer gradient to the southeast, it is unlikely that the elevated concentrations in well WH-9 result from seepage of tailings to the White River aquifer. Based on the expected movement of ground water in the White River aquifer, the source of constituents in WH-9 would appear to be west of the well, or in the immediate vicinity of the well.

7.0 ADDITIONS TO SURFICIAL AQUIFER COLLECTION AND INJECTION.

No substantial additions were made to the Surficial Aquifer collection or injection system in 2000. Operation of many of the tailings area Surficial collection wells has been subject to weather constraints and interference by construction activities, but, in general, a great deal of effort has been expended in keeping the better producing wells pumping continuously. PMC has also instituted a periodic well development program to improve the performance of both collection and injection wells.

8.0 TAILINGS DEWATERING AND EVAPORATION

A total of 46 pumping wells are currently included in the tailings dewatering system. During 2000, average dewatering rates were 64 gpm for the No. 4 pond and 25.5 gpm for the No. 5 pond. This is reduced from the maximum cumulative dewatering rate of 250 gpm achieved in mid-1995 and is roughly a 30% reduction from the 1999 rates. Large dewatering rates were achieved shortly after installation of a number of wells in the more permeable areas of the tailings. With continued lowering of water levels in the tailings and the extraction of water from the more permeable tailings, the yield from many tailings wells has declined. Tailings wells also represent an extremely harsh pumping environment and the wells are prone to chemical precipitation problems. Consequently, it is difficult to maintain large dewatering rates, particularly during cold weather, when freezing is a problem. Four dewatering wells (TW4-17C, TW4-18C, TW4-19C and TW4-21C) were installed on Pond No. 4 during late 1998 and early 1999.

Water levels in the tailings have been lowered by the dewatering efforts. Several tailings wells are monitored to evaluate dewatering progress. In Pond No. 5, the water levels continue to drop with a typical decline of 1 to 1.5 feet over year 2000. In Pond No. 4, water levels have declined between 0 and 4 feet over 2000. The largest water level decline was in well TW4-12C, (see Figure 2.1-1) indicating that progress in dewatering now extends further to the west than previous years. The recently completed construction of two more clay-lined evaporation ponds in the northwest end of Pond 5 (see Figure 1.2-1) has allowed the transfer of the pooled water in Pond 4.

8.1 ENHANCED EVAPORATION

The enhanced evaporation system consisted of about 812 sprinkler heads and 30 to 47 surface acres of solution ponds. At the beginning of 2000, the estimated volume of ponded water in the tailings area was 55 million gallons. Water added to the ponded water volume during 2000 consisted of approximately 2.9 million gallons of Surficial collection water, roughly 47 million gallons of tailings water extracted through dewatering wells, and precipitation. The volume of precipitation is very difficult to estimate, but is likely to be 10 to 15 million gallons. The volume of water left in ponds at the end of 2000 is estimated at 20 million gallons. A series of water transfers in late 2000 makes it difficult to quantify pond volumes. This gives a total 2000 evaporation volume estimate of 95 to 100 million gallons.

At the end of 2000, approximately 32 acres of shallow ponds were in use, including the newly constructed evaporation ponds. Surface water in the No. 5 Pond was removed in 1996. Surface water in the No. 4 Pond was transferred to the new evaporation ponds in late 2000. The evaporation surface area in year 2000 was in a state of flux as the remaining water in the No. 4 Pond was evacuated to supply spray systems and transferred to other evaporation ponds.

9.0 RECOMMENDATIONS

Continued operation of both Surficial aquifer restoration and tailings dewatering systems is the primary concern. The current Surficial collection/injection program should be continued through at least mid-2001 pending consideration of the ACL application. With the demonstrated improvements in well performance with air development, wells that diminish in performance should be redeveloped.

APPENDIX A
SURFICIAL WATER QUALITY DATA

TABLE OF CONTENTS - TABLES

- A-1. Cl, SO₄, pH, TDS, Conductivity, As, Se, U, Ra₂₂₆, Ra₂₂₈, and Ra₂₂₆₊₂₂₈
- A-2. Th₂₃₀, Gross Alpha, Ba, Be, Cd, Cr, NO₃, Fe, Pb, Mo, and Ni

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
5A-1	4/1/1976	400	55.0	--	--	--	--	--	--	0.0210	--	--
	2/16/1977	--	--	--	--	--	--	--	--	0.260	--	--
	3/10/1977	3.30	1.000	--	--	--	--	--	--	--	--	--
	5/12/1977	300	344	--	--	--	--	--	--	0.400	--	--
	8/31/1977	--	--	--	--	--	--	--	--	5.50	--	--
	9/13/1977	360	--	--	--	--	--	--	--	--	--	--
	12/1/1977	--	--	--	--	--	--	--	--	0.820	--	--
	12/2/1977	660	930	--	--	--	--	--	--	--	--	--
	2/24/1978	814	1200	--	--	--	--	--	--	0.810	--	--
	9/15/1978	413	520	--	--	--	--	--	--	1.12	--	--
	11/9/1978	644	900	--	--	--	--	--	--	1.51	--	--
	2/19/1979	665	720	--	--	--	--	--	--	1.46	--	--
	6/26/1979	799	820	--	--	--	--	--	--	0.960	--	--
	8/30/1979	680	750	--	--	--	--	--	--	2.00	--	--
	10/15/1979	--	--	--	--	--	--	--	--	1.46	--	--
	11/30/1979	749	775	--	--	--	--	--	--	1.07	--	--
	2/13/1980	813	1100	--	--	--	--	--	--	1.28	--	--
	6/4/1980	847	1007	--	--	--	--	--	--	0.580	--	--
	8/26/1980	950	1235	--	--	--	--	--	--	0.230	--	--
	11/18/1980	730	1200	--	--	--	--	--	--	1.06	--	--
	4/6/1981	890	1300	--	--	--	--	--	--	1.30	--	--
	6/3/1981	1000	1200	--	--	--	--	--	--	0.300	--	--
	9/3/1981	1137	1555	--	--	--	--	--	--	0.100	--	--
	11/17/1981	920	1100	--	--	--	--	--	--	0.400	--	--
	2/18/1982	1100	1400	--	--	--	--	--	--	0.200	--	--
	4/22/1982	1160	1940	--	5180	--	--	--	--	--	--	--
	10/11/1982	1130	1520	7.40	5812	6260	< 0.0200	< 0.0050	--	--	--	--
	2/3/1983	1220	1740	--	5990	6150	--	--	--	--	--	--
	5/27/1983	1220	1740	--	5904	6100	--	--	--	--	--	--
	8/26/1983	1010	1610	7.90	4898	8120	< 0.0050	< 0.0050	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
5A-1	7/18/1984	1120	1780	—	6176	—	—	—	—	—	—	—
	11/8/1985	890	880	7.00	3096	2990	< 0.0040	< 0.0010	—	—	—	—
	10/16/1986	1250	1120	7.10	6240	5200	< 0.0040	0.0020	—	—	—	—
	11/17/1987	1200	1600	7.50	5010	4645	< 0.0040	0.0030	—	—	—	—
	10/28/1988	950	1180	7.30	4268	3430	< 0.0040	0.0038	—	—	—	—
	8/15/1989	—	—	7.00	—	3015	0.0023	< 0.0010	—	0.100	—	—
	9/13/1989	—	—	6.70	—	2340	< 0.0020	0.0020	—	—	0.300	0.300
	10/9/1989	755	900	7.20	3478	2815	< 0.0020	< 0.0020	—	0.100	0.400	0.500
	2/19/1990	862	704	7.60	3239	2740	—	—	—	—	—	—
	6/6/1990	88.0	1026	7.50	4240	3265	< 0.0010	< 0.0010	—	0.800	< 1.000	< 1.80
	9/12/1990	644	802	7.60	2856	2535	—	—	—	—	—	—
	11/14/1990	929	1052	7.20	4000	3275	< 0.0010	0.0040	—	0.200	< 1.000	< 1.20
	3/15/1991	843	982	7.20	3346	3290	—	—	—	—	—	—
	5/21/1991	1091	1020	7.10	4622	3510	< 0.0010	0.0050	—	0.300	< 1.000	< 1.30
	8/6/1991	785	816	7.40	3734	3200	—	—	—	—	—	—
	9/18/1991	912	1051	7.30	3948	3968	< 0.0010	0.0020	—	0.500	< 1.000	< 1.50
	11/12/1991	910	1102	7.20	3542	3960	< 0.0010	0.0030	—	0.200	3.20	3.40
	2/7/1992	939	1049	6.90	3991	4200	< 0.0010	0.0060	—	0.400	< 1.000	< 1.40
	5/20/1992	982	1016	6.60	4208	4760	< 0.0010	0.0030	—	< 0.200	< 1.000	< 1.20
	8/9/1992	843	1036	6.80	3942	5120	—	—	—	—	—	—
	12/8/1992	696	651	6.90	2522	3500	0.0020	0.0180	—	1.000	1.40	2.40
	12/8/1992	—	—	—	—	3960	—	—	—	—	—	—
	3/24/1993	745	826	6.80	3109	4830	< 0.0010	0.0050	—	< 0.200	< 1.000	< 1.20
	3/24/1993	—	—	6.70	—	5670	—	—	—	—	—	—
	5/12/1993	1254	1478	6.80	5275	6767	—	—	—	—	—	—
	8/9/1993	924	949	6.80	3771	5670	—	—	—	—	—	—
	8/24/1993	766	861	7.10	3435	4340	< 0.0010	0.0050	—	1.30	< 1.000	< 2.30
	10/13/1993	686	699	6.90	2898	4410	< 0.0010	0.0030	—	1.80	< 1.000	< 2.80
	3/8/1994	726	620	6.88	2589	4154	0.0020	0.0010	—	0.600	5.30	5.90
	5/17/1994	691	646	7.00	3351	4092	0.0010	0.0040	—	0.700	< 1.000	< 1.70

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
5A-1	7/29/1994	750	669	6.90	3317	4340	< 0.0010	0.0030	—	1.000	< 1.000	< 2.00
	12/7/1994	831	696	6.90	3141	4752	< 0.0010	0.0030	—	0.800	< 1.000	< 1.80
	2/22/1995	802	758	6.70	3074	4645	—	—	—	—	—	—
	5/19/1995	1306	1079	6.70	4941	5993	0.0010	0.0020	1.91	0.800	< 1.000	1.80
	9/15/1995	653	647	6.80	2834	3800	—	—	—	—	—	—
	10/30/1995	728	698	6.80	2943	3597	0.0020	0.0030	0.912	0.700	1.000	1.70
	2/15/1996	827	749	6.20	3257	4250	—	—	—	—	—	—
	5/21/1996	766	811	6.70	3803	5760	0.0020	0.0030	1.86	< 0.200	< 1.000	< 1.20
	8/17/1996	658	678	6.70	2953	3990	—	—	—	—	—	—
	11/6/1996	625	665	6.60	2600	375	< 0.0010	0.0010	1.11	0.600	< 1.000	< 1.60
	3/7/1997	648	732	—	2570	—	—	—	—	—	—	—
	6/11/1997	817	893	6.78	4100	4900	0.0020	0.0060	1.44	< 0.200	< 1.000	< 1.20
	9/8/1997	634	809	6.81	2980	4006	—	—	—	—	—	—
	12/26/1997	492	643	—	2090	—	—	0.0060	1.24	< 0.200	< 1.000	< 1.20
	3/4/1998	420	586	6.83	1930	2835	—	—	—	—	—	—
	6/1/1998	432	641	7.02	2180	2997	0.0020	0.0060	1.15	< 0.200	< 1.000	< 1.20
	9/8/1998	335	535	7.19	1800	2384	—	—	—	—	—	—
	12/1/1998	280	487	6.43	1560	2888	0.0020	0.0050	0.730	0.500	< 1.000	< 1.50
	3/9/1999	274	558	7.01	1610	2362	—	—	—	—	—	—
	6/15/1999	274	595	6.61	873	2547	0.0020	0.0080	0.581	0.600	< 1.000	< 1.60
	9/7/1999	207	516	6.74	1420	2251	—	—	—	—	—	—
	12/7/1999	180	472	6.70	1210	1377	0.0020	0.0060	0.509	< 0.200	< 1.000	< 1.20
	3/8/2000	16.6	415	6.55	1160	1659	—	—	—	—	—	—
5/23/2000	—	—	6.25	—	2560	—	—	—	—	—	—	
8/29/2000	275	620	6.80	1670	2200	—	—	—	—	—	—	
11/14/2000	203	469	6.40	1370	1925	0.0020	0.0100	0.608	0.500	< 1.000	< 1.50	
DM-2	4/1/1976	—	—	—	—	—	—	—	—	0.0280	—	—
	7/15/1976	5.00	30.0	—	—	—	—	—	0.0780	0.800	—	—
	2/16/1977	—	—	—	—	—	—	—	—	0.500	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
DM-2	3/10/1977	8.90	2.30	--	--	--	--	--	--	--	--	--
	5/12/1977	15.0	23.0	--	--	--	--	--	0.0850	1.40	--	--
	8/31/1977	--	--	--	--	--	--	--	--	1.01	--	--
	9/13/1977	< 0.100	20.0	--	--	--	--	--	--	--	--	--
	12/1/1977	12.0	28.0	--	--	--	--	--	0.120	0.250	--	--
	2/24/1978	4.20	26.0	--	--	--	--	--	--	2.10	--	--
	2/20/1979	--	--	--	--	--	--	--	--	0.760	--	--
	9/29/1983	--	--	--	--	550	--	--	--	--	--	--
	1/30/1993	--	--	--	--	1742	--	--	--	--	--	--
	3/24/1993	346	46.2	7.90	947	1534	0.0020	0.0010	0.0360	1.60	< 1.000	< 2.60
	3/24/1993	--	--	7.30	--	1704	--	--	--	--	--	--
	4/21/1993	--	--	--	--	1932	--	--	--	--	--	--
	5/11/1993	430	43.0	7.50	986	1072	--	--	--	--	--	--
	6/27/1993	--	--	--	--	1860	--	--	--	--	--	--
	7/28/1993	--	--	--	--	1674	--	--	--	--	--	--
	8/4/1993	311	49.9	7.90	898	1534	--	--	--	--	--	--
	9/22/1993	--	--	--	--	1800	--	--	--	--	--	--
	10/12/1993	367	51.4	7.80	1040	1890	< 0.0010	< 0.0010	0.0380	1.60	6.70	8.30
	11/19/1993	--	--	--	--	1656	--	--	--	--	--	--
	1/21/1994	--	--	--	--	2010	--	--	--	--	--	--
	2/18/1994	--	--	--	--	2030	--	--	--	--	--	--
	3/5/1994	411	51.2	7.53	1009	2244	< 0.0010	< 0.0010	0.0590	0.900	6.10	7.00
	4/12/1994	--	--	--	--	1628	--	--	--	--	--	--
	5/13/1994	--	--	7.50	--	1716	--	--	--	--	--	--
	6/8/1994	--	--	--	--	1728	--	--	--	--	--	--
	7/15/1994	--	--	--	--	1488	--	--	--	--	--	--
	8/20/1994	267	42.9	7.50	762	1560	< 0.0010	< 0.0010	0.0760	2.20	3.50	5.70
	9/29/1994	--	--	--	--	1440	--	--	--	--	--	--
	10/22/1994	--	--	--	--	1408	--	--	--	--	--	--
	12/11/1994	--	--	--	--	1452	--	--	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
DM-2	1/20/1995	—	—	—	—	1748	—	—	—	—	—	—
	2/19/1995	260	44.0	7.60	772	1481	—	—	—	—	—	—
	3/17/1995	—	—	—	—	1593	—	—	—	—	—	—
	4/21/1995	—	—	—	—	1525	—	—	—	—	—	—
	5/12/1995	315	63.0	7.20	765	1480	0.0010	0.0010	0.109	0.700	< 1.000	< 1.70
	5/12/1995	—	—	7.50	—	1611	—	—	—	—	—	—
	6/18/1995	—	—	—	—	1552	—	—	—	—	—	—
	7/20/1995	—	—	—	—	1494	—	—	—	—	—	—
	8/22/1995	—	—	—	—	1480	—	—	—	—	—	—
	8/27/1995	271	7.50	7.20	740	1480	—	—	—	—	—	—
	10/19/1995	—	—	—	—	1606	—	—	—	—	—	—
	11/13/1995	303	52.1	7.29	896	1636	< 0.0010	< 0.0010	0.0850	0.900	1.20	2.10
	2/14/1996	298	51.8	7.00	826	1631	—	—	—	—	—	—
	5/21/1996	382	68.0	7.20	1042	1507	0.0030	< 0.0010	0.0890	0.600	< 1.000	< 1.60
MC01	12/14/1978	—	—	—	—	—	—	—	—	0.500	—	—
	2/21/1979	375	180	—	—	—	—	—	—	—	—	—
	6/28/1979	716	660	—	2400	—	0.0020	—	—	—	—	—
	10/15/1979	—	—	—	—	—	—	—	—	0.620	—	—
	9/23/1983	—	—	—	—	5910	—	—	—	—	—	—
	11/13/1987	575	820	7.20	2750	2770	—	—	—	—	—	—
	10/12/1988	110	232	7.60	814	975	—	—	—	—	—	—
	11/2/1989	17.0	74.0	7.60	384	465	—	—	—	—	—	—
MC03	2/20/1979	195	240	—	—	—	—	—	—	0.900	—	—
	10/15/1979	—	—	—	—	—	—	—	—	0.280	—	—
	9/28/1983	—	—	—	—	2920	—	—	—	—	—	—
	1/29/1987	—	—	7.30	—	3105	—	—	—	—	—	—
	5/28/1987	—	—	—	—	2900	—	—	—	—	—	—
	8/13/1987	—	—	—	—	2880	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC03	11/17/1987	963	760	7.50	3460	3415	--	--	--	--	--	--
	2/8/1988	--	--	--	--	3620	--	--	--	--	--	--
	5/11/1988	--	--	--	--	3220	--	--	--	--	--	--
	10/5/1988	600	500	7.20	2620	2230	--	--	--	--	--	--
	2/17/1989	--	--	--	--	1960	--	--	--	--	--	--
	5/8/1989	--	--	--	--	1670	--	--	--	--	--	--
	9/20/1989	--	--	--	--	695	--	--	--	--	--	--
	11/2/1989	9.00	267	7.70	590	655	--	--	--	--	--	--
	1/12/1990	--	--	--	--	675	--	--	--	--	--	--
	9/13/1990	--	--	--	--	725	--	--	--	--	--	--
	4/9/1991	--	--	--	--	625	--	--	--	--	--	--
	8/8/1991	--	--	--	--	870	--	--	--	--	--	--
	9/6/1991	--	--	--	--	1440	--	--	--	--	--	--
	10/11/1991	--	--	--	--	840	--	--	--	--	--	--
	11/8/1991	--	--	--	--	910	--	--	--	--	--	--
	12/16/1991	--	--	--	--	980	--	--	--	--	--	--
	5/19/1992	10.2	243	7.82	565	--	0.0010	< 0.0010	0.0080	0.700	< 1.000	< 1.70
	1/20/1993	--	--	--	--	1005	--	--	--	--	--	--
	2/9/1993	--	--	--	--	1020	--	--	--	--	--	--
	4/20/1993	--	--	--	--	1050	--	--	--	--	--	--
	5/18/1993	--	--	--	--	1072	--	--	--	--	--	--
	6/11/1993	--	--	--	--	1152	--	--	--	--	--	--
	7/27/1993	--	--	--	--	1088	--	--	--	--	--	--
	8/8/1993	--	--	--	--	1054	--	--	--	--	--	--
	9/21/1993	--	--	--	--	992	--	--	--	--	--	--
	10/15/1993	--	--	--	--	1280	--	--	--	--	--	--
	11/17/1993	--	--	--	--	1005	--	--	--	--	--	--
	1/14/1994	--	--	--	--	952	--	--	--	--	--	--
	2/16/1994	--	--	--	--	980	--	--	--	--	--	--
	3/15/1994	--	--	--	--	1104	--	--	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC03	4/19/1994	--	--	--	--	1088	--	--	--	--	--	--
	5/24/1994	--	--	--	--	1235	--	--	--	--	--	--
	6/9/1994	--	--	--	--	1024	--	--	--	--	--	--
	7/14/1994	--	--	--	--	1088	--	--	--	--	--	--
	8/19/1994	--	--	--	--	1056	--	--	--	--	--	--
	9/28/1994	--	--	--	--	1088	--	--	--	--	--	--
	10/21/1994	--	--	--	--	1024	--	--	--	--	--	--
	11/12/1994	--	--	--	--	1152	--	--	--	--	--	--
	12/11/1994	--	--	--	--	1343	--	--	--	--	--	--
	1/19/1995	--	--	--	--	1092	--	--	--	--	--	--
	2/17/1995	--	--	--	--	1040	--	--	--	--	--	--
	3/17/1995	--	--	--	--	1036	--	--	--	--	--	--
	4/20/1995	--	--	--	--	1036	--	--	--	--	--	--
	6/18/1995	--	--	--	--	1117	--	--	--	--	--	--
	7/19/1995	--	--	--	--	1099	--	--	--	--	--	--
	8/21/1995	--	--	--	--	1163	--	--	--	--	--	--
	10/18/1995	--	--	--	--	1165	--	--	--	--	--	--
	MC05	3/9/1979	327	505	--	--	--	--	--	--	1.60	--
6/28/1979		461	670	--	2050	--	0.0030	--	--	--	--	--
10/15/1979		--	--	--	--	--	--	--	--	1.16	--	--
9/23/1983		--	--	--	--	3990	--	--	--	--	--	--
11/17/1987		875	1300	7.40	3790	3660	--	--	--	--	--	--
10/5/1988		1000	1400	7.00	4796	3790	--	--	--	--	--	--
11/2/1989		1100	1300	7.10	4944	3855	--	--	--	--	--	--
9/13/1990		--	--	--	--	2685	--	--	--	--	--	--
4/9/1991		--	--	--	--	1665	--	--	--	--	--	--
8/8/1991		--	--	--	--	1240	--	--	--	--	--	--
9/6/1991		--	--	--	--	1386	--	--	--	--	--	--
10/11/1991	--	--	--	--	1220	--	--	--	--	--	--	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC05	11/7/1991	--	--	--	--	1280	--	--	--	--	--	--
	12/16/1991	--	--	--	--	1311	--	--	--	--	--	--
	5/19/1992	179	384	7.62	1157	--	0.0010	0.0170	0.373	0.600	< 1.000	< 1.60
	1/20/1993	--	--	--	--	1273	--	--	--	--	--	--
	3/22/1993	--	--	--	--	1496	--	--	--	--	--	--
	4/20/1993	--	--	--	--	1340	--	--	--	--	--	--
	5/18/1993	--	--	--	--	1320	--	--	--	--	--	--
	6/11/1993	--	--	--	--	1430	--	--	--	--	--	--
	7/27/1993	--	--	--	--	1300	--	--	--	--	--	--
	8/8/1993	--	--	--	--	1386	--	--	--	--	--	--
	9/21/1993	--	--	--	--	1260	--	--	--	--	--	--
	10/15/1993	--	--	--	--	1300	--	--	--	--	--	--
	11/17/1993	--	--	--	--	1206	--	--	--	--	--	--
	1/12/1994	--	--	--	--	1496	--	--	--	--	--	--
	2/16/1994	--	--	--	--	1716	--	--	--	--	--	--
	3/15/1994	--	--	--	--	1248	--	--	--	--	--	--
	4/19/1994	--	--	--	--	1340	--	--	--	--	--	--
	5/24/1994	--	--	--	--	1320	--	--	--	--	--	--
	6/9/1994	--	--	--	--	1340	--	--	--	--	--	--
	7/14/1994	--	--	--	--	1430	--	--	--	--	--	--
	8/18/1994	--	--	--	--	1488	--	--	--	--	--	--
	9/28/1994	--	--	--	--	1292	--	--	--	--	--	--
	10/21/1994	--	--	--	--	1408	--	--	--	--	--	--
	11/12/1994	--	--	--	--	1280	--	--	--	--	--	--
	12/10/1994	--	--	--	--	1229	--	--	--	--	--	--
	1/19/1995	--	--	--	--	1324	--	--	--	--	--	--
	2/17/1995	--	--	--	--	1410	--	--	--	--	--	--
	3/15/1995	--	--	--	--	1350	--	--	--	--	--	--
	4/20/1995	--	--	--	--	1343	--	--	--	--	--	--
	6/18/1995	--	--	--	--	1301	--	--	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)	
MC05	7/19/1995	--	--	--	--	1261	--	--	--	--	--	--	
	8/21/1995	--	--	--	--	1255	--	--	--	--	--	--	
	10/18/1995	--	--	--	--	1212	--	--	--	--	--	--	
	1/5/1998	10.3	275	7.64	654	1124	--	--	0.0217	--	--	--	
	8/7/1998	12.8	277	--	647	--	--	--	0.0198	--	--	--	
	7/21/1999	12.5	295	6.56	623	974	--	--	0.0240	--	--	--	
	8/15/2000	19.1	289	5.80	691	945	--	--	0.0195	--	--	--	
	MC06	3/12/1979	35.0	190	--	--	--	--	--	--	0.800	--	--
10/15/1979		--	--	--	--	--	--	--	--	0.130	--	--	
9/23/1983		--	--	--	--	1230	--	--	--	--	--	--	
1/28/1987		--	--	7.80	--	1600	--	--	--	--	--	--	
5/27/1987		--	--	7.40	--	1690	--	--	--	--	--	--	
7/15/1987		--	--	--	--	1650	--	--	--	--	--	--	
8/12/1987		--	--	--	--	1740	--	--	--	--	--	--	
9/9/1987		--	--	--	--	1610	--	--	--	--	--	--	
11/17/1987		470	74.0	7.50	1210	1630	--	--	--	--	--	--	
12/8/1987		--	--	--	--	1595	--	--	--	--	--	--	
2/8/1988		--	--	--	--	1520	--	--	--	--	--	--	
3/8/1988		--	--	--	--	1520	--	--	--	--	--	--	
4/19/1988		--	--	--	--	1240	--	--	--	--	--	--	
5/11/1988		--	--	--	--	1360	--	--	--	--	--	--	
6/22/1988		--	--	--	--	1475	--	--	--	--	--	--	
10/5/1988		480	104	7.40	1572	1465	--	--	--	--	--	--	
1/20/1989		--	--	--	--	1380	--	--	--	--	--	--	--
2/16/1989		--	--	--	--	1380	--	--	--	--	--	--	--
4/25/1989		--	--	--	--	1440	--	--	--	--	--	--	--
5/17/1989		--	--	--	--	1450	--	--	--	--	--	--	--
8/16/1989	--	--	7.00	--	785	0.0020	< 0.0010	0.110	1.000	0.900	1.90		
9/14/1989	--	--	7.70	--	3905	0.222	0.0049	0.690	1.50	2.50	4.00		

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC06	10/9/1989	438	1680	7.60	4052	3265	0.165	0.0029	1.35	1.60	2.60	4.20
	11/28/1989	125	1360	7.80	2598	2110	0.167	0.0068	0.693	—	—	—
	1/12/1990	—	—	—	—	1750	—	—	—	—	—	—
	1/15/1990	20.0	572	7.80	1183	1210	0.120	0.0030	0.250	< 0.200	1.10	< 1.30
	2/19/1990	37.0	892	8.20	1764	1525	—	—	—	—	—	—
	6/5/1990	27.0	747	8.00	1543	1405	0.120	< 0.0010	0.0900	1.10	< 1.000	< 2.10
	6/5/1990	—	—	—	—	—	0.117	—	0.0928	—	—	—
	8/24/1990	26.0	757	7.90	1373	1420	—	—	—	—	—	—
	11/15/1990	20.4	572	7.80	1183	1210	0.115	0.0030	0.250	< 0.200	1.10	< 1.30
	3/15/1991	18.1	741	8.10	1330	1315	—	—	—	—	—	—
	4/9/1991	—	—	—	—	1680	—	—	—	—	—	—
	6/28/1991	29.7	763	7.90	1442	1540	0.102	0.0050	0.310	0.900	< 1.000	< 1.90
	8/6/1991	19.4	580	8.10	1362	903	—	—	—	—	—	—
	9/6/1991	—	—	—	—	1449	—	—	—	—	—	—
	10/11/1991	—	—	—	—	1488	—	—	—	—	—	—
	11/7/1991	22.1	559	7.90	1131	1440	0.0990	0.0010	< 0.0003	0.500	< 1.000	< 1.50
	12/16/1991	—	—	—	—	1277	—	—	—	—	—	—
	1/30/1992	15.8	495	7.60	943	1311	0.0030	< 0.0500	0.237	0.300	< 0.100	< 0.400
	5/7/1992	36.4	806	7.80	1666	2244	0.112	0.0090	0.385	0.300	3.50	3.80
	8/4/1992	13.8	504	8.10	1152	1647	—	—	—	—	—	—
	11/16/1992	8.80	476	7.70	1078	1690	0.0820	0.0030	0.0370	< 0.200	< 1.000	< 1.20
	1/19/1993	—	—	—	—	1518	—	—	—	—	—	—
	3/23/1993	3.90	125	7.50	371	759	0.0200	< 0.0010	0.0940	1.10	< 1.000	< 2.10
	3/23/1993	—	—	7.80	—	—	—	—	—	—	—	—
	4/20/1993	—	—	—	—	2160	—	—	—	—	—	—
	5/10/1993	190	823	7.30	2290	3400	—	—	—	—	—	—
	6/11/1993	—	—	—	—	2860	—	—	—	—	—	—
	7/27/1993	—	—	—	—	1860	—	—	—	—	—	—
	8/3/1993	—	—	7.80	—	1865	—	—	—	—	—	—
	9/21/1993	—	—	—	—	1764	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC06	10/15/1993	6.60	405	8.00	1059	1536	0.0620	0.0020	0.156	0.700	1.000	1.70
	11/17/1993	—	—	—	—	1608	—	—	—	—	—	—
	1/12/1994	—	—	—	—	1836	—	—	—	—	—	—
	2/16/1994	—	—	—	—	1540	—	—	—	—	—	—
	3/3/1994	4.19	57.9	7.69	144	280	0.0030	< 0.0010	0.0170	3.80	< 1.000	< 4.80
	4/19/1994	—	—	—	—	1541	—	—	—	—	—	—
	5/18/1994	11.1	377	7.80	910	1584	0.0420	< 0.0010	0.0010	1.000	25.2	26.0
	6/9/1994	—	—	—	—	1340	—	—	—	—	—	—
	7/13/1994	—	—	—	—	1365	—	—	—	—	—	—
	8/18/1994	8.40	317	8.20	702	1300	0.0170	< 0.0010	0.108	0.500	5.90	6.40
	9/28/1994	—	—	—	—	1197	—	—	—	—	—	—
	10/21/1994	9.60	326	—	780	1188	0.0240	< 0.0010	0.113	0.900	< 1.000	< 1.90
	11/12/1994	—	—	—	—	1203	—	—	—	—	—	—
	12/10/1994	—	—	7.60	—	1046	—	—	—	—	—	—
	1/18/1995	—	—	—	—	1206	—	—	—	—	—	—
	2/17/1995	9.00	254	7.40	664	1183	—	—	—	—	—	—
	3/15/1995	—	—	—	—	1154	—	—	—	—	—	—
	4/20/1995	—	—	—	—	1183	—	—	—	—	—	—
	5/11/1995	31.0	341	8.00	954	1432	0.0560	0.0140	0.184	1.20	< 1.000	2.20
	6/18/1995	—	—	—	—	2461	—	—	—	—	—	—
	7/19/1995	—	—	—	—	2323	—	—	—	—	—	—
	8/21/1995	16.3	341	7.50	839	1837	—	—	—	—	—	—
	10/17/1995	—	—	—	—	1649	—	—	—	—	—	—
	11/8/1995	18.3	306	7.40	762	1170	0.0410	0.0050	0.147	1.60	< 1.000	2.60
	2/12/1996	< 1.000	58.3	7.00	135	238	—	—	—	—	—	—
	5/14/1996	16.6	370	7.70	990	1300	0.0480	0.0050	0.248	0.800	1.20	2.00
	8/13/1996	16.3	206	7.50	684	1134	—	—	—	—	—	—
	11/6/1996	14.3	439	7.60	1130	1794	0.0350	0.0050	0.192	1.60	< 1.000	< 2.60
	3/7/1997	19.0	798	—	1710	—	—	—	—	—	—	—
	6/11/1997	12.4	552	7.53	1350	1900	0.0580	0.0020	0.187	3.10	< 1.000	< 4.10

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC06	9/3/1997	26.9	321	7.42	837	1764	--	--	--	--	--	--
	12/4/1997	11.0	463	7.17	1150	1568	--	0.0110	0.266	< 0.200	< 1.000	< 1.20
	3/20/1998	99.3	506	7.43	1260	1798	--	--	--	--	--	--
	5/28/1998	12.3	598	7.30	1450	2086	0.0510	0.0140	0.424	1.70	1.40	3.10
	9/8/1998	9.60	421	7.46	1070	1688	--	--	--	--	--	--
	12/9/1998	39.3	381	7.57	1080	1568	0.0340	0.0090	0.304	0.900	< 1.000	< 1.90
	3/8/1999	28.4	373	6.63	891	1568	--	--	--	--	--	--
	6/7/1999	67.0	465	6.54	1140	1754	0.0180	0.0080	0.436	2.70	1.60	4.30
	9/3/1999	94.7	484	6.64	1110	1262	--	--	--	--	--	--
	12/8/1999	59.1	610	7.30	1390	1384	0.0220	0.0030	0.414	0.900	< 1.000	< 1.90
	2/29/2000	22.9	546	6.90	1250	1692	--	--	--	--	--	--
	5/22/2000	--	--	6.75	--	1880	--	--	--	--	--	--
	8/29/2000	26.7	347	5.85	896	1264	--	--	--	--	--	--
	11/20/2000	11.3	336	6.70	886	1235	0.0451	< 0.0010	0.191	0.600	< 1.000	< 1.60
MC07	3/12/1979	113	25.0	--	--	--	--	--	--	1.10	--	--
	10/15/1979	160	65.0	--	--	--	--	--	--	0.540	--	--
	6/15/1980	386	--	--	--	--	--	--	--	--	--	--
	9/25/1981	502	115	7.68	1289	1980	--	--	--	--	--	--
	4/22/1982	1120	194	--	1760	--	--	--	--	--	--	--
	5/20/1982	585	155	--	--	--	--	--	--	0.500	--	--
	8/12/1982	610	149	--	1768	--	--	--	--	0.500	--	--
	10/11/1982	--	--	7.60	--	2420	< 0.0200	--	--	--	--	--
	10/29/1982	600	152	7.40	1792	2590	--	< 0.0050	--	0.760	--	--
	2/3/1983	615	192	--	1636	2485	--	--	--	0.0700	--	--
	5/27/1983	792	296	--	2554	3100	--	--	--	0.140	--	--
	8/26/1983	901	470	7.70	2668	3920	0.0120	< 0.0050	--	0.400	--	--
	12/22/1983	798	390	--	2248	--	--	--	--	0.200	--	--
	3/21/1984	880	424	--	2668	3310	--	--	--	--	--	--
	5/15/1984	920	560	7.60	3044	3500	--	--	--	1.000	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC07	9/19/1984	—	—	7.20	—	3930	—	—	—	1.000	—	—
	9/19/1984	890	566	—	2916	—	—	—	—	—	—	—
	11/16/1984	870	520	7.40	2676	3700	—	—	—	0.900	—	—
	1/10/1985	—	—	7.60	—	3280	< 0.0040	< 0.0040	—	—	—	—
	3/21/1985	740	440	7.50	2264	2900	—	—	—	0.500	—	—
	5/8/1985	677	410	7.60	2198	2720	—	—	—	0.500	—	—
	8/21/1985	700	420	7.10	2476	2710	—	—	—	0.700	—	—
	11/7/1985	740	340	7.40	2066	2545	< 0.0040	< 0.0010	—	0.700	—	—
	3/12/1986	700	320	7.60	2304	2760	—	—	—	1.000	—	—
	5/15/1986	824	444	7.70	2722	2920	—	—	—	0.500	—	—
	9/16/1986	800	300	7.90	2264	2650	< 0.0040	0.0040	—	0.500	—	—
	11/21/1986	140	99.0	7.90	700	905	—	—	—	0.800	—	—
	1/29/1987	—	—	7.70	—	460	—	—	—	—	—	—
	3/17/1987	59.0	40.0	7.80	366	545	—	—	—	0.500	—	—
	5/5/1987	100.0	50.0	7.90	508	660	—	—	—	0.200	—	—
	5/28/1987	—	—	—	—	385	—	—	—	—	—	—
	7/15/1987	—	—	—	—	395	—	—	—	—	—	—
	8/12/1987	—	—	—	—	400	—	—	—	—	—	—
	8/19/1987	16.0	40.0	7.80	336	405	—	—	—	1.000	—	—
	9/9/1987	—	—	—	—	410	—	—	—	—	—	—
	11/11/1987	15.0	40.0	7.80	252	395	< 0.0040	0.0030	—	0.500	—	—
	12/8/1987	—	—	—	—	390	—	—	—	—	—	—
	2/9/1988	—	—	—	—	360	—	—	—	—	—	—
	2/23/1988	10.00	33.0	7.80	306	—	—	—	—	0.300	—	—
	3/8/1988	—	—	—	—	360	—	—	—	—	—	—
	4/19/1988	—	—	—	—	350	—	—	—	—	—	—
	5/11/1988	8.00	36.0	7.60	322	350	—	—	—	1.80	—	—
	6/22/1988	—	—	—	—	370	—	—	—	—	—	—
	8/16/1988	8.00	34.0	7.90	298	—	—	—	—	—	—	—
	10/18/1988	8.00	25.0	7.90	216	330	< 0.0040	0.0332	—	0.900	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC07	2/17/1989	—	—	—	—	285	—	—	—	—	—	—
	3/16/1989	8.00	28.0	8.00	198	—	—	—	—	0.200	—	—
	6/26/1989	6.00	28.0	7.20	218	310	—	—	—	0.200	—	—
	8/15/1989	—	—	7.80	—	505	0.0071	< 0.0010	—	0.200	1.30	1.50
	9/14/1989	—	—	7.40	—	620	0.0069	< 0.0010	—	—	1.50	—
	10/10/1989	10.00	248	7.30	542	625	0.0067	< 0.0020	—	0.200	—	—
	1/12/1990	—	—	—	—	640	—	—	—	—	—	—
	2/19/1990	10.2	252	8.20	583	630	—	—	—	—	—	—
	6/5/1990	—	—	7.90	—	635	—	—	—	—	—	—
	8/24/1990	9.40	256	8.00	536	670	—	—	—	—	—	—
	10/23/1990	—	—	8.10	—	655	—	—	—	—	—	—
	11/15/1990	9.30	256	7.90	577	670	0.0120	< 0.0010	—	< 0.200	< 1.000	< 1.20
	3/15/1991	11.1	326	8.10	590	700	—	—	—	—	—	—
	4/9/1991	—	—	—	—	705	—	—	—	—	—	—
	6/28/1991	7.70	255	7.80	514	730	0.0140	0.0010	—	0.400	< 1.000	< 1.40
	7/29/1991	—	—	—	—	686	—	—	—	—	—	—
	8/6/1991	14.4	254	8.20	624	702	—	—	—	—	—	—
	9/6/1991	—	—	—	—	840	—	—	—	—	—	—
	10/11/1991	—	—	—	—	810	—	—	—	—	—	—
	11/8/1991	14.5	236	7.80	565	793	0.0110	0.0010	—	0.600	< 1.000	< 1.60
	12/16/1991	—	—	—	—	840	—	—	—	—	—	—
	1/30/1992	10.5	256	7.80	572	816	< 0.0010	< 0.0500	—	< 0.200	< 1.000	< 1.20
	5/7/1992	17.7	62.0	8.00	298	536	0.0180	0.0180	—	< 0.200	< 1.000	< 1.20
	8/5/1992	9.40	257	7.70	558	975	—	—	—	—	—	—
	12/1/1992	10.4	199	7.50	401	924	0.0050	0.0170	—	< 0.200	2.00	< 2.20
	1/23/1993	—	—	—	—	1035	—	—	—	—	—	—
	3/23/1993	16.2	199	7.80	519	952	0.0070	0.0050	—	0.700	< 1.000	< 1.70
	4/20/1993	—	—	—	—	748	—	—	—	—	—	—
	5/11/1993	24.4	157	7.50	467	1038	—	—	—	—	—	—
	6/11/1993	—	—	—	—	1188	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC07	7/27/1993	—	—	—	—	1040	—	—	—	—	—	—
	8/4/1993	8.60	305	8.30	605	1040	—	—	—	—	—	—
	9/22/1993	—	—	—	—	975	—	—	—	—	—	—
	10/15/1993	8.40	274	8.10	624	1280	0.0040	< 0.0500	—	< 0.200	< 1.000	< 1.20
	11/18/1993	—	—	—	—	737	—	—	—	—	—	—
	1/14/1994	—	—	—	—	972	—	—	—	—	—	—
	2/12/1994	—	—	—	—	1605	—	—	—	—	—	—
	3/4/1994	10.3	255	8.25	593	1072	0.0040	< 0.0010	—	0.300	< 1.000	< 1.30
	4/19/1994	—	—	—	—	1088	—	—	—	—	—	—
	5/19/1994	11.1	—	8.00	603	1188	0.0030	< 0.0010	—	0.400	< 1.000	< 1.40
	6/9/1994	—	—	—	—	1072	—	—	—	—	—	—
	7/14/1994	—	—	—	—	1072	—	—	—	—	—	—
	8/19/1994	9.80	253	7.80	595	1170	0.0030	< 0.0010	0.0100	0.400	1.60	2.00
	9/28/1994	—	—	—	—	1152	—	—	—	—	—	—
	10/22/1994	9.20	279	7.70	623	990	0.0020	< 0.0010	—	< 0.200	< 1.000	< 1.20
	11/12/1994	—	—	—	—	1188	—	—	—	—	—	—
	12/11/1994	—	—	—	—	1100	—	—	—	—	—	—
	1/19/1995	—	—	—	—	1152	—	—	—	—	—	—
	2/18/1995	12.7	255	7.90	614	1004	—	—	—	—	—	—
	3/16/1995	—	—	—	—	1221	—	—	—	—	—	—
	4/21/1995	—	—	—	—	1080	—	—	—	—	—	—
	5/11/1995	14.4	262	8.00	589	975	0.0030	< 0.0010	0.0100	< 0.200	1.50	1.70
	6/18/1995	—	—	—	—	1063	—	—	—	—	—	—
	7/20/1995	—	—	—	—	1022	—	—	—	—	—	—
	8/21/1995	10.7	264	8.00	587	1086	—	—	—	—	—	—
	10/18/1995	—	—	—	—	1066	—	—	—	—	—	—
	11/9/1995	9.80	265	7.70	624	974	0.0020	< 0.0010	0.0100	0.600	1.10	1.70
	2/13/1996	9.40	266	7.30	602	1046	—	—	—	—	—	—
	5/15/1996	11.1	268	7.70	634	1114	0.0020	< 0.0010	0.0090	< 0.200	< 1.000	< 1.20
	8/13/1996	9.40	227	7.80	554	1009	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC07	11/6/1996	12.2	136	7.60	453	878	0.0010	0.0140	0.0095	< 0.200	< 1.000	< 1.20
	3/7/1997	9.80	200	—	537	—	—	—	—	—	—	—
	6/5/1997	—	—	2.60	—	690	—	—	—	—	—	—
	9/4/1997	10.7	148	7.73	470	724	—	—	—	—	—	—
	12/5/1997	12.9	157	7.74	535	748	—	0.0180	0.0171	< 0.200	< 1.000	< 1.20
	3/20/1998	10.6	141	7.70	440	824	—	—	—	—	—	—
	5/29/1998	12.0	131	7.75	430	694	0.0050	0.0180	0.0154	< 0.200	1.30	< 1.50
	9/8/1998	11.3	137	7.78	242	761	—	—	—	—	—	—
	12/9/1998	13.8	133	7.85	501	731	0.0050	0.0200	0.0181	< 0.200	< 1.000	< 1.20
	3/9/1999	13.7	132	6.33	451	674	—	—	—	—	—	—
	6/7/1999	17.0	119	6.66	414	695	0.0050	0.0210	0.0239	1.30	< 1.000	< 2.30
	9/3/1999	27.8	166	5.91	504	855	—	—	—	—	—	—
	12/6/1999	14.6	115	7.70	405	500	0.0040	0.0220	0.0183	< 0.200	< 1.000	< 1.20
	2/29/2000	12.8	83.8	7.00	363	536	—	—	—	—	—	—
	5/22/2000	—	—	7.25	—	515	—	—	—	—	—	—
	8/29/2000	13.9	85.8	6.50	371	560	—	—	—	—	—	—
	11/20/2000	13.5	69.6	6.85	330	489	0.0056	0.0320	0.0185	0.500	< 1.000	< 1.50
MC08	3/12/1979	17.0	15.0	—	—	—	—	—	—	0.600	—	0.600
	10/15/1979	—	—	—	—	—	—	—	—	1.32	—	—
	9/25/1981	250	61.0	7.80	693	1070	< 0.0200	< 0.0200	—	—	—	—
	11/4/1982	—	88.0	7.70	1036	1570	—	—	—	—	—	—
	8/26/1983	515	98.0	7.80	3080	2320	—	—	—	—	—	—
	1/10/1985	750	300	7.70	1996	2520	—	—	—	—	—	—
	10/31/1985	580	248	7.60	1806	2210	—	—	—	—	—	—
	10/17/1986	500	158	7.80	1724	1820	—	—	—	—	—	—
	1/29/1987	—	—	7.60	—	1750	—	—	—	—	—	—
	5/28/1987	—	—	—	—	1030	—	—	—	—	—	—
	7/15/1987	—	—	—	—	895	—	—	—	—	—	—
8/12/1987	—	—	—	—	840	—	—	—	—	—	—	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC08	9/9/1987	—	—	—	—	850	—	—	—	—	—	—
	11/13/1987	86.0	88.0	7.40	498	715	—	—	—	—	—	—
	12/8/1987	—	—	—	—	670	—	—	—	—	—	—
	2/9/1988	—	—	—	—	630	—	—	—	—	—	—
	3/8/1988	—	—	—	—	600	—	—	—	—	—	—
	4/19/1988	—	—	—	—	600	—	—	—	—	—	—
	5/11/1988	—	—	—	—	590	—	—	—	—	—	—
	6/22/1988	—	—	—	—	580	—	—	—	—	—	—
	10/12/1988	57.0	63.0	7.70	418	530	—	—	—	—	—	—
	2/17/1989	—	—	—	—	420	—	—	—	—	—	—
	4/25/1989	—	—	—	—	455	—	—	—	—	—	—
	5/17/1989	—	—	—	—	455	—	—	—	—	—	—
	9/20/1989	—	—	—	—	415	—	—	—	—	—	—
	11/2/1989	12.0	65.0	7.50	394	410	—	—	—	—	—	—
	11/28/1989	13.0	88.0	7.50	396	455	0.0070	0.0316	0.0300	—	—	—
	1/12/1990	—	—	—	—	525	—	—	—	—	—	—
	9/13/1990	—	—	—	—	725	—	—	—	—	—	—
	2/7/1991	—	—	—	—	670	—	—	—	—	—	—
	4/9/1991	—	—	—	—	715	—	—	—	—	—	—
	8/8/1991	—	—	—	—	868	—	—	—	—	—	—
	9/6/1991	—	—	—	—	885	—	—	—	—	—	—
	10/11/1991	—	—	—	—	870	—	—	—	—	—	—
	11/8/1991	—	—	—	—	794	—	—	—	—	—	—
	12/16/1991	—	—	—	—	875	—	—	—	—	—	—
	2/17/1992	14.2	—	—	—	—	—	—	—	—	—	—
	2/25/1992	12.5	229	7.90	566	840	0.0060	0.0030	0.0220	0.400	< 1.000	< 1.40
	5/12/1992	14.5	171	7.60	477	748	0.0080	0.0090	0.0250	< 0.200	< 1.000	< 1.20
5/12/1992	14.7	170	—	469	—	—	—	0.0240	—	—	—	
8/5/1992	16.4	83.5	7.90	368	630	—	—	—	—	—	—	
12/1/1992	13.8	123	7.60	268	660	0.0290	0.0240	0.0190	< 0.200	3.10	< 3.30	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC08	1/23/1993	--	--	--	--	782	--	--	--	--	--	--
	3/23/1993	17.8	90.0	7.70	359	690	0.0020	0.0130	0.0130	< 0.200	< 1.000	< 1.20
	3/24/1993	--	--	8.20	--	650	--	--	--	--	--	--
	4/20/1993	--	--	--	--	595	--	--	--	--	--	--
	5/11/1993	19.3	67.1	7.50	357	603	--	--	--	--	--	--
	6/27/1993	--	--	--	--	726	--	--	--	--	--	--
	7/27/1993	--	--	--	--	650	--	--	--	--	--	--
	8/4/1993	19.1	78.8	8.20	383	650	--	--	--	--	--	--
	9/22/1993	--	--	--	--	576	--	--	--	--	--	--
	10/15/1993	15.0	89.9	8.00	368	693	0.0070	0.0150	0.0180	< 0.200	1.10	< 1.30
	11/17/1993	--	--	--	--	737	--	--	--	--	--	--
	1/14/1994	--	--	--	--	804	--	--	--	--	--	--
	2/17/1994	--	--	--	--	938	--	--	--	--	--	--
	3/4/1994	10.3	202	8.05	533	952	0.0040	0.0010	0.0300	< 0.0200	< 1.000	< 1.02
	4/19/1994	--	--	--	--	924	--	--	--	--	--	--
	5/18/1994	11.5	216	7.90	570	1056	0.0110	0.0020	0.0310	12.0	5.80	17.8
	6/9/1994	--	--	--	--	975	--	--	--	--	--	--
	7/14/1994	--	--	--	--	1105	--	--	--	--	--	--
	8/19/1994	11.6	247	7.50	597	1216	0.0070	< 0.0010	0.0240	0.900	6.40	7.50
	9/28/1994	--	--	--	--	1037	--	--	--	--	--	--
	10/22/1994	10.3	272	7.70	610	957	0.0060	< 0.0010	0.0230	< 0.200	< 1.000	< 1.20
	11/13/1994	--	--	--	--	1056	--	--	--	--	--	--
	12/11/1994	--	--	--	--	1094	--	--	--	--	--	--
	1/19/1995	--	--	--	--	990	--	--	--	--	--	--
	2/18/1995	10.5	249	7.70	620	953	--	--	--	--	--	--
	3/17/1995	--	--	--	--	1086	--	--	--	--	--	--
	4/21/1995	--	--	--	--	1056	--	--	--	--	--	--
	5/11/1995	14.0	257	7.80	611	1023	0.0080	0.0010	0.0330	0.500	< 1.000	< 1.50
	6/18/1995	--	--	--	--	1096	--	--	--	--	--	--
	8/21/1995	16.1	134	7.70	640	1162	--	--	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC08	10/18/1995	—	—	—	—	1075	—	—	—	—	—	—
	11/9/1995	11.6	262	7.50	609	1031	0.0090	< 0.0010	0.0220	0.600	1.10	1.30
	2/13/1996	10.3	257	7.30	613	1122	—	—	—	—	—	—
	5/13/1996	—	—	7.60	—	1163	—	—	—	—	—	—
	5/15/1996	12.4	261	7.60	651	1310	—	< 0.0010	0.0350	0.700	< 1.000	< 1.70
	8/13/1996	10.1	268	—	673	—	—	—	—	—	—	—
	8/27/1996	9.80	267	7.50	666	1664	0.0080	0.0020	0.0240	0.600	< 1.000	< 1.60
	3/7/1997	10.6	159	—	470	—	—	—	—	—	—	—
	10/8/1997	13.6	178	7.57	529	882	0.0110	0.0100	0.0370	0.800	< 1.000	< 1.80
	3/20/1998	10.3	156	7.69	509	883	—	—	—	—	—	—
	10/9/1998	18.7	160	7.32	549	950	0.0170	0.0220	0.0313	0.600	< 1.000	< 1.60
	3/9/1999	44.5	250	6.58	709	1024	—	—	—	—	—	—
	10/12/1999	48.4	243	6.71	694	1221	0.0130	0.0200	0.0569	< 0.200	< 1.000	< 1.20
	3/7/2000	27.1	192	6.90	586	874	—	—	—	—	—	—
	11/3/2000	23.2	149	7.05	515	765	0.0111	0.0226	0.0516	1.30	< 1.000	< 2.30
MC09	3/20/1979	903	1010	—	—	—	—	—	1.50	1.60	—	—
	7/11/1979	1027	900	—	3330	—	0.0070	0.0060	2.00	2.20	—	—
	2/28/1980	—	—	—	—	—	—	—	—	5.30	—	—
	6/4/1980	960	993	—	—	—	—	—	1.50	2.30	—	—
	8/27/1980	1010	1015	—	—	—	—	—	1.85	1.17	—	—
	11/18/1980	640	1100	—	—	—	—	—	1.92	1.30	—	—
	4/7/1981	990	1000	—	—	—	—	—	1.88	0.500	—	—
	6/3/1981	1300	970	—	—	—	—	—	1.46	0.700	—	—
	9/4/1981	1059	1142	—	4020	—	—	—	1.58	2.20	—	—
	9/21/1981	1035	1096	6.88	4020	4940	—	< 0.0200	—	—	—	—
	11/17/1981	1000	1200	—	—	—	—	—	1.71	0.300	—	—
	2/19/1982	970	1000	—	—	—	—	—	1.94	1.60	—	—
	4/22/1982	1120	1300	—	4826	—	—	—	—	—	—	—
	10/12/1982	1110	1075	7.20	4304	5770	< 0.0200	0.0200	1.99	0.190	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC09	2/3/1983	1110	1080	—	4404	5380	—	—	—	—	—	—
	5/27/1983	1200	1100	—	5272	5400	—	—	—	—	—	—
	8/30/1983	1188	1120	7.40	4754	5900	0.0080	< 0.0050	—	—	—	—
	11/13/1985	1500	1240	7.30	6276	5600	—	—	—	—	—	—
	10/16/1986	1625	1210	7.00	7240	5695	< 0.0040	0.0180	—	—	—	—
	11/5/1987	1600	1320	7.10	5650	5430	< 0.0040	0.0100	—	—	—	—
	10/13/1988	1700	1380	7.20	6714	5145	< 0.0040	0.0236	—	—	—	—
	8/16/1989	—	—	6.60	—	5510	0.0025	< 0.0010	2.60	0.300	1.50	1.80
	9/13/1989	—	—	6.50	—	5165	< 0.0020	< 0.0010	1.90	0.300	4.10	4.40
	10/11/1989	1600	1340	6.80	6562	5310	0.0021	< 0.0020	2.60	1.40	—	—
	2/19/1990	1838	1331	7.00	6162	4725	—	—	—	—	—	—
	6/7/1990	—	—	7.50	—	5085	—	—	—	—	—	—
	9/12/1990	1732	1480	7.20	7376	5110	—	—	—	—	—	—
	12/4/1990	—	—	7.50	—	4625	—	—	—	—	—	—
	3/15/1991	1769	1404	7.00	6167	4755	—	—	—	—	—	—
	6/27/1991	1568	1174	6.90	5959	4490	0.0030	0.0180	0.0250	1.20	< 1.000	< 2.20
	8/6/1991	483	819	7.10	2445	1888	—	—	—	—	—	—
	11/11/1991	—	—	6.50	—	5580	—	—	—	—	—	—
	1/30/1992	1795	1260	6.50	5452	6700	< 0.0010	< 0.0500	1.52	1.30	< 1.000	< 2.30
	5/7/1992	1731	1351	6.50	5986	7410	0.0040	0.0170	2.20	0.700	2.30	3.00
	8/3/1992	1302	919	6.70	4931	6500	—	—	—	—	—	—
	11/16/1992	1727	1338	6.40	5916	9240	< 0.0010	0.0180	2.23	< 0.200	< 1.000	< 1.20
	2/2/1993	1861	1247	6.50	6437	9450	< 0.0010	0.0150	1.31	0.500	2.80	3.30
	2/2/1993	—	—	—	—	6868	—	—	—	—	—	—
	5/10/1993	—	—	6.50	—	7933	—	—	—	—	—	—
	8/2/1993	1723	1335	6.50	9207	9450	—	—	—	—	—	—
	8/2/1993	—	1385	—	9268	—	—	—	—	—	—	—
	10/15/1993	1685	1320	6.60	6630	8580	< 0.0010	0.0210	1.90	1.60	2.40	4.00
	3/2/1994	1710	1226	6.50	6103	8580	< 0.0010	0.0170	2.31	13.0	< 1.000	< 14.0
	5/18/1994	—	—	6.40	—	9100	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC09	7/8/1994	1736	1189	—	7781	—	0.0070	0.0220	1.75	3.30	9.10	12.4
	8/24/1994	1703	989	6.70	5903	9150	< 0.0010	0.0220	1.70	1.000	< 1.000	< 1.40
	8/24/1994	1720	995	—	5896	—	—	0.0230	—	0.400	—	< 2.00
	10/23/1994	1902	1354	6.60	6177	824	< 0.0010	0.0210	2.27	0.500	9.30	9.80
	2/22/1995	1840	1173	6.50	5990	6475	—	—	—	—	—	—
	5/3/1995	1836	1152	6.60	6445	6793	< 0.0010	< 0.0010	1.74	0.900	< 1.000	1.90
	9/13/1995	1895	1037	6.60	6264	7406	—	—	—	—	—	—
	11/7/1995	1507	911	6.50	4841	7139	0.0020	0.0270	1.58	2.30	< 1.000	3.30
	2/9/1996	1861	1268	6.50	6745	7560	—	—	—	—	—	—
	5/13/1996	408	366	6.70	2142	2000	< 0.0010	0.0500	0.804	< 0.200	< 1.000	< 1.20
	8/13/1996	336	311	6.80	1681	1985	—	—	—	—	—	—
	11/6/1996	331	288	6.70	1570	2227	0.0020	0.0580	0.586	0.600	< 1.000	< 1.60
	3/7/1997	331	318	—	1520	—	—	—	—	—	—	—
	6/11/1997	524	546	6.70	3200	3100	0.0010	0.0530	0.921	0.700	1.70	2.40
	9/4/1997	516	476	6.77	2560	2450	—	—	—	—	—	—
	12/4/1997	455	453	6.78	2200	2495	—	0.0770	0.962	< 0.200	< 1.000	< 1.20
	3/20/1998	319	425	7.11	1860	3072	—	—	—	—	—	—
	5/29/1998	257	482	7.02	1700	2139	0.0030	0.0350	0.902	0.700	< 1.000	< 1.70
	9/8/1998	198	481	7.23	1450	2225	—	—	—	—	—	—
	12/9/1998	162	446	7.47	1310	1722	0.0030	0.0220	0.763	1.30	5.70	7.00
	3/9/1999	147	416	6.48	1270	1853	—	—	—	—	—	—
	6/9/1999	192	454	6.24	1420	1878	0.0030	0.0270	0.746	1.90	1.40	3.30
	9/3/1999	193	408	6.09	1220	1925	—	—	—	—	—	—
12/9/1999	225	363	6.60	1240	1999	0.0030	0.0680	0.613	1.10	< 1.000	< 2.10	
2/29/2000	208	382	6.30	1280	1742	—	—	—	—	—	—	
5/30/2000	230	371	6.25	1300	1754	0.0018	0.0466	0.629	1.30	< 1.000	< 2.30	
8/29/2000	235	349	6.30	1320	1783	—	—	—	—	—	—	
11/20/2000	207	345	6.65	1230	1595	0.0068	0.0697	0.606	0.700	4.40	5.10	
MC10	3/20/1979	32.0	45.0	—	—	—	—	—	0.0400	0.700	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC10	10/15/1979	—	—	—	—	—	—	—	—	0.0600	—	—
	11/4/1982	—	80.0	7.90	798	1630	—	—	—	—	—	—
	8/26/1983	322	64.0	8.00	794	1550	—	—	—	—	—	—
	1/10/1985	510	138	7.90	1220	2030	—	—	—	—	—	—
	10/31/1985	420	92.0	7.80	1074	1715	—	—	—	—	—	—
	10/17/1986	175	172	8.30	920	1300	—	—	—	—	—	—
	1/29/1987	—	—	8.10	—	735	—	—	—	—	—	—
	5/28/1987	—	—	—	—	595	—	—	—	—	—	—
	7/15/1987	—	—	—	—	495	—	—	—	—	—	—
	8/13/1987	—	—	—	—	515	—	—	—	—	—	—
	9/9/1987	—	—	—	—	505	—	—	—	—	—	—
	11/13/1987	5.00	42.0	7.90	362	435	—	—	—	—	—	—
	12/8/1987	—	—	—	—	395	—	—	—	—	—	—
	2/9/1988	—	—	—	—	365	—	—	—	—	—	—
	3/8/1988	—	—	—	—	360	—	—	—	—	—	—
	4/19/1988	—	—	—	—	370	—	—	—	—	—	—
	5/11/1988	—	—	—	—	480	—	—	—	—	—	—
	6/22/1988	—	—	—	—	400	—	—	—	—	—	—
	10/12/1988	4.00	44.0	8.20	374	445	—	—	—	—	—	—
	2/17/1989	—	—	—	—	355	—	—	—	—	—	—
	4/25/1989	—	—	—	—	470	—	—	—	—	—	—
	5/17/1989	—	—	—	—	580	—	—	—	—	—	—
	9/20/1989	—	—	—	—	620	—	—	—	—	—	—
	11/2/1989	6.00	52.0	7.70	378	420	—	—	—	—	—	—
	1/12/1990	—	—	—	—	395	—	—	—	—	—	—
	1/5/1998	15.6	38.0	7.86	336	748	—	—	0.0231	—	—	—
	8/7/1998	17.7	46.0	—	348	—	—	—	0.0354	—	—	—
	7/21/1999	14.9	53.0	6.13	316	556	—	—	0.0530	—	—	—
	8/15/2000	14.6	49.1	6.80	340	502	—	—	0.0296	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC11	4/20/1979	213	320	--	--	--	--	--	0.110	0.800	--	--
	10/15/1979	--	--	--	--	--	--	--	--	0.350	--	--
	9/23/1981	2.00	35.0	7.80	350	540	--	--	--	--	--	--
	11/4/1982	--	32.0	7.70	344	680	--	--	--	--	--	--
	8/26/1983	50.0	64.0	7.90	422	800	--	--	--	--	--	--
	1/10/1985	10.00	27.0	7.80	342	520	--	--	--	--	--	--
	10/31/1985	21.0	29.0	7.80	384	540	--	--	--	--	--	--
	10/17/1986	57.0	31.0	8.30	418	635	--	--	--	--	--	--
	5/28/1987	--	--	--	--	485	--	--	--	--	--	--
	7/15/1987	--	--	--	--	505	--	--	--	--	--	--
	8/13/1987	--	--	--	--	495	--	--	--	--	--	--
	9/9/1987	--	--	--	--	490	--	--	--	--	--	--
	11/13/1987	20.0	27.0	7.40	384	505	--	--	--	--	--	--
	12/8/1987	--	--	--	--	505	--	--	--	--	--	--
	2/9/1988	--	--	--	--	480	--	--	--	--	--	--
	3/8/1988	--	--	--	--	495	--	--	--	--	--	--
	4/19/1988	--	--	--	--	485	--	--	--	--	--	--
	5/11/1988	--	--	--	--	495	--	--	--	--	--	--
	6/22/1988	--	--	--	--	505	--	--	--	--	--	--
	10/12/1988	29.0	30.0	7.70	310	510	--	--	--	--	--	--
	2/17/1989	--	--	--	--	540	--	--	--	--	--	--
	4/25/1989	--	--	--	--	520	--	--	--	--	--	--
	5/17/1989	--	--	--	--	535	--	--	--	--	--	--
	8/16/1989	--	--	7.60	--	510	0.0021	< 0.0010	0.0500	0.900	--	--
	9/14/1989	--	--	7.30	--	510	0.0023	< 0.0010	0.0478	1.10	1.40	2.50
	10/9/1989	33.0	31.0	7.60	378	510	0.0029	< 0.0020	0.0600	1.20	2.70	3.90
	2/19/1990	64.0	32.0	8.40	426	550	--	--	--	--	--	--
	6/5/1990	--	--	8.00	--	580	--	--	--	--	--	--
	9/13/1990	76.0	35.0	8.00	559	575	--	--	--	--	--	--
	11/15/1990	77.0	33.0	7.70	435	600	0.0020	< 0.0010	0.0500	0.900	< 1.000	< 1.90

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC11	2/7/1991	--	--	--	--	580	--	--	--	--	--	--
	3/15/1991	117	44.6	8.00	479	660	--	--	--	--	--	--
	4/9/1991	--	--	--	--	615	--	--	--	--	--	--
	6/28/1991	71.5	35.5	7.60	458	615	0.0030	< 0.0010	0.0450	1.20	< 1.000	< 2.20
	8/6/1991	89.2	47.8	8.20	593	660	--	--	--	--	--	--
	9/6/1991	--	--	--	--	741	--	--	--	--	--	--
	10/11/1991	--	--	--	--	713	--	--	--	--	--	--
	11/7/1991	65.3	30.2	7.50	399	670	0.0020	< 0.0010	0.0320	2.10	< 1.000	< 2.10
	12/16/1991	--	--	--	--	700	--	--	--	--	--	--
	1/30/1992	74.8	34.0	7.80	457	670	< 0.0010	< 0.0500	0.0310	1.30	< 1.000	< 2.30
	5/7/1992	87.4	37.1	7.70	415	771	0.0040	< 0.0010	0.0410	1.60	< 1.000	< 2.60
	8/8/1992	71.5	34.0	7.70	435	845	--	--	--	--	--	--
	12/1/1992	90.8	37.7	7.50	313	858	0.0090	0.0150	0.0280	1.000	10.9	11.9
	1/23/1993	--	--	--	--	1000	--	--	--	--	--	--
	3/23/1993	109	41.0	7.60	463	1020	0.0030	< 0.0010	0.0380	0.900	5.00	5.90
	4/20/1993	--	--	--	--	1139	--	--	--	--	--	--
	5/11/1993	125	35.8	8.30	469	1072	--	--	--	--	--	--
	6/11/1993	--	--	--	--	1122	--	--	--	--	--	--
	7/27/1993	--	--	--	--	975	--	--	--	--	--	--
	8/4/1993	76.6	55.9	8.00	437	792	--	--	--	--	--	--
	9/22/1993	--	--	--	--	924	--	--	--	--	--	--
	10/16/1993	84.2	31.8	7.60	505	924	< 0.0010	< 0.0010	0.0400	2.20	1.50	3.70
	11/18/1993	--	--	--	--	748	--	--	--	--	--	--
	1/12/1994	--	--	--	--	816	--	--	--	--	--	--
	2/17/1994	--	--	--	--	884	--	--	--	--	--	--
	3/5/1994	103	36.7	7.80	474	1224	0.0010	< 0.0010	0.0490	1.40	6.90	8.30
	4/19/1994	--	--	--	--	113	--	--	--	--	--	--
	5/19/1994	168	59.4	7.50	649	1188	< 0.0010	< 0.0010	0.0530	3.00	9.50	12.5
	6/9/1994	--	--	--	--	1072	--	--	--	--	--	--
	7/14/1994	--	--	--	--	924	--	--	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC11	8/20/1994	89.5	32.0	7.40	455	924	0.0010	< 0.0010	0.0450	2.80	5.40	8.10
	9/29/1994	--	--	--	--	924	--	--	--	--	--	--
	10/22/1994	102	38.2	7.60	457	858	< 0.0010	< 0.0010	0.0490	1.90	11.3	13.2
	11/13/1994	--	--	--	--	952	--	--	--	--	--	--
	12/11/1994	--	--	--	--	471	--	--	--	--	--	--
	1/20/1995	--	--	--	--	1028	--	--	--	--	--	--
	2/19/1995	91.3	29.8	--	474	864	--	--	--	--	--	--
	3/15/1995	--	--	--	--	933	--	--	--	--	--	--
	4/21/1995	--	--	--	--	990	--	--	--	--	--	--
	5/11/1995	235	85.0	7.60	782	1452	< 0.0010	< 0.0010	0.0720	2.30	2.20	4.50
	6/18/1995	--	--	--	--	1484	--	--	--	--	--	--
	7/20/1995	--	--	--	--	1091	--	--	--	--	--	--
	8/21/1995	103	5.00	7.60	492	1100	--	--	--	--	--	--
	10/19/1995	--	--	--	--	1045	--	--	--	--	--	--
	11/9/1995	116	35.9	7.50	473	837	< 0.0010	< 0.0010	0.0440	1.60	< 1.000	2.60
	2/9/1996	118	35.3	7.10	495	931	--	--	--	--	--	--
	5/15/1996	138	49.1	7.40	584	1216	0.0020	0.0020	0.0650	1.40	< 1.000	< 2.40
	8/13/1996	112	84.0	7.50	510	1098	--	--	--	--	--	--
	11/6/1996	97.1	27.7	7.30	492	986	< 0.0010	< 0.0010	0.0506	2.00	< 1.000	< 3.00
	3/7/1997	110	29.4	--	483	--	--	--	--	--	--	--
	6/4/1997	--	--	7.40	--	9200	--	--	--	--	--	--
	9/4/1997	215	75.9	7.41	725	1258	--	--	--	--	--	--
	12/5/1997	131	41.0	7.41	541	891	--	0.0010	0.0706	1.40	< 1.000	< 2.40
	3/27/1998	113	30.2	7.28	529	840	--	--	--	--	--	--
	5/29/1998	137	42.6	7.45	561	998	0.0030	< 0.0010	0.0657	1.80	3.00	4.80
	9/8/1998	147	46.5	7.51	591	1252	--	--	--	--	--	--
	12/10/1998	285	163	7.38	1030	1948	0.0030	0.0040	0.190	3.20	< 1.000	< 4.20
	3/9/1999	140	46.7	6.83	597	1169	--	--	--	--	--	--
	6/9/1999	673	351	6.63	2160	3252	0.0040	0.0080	0.526	4.30	1.80	6.10
	9/3/1999	351	195	6.52	1180	2067	--	--	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC11	12/6/1999	140	34.7	7.30	518	1999	0.0030	< 0.0010	0.0637	1.80	< 1.000	< 2.80
	3/7/2000	166	48.6	6.80	586	1017	—	—	—	—	—	—
	5/30/2000	284	86.1	6.90	792	539	0.0017	< 0.0010	0.117	2.50	< 1.000	< 3.50
	8/29/2000	202	66.0	6.75	696	1192	—	—	—	—	—	—
	11/20/2000	144	28.7	6.90	512	912	0.0028	0.0011	0.0584	1.80	< 1.000	< 2.80
MC12	4/20/1979	449	305	—	—	—	—	—	0	0.600	—	—
	7/11/1979	590	430	—	1990	—	—	0.0030	1.40	0.810	—	—
	9/23/1981	785	769	6.99	3010	3900	—	—	—	—	—	—
	9/23/1983	—	—	—	—	4550	—	—	—	—	—	—
	1/28/1987	—	—	7.90	—	1105	—	—	—	—	—	—
	5/27/1987	—	—	7.40	—	885	—	—	—	—	—	—
	8/12/1987	—	—	—	—	310	—	—	—	—	—	—
	11/11/1987	23.0	52.0	7.40	244	375	—	—	—	—	—	—
	2/8/1988	—	—	—	—	315	—	—	—	—	—	—
	5/11/1988	—	—	—	—	390	—	—	—	—	—	—
	10/5/1988	12.0	45.0	7.70	283	340	—	—	—	—	—	—
	2/16/1989	—	—	—	—	375	—	—	—	—	—	—
	5/8/1989	—	—	—	—	285	—	—	—	—	—	—
	9/20/1989	—	—	—	—	510	—	—	—	—	—	—
	11/2/1989	13.0	53.0	7.50	296	345	—	—	—	—	—	—
1/12/1990	—	—	—	—	370	—	—	—	—	—	—	
MC13	4/20/1979	307	170	—	—	—	—	—	0.680	0.310	—	—
	7/11/1979	509	286	—	1600	—	—	0.0050	11.8	0.300	—	—
	10/15/1979	—	—	—	—	—	—	—	—	0.300	—	—
	6/15/1980	601	—	—	—	—	—	—	—	—	—	—
	9/23/1981	613	371	7.20	2110	2940	—	—	—	—	—	—
	4/22/1982	724	593	—	2962	—	—	—	—	—	—	—
	10/11/1982	760	620	7.10	2954	3650	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC13	2/3/1983	750	610	—	2790	3725	—	—	—	—	—	—
	5/27/1983	830	700	—	3570	3780	—	—	—	—	—	—
	8/30/1983	832	645	7.30	3000	4020	—	—	—	—	—	—
	12/4/1984	840	700	7.20	2746	3430	—	—	—	—	—	—
	10/31/1985	940	700	7.10	3846	3630	—	—	—	—	—	—
	10/16/1986	255	126	7.40	1036	1285	—	—	—	—	—	—
	1/28/1987	—	—	7.90	—	585	—	—	—	—	—	—
	5/27/1987	—	—	7.70	—	415	—	—	—	—	—	—
	7/15/1987	—	—	—	—	345	—	—	—	—	—	—
	8/12/1987	—	—	—	—	380	—	—	—	—	—	—
	9/9/1987	—	—	—	—	335	—	—	—	—	—	—
	11/11/1987	18.0	35.0	7.40	250	320	—	—	—	—	—	—
	12/8/1987	—	—	—	—	310	—	—	—	—	—	—
	2/8/1988	—	—	—	—	305	—	—	—	—	—	—
	3/8/1988	—	—	—	—	305	—	—	—	—	—	—
	4/19/1988	—	—	—	—	295	—	—	—	—	—	—
	5/11/1988	—	—	—	—	310	—	—	—	—	—	—
	6/22/1988	—	—	—	—	315	—	—	—	—	—	—
	10/5/1988	14.0	31.0	7.80	216	320	—	—	—	—	—	—
	2/16/1989	—	—	—	—	275	—	—	—	—	—	—
	4/25/1989	—	—	—	—	290	—	—	—	—	—	—
	5/17/1989	—	—	—	—	290	—	—	—	—	—	—
	9/20/1989	—	—	—	—	280	—	—	—	—	—	—
	11/2/1989	9.00	34.0	7.50	242	295	—	—	—	—	—	—
	11/28/1989	9.00	36.0	7.30	244	300	0.0027	0.0564	0.0671	—	—	—
	1/12/1990	—	—	—	—	295	—	—	—	—	—	—
	9/13/1990	—	—	—	—	310	—	—	—	—	—	—
	4/9/1991	—	—	—	—	300	—	—	—	—	—	—
	8/8/1991	—	—	—	—	315	—	—	—	—	—	—
	9/6/1991	—	—	—	—	416	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC13	10/11/1991	--	--	--	--	363	--	--	--	--	--	--
	11/7/1991	--	--	--	--	396	--	--	--	--	--	--
	1/18/1993	--	--	--	--	408	--	--	--	--	--	--
	2/2/1993	--	--	--	--	374	--	--	--	--	--	--
	4/20/1993	--	--	--	--	414	--	--	--	--	--	--
	5/18/1993	--	--	--	--	402	--	--	--	--	--	--
	6/22/1993	--	--	--	--	462	--	--	--	--	--	--
	8/10/1993	--	--	--	--	448	--	--	--	--	--	--
	9/21/1993	--	--	--	--	448	--	--	--	--	--	--
	10/15/1993	--	--	--	--	384	--	--	--	--	--	--
	11/17/1993	--	--	--	--	660	--	--	--	--	--	--
	1/17/1994	--	--	--	--	402	--	--	--	--	--	--
	2/15/1994	--	--	--	--	476	--	--	--	--	--	--
	3/15/1994	--	--	--	--	469	--	--	--	--	--	--
	4/19/1994	--	--	--	--	436	--	--	--	--	--	--
	5/24/1994	--	--	--	--	469	--	--	--	--	--	--
	6/9/1994	--	--	--	--	469	--	--	--	--	--	--
	7/13/1994	--	--	--	--	455	--	--	--	--	--	--
	8/17/1994	--	--	--	--	488	--	--	--	--	--	--
	9/23/1994	--	--	--	--	448	--	--	--	--	--	--
	10/19/1994	--	--	--	--	396	--	--	--	--	--	--
	11/11/1994	--	--	--	--	455	--	--	--	--	--	--
	12/10/1994	--	--	--	--	471	--	--	--	--	--	--
	1/18/1995	--	--	--	--	479	--	--	--	--	--	--
	2/10/1995	--	--	--	--	470	--	--	--	--	--	--
	3/15/1995	--	--	--	--	461	--	--	--	--	--	--
	4/19/1995	--	--	--	--	457	--	--	--	--	--	--
	6/18/1995	--	--	--	--	395	--	--	--	--	--	--
	7/19/1995	--	--	--	--	424	--	--	--	--	--	--
	8/15/1995	--	--	--	--	465	--	--	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC13	10/17/1995	—	—	—	—	479	—	—	—	—	—	—
	8/29/1996	—	—	7.60	—	1300	—	—	—	—	—	—
	10/8/1997	15.8	78.5	7.61	357	516	< 0.0010	0.0290	0.0490	0.800	< 1.000	< 1.80
	10/9/1998	12.8	75.3	7.52	354	556	0.0030	0.0450	0.0519	0.700	< 1.000	< 1.70
	10/12/1999	13.6	277	6.76	650	1252	0.0010	0.0030	0.105	< 0.200	< 1.000	< 1.20
	11/3/2000	9.60	262	6.80	604	873	0.0010	0.0020	0.0509	1.30	< 1.000	< 2.30
MC14	4/27/1979	12.0	129	—	—	—	—	—	0.130	0.490	—	—
	7/11/1979	14.0	34.0	—	—	—	—	—	0.110	0.370	—	—
	10/15/1979	—	—	—	—	—	—	—	—	0.370	—	—
	2/13/1980	4.00	30.0	—	—	—	—	—	0.120	0.260	—	—
	6/4/1980	< 1.000	30.0	—	—	—	—	—	0.110	0.700	—	—
	8/27/1980	5.00	21.0	—	—	—	—	—	0.0600	0.600	—	—
	11/18/1980	< 1.000	51.0	—	—	—	—	—	0.120	0.680	—	—
	4/7/1981	< 1.000	34.0	—	344	—	—	—	0.120	6.80	—	—
	6/5/1981	5.00	21.0	—	360	—	—	—	0.0100	1.30	—	—
	2/19/1982	4.00	28.0	—	—	—	—	—	0.130	1.90	—	—
	4/22/1982	6.00	17.0	—	384	—	—	—	—	—	—	—
	5/20/1982	10.00	21.0	—	—	—	—	—	0.100	0.200	—	—
	8/12/1982	8.00	24.0	—	354	—	—	—	0.100	—	—	—
	10/12/1982	—	—	8.00	—	690	< 0.0200	—	—	—	—	—
	10/29/1982	10.00	18.0	7.70	594	610	—	< 0.0050	0.0800	6.40	—	—
	2/3/1983	6.00	24.0	—	386	515	—	—	0.120	0.690	—	—
	5/27/1983	6.00	24.0	—	330	495	—	—	0.0800	0.650	—	—
	8/26/1983	8.00	25.0	7.90	296	600	0.0050	< 0.0050	0.0800	0.100	—	—
	12/22/1983	7.00	22.0	—	324	—	—	—	0.0700	1.60	—	—
	3/21/1984	8.00	22.0	—	358	550	—	—	—	—	—	—
5/17/1984	8.00	23.0	8.00	326	590	—	—	0.0800	0.300	—	—	
9/20/1984	8.00	22.0	7.80	300	536	—	—	0.680	0.400	—	—	
11/16/1984	8.00	21.0	7.60	280	490	—	—	0.0500	1.000	—	—	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC14	3/21/1985	10.00	21.0	7.80	476	510	0.0070	< 0.0040	0.0700	0.700	—	—
	5/7/1985	8.00	24.0	7.60	346	500	< 0.0040	< 0.0010	0.0800	0.400	—	—
	6/11/1985	—	—	—	—	—	0.0032	< 0.0010	—	—	—	—
	8/23/1985	8.00	26.0	7.20	350	510	—	—	0.0600	0.800	—	—
	10/30/1985	—	—	7.70	—	485	0.0080	< 0.0010	—	—	—	—
	11/13/1985	8.00	20.0	7.90	314	490	< 0.0040	< 0.0010	0.0780	0.200	—	—
	3/12/1986	8.00	18.0	7.70	334	485	—	—	0.0700	0.700	—	—
	5/15/1986	6.00	17.0	8.00	350	475	—	—	0.0900	0.600	—	—
	9/16/1986	5.00	17.0	8.00	352	495	< 0.0040	< 0.0010	0.100	0.600	—	—
	10/31/1986	—	—	—	—	—	< 0.0040	< 0.0010	—	—	—	—
	11/21/1986	6.00	19.0	7.90	208	475	< 0.0040	< 0.0010	0.0900	0.900	—	—
	3/17/1987	5.00	19.0	7.70	366	485	—	—	0.0840	0.700	—	—
	5/6/1987	1.000	22.0	7.60	364	490	—	—	0.0800	0.500	—	—
	8/20/1987	6.00	22.0	7.80	390	520	—	—	0.0770	1.20	—	—
	11/11/1987	5.00	24.0	7.80	252	485	< 0.0040	0.0010	0.0900	0.300	—	—
	2/23/1988	6.00	22.0	7.50	332	—	—	—	0.0900	0.400	—	—
	3/23/1988	—	—	7.70	—	460	< 0.0040	< 0.0010	—	—	—	—
	5/18/1988	5.00	23.0	7.50	364	—	—	—	0.0700	1.000	—	—
	8/18/1988	5.00	24.0	7.30	366	—	—	—	0.100	—	—	—
	9/20/1988	—	—	7.70	—	450	—	—	—	—	—	—
	10/18/1988	4.00	23.0	7.70	328	440	< 0.0040	< 0.0010	0.0800	0.700	—	—
	12/7/1988	—	—	7.70	—	430	—	—	—	—	—	—
	1/20/1989	—	—	7.80	—	430	—	—	—	—	—	—
	3/15/1989	5.00	17.0	7.90	348	440	—	—	0.0635	0.300	—	—
	6/26/1989	6.00	20.0	7.50	304	460	—	—	0.0798	0.400	—	—
	8/15/1989	4.00	24.0	7.60	324	440	0.0028	< 0.0010	0.0700	0.300	—	—
9/15/1989	—	—	7.40	—	415	0.0032	< 0.0010	0.0601	0.0001	0.200	0.200	
10/11/1989	5.00	21.0	7.70	344	440	0.0036	< 0.0020	0.0700	0.100	0.500	0.600	
2/19/1990	4.70	24.0	8.40	349	420	—	—	—	—	—	—	
6/6/1990	—	—	8.10	—	445	—	—	—	—	—	—	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC14	9/14/1990	5.10	28.0	7.90	304	455	—	—	—	—	—	—
	12/4/1990	—	—	7.80	—	450	—	—	—	—	—	—
	3/8/1991	3.50	25.5	8.00	313	415	—	—	—	—	—	—
	6/28/1991	1.000	17.0	7.70	347	480	0.0040	< 0.0010	0.0790	2.50	< 1.000	< 3.50
	8/6/1991	4.70	31.6	8.20	453	480	—	—	—	—	—	—
	10/21/1991	7.70	45.7	7.60	405	544	0.0040	0.0010	0.0643	1.30	3.90	5.20
	1/30/1992	4.81	23.1	7.60	323	469	< 0.0010	< 0.0500	0.0500	0.200	< 1.000	< 1.20
	5/8/1992	4.60	23.3	7.40	508	528	0.0030	< 0.0010	0.0690	0.500	1.80	2.30
	8/8/1992	5.40	24.3	7.30	325	630	—	—	—	—	—	—
	12/1/1992	3.90	25.1	7.20	186	544	0.0070	0.0150	0.0810	0.200	6.10	6.30
	12/1/1992	—	—	7.60	—	528	—	—	—	—	—	—
	3/23/1993	9.30	23.3	7.90	290	660	0.0030	< 0.0010	0.0680	< 0.200	< 1.000	< 1.20
	3/23/1993	—	—	7.60	—	640	—	—	—	—	—	—
	5/12/1993	3.60	21.8	7.80	307	585	—	—	—	—	—	—
	8/9/1993	3.19	22.1	7.90	355	640	—	—	—	—	—	—
	8/19/1993	3.20	25.4	7.70	326	620	0.0020	< 0.0010	0.0620	0.700	< 1.000	< 1.70
	10/16/1993	4.10	22.1	7.70	328	792	0.0010	< 0.0010	0.0620	< 0.0200	3.60	< 3.80
	3/8/1994	7.74	26.3	7.83	305	690	< 0.0010	< 0.0010	0.0890	0.600	< 1.000	< 1.60
	5/19/1994	3.70	47.5	7.80	478	672	0.0140	< 0.0010	0.0830	7.70	11.8	19.5
	8/11/1994	5.30	33.7	7.70	384	726	0.0050	< 0.0010	0.0760	10.2	1.50	11.7
	8/20/1994	1.40	24.3	7.70	318	725	0.0020	< 0.0010	0.0780	0.800	2.90	3.70
	10/23/1994	6.70	25.6	7.60	341	—	0.0020	< 0.0010	0.0730	< 0.200	3.10	< 3.30
	2/19/1995	4.30	23.1	7.50	372	660	—	—	—	—	—	—
	5/12/1995	5.60	24.3	7.60	318	708	0.0030	< 0.0010	0.0890	0.300	< 1.000	< 1.30
	8/16/1995	4.40	41.7	7.70	415	660	0.0070	< 0.0010	0.0720	2.10	3.40	5.50
	8/27/1995	5.10	25.0	7.60	325	707	—	—	—	—	—	—
	11/9/1995	17.9	21.9	7.60	339	595	0.0020	< 0.0010	0.0710	0.300	< 1.000	1.30
	2/24/1996	3.60	22.2	7.40	333	585	—	—	—	—	—	—
	5/16/1996	7.50	24.9	7.40	354	702	0.0030	< 0.0010	0.0970	< 0.200	< 1.000	< 1.20
	8/7/1996	5.10	22.8	7.40	342	660	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC14	11/6/1996	6.90	31.7	7.60	377	678	< 0.0010	0.0020	0.0777	0.400	< 1.000	< 1.40
	3/7/1997	3.90	29.5	—	352	—	—	—	—	—	—	—
	6/4/1997	—	—	7.44	—	675	—	—	—	—	—	—
	9/5/1997	6.10	25.8	7.47	331	665	—	—	—	—	—	—
	12/8/1997	8.20	25.0	6.89	372	585	—	0.0010	0.0931	1.10	< 1.000	< 2.10
	3/27/1998	7.80	25.3	7.37	397	658	—	—	—	—	—	—
	5/29/1998	5.30	24.2	7.58	348	677	0.0040	< 0.0010	0.0954	0.600	1.30	1.90
	9/8/1998	5.10	25.1	7.70	350	1122	—	—	—	—	—	—
	12/10/1998	9.40	12.4	7.68	367	658	0.0040	< 0.0010	0.0895	< 0.200	< 1.000	< 1.20
	3/9/1999	6.50	23.9	7.33	373	621	—	—	—	—	—	—
	6/9/1999	16.0	26.0	6.79	395	611	0.0050	< 0.0010	0.112	2.40	< 1.000	< 3.40
	9/3/1999	8.00	29.2	6.66	345	661	—	—	—	—	—	—
	12/6/1999	10.4	25.4	7.55	330	439	0.0040	< 0.0010	0.0917	< 0.200	< 1.000	< 1.20
	3/7/2000	6.30	24.9	7.00	331	529	—	—	—	—	—	—
	5/30/2000	3.50	27.6	7.20	269	1332	0.0037	< 0.0010	0.0914	< 0.200	< 1.000	< 1.20
	8/29/2000	7.10	25.9	7.25	339	529	—	—	—	—	—	—
11/20/2000	7.50	23.5	7.00	333	545	0.0041	< 0.0010	0.0923	0.400	< 1.000	< 1.40	
MC15	4/27/1979	25.0	52.0	—	—	—	—	—	0.0300	0.200	—	—
	7/11/1979	10.00	8.00	—	380	—	—	—	—	—	—	—
	10/15/1979	—	—	—	—	—	—	—	—	0.150	—	—
	9/21/1981	—	—	—	—	—	< 0.0200	< 0.0200	—	—	—	—
	11/17/1981	70.0	29.0	—	490	—	< 0.0200	< 0.0300	0.0200	—	—	—
	9/28/1983	—	—	—	—	1070	—	—	—	—	—	—
	2/27/1992	581	119	—	1709	—	—	—	—	—	—	—
	5/20/1992	748	185	7.10	2349	2760	0.0040	< 0.0010	0.0500	0.600	3.80	4.40
	8/8/1992	699	195	7.00	2359	3150	—	—	—	—	—	—
	12/6/1992	727	208	6.90	1889	3128	< 0.0010	0.0070	0.0430	0.300	< 1.000	< 1.30
	1/30/1993	—	—	—	—	1380	—	—	—	—	—	—
	3/23/1993	752	202	6.60	2199	3400	< 0.0010	< 0.0010	0.0980	0.600	< 1.000	< 1.60

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC15	4/21/1993	—	—	—	—	3450	—	—	—	—	—	—
	5/12/1993	881	249	7.10	2653	4020	—	—	—	—	—	—
	6/27/1993	—	—	—	—	5280	—	—	—	—	—	—
	7/28/1993	—	—	—	—	4420	—	—	—	—	—	—
	8/9/1993	1046	348	6.90	3077	4480	—	—	—	—	—	—
	9/22/1993	—	—	—	—	3900	—	—	—	—	—	—
	10/16/1993	874	270	7.00	2696	4224	0.0020	< 0.0010	0.0990	0.700	10.6	11.3
	11/18/1993	—	—	—	—	4352	—	—	—	—	—	—
	1/21/1994	—	—	—	—	4224	—	—	—	—	—	—
	3/8/1994	822	249	7.00	2254	3570	0.0020	< 0.0010	0.130	1.000	2.10	3.10
	5/19/1994	1146	379	6.90	4337	5280	0.0020	0.0010	0.156	2.10	< 1.000	< 3.10
	8/20/1994	877	290	7.00	2875	4290	0.0020	< 0.0010	0.133	1.40	1.30	2.70
	10/23/1994	883	307	6.90	2205	4290	< 0.0010	< 0.0010	0.127	0.900	6.80	7.70
	12/11/1994	—	—	—	—	4224	—	—	—	—	—	—
	1/20/1995	—	—	—	—	4397	—	—	—	—	—	—
	2/19/1995	858	286	6.90	2470	4035	—	—	—	—	—	—
	3/18/1995	—	—	—	—	4229	—	—	—	—	—	—
	4/21/1995	—	—	—	—	4244	—	—	—	—	—	—
	5/12/1995	984	344	6.90	1490	4659	0.0020	0.0010	0.206	0.600	1.90	2.50
	6/18/1995	—	—	—	—	5150	—	—	—	—	—	—
	7/20/1995	—	—	—	—	5436	—	—	—	—	—	—
	8/27/1995	1020	387	—	4003	5316	—	—	—	—	—	—
	9/14/1995	—	—	6.70	—	5316	—	—	—	—	—	—
	10/19/1995	—	—	—	—	5041	—	—	—	—	—	—
	11/9/1995	994	358	6.90	3223	4032	0.0020	< 0.0010	0.176	1.20	< 1.000	< 1.20
	2/14/1996	1010	358	6.50	3062	4087	—	—	—	—	—	—
	5/15/1996	1159	417	6.70	3944	5760	—	< 0.0010	0.281	2.10	< 1.000	< 3.10
	8/7/1996	1042	366	6.60	3412	5052	—	—	—	—	—	—
	11/13/1996	1012	334	6.80	3010	4323	—	0.0010	0.214	< 0.200	< 1.000	< 1.20
	3/7/1997	1050	413	—	2930	—	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MC15	6/4/1997	—	—	6.63	—	4600	—	—	—	—	—	—
	9/5/1997	—	—	6.54	—	5703	—	—	—	—	—	—
	12/5/1997	—	—	6.57	—	4455	—	—	—	—	—	—
	12/8/1997	1350	455	—	3780	—	—	0.0070	0.365	1.000	< 1.000	< 2.00
	3/27/1998	1100	416	6.90	3720	5115	—	—	—	—	—	—
	6/22/1998	1280	501	6.65	4830	5007	—	0.0070	0.386	1.30	—	—
	9/9/1998	1290	510	7.01	4620	4990	—	—	—	—	—	—
	12/10/1998	1130	534	7.00	3890	5992	—	0.0050	0.403	1.10	< 1.000	< 2.10
	3/9/1999	1420	597	6.71	4350	5703	—	—	—	—	—	—
	6/9/1999	1440	623	6.28	4630	6676	—	0.0040	0.554	2.00	—	—
	9/3/1999	1440	611	6.30	3800	6416	—	—	—	—	—	—
	12/6/1999	1310	519	6.10	3210	3940	—	< 0.0010	0.388	1.000	< 1.000	< 2.00
	3/7/2000	1590	686	6.15	4100	6000	—	—	—	—	—	—
	5/30/2000	1610	681	6.15	4180	6090	—	< 0.0010	0.531	—	—	—
	8/29/2000	1460	616	6.35	3910	5550	—	—	—	—	—	—
	11/20/2000	1120	476	6.30	2960	4590	—	0.0061	0.380	1.60	< 1.000	< 2.60
MCR01	2/3/1987	—	—	7.70	—	4200	—	—	—	—	—	—
	2/16/1987	—	—	7.40	—	4200	—	—	—	—	—	—
	5/19/1987	—	—	7.10	—	3430	—	—	—	—	—	—
	8/12/1987	—	—	—	—	4115	—	—	—	—	—	—
	11/4/1987	1025	1420	7.20	4494	4215	< 0.0040	0.0020	—	—	—	—
	2/9/1988	—	—	—	—	4060	—	—	—	—	—	—
	5/10/1988	—	—	—	—	3500	—	—	—	—	—	—
	10/4/1988	750	1100	6.90	3750	3035	—	—	—	—	—	—
	5/8/1989	—	—	—	—	1930	—	—	—	—	—	—
	9/22/1989	—	—	—	—	2110	—	—	—	—	—	—
	10/18/1989	450	653	6.80	2272	2040	—	—	—	—	—	—
	1/12/1990	—	—	—	—	2760	—	—	—	—	—	—
	12/27/1990	792	939	7.40	3217	2760	< 0.0010	0.0100	1.60	< 0.200	< 1.000	< 1.20

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MCR01	9/13/1991	704	1043	7.50	3486	3776	< 0.0010	0.0100	1.70	< 0.200	< 1.000	< 1.20
	10/10/1992	345	458	7.10	1491	2340	< 0.0010	0.0120	0.510	0.800	1.000	1.80
	8/24/1993	590	653	7.10	2805	3960	< 0.0010	0.0200	0.910	0.300	< 1.000	< 1.30
	7/28/1994	338	434	7.10	1786	2816	< 0.0010	0.0260	0.774	1.50	< 1.000	< 2.50
	10/30/1995	507	693	6.80	2399	3077	0.0020	0.0240	0.841	0.500	< 1.000	< 1.50
	9/23/1996	—	—	6.90	—	1408	—	—	—	—	—	—
	9/22/1997	58.2	421	6.69	1060	1629	—	0.0050	0.278	< 0.200	< 1.000	< 1.20
	9/22/1998	18.0	309	6.57	741	1059	—	—	0.183	< 0.200	< 1.000	< 1.20
	9/16/1999	21.9	310	6.47	671	1126	—	0.0020	0.154	0.500	< 1.000	< 1.50
	9/15/2000	18.0	270	6.95	710	961	—	0.0010	0.0720	0.400	< 1.000	< 1.40
MCR02	2/16/1987	—	—	7.40	—	4200	—	—	—	—	—	—
	5/19/1987	—	—	7.10	—	4300	—	—	—	—	—	—
	8/12/1987	—	—	—	—	4385	—	—	—	—	—	—
	11/4/1987	1050	1300	7.30	4332	4215	< 0.0040	< 0.0010	—	—	—	—
	2/9/1988	—	—	—	—	3520	—	—	—	—	—	—
	5/10/1988	—	—	—	—	2820	—	—	—	—	—	—
	10/4/1988	550	640	7.00	2444	2260	—	—	—	—	—	—
	5/8/1989	—	—	—	—	1260	—	—	—	—	—	—
	9/22/1989	—	—	—	—	1205	—	—	—	—	—	—
	10/18/1989	180	224	7.00	1034	1175	—	—	—	—	—	—
	1/12/1990	—	—	—	—	1110	—	—	—	—	—	—
	12/27/1990	674	767	7.40	2811	2465	< 0.0010	0.0040	1.000	0.600	3.10	3.70
	9/13/1991	465	580	7.70	2143	2275	< 0.0010	0.0130	0.896	0.300	1.40	1.70
	10/10/1992	356	475	7.00	1472	2275	< 0.0010	< 0.0010	0.600	0.700	1.000	1.70
	8/24/1993	399	352	7.30	1844	2600	< 0.0010	0.0310	0.551	0.600	< 1.000	< 1.60
	7/29/1994	182	356	6.90	1122	2080	—	0.0190	0.470	0.400	2.70	3.10
	10/30/1995	134	391	7.00	1127	1719	0.0020	0.0060	0.444	0.0600	< 1.000	< 1.60
9/23/1996	43.0	312	7.00	834	1518	0.0010	0.0030	0.316	< 0.200	< 1.000	< 1.20	
9/22/1997	42.5	350	7.03	839	1289	—	< 0.0010	0.287	< 0.200	< 1.000	< 1.20	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
MCR02	9/22/1998	16.5	284	7.47	683	1078	—	—	0.278	< 0.200	< 1.000	< 1.20
	9/16/1999	—	—	6.57	—	960	—	—	—	—	—	—
	9/15/2000	17.8	270	7.05	684	913	—	< 0.0010	0.156	< 0.200	< 1.000	< 1.20
NP01	5/13/1982	—	—	7.30	—	1224	—	—	—	—	—	—
	2/16/1987	—	—	7.30	—	4250	—	—	—	—	—	—
	5/27/1987	—	—	7.30	—	3795	—	—	—	—	—	—
	8/12/1987	—	—	—	—	3400	—	—	—	—	—	—
	11/3/1987	750	860	7.40	3022	3290	< 0.0040	0.0020	—	—	—	—
	2/9/1988	—	—	—	—	2585	—	—	—	—	—	—
	3/23/1988	—	—	7.50	—	2605	< 0.0040	0.0020	—	—	—	—
	5/10/1988	—	—	—	—	2345	—	—	—	—	—	—
	9/20/1988	—	—	7.50	—	1900	—	—	—	—	—	—
	10/5/1988	340	487	7.20	1728	1715	—	—	—	—	—	—
	12/7/1988	—	—	7.40	—	1620	—	—	—	—	—	—
	1/20/1989	—	—	7.60	—	1350	—	—	—	—	—	—
	2/17/1989	—	—	—	—	1440	—	—	—	—	—	—
	5/10/1989	—	—	—	—	1520	—	—	—	—	—	—
	8/15/1989	—	—	7.40	—	1175	0.0030	0.0013	0.570	0.500	—	—
	9/13/1989	—	—	7.00	—	1195	0.0029	0.0020	0.490	0.800	2.20	3.00
	10/9/1989	165	312	7.30	1060	1195	0.0035	< 0.0020	0.700	0.400	1.70	2.10
	1/12/1990	—	—	—	—	1265	—	—	—	—	—	—
	2/19/1990	191	368	8.10	1162	1230	—	—	—	—	—	—
	6/6/1990	184	421	7.50	1297	1360	0.0020	0.0010	0.930	0.900	1.50	2.40
8/24/1990	128	385	7.80	862	1105	—	—	—	—	—	—	
11/14/1990	127	377	7.60	1039	1105	0.0030	0.0030	0.620	< 0.200	< 1.000	< 1.20	
3/8/1991	144	399	7.80	1013	1170	—	—	—	—	—	—	
5/9/1991	143	408	7.70	1122	1175	0.0020	0.0030	0.670	0.500	3.00	3.50	
8/6/1991	137	446	7.60	1271	1300	—	—	—	—	—	—	
9/17/1991	110	411	7.30	982	1268	0.0020	0.0010	0.466	< 0.200	2.30	< 2.50	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
NP01	10/17/1991	—	—	7.30	—	1268	—	—	—	—	—	—
	2/4/1992	70.1	319	7.70	911	1242	< 0.0010	0.0010	0.385	0.700	< 1.000	< 1.70
	5/13/1992	81.7	336	7.30	868	1224	0.0030	0.0080	0.285	< 0.200	< 1.000	< 1.20
	8/9/1992	77.3	342	7.20	842	1300	—	—	—	—	—	—
	12/2/1992	66.6	278	7.70	699	1139	0.0010	0.0160	0.238	0.500	1.70	2.40
	12/2/1992	—	—	7.10	—	1170	< 0.0010	< 0.0010	0.260	0.700	< 1.000	< 1.50
	3/24/1993	73.3	285	7.50	769	1292	0.0020	0.0060	0.245	0.700	3.40	4.10
	5/12/1993	96.7	295	7.60	857	1608	—	—	—	—	—	—
	8/9/1993	134	422	7.50	1145	1920	—	—	—	—	—	—
	8/20/1993	124	367	7.50	1035	1764	0.0010	0.0080	0.294	0.400	3.30	3.70
	10/13/1993	119	311	7.50	952	1755	< 0.0010	0.0050	0.356	1.000	1.70	2.70
	3/8/1994	91.9	260	7.60	767	1452	0.0030	0.0080	0.337	0.400	< 1.000	< 1.40
	5/13/1994	89.3	267	7.60	805	1430	0.0010	0.0100	0.256	0.800	4.80	5.60
	7/28/1994	64.0	257	7.40	762	1488	0.0020	0.0090	0.271	1.90	7.00	8.90
	12/7/1994	—	248	—	728	—	< 0.0010	0.0050	0.0240	1.50	1.000	2.50
	2/22/1995	61.1	259	7.50	772	1346	—	—	—	—	—	—
	5/12/1995	76.0	309	8.00	840	1436	0.0020	0.0050	0.394	2.50	2.50	5.00
	9/15/1995	69.3	310	7.40	858	1570	—	—	—	—	—	—
	10/26/1995	85.1	286	7.40	880	1430	0.0050	0.0050	0.332	6.90	1.50	8.40
	2/14/1996	50.6	296	7.40	802	1254	—	—	—	—	—	—
	5/21/1996	59.6	339	7.00	890	1600	0.0030	0.0050	0.461	0.500	< 1.000	< 1.50
	8/17/1996	49.8	272	7.50	847	1682	—	—	—	—	—	—
	11/6/1996	49.0	308	7.20	880	1331	< 0.0010	0.0020	0.337	< 0.200	< 1.000	< 1.20
	3/7/1997	132	369	—	938	—	—	—	—	—	—	—
	6/10/1997	—	—	7.14	—	1500	—	—	—	—	—	—
	9/8/1997	39.4	277	7.33	785	1176	—	—	—	—	—	—
	12/29/1997	33.1	229	7.60	626	1226	—	0.0110	0.274	< 0.200	< 1.000	< 1.20
	3/16/1998	39.7	218	7.05	656	891	—	—	—	—	—	—
	6/1/1998	49.3	312	7.43	864	1187	0.0030	0.0140	0.407	< 0.200	2.20	< 2.40
	9/9/1998	38.5	255	7.63	766	1078	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
NP01	12/11/1998	34.4	275	7.48	795	1279	0.0030	0.0140	0.337	< 0.200	< 1.000	< 1.20
	3/31/1999	39.0	246	7.21	712	1069	—	—	—	—	—	—
	6/15/1999	41.0	236	6.70	753	1141	0.0030	0.0140	0.286	< 0.200	< 1.000	< 1.20
	9/7/1999	28.4	210	6.93	634	1009	—	—	—	—	—	—
	12/7/1999	29.9	181	7.30	544	642	0.0050	0.0150	0.200	< 0.200	< 1.000	< 1.20
	3/9/2000	23.1	130	7.10	371	301	—	—	—	—	—	—
	5/31/2000	18.9	135	6.20	457	539	0.0048	0.0090	0.149	0.800	2.40	3.20
	8/30/2000	20.9	142	5.60	473	683	—	—	—	—	—	—
	11/14/2000	12.1	119	6.85	449	673	0.0060	0.0130	0.141	0.400	< 1.000	< 1.40
NP02	2/16/1987	—	—	7.10	—	5345	—	—	—	—	—	—
	11/3/1987	1450	2100	7.00	6302	5655	< 0.0040	0.0020	—	—	—	—
	10/5/1988	1350	1980	6.70	6178	4725	< 0.0040	0.0030	—	—	—	—
	10/18/1989	190	332	7.10	1210	1295	0.0030	0.0254	—	—	—	—
	12/27/1990	57.0	292	8.10	703	845	0.0030	0.0060	0.216	0.500	1.90	2.40
	9/13/1991	1049	1560	7.30	4911	5120	0.0020	0.0030	1.74	0.300	1.70	2.00
	10/11/1992	450	597	7.70	1909	2640	< 0.0010	< 0.0010	0.490	1.10	1.000	2.10
	8/24/1993	734	1304	7.00	3916	5248	0.0010	0.0110	2.58	1.70	< 1.000	< 2.70
	7/28/1994	1340	1531	6.50	5816	8540	< 0.0010	0.0060	4.03	1.30	1.70	3.00
	10/26/1995	156	348	7.03	1070	1610	0.0180	0.0050	0.390	2.20	< 1.000	< 3.20
	9/24/1996	65.0	282	—	915	—	0.0020	0.0060	0.159	< 0.200	< 1.000	< 1.20
	9/23/1997	33.3	238	7.27	666	904	—	0.0080	0.0890	< 0.200	< 1.000	< 1.20
	9/22/1998	16.7	155	7.58	504	795	—	—	0.0616	< 0.200	< 1.000	< 1.20
	9/17/1999	17.7	144	6.39	454	695	—	0.0170	0.0530	0.500	1.90	2.40
9/15/2000	48.6	209	7.15	693	—	—	0.0220	0.377	0.800	< 1.000	< 1.80	
NP03	2/16/1987	—	—	8.10	—	680	—	—	—	—	—	—
	5/27/1987	—	—	7.80	—	850	—	—	—	—	—	—
	8/12/1987	—	—	—	—	1075	—	—	—	—	—	—
	11/4/1987	130	48.0	7.80	516	655	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
NP03	2/9/1988	—	—	—	—	435	—	—	—	—	—	—
	5/10/1988	—	—	—	—	395	—	—	—	—	—	—
	9/29/1988	5.00	28.0	8.00	276	325	—	—	—	—	—	—
	2/17/1989	—	—	—	—	310	—	—	—	—	—	—
	5/10/1989	—	—	—	—	335	—	—	—	—	—	—
	9/22/1989	—	—	—	—	745	—	—	—	—	—	—
	10/18/1989	8.00	236	7.50	624	735	—	—	—	—	—	—
	1/12/1990	—	—	—	—	675	—	—	—	—	—	—
	12/28/1990	10.4	541	8.00	625	715	0.0020	< 0.0010	0.0145	0.500	1.80	2.30
	9/17/1991	13.3	290	7.60	656	900	0.0010	< 0.0010	0.0140	0.900	< 1.000	< 1.90
	12/28/1991	10.4	541	8.00	625	715	0.0020	< 0.0010	0.0100	0.500	1.80	2.30
	10/7/1992	10.6	1135	8.02	566	924	< 0.0010	0.0020	0.169	< 0.200	< 1.000	< 1.20
	10/7/1992	—	—	—	—	—	—	—	—	0.900	1.000	1.90
	8/20/1993	13.1	254	7.60	524	992	0.0020	0.0010	0.0120	< 0.200	< 1.000	< 1.20
	7/27/1994	9.40	272	7.70	564	1240	0.0020	< 0.0010	0.0180	1.40	< 1.000	< 2.40
	10/26/1995	12.3	375	7.20	792	1250	< 0.0010	< 0.0010	0.0200	1.20	< 1.000	< 2.20
	9/23/1996	10.8	145	7.50	481	774	0.0010	0.0190	0.0149	< 0.200	< 1.000	< 1.20
	9/23/1997	33.2	191	7.41	549	848	—	0.0040	0.0190	< 0.200	< 1.000	< 1.20
	9/22/1998	10.6	130	7.62	442	646	—	—	0.0231	< 0.200	< 1.000	< 1.20
	9/17/1999	17.4	115	6.54	418	694	—	0.0190	0.0200	< 0.200	< 1.000	< 1.20
9/19/2000	13.2	80.7	7.30	352	540	—	0.0300	0.0205	< 0.200	< 1.000	< 1.20	
NP04	2/16/1987	—	—	7.70	—	3450	—	—	—	—	—	—
	5/27/1987	—	—	7.30	—	3825	—	—	—	—	—	—
	8/12/1987	—	—	—	—	3835	—	—	—	—	—	—
	11/3/1987	1000	870	7.40	3636	3885	< 0.0040	0.0010	—	—	—	—
	2/9/1988	—	—	—	—	4010	—	—	—	—	—	—
	5/10/1988	—	—	—	—	3780	—	—	—	—	—	—
	10/5/1988	1250	1040	6.80	4540	4080	< 0.0040	0.0020	—	—	—	—
	2/17/1989	—	—	—	—	4040	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
NP04	5/10/1989	—	—	—	—	4000	—	—	—	—	—	—
	9/22/1989	—	—	—	—	4050	—	—	—	—	—	—
	10/18/1989	1150	1140	7.00	4486	3915	< 0.0020	0.0015	—	—	—	—
	1/12/1990	—	—	—	—	3670	—	—	—	—	—	—
	12/27/1990	816	1046	7.50	3451	3265	0.0010	0.0030	1.33	0.500	3.70	4.20
	9/17/1991	641	950	6.90	2932	3640	0.0010	0.0020	0.686	0.300	1.10	1.40
	10/7/1992	1311	255	6.80	4738	6072	< 0.0010	0.0020	0.108	0.900	4.10	5.00
	8/20/1993	1276	1304	6.60	4992	8190	< 0.0010	0.0010	1.28	1.10	2.60	3.70
	7/27/1994	1424	1385	6.60	5557	7560	< 0.0010	< 0.0010	1.62	0.800	< 1.000	< 1.80
	10/26/1995	1496	1366	6.40	5633	7932	0.0030	< 0.0010	2.10	2.60	2.30	4.90
	9/23/1996	1600	1330	6.30	6816	8710	0.0030	0.0030	1.73	0.400	< 1.000	< 1.40
	9/24/1997	1990	1410	6.15	6260	9500	—	< 0.0010	1.83	0.500	5.80	6.30
	9/23/1998	1880	1480	6.49	7120	9041	—	—	2.86	1.40	7.60	9.00
	9/22/1999	1590	1350	5.89	5960	14615	0.0040	0.0020	2.17	1.80	—	—
	9/19/2000	1560	1460	6.35	5850	7690	—	0.0090	2.76	0.700	5.30	6.00
NP05	2/16/1987	—	—	7.90	—	2500	—	—	—	—	—	—
	5/27/1987	—	—	7.70	—	3410	—	—	—	—	—	—
	8/12/1987	—	—	—	—	2615	—	—	—	—	—	—
	11/4/1987	250	1060	7.70	2516	2510	—	—	—	—	—	—
	2/9/1988	—	—	—	—	1635	—	—	—	—	—	—
	5/10/1988	—	—	—	—	2015	—	—	—	—	—	—
	10/5/1988	51.0	620	7.80	1368	1430	—	—	—	—	—	—
	2/17/1989	—	—	—	—	970	—	—	—	—	—	—
	5/10/1989	—	—	—	—	1790	—	—	—	—	—	—
	9/22/1989	—	—	—	—	1185	—	—	—	—	—	—
	10/18/1989	50.0	400	7.50	1008	1055	—	—	—	—	—	—
	1/12/1990	—	—	—	—	1400	—	—	—	—	—	—
	12/27/1990	27.0	364	8.10	890	980	0.0560	0.0070	0.200	< 0.200	1.80	< 2.00
	9/17/1991	86.6	326	7.60	918	576	0.0450	0.0080	0.0480	0.600	3.30	3.90

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
NP05	10/7/1992	14.6	105	8.40	383	594	0.0130	0.0130	0.620	< 0.200	4.40	< 4.60
	8/20/1993	16.3	70.8	6.20	350	620	0.0240	0.0160	0.0310	< 0.200	3.30	< 3.50
	7/27/1994	8.80	72.4	8.00	353	693	0.0270	0.0170	0.0450	< 0.200	< 1.000	< 1.20
	10/26/1995	16.8	99.0	7.80	437	739	< 0.0010	0.0150	0.0600	0.200	< 1.000	< 1.20
	9/24/1996	331	343	7.50	1620	2546	0.0210	< 0.0010	0.254	0.800	< 1.000	< 1.80
	9/24/1997	886	627	6.93	3150	3547	—	< 0.0010	0.582	1.30	< 1.000	< 2.30
	9/23/1998	63.7	222	7.27	857	1147	—	—	0.216	< 0.200	< 1.000	< 1.20
	9/22/1999	32.0	125	6.14	614	3053	0.0210	0.0420	0.132	0.700	—	—
	9/19/2000	25.4	56.6	7.40	405	554	—	0.0270	0.0577	1.40	< 1.000	< 2.40
NS-1	3/31/1993	931	622	6.33	2540	3290	0.0010	0.0030	0.304	10.2	—	—
NS-2	4/1/1993	303	585	7.13	1451	1170	< 0.0010	0.0100	0.312	44.6	—	—
	12/3/1994	188	34.6	7.40	597	1054	—	—	0.0390	—	—	—
	3/1/1995	170	39.4	7.30	590	1273	—	—	0.0540	—	—	—
	6/8/1995	167	44.3	7.40	463	1014	—	—	0.0470	—	—	—
	9/13/1995	177	45.9	7.40	590	1222	—	—	—	—	—	—
	11/14/1995	166	50.6	7.14	592	1094	—	—	0.0450	—	—	—
	2/15/1996	160	54.0	6.80	584	1081	—	—	0.0490	—	—	—
	5/29/1996	145	57.7	7.40	556	1155	—	—	0.0003	—	—	—
	1/19/1998	167	75.5	7.18	621	1109	—	—	0.0483	—	—	—
	7/21/1999	147	96.0	6.21	561	1176	—	—	0.0600	—	—	—
8/15/2000	151	110	6.80	647	1061	—	—	0.0546	—	—	—	
NS-3	1/27/1994	35.5	57.2	7.34	413	570	< 0.0010	< 0.0010	0.0290	0.300	—	—
	12/3/1994	15.2	22.3	7.70	354	646	—	—	0.0150	—	—	—
	3/1/1995	15.0	21.0	7.60	356	692	—	—	0.0190	—	—	—
	6/8/1995	16.8	22.1	7.70	314	626	—	—	0.0160	—	—	—
	9/1/1995	16.3	22.0	7.40	348	793	—	—	—	—	—	—
	11/14/1995	17.4	21.6	7.30	382	672	—	—	0.0170	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
NS-3	2/15/1996	18.8	21.1	7.20	363	632	—	—	0.0180	—	—	—
	5/29/1996	53.2	21.7	7.60	353	704	—	—	0.0170	—	—	—
	1/5/1998	30.8	42.6	7.23	430	712	—	—	0.0166	—	—	—
	8/6/1998	30.1	63.0	—	433	—	—	—	0.0233	—	—	—
	7/21/1999	26.8	93.0	6.53	403	765	—	—	0.0220	—	—	—
	8/15/2000	24.7	131	7.40	494	759	—	—	0.0178	—	—	—
NS-4	2/17/1994	597	175	7.24	1452	1810	< 0.0010	< 0.0010	0.203	2.40	—	—
	4/29/1994	—	—	7.60	—	—	—	—	—	—	—	—
	8/26/1994	30.9	27.5	7.30	370	819	—	—	0.0530	—	—	—
	12/3/1994	34.4	27.5	7.60	376	782	—	—	0.0690	—	—	—
	3/1/1995	28.3	23.2	7.50	358	714	—	—	0.0970	—	—	—
	6/8/1995	88.5	40.9	7.50	475	858	—	—	0.0810	—	—	—
	9/1/1995	144	55.6	7.20	513	1340	—	—	—	—	—	—
	11/14/1995	75.9	35.9	7.17	491	824	—	—	0.0680	—	—	—
	2/15/1996	92.2	37.9	7.00	488	816	—	—	0.0860	—	—	—
5/29/1996	131	51.1	7.60	586	1407	—	—	0.110	—	—	—	
NS-5	2/17/1994	88.7	4.00	7.33	423	550	0.0010	< 0.0010	0.0540	0.300	—	—
	4/29/1994	—	—	7.80	—	680	—	—	—	—	—	—
	8/26/1994	41.8	21.0	7.50	377	845	—	—	0.0260	—	—	—
	12/3/1994	48.9	20.8	7.70	404	816	—	—	0.0290	—	—	—
	3/1/1995	52.4	20.0	7.60	404	725	—	—	0.0400	—	—	—
	6/8/1995	60.4	19.8	7.70	359	746	—	—	0.0310	—	—	—
	9/13/1995	63.5	20.4	7.60	441	837	—	—	—	—	—	—
	11/14/1995	68.2	19.7	7.31	433	850	—	—	0.0300	—	—	—
	2/16/1996	72.3	18.9	7.00	426	791	—	—	0.0310	—	—	—
	5/28/1996	71.8	18.9	7.50	430	838	—	—	0.0320	—	—	—
	1/5/1998	113	17.9	7.36	501	1407	—	—	0.0270	—	—	—
8/6/1998	101	21.0	—	483	—	—	—	0.0398	—	—	—	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
NS-5	7/21/1999	133	21.0	6.73	442	904	—	—	0.0320	—	—	—
	8/15/2000	136	26.3	7.30	548	923	—	—	0.0355	—	—	—
NS-6	2/17/1994	187	94.1	7.16	730	1050	0.0010	< 0.0010	0.130	0.900	—	—
	4/29/1994	—	—	7.60	—	680	—	—	—	—	—	—
	8/26/1994	37.2	21.8	7.40	378	896	—	—	0.0340	—	—	—
	12/3/1994	45.4	21.8	7.50	401	804	—	—	0.0380	—	—	—
	3/1/1995	49.0	20.3	7.40	400	771	—	—	0.0510	—	—	—
	6/8/1995	56.2	21.1	7.50	372	705	—	—	0.0400	—	—	—
	9/13/1995	59.3	21.9	7.30	423	878	—	—	—	—	—	—
	11/14/1995	63.1	19.9	7.20	428	833	—	—	0.0390	—	—	—
	2/16/1996	57.9	19.2	7.00	401	748	—	—	0.0430	—	—	—
5/28/1996	65.6	19.3	7.30	427	804	—	—	0.0440	—	—	—	
P-1	5/17/1984	—	—	—	—	—	—	—	0.270	1.000	—	—
	11/18/1987	520	288	7.00	1600	1905	< 0.0040	0.0020	—	—	—	—
	10/28/1988	600	372	7.40	2026	2260	< 0.0040	0.0011	—	—	—	—
	11/7/1989	640	456	7.50	2200	2310	0.680	0.0015	—	—	—	—
	1/2/1991	668	336	7.40	2053	2175	0.0010	< 0.0010	0.700	3.10	< 1.000	< 4.10
	8/3/1995	781	347	6.47	2258	2910	0.0040	0.0020	0.453	14.6	—	—
P-2	5/17/1984	—	—	6.52	—	6060	—	—	1.92	0.400	—	—
	5/23/1984	—	—	6.56	—	5950	—	—	—	—	—	—
	11/8/1985	1020	1180	7.00	4690	4020	—	—	—	—	—	—
	10/14/1986	1000	860	7.20	4728	3835	—	—	—	—	—	—
	10/21/1987	950	1120	7.20	3683	3835	—	—	—	—	—	—
	9/29/1988	975	1120	6.90	4660	3380	—	—	—	—	—	—
	10/18/1989	950	1120	7.00	4133	3250	—	—	—	—	—	—
	1/19/1998	769	990	6.84	3490	4750	—	—	0.579	—	—	—
	8/7/1998	670	1110	—	3990	—	—	—	0.853	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
P-2	7/23/1999	842	1160	6.27	3830	4134	—	—	0.616	—	—	—
	8/15/2000	841	1080	6.70	3450	4620	—	—	0.608	—	—	—
P-3	5/17/1984	—	—	—	—	—	—	—	2.79	0.900	—	—
	7/18/1984	1340	1860	—	6468	—	—	—	—	—	—	—
	11/18/1987	1710	1580	6.90	6050	5740	< 0.0040	0.0070	—	—	—	—
	10/28/1988	1700	1680	7.00	6792	5305	< 0.0040	0.0078	—	—	—	—
	11/7/1989	1700	1520	7.20	6756	5130	< 0.0020	0.0098	—	—	—	—
	12/28/1990	1928	1268	7.20	6028	4760	< 0.0010	0.0100	2.70	1.000	1.90	2.90
	9/18/1991	1915	1433	6.70	6851	6900	0.0010	0.0080	1.83	0.600	< 1.000	< 1.60
	10/6/1992	1644	1203	6.40	5656	6700	< 0.0010	0.0100	1.11	0.300	2.70	3.00
	8/25/1993	2126	1296	6.80	7587	9520	< 0.0010	0.0140	2.19	0.500	< 1.000	< 1.50
	7/29/1994	1644	1210	6.40	6428	9900	< 0.0010	0.0170	2.37	0.200	< 1.000	< 1.20
	11/2/1995	1695	1100	6.50	5706	8004	0.0080	0.0220	1.85	0.800	< 1.000	< 1.80
	9/19/1996	468	562	6.50	2210	3399	< 0.0010	0.0140	0.811	0.700	< 1.000	< 1.70
	8/27/1997	—	—	6.47	—	3755	—	—	—	—	—	—
	9/14/1998	336	509	6.90	1890	2782	0.0020	0.0100	0.746	< 0.200	< 1.000	< 1.20
	10/12/1999	343	548	6.50	1700	2434	0.0020	0.0110	0.598	< 0.200	< 1.000	< 1.20
9/20/2000	276	499	6.80	1570	2270	0.0020	0.0100	0.652	< 0.200	< 1.000	< 1.20	
P-4	1/13/1998	358	533	6.96	1950	1948	—	—	0.557	—	—	—
	4/7/2000	—	—	6.75	—	1415	—	—	—	—	—	—
P-6	11/18/1987	1930	1800	6.80	6700	6600	< 0.0040	0.0080	—	—	—	—
	10/28/1988	2000	1840	7.00	8198	5785	< 0.0040	0.0061	—	—	—	—
	11/7/1989	2000	1820	7.00	7860	5670	0.0023	0.0072	—	—	—	—
	12/28/1990	2203	1621	7.20	7196	5440	0.0030	0.0060	2.08	1.40	< 1.000	< 2.40
	9/18/1991	2077	6321	6.60	7347	8280	—	—	—	—	—	—
	10/11/1992	2229	1787	6.40	7320	10050	< 0.0010	< 0.0010	1.77	1.30	1.40	2.70
8/25/1993	2440	1618	6.70	8712	10880	0.0030	0.0090	0.881	2.10	< 1.000	< 3.10	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
P-6	7/29/1994	2318	1793	6.30	8492	12350	0.0020	0.0100	1.92	1.30	< 1.000	< 2.30
	11/1/1995	2400	1604	6.30	8236	11424	0.0120	0.0110	1.56	3.50	< 1.000	< 4.50
	9/19/1996	916	950	6.60	4370	4736	< 0.0010	0.0460	0.950	0.300	< 1.000	< 1.30
	8/27/1997	—	—	6.54	—	2921	—	—	—	—	—	—
	9/14/1998	361	509	6.86	2190	2990	0.0060	0.0640	0.646	< 0.200	< 1.000	< 1.20
	10/12/1999	308	384	6.46	1460	2225	0.0060	0.0970	0.420	< 0.200	< 1.000	< 1.20
	9/20/2000	356	445	6.60	1680	2400	0.0070	0.0970	0.627	< 0.200	< 1.000	< 1.20
P-7	11/18/1987	1070	1090	7.00	4150	4050	< 0.0040	0.0030	—	—	—	—
	10/28/1988	1150	1180	7.00	4834	3750	< 0.0040	0.0032	—	—	—	—
	11/7/1989	1300	1400	7.30	5494	4125	< 0.0020	0.0041	—	—	—	—
	1/2/1991	1029	957	7.50	3855	3355	< 0.0010	0.0070	2.00	1.20	< 1.000	< 2.20
	1/13/1998	245	482	6.96	1460	2338	—	—	0.749	—	—	—
	4/7/2000	—	—	6.70	—	1413	—	—	—	—	—	—
P-8A	11/18/1987	1240	1640	7.20	5340	5025	< 0.0040	0.0030	—	—	—	—
	10/28/1988	1300	1760	6.80	5944	4655	< 0.0040	0.0035	—	—	—	—
	11/7/1989	950	1380	7.50	4488	3655	< 0.0020	0.0090	—	—	—	—
	12/28/1990	940	1183	7.80	4118	3335	0.0020	0.0040	3.00	0.200	1.10	1.30
	9/18/1991	1169	1568	6.90	5158	6030	0.0030	0.0040	3.31	0.200	< 1.000	< 1.20
	10/11/1992	1234	1583	6.70	5164	660	< 0.0010	< 0.0010	2.91	1.000	1.000	2.00
	8/25/1993	1464	1581	6.80	6084	7260	0.0010	0.0070	3.96	1.10	< 1.000	< 2.10
	7/30/1994	1247	1656	6.60	5597	9100	0.0010	0.0080	5.73	0.200	2.00	2.20
	11/2/1995	1237	1292	6.60	4969	7799	0.0070	0.0060	3.52	1.70	< 1.000	< 2.70
	9/18/1996	894	1176	6.60	4100	5862	0.0020	0.0070	2.78	0.400	3.90	4.30
	10/10/1997	941	1240	6.64	3970	5007	0.0020	0.0110	2.98	0.800	< 1.000	< 1.80
	12/17/1997	—	—	6.88	—	4277	—	—	—	—	—	—
	9/15/1998	360	752	6.88	2370	2356	0.0050	0.0140	1.80	< 0.200	< 1.000	< 1.20
	10/14/1999	256	593	5.81	1680	2036	0.0050	0.0160	0.930	< 0.200	< 1.000	< 1.20
	4/10/2000	256	585	6.70	1710	2270	—	—	1.16	1.20	< 1.000	< 2.20

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
P-8A	9/20/2000	303	629	6.60	1910	2660	0.0060	0.0180	1.48	< 0.200	< 1.000	< 1.20
P-9	11/18/1987	910	970	7.50	3540	3605	< 0.0040	0.0030	—	—	—	—
	10/28/1988	1050	1120	7.10	4408	3725	< 0.0040	0.0027	—	—	—	—
	11/7/1989	1050	1180	7.50	4368	3725	< 0.0020	0.0020	—	—	—	—
	1/2/1991	1102	1117	7.70	4267	3530	0.0030	0.0010	2.00	3.10	< 1.000	< 4.10
	9/18/1991	1253	1294	7.40	4848	5940	0.0050	0.0010	1.05	0.700	< 1.000	< 1.70
	10/13/1992	1111	1160	7.08	4297	5740	0.0010	0.0010	1.18	1.20	—	1.20
	8/31/1993	1356	1368	6.80	6292	7150	0.0030	0.0020	1.03	1.90	2.50	4.40
	7/30/1994	1264	1363	6.70	5208	8960	0.0010	0.0030	1.62	2.30	< 1.000	< 3.30
	11/3/1995	1551	1315	6.70	5978	8593	0.0060	0.0020	2.27	2.80	1.20	4.00
	9/18/1996	1532	1466	6.50	6390	8775	0.0010	0.0020	2.40	0.500	3.70	4.20
	10/10/1997	1648	1420	6.77	5810	6259	0.0020	0.0030	2.15	0.800	< 1.000	< 1.80
	9/15/1998	1220	1260	6.61	5850	6955	0.0100	0.0180	3.72	0.700	< 1.000	< 1.70
	10/15/1999	1440	1370	6.26	5070	6786	0.0050	0.0060	2.48	< 0.200	< 1.000	< 1.20
	9/20/2000	1300	1230	6.30	4670	6560	0.0060	0.0120	2.97	0.900	< 1.000	< 1.90
P-10	11/18/1987	1020	980	7.10	3900	3715	< 0.0040	0.0030	—	—	—	—
	10/28/1988	950	850	7.00	3702	3300	< 0.0040	0.0028	—	—	—	—
	11/7/1989	900	840	7.60	3592	3130	0.0027	0.0021	—	—	—	—
	1/2/1991	1019	900	7.50	3708	3470	0.0100	< 0.0010	1.90	2.10	1.60	3.70
	9/18/1991	1050	1007	7.10	3921	4958	0.0070	0.0010	0.823	0.400	< 1.000	< 1.40
	10/13/1992	1111	1118	7.17	4149	5638	< 0.0010	< 0.0010	1.20	1.20	—	—
	8/31/1993	1181	1047	6.70	4681	6710	0.0060	< 0.0010	0.651	2.50	5.90	8.40
	7/31/1994	1290	1357	7.00	4844	8320	0.0070	0.0020	1.12	1.30	1.90	3.20
	11/3/1995	1356	1167	6.60	4838	7932	0.0170	0.0030	1.29	3.40	< 1.000	< 4.40
	9/18/1996	1324	1128	6.50	4910	7425	0.0020	0.0010	1.16	0.500	4.40	5.90
	10/10/1997	1249	939	6.78	4040	5275	0.0010	< 0.0010	1.000	0.900	< 1.000	< 1.90
	9/15/1998	1080	992	6.62	4910	5881	0.0050	0.0080	1.71	1.20	< 1.000	< 2.20
	10/15/1999	1370	1120	6.25	4490	5564	0.0050	0.0050	1.30	< 0.200	< 1.000	< 1.20

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
P-10	9/20/2000	1290	1070	6.40	4540	6540	0.0060	0.0090	1.51	0.600	2.10	2.70
P-11	11/18/1987	970	1080	7.50	3950	3915	< 0.0040	0.0030	—	—	—	—
	10/28/1988	1100	1200	7.00	4580	3960	< 0.0040	0.0042	—	—	—	—
	11/7/1989	1100	1240	7.50	4740	3990	0.0028	0.0037	—	—	—	—
	1/2/1991	1328	1220	7.60	5117	4045	0.0020	0.0020	2.90	2.30	1.10	3.40
	9/18/1991	1401	1406	7.00	5389	6500	0.0060	0.0030	1.39	1.20	< 1.000	< 2.20
	10/13/1992	1730	1721	7.10	6539	7196	0.0010	0.0010	2.17	1.40	—	—
	8/25/1993	1464	1234	6.90	5410	8580	0.0020	0.0050	1.54	2.20	< 1.000	< 3.20
	7/30/1994	1618	1861	6.50	6744	10400	0.0020	0.0050	4.07	1.10	< 1.000	< 2.10
	11/3/1995	1795	1599	6.70	6283	8924	0.0060	0.0060	3.02	3.30	< 1.000	< 4.30
	9/18/1996	1584	1604	6.50	6170	8775	< 0.0010	0.0030	2.71	1.80	< 1.000	< 2.80
	10/10/1997	1792	1660	6.67	6610	7464	0.0010	0.0030	2.96	1.30	< 1.000	< 2.30
	9/15/1998	156	159	6.56	6690	8143	0.0110	0.0230	4.90	< 0.200	< 1.000	< 1.20
	10/15/1999	1490	1570	6.33	5520	5428	0.0070	0.0100	2.83	< 0.200	< 1.000	< 1.20
9/20/2000	1430	1590	6.30	5630	7620	0.0080	0.0170	3.64	1.30	1.50	2.80	
P-12	6/27/1995	—	—	6.50	—	5550	—	—	—	—	—	—
	7/7/1995	—	—	6.65	—	5330	—	—	—	—	—	—
	3/6/1996	1480	1720	—	5615	—	0.0010	0.0030	2.21	2.20	< 1.000	< 3.20
	1/12/1998	1190	884	6.59	4160	6144	—	—	1.19	—	—	—
	7/9/1998	1270	950	6.61	5040	5816	—	—	1.63	—	—	—
	7/13/1999	1370	1020	6.19	4580	4868	—	—	1.21	—	—	—
	7/26/2000	1440	1130	6.20	4720	6590	—	—	1.68	—	—	—
P-13	8/3/1995	1842	1533	—	6083	—	0.0010	0.0020	2.92	7.30	—	—
	3/5/1996	1780	1543	—	6525	—	0.0020	< 0.0010	3.40	2.20	< 1.000	< 3.20
P-14	7/7/1995	517	539	7.01	2430	4360	< 0.0010	0.0150	0.854	2.80	—	—
	3/6/1996	1280	721	—	3988	—	< 0.0010	< 0.0010	0.780	1.30	< 1.000	< 2.30

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
P-14	1/12/1998	1170	1030	6.57	4460	5993	—	—	1.08	—	—	—
	7/9/1998	1210	1030	6.60	6300	5768	—	—	1.31	—	—	—
	7/13/1999	1400	1150	6.25	4900	5428	—	—	1.29	—	—	—
	7/26/2000	1250	1140	6.40	4370	6070	—	—	1.29	—	—	—
P-15	7/10/1995	1629	1630	6.58	5766	4740	< 0.0010	0.0040	1.96	12.2	—	—
	3/4/1996	1364	1311	—	5239	—	< 0.0010	0.0040	1.35	0.400	< 1.000	< 1.40
	1/12/1998	1360	1270	6.61	5230	6912	—	—	1.02	—	—	—
	7/9/1998	1410	1370	6.66	6260	6622	—	—	1.43	—	—	—
	7/13/1999	1440	1460	6.31	5450	6591	—	—	1.43	—	—	—
	7/26/2000	1480	1490	6.40	5260	7000	—	—	1.56	—	—	—
P-16	7/12/1995	1810	2048	6.38	8102	6650	0.0020	0.0020	1.89	11.0	—	—
	3/4/1996	1682	1976	—	6207	—	0.0020	0.0020	1.01	1.10	< 1.000	< 2.10
	1/13/1998	1820	1890	6.33	7390	9500	—	—	1.92	—	—	—
	7/9/1998	1810	1820	6.55	7860	8821	—	—	2.40	—	—	—
	7/13/1999	1610	1860	6.33	6380	6107	—	—	2.57	—	—	—
	7/26/2000	1670	1860	6.30	6350	8100	—	—	2.23	—	—	—
P-17	7/20/1995	1399	1432	6.35	5110	6280	< 0.0010	0.0030	1.46	2.20	—	—
	3/4/1996	1290	1490	—	5020	—	0.0010	0.0020	1.56	0.800	< 1.000	< 1.80
	1/13/1998	1440	1630	6.33	6270	8240	—	—	1.24	—	—	—
	7/14/1998	1440	1670	6.40	7340	6204	—	—	1.65	—	—	—
	7/13/1999	1470	1740	6.31	6340	8143	—	—	2.30	—	—	—
	7/26/2000	1380	1720	6.30	5700	7190	—	—	1.64	—	—	—
P-18	7/24/1995	1139	1048	6.40	4052	5130	< 0.0010	0.0080	1.90	2.90	—	—
	3/4/1996	1070	1259	—	4293	—	< 0.0010	< 0.0010	2.01	0.600	< 1.000	< 1.60
	1/13/1998	1900	1490	6.42	5370	6492	—	—	1.40	—	—	—
	7/14/1998	1040	1550	6.50	6050	6107	—	—	1.91	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
P-18	7/14/1999	860	1690	6.29	4590	2990	—	—	2.68	—	—	—
	7/26/2000	858	1470	6.55	4220	5260	—	—	1.51	—	—	—
P-19	7/25/1995	1115	1061	—	4016	—	0.0010	0.0300	2.07	10.8	—	—
	3/4/1996	1904	1805	—	6312	—	0.0010	0.0050	1.90	1.30	< 1.000	< 2.30
	1/19/1998	503	1010	—	2950	—	—	—	1.18	—	—	—
P-19A	7/14/1998	570	1150	6.67	3530	4071	—	—	1.62	—	—	—
	7/14/1999	310	1150	6.47	2650	2990	—	—	2.32	—	—	—
	8/2/2000	571	1140	6.30	3080	3940	—	—	2.05	—	—	—
P-20	7/25/1995	2740	1777	6.18	7556	7130	< 0.0010	0.0030	3.58	2.70	—	—
	2/27/1996	2300	1551	—	6575	—	< 0.0010	0.0030	2.93	0.300	< 1.000	< 1.30
	12/17/1997	—	—	6.42	—	6259	—	—	—	—	—	—
	1/13/1998	2770	1580	6.28	8210	11692	—	—	2.08	—	—	—
	7/14/1998	2480	1550	6.43	9530	10178	—	—	2.38	—	—	—
	7/14/1999	2110	1540	6.29	6550	8345	—	—	2.61	—	—	—
	4/10/2000	2680	1580	6.15	6950	9310	—	—	2.72	1.30	< 1.000	< 2.30
	8/2/2000	1850	1450	6.25	5750	7910	—	—	2.67	—	—	—
P-21	7/25/1995	2937	1787	6.22	7855	7490	0.0020	0.0040	5.00	1.60	—	—
	2/27/1996	2800	2017	—	8021	—	0.0040	0.0020	4.02	1.000	< 1.000	< 2.00
	12/17/1997	—	—	6.15	—	11000	—	—	—	—	—	—
	1/13/1998	2980	1780	6.18	9050	13154	—	—	2.00	—	—	—
	7/14/1998	2810	1760	6.39	10400	11127	—	—	2.15	—	—	—
	7/14/1999	2740	1770	6.25	8280	12118	—	—	2.12	—	—	—
	4/10/2000	2340	1730	6.20	7950	10570	—	—	2.00	2.40	1.90	4.30
	8/2/2000	2710	1790	6.05	7920	10600	—	—	2.00	—	—	—
RPI-5A	10/15/1979	710	1987	—	3820	—	0.0050	0.126	—	1.75	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-5A	12/3/1980	928	—	—	—	11.0	—	—	—	0.150	—	—
	2/6/1981	—	—	—	—	—	—	—	—	0.330	—	—
	2/17/1981	—	—	—	—	—	—	—	—	0.110	—	—
	9/15/1981	905	751	6.38	3380	4720	< 0.0200	< 0.0200	—	—	—	—
	6/20/1982	1140	1320	—	5436	—	—	—	—	—	—	—
	10/8/1982	485	1520	7.30	5266	6260	< 0.0200	< 0.0050	—	0.240	—	—
	3/8/1983	1140	1160	—	4996	5540	—	—	—	—	—	—
	5/27/1983	1100	1440	—	5368	5250	—	—	—	—	—	—
	8/31/1983	1089	1146	7.10	4684	6400	< 0.0050	< 0.0050	—	—	—	—
	3/29/1984	—	—	—	—	4800	—	—	—	—	—	—
	10/23/1985	1330	1320	6.60	4774	5150	0.0080	< 0.0010	—	—	—	—
	10/16/1986	1100	1070	6.80	5096	4845	< 0.0040	0.0010	—	—	—	—
	10/21/1987	1150	1240	6.90	4614	4580	< 0.0040	0.0020	—	—	—	—
	9/29/1988	1300	1660	6.80	5620	5040	0.0060	0.0155	—	—	—	—
10/12/1989	1250	1560	6.80	5636	4545	0.0056	0.0013	—	—	—	—	
RPI-7A	9/27/1983	—	—	—	—	2340	—	—	—	—	—	—
	10/23/1985	558	560	7.40	2636	2600	—	—	—	—	—	—
	10/13/1986	650	560	7.50	2948	2620	—	—	—	—	—	—
	1/28/1987	—	—	7.70	—	2430	—	—	—	—	—	—
	5/19/1987	—	—	—	—	2650	—	—	—	—	—	—
	7/15/1987	—	—	—	—	2700	—	—	—	—	—	—
	8/4/1987	—	—	—	—	2745	—	—	—	—	—	—
	9/8/1987	—	—	—	—	2795	—	—	—	—	—	—
	10/21/1987	625	810	7.40	2718	2815	—	—	—	—	—	—
	12/8/1987	—	—	—	—	2640	—	—	—	—	—	—
	2/8/1988	—	—	—	—	2880	—	—	—	—	—	—
	3/7/1988	—	—	—	—	2790	—	—	—	—	—	—
	4/13/1988	—	—	—	—	2855	—	—	—	—	—	—
5/11/1988	—	—	—	—	2780	—	—	—	—	—	—	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-7A	6/20/1988	—	—	—	—	2730	—	—	—	—	—	—
	9/27/1988	775	960	7.40	3702	2990	—	—	—	—	—	—
	1/20/1989	—	—	—	—	2700	—	—	—	—	—	—
	2/16/1989	—	—	—	—	2700	—	—	—	—	—	—
	4/24/1989	—	—	—	—	2790	—	—	—	—	—	—
	5/17/1989	—	—	—	—	2485	—	—	—	—	—	—
	9/20/1989	—	—	—	—	2480	—	—	—	—	—	—
	10/12/1989	575	900	7.00	2950	2470	—	—	—	—	—	—
	11/28/1989	530	900	7.30	2750	2260	0.0025	0.0310	1.57	—	—	—
	1/12/1990	—	—	—	—	2040	—	—	—	—	—	—
	6/27/1990	536	646	8.10	2854	2295	—	—	—	—	—	—
	9/14/1990	534	627	7.60	2538	2295	—	—	—	—	—	—
	12/10/1990	530	660	7.30	2182	2130	—	0.0100	1.30	< 0.200	< 1.000	< 1.20
	2/6/1991	—	—	—	—	2095	—	—	—	—	—	—
	3/5/1991	528	689	7.70	2397	2040	—	—	—	—	—	—
	4/9/1991	—	—	—	—	2040	—	—	—	—	—	—
	6/18/1991	445	582	7.50	2243	2045	—	—	—	—	—	—
	8/6/1991	412	834	7.60	2607	2211	—	—	—	—	—	—
	9/6/1991	—	—	—	—	2275	—	—	—	—	—	—
	10/11/1991	—	—	—	—	2275	—	—	—	—	—	—
	11/7/1991	264	631	7.10	1791	2210	—	—	—	—	—	—
	12/18/1991	—	—	—	—	1904	—	—	—	—	—	—
	1/15/1992	187	691	—	—	1950	—	—	—	—	—	—
	2/4/1992	165	603	7.40	1475	1917	< 0.0010	0.0010	0.0160	0.700	2.90	3.60
	5/18/1992	115	574	7.20	1315	1742	0.0050	0.0040	0.592	< 0.200	2.30	< 2.50
	8/4/1992	83.4	498	7.30	1114	1452	—	—	—	—	—	—
	12/9/1992	61.9	445	7.20	986	1360	—	—	—	—	—	—
	1/18/1993	—	—	—	—	1380	—	—	—	—	—	—
	2/17/1993	65.7	440	7.60	1034	1380	0.0080	< 0.0010	0.335	< 0.200	3.80	< 4.00
	4/24/1993	—	—	—	—	1420	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-7A	5/12/1993	77.0	422	7.40	1035	1608	--	--	--	--	--	--
	6/23/1993	--	--	--	--	1690	--	--	--	--	--	--
	7/27/1993	--	--	--	--	1518	--	--	--	--	--	--
	8/2/1993	60.6	470	7.20	1071	1536	--	--	--	--	--	--
	9/21/1993	--	--	--	--	1536	--	--	--	--	--	--
	10/6/1993	48.8	399	7.30	1016	1512	0.0050	< 0.0010	0.291	< 0.200	4.10	< 4.30
	11/19/1993	--	--	--	--	1848	--	--	--	--	--	--
	1/20/1994	--	--	--	--	1904	--	--	--	--	--	--
	2/15/1994	--	--	--	--	1608	--	--	--	--	--	--
	3/2/1994	39.0	387	7.45	1080	1943	0.0030	< 0.0010	0.424	0.400	4.80	5.20
	4/11/1994	--	--	--	--	1650	--	--	--	--	--	--
	5/10/1994	--	--	7.40	--	1716	--	--	--	--	--	--
	6/17/1994	39.4	364	--	1066	1716	0.0030	< 0.0010	0.395	< 0.200	< 1.000	< 1.20
	7/13/1994	--	--	--	--	1764	--	--	--	--	--	--
	8/18/1994	--	--	7.20	--	1860	--	--	--	--	--	--
	9/23/1994	--	--	--	--	1612	--	--	--	--	--	--
	10/19/1994	35.8	428	7.90	1089	1472	0.0030	< 0.0010	0.416	0.300	1.30	1.60
	11/11/1994	--	--	--	--	1560	--	--	--	--	--	--
	12/10/1994	--	--	--	--	1608	--	--	--	--	--	--
	1/18/1995	--	--	--	--	1667	--	--	--	--	--	--
	2/10/1995	32.6	424	7.40	1072	1493	--	--	--	--	--	--
	3/18/1995	--	--	--	--	1565	--	--	--	--	--	--
	4/19/1995	--	--	--	--	1566	--	--	--	--	--	--
	5/5/1995	51.0	380	7.40	962	1664	--	--	--	--	--	--
	6/18/1995	--	--	--	--	1487	--	--	--	--	--	--
	7/19/1995	--	--	--	--	1556	--	--	--	--	--	--
	8/16/1995	27.8	403	7.30	1005	1539	--	--	--	--	--	--
	10/17/1995	--	--	--	--	1563	--	--	--	--	--	--
	11/30/1995	24.6	401	7.20	981	1452	--	--	--	--	--	--
	2/13/1996	25.3	402	6.90	981	--	--	--	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-7A	5/22/1996	20.7	393	7.10	966	—	—	—	0.292	—	—	—
	9/19/1996	21.8	337	7.50	876	1464	0.0060	< 0.0010	0.182	0.600	< 1.000	< 1.60
RPI-8	11/3/1982	—	420	7.70	1756	1100	—	—	—	—	—	—
	9/1/1983	247	55.0	7.90	664	1520	—	—	—	—	—	—
	5/23/1984	304	56.0	7.96	826	1270	—	—	—	—	—	—
	10/11/1984	314	50.0	7.60	780	1400	—	—	—	—	—	—
	10/23/1985	380	60.0	7.60	1008	1460	—	—	—	—	—	—
	10/13/1986	373	43.0	7.60	1322	1350	—	—	—	—	—	—
	1/28/1987	—	—	7.80	—	1405	—	—	—	—	—	—
	5/19/1987	—	—	7.70	—	1565	—	—	—	—	—	—
RPI-8A	9/27/1983	—	—	—	—	1520	—	—	—	—	—	—
	5/23/1984	368	101	7.76	1204	1500	—	—	—	—	—	—
	1/28/1987	—	—	7.80	—	1695	—	—	—	—	—	—
	5/13/1987	—	—	7.50	—	1985	—	—	—	—	—	—
	7/15/1987	—	—	—	—	2210	—	—	—	—	—	—
	8/4/1987	—	—	—	—	2310	—	—	—	—	—	—
	9/8/1987	—	—	—	—	2145	—	—	—	—	—	—
	10/21/1987	590	288	7.50	1694	2145	—	—	—	—	—	—
	12/8/1987	—	—	—	—	2060	—	—	—	—	—	—
	2/8/1988	—	—	—	—	2000	—	—	—	—	—	—
	3/7/1988	—	—	—	—	1960	—	—	—	—	—	—
	4/13/1988	—	—	—	—	2100	—	—	—	—	—	—
	5/11/1988	—	—	—	—	2100	—	—	—	—	—	—
	6/20/1988	—	—	—	—	2060	—	—	—	—	—	—
	9/27/1988	600	252	7.50	2042	1920	—	—	—	—	—	—
	4/24/1989	—	—	—	—	2070	—	—	—	—	—	—
	5/17/1989	—	—	—	—	1875	—	—	—	—	—	—
9/20/1989	—	—	—	—	1965	—	—	—	—	—	—	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-8A	10/12/1989	510	352	7.00	2054	1935	—	—	—	—	—	—
	11/28/1989	430	440	7.30	1838	1715	< 0.0020	0.0214	0.340	—	—	—
	1/12/1990	—	—	—	—	1725	—	—	—	—	—	—
	6/27/1990	438	627	8.00	2569	2045	—	—	—	—	—	—
	9/14/1990	444	594	7.60	2117	2015	—	—	—	—	—	—
	12/11/1990	392	606	7.60	1868	1740	0.0010	0.0090	0.550	0.400	< 1.000	< 1.40
	2/6/1991	—	—	—	—	1795	—	—	—	—	—	—
	3/5/1991	405	678	7.60	1935	1820	—	—	—	—	—	—
	4/9/1991	—	—	—	—	1890	—	—	—	—	—	—
	6/18/1991	331	715	7.50	2058	1875	—	—	—	—	—	—
	8/6/1991	320	723	7.70	2444	1980	—	—	—	—	—	—
	9/6/1991	—	—	—	—	2178	—	—	—	—	—	—
	10/11/1991	—	—	—	—	2210	—	—	—	—	—	—
	11/7/1991	257	631	7.30	1799	2211	—	—	—	—	—	—
	12/18/1991	—	—	—	—	2153	—	—	—	—	—	—
	1/15/1992	234	804	—	—	2100	—	—	—	—	—	—
	2/6/1992	59.6	419	7.40	1007	1190	< 0.0010	0.0020	0.405	2.10	< 1.000	< 3.10
	5/18/1992	51.1	418	7.40	895	1156	0.0010	0.0050	0.320	< 0.200	2.50	< 2.70
	8/3/1992	49.1	397	7.20	839	1300	—	—	—	—	—	—
	12/9/1992	44.5	424	7.20	664	1224	—	—	—	—	—	—
	1/18/1993	—	—	—	—	1518	—	—	—	—	—	—
	3/28/1993	55.9	499	—	984	1260	< 0.0010	0.0050	0.322	0.400	2.20	2.60
	4/20/1993	—	—	—	—	1680	—	—	—	—	—	—
	5/10/1993	48.3	384	7.40	938	1496	—	—	—	—	—	—
	6/23/1993	—	—	—	—	1473	—	—	—	—	—	—
	7/27/1993	—	—	—	—	1584	—	—	—	—	—	—
	8/2/1993	36.7	413	7.50	915	1536	—	—	—	—	—	—
	8/28/1993	—	—	—	—	1260	—	—	—	—	—	—
	9/21/1993	—	—	—	—	1197	—	—	—	—	—	—
	10/7/1993	28.6	357	7.50	878	1152	< 0.0010	0.0020	0.248	0.400	< 1.000	< 1.40

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-8A	11/19/1993	—	—	—	—	1340	—	—	—	—	—	—
	1/20/1994	—	—	—	—	1632	—	—	—	—	—	—
	2/15/1994	—	—	—	—	1680	—	—	—	—	—	—
	3/2/1994	26.1	354	7.59	865	2001	0.0020	0.0010	0.275	0.700	6.70	7.40
	4/11/1994	—	—	—	—	1518	—	—	—	—	—	—
	5/10/1994	—	—	7.50	—	1474	—	—	—	—	—	—
	6/17/1994	23.9	302	—	794	1716	< 0.0010	0.0010	0.218	< 0.200	1.90	< 2.10
	7/13/1994	—	—	—	—	1764	—	—	—	—	—	—
	8/18/1994	26.7	368	7.40	824	1364	< 0.0010	0.0030	0.244	0.500	6.10	6.60
	9/23/1994	—	—	—	—	1342	—	—	—	—	—	—
	10/19/1994	25.9	368	7.50	803	1235	< 0.0010	0.0020	0.224	0.400	< 1.000	< 1.40
	11/11/1994	—	—	—	—	1280	—	—	—	—	—	—
	12/10/1994	—	—	—	—	1192	—	—	—	—	—	—
	1/18/1995	—	—	—	—	1326	—	—	—	—	—	—
	2/10/1995	25.7	363	7.50	806	1281	—	—	—	—	—	—
	3/15/1995	—	—	—	—	1538	—	—	—	—	—	—
	4/19/1995	—	—	—	—	1518	—	—	—	—	—	—
	5/5/1995	43.5	336	7.50	717	1329	—	—	—	—	—	—
	6/18/1995	—	—	—	—	1380	—	—	—	—	—	—
	7/19/1995	—	—	—	—	1626	—	—	—	—	—	—
	8/22/1995	26.9	353	7.50	776	1340	—	—	—	—	—	—
	10/17/1995	—	—	—	—	1402	—	—	—	—	—	—
	11/30/1995	22.6	333	7.40	720	1155	—	—	—	—	—	—
	2/13/1996	21.0	324	7.00	731	—	—	—	—	—	—	—
	5/22/1996	19.9	326	7.30	752	—	—	—	0.242	—	—	—
	9/19/1996	19.5	303	7.70	728	1358	< 0.0010	< 0.0100	0.145	0.400	< 1.000	< 1.40
	RPI-9	9/16/1981	340	166	7.45	1130	1985	—	—	—	—	—
11/3/1982		—	900	7.80	3392	2740	—	—	—	—	—	—
8/31/1983		624	470	7.90	2241	3040	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-9	10/11/1984	640	490	7.50	2140	2700	—	—	—	—	—	—
	10/23/1985	1080	760	7.60	3842	3710	—	—	—	—	—	—
	10/14/1986	800	780	8.00	4154	3470	—	—	—	—	—	—
	1/28/1987	—	—	7.70	—	3130	—	—	—	—	—	—
	5/19/1987	—	—	7.50	—	3310	—	—	—	—	—	—
	7/15/1987	—	—	—	—	3325	—	—	—	—	—	—
	8/4/1987	—	—	—	—	3275	—	—	—	—	—	—
	9/8/1987	—	—	—	—	3170	—	—	—	—	—	—
	10/21/1987	600	960	7.50	3002	2860	—	—	—	—	—	—
	12/8/1987	—	—	—	—	2525	—	—	—	—	—	—
	2/8/1988	—	—	—	—	2380	—	—	—	—	—	—
	3/7/1988	—	—	—	—	2160	—	—	—	—	—	—
	4/13/1988	—	—	—	—	1930	—	—	—	—	—	—
	5/11/1988	—	—	—	—	1865	—	—	—	—	—	—
	6/20/1988	—	—	—	—	1885	—	—	—	—	—	—
	9/27/1988	220	740	7.80	1894	1740	—	—	—	—	—	—
	1/20/1989	—	—	—	—	1320	—	—	—	—	—	—
	2/16/1989	—	—	—	—	1320	—	—	—	—	—	—
	4/24/1989	—	—	—	—	1200	—	—	—	—	—	—
	5/17/1989	—	—	—	—	1140	—	—	—	—	—	—
	9/20/1989	—	—	—	—	1055	—	—	—	—	—	—
	10/12/1989	73.0	328	7.10	870	930	—	—	—	—	—	—
	11/28/1989	64.0	324	7.40	816	870	< 0.0020	0.0647	0.539	—	—	—
	1/12/1990	—	—	—	—	810	—	—	—	—	—	—
	6/27/1990	64.0	238	8.10	705	795	—	—	—	—	—	—
	9/14/1990	64.0	231	7.70	626	775	—	—	—	—	—	—
	12/11/1990	50.0	210	7.80	592	660	0.0010	0.0300	0.400	1.20	< 1.000	< 2.20
	3/5/1991	51.1	182	7.80	516	625	—	—	—	—	—	—
	4/9/1991	—	—	—	—	620	—	—	—	—	—	—
	6/19/1991	46.1	173	7.60	480	615	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-9	8/6/1991	45.6	175	7.90	666	662	--	--	--	--	--	--
	9/6/1991	--	--	--	--	660	--	--	--	--	--	--
	10/11/1991	--	--	--	--	669	--	--	--	--	--	--
	11/7/1991	196	149	7.50	487	768	--	--	--	--	--	--
	12/18/1991	--	--	--	--	759	--	--	--	--	--	--
	2/6/1992	59.6	211	7.50	550	840	< 0.0010	0.0030	0.188	5.70	1.50	7.20
	5/18/1992	--	--	7.40	--	871	--	--	--	--	--	--
	8/3/1992	56.7	199	8.30	487	882	--	--	--	--	--	--
	12/9/1992	58.2	204	7.40	590	782	--	--	--	--	--	--
	1/18/1993	--	--	--	--	828	--	--	--	--	--	--
	2/17/1993	67.3	198	7.80	565	1020	< 0.0010	0.0070	0.412	< 0.200	9.40	< 9.60
	4/20/1993	--	--	--	--	828	--	--	--	--	--	--
	5/10/1993	69.8	190	7.50	561	1088	--	--	--	--	--	--
	6/22/1993	--	--	--	--	1152	--	--	--	--	--	--
	7/25/1993	--	--	--	--	1040	--	--	--	--	--	--
	8/2/1993	60.6	239	7.80	618	1037	--	--	--	--	--	--
	9/21/1993	--	--	--	--	945	--	--	--	--	--	--
	10/7/1993	57.5	202	7.50	583	976	< 0.0010	0.0040	0.368	2.60	2.80	5.40
	11/19/1993	--	--	--	--	924	--	--	--	--	--	--
	1/20/1994	--	--	--	--	1224	--	--	--	--	--	--
	2/15/1994	--	--	--	--	1104	--	--	--	--	--	--
	3/2/1994	64.5	198	7.46	622	1088	< 0.0010	0.0020	0.356	1.20	4.20	5.40
	4/11/1994	--	--	--	--	1112	--	--	--	--	--	--
	5/6/1994	--	--	7.50	--	1170	--	--	--	--	--	--
	6/17/1994	75.8	181	--	598	1040	< 0.0010	0.0040	0.333	0.600	< 1.000	< 1.60
	7/13/1994	--	--	--	--	1054	--	--	--	--	--	--
	8/17/1994	61.4	212	7.40	527	1102	< 0.0010	0.0020	0.312	0.300	5.20	5.50
	9/23/1994	--	--	--	--	992	--	--	--	--	--	--
	10/19/1994	64.5	210	7.40	613	910	< 0.0010	0.0040	0.346	0.400	1.90	2.30
	11/11/1994	--	--	--	--	975	--	--	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-9	12/10/1994	--	--	--	--	1892	--	--	--	--	--	--
	1/18/1995	--	--	--	--	1168	--	--	--	--	--	--
	2/10/1995	62.0	226	7.40	620	987	--	--	--	--	--	--
	3/15/1995	--	--	--	--	966	--	--	--	--	--	--
	4/19/1995	--	--	--	--	1039	--	--	--	--	--	--
	5/5/1995	73.0	212	7.40	577	1110	--	--	--	--	--	--
	6/18/1995	--	--	--	--	1131	--	--	--	--	--	--
	7/19/1995	--	--	--	--	1131	--	--	--	--	--	--
	8/22/1995	56.6	225	7.40	595	1069	--	--	--	--	--	--
	10/17/1995	--	--	--	--	1068	--	--	--	--	--	--
	11/30/1995	52.4	226	7.40	581	989	--	--	--	--	--	--
	2/13/1996	52.4	225	7.00	613	650	--	--	--	--	--	--
	5/22/1996	52.9	221	7.20	629	860	--	--	0.325	--	--	--
	9/4/1996	--	--	7.20	--	1050	--	--	--	--	--	--
	10/15/1997	38.0	257	6.98	657	1172	0.0010	0.0020	0.309	< 0.200	< 1.000	< 1.20
	10/14/1999	29.2	266	5.71	677	1009	0.0020	0.0040	0.306	< 0.200	< 1.000	--
	10/15/1999	--	--	--	--	--	--	--	--	--	--	--
RPI-10	9/6/1983	1089	1160	8.00	4050	5280	--	--	--	--	--	--
	10/11/1984	1120	1060	7.20	3992	4715	--	--	--	--	--	--
	10/24/1985	1400	1300	7.30	5880	5425	--	--	--	--	--	--
	10/15/1986	1000	1040	7.30	5208	4255	--	--	--	--	--	--
	1/28/1987	--	--	7.50	--	3780	--	--	--	--	--	--
	5/13/1987	--	--	7.30	--	4255	--	--	--	--	--	--
	5/19/1987	--	--	7.30	--	3780	--	--	--	--	--	--
	8/4/1987	--	--	--	--	3930	--	--	--	--	--	--
	10/22/1987	975	1030	7.20	3856	3695	--	--	--	--	--	--
	2/8/1988	--	--	--	--	3470	--	--	--	--	--	--
	5/11/1988	--	--	--	--	3605	--	--	--	--	--	--
	9/27/1988	900	1040	7.20	4336	3605	--	--	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-10	1/20/1989	--	--	--	--	3085	--	--	--	--	--	--
	2/16/1989	--	--	--	--	3085	--	--	--	--	--	--
	5/8/1989	--	--	--	--	3265	--	--	--	--	--	--
	9/21/1989	--	--	--	--	3075	--	--	--	--	--	--
	10/17/1989	875	730	7.00	3466	2770	--	--	--	--	--	--
	1/12/1990	--	--	--	--	2835	--	--	--	--	--	--
	9/18/1990	--	--	--	--	2815	--	--	--	--	--	--
	4/10/1991	--	--	--	--	2705	--	--	--	--	--	--
	8/8/1991	--	--	--	--	3050	--	--	--	--	--	--
	9/5/1991	--	--	--	--	3078	--	--	--	--	--	--
	10/11/1991	--	--	--	--	2814	--	--	--	--	--	--
	11/7/1991	--	--	--	--	2860	--	--	--	--	--	--
	12/17/1991	--	--	--	--	3105	--	--	--	--	--	--
	2/25/1992	688	386	7.50	2298	3500	< 0.0010	0.0370	0.976	2.40	2.70	5.10
	5/12/1992	691	320	7.20	2552	3350	0.0020	0.0150	0.696	0.700	1.70	2.40
	8/3/1992	684	318	7.30	2207	3250	--	--	--	--	--	--
	11/16/1992	630	298	7.00	2026	3036	< 0.0010	0.0180	0.0570	< 0.200	< 1.000	< 1.20
	1/18/1993	--	--	--	--	2760	--	--	--	--	--	--
	2/2/1993	603	301	7.20	2147	2516	< 0.0010	0.0140	0.888	0.800	3.60	4.40
	3/24/1993	--	--	7.20	--	2961	--	--	--	--	--	--
	4/20/1993	--	--	--	--	2760	--	--	--	--	--	--
	5/10/1993	--	--	7.10	--	2970	--	--	--	--	--	--
	6/11/1993	--	--	--	--	2970	--	--	--	--	--	--
	7/25/1993	--	--	--	--	2600	--	--	--	--	--	--
	8/2/1993	511	293	7.20	2720	2961	--	--	--	--	--	--
	9/21/1993	--	--	--	--	2560	--	--	--	--	--	--
	10/6/1993	421	245	7.20	2161	2560	< 0.0010	0.0140	0.557	0.600	6.90	7.50
	11/19/1993	--	--	--	--	2176	--	--	--	--	--	--
	1/12/1994	--	--	--	--	2380	--	--	--	--	--	--
	2/15/1994	--	--	--	--	2312	--	--	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-10	3/2/1994	—	—	7.30	—	2814	—	—	—	—	—	—
	4/11/1994	—	—	—	—	2208	—	—	—	—	—	—
	5/6/1994	—	—	7.30	—	1856	—	—	—	—	—	—
	6/17/1994	371	190	—	1598	2600	< 0.0010	0.0180	0.660	1.10	< 1.000	< 2.10
	7/13/1994	—	—	—	—	2480	—	—	—	—	—	—
	8/17/1994	346	225	7.20	1491	2108	< 0.0010	0.0160	0.535	1.50	1.30	2.80
	9/23/1994	—	—	—	—	2108	—	—	—	—	—	—
	10/19/1994	324	217	7.30	1401	2048	0.0010	0.0210	0.525	0.400	< 1.000	< 1.40
	11/11/1994	—	—	—	—	2210	—	—	—	—	—	—
	12/10/1994	—	—	—	—	1197	—	—	—	—	—	—
	1/18/1995	—	—	—	—	1929	—	—	—	—	—	—
	2/10/1995	307	234	7.20	1252	2006	—	—	—	—	—	—
	3/15/1995	—	—	—	—	1974	—	—	—	—	—	—
	4/19/1995	—	—	—	—	1937	—	—	—	—	—	—
	5/3/1995	297	226	7.20	1242	2178	< 0.0010	0.0140	0.436	1.20	< 1.000	< 2.20
	6/18/1995	—	—	—	—	1853	—	—	—	—	—	—
	7/19/1995	—	—	—	—	1804	—	—	—	—	—	—
	8/22/1995	266	223	7.20	1456	1858	—	—	—	—	—	—
	10/17/1995	—	—	—	—	1844	—	—	—	—	—	—
	11/7/1995	262	207	7.20	1069	2049	< 0.0010	0.0160	0.442	1.20	2.50	3.70
	2/9/1996	287	271	7.10	1451	1726	—	—	—	—	—	—
	5/13/1996	137	497	7.10	1417	2080	—	0.0170	1.07	< 0.200	< 1.000	< 1.20
	8/17/1996	81.5	0	6.90	1253	1708	—	—	—	—	—	—
	9/19/1996	32.8	514	7.00	1150	1178	< 0.0010	0.0070	0.594	0.300	< 1.000	< 1.30
	3/7/1997	16.3	394	—	849	—	—	—	—	—	—	—
	10/15/1997	12.4	373	7.19	793	969	< 0.0010	< 0.0010	0.476	< 0.200	< 1.000	< 1.20
	3/17/1998	11.0	336	7.20	775	1086	—	—	—	—	—	—
	9/9/1998	10.6	293	7.65	771	1109	—	—	—	—	—	—
	10/7/1998	181	353	7.85	828	1187	0.0020	0.0030	0.490	0.900	< 1.000	< 1.90
	3/16/1999	9.60	339	6.55	741	998	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-10	9/7/1999	10.8	321	6.89	709	985	—	—	—	—	—	—
	10/15/1999	10.8	325	5.92	716	1011	0.0010	0.0020	0.345	< 0.200	< 1.000	< 1.20
	3/9/2000	10.6	321	7.00	690	911	—	—	—	—	—	—
	8/30/2000	10.8	330	6.85	703	938	—	—	—	—	—	—
	9/27/2000	11.3	267	7.00	710	1009	0.0010	0.0020	0.411	< 0.200	< 1.000	< 1.20
RPI-11	9/23/1983	—	—	—	—	520	—	—	—	—	—	—
	1/28/1987	—	—	7.90	—	605	—	—	—	—	—	—
	5/19/1987	—	—	7.70	—	715	—	—	—	—	—	—
	8/4/1987	—	—	—	—	700	—	—	—	—	—	—
	10/22/1987	181	15.0	7.50	558	715	—	—	—	—	—	—
	2/8/1988	—	—	—	—	695	—	—	—	—	—	—
	5/11/1988	—	—	—	—	710	—	—	—	—	—	—
	9/27/1988	195	15.0	7.70	600	710	—	—	—	—	—	—
	2/16/1989	—	—	—	—	715	—	—	—	—	—	—
	5/8/1989	—	—	—	—	745	—	—	—	—	—	—
	9/21/1989	—	—	—	—	725	—	—	—	—	—	—
	10/17/1989	200	12.0	7.20	602	735	—	—	—	—	—	—
	1/12/1990	—	—	—	—	695	—	—	—	—	—	—
	9/18/1990	—	—	—	—	630	—	—	—	—	—	—
	4/10/1991	—	—	—	—	775	—	—	—	—	—	—
	8/8/1991	—	—	—	—	744	—	—	—	—	—	—
	9/6/1991	—	—	—	—	864	—	—	—	—	—	—
	10/11/1991	—	—	—	—	946	—	—	—	—	—	—
	11/7/1991	—	—	—	—	895	—	—	—	—	—	—
	12/18/1991	—	—	—	—	994	—	—	—	—	—	—
5/19/1992	253	48.3	7.33	815	1072	0.0060	< 0.0010	0.156	6.60	2.10	8.70	
12/16/1992	—	—	—	—	1105	—	—	—	—	—	—	
1/20/1993	—	—	—	—	1139	—	—	—	—	—	—	
3/22/1993	—	—	—	—	1156	—	—	—	—	—	—	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-11	4/20/1993	--	--	--	--	1258	--	--	--	--	--	--
	5/18/1993	--	--	--	--	1188	--	--	--	--	--	--
	6/23/1993	--	--	--	--	1221	--	--	--	--	--	--
	7/27/1993	--	--	--	--	1152	--	--	--	--	--	--
	8/10/1993	--	--	--	--	1260	--	--	--	--	--	--
	9/21/1993	--	--	--	--	1260	--	--	--	--	--	--
	10/15/1993	--	--	--	--	1320	--	--	--	--	--	--
	11/19/1993	--	--	--	--	1188	--	--	--	--	--	--
	1/12/1994	--	--	--	--	1632	--	--	--	--	--	--
	2/16/1994	--	--	--	--	1139	--	--	--	--	--	--
	3/15/1994	--	--	--	--	1386	--	--	--	--	--	--
	4/11/1994	--	--	--	--	1300	--	--	--	--	--	--
	5/24/1994	--	--	--	--	1408	--	--	--	--	--	--
	6/8/1994	--	--	--	--	1139	--	--	--	--	--	--
	7/14/1994	--	--	--	--	1206	--	--	--	--	--	--
	8/18/1994	--	--	--	--	1260	--	--	--	--	--	--
	9/28/1994	--	--	--	--	1260	--	--	--	--	--	--
	10/21/1994	--	--	--	--	1105	--	--	--	--	--	--
	11/12/1994	--	--	--	--	1170	--	--	--	--	--	--
	12/10/1994	--	--	--	--	1105	--	--	--	--	--	--
	1/19/1995	--	--	--	--	1195	--	--	--	--	--	--
	2/17/1995	--	--	--	--	1175	--	--	--	--	--	--
	3/15/1995	--	--	--	--	1151	--	--	--	--	--	--
	4/20/1995	--	--	--	--	1223	--	--	--	--	--	--
	6/18/1995	--	--	--	--	1211	--	--	--	--	--	--
	7/19/1995	--	--	--	--	1167	--	--	--	--	--	--
	8/21/1995	--	--	--	--	1240	--	--	--	--	--	--
	10/18/1995	--	--	--	--	1193	--	--	--	--	--	--
	6/18/1997	--	--	8.62	--	325	--	--	--	--	--	--
	1/14/1998	319	77.3	7.50	1000	--	--	--	0.242	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)	
RPI-11	8/5/1998	346	97.0	6.24	1410	1854	--	--	0.301	--	--	--	
	7/22/1999	342	115	6.55	1030	1589	--	--	0.335	--	--	--	
	8/16/2000	322	88.4	7.30	879	1454	--	--	0.272	--	--	--	
RPI-14	9/14/1981	--	--	--	--	--	< 0.0200	< 0.0200	--	--	--	--	
	9/27/1983	--	--	--	--	4840	--	--	--	--	--	--	
	1/28/1987	--	--	7.70	--	3570	--	--	--	--	--	--	
	5/27/1987	--	--	7.80	--	3960	--	--	--	--	--	--	
	8/4/1987	--	--	--	--	4420	--	--	--	--	--	--	
	11/4/1987	1150	1500	7.80	4808	4520	--	--	--	--	--	--	
	2/8/1988	--	--	--	--	4170	--	--	--	--	--	--	
	5/11/1988	--	--	--	--	4285	--	--	--	--	--	--	
	9/28/1988	1000	1440	7.60	4664	3905	--	--	--	--	--	--	
	1/20/1989	--	--	--	--	3500	--	--	--	--	--	--	
	2/16/1989	--	--	--	--	3500	--	--	--	--	--	--	
	5/8/1989	--	--	--	--	3355	--	--	--	--	--	--	
	9/21/1989	--	--	--	--	2540	--	--	--	--	--	--	
	10/17/1989	550	900	7.30	3014	2580	--	--	--	--	--	--	
	1/12/1990	--	--	--	--	2570	--	--	--	--	--	--	--
	6/27/1990	--	--	7.70	--	3585	--	--	--	--	--	--	--
	9/14/1990	936	1300	7.60	4245	3590	--	--	--	--	--	--	--
	12/17/1990	730	1044	7.50	3148	2855	< 0.0010	0.0020	1.10	0.500	1.10	1.60	
	3/7/1991	487	823	7.80	2389	2130	--	--	--	--	--	--	
	6/19/1991	74.0	691	7.30	2038	2110	--	--	--	--	--	--	
	8/6/1991	406	613	7.60	2686	1701	--	--	--	--	--	--	
	11/12/1991	347	702	7.50	1938	1608	--	--	--	--	--	--	
2/6/1992	126	471	7.20	1126	2277	< 0.0010	0.0020	0.464	0.800	1.80	2.60		
5/28/1992	206	534	7.20	1442	1464	0.0010	< 0.0010	0.512	< 0.200	2.00	< 2.20		
8/4/1992	167	490	7.50	1241	2074	--	--	--	--	--	--		
12/9/1992	250	613	7.30	1646	2814	--	--	--	--	--	--		

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-14	3/23/1993	149	432	7.30	1145	1750	< 0.0010	< 0.0010	0.430	< 0.200	< 1.000	< 1.20
	5/11/1993	143	407	7.40	1053	1716	—	—	—	—	—	—
	8/3/1993	—	—	7.40	—	2232	—	—	—	—	—	—
	10/7/1993	90.5	389	7.50	1004	1764	0.0010	< 0.0010	0.173	0.400	< 1.000	< 1.40
	3/3/1994	106	356	6.60	1032	2448	0.0010	< 0.0010	0.312	0.400	< 1.000	< 1.40
	5/11/1994	—	—	7.40	—	1430	—	—	—	—	—	—
	6/17/1994	136	399	—	1115	—	< 0.0010	< 0.0010	0.189	< 0.200	< 1.000	< 1.20
	8/24/1994	154	435	7.50	1161	1560	< 0.0010	< 0.0010	0.366	0.600	< 1.000	< 1.60
	12/3/1994	142	408	7.70	1091	1892	< 0.0010	< 0.0010	0.0250	0.500	1.40	1.90
	2/22/1995	175	441	7.30	1186	1947	—	—	—	—	—	—
	5/19/1995	124	368	7.20	1010	1435	—	—	—	—	—	—
	9/15/1995	378	661	7.20	2160	2179	—	—	—	—	—	—
	11/30/1995	146	416	7.30	1084	2015	—	—	—	—	—	—
	2/13/1996	261	534	7.00	1602	—	—	—	—	—	—	—
	5/22/1996	163	484	7.00	1289	—	—	—	0.323	—	—	—
	1/14/1998	113	474	7.47	1150	1457	—	—	0.137	—	—	—
	8/4/1998	87.1	408	6.30	1020	1293	—	—	0.113	—	—	—
	7/22/1999	123	384	6.13	1020	1892	—	—	0.149	—	—	—
	8/16/2000	202	493	7.30	1320	1827	—	—	0.202	—	—	—
	RPI-15	9/28/1983	—	—	—	—	900	—	—	—	—	—
5/23/1984		204	39.0	—	602	1010	—	—	—	—	—	—
1/29/1987		—	—	7.60	—	1530	—	—	—	—	—	—
5/22/1987		—	—	7.60	—	1655	—	—	—	—	—	—
8/4/1987		—	—	—	—	1675	—	—	—	—	—	—
11/5/1987		545	87.0	7.60	1260	1810	—	—	—	—	—	—
2/9/1988		—	—	—	—	1780	—	—	—	—	—	—
5/11/1988		—	—	—	—	1780	—	—	—	—	—	—
9/28/1988		600	136	7.60	1768	1740	—	—	—	—	—	—
5/10/1989		—	—	—	—	1835	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-15	9/22/1989	--	--	--	--	1810	--	--	--	--	--	--
	10/17/1989	600	188	7.20	1828	1860	--	--	--	--	--	--
	1/12/1990	--	--	--	--	1835	--	--	--	--	--	--
RPI-15A	3/29/1984	--	--	--	--	546	--	--	--	--	--	--
	5/23/1984	--	--	--	--	1320	--	--	--	--	--	--
	1/29/1987	--	--	8.00	--	2020	--	--	--	--	--	--
RPI-16A	9/29/1983	--	--	--	--	3480	--	--	--	--	--	--
	3/29/1984	--	--	--	--	3160	--	--	--	--	--	--
	5/23/1984	--	--	--	--	2630	--	--	--	--	--	--
	6/8/1984	570	512	--	2174	2630	--	--	--	--	--	--
	3/21/1985	850	940	--	3676	--	--	--	--	--	--	--
	2/18/1987	--	--	7.60	--	2605	--	--	--	--	--	--
	5/27/1987	--	--	7.60	--	2070	--	--	--	--	--	--
	7/15/1987	--	--	--	--	1895	--	--	--	--	--	--
	8/4/1987	--	--	--	--	1715	--	--	--	--	--	--
	9/9/1987	--	--	--	--	1575	--	--	--	--	--	--
	11/5/1987	210	240	7.60	1090	1320	--	--	--	--	--	--
	12/8/1987	--	--	--	--	1255	--	--	--	--	--	--
	2/9/1988	--	--	--	--	1080	--	--	--	--	--	--
	3/7/1988	--	--	--	--	980	--	--	--	--	--	--
	4/13/1988	--	--	--	--	995	--	--	--	--	--	--
	5/11/1988	--	--	--	--	1030	--	--	--	--	--	--
	6/21/1988	--	--	--	--	1005	--	--	--	--	--	--
	9/28/1988	105	146	7.70	642	840	--	--	--	--	--	--
	2/17/1989	--	--	--	--	690	--	--	--	--	--	--
	4/25/1989	--	--	--	--	595	--	--	--	--	--	--
5/17/1989	--	--	--	--	620	--	--	--	--	--	--	
9/20/1989	--	--	--	--	570	--	--	--	--	--	--	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-16A	10/17/1989	54.0	92.0	7.30	466	595	—	—	—	—	—	—
	1/12/1990	—	—	—	—	545	—	—	—	—	—	—
	9/18/1990	—	—	—	—	565	—	—	—	—	—	—
	4/10/1991	—	—	—	—	665	—	—	—	—	—	—
	8/8/1991	—	—	—	—	780	—	—	—	—	—	—
	9/6/1991	—	—	—	—	756	—	—	—	—	—	—
	10/11/1991	—	—	—	—	732	—	—	—	—	—	—
	11/8/1991	—	—	—	—	780	—	—	—	—	—	—
	12/18/1991	—	—	—	—	726	—	—	—	—	—	—
	2/24/1992	44.1	219	7.60	535	804	0.0050	0.0030	0.0500	< 0.200	< 1.000	< 1.20
	5/12/1992	37.1	236	7.40	582	858	0.0090	< 0.0010	0.0510	< 0.200	3.00	< 3.20
	8/5/1992	—	—	7.70	—	1056	—	—	—	—	—	—
	12/2/1992	43.5	227	7.20	566	975	0.0040	0.0110	0.0570	< 0.200	< 1.000	< 1.20
	1/31/1993	—	—	—	—	1088	—	—	—	—	—	—
	2/9/1993	30.5	239	7.60	549	1088	0.0040	0.0030	0.0050	< 0.200	6.40	< 6.60
	3/23/1993	—	—	7.60	—	975	—	—	—	—	—	—
	4/20/1993	—	—	—	—	1020	—	—	—	—	—	—
	5/11/1993	42.3	228	7.60	601	1072	—	—	—	—	—	—
	6/23/1993	—	—	—	—	1122	—	—	—	—	—	—
	7/27/1993	—	—	—	—	992	—	—	—	—	—	—
	8/3/1993	—	—	7.60	—	975	—	—	—	—	—	—
	9/21/1993	—	—	—	—	1054	—	—	—	—	—	—
	10/8/1993	26.9	243	7.70	672	975	< 0.0010	< 0.0010	0.0830	1.20	< 1.000	< 2.20
	11/19/1993	—	—	—	—	1005	—	—	—	—	—	—
	1/14/1994	—	—	—	—	960	—	—	—	—	—	—
	2/17/1994	—	—	—	—	1139	—	—	—	—	—	—
	3/4/1994	19.7	245	7.70	646	1254	0.0030	< 0.0010	0.0660	0.500	< 1.000	< 1.50
	4/12/1994	—	—	—	—	1170	—	—	—	—	—	—
	5/13/1994	22.6	237	7.70	657	1020	0.0040	0.0010	0.0560	< 0.200	< 1.000	< 1.20
	6/8/1994	—	—	—	—	1170	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-16A	7/14/1994	—	—	—	—	1054	—	—	—	—	—	—
	8/19/1994	23.9	247	7.50	678	1260	0.0050	< 0.0010	0.0630	0.600	< 1.000	< 1.60
	9/28/1994	—	—	—	—	1220	—	—	—	—	—	—
	10/21/1994	24.5	273	7.50	730	1152	0.0040	< 0.0010	0.0570	< 0.200	< 1.000	< 1.20
	11/12/1994	—	—	—	—	1073	—	—	—	—	—	—
	12/11/1994	—	—	—	—	960	—	—	—	—	—	—
	1/19/1995	—	—	—	—	1092	—	—	—	—	—	—
	2/18/1995	25.7	252	7.50	742	1041	—	—	—	—	—	—
	3/16/1995	—	—	—	—	1320	—	—	—	—	—	—
	4/21/1995	—	—	—	—	1187	—	—	—	—	—	—
	5/11/1995	23.2	259	7.70	705	1160	0.0050	0.0010	0.0670	0.200	1.30	0.800
	6/18/1995	—	—	—	—	1290	—	—	—	—	—	—
	7/20/1995	—	—	—	—	1234	—	—	—	—	—	—
	8/21/1995	30.4	245	7.60	700	1215	—	—	—	—	—	—
	10/18/1995	—	—	—	—	1226	—	—	—	—	—	—
	11/9/1995	26.0	261	7.40	728	1047	0.0060	< 0.0010	0.0490	0.300	< 1.000	< 1.30
	2/12/1996	—	—	7.20	—	—	—	—	—	—	—	—
	5/14/1996	23.7	285	7.50	702	—	—	0.0010	0.0410	< 0.200	< 1.000	< 1.20
	9/19/1996	19.8	240	7.30	653	1131	0.0070	0.0030	0.0266	< 0.200	< 1.000	< 1.20
	10/15/1997	32.0	372	7.43	547	733	0.0080	0.0100	0.0330	< 0.200	< 1.000	< 1.20
10/9/1998	20.8	131	7.34	478	695	0.0120	0.0220	0.0460	0.500	< 1.000	< 1.50	
10/13/1999	20.5	150	6.62	474	969	0.0110	0.0200	0.0376	< 0.200	< 1.000	< 1.20	
9/26/2000	18.9	76.9	6.25	374	625	0.0127	0.0274	0.0243	< 0.200	< 1.000	< 1.20	
RPI-17A	9/29/1983	—	—	—	—	3520	—	—	—	—	—	—
	5/23/1984	930	650	7.19	3216	3960	—	—	—	—	—	—
	1/29/1987	—	—	7.60	—	2730	—	—	—	—	—	—
	5/27/1987	—	—	7.60	—	2990	—	—	—	—	—	—
	7/15/1987	—	—	—	—	3015	—	—	—	—	—	—
	8/4/1987	—	—	—	—	3000	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-17A	9/9/1987	--	--	--	--	3010	--	--	--	--	--	--
	11/4/1987	825	640	7.50	2768	3030	--	--	--	--	--	--
	12/8/1987	--	--	--	--	2860	--	--	--	--	--	--
	2/8/1988	--	--	--	--	2765	--	--	--	--	--	--
	3/8/1988	--	--	--	--	2870	--	--	--	--	--	--
	4/13/1988	--	--	--	--	2850	--	--	--	--	--	--
	5/11/1988	--	--	--	--	2830	--	--	--	--	--	--
	6/21/1988	--	--	--	--	2795	--	--	--	--	--	--
	9/28/1988	750	670	7.50	2932	2690	--	--	--	--	--	--
	2/17/1989	--	--	--	--	2660	--	--	--	--	--	--
	4/25/1989	--	--	--	--	2850	--	--	--	--	--	--
	5/17/1989	--	--	--	--	2925	--	--	--	--	--	--
	9/20/1989	--	--	--	--	735	--	--	--	--	--	--
	10/17/1989	13.0	264	7.20	586	670	--	--	--	--	--	--
	11/28/1989	14.0	260	7.40	594	655	0.0028	0.0013	0.278	--	--	--
	1/12/1990	--	--	--	--	625	--	--	--	--	--	--
	9/18/1990	--	--	--	--	685	--	--	--	--	--	--
	2/6/1991	--	--	--	--	670	--	--	--	--	--	--
	4/10/1991	--	--	--	--	700	--	--	--	--	--	--
	8/8/1991	--	--	--	--	806	--	--	--	--	--	--
	9/6/1991	--	--	--	--	788	--	--	--	--	--	--
	10/11/1991	--	--	--	--	793	--	--	--	--	--	--
	11/8/1991	--	--	--	--	845	--	--	--	--	--	--
	12/18/1991	--	--	--	--	868	--	--	--	--	--	--
	2/25/1992	11.9	265	7.80	556	910	0.0050	0.0010	0.0750	< 0.200	1.000	< 1.20
	5/13/1992	9.70	269	7.60	590	871	0.0060	0.0040	0.0520	0.600	< 1.000	< 1.60
	8/4/1992	10.4	269	7.60	811	945	--	--	--	--	--	--
	12/2/1992	8.40	256	7.80	564	975	0.0040	0.0110	0.112	0.300	< 1.000	< 1.30
	1/31/1993	--	--	--	--	1104	--	--	--	--	--	--
	2/9/1993	9.90	284	7.70	611	1242	0.0030	0.0010	0.0180	< 0.200	2.40	< 2.70

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-17A	2/9/1993	8.60	280	—	589	—	0.0040	0.0020	—	—	2.50	< 2.60
	3/23/1993	—	—	8.00	—	1116	—	—	—	—	—	—
	4/20/1993	—	—	—	—	1155	—	—	—	—	—	—
	5/11/1993	11.1	288	7.70	690	1139	—	—	—	—	—	—
	6/23/1993	—	—	—	—	1188	—	—	—	—	—	—
	7/27/1993	—	—	—	—	1165	—	—	—	—	—	—
	8/4/1993	14.7	343	8.00	705	1116	—	—	—	—	—	—
	9/22/1993	—	—	—	—	1054	—	—	—	—	—	—
	10/8/1993	22.2	299	7.80	720	1152	0.0050	0.0030	0.0850	< 0.200	1.50	< 1.70
	11/19/1993	—	—	—	—	1139	—	—	—	—	—	—
	1/17/1994	—	—	—	—	1020	—	—	—	—	—	—
	2/16/1994	—	—	—	—	1360	—	—	—	—	—	—
	3/4/1994	14.2	267	7.75	681	1242	0.0020	< 0.0010	0.0720	0.400	< 1.000	< 1.40
	4/12/1994	—	—	—	—	1105	—	—	—	—	—	—
	5/11/1994	—	—	7.90	—	1268	—	—	—	—	—	—
	6/17/1994	17.5	268	—	659	1152	0.0030	< 0.0010	0.0550	0.900	< 1.000	< 1.90
	7/14/1994	—	—	—	—	1116	—	—	—	—	—	—
	8/19/1994	9.50	264	7.60	603	1080	0.0030	< 0.0010	0.0450	0.900	< 1.000	< 1.90
	9/23/1994	—	—	—	—	1020	—	—	—	—	—	—
	10/21/1994	8.90	273	7.50	635	1072	0.0020	< 0.0010	0.0350	< 0.200	< 1.000	< 1.20
	11/12/1994	—	—	—	—	992	—	—	—	—	—	—
	12/11/1994	—	—	—	—	1122	—	—	—	—	—	—
	1/19/1995	—	—	—	—	1024	—	—	—	—	—	—
	2/18/1995	12.7	256	7.50	650	960	—	—	—	—	—	—
	3/16/1995	—	—	—	—	1023	—	—	—	—	—	—
	4/21/1995	—	—	—	—	1048	—	—	—	—	—	—
	5/12/1995	11.5	269	7.50	601	1002	0.0030	< 0.0010	0.0420	< 0.200	< 1.000	< 1.20
	6/18/1995	—	—	—	—	1075	—	—	—	—	—	—
	7/20/1995	—	—	—	—	1176	—	—	—	—	—	—
	8/21/1995	10.1	259	7.50	593	1126	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-17A	10/18/1995	—	—	—	—	1099	—	—	—	—	—	—
	11/9/1995	13.8	273	7.40	614	938	0.0020	< 0.0010	0.0300	0.400	< 1.000	< 1.40
	2/12/1996	8.30	268	7.40	597	—	—	—	—	—	—	—
	5/14/1996	11.6	289	7.50	617	—	—	< 0.0010	0.0340	0.300	< 1.000	< 1.30
	9/19/1996	9.60	264	7.40	628	1199	0.0010	< 0.0010	0.0256	< 0.200	< 1.000	< 1.20
	10/15/1997	10.9	262	7.55	638	904	0.0020	< 0.0010	0.0330	< 0.200	< 1.000	< 1.20
	10/9/1998	9.30	244	7.78	622	955	0.0040	0.0020	0.0265	0.600	< 1.000	< 1.60
	10/13/1999	13.6	280	6.54	633	998	0.0030	< 0.0010	0.0253	< 0.200	< 1.000	< 1.20
	9/26/2000	11.3	233	5.40	638	993	0.0027	< 0.0010	0.0264	< 0.200	< 1.000	< 1.20
RPI-18A	9/14/1981	—	—	—	—	—	< 0.0200	< 0.0200	—	—	—	—
	9/7/1983	1188	990	8.20	3970	5040	—	—	—	—	—	—
	12/18/1984	1200	1540	7.20	4472	4830	—	—	—	—	—	—
	10/28/1985	1250	1160	—	4504	5120	—	—	—	—	—	—
	10/17/1986	1200	820	7.20	5216	4350	—	—	—	—	—	—
	5/28/1987	—	—	—	—	4270	—	—	—	—	—	—
	7/15/1987	—	—	—	—	4550	—	—	—	—	—	—
	8/4/1987	—	—	—	—	4375	—	—	—	—	—	—
	9/9/1987	—	—	—	—	4350	—	—	—	—	—	—
	11/4/1987	1250	1220	7.10	4404	4420	—	—	—	—	—	—
	12/8/1987	—	—	—	—	3935	—	—	—	—	—	—
	4/19/1988	—	—	—	—	4290	—	—	—	—	—	—
	5/11/1988	—	—	—	—	4260	—	—	—	—	—	—
	6/21/1988	—	—	—	—	4555	—	—	—	—	—	—
	9/29/1988	1400	1440	6.90	5628	4810	—	—	—	—	—	—
	4/25/1989	—	—	—	—	3025	—	—	—	—	—	—
	5/17/1989	—	—	—	—	3105	—	—	—	—	—	—
	9/20/1989	—	—	—	—	3550	—	—	—	—	—	—
	10/17/1989	900	1120	6.70	3966	3250	—	—	—	—	—	—
11/28/1989	550	880	6.90	2802	2535	< 0.0020	0.0011	—	—	—	—	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-18A	9/18/1990	—	—	—	—	730	—	—	—	—	—	—
	4/9/1991	—	—	—	—	645	—	—	—	—	—	—
	8/8/1991	—	—	—	—	786	—	—	—	—	—	—
	9/6/1991	—	—	—	—	806	—	—	—	—	—	—
	10/11/1991	—	—	—	—	763	—	—	—	—	—	—
	11/8/1991	—	—	—	—	825	—	—	—	—	—	—
	12/18/1991	—	—	—	—	756	—	—	—	—	—	—
	2/25/1992	11.7	263	7.50	573	792	0.0050	0.0020	—	1.90	< 1.000	< 2.90
	5/13/1992	12.2	—	7.10	559	816	0.0020	0.0040	—	< 0.200	< 1.000	< 1.20
	8/4/1992	14.5	274	7.00	554	896	—	—	—	—	—	—
	12/2/1992	12.2	—	6.70	480	1020	0.0010	0.0120	—	0.400	< 1.000	< 1.40
	1/31/1993	—	—	—	—	1104	—	—	—	—	—	—
	3/23/1993	—	—	7.70	—	1008	—	—	—	—	—	—
	3/30/1993	17.3	274	7.10	587	792	0.0020	< 0.0010	—	1.50	7.80	9.30
	4/26/1993	—	—	—	—	897	—	—	—	—	—	—
	5/11/1993	12.9	259	6.80	666	1072	—	—	—	—	—	—
	6/23/1993	—	—	—	—	1056	—	—	—	—	—	—
	7/27/1993	—	—	—	—	1071	—	—	—	—	—	—
	8/4/1993	11.8	321	7.70	648	1008	—	—	—	—	—	—
	9/22/1993	—	—	—	—	1071	—	—	—	—	—	—
	10/8/1993	13.1	304	7.30	693	1122	< 0.0010	0.0030	—	< 0.200	1.90	< 2.10
	11/19/1993	—	—	—	—	1156	—	—	—	—	—	—
	1/17/1994	—	—	—	—	1088	—	—	—	—	—	—
	3/15/1994	—	—	—	—	1340	—	—	—	—	—	—
	4/12/1994	—	—	—	—	1206	—	—	—	—	—	—
	5/11/1994	—	—	7.30	—	1430	—	—	—	—	—	—
	6/17/1994	15.5	254	—	711	1188	< 0.0010	< 0.0010	—	< 0.200	1.30	< 1.50
	7/14/1994	—	—	—	—	1178	—	—	—	—	—	—
	8/19/1994	10.5	275	7.30	724	1271	0.0010	< 0.0010	—	0.900	5.00	5.90
	9/28/1994	—	—	—	—	1298	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-18A	10/21/1994	9.60	293	—	716	1088	< 0.0010	< 0.0010	—	< 0.200	< 1.000	< 1.20
	11/12/1994	—	—	—	—	1430	—	—	—	—	—	—
	12/11/1994	—	—	—	—	1496	—	—	—	—	—	—
	2/17/1995	9.00	263	7.70	664	1077	—	—	—	—	—	—
	3/16/1995	—	—	—	—	1130	—	—	—	—	—	—
	4/20/1995	—	—	—	—	1008	—	—	—	—	—	—
	5/12/1995	166	266	7.00	610	1022	< 0.0010	< 0.0010	0.169	0.300	2.70	3.00
	6/18/1995	—	—	—	—	1060	—	—	—	—	—	—
	7/19/1995	—	—	—	—	1023	—	—	—	—	—	—
	8/21/1995	10.9	264	7.30	597	1034	—	—	—	—	—	—
	10/18/1995	—	—	—	—	975	—	—	—	—	—	—
	11/8/1995	15.8	258	7.20	587	907	< 0.0010	< 0.0010	0.129	0.500	< 1.000	< 1.50
	2/12/1996	8.30	1724	7.20	1.000	—	—	—	—	—	—	—
	5/14/1996	12.2	284	7.30	604	—	—	< 0.0010	0.0960	0.500	< 1.000	< 1.50
	9/19/1996	10.9	260	7.10	605	974	< 0.0010	< 0.0010	0.0533	< 0.200	< 1.000	< 1.20
	10/15/1997	27.6	262	7.24	649	974	0.0020	< 0.0010	0.0450	< 0.200	< 1.000	< 1.20
	10/9/1998	10.3	264	7.76	625	1099	0.0040	< 0.0010	0.0526	< 0.200	< 1.000	< 1.20
	10/13/1999	8.70	266	6.52	601	1640	0.0030	< 0.0010	0.0492	< 0.200	< 1.000	< 1.20
	9/26/2000	11.6	218	5.90	592	929	0.0036	< 0.0010	0.0485	< 0.200	< 1.000	< 1.20
RPI-19B	10/15/1979	550	681	6.90	2295	—	0.0290	0.0009	0.0400	—	—	—
	9/25/1981	696	837	6.80	2871	3770	—	—	—	—	—	—
	8/30/1983	871	1110	7.00	3726	4660	—	—	—	—	—	—
	3/29/1984	—	—	—	—	2600	—	—	—	—	—	—
	10/12/1984	820	1140	7.00	3476	4050	—	—	—	—	—	—
	5/7/1985	—	—	7.20	—	4760	< 0.0040	< 0.0010	—	—	—	—
	6/11/1985	—	—	—	—	—	< 0.0010	< 0.0010	—	—	—	—
	10/28/1985	1120	1640	7.30	5158	—	< 0.0040	< 0.0010	—	—	—	—
	11/13/1985	—	—	—	—	—	< 0.0040	< 0.0010	—	—	—	—
	9/30/1986	1000	1320	7.30	5536	4585	< 0.0040	0.0040	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-19B	10/31/1986	—	—	—	—	4555	< 0.0040	—	< 0.0010	—	—	—
	11/21/1986	—	—	—	—	—	< 0.0040	< 0.0010	—	—	—	—
	11/11/1987	1230	1520	7.20	5060	4750	< 0.0040	0.0020	—	—	—	—
	3/23/1988	—	—	7.30	—	4340	< 0.0040	< 0.0010	—	—	—	—
	9/20/1988	—	—	7.20	—	3900	—	—	—	—	—	—
	9/28/1988	975	1180	7.10	2214	3830	—	—	—	—	—	—
	12/7/1988	—	—	7.10	—	2905	—	—	—	—	—	—
	1/20/1989	—	—	7.10	—	2535	—	—	—	—	—	—
	8/15/1989	—	—	7.00	—	2075	0.0020	< 0.0010	0.706	—	—	0
	9/13/1989	—	—	6.70	—	1875	< 0.0020	< 0.0010	0.510	—	1.60	—
	10/9/1989	310	580	7.30	1874	1715	< 0.0020	< 0.0020	0.690	0.100	2.00	2.10
	2/20/1990	277	475	7.70	1641	1540	—	—	—	—	—	—
	6/6/1990	314	538	7.10	1812	1680	< 0.0010	< 0.0010	0.960	0.400	< 1.000	< 1.40
	8/24/1990	747	862	7.50	3147	2595	—	—	—	—	—	—
	11/12/1990	895	942	7.30	3697	2970	< 0.0010	0.0080	1.10	< 0.200	< 1.000	< 1.20
	3/8/1991	795	894	7.60	3272	2730	—	—	—	—	—	—
	5/9/1991	507	643	7.20	2549	2100	< 0.0010	0.0100	0.909	< 0.200	2.90	< 3.10
	8/6/1991	448	834	7.40	2496	2210	—	—	—	—	—	—
	10/21/1991	411	569	6.90	1721	2275	0.0010	0.0130	0.684	3.20	1.70	4.90
	2/4/1992	399	565	7.20	1953	2415	0.0010	0.0030	0.0650	0.500	< 1.000	< 1.50
	5/8/1992	351	525	6.80	1852	2312	0.0020	0.0150	0.662	0.700	< 1.000	< 1.70
	8/4/1992	339	509	7.20	1795	2275	—	—	—	—	—	—
	12/2/1992	263	535	7.01	1576	2132	0.0020	0.0470	0.592	0.300	2.00	2.30
	3/23/1993	271	526	7.00	1529	2208	< 0.0010	0.0100	0.632	0.200	1.000	1.20
	5/11/1993	272	462	7.10	1466	2640	—	—	—	—	—	—
	8/3/1993	—	—	7.00	—	2600	—	—	—	—	—	—
	8/19/1993	303	463	7.70	1687	2684	< 0.0010	0.0250	0.409	0.300	< 1.000	< 1.30
	10/8/1993	296	470	7.10	1595	2048	< 0.0010	0.0100	0.324	< 0.200	1.20	< 1.40
	3/4/1994	331	545	7.00	1763	2720	0.0020	0.0130	0.571	0.700	< 1.000	< 1.70
	5/11/1994	—	—	7.10	—	2640	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-19B	6/17/1994	230	467	—	1554	—	< 0.0010	0.0140	0.401	< 0.200	< 1.000	< 1.20
	7/27/1994	208	484	7.00	1388	2232	< 0.0010	0.0080	0.393	2.20	19.9	22.1
	12/3/1994	191	446	7.10	1272	—	< 0.0010	0.0070	0.0400	< 0.200	< 1.000	< 1.20
	2/22/1995	262	509	7.00	1492	2138	—	—	—	—	—	—
	5/19/1995	191	438	7.00	128	1964	0.0010	0.0080	0.0003	0.200	1.000	1.20
	9/13/1995	167	451	6.90	1256	1772	—	—	—	—	—	—
	10/30/1995	155	426	7.00	1194	1625	0.0020	0.0090	0.356	0.600	1.70	2.30
	11/8/1995	152	378	7.00	1097	1591	< 0.0010	0.0080	0.382	0.700	< 1.000	1.70
	2/12/1996	184	437	6.70	1267	2023	—	—	—	—	—	—
	5/14/1996	112	395	7.00	1063	1703	< 0.0010	0.0060	0.426	< 0.200	< 1.000	< 1.20
	8/17/1996	78.0	364	7.84	900	1415	—	—	—	—	—	—
	11/13/1996	49.0	321	7.30	—	1209	< 0.0010	< 0.0010	0.245	< 0.200	< 1.000	< 1.20
	3/7/1997	38.0	324	—	755	—	—	—	—	—	—	—
	6/17/1997	—	—	7.14	—	1050	—	—	—	—	—	—
	9/9/1997	25.9	315	6.92	745	973	—	—	—	—	—	—
	12/30/1997	21.6	322	7.08	719	1063	—	0.0020	0.217	< 0.200	< 1.000	< 1.20
	3/17/1998	21.3	290	7.31	710	1075	—	—	—	—	—	—
	6/1/1998	19.4	308	7.47	680	974	0.0020	0.0010	0.164	< 0.200	< 1.000	< 1.20
	9/10/1998	16.1	291	6.46	685	937	—	—	—	—	—	—
	12/11/1998	16.3	297	7.63	652	1049	0.0020	0.0020	0.117	< 0.200	< 1.000	< 1.20
	3/30/1999	16.4	285	7.27	652	974	—	—	—	—	—	—
	6/15/1999	17.0	254	6.71	326	1008	0.0010	< 0.0010	0.118	< 0.200	4.30	< 4.50
	9/8/1999	13.9	283	6.55	679	974	—	—	—	—	—	—
	12/7/1999	9.90	280	7.20	621	706	0.0030	< 0.0010	0.0654	< 0.200	< 1.000	< 1.20
	3/10/2000	9.70	270	6.90	615	903	—	—	—	—	—	—
	5/31/2000	11.8	276	6.50	615	873	0.0013	< 0.0010	0.107	< 0.200	3.00	< 3.20
8/30/2000	10.8	283	6.20	632	907	—	—	—	—	—	—	
11/14/2000	4.20	259	6.80	632	916	0.0020	< 0.0010	0.0622	0.600	< 1.000	< 1.60	
RPI-20A	10/15/1979	378	1987	—	3820	2275	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-20A	6/15/1980	572	—	—	—	2810	—	—	—	—	—	—
	9/29/1981	798	518	7.10	2542	4130	—	—	—	—	—	—
	4/22/1982	1080	840	7.00	3570	4280	—	—	—	—	—	—
	5/20/1982	1000	715	—	—	—	—	—	1.03	1.30	—	—
	8/20/1982	—	675	7.00	3382	4340	—	—	0.720	0.400	—	—
	10/27/1982	990	670	7.00	3896	4020	—	—	1.34	0.260	—	—
	3/8/1983	1130	740	7.10	3840	4265	—	—	1.42	0.150	—	—
	6/1/1983	1090	1041	7.20	4454	4690	—	—	2.95	0.180	—	—
	8/31/1983	891	980	7.40	3094	4610	—	—	3.50	0.110	—	—
	12/22/1983	1000	970	7.30	3494	—	—	—	2.40	0.200	—	—
	3/27/1984	1220	1140	7.40	4500	0.0200	—	—	—	—	—	—
	5/17/1984	590	980	8.00	2844	3090	—	—	2.26	—	—	—
	5/17/1984	570	920	—	2914	—	—	—	2.28	0.100	—	—
	9/19/1984	780	1040	7.20	3198	3968	—	—	2.40	0.700	—	—
	9/19/1984	740	1000	—	3394	—	—	—	2.32	0.800	—	—
	11/14/1984	830	1040	7.30	3210	3840	—	—	2.05	0.200	—	—
	11/14/1984	—	—	—	3366	—	—	—	1.92	0.400	—	—
	5/8/1985	812	820	7.40	3422	3500	—	—	2.00	0.200	—	—
	5/8/1985	825	1020	—	3684	—	—	—	1.92	0.100	—	—
	8/20/1985	865	1180	7.00	3998	4060	—	—	1.92	0.400	—	—
	8/20/1985	860	1140	—	3970	—	—	—	1.74	—	—	—
	11/6/1985	870	960	7.30	3690	3710	< 0.0040	< 0.0010	1.70	0.500	—	—
	3/13/1986	740	740	7.40	3156	3110	—	—	1.18	0.500	—	—
	3/13/1986	—	—	—	3018	—	—	—	1.39	0.300	—	—
	5/14/1986	600	696	7.40	2758	2800	—	—	1.44	0.300	—	—
	9/15/1986	700	660	7.40	3274	3355	< 0.0040	< 0.0010	1.48	0.500	—	—
	9/15/1986	800	640	—	3350	—	—	—	1.57	0.600	—	—
	11/20/1986	670	770	7.40	2856	2900	—	—	1.66	0.800	—	—
	3/17/1987	680	940	7.60	3030	2775	—	—	2.09	9.00	—	—
	5/4/1987	630	760	7.30	3156	2775	—	—	1.39	1.000	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-20A	5/28/1987	--	--	--	--	2760	--	--	--	--	--	--
	7/15/1987	--	--	--	--	2350	--	--	--	--	--	--
	8/4/1987	--	--	--	--	2190	--	--	--	--	--	--
	8/17/1987	600	770	7.40	2780	2915	--	--	1.22	1.000	--	--
	9/8/1987	--	--	--	--	2790	--	--	--	--	--	--
	11/11/1987	485	738	7.10	2180	2410	< 0.0040	0.0010	1.22	1.20	--	--
	11/11/1987	490	726	--	2420	--	--	--	--	--	--	--
	12/8/1987	--	--	--	--	2100	--	--	--	--	--	--
	2/8/1988	--	--	--	--	2480	--	--	--	--	--	--
	2/23/1988	600	860	7.20	2650	--	--	--	1.65	1.10	--	--
	3/7/1988	--	--	--	--	2440	--	--	--	--	--	--
	4/13/1988	--	--	--	--	2555	--	--	--	--	--	--
	5/11/1988	--	--	--	--	2775	--	--	--	--	--	--
	5/18/1988	790	680	7.30	2870	--	--	--	1.13	0.900	--	--
	6/20/1988	--	--	--	--	2730	--	--	--	--	--	--
	8/19/1988	800	840	7.30	3128	--	--	--	1.14	0.300	--	--
	10/18/1988	750	630	7.40	2798	2690	< 0.0040	< 0.0010	1.22	1.10	--	--
	3/15/1989	690	687	7.20	2722	2335	--	--	0.697	0.400	--	--
	4/24/1989	--	--	--	--	2290	--	--	--	--	--	--
	5/17/1989	--	--	--	--	2310	--	--	--	--	--	--
	6/27/1989	825	760	7.40	3430	2860	--	--	1.22	0.300	--	--
	8/15/1989	730	840	6.60	3422	2815	0.0045	< 0.0010	1.39	0.200	0.900	1.10
	9/12/1989	--	--	6.90	--	2625	0.0049	< 0.0010	0.800	0.300	3.90	4.20
	10/10/1989	625	780	6.90	2786	2560	0.0040	< 0.0020	1.35	0.500	4.10	4.60
	1/12/1990	--	--	--	--	2250	--	--	--	--	--	--
	2/19/1990	--	--	7.60	--	2190	--	--	--	--	--	--
	6/7/1990	360	374	8.00	1708	1630	0.0060	< 0.0010	0.650	1.30	< 1.000	< 2.30
	8/24/1990	169	386	7.50	1064	1335	--	--	--	--	--	--
	11/12/1990	193	378	7.30	1190	1300	0.0070	< 0.0010	0.290	0.300	< 1.000	< 1.30
	3/5/1991	192	457	7.80	1196	1255	--	--	--	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-20A	4/9/1991	—	—	—	—	1305	—	—	—	—	—	—
	5/8/1991	22.6	402	7.50	1142	1350	0.0070	< 0.0010	0.220	0.300	2.80	3.10
	8/6/1991	203	525	7.50	1465	1560	—	—	—	—	—	—
	9/6/1991	—	—	—	—	1617	—	—	—	—	—	—
	10/11/1991	—	—	—	—	1531	—	—	—	—	—	—
	11/7/1991	148	391	7.20	1141	1452	0.0120	< 0.0010	0.113	0.400	< 1.000	< 1.40
	12/18/1991	—	—	—	—	1476	—	—	—	—	—	—
	2/18/1992	144	407	7.10	1124	1680	0.0230	< 0.0010	0.147	< 0.200	< 1.000	< 1.20
	2/18/1992	378	418	—	1155	—	0.0150	—	0.0410	3.80	7.70	11.5
	5/8/1992	163	—	7.10	1078	1564	0.0120	< 0.0010	0.0730	3.00	< 1.000	< 4.00
	8/4/1992	144	324	7.40	1038	1736	—	—	—	—	—	—
	11/16/1992	104	349	7.10	1010	1608	0.0120	0.0030	0.0090	< 0.200	< 1.000	< 1.20
	1/18/1993	—	—	—	—	1621	—	—	—	—	—	—
	3/31/1993	267	539	7.20	1564	1798	0.0100	< 0.0010	0.0870	7.50	1.80	9.30
	4/24/1993	—	—	—	—	2304	—	—	—	—	—	—
	5/12/1993	251	457	7.20	1576	2720	—	—	—	—	—	—
	6/23/1993	—	—	—	—	2048	—	—	—	—	—	—
	7/27/1993	—	—	—	—	1701	—	—	—	—	—	—
	8/2/1993	131	413	7.20	1170	1798	—	—	—	—	—	—
	9/21/1993	—	—	—	—	1830	—	—	—	—	—	—
	10/6/1993	107	366	7.10	1101	1769	0.0100	< 0.0010	0.0550	< 0.200	3.10	< 3.30
	11/19/1993	—	—	—	—	1904	—	—	—	—	—	—
	1/19/1994	—	—	—	—	1656	—	—	—	—	—	—
	2/15/1994	—	—	—	—	1704	—	—	—	—	—	—
	3/2/1994	76.8	334	7.39	1012	1846	0.0090	< 0.0010	0.0590	0.300	< 1.000	< 1.30
	3/2/1994	73.6	333	—	1020	—	—	—	0.0540	0.500	—	< 1.50
	4/12/1994	—	—	—	—	1876	—	—	—	—	—	—
	5/11/1994	—	—	7.20	—	1496	—	—	—	—	—	—
	6/7/1994	—	—	—	—	1664	—	—	—	—	—	—
	6/17/1994	70.4	305	—	925	—	0.0160	< 0.0010	0.0330	< 0.0200	1.60	< 1.62

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-20A	7/13/1994	—	—	—	—	1560	—	—	—	—	—	—
	8/18/1994	74.4	352	7.10	898	1624	0.0140	< 0.0010	0.0220	< 0.200	2.00	< 2.20
	9/23/1994	—	—	—	—	1440	—	—	—	—	—	—
	10/21/1994	65.2	344	7.20	916	1430	0.0160	< 0.0010	0.0250	< 0.200	< 1.000	< 1.20
	11/11/1994	—	—	—	—	1430	—	—	—	—	—	—
	12/10/1994	—	—	—	—	1496	—	—	—	—	—	—
	1/18/1995	—	—	—	—	1530	—	—	—	—	—	—
	2/10/1995	54.2	371	7.30	930	1553	—	—	—	—	—	—
	3/18/1995	—	—	—	—	1502	—	—	—	—	—	—
	4/19/1995	—	—	—	—	1785	—	—	—	—	—	—
	5/5/1995	—	—	7.20	—	1590	—	—	—	—	—	—
	6/18/1995	—	—	—	—	1769	—	—	—	—	—	—
	7/19/1995	—	—	—	—	1557	—	—	—	—	—	—
	8/22/1995	99.5	301	7.10	954	1584	—	—	—	—	—	—
	10/17/1995	—	—	—	—	1654	—	—	—	—	—	—
	11/8/1995	82.0	326	7.00	—	1617	0.0200	< 0.0010	0.0340	0.500	< 1.000	< 1.50
	2/15/1996	85.1	402	6.60	1054	1740	—	—	—	—	—	—
	5/13/1996	78.0	375	8.10	1019	1716	0.0160	< 0.0010	0.0410	< 0.200	< 1.000	< 1.20
	8/17/1996	14.3	280	7.20	627	1426	—	—	—	—	—	—
	11/12/1996	43.9	332	7.00	903	1330	0.0230	< 0.0010	0.0217	0.500	< 1.000	< 1.50
	3/7/1997	96.2	487	—	1220	—	—	—	—	—	—	—
	6/11/1997	—	—	7.19	—	1250	—	—	—	—	—	—
	9/19/1997	54.6	270	6.96	847	658	—	—	—	—	—	—
	12/30/1997	40.6	336	7.11	870	1494	—	< 0.0010	0.0449	< 0.200	< 1.000	< 1.20
	3/17/1998	28.0	323	7.35	796	1274	—	—	—	—	—	—
	6/1/1998	46.7	321	7.34	835	1121	0.0210	0.0010	0.0364	< 0.200	< 1.000	< 1.20
	9/10/1998	34.2	260	6.63	729	1123	—	—	—	—	—	—
	12/11/1998	41.1	310	7.52	823	1229	0.0210	0.0010	0.0198	< 0.200	< 1.000	< 1.20
	3/30/1999	42.4	323	7.23	803	1315	—	—	—	—	—	—
	6/16/1999	46.0	264	6.35	753	1099	0.0170	0.0010	0.0176	< 0.200	6.30	< 6.50

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-20A	9/8/1999	36.5	288	6.58	757	1163	—	—	—	—	—	—
	12/7/1999	24.2	286	6.90	705	798	0.0220	< 0.0010	0.0132	< 0.200	< 1.000	< 1.20
	3/10/2000	32.0	293	6.80	747	1082	—	—	—	—	—	—
	5/31/2000	30.8	272	6.70	713	1024	0.0177	< 0.0010	0.0170	0.400	1.50	1.90
	8/30/2000	24.7	275	6.30	712	1024	—	—	—	—	—	—
	11/14/2000	26.8	273	6.75	731	1027	0.0260	< 0.0010	0.0122	0.700	< 1.000	< 1.70
RPI-21B	4/22/1982	72.0	166	7.40	600	880	—	—	—	—	—	—
	5/20/1982	82.0	150	—	—	—	—	—	0.590	0.300	—	—
	8/12/1982	—	—	7.50	904	1170	—	—	0.590	0.400	—	—
	10/28/1982	248	166	7.40	1220	1590	—	—	0.900	0.900	—	—
	3/8/1983	380	278	7.30	1486	1890	—	—	0.830	0.0700	—	—
	5/31/1983	166	216	7.60	1032	1070	—	—	0.560	0.850	—	—
	8/31/1983	490	462	7.70	1764	4620	—	—	0.700	0.500	—	—
	12/22/1983	576	540	7.50	2052	—	—	—	0.800	0.100	—	—
	3/30/1984	640	610	7.70	2464	2770	—	—	—	—	—	—
	5/17/1984	270	496	7.90	1422	1760	—	—	1.39	1.20	—	—
	9/19/1984	262	300	7.40	1084	1430	—	—	0.600	1.30	—	—
	11/14/1984	360	367	7.50	1438	1980	—	—	0.710	0.500	—	—
	12/5/1984	—	—	7.60	—	2020	< 0.0040	< 0.0040	—	—	—	—
	3/21/1985	640	573	7.50	2326	2730	—	—	1.61	0.800	—	—
	5/8/1985	660	660	7.50	2862	2800	—	—	1.83	0.900	—	—
	8/20/1985	690	712	7.30	3434	2860	—	—	1.74	1.20	—	—
	11/6/1985	780	880	7.40	3372	3105	< 0.0040	< 0.0010	1.90	0.600	—	—
	3/12/1986	370	740	7.60	2398	2430	—	—	1.74	0.600	—	—
	5/14/1986	170	262	7.60	890	1050	—	—	0.650	0.200	—	—
	9/15/1986	700	500	7.70	3258	2725	< 0.0040	0.0130	2.09	1.000	—	—
11/21/1986	605	610	7.60	2354	2545	—	—	1.92	1.30	—	—	
3/17/1987	740	880	7.70	3246	2940	—	—	3.14	1.000	—	—	
5/4/1987	65.0	460	7.40	984	1050	—	—	0.660	0.200	—	—	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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) (µmhós)	As (mg/l)	Se (mg/l)	Unat (mg/l)	Ra226 (pCi/l)	Ra228 (pCi/l)	Ra226+228 (pCi/l)
RPI-21B	5/19/1987	--	--	7.60	--	915	--	--	--	--	--	--
	5/28/1987	--	--	--	--	1000	--	--	--	--	--	--
	7/15/1987	--	--	--	--	1565	--	--	--	--	--	--
	8/4/1987	--	--	--	--	1740	--	--	--	--	--	--
	8/17/1987	350	480	7.60	1630	1675	--	--	0.610	0.900	--	--
	9/8/1987	--	--	--	--	1815	--	--	--	--	--	--
	11/11/1987	375	560	7.10	1710	1950	< 0.0040	0.0430	1.39	1.50	--	--
	12/8/1987	--	--	--	--	1965	--	--	--	--	--	--
	2/23/1988	500	600	7.50	2060	2005	--	--	1.92	0.700	--	--
	3/7/1988	--	--	--	--	2015	--	--	--	--	--	--
	4/13/1988	--	--	--	--	1945	--	--	--	--	--	--
	5/18/1988	175	484	7.40	1280	1435	--	--	1.13	1.40	--	--
	6/20/1988	--	--	--	--	1240	--	--	--	--	--	--
	8/19/1988	160	330	7.70	1026	--	--	--	0.780	0.300	--	--
	10/18/1988	185	324	7.50	1048	1205	< 0.0040	0.0495	0.760	1.000	--	--
	3/15/1989	225	388	7.30	1178	1275	--	--	0.784	0.800	--	--
	4/24/1989	--	--	--	--	670	--	--	--	--	--	--
	5/17/1989	--	--	--	--	645	--	--	--	--	--	--
	6/27/1989	73.0	258	7.60	650	725	--	--	0.365	0.200	--	--
	8/15/1989	73.0	220	7.20	664	735	0.0021	< 0.0010	0.414	--	--	--
	9/12/1989	--	--	7.00	--	720	< 0.0020	< 0.0010	0.330	0.200	2.40	2.60
	10/10/1989	62.0	187	7.00	584	715	< 0.0020	< 0.0020	0.400	0.300	4.00	4.30
	1/12/1990	--	--	--	--	675	--	--	--	--	--	--
	2/19/1990	75.0	184	8.10	616	675	--	--	--	--	--	--
	6/5/1990	46.0	117	7.80	457	540	0.0010	< 0.0010	0.550	0.400	< 1.000	< 1.40
	8/24/1990	12.7	308	7.60	599	720	--	--	--	--	--	--
	11/13/1990	33.0	151	7.60	484	555	0.0010	0.0340	0.0300	0.500	< 1.000	< 1.50
	3/5/1991	25.4	94.6	7.70	352	420	--	--	--	--	--	--
	4/9/1991	--	--	--	--	440	--	--	--	--	--	--
	5/8/1991	25.2	114	7.60	372	460	0.0010	0.0270	0.250	2.40	1.50	3.90

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-21B	8/6/1991	19.7	224	8.00	512	536	—	—	—	—	—	—
	9/5/1991	—	—	—	—	614	—	—	—	—	—	—
	10/11/1991	—	—	—	—	594	—	—	—	—	—	—
	11/7/1991	22.8	161	7.40	400	614	0.0010	0.0080	0.257	< 0.200	< 1.000	< 1.20
	12/18/1991	—	—	—	—	773	—	—	—	—	—	—
	2/4/1992	19.0	216	7.80	537	690	< 0.0010	0.0020	0.277	0.600	< 1.000	< 1.60
	5/8/1992	17.5	182	7.30	496	704	0.0020	0.0080	0.346	< 0.200	< 1.000	< 1.20
	8/3/1992	16.7	252	7.10	548	792	—	—	—	—	—	—
	11/16/1992	14.2	250	7.00	535	910	0.0040	0.0060	0.180	< 0.200	< 1.000	< 1.20
	1/18/1993	—	—	—	—	828	—	—	—	—	—	—
	2/17/1993	12.2	253	7.50	556	975	< 0.0010	0.0030	0.350	< 0.200	4.30	< 4.50
	4/20/1993	—	—	—	—	828	—	—	—	—	—	—
	5/10/1993	—	—	7.40	—	1104	—	—	—	—	—	—
	5/18/1993	—	—	—	—	952	—	—	—	—	—	—
	6/22/1993	—	—	—	—	1056	—	—	—	—	—	—
	7/25/1993	—	—	—	—	924	—	—	—	—	—	—
	8/2/1993	16.0	296	7.50	629	975	—	—	—	—	—	—
	9/21/1993	—	—	—	—	945	—	—	—	—	—	—
	10/7/1993	13.1	238	7.40	622	882	< 0.0010	< 0.0010	0.130	0.500	2.70	3.20
	11/19/1993	—	—	—	—	858	—	—	—	—	—	—
	1/19/1994	—	—	—	—	1005	—	—	—	—	—	—
	2/15/1994	—	—	—	—	1242	—	—	—	—	—	—
	3/3/1994	10.00	273	7.31	605	966	< 0.0010	< 0.0010	0.300	0.800	1.000	1.80
	4/11/1994	—	—	—	—	980	—	—	—	—	—	—
	5/11/1994	—	—	7.50	—	1206	—	—	—	—	—	—
	6/17/1994	13.1	251	—	614	1072	< 0.0010	0.0020	0.206	1.80	30.4	31.8
	7/13/1994	—	—	—	—	1056	—	—	—	—	—	—
	8/17/1994	13.3	262	7.40	550	1088	< 0.0010	0.0010	0.233	0.600	< 1.000	< 1.60
9/23/1994	—	—	—	—	977	—	—	—	—	—	—	
10/19/1994	12.1	270	—	639	882	0.0010	0.0020	0.229	0.400	12.3	12.7	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-21B	11/11/1994	—	—	—	—	960	—	—	—	—	—	—
	12/10/1994	—	—	—	—	2072	—	—	—	—	—	—
	1/18/1995	—	—	—	—	1165	—	—	—	—	—	—
	2/10/1995	11.9	258	7.50	616	1036	—	—	—	—	—	—
	3/15/1995	—	—	—	—	990	—	—	—	—	—	—
	4/19/1995	—	—	—	—	1021	—	—	—	—	—	—
	5/3/1995	—	—	7.50	—	992	—	—	—	—	—	—
	6/18/1995	—	—	—	—	1065	—	—	—	—	—	—
	7/19/1995	—	—	—	—	1087	—	—	—	—	—	—
	8/22/1995	12.8	260	7.50	610	1048	—	—	—	—	—	—
	10/17/1995	—	—	—	—	992	—	—	—	—	—	—
	11/8/1995	14.9	264	7.30	—	927	< 0.0010	< 0.0010	0.172	0.700	< 1.000	< 1.70
	2/9/1996	11.9	264	7.30	603	716	—	—	—	—	—	—
	5/13/1996	14.2	264	7.40	630	1031	< 0.0010	< 0.0010	0.232	0.500	< 1.000	< 1.50
	8/17/1996	74.4	399	6.70	1008	942	—	—	—	—	—	—
	11/12/1996	13.0	254	7.20	632	951	0.0040	0.0020	0.151	0.500	< 1.000	< 1.50
	3/7/1997	12.0	278	—	631	—	—	—	—	—	—	—
	6/18/1997	—	—	7.32	—	950	—	—	—	—	—	—
	9/19/1997	14.4	310	7.24	746	893	—	—	—	—	—	—
	12/30/1997	14.7	321	7.23	688	1124	—	0.0020	0.229	0.500	< 1.000	< 1.50
	3/19/1998	13.5	309	7.38	702	998	—	—	—	—	—	—
	6/1/1998	13.8	317	7.44	707	1078	0.0020	0.0020	0.191	0.600	< 1.000	< 1.60
	9/10/1998	14.4	306	9.90	683	1163	—	—	—	—	—	—
	12/11/1998	14.5	317	7.63	708	1069	0.0020	0.0020	0.123	< 0.200	< 1.000	< 1.20
	3/16/1999	14.4	250	6.18	674	950	—	—	—	—	—	—
	6/16/1999	15.0	279	6.43	679	904	0.0020	0.0020	0.128	0.400	3.40	3.80
	9/8/1999	12.5	296	6.95	680	1018	—	—	—	—	—	—
	12/7/1999	11.1	291	7.10	630	707	0.0030	< 0.0010	0.100	< 0.200	< 1.000	< 1.20
	3/10/2000	11.5	277	6.90	625	904	—	—	—	—	—	—
	5/31/2000	11.6	276	7.10	634	897	0.0020	< 0.0010	0.113	< 0.200	9.80	< 10.00

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-21B	8/30/2000	10.4	282	7.20	621	869	—	—	—	—	—	—
	11/14/2000	< 1.000	263	6.75	630	899	0.0030	0.0010	0.0860	0.700	< 1.000	< 1.70
RPI-22	10/15/1979	760	1004	7.20	3190	—	0.0011	0.0004	3.02	—	—	—
	11/17/1981	940	1295	6.90	4090	5280	< 0.0200	0.110	—	—	—	—
	9/1/1983	1089	1420	7.40	4358	5610	—	—	—	—	—	—
	12/18/1984	1300	1740	7.40	5048	5280	—	—	—	—	—	—
	10/28/1985	1220	1560	7.10	6062	5420	—	—	—	—	—	—
	10/15/1986	90.0	160	7.40	746	1015	—	—	—	—	—	—
	1/28/1987	—	—	7.90	—	445	—	—	—	—	—	—
	5/19/1987	—	—	7.70	—	340	—	—	—	—	—	—
	8/4/1987	—	—	—	—	320	—	—	—	—	—	—
	10/21/1987	7.00	45.0	7.80	232	330	—	—	—	—	—	—
	2/8/1988	—	—	—	—	295	—	—	—	—	—	—
	5/11/1988	—	—	—	—	290	—	—	—	—	—	—
	9/27/1988	6.00	38.0	8.00	250	290	—	—	—	—	—	—
	1/20/1989	—	—	—	—	270	—	—	—	—	—	—
	2/16/1989	—	—	—	—	270	—	—	—	—	—	—
	5/10/1989	—	—	—	—	285	—	—	—	—	—	—
	9/21/1989	—	—	—	—	365	—	—	—	—	—	—
	10/13/1989	33.0	123	7.50	410	495	—	—	—	—	—	—
	1/12/1990	—	—	—	—	605	—	—	—	—	—	—
	3/4/1992	13.1	260	7.60	632	884	0.0100	0.0220	0.0500	5.50	8.50	14.0
	5/13/1992	9.70	261	7.50	570	884	0.0060	0.0050	0.0270	< 0.200	< 1.000	< 1.20
	8/3/1992	9.40	263	7.10	501	845	—	—	—	—	—	—
	11/16/1992	7.90	273	7.60	604	1152	—	0.0020	0.0260	< 0.200	< 1.000	< 1.20
2/2/1993	9.40	271	7.80	571	816	0.0020	< 0.0010	0.0190	< 0.200	< 1.000	< 1.20	
3/24/1993	—	—	7.80	—	1024	—	—	—	—	—	—	
5/10/1993	—	—	7.80	—	952	—	—	—	—	—	—	
8/2/1993	8.30	294	7.80	601	1024	—	—	—	—	—	—	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-22	10/6/1993	8.90	259	7.90	619	1008	0.0020	< 0.0010	0.0170	< 0.200	2.50	< 2.70
	10/6/1993	8.70	257	—	611	—	—	0.0040	—	—	—	—
	3/2/1994	8.39	257	7.93	604	1273	0.0020	< 0.0010	0.0170	1.20	2.00	3.20
	5/6/1994	—	—	7.90	—	1056	—	—	—	—	—	—
	6/17/1994	9.80	217	—	595	—	< 0.0010	< 0.0010	0.0160	0.200	1.000	1.20
	8/24/1994	9.10	258	7.70	589	992	< 0.0010	< 0.0010	9.70	< 0.200	2.30	< 2.50
	10/19/1994	9.60	266	—	628	—	< 0.0010	< 0.0010	0.0140	< 0.200	12.5	< 12.7
	2/24/1995	13.0	258	7.90	604	983	—	—	—	—	—	—
	5/3/1995	10.3	257	7.70	547	1113	< 0.0010	< 0.0010	0.0120	0.400	< 1.000	< 1.40
	8/27/1995	9.40	252	7.60	590	1095	—	—	—	—	—	—
	11/8/1995	12.7	263	7.60	598	911	< 0.0010	< 0.0010	0.0130	0.200	< 1.000	< 1.20
	2/9/1996	9.40	274	7.50	600	—	—	—	—	—	—	—
	5/13/1996	13.0	284	7.70	643	—	—	0.0020	0.0110	< 0.200	< 1.000	< 1.20
	9/19/1996	15.8	281	7.50	681	1107	< 0.0010	< 0.0010	0.0296	< 0.200	< 1.000	< 1.20
	10/15/1997	17.8	288	7.62	685	905	< 0.0010	< 0.0010	0.0400	< 0.200	< 1.000	< 1.20
	10/7/1998	11.2	270	7.75	683	1043	0.0010	0.0010	0.104	0.700	< 1.000	< 1.70
	10/13/1999	10.1	266	6.76	637	985	0.0010	< 0.0010	0.0249	< 0.200	< 1.000	< 1.20
9/27/2000	10.0	219	7.20	620	982	0.0010	< 0.0010	0.0158	< 0.200	< 1.000	< 1.20	
RPI-24	3/29/1984	—	—	—	—	789	—	—	—	—	—	—
	5/17/1984	—	—	—	—	1180	—	—	—	—	—	—
	5/23/1984	570	144	7.67	1444	4800	—	—	—	—	—	—
	1/29/1987	—	—	7.60	—	1930	—	—	—	—	—	—
	2/9/1988	—	—	—	—	1165	—	—	—	—	—	—
	12/28/1990	926	721	7.20	3182	2990	0.0030	0.0040	—	0.800	< 1.000	< 1.80
	9/17/1991	895	645	7.20	3080	3234	0.0020	0.0030	—	0.700	< 1.000	< 1.70
	10/7/1992	913	700	7.30	3024	4620	< 0.0010	0.0050	—	1.20	4.80	6.00
	8/20/1993	893	713	7.20	3045	5670	0.0030	0.0050	—	0.500	1.20	1.70
	7/28/1994	995	702	7.00	3680	5580	0.0010	0.0050	—	0.900	6.00	6.90
10/26/1995	1064	730	6.40	3434	7932	0.0020	0.0030	1.13	1.60	< 1.000	< 2.60	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-24	9/24/1996	1070	734	6.90	4654	5200	0.0050	0.0040	0.889	0.400	< 1.000	< 1.20
	9/26/1997	1130	793	7.00	4000	5428	—	0.0020	0.962	< 0.200	< 1.000	< 1.20
	9/23/1998	1070	736	7.10	3970	4635	—	—	1.28	< 0.200	< 1.000	< 1.20
	9/17/1999	1100	765	6.35	3450	6259	—	0.0080	1.21	< 0.200	2.00	< 2.20
	9/19/2000	1080	820	6.70	3630	5040	—	0.0120	1.47	< 0.200	2.40	< 2.60
RPI-24A	10/14/1981	823	252	7.46	2139	3200	—	—	—	—	—	—
	9/7/1983	1089	600	8.00	3012	4610	—	—	—	—	—	—
	5/23/1984	1120	670	—	3338	—	—	—	—	—	—	—
	1/10/1985	1240	940	7.80	1240	4760	—	—	—	—	—	—
	11/5/1985	1400	1140	7.50	4824	5600	—	—	—	—	—	—
	10/15/1986	1250	1180	7.90	5370	5335	—	—	—	—	—	—
	1/29/1987	—	—	8.00	—	4485	—	—	—	—	—	—
	5/27/1987	—	—	7.60	—	5130	—	—	—	—	—	—
	8/4/1987	—	—	—	—	5375	—	—	—	—	—	—
	11/3/1987	1350	1420	8.00	5148	5095	< 0.0040	0.0050	—	—	—	—
	2/9/1988	—	—	—	—	4725	—	—	—	—	—	—
	5/10/1988	—	—	—	—	4285	—	—	—	—	—	—
	9/29/1988	1400	1440	7.70	5290	4810	< 0.0040	0.0068	—	—	—	—
	2/17/1989	—	—	—	—	4410	—	—	—	—	—	—
	5/10/1989	—	—	—	—	4280	—	—	—	—	—	—
	9/22/1989	—	—	—	—	4385	—	—	—	—	—	—
	10/16/1989	1250	1300	7.30	5108	4225	0.0036	0.0063	—	—	—	—
	1/12/1990	—	—	—	—	4080	—	—	—	—	—	—
9/4/1993	3.20	23.5	—	310	—	—	—	—	0.500	—	—	
RPI-32	10/15/1979	6.00	31.0	7.50	320	—	0.0087	0.0005	4.80	0.840	—	—
	6/15/1980	—	—	—	—	525	—	—	0.0600	—	—	—
	10/16/1981	14.0	36.0	7.60	327	480	—	—	—	—	—	—
	3/9/1983	8.00	32.0	7.30	342	540	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-32	6/1/1983	12.0	32.0	7.90	394	460	—	—	—	—	—	—
	9/1/1983	11.0	21.0	7.60	316	540	0.0090	< 0.0050	—	—	—	—
	12/4/1984	44.0	82.0	7.30	512	710	0.0120	0.0050	—	—	—	—
	10/24/1985	28.0	57.0	7.60	398	590	0.0150	< 0.0010	—	—	—	—
	10/17/1986	85.0	106	7.90	580	735	0.0110	0.0020	—	—	—	—
	11/4/1987	75.0	148	7.60	624	735	< 0.0040	0.0040	—	—	—	—
	9/29/1988	45.0	184	7.70	610	665	0.0090	0.0055	—	—	—	—
	10/16/1989	35.0	156	7.10	548	615	0.0091	0.0027	—	—	—	—
RPI-42A	10/15/1979	250	660	7.60	—	5000	0.0150	0.0005	1.02	1.10	—	—
	6/15/1980	—	—	—	—	2500	—	—	0.370	0.690	—	—
	10/9/1981	491	717	7.70	2746	2990	—	—	0.720	—	—	—
	5/20/1982	600	570	—	2666	—	—	—	0.710	—	—	—
	8/19/1982	600	582	—	2492	—	—	—	0.710	0.700	—	—
	10/28/1982	620	532	7.60	2582	3550	< 0.0200	< 0.0050	0.660	—	—	—
	10/28/1982	—	—	—	—	3300	—	—	—	—	—	—
	3/8/1983	552	520	7.30	2394	2860	—	—	0.520	0.190	—	—
	5/27/1983	650	510	7.60	2520	2835	—	—	0.470	0.280	—	—
	9/1/1983	515	393	8.10	1986	2710	0.0050	< 0.0050	0.400	0.130	—	—
	12/22/1983	535	455	7.70	2166	—	—	—	0.400	0.200	—	—
	3/26/1984	570	410	7.90	2098	2590	—	—	—	—	—	—
	3/29/1984	—	—	—	—	2730	—	—	—	—	—	—
	5/22/1984	550	400	7.70	2082	2630	—	—	0.460	1.000	—	—
	9/20/1984	600	320	7.80	2030	2574	—	—	0.350	1.30	—	—
	11/15/1984	490	220	7.70	1628	2410	—	—	0.160	0.700	—	—
	3/22/1985	540	220	7.80	1724	2160	—	—	0.220	0.500	—	—
	5/9/1985	644	480	7.60	2176	2760	—	—	0.360	0.800	—	—
	8/20/1985	600	344	7.40	1908	2430	—	—	0.360	0.300	—	—
	11/19/1985	690	370	7.60	2236	2555	—	—	0.480	0.800	—	—
3/17/1986	740	440	7.70	2600	2555	—	—	0.350	0.300	—	—	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-42A	5/20/1986	768	404	7.50	2456	2970	—	—	0.480	0.100	—	—
	9/30/1986	700	267	7.70	2172	2600	0.0080	0.0020	0.300	0.800	—	—
	12/3/1986	715	350	7.70	2250	2485	—	—	0.510	0.400	—	—
	3/30/1987	810	544	7.60	2786	2880	—	—	1.05	1.20	—	—
	5/7/1987	720	680	7.70	3418	3475	—	—	1.05	0.300	—	—
	8/19/1987	950	660	7.80	3420	3710	—	—	0.780	1.60	—	—
	11/12/1987	900	1220	7.70	3260	3150	< 0.0040	0.0010	0.850	1.000	—	—
	2/24/1988	1050	660	7.80	3520	—	—	—	1.31	1.10	—	—
	5/24/1988	1040	760	7.60	3790	—	—	—	1.39	1.40	—	—
	8/24/1988	1150	820	7.80	4030	—	—	—	1.39	0.600	—	—
	10/20/1988	—	—	7.90	—	3695	—	—	—	—	—	—
	3/20/1989	1100	765	7.70	3770	3360	—	—	1.09	0.900	—	—
	6/27/1989	1175	840	7.70	4144	3840	—	—	1.57	0.300	—	—
	8/17/1989	—	—	7.50	—	4215	0.0240	< 0.0010	1.96	0.500	—	—
	9/15/1989	—	—	7.30	—	4090	0.0350	< 0.0010	1.22	0.200	2.90	3.10
	10/11/1989	1125	1000	7.30	4440	3900	0.0347	< 0.0020	1.60	0.900	3.40	4.30
	2/20/1990	1298	937	8.00	4338	3780	—	—	—	—	—	—
	6/8/1990	1251	992	7.80	4725	3885	0.0200	< 0.0010	1.60	1.90	< 1.000	< 2.90
	9/12/1990	1250	1161	7.80	4544	3870	—	—	—	—	—	—
	11/16/1990	1267	1040	7.70	4632	3885	0.0300	< 0.0010	1.40	0.700	< 1.000	< 1.70
	3/7/1991	1268	1014	7.70	4185	4070	—	—	—	—	—	—
	6/28/1991	1135	975	7.40	4132	4160	0.0140	0.0010	1.34	< 0.200	< 1.000	< 1.20
	8/6/1991	1260	922	7.90	4543	4880	—	—	—	—	—	—
	11/12/1991	1308	1109	7.70	4591	5940	0.0080	< 0.0010	0.833	1.50	< 1.000	2.50
	2/24/1992	1273	1219	7.70	4689	5740	0.0220	0.0070	1.17	0.900	< 1.000	< 1.90
	5/19/1992	1362	1144	7.30	4943	6000	0.0340	< 0.0010	0.158	1.40	< 1.000	< 2.40
	8/9/1992	1287	1261	7.30	4977	6400	—	—	—	—	—	—
	12/7/1992	632	1305	7.20	4777	5520	0.0180	0.0180	0.554	0.700	6.40	7.10
	3/29/1993	1393	1196	7.20	4798	6390	0.0190	< 0.0010	1.47	0.800	3.40	4.20
	5/15/1993	1394	1184	7.60	5081	7800	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-42A	8/9/1993	1533	1208	7.20	5219	9300	—	—	—	—	—	—
	10/12/1993	1232	1390	7.50	5720	8320	0.0010	< 0.0010	1.50	0.500	1.30	1.80
	3/8/1994	1336	1394	7.30	5506	8960	0.0160	< 0.0010	1.95	1.30	8.30	9.60
	5/17/1994	1374	1541	7.20	5661	8820	0.0260	0.0010	3.05	0.500	2.50	3.00
	8/25/1994	1382	1565	7.20	5701	8700	0.0170	< 0.0010	1.40	5.20	< 1.000	< 6.20
	12/7/1994	1398	1550	7.30	5625	—	0.0200	< 0.0010	0.157	1.70	1.40	2.10
	2/24/1995	1362	1519	7.30	5818	8407	—	—	—	—	—	—
	6/6/1995	667	692	7.30	5615	9505	0.0140	0.0020	1.71	1.20	< 1.000	2.20
	9/15/1995	1400	1552	7.40	5761	7316	—	—	—	—	—	—
	11/15/1995	1320	1536	7.20	6141	9585	0.0110	< 0.0010	1.96	0.400	2.60	3.00
	2/16/1996	1356	1452	6.60	5699	8840	—	—	—	—	—	—
	5/29/1996	1354	1454	7.60	5242	10400	0.0150	0.0010	1.93	0.300	< 1.000	< 1.30
	8/17/1996	1436	1270	7.10	6125	7854	—	—	—	—	—	—
	11/20/1996	1526	1542	7.00	6320	10725	0.0040	< 0.0010	1.97	0.600	< 1.000	< 1.60
	3/7/1997	1450	1610	—	6090	—	—	—	—	—	—	—
6/18/1997	—	—	7.59	—	9000	—	—	—	—	—	—	
RPI-44A	9/7/1983	1109	970	7.20	3562	7070	—	—	—	—	—	—
	3/29/1984	—	—	—	—	4780	—	—	—	—	—	—
	10/12/1984	1180	1110	7.10	3980	5200	—	—	—	—	—	—
	11/5/1985	1310	1180	7.20	4482	5360	—	—	—	—	—	—
	10/15/1986	700	1020	7.10	4578	5070	—	—	—	—	—	—
	11/5/1987	1250	1220	7.20	4800	5070	—	—	—	—	—	—
	9/29/1988	1300	1220	6.70	4790	4520	—	—	—	—	—	—
	10/17/1989	1250	1280	6.80	4936	4420	—	—	—	—	—	—
SDP-1	12/13/1999	23.2	284	—	706	—	0.0020	0.0050	0.118	0.700	< 1.000	< 1.70
SDP-2	12/13/1999	20.2	256	—	651	—	0.0050	0.0070	0.132	0.500	< 1.000	< 1.50

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
SDP-3	12/13/1999	39.2	320	—	363	—	0.0330	< 0.0010	0.101	0.600	< 1.000	< 1.60
SDP-4	12/13/1999	—	—	6.50	—	4950	—	—	—	—	—	—
SP03	1/30/1987	—	—	7.40	—	5425	—	—	—	—	—	—
	5/19/1987	—	—	6.95	—	4520	—	—	—	—	—	—
	8/12/1987	—	—	—	—	4550	—	—	—	—	—	—
	11/4/1987	1250	980	7.30	4326	4355	< 0.0040	0.0120	—	—	—	—
	2/8/1988	—	—	—	—	4290	—	—	—	—	—	—
	5/10/1988	—	—	—	—	4090	—	—	—	—	—	—
	10/5/1988	1450	1000	6.70	5872	4355	—	—	—	—	—	—
	2/16/1989	—	—	—	—	4155	—	—	—	—	—	—
	5/8/1989	—	—	—	—	4290	—	—	—	—	—	—
	9/22/1989	—	—	—	—	4625	—	—	—	—	—	—
	10/26/1989	1550	1220	7.10	5990	4620	—	—	—	—	—	—
	1/12/1990	—	—	—	—	4225	—	—	—	—	—	—
	12/27/1990	1570	1043	7.60	5075	4150	< 0.0010	0.0160	2.17	1.30	2.00	3.30
	9/13/1991	1536	1012	7.80	5154	6000	< 0.0010	0.0110	1.66	2.30	2.40	4.70
	10/6/1992	1344	861	6.70	4719	6030	< 0.0010	< 0.0010	1.68	1.000	4.40	5.40
	8/19/1993	1739	1057	6.50	6438	7080	< 0.0010	0.0220	1.52	1.000	< 1.000	< 2.20
	7/27/1994	1534	833	6.70	5639	7800	< 0.0010	0.0200	1.20	1.50	< 1.000	< 2.50
	10/25/1995	1312	747	6.50	4273	7668	< 0.0010	0.0240	1.20	2.90	< 1.000	< 3.90
	9/24/1996	479	451	—	2882	—	0.0030	0.0260	0.640	< 0.200	< 1.000	< 1.20
	9/23/1997	44.9	474	6.69	2260	2352	—	0.0290	0.552	< 0.200	< 1.000	< 1.20
9/21/1998	251	376	7.07	1510	2365	—	—	0.525	1.10	< 1.000	< 2.10	
9/15/1999	344	357	6.29	1430	2068	—	0.0150	0.496	0.700	< 1.000	< 1.70	
9/14/2000	152	289	7.00	987	1392	—	0.0060	0.338	0.400	< 1.000	< 1.40	
SP04	1/30/1987	—	—	7.40	—	5170	—	—	—	—	—	—
	5/19/1987	—	—	6.90	—	5470	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
SP04	8/12/1987	—	—	—	—	5425	—	—	—	—	—	—
	11/3/1987	1500	1340	7.50	5312	4980	< 0.0040	0.0190	—	—	—	—
	2/8/1988	—	—	—	—	4995	—	—	—	—	—	—
	5/10/1988	—	—	—	—	4490	—	—	—	—	—	—
	10/5/1988	1550	1320	6.70	6432	4790	< 0.0040	0.0260	—	—	—	—
	2/16/1989	—	—	—	—	5030	—	—	—	—	—	—
	5/8/1989	—	—	—	—	5025	—	—	—	—	—	—
	9/22/1989	—	—	—	—	4885	—	—	—	—	—	—
	10/26/1989	1400	1180	6.90	5470	4325	—	—	—	—	—	—
	1/12/1990	—	—	—	—	2795	—	—	—	—	—	—
	12/27/1990	916	661	7.50	3172	2790	< 0.0010	0.0240	1.67	< 0.200	1.30	< 1.50
	9/13/1991	879	700	7.50	3392	3808	< 0.0010	0.0160	1.39	0.300	< 1.000	< 1.30
	10/6/1992	341	227	7.30	1362	1848	0.0020	0.0050	0.490	< 0.200	1.000	< 1.20
	8/19/1993	893	561	6.90	3676	4880	< 0.0010	0.0350	0.954	1.20	< 1.000	< 2.20
	7/27/1994	322	178	7.20	1420	2016	< 0.0010	0.0500	0.366	0.600	< 1.000	< 1.60
	10/26/1995	296	130	7.00	1091	1950	< 0.0010	0.0540	0.350	0.900	< 1.000	< 1.90
	9/24/1996	83.0	333	6.70	1000	2640	< 0.0010	0.0080	0.466	< 0.200	< 1.000	< 1.20
	9/23/1997	152	293	7.29	967	1391	—	0.0200	0.327	< 0.200	< 1.000	< 1.20
	9/21/1998	23.9	298	7.31	741	2365	—	—	0.250	< 0.200	< 1.000	< 1.20
	9/15/1999	23.6	327	6.39	748	993	—	0.0020	0.283	< 0.200	< 1.000	< 1.20
9/14/2000	25.5	291	7.15	740	995	—	0.0030	0.232	0.400	< 1.000	< 1.40	
TW3-1	4/5/1993	915	864	5.20	3098	4950	< 0.0010	0.0290	6.54	1.90	—	—
	1/19/1998	3210	3780	6.38	9770	12736	—	—	1.73	—	—	—
	8/7/1998	3020	1750	—	12600	—	—	—	2.02	—	—	—
	7/21/1999	2770	1750	6.24	7870	7124	—	—	2.04	—	—	—
	8/15/2000	2810	1750	6.35	8110	10730	—	—	1.97	—	—	—
TW4-1B	4/29/1993	3187	3953	6.14	11169	9740	< 0.0010	0.0320	0.710	28.0	—	—
	2/29/1996	2460	2620	—	7536	—	< 0.0010	0.0060	2.31	47.6	< 1.000	< 49.0

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
TW4-1B	1/9/1998	2270	2810	5.57	7490	9739	—	—	0.930	—	—	—
	7/15/1998	1680	3140	5.45	8540	8109	—	—	0.933	—	—	—
	7/20/1999	737	3110	6.03	6320	9108	—	—	1.28	—	—	—
	8/2/2000	2400	3590	5.50	9420	11670	—	—	1.26	—	—	—
TW4-2B	6/16/1993	1813	2186	5.97	6794	6940	0.0010	0.0010	0.183	39.7	—	—
	2/28/1996	2180	1552	—	6391	—	< 0.0010	< 0.0010	1.54	3.90	< 1.000	< 4.90
	1/8/1998	3120	1220	6.24	5330	11237	—	—	2.10	—	—	—
	7/15/1998	2230	1480	6.28	8880	10769	—	—	1.79	—	—	—
	7/14/1999	2530	1420	6.06	7620	9041	—	—	1.90	—	—	—
	8/2/2000	2510	1370	5.90	7030	9720	—	—	1.69	—	—	—
TW4-3B	8/2/1993	3834	1596	6.18	9019	11110	0.0010	0.0030	0.933	18.1	—	—
	1/20/1998	3990	1260	6.06	10200	13154	—	—	1.67	—	—	—
	7/15/1998	3750	1370	6.33	11600	13722	—	—	2.36	—	—	—
	7/14/1999	3860	1420	6.03	8010	6955	—	—	3.02	—	—	—
	8/2/2000	3840	1360	5.80	9390	13330	—	—	4.46	—	—	—
TW4-4B	4/30/1993	1509	2128	6.73	7095	7240	0.0010	0.0020	2.28	4.70	—	—
	2/29/1996	2520	2420	—	8512	—	0.0080	< 0.0010	1.12	0.900	< 1.000	< 1.90
	1/12/1998	3100	2950	6.24	10400	13485	—	—	0.914	—	—	—
	7/15/1998	2570	2750	6.32	10500	11631	—	—	1.15	—	—	—
	7/20/1999	2600	3120	6.21	9250	14216	—	—	0.918	—	—	—
	8/4/2000	4320	8090	4.00	19000	19480	—	—	5.78	—	—	—
TW4-5B	8/2/1993	5140	7892	5.25	19580	11400	0.0020	0.0060	0.364	6.00	—	—
	1/12/1998	4250	7760	4.12	1550	10488	—	—	1.87	—	—	—
	8/7/1998	4560	7160	—	19600	—	—	—	1.47	—	—	—
	7/15/1999	5330	9820	—	23800	—	—	—	6.46	—	—	—
	7/16/1999	—	—	4.24	—	17642	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
TW4-6B	7/26/1995	2763	2712	5.58	8927	6870	0.0030	0.0080	0.574	13.2	--	--
	2/28/1996	2960	3360	--	10612	--	0.0040	< 0.0010	0.275	4.30	< 1.000	< 5.30
	1/20/1998	--	--	6.01	--	13884	--	--	--	--	--	--
	1/21/1998	1830	2360	--	7650	--	--	--	1.87	--	--	--
	7/15/1998	3220	3860	6.05	12400	15509	--	--	0.216	--	--	--
	7/16/1999	3470	4280	5.68	13000	18082	--	--	0.265	--	--	--
	8/4/2000	4050	4620	5.40	13600	16910	--	--	0.221	--	--	--
TW4-8B	8/2/1995	665	3872	6.22	6871	6650	0.0040	0.0030	0.251	19.1	--	--
	2/28/1996	1206	2566	--	6051	--	0.0020	0.0010	0.220	2.90	< 1.000	< 3.90
	1/21/1998	496	2880	6.36	5710	6577	--	--	0.158	--	--	--
	7/15/1998	452	2910	6.34	5400	5677	--	--	0.118	--	--	--
	7/20/1999	526	2630	6.07	5300	8078	--	--	0.163	--	--	--
	8/4/2000	511	2750	6.05	5050	5580	--	--	0.138	--	--	--
TW4-9B	6/30/1995	495	1385	6.58	3585	3770	0.0020	0.0040	0.179	11.6	--	--
	2/28/1996	924	1377	--	4046	--	0.0020	< 0.0010	0.368	4.40	< 1.000	< 5.40
	1/21/1998	603	1300	6.51	3780	4750	--	--	0.276	--	--	--
	7/15/1998	787	1150	6.57	4720	5235	--	--	0.551	--	--	--
	7/16/1999	807	1080	6.01	3830	8831	--	--	0.667	--	--	--
	8/4/2000	707	986	6.35	3130	4080	--	--	0.530	--	--	--
TW4-10B	7/12/1995	2157	2060	6.43	8380	6620	0.0040	0.0120	1.96	12.2	--	--
	2/29/1996	1662	2340	--	7525	--	0.0080	< 0.0010	2.51	5.60	< 1.000	< 6.60
	1/21/1998	3190	3580	6.70	10900	10240	--	--	0.124	--	--	--
	7/15/1998	1900	2340	6.50	8420	7946	--	--	2.70	--	--	--
	7/20/1999	2040	2490	6.26	7680	10985	--	--	2.33	--	--	--
	8/9/2000	2140	2410	5.75	7870	10010	--	--	1.75	--	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
TW4-11B	7/25/1995	2576	2601	6.09	8368	9040	0.0020	0.0370	0.807	3.10	—	—
	2/29/1996	1518	2117	—	6334	—	0.0050	< 0.0010	1.80	15.6	< 1.000	< 16.6
	1/21/1998	2070	2170	6.32	7550	10432	—	—	1.01	—	—	—
	7/15/1998	2010	2130	6.39	8480	9331	—	—	1.64	—	—	—
	7/16/1999	2000	1920	6.11	7450	11562	—	—	2.06	—	—	—
	8/9/2000	2400	2250	5.95	8160	10420	—	—	1.01	—	—	—
TW5-1B	7/27/1993	1812	1252	6.39	4920	5710	< 0.0010	0.0030	0.303	4.80	—	—
	2/28/1996	2420	1122	—	5892	—	< 0.0010	0.0020	0.806	0.500	< 1.000	< 1.50
	1/12/1998	3170	1100	6.08	8080	11237	—	—	0.907	—	—	—
	8/6/1998	3620	1440	—	12700	—	—	—	0.863	—	—	—
	7/20/1999	3550	1240	5.68	8150	15229	—	—	0.869	—	—	—
	8/9/2000	3510	1300	5.80	8480	11900	—	—	0.975	—	—	—
TW5-2B	3/24/1993	1017	1816	5.76	4385	5710	0.0030	0.0020	0.271	36.9	—	—
	7/14/1998	1680	3540	4.35	8750	10339	—	—	0.746	—	—	—
	7/20/1999	1750	3830	4.36	8530	12581	—	—	0.893	—	—	—
	8/9/2000	2170	4550	4.20	9880	11100	—	—	1.02	—	—	—
TW5S-1	3/2/1994	1536	769	7.10	3589	4310	0.0010	0.0220	0.0730	4.40	—	—
	1/5/1998	1470	731	7.00	4870	5993	—	—	0.141	—	—	—
	8/7/1998	1610	761	—	6300	—	—	—	0.196	—	—	—
	7/21/1999	1610	831	6.50	4160	7129	—	—	0.310	—	—	—
	8/16/2000	1600	797	6.65	4250	6060	—	—	0.272	—	—	—
TW5S-2	3/2/1994	529	42.0	7.08	1073	1620	0.0010	0.0170	0.0410	6.70	—	—
	1/19/1998	667	86.5	6.89	1680	2558	—	—	0.0359	—	—	—
	8/7/1998	670	106	—	2760	—	—	—	0.0454	—	—	—
	7/20/1999	500	124	5.96	1230	4588	—	—	0.208	—	—	—
	8/9/2000	575	199	5.75	1500	2290	—	—	0.238	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
TW5S-3	2/14/1994	671	348	6.88	1709	2230	< 0.0010	0.102	0.153	1.80	--	--
	1/6/1998	461	281	6.87	1670	2397	--	--	0.225	--	--	--
	7/14/1998	486	346	6.49	1990	2714	--	--	0.291	--	--	--
	7/20/1999	614	369	6.14	1850	5768	--	--	0.285	--	--	--
	8/9/2000	635	359	6.00	1880	2870	--	--	0.249	--	--	--
TW5S-4	2/18/1994	1113	1239	6.66	4163	4140	< 0.0010	0.0760	0.788	8.80	--	--
	1/9/1998	1550	1040	6.50	5370	6144	--	--	0.733	--	--	--
	7/14/1998	972	581	6.53	3810	5768	--	--	0.593	--	--	--
	7/20/1999	825	520	6.23	2420	6786	--	--	0.586	--	--	--
	8/9/2000	841	523	6.75	2580	3820	--	--	0.537	--	--	--
TW5S-5	1/27/1994	1231	--	6.33	5487	5220	0.0020	0.0140	0.860	2.00	--	--
	2/28/1996	1880	1720	--	6043	5220	0.0050	0.0180	0.790	0.400	< 1.000	< 1.40
	1/9/1998	2270	1690	6.45	8130	9985	--	--	0.864	--	--	--
	7/14/1998	2280	1650	6.41	9250	10857	--	--	0.943	--	--	--
	7/20/1999	2420	1750	6.02	7150	9854	--	--	0.960	--	--	--
	8/9/2000	2540	1700	6.15	7510	9870	--	--	0.891	--	--	--
TWI-1	1/21/1994	384	117	6.96	1031	1830	< 0.0010	0.0010	0.139	1.10	--	--
TWI-2	12/17/1993	915	420	6.47	2274	4120	< 0.0010	< 0.0010	0.475	2.60	--	--
TWI-3	12/17/1993	96.2	60.7	7.30	540	890	0.0030	< 0.0010	0.0560	0.800	--	--
TWI-4	12/16/1993	289	129	7.72	925	1570	< 0.0010	< 0.0010	0.0710	4.10	--	--
TWI-5	12/17/1993	773	570	6.57	2364	3300	< 0.0010	< 0.0010	0.411	0.900	--	--
TWI-6	1/13/1994	363	336	7.05	1405	2400	0.0010	< 0.0010	0.171	1.10	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
TWI-7	12/21/1993	284	229	7.20	1073	1910	< 0.0010	< 0.0010	0.115	1.70	--	--
TWI-8	12/22/1993	53.6	87.0	7.30	485	1130	< 0.0010	< 0.0010	0.0760	1.80	--	--
TWI-9	1/20/1994	337	193	6.28	1134	2160	0.0020	< 0.0010	0.0820	3.60	--	--
TWI-10	1/24/1994	584	218	6.85	1545	2250	< 0.0010	0.0020	0.193	4.70	--	--
TWI-11	2/9/1994	83.9	54.9	--	483	630	0.0010	< 0.0010	0.160	1.80	--	--
TWI-12	7/7/1995	1133	608	6.45	3136	2810	< 0.0010	0.0060	0.579	9.10	--	--
	8/1/1995	--	--	6.82	--	4580	--	--	--	--	--	--
TWI-13	6/30/1995	1053	970	--	3648	--	0.0010	0.0030	0.692	5.80	--	--
TWI-14	6/26/1995	--	--	6.29	--	3530	--	--	--	--	--	--
	8/2/1995	1177	919	6.31	3966	4560	< 0.0010	0.0060	0.786	8.50	--	--
TWI-15	7/20/1995	--	--	6.46	--	5540	--	--	--	--	--	--
	7/21/1995	1710	2120	6.44	7119	6640	< 0.0010	0.0030	1.05	2.70	--	--
TWI-16	7/20/1995	2164	1970	6.17	7222	6620	< 0.0010	0.0020	0.511	4.30	--	--
TWI-17	7/20/1995	1889	2083	6.39	7023	5880	< 0.0010	0.0080	0.427	14.6	--	--
TWI-18	7/18/1995	1533	1585	6.28	5181	6660	< 0.0010	0.0050	0.542	14.1	--	--
TWI-19	7/24/1995	1680	1711	6.42	5775	5590	0.0030	0.0030	0.774	4.20	--	--
TWI-20	7/17/1995	2685	1688	5.89	7610	7650	0.0030	0.0050	0.533	9.80	--	--

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
TWI-21	7/17/1995	2968	1785	—	7836	—	< 0.0010	0.0030	0.551	7.40	—	—
	2/28/1996	3140	1776	—	8335	—	0.0060	< 0.0010	0.525	1.10	< 1.000	< 2.10
	1/12/1998	3470	1900	6.16	9660	11986	—	—	0.455	—	—	—
	7/14/1998	3350	1800	6.55	11300	14260	—	—	0.572	—	—	—
	7/20/1999	3450	1860	6.04	9040	13905	—	—	0.429	—	—	—
	8/10/2000	3570	1900	6.10	9290	12620	—	—	0.424	—	—	—
TWI-22	7/21/1995	4259	1474	5.94	9968	12250	0.0060	0.0110	0.572	5.70	—	—
TWI-23	7/24/1995	3924	1703	6.18	9567	10050	0.0030	0.0030	0.574	4.10	—	—
	2/28/1996	3460	1708	—	8992	—	0.0040	< 0.0010	0.598	0.800	< 1.000	< 1.80
WWL-3A	6/29/1982	1820	2710	—	8864	—	—	—	—	—	—	—
	9/16/1982	167	314	—	1002	—	—	—	—	—	—	—
	10/7/1982	146	230	—	926	—	—	—	—	—	—	—
	11/2/1982	140	207	7.70	914	—	—	—	—	—	—	—
	5/24/1983	158	188	7.32	750	—	—	—	0.160	4.20	—	—
	6/1/1983	168	196	7.22	854	—	—	—	0.210	5.20	—	—
	8/4/1983	163	190	7.88	760	1200	—	—	—	0.800	—	—
	1/9/1986	160	208	7.50	678	975	—	—	0.110	5.00	—	—
	12/9/1986	140	202	7.80	694	940	—	—	0.190	8.40	—	—
	11/24/1987	160	231	7.60	738	1000	—	—	0	6.80	—	—
	10/16/1991	127	275	7.20	661	1005	0.0030	0.0250	0.176	9.30	9.20	18.5
	8/4/1993	150	171	—	800	—	—	—	—	4.50	—	—
	8/17/1993	121	261	7.50	756	1364	0.0030	0.0250	0.393	22.6	< 1.000	< 23.6
	8/11/1994	168	341	7.30	967	2015	< 0.0010	0.0390	0.448	13.7	1.40	15.1
	8/9/1995	118	373	7.40	957	1566	< 0.0010	0.0310	0.563	11.7	4.40	16.1
8/27/1996	—	—	7.70	—	2880	—	—	—	—	—	—	
9/30/1997	378	438	7.23	1720	1926	< 0.0010	0.0660	0.194	9.60	< 1.000	< 10.6	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
WWL-3A	10/27/1998	404	463	7.57	2000	3208	0.0020	0.0660	0.273	9.40	< 1.000	< 10.4
	10/11/1999	519	569	6.36	1980	3053	0.0030	0.0930	0.251	8.70	< 1.000	< 9.70
	11/8/2000	601	587	6.90	2090	3020	0.0027	0.0906	0.258	10.7	< 1.000	< 11.7
WWL-4A	6/29/1982	131	80.0	—	578	—	—	—	—	—	—	—
	9/16/1982	14.0	10.00	—	420	—	—	—	—	—	—	—
	10/7/1982	22.0	74.0	—	340	—	—	—	—	—	—	—
	11/2/1982	14.0	18.0	8.00	352	—	—	—	—	—	—	—
	5/23/1983	—	—	7.18	—	—	—	—	—	—	—	—
	6/1/1983	20.0	136	7.35	458	—	—	—	—	3.20	—	—
	8/3/1983	22.0	141	8.00	518	784	—	—	—	5.10	—	—
	8/3/1983	16.0	130	—	470	—	—	—	—	4.90	—	—
	6/13/1985	62.0	162	7.40	530	810	—	—	0.230	97.0	—	—
	1/13/1986	27.0	112	7.50	440	545	—	—	0.140	2.30	—	—
	12/10/1986	24.0	62.0	8.00	390	455	—	—	0.190	—	—	—
	11/25/1987	22.0	55.0	7.40	390	415	—	—	1.22	11.0	—	—
	1/8/1991	—	—	7.80	—	430	—	—	—	—	—	—
	10/17/1991	21.2	68.9	7.70	343	536	0.0060	0.0940	0.197	20.0	3.40	23.4
	8/17/1993	17.9	65.7	7.70	844	650	< 0.0010	0.0900	1.22	3.30	< 1.000	< 4.30
	7/22/1994	19.5	77.5	7.50	401	756	0.0060	0.243	0.155	95.6	5.30	101
	9/8/1994	19.3	67.2	—	354	—	< 0.0010	0.106	0.0760	39.1	< 1.000	< 40.0
	8/9/1995	21.2	70.5	7.30	375	639	< 0.0010	0.110	0.0910	65.6	2.80	68.8
	8/27/1996	22.0	75.1	7.80	342	789	< 0.0010	0.125	0.0857	1.60	< 1.000	< 2.60
	10/6/1997	22.5	69.7	7.39	376	618	< 0.0010	0.108	0.0740	2.00	< 1.000	< 3.00
10/27/1998	28.9	83.1	7.67	400	2139	0.0030	0.133	0.0750	2.00	< 1.000	< 3.00	
10/11/1999	37.5	80.7	6.49	407	924	0.0040	0.130	0.0744	1.20	< 1.000	< 2.20	
11/8/2000	29.5	79.0	6.50	389	634	< 0.0010	0.133	0.0748	1.80	< 1.000	< 2.80	
WWL-4B	6/29/1982	112	112	—	624	—	—	—	—	—	—	—
	5/23/1983	—	—	7.30	—	—	—	—	—	—	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
WWL-4B	5/25/1983	—	—	6.54	—	—	—	—	—	—	—	—
	6/1/1983	6.00	68.0	7.47	276	—	—	—	—	6.10	—	—
	8/3/1983	2.00	46.0	8.10	270	388	—	—	—	3.70	—	—
	8/3/1983	5.00	< 1.000	—	220	—	—	—	—	5.05	—	—
	5/7/1985	—	—	7.50	—	525	< 0.0040	< 0.0010	—	—	—	—
	6/12/1985	76.0	44.0	7.70	558	700	0.0040	< 0.0010	0.0500	0.600	—	—
	10/30/1985	12.0	22.0	7.70	330	545	< 0.0040	< 0.0010	0.0700	4.20	—	—
	12/10/1986	7.00	16.0	8.00	236	240	—	—	0.100	15.2	—	—
	11/25/1987	9.00	18.0	7.30	162	250	—	—	0.105	8.70	—	—
	10/17/1991	—	—	7.80	—	299	—	—	—	—	—	—
	8/17/1993	20.4	167	8.00	289	520	0.0080	0.0040	0.0870	41.1	5.30	46.3
	7/22/1994	21.2	36.1	7.60	310	553	0.0060	0.0100	0.0680	75.2	< 1.000	< 76.0
	9/8/1994	39.0	43.4	—	318	—	< 0.0010	0.0090	0.0760	23.9	1.000	25.0
	8/9/1995	30.7	27.4	7.60	250	505	0.0010	0.0050	0.0470	21.7	2.60	24.6
	8/27/1996	1.80	10.6	8.00	1050	2726	< 0.0010	0.138	1.09	8.20	< 1.000	< 9.20
10/6/1997	288	364	6.82	1400	1669	< 0.0010	0.0490	0.202	7.10	< 1.000	< 8.10	
WWL-10B	6/29/1982	20.0	565	—	966	—	—	—	—	—	—	—
	5/23/1983	12.0	547	7.15	982	—	—	—	0.0740	1.50	—	—
	8/5/1983	15.0	524	—	920	1365	—	—	—	4.50	—	—
	8/5/1983	11.0	560	—	940	—	—	—	—	1.90	—	—
	8/5/1983	—	524	—	—	—	—	—	—	—	—	—
	1/14/1986	20.0	264	7.60	604	830	—	—	0.0600	3.00	—	—
	12/12/1986	15.0	244	7.80	597	735	—	—	0.100	1.10	—	—
	11/25/1987	28.0	228	7.60	534	655	—	—	0.0800	4.10	—	—
	11/15/1988	28.0	192	7.70	522	620	—	—	0.0600	2.80	—	—
	10/17/1991	32.6	188	7.60	499	748	0.0020	0.0690	0.0332	1.10	< 1.000	< 2.10
	8/16/1993	33.5	194	7.70	548	1040	< 0.0010	0.0600	0.0450	1.20	< 1.000	< 3.20
	9/24/1996	54.3	349	7.20	877	1430	< 0.0010	0.163	0.0568	1.30	< 1.000	< 2.30
10/7/1997	57.0	277	7.11	790	1324	< 0.0010	0.0990	0.0610	1.30	< 1.000	< 2.30	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
WWL-10B	12/1/1998	44.0	298	—	723	—	0.0030	0.0710	0.0678	1.80	< 1.000	< 2.80
	10/11/1999	61.1	306	6.49	773	1069	0.0050	0.0830	0.0650	0.600	< 1.000	< 1.60
	11/8/2000	75.5	310	6.50	787	1106	< 0.0010	0.0816	0.0714	1.90	< 1.000	< 2.90
WWL-12B	6/29/1982	130	77.0	—	594	—	—	—	—	—	—	—
	5/23/1983	134	67.0	7.20	590	—	—	—	0.0900	1.80	—	—
	8/5/1983	156	81.0	—	646	—	—	—	—	1.60	—	—
	8/5/1983	160	120	—	620	—	—	—	—	1.20	—	—
	1/13/1986	165	128	7.60	546	760	—	—	0.0500	2.30	—	—
	12/10/1986	104	76.0	8.00	620	695	—	—	0.0700	2.50	—	—
	11/23/1987	115	71.0	7.60	526	695	—	—	0.192	21.0	—	—
	11/14/1988	360	104	7.60	1062	1265	—	—	0.0500	7.00	—	—
	11/14/1989	144	102	7.60	666	755	—	—	0.0530	0.300	—	—
	10/17/1991	178	111	7.80	662	1020	0.0120	0.0140	0.0550	3.00	< 1.000	< 4.00
	8/19/1993	172	133	7.60	712	1320	< 0.0050	0.0140	0.0860	2.00	1.50	3.50
	7/21/1994	826	221	7.20	3020	3480	0.0050	0.0110	0.107	13.2	31.6	45.2
	8/15/1995	622	251	7.30	2325	2275	0.0040	0.0090	0.135	3.10	3.00	6.10
	8/27/1996	1120	433	7.00	3090	4690	0.0040	0.0180	0.389	2.10	7.20	9.30
	10/8/1997	1358	513	6.84	3890	4988	0.0050	0.0210	0.446	2.20	1.000	3.20
	12/4/1998	1180	528	—	3770	—	0.0100	0.0290	0.610	3.30	4.20	7.50
10/12/1999	1660	731	6.52	4230	6059	0.0090	0.0270	0.792	1.90	7.90	9.80	
11/8/2000	1690	646	6.25	4010	6080	0.0061	0.0335	0.804	3.90	< 1.000	< 4.90	
WWL-13B	6/29/1982	244	566	—	1650	—	—	—	—	—	—	—
	5/23/1983	196	500	7.14	1470	—	—	—	0.460	28.0	—	—
	8/5/1983	190	496	—	1426	—	—	—	—	1.51	—	—
	1/13/1986	120	276	7.30	866	1105	—	—	0.660	27.0	—	—
	12/9/1986	145	340	7.70	1110	1255	—	—	0.820	27.0	—	—
	11/23/1987	155	441	7.40	1190	1310	—	—	0.916	32.0	—	—
	11/15/1988	160	400	7.50	1252	1310	—	—	0.700	18.0	—	—

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
WWL-13B	11/14/1989	—	—	7.60	—	1260	—	—	—	—	—	—
	10/17/1991	200	566	7.70	1444	1904	0.0050	0.174	0.539	22.5	6.10	28.1
	8/16/1993	172	598	7.50	1482	2470	0.0010	0.122	0.763	26.3	< 1.000	< 27.0
	7/20/1994	165	816	7.30	2024	3000	0.0060	0.430	2.05	12.8	5.60	18.4
	8/15/1995	133	677	7.40	1773	3220	0.0070	0.181	1.63	21.2	2.30	23.3
	8/27/1996	142	713	7.20	1850	2660	0.0060	0.269	1.83	2.80	< 1.000	< 3.80
	10/8/1997	127	780	7.24	2020	2566	0.0090	0.228	3.89	1.30	< 1.000	< 2.30
	12/4/1998	101	856	—	2220	—	0.0170	0.324	10.4	5.30	4.50	9.80
	10/12/1999	86.5	1110	6.44	2540	2923	0.0190	0.340	21.0	3.40	< 1.000	< 4.40
	11/8/2000	110	1060	6.50	2500	2980	0.0242	0.367	17.1	1.80	< 1.000	< 2.80
WWL-14A	6/29/1982	17.0	33.0	—	310	—	—	—	—	—	—	—
	5/24/1983	86.0	70.0	7.30	528	—	—	—	0.0650	1.10	—	—
	8/10/1983	17.0	34.0	7.40	356	575	—	—	—	—	—	—
	8/10/1983	8.00	—	—	—	—	—	—	—	—	—	—
	6/12/1985	144	234	7.10	842	1150	—	—	0.440	1.70	—	—
	1/14/1986	33.0	62.0	7.20	350	525	—	—	0.0600	4.60	—	—
	12/10/1986	20.0	32.0	7.60	368	470	—	—	0.130	2.20	—	—
	11/20/1987	20.0	37.0	7.30	394	480	—	—	0.0440	1.000	—	—
	12/14/1988	26.0	30.0	7.50	344	480	—	—	0.0700	3.20	—	—
	12/5/1989	155	436	—	1326	—	—	—	0.0575	0.900	—	—
	10/16/1991	28.6	43.5	7.50	386	608	0.0070	0.0040	0.0425	1.30	1.10	2.40
	8/18/1993	43.7	38.1	7.50	396	910	0.0050	0.0200	0.0420	1.40	< 1.000	< 3.60
	8/12/1994	—	—	7.40	—	845	—	—	—	—	—	—
	8/16/1995	39.9	42.5	7.40	398	884	0.0030	0.0090	0.0600	1.30	< 1.000	< 2.30
	8/27/1996	329	152	6.80	1350	1528	0.0040	0.0260	0.103	1.10	< 1.000	< 2.10
	9/30/1997	260	155	6.89	1080	1493	0.0010	0.0220	0.144	< 0.200	< 1.000	< 1.20
	10/27/1998	155	159	7.63	823	1390	0.0050	0.0240	0.113	1.20	< 1.000	< 2.20
10/8/1999	5.00	16.2	6.54	674	1568	0.0060	< 0.0010	0.0397	< 0.200	3.20	< 3.40	
11/3/2000	191	115	6.50	733	1160	0.0053	0.0264	0.107	1.70	< 1.000	< 2.70	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
WWL-14B	8/8/1983	25.0	1880	7.50	2856	3219	—	—	—	2.82	—	—
	8/8/1983	20.0	—	—	2900	—	—	—	—	2.70	—	—
	6/12/1985	35.0	1960	7.00	2956	3050	—	—	0.570	4.30	—	—
	1/14/1986	367	1880	7.30	3620	3470	—	—	0.600	6.30	—	—
	12/10/1986	34.0	1760	7.40	3114	2565	—	—	2.27	4.30	—	—
	11/20/1987	50.0	1680	7.30	3030	2595	—	—	0.580	2.20	—	—
	12/14/1988	29.0	1720	7.20	3118	2395	—	—	0.490	2.40	—	—
	12/5/1989	35.0	1940	—	3158	—	—	—	0.635	0.700	—	—
	10/16/1991	98.9	1667	7.20	3003	3456	< 0.0010	0.335	0.0145	2.20	< 1.000	< 1.90
	8/18/1993	217	1909	7.10	3776	4480	0.0040	2.65	0.348	2.60	< 1.000	< 3.60
	8/12/1994	—	—	7.00	—	6400	—	—	—	—	—	—
	8/16/1995	366	1986	6.80	4124	5511	< 0.0010	0.895	3.30	3.90	< 1.000	< 4.90
	8/27/1996	378	1961	6.50	3940	5525	< 0.0010	0.0040	0.0247	2.70	< 1.000	< 3.70
	9/30/1997	181	2010	6.86	3720	4503	< 0.0010	0.0070	1.14	2.70	< 1.000	< 3.70
	10/27/1998	87.1	1840	7.26	3450	4207	0.0020	0.0140	1.12	3.50	1.50	5.00
10/11/1999	135	2110	6.35	3560	4411	0.0530	2.13	1.12	2.90	< 1.000	< 3.90	
11/3/2000	89.2	2050	6.40	3460	3790	0.0166	0.548	0.776	4.60	3.40	8.00	
WWL-15A	7/26/1982	102	232	—	728	—	—	—	—	—	—	—
	10/7/1982	132	222	7.50	800	—	—	—	—	—	—	—
	11/2/1982	130	207	7.80	820	—	—	—	—	—	—	—
	6/1/1983	132	206	7.48	742	—	—	—	—	0.200	—	—
	8/17/1983	—	200	7.70	670	1086	—	—	—	—	—	—
	1/17/1986	120	152	7.70	602	870	—	—	0.0300	3.40	—	—
	12/9/1986	118	182	7.80	620	820	—	—	0.0500	0.800	—	—
	11/24/1987	130	196	7.50	652	905	—	—	0.0370	1.90	—	—
	12/4/1989	130	276	—	650	—	—	—	30.9	—	—	—
	1/8/1991	—	—	8.00	—	815	—	—	—	—	—	—
10/16/1991	174	178	7.70	684	1020	0.0020	0.165	0.0176	0.900	< 1.000	< 1.00	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
WWL-15A	8/17/1993	191	167	7.20	860	1536	< 0.0010	0.116	0.0140	0.700	< 1.000	< 1.70
	8/11/1994	232	173	7.10	881	1584	0.0010	0.0990	0.0240	1.50	1.50	3.00
	8/14/1995	269	194	7.10	1132	1727	< 0.0010	0.0700	0.0270	1.60	< 1.000	< 2.60
	8/27/1996	346	339	6.70	1460	3938	< 0.0010	0.0890	0.189	1.30	< 1.000	< 2.30
	9/30/1997	401	635	7.30	1810	2217	< 0.0010	0.0760	0.289	1.30	< 1.000	< 2.30
	10/27/1998	498	195	7.66	1730	2566	0.0030	0.0780	0.0425	1.20	1.90	3.10
	10/11/1999	533	381	6.32	1650	3130	0.0530	0.227	0.125	0.900	< 1.000	< 1.90
	11/8/2000	599	400	6.60	1730	2510	0.0052	0.133	0.137	2.30	< 1.000	< 3.30
WWL-19B	11/24/1987	68.0	1100	7.60	2040	1875	—	—	—	—	—	—
	9/15/1991	—	—	—	—	2345	—	—	—	—	—	—
	8/16/1993	44.7	1430	7.20	3055	3770	0.0130	0.0050	0.294	3.00	3.80	6.80
	8/6/1994	46.0	1679	7.30	2946	4420	0.0150	0.0010	0.251	5.20	4.80	10.00
	8/16/1995	46.4	1720	7.20	3109	3770	0.0100	< 0.0010	0.128	1.10	3.40	4.50
	8/27/1996	45.3	1620	7.20	3030	3255	0.0130	0.0050	0.101	1.10	< 1.000	< 2.10
WWL-20B	6/1/1983	12.0	38.0	7.71	274	—	—	—	—	1.10	—	—
	8/10/1983	17.0	21.0	7.60	254	—	—	—	—	0.670	—	—
	8/10/1983	13.0	—	—	240	—	—	—	—	0.500	—	—
	5/7/1985	57.0	34.0	7.50	572	740	0.0060	< 0.0010	0.0500	1.10	—	—
	6/12/1985	—	—	7.60	—	710	0.0045	< 0.0010	—	—	—	—
	10/30/1985	65.0	37.0	7.60	648	795	< 0.0040	< 0.0010	0.0400	1.90	—	—
	12/12/1986	75.0	56.0	7.80	718	860	—	—	0.100	1.90	—	—
	11/25/1987	70.0	74.0	7.70	706	865	—	—	0.0710	2.80	—	—
	11/7/1988	110	65.0	7.60	774	905	—	—	0.0050	1.90	—	—
	12/5/1989	85.0	84.0	—	812	—	—	—	0.0630	0.600	—	—
	10/18/1991	99.6	105	7.50	865	1104	0.0060	0.0120	0.0332	1.30	3.20	4.50
	8/16/1993	46.3	61.9	7.40	545	845	0.0010	0.0070	0.0350	1.50	8.70	10.2
	7/21/1994	56.3	93.7	7.40	618	845	0.0010	0.0050	0.119	3.40	< 1.000	< 4.40
8/14/1995	35.1	91.1	7.40	475	845	0.0020	0.0050	0.0150	1.80	2.50	4.30	

TABLE A-1. SHIRLEY BASIN MINE SURFICIAL 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)
WWL-20B	8/27/1996	45.9	118	7.00	623	1056	0.0020	0.0170	0.0272	1.30	< 1.000	< 2.30
	10/7/1997	64.4	131	7.13	711	1059	0.0030	0.0150	0.0350	0.600	< 1.000	< 1.60
	12/4/1998	38.0	180	—	725	—	0.0050	0.0150	0.0392	2.20	3.60	5.80
	10/12/1999	47.6	236	6.25	407	1141	0.0060	0.0160	0.0388	1.20	< 1.000	< 2.20
	11/8/2000	51.4	296	6.65	947	1242	0.0077	0.0278	0.360	1.30	< 1.000	< 2.30

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
5A-1	2/16/1977	0.600	--	--	--	--	--	--	--	--	--	--
	8/31/1977	0.400	--	--	--	--	--	--	--	--	--	--
	2/24/1978	0.200	--	--	--	--	--	--	--	--	--	--
	11/17/1981	0.500	--	--	--	--	--	--	--	--	--	--
	10/11/1982	--	--	--	--	0.0300	0.0200	--	0.0800	--	< 0.100	0.0700
	8/26/1983	--	--	--	--	0.0100	0.0180	--	< 0.500	--	< 0.0100	0.0620
	11/8/1985	--	--	--	--	< 0.0100	< 0.0500	--	0.170	--	0.0200	< 0.0400
	10/16/1986	--	--	--	--	< 0.0100	< 0.0500	--	0.0500	--	< 0.0200	< 0.0500
	11/17/1987	--	--	--	--	< 0.0100	< 0.0500	--	0.0600	--	0.0500	< 0.0500
	10/28/1988	--	--	--	--	< 0.0100	< 0.0500	--	0.0600	0.100	< 0.100	0.0640
	8/15/1989	0.300	--	< 0.100	--	< 0.0050	0.0360	--	--	< 0.0500	< 0.100	< 0.0500
	9/13/1989	0.400	--	< 0.100	--	0.0050	0.0170	--	--	< 0.0500	< 0.100	< 0.0500
	10/9/1989	0.300	--	< 0.100	--	0.0050	0.0170	--	0.0750	< 0.0500	0.150	< 0.0500
	2/19/1990	--	--	--	--	--	--	0.180	--	--	--	--
	6/6/1990	< 0.200	--	< 0.100	--	< 0.0100	< 0.0500	1.14	--	< 0.0500	< 0.100	< 0.0500
	9/12/1990	--	--	--	--	--	--	0.350	--	--	--	--
	11/14/1990	< 0.200	--	--	--	< 0.0100	< 0.0500	0.810	--	< 0.0500	< 0.100	< 0.0500
	3/15/1991	--	--	--	--	--	--	0.620	--	--	--	--
	5/21/1991	< 0.200	--	< 0.100	--	< 0.0100	< 0.0500	1.08	--	< 0.0500	< 0.100	< 0.0500
	5/21/1991	< 0.0003	--	--	--	--	--	--	--	--	--	--
	8/6/1991	--	--	--	--	--	--	0.0600	--	--	--	--
	9/18/1991	< 0.200	--	< 0.100	--	< 0.0100	< 0.0500	0.770	--	< 0.0500	< 0.100	< 0.0500
	9/18/1991	< 0.0003	--	--	--	--	--	--	--	--	--	--
	11/12/1991	< 0.200	--	< 0.100	--	< 0.0100	< 0.0500	0.390	--	< 0.0500	< 0.100	< 0.0500
	11/12/1991	< 0.0003	--	--	--	--	--	--	--	--	--	--
	2/7/1992	< 0.200	--	< 0.100	--	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500
5/20/1992	< 0.200	--	< 0.100	--	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500	
8/9/1992	--	--	--	--	--	--	< 0.100	--	--	--	--	
12/8/1992	< 0.200	--	< 0.100	--	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500	

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
5A-1	12/8/1992	--	--	0.100	--	--	--	--	--	--	--	--
	3/24/1993	< 1.000	--	< 0.100	--	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500
	5/12/1993	--	--	--	--	--	--	2.20	--	--	--	--
	8/9/1993	--	--	--	--	--	--	0.560	--	--	--	--
	8/24/1993	< 1.000	--	< 0.100	--	< 0.0100	< 0.0500	0.380	--	< 0.0500	< 0.100	< 0.0500
	10/13/1993	< 1.000	--	< 0.100	--	< 0.0050	< 0.0500	0.430	--	< 0.0500	< 0.100	< 0.0500
	3/8/1994	< 0.200	--	< 0.100	--	< 0.0100	< 0.0500	0.710	--	< 0.0500	< 0.100	< 0.0500
	5/17/1994	< 0.200	--	< 0.100	--	< 0.0100	< 0.0500	0.720	--	< 0.0500	< 0.100	< 0.0500
	7/29/1994	< 0.200	--	< 0.100	--	< 0.0100	< 0.0500	0.920	--	< 0.0500	< 0.100	< 0.0500
	12/7/1994	< 0.200	--	< 0.100	--	< 0.0100	< 0.0500	0.560	--	< 0.0500	< 0.100	< 0.0500
	2/22/1995	--	--	--	--	--	--	0.470	--	--	--	--
	5/19/1995	< 0.200	6.00	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.280	--	< 0.0500	< 0.100	< 0.0500
	9/15/1995	--	--	--	--	--	--	0.360	--	--	--	--
	10/30/1995	1.50	1.60	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.990	--	< 0.0500	< 0.100	< 0.0500
	5/21/1996	< 0.200	--	< 0.100	< 0.0050	< 0.0100	< 0.0500	--	--	< 0.0500	< 0.100	< 0.0500
	11/6/1996	< 0.200	< 1.000	< 0.100	< 0.0100	--	< 0.0100	--	--	< 0.0500	< 0.100	< 0.0500
	6/11/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	--	--	< 0.0500	--	< 0.0500
	12/26/1997	< 0.200	< 1.000	0.100	0.0100	< 0.0050	0.0500	--	--	0.0500	0.100	0.0500
	6/1/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	--	--	< 0.0500	< 0.100	< 0.0500
	12/1/1998	< 0.200	< 1.000	< 0.100	< 0.0100	0.0500	< 0.0500	--	--	< 0.0500	< 0.100	< 0.0500
	6/15/1999	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	--	--	< 0.0500	< 0.100	< 0.0500
	12/7/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	--	--	< 0.0500	< 0.100	< 0.0500
	3/8/2000	--	--	--	--	--	--	0.600	--	--	--	--
8/29/2000	--	--	--	--	--	--	0.950	--	--	--	--	
11/14/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.620	--	< 0.0500	< 0.100	< 0.0500	
DM-2	4/1/1976	0.0003	--	--	--	--	--	--	--	--	--	--
	7/15/1976	0.200	--	--	--	--	--	--	--	--	--	--
	2/16/1977	1.000	--	--	--	--	--	--	--	--	--	--
	5/12/1977	0.200	--	--	--	--	--	--	--	--	--	--

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
DM-2	8/31/1977	0.300	--	--	--	--	--	--	--	--	--	--
	2/24/1978	0.200	--	--	--	--	--	--	--	--	--	--
	3/24/1993	< 1.000	1.80	0.310	< 0.0050	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500
	5/11/1993	--	--	--	--	--	--	0.780	--	--	--	--
	8/4/1993	--	--	--	--	--	--	1.16	--	--	--	--
	10/12/1993	< 1.000	11.6	0.260	< 0.0050	0.120	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500
	3/5/1994	< 0.200	10.00	0.210	< 0.0050	< 0.0100	< 0.0500	1.49	--	< 0.0500	< 0.100	< 0.0500
	8/20/1994	< 0.200	7.60	0.240	< 0.0050	< 0.0100	< 0.0500	0.690	--	< 0.0500	< 0.100	< 0.0500
	2/19/1995	--	--	--	--	--	--	0.750	--	--	--	--
	5/12/1995	< 0.200	2.80	0.200	< 0.0050	< 0.0100	< 0.0500	1.52	--	< 0.0500	< 0.100	< 0.0500
	8/27/1995	--	--	--	--	--	--	0.890	--	--	--	--
	11/13/1995	< 0.200	< 1.000	0.190	< 0.0100	< 0.0100	< 0.0500	1.04	--	< 0.0500	< 0.100	< 0.0500
	5/21/1996	< 0.200	--	0.180	< 0.0050	< 0.0100	< 0.0500	--	--	< 0.0500	< 0.0100	< 0.0500
	MC01	6/28/1979	--	--	--	--	0.0300	0.0500	--	3.50	0.200	--
9/13/1991		< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	5.90	--	--	--	--
10/13/1991		< 0.0003	< 0.0010	--	--	--	--	--	--	< 0.0500	< 0.100	< 0.0500
MC03	5/19/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.150	--	< 0.0500	< 0.100	< 0.0500
MC05	6/28/1979	--	--	--	--	0.0500	0.0400	--	0.500	0.200	--	--
	5/19/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500
MC06	8/16/1989	0.400	0	0.140	< 0.0100	< 0.0050	< 0.0100	--	--	< 0.0500	< 0.100	< 0.0500
	9/14/1989	0.700	0	0.210	< 0.0100	< 0.0050	0.0330	--	--	< 0.0500	0.120	< 0.0500
	10/9/1989	0.700	0	< 0.100	0.150	< 0.0050	0.0120	--	--	0.0570	0.100	< 0.0500
	11/28/1989	--	0	--	< 0.0100	< 0.0050	< 0.0100	--	--	--	--	< 0.0500
	2/19/1990	--	--	--	--	--	--	0.750	--	--	--	--
	6/5/1990	< 0.200	1.60	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.700	--	< 0.0500	< 0.100	< 0.0500
	8/24/1990	--	--	--	--	--	--	0.180	--	--	--	--
	11/15/1990	< 0.200	< 1.000	< 0.100	< 0.0100	0.0100	< 0.0500	0.330	--	< 0.0500	< 0.100	< 0.0500
3/15/1991	--	--	--	--	--	--	0.550	--	--	--	--	

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
MC06	6/28/1991	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.600	--	< 0.0500	< 0.100	< 0.0500
	6/28/1991	< 0.0003	--	--	--	--	--	--	--	--	--	--
	8/6/1991	--	--	--	--	--	--	0.230	--	--	--	--
	11/7/1991	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.0100	--	< 0.0500	< 0.100	< 0.0500
	11/7/1991	< 0.0003	--	--	--	--	--	--	--	--	--	--
	1/30/1992	< 0.200	< 1.000	< 0.100	--	< 0.0100	< 0.0100	0.190	--	< 0.0500	< 0.0500	< 0.100
	5/7/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.140	--	< 0.0100	< 0.100	< 0.0500
	8/4/1992	--	--	--	--	--	--	< 0.100	--	--	--	--
	11/16/1992	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500
	3/23/1993	< 1.000	1.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500
	5/10/1993	--	--	--	--	--	--	< 0.100	--	--	--	--
	10/15/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500
	3/3/1994	7.40	11.2	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.200	--	< 0.0500	< 0.100	< 0.0500
	5/18/1994	< 0.0200	38.9	0.120	< 0.0050	< 0.0010	< 0.0500	0.190	--	< 0.0500	< 0.100	< 0.0500
	5/18/1994	< 0.200	--	--	--	< 0.0100	--	--	--	--	--	--
	8/18/1994	< 0.200	9.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.140	--	< 0.0500	< 0.100	< 0.0500
	8/18/1994	--	--	--	--	--	--	8.40	--	--	--	--
	10/21/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.120	--	< 0.0500	--	< 0.0500
	2/17/1995	--	--	--	--	--	--	0.310	--	--	--	--
	2/17/1995	--	--	--	--	--	--	0.341	--	--	--	--
	5/11/1995	1.10	6.60	0.100	< 0.0050	< 0.0100	< 0.0500	1.56	--	< 0.0500	< 0.100	< 0.0500
	8/21/1995	--	--	--	--	--	--	0.390	--	--	--	--
	11/8/1995	< 0.200	4.30	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.880	--	< 0.0500	< 0.100	< 0.0500
	5/14/1996	0.500	--	0.100	< 0.0050	< 0.0100	< 0.0500	--	--	< 0.0500	< 0.100	< 0.0500
	11/6/1996	0.800	1.60	0.130	< 0.0100	--	< 0.0100	--	--	< 0.0500	< 0.100	< 0.0500
	6/11/1997	7.70	10.4	0.100	< 0.0100	< 0.0100	< 0.0500	--	--	< 0.0500	--	< 0.0500
	12/4/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	--	--	< 0.0500	< 0.100	< 0.0500
	5/28/1998	1.70	3.10	0.100	< 0.0100	< 0.0100	< 0.0500	--	--	< 0.0500	< 0.100	< 0.0500
	12/9/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	--	--	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
MC06	6/7/1999	1.30	3.50	< 0.100	< 0.100	< 0.0050	< 0.0500	---	---	< 0.0500	< 0.100	< 0.0500
	12/8/1999	< 0.200	1.40	0.120	< 0.0100	< 0.0050	< 0.0500	---	---	< 0.0500	< 0.100	< 0.0500
	2/29/2000	---	---	---	---	---	---	0.600	---	---	---	---
	8/29/2000	---	---	---	---	---	---	< 0.100	---	---	---	---
	11/20/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	< 0.100	---	< 0.0500	< 0.100	< 0.0500
MC07	8/12/1982	0.500	---	---	---	---	---	---	---	---	---	---
	10/11/1982	---	---	---	---	< 0.0200	< 0.0100	---	< 0.0500	---	---	---
	10/29/1982	---	---	---	---	---	---	---	---	---	< 0.100	0.0300
	8/26/1983	---	---	---	---	0.0060	0.0120	---	< 0.0500	---	< 0.0100	0.0430
	5/15/1984	0.500	---	---	---	---	---	---	---	---	---	---
	9/19/1984	0.100	---	---	---	---	---	---	---	---	---	---
	11/16/1984	0.500	---	---	---	---	---	---	---	---	---	---
	1/10/1985	---	---	---	---	< 0.0100	< 0.0500	---	0.0300	---	< 0.0200	< 0.0400
	3/21/1985	0.100	---	---	---	---	---	---	---	---	---	---
	5/8/1985	0.200	---	---	---	---	---	---	---	---	---	---
	8/21/1985	0.300	---	---	---	---	---	---	---	---	---	---
	11/7/1985	0.200	---	---	---	< 0.0100	< 0.0500	---	< 0.0300	---	< 0.0200	< 0.0400
	3/12/1986	0.100	---	---	---	---	---	---	---	---	---	---
	5/15/1986	0.100	---	---	---	---	---	---	---	---	---	---
	9/16/1986	0.100	---	---	---	< 0.0100	< 0.0500	---	0.0600	---	< 0.0200	< 0.0500
	11/21/1986	0.100	---	---	---	---	---	---	---	---	---	---
	3/17/1987	0.100	---	---	---	---	---	---	---	---	---	---
	5/5/1987	0.100	---	---	---	---	---	---	---	---	---	---
	8/19/1987	0.800	---	---	---	---	---	---	---	---	---	---
	11/11/1987	0.100	---	---	---	< 0.0100	< 0.0500	---	< 0.0500	---	< 0.0200	< 0.0500
2/23/1988	0.500	---	---	---	---	---	---	---	---	---	---	
5/11/1988	0.100	---	---	---	---	---	---	---	---	---	---	
8/16/1988	0.200	---	---	---	---	---	---	---	---	---	---	
10/18/1988	0.200	---	---	---	---	< 0.0100	< 0.0500	---	< 0.0500	< 0.100	< 0.0500	

TABLE-2. SHIRLEY BASIN MINE SURFICIAL 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)
MC07	3/16/1989	1.000	—	—	—	—	—	—	—	—	—	—
	6/26/1989	0.200	—	—	—	—	—	—	—	—	—	—
	8/15/1989	0.100	—	0.150	—	< 0.0050	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500
	9/14/1989	0.200	—	0.160	—	< 0.0050	< 0.0100	—	—	< 0.0500	0.100	< 0.0500
	10/10/1989	0.400	—	< 0.100	—	< 0.0050	< 0.0100	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
	2/19/1990	—	—	—	—	—	—	0.170	—	—	—	—
	8/24/1990	—	—	—	—	—	—	0.0600	—	—	—	—
	11/15/1990	< 0.200	—	< 0.100	—	0.0100	< 0.0500	0.210	—	< 0.0500	< 0.100	< 0.0500
	3/15/1991	—	—	—	—	—	—	0.490	—	—	—	—
	6/28/1991	< 0.0003	—	< 0.100	—	< 0.0100	< 0.0500	0.310	—	< 0.0500	< 0.100	< 0.0500
	6/28/1991	< 0.200	—	—	—	—	—	—	—	—	—	—
	8/6/1991	—	—	—	—	—	—	0.230	—	—	—	—
	11/8/1991	< 0.0003	—	< 0.100	—	< 0.0100	< 0.0500	0.160	—	< 0.0500	< 0.100	< 0.0500
	11/8/1991	< 0.200	—	—	—	—	—	—	—	—	—	—
	1/30/1992	< 0.200	—	< 0.100	—	< 0.0100	< 0.0100	0.290	—	< 0.0500	< 0.0500	< 0.100
	5/7/1992	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	0.370	—	< 0.0100	< 0.100	< 0.0500
	8/5/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	12/1/1992	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/23/1993	< 1.000	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/11/1993	—	—	—	—	—	—	0.240	—	—	—	—
	8/4/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	10/15/1993	< 1.000	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/4/1994	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	0.200	—	< 0.0500	< 0.100	< 0.0500
	5/19/1994	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	0.320	—	< 0.0500	< 0.100	< 0.0500
	8/19/1994	< 0.200	2.90	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.300	—	< 0.0500	< 0.100	< 0.0500
	10/22/1994	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	0.380	—	< 0.0500	< 0.100	< 0.0500
	2/18/1995	—	—	—	—	—	—	0.210	—	—	—	—
	5/11/1995	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.850	—	< 0.0500	< 0.100	< 0.0500
	8/21/1995	—	—	—	—	—	—	0.440	—	—	—	—

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)	
MC07	11/9/1995	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.600	—	< 0.0500	< 0.100	< 0.0500	
	5/15/1996	< 0.200	—	< 0.100	< 0.0050	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500	
	11/6/1996	< 0.200	—	< 0.100	< 0.0100	—	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500	
	12/5/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500	
	5/29/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500	
	12/9/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500	
	6/7/1999	< 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	—	—	—	—	—	—	1.35	—	—	—	—	
	8/29/2000	—	—	—	—	—	—	1.24	—	—	—	—	
	11/20/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	1.05	—	< 0.0500	< 0.100	< 0.0500	
	MC08	9/25/1981	—	—	0.300	—	< 0.0040	< 0.0100	—	< 0.0500	< 0.0300	< 0.100	< 0.0300
		11/28/1989	—	5.80	—	< 0.0100	< 0.0050	< 0.0100	—	—	—	—	< 0.0500
2/25/1992		< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500	
5/12/1992		< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.500	—	< 0.0100	< 0.100	< 0.0500	
5/12/1992		—	—	—	—	—	—	0.380	—	—	—	—	
8/5/1992		—	—	—	—	—	—	< 0.100	—	—	—	—	
12/1/1992		< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500	
3/23/1993		< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500	
5/11/1993		—	—	—	—	—	—	0.330	—	—	—	—	
8/4/1993		—	—	—	—	—	—	0.250	—	—	—	—	
10/15/1993		< 1.000	< 1.000	< 0.100	< 0.0050	< 0.100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500	
3/4/1994		< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.380	—	< 0.0500	< 0.100	< 0.0500	
5/18/1994		< 0.200	80.9	0.190	< 0.0050	< 0.0100	< 0.0500	0.350	—	< 0.0500	< 0.100	< 0.0500	
8/19/1994		< 0.200	10.7	0.110	< 0.0050	< 0.0100	< 0.0500	0.220	—	< 0.0500	< 0.100	< 0.0500	
10/22/1994		< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.230	—	< 0.0500	< 0.100	< 0.0500	
2/18/1995		—	—	—	—	—	—	0.390	—	—	—	—	
5/11/1995	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.01	—	< 0.0500	< 0.100	< 0.0500		
8/21/1995	—	—	—	—	—	—	0.360	—	—	—	—		

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
MC08	11/9/1995	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.620	---	< 0.0500	< 0.100	< 0.0500
	8/27/1996	< 1.000	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	---	---	< 0.0500	< 0.100	< 0.0500
	10/8/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	---	---	< 0.0500	< 0.100	< 0.0500
	10/9/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	---	---	< 0.0500	< 0.100	< 0.0500
	10/12/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	---	---	< 0.0500	< 0.100	< 0.0500
	3/7/2000	---	---	---	---	---	---	2.02	---	---	---	---
	11/3/2000	---	---	---	< 0.0100	< 0.0050	< 0.0500	1.40	---	---	---	< 0.0500
MC09	7/11/1979	0.800	---	---	---	0.0030	0.0200	---	0.600	0.100	0.0400	0.0010
	9/21/1981	---	---	---	---	---	---	---	---	---	< 0.100	< 0.0300
	11/17/1981	0.400	---	---	---	---	---	---	---	---	---	---
	10/12/1982	0.300	---	---	---	0.0200	0.0200	---	0.0800	---	< 0.100	0.0700
	8/30/1983	---	---	---	---	0.0100	0.0250	---	< 0.0500	---	< 0.0100	0.0760
	11/13/1985	---	---	---	---	< 0.0100	< 0.0500	---	0.400	---	< 0.0200	< 0.0400
	10/16/1986	---	---	---	---	< 0.0100	< 0.0500	---	0.580	---	< 0.0200	< 0.0500
	11/5/1987	---	---	---	---	0.0100	0.110	---	0.0600	---	< 0.0200	< 0.0500
	10/13/1988	---	---	---	---	0.0190	< 0.0500	---	0.0620	0.230	< 0.100	0.0680
	8/16/1989	---	0	< 0.100	< 0.0100	0.0710	0.0540	---	---	0.132	< 0.100	0.0980
	9/13/1989	0.100	0	< 0.100	< 0.0100	0.0450	0.0500	---	---	0.103	< 0.100	0.0690
	10/11/1989	0.100	0	< 0.100	0.0500	0.0150	0.0330	---	0.386	0.105	< 0.100	0.0820
	2/19/1990	---	---	---	---	---	---	0.150	---	---	---	---
	9/12/1990	---	---	---	---	---	---	1.35	---	---	---	---
	3/15/1991	---	---	---	---	---	---	1.79	---	---	---	---
	6/27/1991	< 0.0003	1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.0400	---	< 0.0500	< 0.100	< 0.0500
	6/27/1991	< 0.200	---	---	---	---	---	---	---	---	---	---
	8/6/1991	---	---	---	---	---	---	0.670	---	---	---	---
	1/30/1992	< 0.200	1.000	< 0.100	---	< 0.0100	< 0.0100	1.04	---	< 0.0500	< 0.0500	< 0.100
5/7/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.730	---	< 0.0100	< 0.100	< 0.0500	
8/3/1992	---	---	---	---	---	---	0.100	---	---	---	---	
11/16/1992	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	1.38	---	< 0.0500	< 0.100	< 0.0500	

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
MC09	2/2/1993	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.740	—	< 0.0500	< 0.100	< 0.0500
	8/2/1993	—	—	—	—	—	—	1.28	—	—	—	—
	8/2/1993	—	—	—	—	—	—	0.900	—	—	—	—
	10/15/1993	< 1.000	5.20	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/2/1994	< 0.200	1.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	2.29	—	< 0.0500	< 0.100	< 0.0500
	7/8/1994	15.9	32.8	< 0.100	< 0.0050	< 0.0100	< 0.0500	2.32	—	< 0.0500	< 0.100	< 0.0500
	8/24/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	4.02	—	< 0.0500	< 0.100	< 0.0500
	8/24/1994	—	1.20	—	—	—	—	3.65	—	—	—	—
	10/23/1994	< 0.200	14.6	< 0.100	< 0.0050	< 0.0100	< 0.0500	2.86	—	< 0.0500	< 0.100	< 0.0500
	2/22/1995	—	—	—	—	—	—	3.87	—	—	—	—
	5/3/1995	1.60	3.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	4.11	—	< 0.0500	< 0.100	< 0.0500
	9/13/1995	—	—	—	—	—	—	3.81	—	—	—	—
	11/7/1995	3.90	6.90	< 0.100	< 0.0100	< 0.0100	< 0.0500	7.54	—	< 0.0500	< 0.100	< 0.0500
	5/13/1996	< 0.200	—	< 0.100	< 0.0050	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/6/1996	< 0.200	< 1.000	< 0.100	< 0.0100	—	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500
	6/11/1997	< 0.200	3.10	0.200	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	—	< 0.0500
	12/4/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	5/29/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/9/1998	< 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
12/9/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500	
2/29/2000	—	—	—	—	—	—	3.15	—	—	—	—	
5/30/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	3.77	—	< 0.0500	< 0.100	< 0.0500	
8/29/2000	—	—	—	—	—	—	4.74	—	—	—	—	
11/20/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	4.29	—	< 0.0500	< 0.100	< 0.0500	
MC11	4/20/1979	0.800	—	—	—	—	—	—	—	—	—	—
	10/15/1979	0.300	—	—	—	—	—	—	—	—	—	—
	8/16/1989	0.300	31.0	0.100	< 0.0100	< 0.0050	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500
	9/14/1989	0.300	5.60	0.130	< 0.0100	0.0200	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
MC11	10/9/1989	0.400	7.40	< 0.100	0.0300	< 0.0050	< 0.0100	—	—	< 0.0500	0.100	< 0.0500
	2/19/1990	—	—	—	—	—	—	0.110	—	—	—	—
	9/13/1990	—	—	—	—	—	—	0.0400	—	—	—	—
	11/15/1990	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.130	—	< 0.0500	< 0.100	< 0.0500
	3/15/1991	—	—	—	—	—	—	0.220	—	—	—	—
	6/28/1991	< 0.200	1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.240	—	< 0.0500	< 0.100	< 0.0500
	6/28/1991	< 0.0003	—	—	—	—	—	—	—	—	—	—
	8/6/1991	—	—	—	—	—	—	0.120	—	—	—	—
	11/7/1991	< 0.0003	2.00	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.0600	—	< 0.0500	< 0.100	< 0.0500
	11/7/1991	< 0.200	—	—	—	—	—	—	—	—	—	—
	1/30/1992	< 0.200	1.000	< 0.100	—	< 0.0100	< 0.0100	< 0.100	—	< 0.0500	< 0.0500	< 0.100
	5/7/1992	< 0.200	2.10	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0100	< 0.100	< 0.0500
	8/8/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	12/1/1992	< 0.200	1.10	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.0100	< 0.0500
	12/1/1992	—	—	—	—	—	—	—	—	—	< 0.100	—
	3/23/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/11/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	8/4/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	10/16/1993	< 1.000	4.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/5/1994	< 0.200	11.9	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/19/1994	< 0.200	17.4	0.100	< 0.0050	< 0.0100	< 0.0500	0.280	—	< 0.0500	< 0.100	< 0.0500
	8/20/1994	< 0.200	11.1	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.110	—	< 0.0500	< 0.100	< 0.0500
	10/22/1994	< 0.200	19.0	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.230	—	< 0.0500	< 0.100	< 0.0500
	2/19/1995	—	—	—	—	—	—	0.130	—	—	—	—
	5/11/1995	< 0.200	2.50	0.110	< 0.0050	< 0.0100	< 0.0500	0.900	—	< 0.0500	< 0.100	< 0.0500
	8/21/1995	—	—	—	—	—	—	0.250	—	—	—	—
	11/9/1995	0.400	2.20	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.580	—	< 0.0500	< 0.100	< 0.0500
	5/15/1996	0.600	—	< 0.100	< 0.0050	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/6/1996	< 0.200	< 1.000	< 0.100	< 0.0100	—	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
MC11	12/5/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	5/29/1998	< 0.200	2.50	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/10/1998	< 0.200	2.60	0.140	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	6/9/1999	< 0.200	3.30	0.150	< 0.100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/6/1999	< 0.200	1.40	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	3/7/2000	—	—	—	—	—	—	0.410	—	—	—	—
	5/30/2000	< 0.200	1.80	0.100	< 0.0100	< 0.0050	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/29/2000	—	—	—	—	—	—	< 0.100	—	—	—	—
	11/20/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
MC12	4/20/1979	0.300	—	—	—	—	—	—	—	—	—	—
	7/11/1979	0.900	—	—	—	—	—	—	—	—	0.0200	0.0200
MC13	4/20/1979	0.600	—	—	—	—	—	—	—	—	—	—
	7/11/1979	—	—	—	—	—	—	—	—	—	0.0070	0.0300
	10/15/1979	1.000	—	—	—	—	—	—	—	—	—	—
	11/28/1989	—	4.10	—	< 0.0100	< 0.0050	< 0.0100	—	—	—	—	< 0.0500
	10/8/1997	6.00	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/9/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/12/1999	< 0.200	< 1.000	0.120	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/3/2000	—	—	—	< 0.0100	< 0.0050	< 0.0500	0.350	—	—	—	< 0.0500
MC14	4/27/1979	0.600	—	—	—	—	—	—	—	—	—	—
	8/12/1982	0.400	—	—	—	—	—	—	—	—	—	—
	10/12/1982	—	—	—	—	< 0.0200	< 0.0100	—	0.250	—	—	—
	10/29/1982	0.700	—	—	—	—	—	—	—	—	< 0.100	< 0.0300
	8/26/1983	0.500	—	—	—	< 0.0040	< 0.0050	—	1.40	—	< 0.0100	< 0.0100
	12/22/1983	1.20	—	—	—	—	—	—	—	—	—	—
	5/17/1984	0.300	—	—	—	—	—	—	—	—	—	—
	9/20/1984	0.200	—	—	—	—	—	—	—	—	—	—
	11/16/1984	0.100	—	—	—	—	—	—	—	—	—	—

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
MC14	3/21/1985	0.600	--	--	--	--	--	--	--	--	--	--
	5/7/1985	0.100	--	--	--	--	--	--	--	--	--	--
	8/23/1985	0.700	--	--	--	--	--	--	--	--	--	--
	10/30/1985	--	--	--	--	< 0.0100	< 0.0500	--	0.0900	--	< 0.0200	< 0.0400
	11/13/1985	0.200	--	--	--	--	--	--	--	--	--	--
	3/12/1986	0.100	--	--	--	--	--	--	--	--	--	--
	5/15/1986	0.100	--	--	--	--	--	--	--	--	--	--
	9/16/1986	0.500	--	--	--	< 0.0100	< 0.0500	--	0.190	--	< 0.0200	< 0.0500
	3/17/1987	0.100	--	--	--	--	--	--	--	--	--	--
	5/6/1987	0.100	--	--	--	--	--	--	--	--	--	--
	8/20/1987	0.100	--	--	--	--	--	--	--	--	--	--
	11/11/1987	0.600	--	--	--	< 0.0100	< 0.0500	--	0.0700	--	< 0.0200	< 0.0500
	2/23/1988	0.400	--	--	--	--	--	--	--	--	--	--
	5/18/1988	0.300	--	--	--	--	--	--	--	--	--	--
	8/18/1988	0.600	--	--	--	--	--	--	--	--	--	--
	10/18/1988	0.200	--	--	--	< 0.0100	< 0.0500	--	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/15/1989	1.000	--	--	--	--	--	--	--	--	--	--
	6/26/1989	0.800	--	--	--	--	--	--	--	--	--	--
	8/15/1989	0.100	23.0	< 0.100	< 0.0100	< 0.0050	< 0.0100	--	--	< 0.0500	< 0.100	< 0.0500
	9/15/1989	0.300	7.30	0.150	< 0.0100	< 0.0050	< 0.0100	--	--	< 0.0500	< 0.100	< 0.0500
	10/11/1989	0.600	6.20	< 0.100	0.0300	< 0.0050	< 0.0100	--	0.0770	< 0.0500	< 0.100	< 0.0500
	2/19/1990	--	--	--	--	--	--	0.0500	--	--	--	--
	9/14/1990	--	--	--	--	--	--	0.0700	--	--	--	--
	3/8/1991	--	--	--	--	--	--	0.0500	--	--	--	--
	6/28/1991	< 0.200	3.00	0.120	< 0.0500	< 0.0100	< 0.0500	0.100	--	< 0.0500	< 0.100	< 0.0500
	8/6/1991	--	--	--	--	--	--	0.0600	--	--	--	--
	10/21/1991	< 0.200	1.40	0.210	< 0.0100	< 0.0100	< 0.0500	< 0.0100	--	< 0.0500	< 0.100	< 0.0500
1/30/1992	< 0.200	< 1.000	< 0.100	--	< 0.0100	< 0.0100	< 0.100	--	< 0.0500	< 0.0500	< 0.100	
5/8/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.0100	--	< 0.0100	< 0.100	0.0500	

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
MC14	8/8/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	12/1/1992	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/23/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/12/1993	—	—	—	—	—	—	0.200	—	—	—	—
	8/9/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	8/19/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	10/16/1993	< 1.000	5.40	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/8/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/19/1994	< 0.200	25.6	0.500	< 0.0050	< 0.0100	< 0.0500	0.100	—	< 0.0500	< 0.100	< 0.0500
	8/11/1994	< 0.200	14.3	0.160	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/20/1994	< 0.200	5.30	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.110	—	< 0.0500	< 0.100	< 0.0500
	10/23/1994	< 0.200	5.00	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	2/19/1995	—	—	—	—	—	—	0.110	—	—	—	—
	5/12/1995	1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.730	—	< 0.0500	< 0.100	< 0.0500
	8/16/1995	3.00	18.4	0.150	< 0.0100	< 0.0100	< 0.0500	0.530	—	< 0.0500	< 0.100	< 0.0500
	8/27/1995	—	—	—	—	—	—	0.320	—	—	—	—
	11/9/1995	0.600	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.510	—	< 0.0500	< 0.100	< 0.0500
	5/16/1996	0.800	—	< 0.100	< 0.0050	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/6/1996	< 0.200	< 1.000	< 0.100	< 0.0100	—	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500
	12/8/1997	< 0.200	3.20	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	5/29/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 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	6.20	4.40	< 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	
3/7/2000	—	—	—	—	—	—	0.590	—	—	—	—	
5/30/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.100	—	< 0.0500	< 0.100	< 0.0500	
8/29/2000	—	—	—	—	—	—	0.110	—	—	—	—	
11/20/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.150	—	< 0.0500	< 0.100	< 0.0500	
MC15	10/15/1979	0.200	—	—	—	—	—	—	—	—	—	—

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
MC15	9/21/1981	—	—	< 0.100	—	< 0.0040	< 0.0100	—	< 0.0500	< 0.0300	< 0.100	< 0.0300
	11/17/1981	—	—	< 0.100	—	< 0.0200	< 0.0100	0.700	0.100	< 0.0300	< 0.100	< 0.0300
	5/20/1992	< 0.200	< 1.000	0.230	< 0.0100	< 0.0100	< 0.0500	0.150	—	< 0.0500	< 0.100	< 0.0500
	8/8/1992	—	—	—	—	—	—	0.790	—	—	—	—
	12/6/1992	< 0.200	< 1.000	0.100	< 0.0500	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/23/1993	< 1.000	< 1.000	0.140	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/12/1993	—	—	—	—	—	—	0.300	—	—	—	—
	8/9/1993	—	—	—	—	—	—	0.560	—	—	—	—
	10/16/1993	< 1.000	16.6	0.120	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/8/1994	< 0.200	4.30	0.110	< 0.0050	< 0.0100	< 0.0500	0.790	—	< 0.0500	< 0.100	< 0.100
	5/19/1994	< 0.200	2.30	0.120	< 0.0050	< 0.0100	< 0.0500	0.700	—	< 0.0500	< 0.100	< 0.0500
	8/20/1994	< 0.200	3.50	0.110	< 0.0050	< 0.0100	< 0.0500	0.530	—	< 0.0500	< 0.100	< 0.0500
	10/23/1994	< 0.200	11.3	0.140	< 0.0050	< 0.0100	< 0.0500	0.570	—	< 0.0500	< 0.100	< 0.0500
	2/19/1995	—	—	—	—	—	—	0.610	—	—	—	—
	5/12/1995	< 0.200	2.60	0.100	< 0.0050	< 0.0100	< 0.0500	1.25	—	< 0.0500	< 0.100	< 0.0500
	8/27/1995	—	—	—	—	—	—	0.640	—	—	—	—
	11/9/1995	0.500	1.90	< 0.100	< 0.0100	< 0.0100	< 0.0500	1.08	—	< 0.0500	< 0.100	< 0.0500
	11/13/1996	—	< 1.000	—	—	—	—	—	—	—	—	—
	12/8/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	6/22/1998	—	2.00	—	—	—	—	—	—	—	—	—
	12/10/1998	—	2.00	—	—	—	—	—	—	—	—	—
	6/9/1999	—	< 1.000	—	—	—	—	—	—	—	—	—
	12/6/1999	—	< 1.000	—	—	—	—	—	—	—	—	—
3/7/2000	—	—	—	—	—	—	0.930	—	—	—	—	
5/30/2000	—	1.30	—	—	—	—	0.540	—	—	—	—	
8/29/2000	—	—	—	—	—	—	0.540	—	—	—	—	
11/20/2000	—	< 1.000	—	—	—	—	0.440	—	—	—	—	
MCR01	12/27/1990	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	3.00	—	< 0.0500	< 0.100	< 0.0500
	10/10/1992	—	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
MCR01	8/24/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	3.07	--	< 0.0500	< 0.100	< 0.0500
	7/28/1994	< 0.200	1.70	< 0.100	< 0.0050	< 0.0100	< 0.0500	2.09	--	< 0.0500	< 0.100	< 0.0500
	10/30/1995	1.30	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	4.52	--	< 0.0500	< 0.100	< 0.0500
	9/22/1997	--	< 1.000	--	--	--	--	--	--	--	--	--
	9/22/1998	--	< 1.000	--	--	--	--	--	--	--	--	--
	9/16/1999	--	< 1.000	--	--	--	--	--	--	--	--	--
	9/15/2000	--	< 1.000	--	--	--	--	0.570	--	--	--	--
	MCR02	12/27/1990	< 0.200	3.90	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.340	--	< 0.0500	< 0.100
10/10/1992		--	< 1.000	0.100	< 0.0500	< 0.0100	< 0.0500	--	--	< 0.0500	< 0.100	< 0.0500
8/24/1993		< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.43	--	< 0.0500	< 0.100	< 0.0500
7/29/1994		< 0.200	3.30	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.490	--	< 0.0500	< 0.100	< 0.0500
10/30/1995		1.20	1.20	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.390	--	< 0.0500	< 0.100	< 0.0500
9/23/1996		< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	--	--	--	< 0.0500	< 0.100	< 0.0500
9/22/1997		--	< 1.000	--	--	--	--	--	--	--	--	--
9/22/1998		--	< 1.000	--	--	--	--	--	--	--	--	--
9/15/2000	--	< 1.000	--	--	--	--	0.240	--	--	--	--	
NCR01	8/15/1989	0.700	0	< 0.100	< 0.0100	< 0.0050	< 0.0100	--	--	< 0.0500	< 0.100	< 0.0500
	9/13/1989	2.00	0	< 0.100	< 0.0100	< 0.0050	< 0.0100	--	--	< 0.0500	< 0.100	< 0.0500
	10/9/1989	0.900	0	< 0.100	< 0.0100	< 0.0050	< 0.0100	--	--	< 0.0500	< 0.100	< 0.0500
	2/19/1990	--	--	--	--	--	--	0.140	--	--	--	--
	6/6/1990	< 0.200	1.40	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.280	--	< 0.0500	< 0.100	< 0.0500
	8/24/1990	--	--	--	--	--	--	0.100	--	--	--	--
	11/14/1990	2.20	2.40	--	< 0.0100	< 0.0100	< 0.0500	0.0700	--	< 0.0500	< 0.100	< 0.0500
	3/8/1991	--	--	--	--	--	--	0.130	--	--	--	--
	5/9/1991	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.160	--	< 0.0500	< 0.100	< 0.0500
	5/9/1991	< 0.0003	--	--	--	--	--	--	--	--	--	--
	8/6/1991	--	--	--	--	--	--	0.0700	--	--	--	--
9/17/1991	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.230	--	< 0.0500	< 0.100	< 0.0500	

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
NP01	9/17/1991	< 0.0003	—	—	—	—	—	—	—	—	—	—
	2/4/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/13/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/9/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	12/2/1992	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/24/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/12/1993	—	—	—	—	—	—	0.200	—	—	—	—
	8/9/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	8/20/1993	< 1.000	4.90	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.220	—	< 0.0500	< 0.100	< 0.0500
	10/13/1993	< 1.000	3.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/8/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.480	—	0.150	< 0.100	< 0.0500
	5/13/1994	< 0.200	7.20	0.110	< 0.0050	< 0.0100	< 0.0500	0.210	—	< 0.0500	< 0.100	< 0.0500
	7/28/1994	< 0.200	12.6	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.260	—	< 0.0500	< 0.100	< 0.0500
	12/7/1994	< 0.200	3.20	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.250	—	< 0.0500	< 0.100	< 0.0500
	2/22/1995	—	—	—	—	—	—	0.250	—	—	—	—
	5/12/1995	0.600	6.50	0.100	< 0.0050	< 0.0100	< 0.0500	0.840	—	< 0.0500	< 0.100	< 0.0500
	9/15/1995	—	—	—	—	—	—	0.210	—	—	—	—
	10/26/1995	11.4	10.3	0.230	< 0.0100	< 0.0100	< 0.0500	0.590	—	< 0.0500	< 0.100	< 0.0500
	5/21/1996	1.10	—	< 0.100	< 0.0050	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/6/1996	< 0.200	< 1.000	< 0.100	< 0.0100	—	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500
	12/29/1997	< 0.200	< 1.000	0.100	0.0100	< 0.0050	0.0500	—	—	0.0500	0.100	0.0500
	6/1/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/11/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	6/15/1999	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/7/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	3/9/2000	—	—	—	—	—	—	1.16	—	—	—	—
	5/31/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.810	—	< 0.0500	< 0.100	< 0.0500
	8/30/2000	—	—	—	—	—	—	0.810	—	—	—	—
	11/14/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.770	—	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
NP02	12/27/1990	0.300	2.80	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.420	—	< 0.0500	< 0.100	< 0.0500
	9/13/1991	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	3.30	—	< 0.0500	< 0.100	< 0.0500
	9/13/1991	< 0.0003	—	—	—	—	—	—	—	—	—	—
	10/11/1992	—	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	8/24/1993	< 1.000	1.80	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.02	—	< 0.0500	< 0.100	< 0.0500
	7/28/1994	< 0.200	4.00	0.110	< 0.0050	< 0.0100	< 0.0500	2.06	—	—	< 0.100	< 0.0500
	10/26/1995	8.40	4.80	< 0.100	—	< 0.0100	< 0.0500	1.07	—	< 0.0500	< 0.100	< 0.0500
	9/24/1996	< 0.200	< 1.000	< 0.100	< 0.0100	—	—	—	—	< 0.0100	< 0.100	< 0.0500
	9/23/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	9/22/1998	—	< 1.000	—	—	—	—	—	—	—	—	—
	9/17/1999	—	< 1.000	—	—	—	—	—	—	—	—	—
	9/15/2000	—	< 1.000	—	—	—	—	1.07	—	—	—	—
NP03	12/28/1990	—	< 1.000	0.150	< 0.0500	< 0.0100	< 0.0500	0.360	—	< 0.0500	< 0.100	< 0.0500
	9/17/1991	< 0.0003	< 1.000	0.130	< 0.0100	< 0.0100	< 0.0500	0.230	—	< 0.0500	< 0.100	< 0.0500
	9/17/1991	< 0.200	—	—	—	—	—	—	—	—	—	—
	10/7/1992	—	< 1.000	0.100	< 0.0500	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	8/20/1993	< 1.000	< 1.000	0.100	< 0.0050	< 0.0100	< 0.0500	0.340	—	< 0.0500	< 0.100	< 0.0500
	7/27/1994	< 0.200	1.60	0.110	< 0.0050	< 0.0100	< 0.0500	0.580	—	< 0.0500	< 0.100	< 0.0500
	10/26/1995	2.10	3.00	0.120	—	< 0.0100	0.0500	42.3	—	< 0.0500	< 0.0100	< 0.0500
	9/23/1996	< 0.200	1.50	< 0.100	< 0.0100	< 0.0100	—	—	—	< 0.0500	< 0.100	< 0.0500
	9/23/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	9/22/1998	—	< 1.000	—	—	—	—	—	—	—	—	—
	9/17/1999	—	< 1.000	—	—	—	—	—	—	—	—	—
9/19/2000	—	< 1.000	—	—	—	—	0.960	—	—	—	—	
NP04	12/27/1990	< 0.200	4.40	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.220	—	< 0.0500	< 0.100	< 0.0500
	9/17/1991	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.340	—	< 0.0500	< 0.100	< 0.0500
	9/17/1991	< 0.0003	—	—	—	—	—	—	—	—	—	—
	10/7/1992	—	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
NP04	8/20/1993	< 1.000	4.90	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.170	—	< 0.0500	< 0.100	< 0.0500
	7/27/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.160	—	< 0.0500	< 0.100	< 0.0500
	10/26/1995	0.400	3.30	< 0.100	—	< 0.0100	< 0.0500	0.480	—	< 0.0500	< 0.100	< 0.0500
	9/23/1996	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	—	—	—	< 0.0500	< 0.100	< 0.0500
	9/24/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	9/23/1998	—	4.30	—	—	—	—	—	—	—	—	—
	9/22/1999	—	89.5	0.100	—	0.0070	0.0500	—	0.240	0.0500	0.100	0.0500
	9/19/2000	—	1.30	—	—	—	—	0.110	—	—	—	—
NP05	12/27/1990	< 0.200	2.00	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.210	—	< 0.0500	< 0.100	< 0.0500
	9/17/1991	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.330	—	< 0.0500	< 0.100	< 0.0500
	9/17/1991	< 0.0003	—	—	—	—	—	—	—	—	—	—
	10/7/1992	—	< 1.000	0.100	< 0.0500	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	8/20/1993	< 1.000	4.90	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.570	—	< 0.0500	< 0.100	< 0.0500
	7/27/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.560	—	< 0.0500	< 0.100	< 0.0500
	10/26/1995	< 0.200	< 1.000	< 0.100	—	< 0.0100	< 0.0500	0.890	—	< 0.0500	< 0.100	< 0.0500
	9/24/1996	< 0.200	< 1.000	0.230	< 0.0100	< 0.0100	—	—	—	< 0.0500	< 0.100	< 0.0500
	9/24/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	9/23/1998	—	< 1.000	—	—	—	—	—	—	—	—	—
9/22/1999	—	—	0.100	—	0.0050	0.0500	—	0.0400	0.0500	0.100	0.0500	
9/19/2000	—	2.50	—	—	—	—	0.820	—	—	—	—	
NS-1	3/31/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	0.800	0.540	< 0.0500	< 0.100	< 0.0500
NS-2	4/1/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	0.500	220	< 0.0500	< 0.100	< 0.0500
	9/13/1995	—	—	—	—	—	—	0.560	—	—	—	—
NS-3	1/27/1994	—	—	< 0.100	—	< 0.0100	< 0.0500	0.430	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/1/1995	—	—	—	—	—	—	0.510	—	—	—	—
NS-4	2/17/1994	—	—	0.120	—	< 0.0100	< 0.0500	1.14	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/1/1995	—	—	—	—	—	—	0.540	—	—	—	—

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
NS-5	2/17/1994	—	—	< 0.100	—	< 0.0100	< 0.0500	0.310	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/13/1995	—	—	—	—	—	—	0.610	—	—	—	—
NS-6	2/17/1994	—	—	0.110	—	< 0.0100	< 0.0500	0.260	< 0.0500	< 0.0500	< 0.100	< 0.0500
	9/13/1995	—	—	—	—	—	—	0.420	—	—	—	—
P-1	5/17/1984	0.100	—	—	—	—	—	—	—	—	—	—
	1/2/1991	< 0.200	3.00	< 0.100	< 0.100	< 0.0100	< 0.0500	0.170	—	< 0.0500	< 0.100	< 0.0500
	8/3/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	5.79	< 0.0500	< 0.100	< 0.0500
P-2	5/17/1984	0.800	—	—	—	—	—	—	—	—	—	—
P-3	5/17/1984	0.400	—	—	—	—	—	—	—	—	—	—
	12/28/1990	< 0.200	1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	1.88	—	< 0.0500	< 0.100	< 0.0500
	9/18/1991	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	2.00	—	< 0.0500	< 0.100	< 0.0500
	10/6/1992	—	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	8/25/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	2.41	—	< 0.0500	< 0.100	< 0.0500
	7/29/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	2.53	—	< 0.0500	< 0.100	< 0.0500
	11/2/1995	< 0.200	1.10	< 0.100	< 0.0100	< 0.0100	< 0.0500	2.41	—	< 0.0500	< 0.100	< 0.0500
	9/19/1996	6.30	—	< 0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/14/1998	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/12/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/20/2000	< 0.200	—	—	< 0.0100	< 0.0100	< 0.0500	1.52	—	—	—	< 0.0500
P-6	12/28/1990	< 0.200	1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.680	—	< 0.0500	< 0.100	< 0.0500
	9/18/1991	—	—	—	—	—	—	< 0.0100	—	—	—	—
	10/11/1992	—	1.40	0.100	< 0.0500	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	8/25/1993	< 1.000	2.20	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.960	—	< 0.0500	< 0.100	< 0.0500
	7/29/1994	< 0.200	1.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.80	—	< 0.0500	< 0.100	< 0.0500
	11/1/1995	4.70	5.20	< 0.100	< 0.0100	< 0.0100	< 0.0500	1.39	—	< 0.0500	< 0.100	< 0.0500
	9/19/1996	0.900	—	0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/14/1998	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/12/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
P-6	9/20/2000	< 0.200	—	—	< 0.0100	< 0.0100	< 0.0500	5.71	—	—	—	< 0.0500
P-7	1/2/1991	< 0.200	1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	1.57	—	< 0.0500	< 0.100	< 0.0500
P-8A	12/28/1990	< 0.200	< 1.000	< 1.000	< 0.0500	< 0.0100	< 0.0500	3.40	—	< 0.0500	< 0.100	< 0.0500
	9/18/1991	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	5.10	—	< 0.0500	< 0.100	< 0.0500
	10/11/1992	—	1.10	0.100	< 0.0500	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	8/25/1993	< 1.000	1.20	< 0.100	< 0.0050	< 0.0100	< 0.0500	3.27	—	< 0.0500	< 0.100	< 0.0500
	7/30/1994	< 0.200	3.40	< 0.100	< 0.0050	< 0.0100	< 0.0500	3.59	—	< 0.0500	< 0.100	< 0.0500
	11/2/1995	4.00	3.10	< 0.100	< 0.0100	< 0.0100	< 0.0500	2.81	—	< 0.0500	< 0.100	< 0.0500
	9/18/1996	0.800	—	< 0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/10/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/15/1998	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/14/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/20/2000	< 0.200	—	—	< 0.0100	< 0.0100	< 0.0500	2.33	—	—	—	< 0.0500
P-9	1/2/1991	< 0.200	3.00	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.780	—	< 0.0500	< 0.100	< 0.0500
	9/18/1991	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.980	—	0.0600	< 0.100	< 0.0500
	10/13/1992	—	—	< 0.100	—	< 0.0100	< 0.0500	—	0.0500	0.0900	< 0.100	< 0.0500
	8/31/1993	< 1.000	5.60	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.19	—	< 0.0500	< 0.100	< 0.0500
	7/30/1994	< 0.200	2.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.62	—	< 0.0500	< 0.100	< 0.0500
	11/3/1995	< 0.200	5.80	< 0.100	< 0.0100	< 0.0100	< 0.0500	1.44	—	< 0.0500	< 0.100	< 0.0500
	9/18/1996	0.600	—	< 0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/10/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/15/1998	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/15/1999	< 0.200	1.30	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
9/20/2000	< 0.200	—	—	< 0.0100	< 0.0100	< 0.0500	1.11	—	—	—	0.0500	
P-10	1/2/1991	< 0.200	2.00	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.0400	—	< 0.0500	< 0.100	< 0.0500
	9/18/1991	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.410	—	0.0800	< 0.100	< 0.0500
	10/13/1992	—	—	< 0.100	0.440	< 0.0100	< 0.0500	—	0.140	< 0.0500	< 0.100	< 0.0500
	8/31/1993	< 1.000	11.3	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.210	—	< 0.0500	—	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
P-10	7/31/1994	< 0.200	4.30	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.240	—	< 0.0500	< 0.100	< 0.0500
	11/3/1995	3.40	4.70	< 0.100	< 0.0100	< 0.0100	1.56	0.470	—	< 0.0500	< 0.100	0.870
	9/18/1996	< 0.200	—	< 0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/10/1997	< 0.200	2.80	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/15/1998	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/15/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/20/2000	< 0.200	—	—	< 0.0100	< 0.0100	< 0.0500	0.410	—	—	—	0.0500
P-11	1/2/1991	< 0.200	2.00	—	< 0.0500	< 0.0100	< 0.0500	1.59	—	< 0.0500	< 0.100	< 0.0500
	9/18/1991	< 0.200	1.000	< 0.100	< 0.0100	< 0.0100	0.100	1.90	—	0.0500	< 0.100	0.0900
	10/13/1992	—	—	< 0.100	0.450	< 0.0100	< 0.0500	—	0.0500	0.150	< 0.100	< 0.0500
	8/25/1993	< 1.000	2.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.330	—	< 0.0500	< 0.100	< 0.0500
	7/30/1994	< 0.200	1.30	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.68	—	< 0.0500	< 0.100	< 0.0500
	11/3/1995	1.80	6.60	< 0.100	< 0.0100	< 0.0100	< 0.0500	1.66	—	< 0.0500	< 0.100	< 0.0500
	9/18/1996	< 0.200	—	< 0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/10/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/15/1998	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/15/1999	< 0.200	2.00	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
9/20/2000	< 0.200	—	—	< 0.0100	< 0.0100	< 0.0500	1.95	—	—	—	0.0500	
P-12	3/6/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	0.190	0.260	< 0.0500	< 0.100	< 0.0500
P-13	8/3/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/5/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	< 0.0500	< 0.0500	< 0.100	< 0.0500
P-14	7/7/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	0.450	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/6/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	0.410	0.220	< 0.0500	< 0.100	< 0.0500
P-15	7/10/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	0.0500	< 0.0500	< 0.100	< 0.0500
	3/4/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	0.250	< 0.0500	< 0.0500	< 0.100	< 0.0500
P-16	7/12/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	5.55	0.220	< 0.0500	< 0.100	< 0.0500
	3/4/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	< 0.0500	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
P-17	7/20/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	0.360	< 0.0500	< 0.0500	< 0.100	< 0.0500
	3/4/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	0.500	< 0.0500	< 0.0500	< 0.100	< 0.0500
P-18	7/24/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	3.75	0.0900	< 0.0500	< 0.100	< 0.0500
	3/4/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	1.51	< 0.0500	< 0.0500	< 0.100	< 0.0500
P-19	7/25/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	4.02	1.28	< 0.0500	< 0.100	< 0.0500
	3/4/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	1.96	0.0500	< 0.0500	< 0.100	< 0.0500
P-20	7/25/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	1.29	0.0600	< 0.0500	< 0.100	< 0.0500
	2/27/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	1.10	< 0.0500	< 0.0500	< 0.100	0.0500
P-21	7/25/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	3.60	0.0500	< 0.0500	< 0.100	< 0.0500
	2/27/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	1.46	0.190	< 0.0500	< 0.100	< 0.0500
RPI-5A	10/15/1979	0.100	—	0.140	—	0.0100	0.0300	—	0.970	—	0.0700	0.430
	12/3/1980	1.10	—	—	—	—	—	—	—	—	—	—
	9/15/1981	—	—	0.600	—	0.0070	< 0.0100	—	13.0	0.0800	< 0.100	0.0900
	10/8/1982	—	—	—	—	0.0200	0.0200	—	36.0	—	< 0.100	0.200
	8/31/1983	—	—	—	—	0.0100	0.0270	—	39.0	—	< 0.0100	0.190
	10/23/1985	—	—	—	—	< 0.0100	0.130	—	55.0	—	0.0200	0.0600
	10/16/1986	—	—	—	—	< 0.0100	< 0.0500	—	59.0	—	< 0.0200	0.0700
	10/21/1987	—	—	—	—	0.0100	0.120	—	42.1	—	< 0.0200	0.0800
	9/29/1988	—	—	—	—	0.0150	0.160	—	46.3	0.150	< 0.100	0.280
	10/12/1989	—	—	< 0.100	—	0.0110	0.305	—	38.2	0.104	< 0.100	0.176
RPI-7A	11/28/1989	—	0	—	< 0.0100	< 0.0050	< 0.0100	—	—	—	—	< 0.0500
	6/27/1990	—	—	—	—	—	—	0.840	—	—	—	—
	9/14/1990	—	—	—	—	—	—	0.470	—	—	—	—
	12/10/1990	< 0.200	< 1.000	—	< 0.0100	< 0.0100	< 0.0500	0.480	—	< 0.0500	< 0.100	< 0.0500
	3/5/1991	—	—	—	—	—	—	0.420	—	—	—	—
	6/18/1991	—	—	—	—	—	—	0.180	—	—	—	—
	8/6/1991	—	—	—	—	—	—	0.230	—	—	—	—

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-7A	11/7/1991	—	—	—	—	—	—	< 0.0100	—	—	—	—
	2/4/1992	0.800	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/18/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0100	< 0.100	< 0.0500
	8/4/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	12/9/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	2/17/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/12/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	8/2/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	10/6/1993	< 1.000	6.30	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/2/1994	< 0.200	7.80	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	6/17/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	10/19/1994	< 0.200	3.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.200	—	< 0.0500	< 0.100	< 0.0500
	2/10/1995	—	—	—	—	—	—	< 0.100	—	—	—	—
	5/5/1995	—	—	—	—	—	—	0.640	—	—	—	—
	8/16/1995	—	—	—	—	—	—	0.200	—	—	—	—
	11/30/1995	—	—	—	—	—	—	0.130	—	—	—	—
	9/19/1996	4.30	—	< 0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
RPI-8A	11/28/1989	—	0	—	< 0.0100	< 0.0050	< 0.0100	—	—	—	—	< 0.0500
	6/27/1990	—	—	—	—	—	—	0.940	—	—	—	—
	9/14/1990	—	—	—	—	—	—	0.550	—	—	—	—
	12/11/1990	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.570	—	< 0.0500	< 0.100	< 0.0500
	3/5/1991	—	—	—	—	—	—	0.650	—	—	—	—
	6/18/1991	—	—	—	—	—	—	0.710	—	—	—	—
	8/6/1991	—	—	—	—	—	—	0.550	—	—	—	—
	11/7/1991	—	—	—	—	—	—	< 0.0100	—	—	—	—
	2/6/1992	< 0.200	2.30	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/18/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0100	< 1.000	< 0.0500
	8/3/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	12/9/1992	—	—	—	—	—	—	< 0.100	—	—	—	—

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-8A	3/28/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/10/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	8/2/1993	—	—	—	—	—	—	0.600	—	—	—	—
	10/7/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/2/1994	< 0.200	10.9	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.100	—	< 0.0500	< 0.100	< 0.0500
	6/17/1994	< 0.200	3.20	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/18/1994	< 0.200	9.80	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.110	—	< 0.0500	< 0.100	< 0.0500
	10/19/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.58	—	< 0.0500	< 0.100	< 0.0500
	2/10/1995	—	—	—	—	—	—	0.290	—	—	—	—
	5/5/1995	—	—	—	—	—	—	0.910	—	—	—	—
	8/22/1995	—	—	—	—	—	—	0.670	—	—	—	—
	11/30/1995	—	—	—	—	—	—	0.290	—	—	—	—
	9/19/1996	3.20	—	< 0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	RPI-9	11/28/1989	—	0	—	< 0.0100	< 0.0050	< 0.0100	—	—	—	—
6/27/1990		—	—	—	—	—	—	0.660	—	—	—	—
9/14/1990		—	—	—	—	—	—	0.540	—	—	—	—
12/11/1990		< 0.0200	1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.630	—	< 0.0500	< 0.100	< 0.0500
3/5/1991		—	—	—	—	—	—	0.560	—	—	—	—
6/19/1991		—	—	—	—	—	—	0.0300	—	—	—	—
8/6/1991		—	—	—	—	—	—	0.390	—	—	—	—
11/7/1991		—	—	—	—	—	—	< 0.0100	—	—	—	—
2/6/1992		< 0.200	5.90	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
8/3/1992		—	—	—	—	—	—	< 0.100	—	—	—	—
12/9/1992		—	—	—	—	—	—	< 0.100	—	—	—	—
2/17/1993		< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
5/10/1993		—	—	—	—	—	—	< 0.100	—	—	—	—
8/2/1993		—	—	—	—	—	—	< 0.100	—	—	—	—
10/7/1993	< 1.000	6.80	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.400	—	< 0.0500	< 0.100	< 0.0500	
3/2/1994	< 0.200	7.70	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.380	—	< 0.0500	< 0.100	< 0.0500	

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)	
RPI-9	6/17/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.330	—	< 0.0500	< 0.100	< 0.0500	
	8/17/1994	< 0.200	8.30	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.470	—	< 0.0500	< 0.100	< 0.0500	
	10/19/1994	< 0.200	3.40	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.94	—	< 0.0500	< 0.100	< 0.0500	
	2/10/1995	—	—	—	—	—	—	0.350	—	—	—	—	
	8/22/1995	—	—	—	—	—	—	0.750	—	—	—	—	
	11/30/1995	—	—	—	—	—	—	0.380	—	—	—	—	
	10/15/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500	
	10/14/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500	
	RPI-10	2/25/1992	< 0.200	2.50	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
		5/12/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.600	—	< 0.0100	< 0.100	< 0.0500
8/3/1992		—	—	—	—	—	—	< 0.100	—	—	—	—	
11/16/1992		< 0.200	< 1.000	0.100	< 0.0500	< 0.0100	< 0.0500	1.38	—	< 0.0500	< 0.100	< 0.0500	
2/2/1993		< 0.200	< 1.000	< 0.0100	< 0.0050	< 0.0100	< 0.0500	1.40	—	< 0.0500	< 0.100	< 0.0500	
8/2/1993		—	—	—	—	—	—	0.770	—	—	—	—	
10/6/1993		< 1.000	10.9	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.600	—	< 0.0500	< 0.100	< 0.0500	
6/17/1994		< 0.200	1.30	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.74	—	< 0.0500	< 0.100	< 0.0500	
8/17/1994		< 0.200	3.80	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.58	—	< 0.0500	< 0.100	< 0.0500	
10/19/1994		< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.58	—	< 0.0500	< 0.100	< 0.0500	
2/10/1995		—	—	—	—	—	—	1.77	—	—	—	—	
5/3/1995		0.700	3.00	< 0.100	< 0.0050	< 0.0100	< 0.0500	2.12	—	< 0.0500	< 0.100	< 0.0500	
8/22/1995		—	—	—	—	—	—	1.62	—	—	—	—	
11/7/1995		3.10	2.90	< 0.100	< 0.0100	< 0.0100	< 0.0500	1.77	—	< 0.0500	< 0.100	< 0.0500	
9/19/1996		< 0.200	—	< 0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500	
10/15/1997		< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500	
10/7/1998		< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500	
10/15/1999	< 0.200	< 1.000	< 0.100	< 0.0100	0.0060	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500		
3/9/2000	—	—	—	—	—	—	< 0.100	—	—	—	—		
8/30/2000	—	—	—	—	—	—	0.100	—	—	—	—		
9/27/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.140	—	—	< 0.100	< 0.0500		

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-11	5/19/1992	< 0.200	6.40	0.910	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
RPI-14	9/14/1981	—	—	0.400	—	0.0060	< 0.0100	—	< 0.0500	0.0800	< 0.100	< 0.0300
	9/14/1990	—	—	—	—	—	—	0.390	—	—	—	—
	12/17/1990	< 0.200	< 1.000	< 1.000	< 0.0100	< 0.0100	< 0.0500	0.420	—	< 0.0500	< 0.100	< 0.0500
	3/7/1991	—	—	—	—	—	—	0.330	—	—	—	—
	6/19/1991	—	—	—	—	—	—	0.450	—	—	—	—
	8/6/1991	—	—	—	—	—	—	0.380	—	—	—	—
	11/12/1991	—	—	—	—	—	—	< 0.0100	—	—	—	—
	2/6/1992	< 0.200	< 1.000	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/28/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/4/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	12/9/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	3/23/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/11/1993	—	—	—	—	—	—	0.270	—	—	—	—
	10/7/1993	< 1.000	< 1.000	0.110	< 0.0050	0.0600	< 0.0500	0.100	—	< 0.0500	< 0.100	< 0.0500
	3/3/1994	< 0.200	< 1.000	0.150	< 0.0050	< 0.0100	< 0.0500	0.260	—	< 0.0500	< 0.100	< 0.0500
	6/17/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.270	—	< 0.0500	< 0.100	< 0.0500
	8/24/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.220	—	< 0.0500	< 0.100	< 0.0500
	12/3/1994	< 0.200	2.80	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.230	—	< 0.0500	< 0.100	< 0.0500
	2/22/1995	—	—	—	—	—	—	0.250	—	—	—	—
	5/19/1995	—	—	—	—	—	—	0.880	—	—	—	—
	9/15/1995	—	—	—	—	—	—	0.150	—	—	—	—
	11/30/1995	—	—	—	—	—	—	0.400	—	—	—	—
RPI-16A	2/24/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.280	—	< 0.0500	< 0.100	< 0.0500
	5/12/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.560	—	< 0.0100	< 0.100	< 0.0500
	12/2/1992	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	2/9/1993	< 1.000	< 1.000	0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/11/1993	—	—	—	—	—	—	0.400	—	—	—	—

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-16A	10/8/1993	< 1.000	1.30	< 0.100	< 0.0050	0.0300	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/4/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.380	—	< 0.0500	< 0.100	< 0.0500
	5/13/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.250	—	< 0.0500	< 0.100	< 0.0500
	8/19/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.320	—	< 0.0500	< 0.100	< 0.0500
	10/21/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.190	—	< 0.0500	< 0.100	< 0.0500
	2/18/1995	—	—	—	—	—	—	0.580	—	—	—	—
	5/11/1995	< 0.200	< 1.000	0.100	< 0.0050	< 0.0050	< 0.0500	0.980	—	< 0.0500	< 0.100	< 0.0500
	8/21/1995	—	—	—	—	—	—	0.740	—	—	—	—
	11/9/1995	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.600	—	< 0.0500	< 0.100	< 0.0500
	9/19/1996	< 0.200	—	< 0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/15/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/9/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/13/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/26/2000	< 0.200	—	—	< 0.0100	< 0.0050	< 0.0500	1.11	—	—	—	< 0.0500
RPI-17A	11/28/1989	—	0	—	< 0.0100	< 0.0050	< 0.0100	—	—	—	—	< 0.0500
	2/25/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/13/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/4/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	12/2/1992	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	2/9/1993	< 1.000	< 1.000	< 1.000	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	2/9/1993	—	—	0.110	—	—	—	—	—	—	—	—
	5/11/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	8/4/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	10/8/1993	< 1.000	2.20	< 0.100	< 0.0050	0.0300	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/4/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	6/17/1994	< 0.200	< 1.000	0.280	< 0.0050	< 0.0100	< 0.0500	0.200	—	< 0.0500	< 0.100	< 0.0500
	8/19/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.110	—	< 0.0500	< 0.100	< 0.0500
	10/21/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.150	—	< 0.0500	< 0.100	< 0.0500
2/18/1995	—	—	—	—	—	—	< 0.100	—	—	—	—	

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-17A	5/12/1995	< 0.200	1.40	0.100	< 0.0050	< 0.0100	< 0.0500	0.770	—	< 0.0500	< 0.100	< 0.0500
	8/21/1995	—	—	—	—	—	—	< 0.100	—	—	—	—
	11/9/1995	0.300	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.190	—	< 0.0500	< 0.100	< 0.0500
	9/19/1996	< 0.200	—	< 0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/15/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/9/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/13/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/26/2000	< 0.200	—	—	< 0.0100	< 0.0050	< 0.0500	< 0.100	—	—	—	< 0.0500
RPI-18A	9/14/1981	—	—	0.400	—	< 0.0040	< 0.0100	—	2.80	0.0700	< 0.100	< 0.0300
	11/28/1989	—	—	—	—	< 0.0050	< 0.0100	—	—	—	—	< 0.0500
	2/25/1992	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/13/1992	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/4/1992	—	—	—	—	—	—	0.300	—	—	—	—
	12/2/1992	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/30/1993	< 1.000	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/11/1993	—	—	—	—	—	—	0.140	—	—	—	—
	8/4/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	10/8/1993	< 1.000	—	< 0.100	—	0.0200	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	6/17/1994	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	0.120	—	< 0.0500	< 0.100	< 0.0500
	8/19/1994	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	10/21/1994	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	2/17/1995	—	—	—	—	—	—	< 0.100	—	—	—	—
	5/12/1995	1.30	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.560	—	< 0.0500	< 0.100	< 0.0500
	8/21/1995	—	—	—	—	—	—	0.140	—	—	—	—
	11/8/1995	1.000	1.50	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.500	—	< 0.0500	< 0.100	< 0.0500
	9/19/1996	< 0.200	—	< 0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/15/1997	< 0.200	< 1.000	0.110	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/9/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
10/13/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500	

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-18A	9/26/2000	< 0.200	—	—	< 0.0100	< 0.0050	< 0.0500	< 0.100	—	—	—	< 0.0500
RPI-19B	10/15/1979	0.100	—	0.150	—	0.0100	0.0300	< 0.0500	0.110	0.300	0.0500	0.0100
	8/15/1989	0.100	0	< 0.100	< 0.0100	0.0090	0.0230	—	—	0.0540	< 0.100	< 0.0500
	9/13/1989	0.300	78.0	< 0.100	< 0.0100	< 0.0050	0.0180	—	—	< 0.0500	< 0.100	< 0.0500
	10/9/1989	0.100	0	< 0.100	0.0100	< 0.0050	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500
	2/20/1990	—	—	—	—	—	—	< 0.0500	—	—	—	—
	6/6/1990	< 0.200	0.800	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.130	—	< 0.0500	< 0.100	< 0.0500
	8/24/1990	—	—	—	—	—	—	0.200	—	—	—	—
	11/12/1990	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.0100	—	< 0.0500	< 0.100	< 0.0500
	3/8/1991	—	—	—	—	—	—	0.820	—	—	—	—
	5/9/1991	< 0.0003	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	1.08	—	< 0.0500	< 0.100	< 0.0500
	5/9/1991	< 0.200	—	—	—	—	—	—	—	—	—	—
	8/6/1991	—	—	—	—	—	—	0.620	—	—	—	—
	10/21/1991	< 0.0003	3.80	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.0400	—	< 0.0500	< 0.100	< 0.0500
	10/21/1991	< 0.200	—	—	—	—	—	—	—	—	—	—
	2/4/1992	< 0.200	1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/8/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	1.68	—	< 0.0100	< 0.100	< 0.0500
	8/4/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	12/2/1992	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.100	0.120	< 0.0500	< 0.100	0.0200
	3/23/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/11/1993	—	—	—	—	—	—	0.610	—	—	—	—
	8/19/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.490	—	< 0.0500	< 0.100	< 0.0500
	10/8/1993	< 1.000	1.80	< 0.100	< 0.0050	0.0300	< 0.0500	< 0.100	—	< 0.0500	< 0.100	—
	3/4/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.690	—	< 0.0500	< 0.100	< 0.0500
	6/17/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.01	—	< 0.0500	< 0.100	< 0.0500
	7/27/1994	< 0.200	32.2	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.580	—	< 0.0500	< 0.100	< 0.0500
	12/3/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.360	—	< 0.0500	< 0.100	< 0.0500
	2/22/1995	—	—	—	—	—	—	0.360	—	—	—	—
	5/19/1995	0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.880	—	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-19B	9/13/1995	—	—	—	—	—	—	0.570	—	—	—	—
	10/30/1995	6.90	< 1.000	< 0.100	—	< 0.0100	< 0.0500	0.910	—	< 0.0500	< 0.100	< 0.0500
	11/8/1995	1.20	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.900	—	< 0.0500	< 0.100	< 0.0500
	5/14/1996	1.000	—	< 0.100	< 0.0050	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/13/1996	< 0.200	< 1.000	< 0.100	< 0.0100	—	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500
	12/30/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	6/1/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/11/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	6/15/1999	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/7/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	3/10/2000	—	—	—	—	—	—	0.550	—	—	—	—
	5/31/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.360	—	< 0.0500	< 0.100	< 0.0500
	8/30/2000	—	—	—	—	—	—	0.390	—	—	—	—
	11/14/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.520	—	< 0.0500	< 0.100	< 0.0500
RPI-20A	8/20/1982	0.300	—	—	—	—	—	—	—	—	—	—
	5/17/1984	0.100	—	—	—	—	—	—	—	—	—	—
	5/17/1984	0.500	—	—	—	—	—	—	—	—	—	—
	9/19/1984	0.100	—	—	—	—	—	—	—	—	—	—
	11/14/1984	0.200	—	—	—	—	—	—	—	—	—	—
	11/14/1984	0.100	—	—	—	—	—	—	—	—	—	—
	5/8/1985	0.300	—	—	—	—	—	—	—	—	—	—
	5/8/1985	0.100	—	—	—	—	—	—	—	—	—	—
	11/6/1985	0.200	—	—	—	< 0.0100	< 0.0500	—	< 0.0300	—	< 0.0200	< 0.0400
	3/13/1986	1.30	—	—	—	—	—	—	—	—	—	—
	3/13/1986	0.100	—	—	—	—	—	—	—	—	—	—
	5/14/1986	0.300	—	—	—	—	—	—	—	—	—	—
	9/15/1986	0.100	—	—	—	< 0.0100	< 0.0500	—	0.150	—	< 0.0200	< 0.0500
	11/20/1986	0.100	—	—	—	—	—	—	—	—	—	—
	3/17/1987	0.300	—	—	—	—	—	—	—	—	—	—

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-20A	5/4/1987	0.200	--	--	--	--	--	--	--	--	--	--
	8/17/1987	0.100	--	--	--	--	--	--	--	--	--	--
	11/11/1987	0.100	--	--	--	< 0.0100	0.0700	--	0.100	--	< 0.0200	< 0.0500
	2/23/1988	0.500	--	--	--	--	--	--	--	--	--	--
	5/18/1988	0.100	--	--	--	--	--	--	--	--	--	--
	8/19/1988	2.40	--	--	--	--	--	--	--	--	--	--
	10/18/1988	0.100	--	--	--	0.0140	< 0.0500	--	0.160	0.0900	< 0.100	< 0.0500
	3/15/1989	0.600	--	--	--	--	--	--	--	--	--	--
	8/15/1989	--	0	< 0.100	< 0.0100	0.0060	0.0280	--	--	< 0.0500	< 0.100	< 0.0500
	9/12/1989	0.600	4.00	< 0.100	< 0.0100	0.0170	0.0380	--	--	< 0.0500	< 0.100	< 0.0500
	10/10/1989	0.200	0	< 0.100	0.0500	0.0060	0.0210	--	0.126	< 0.0500	0.100	< 0.0500
	6/7/1990	< 0.200	1.90	< 1.000	< 0.0500	< 0.0100	< 0.0500	0.110	--	< 0.0500	< 0.100	< 0.0500
	8/24/1990	--	--	--	--	--	--	0.0800	--	--	--	--
	11/12/1990	< 0.200	< 1.000	< 0.100	< 0.0500	0.0300	< 0.0500	< 0.0100	--	< 0.0500	< 0.100	< 0.0500
	3/5/1991	--	--	--	--	--	--	0.0600	--	--	--	--
	5/8/1991	< 0.0003	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.0100	--	< 0.0500	< 0.100	< 0.0500
	5/8/1991	< 0.200	--	--	--	--	--	--	--	--	--	--
	8/6/1991	--	--	--	--	--	--	< 0.0100	--	--	--	--
	11/7/1991	< 0.0003	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.0100	--	< 0.0500	< 0.100	< 0.0500
	11/7/1991	< 0.200	--	--	--	--	--	--	--	--	--	--
	2/18/1992	< 0.200	< 1.000	0.220	< 0.0100	0.0100	< 0.0500	< 0.0100	--	< 0.0500	< 0.100	< 0.0500
	2/18/1992	--	3.90	0.230	--	< 0.0100	--	--	--	--	--	--
	5/8/1992	< 0.200	3.10	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.140	--	< 0.0100	< 0.100	< 0.0500
	8/4/1992	--	--	--	--	--	--	< 0.100	--	--	--	--
	11/16/1992	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500
	3/31/1993	< 1.000	7.90	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500
	5/12/1993	--	--	--	--	--	--	0.100	--	--	--	--
	8/2/1993	--	--	--	--	--	--	< 0.100	--	--	--	--
	10/6/1993	< 1.000	4.80	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-20A	3/2/1994	< 0.0200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/2/1994	< 0.200	—	—	—	—	—	—	—	—	—	—
	6/17/1994	< 0.200	2.80	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/18/1994	< 0.200	3.40	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	10/21/1994	< 0.200	< 1.000	—	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	2/10/1995	—	—	—	—	—	—	< 0.100	—	—	—	—
	8/22/1995	—	—	—	—	—	—	0.140	—	—	—	—
	11/8/1995	1.30	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.230	—	< 0.0500	< 0.100	< 0.0500
	5/13/1996	< 0.200	—	< 0.100	< 0.0050	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/12/1996	< 0.200	< 1.000	< 0.100	< 0.0100	—	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500
	12/30/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	6/1/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/11/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	6/16/1999	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/7/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	3/10/2000	—	—	—	—	—	—	< 0.100	—	—	—	—
	5/31/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.110	—	< 0.0500	< 0.100	< 0.0500
8/30/2000	—	—	—	—	—	—	< 0.100	—	—	—	—	
11/14/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500	
RPI-21B	5/17/1984	1.60	—	—	—	—	—	—	—	—	—	—
	9/19/1984	0.100	—	—	—	—	—	—	—	—	—	—
	11/14/1984	0.300	—	—	—	—	—	—	—	—	—	—
	12/5/1984	—	—	—	—	—	—	—	—	—	—	—
	3/21/1985	0.200	—	—	—	—	—	—	—	—	—	—
	5/8/1985	0.300	—	—	—	—	—	—	—	—	—	—
	8/20/1985	0.100	—	—	—	—	—	—	—	—	—	—
	11/6/1985	0.300	—	—	—	0.0400	< 0.0500	—	< 0.0300	—	0.0600	< 0.0400
	3/12/1986	0.200	—	—	—	—	—	—	—	—	—	—
	5/14/1986	0.600	—	—	—	—	—	—	—	—	—	—

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-21B	9/15/1986	0.100	--	--	--	< 0.0100	< 0.0500	--	0.0500	--	< 0.0200	< 0.0500
	11/21/1986	0.100	--	--	--	--	--	--	--	--	--	--
	3/17/1987	0.100	--	--	--	--	--	--	--	--	--	--
	5/4/1987	0.100	--	--	--	--	--	--	--	--	--	--
	8/17/1987	0.100	--	--	--	--	--	--	--	--	--	--
	11/11/1987	0.200	--	--	--	< 0.0100	< 0.0500	--	< 0.0500	--	< 0.0200	< 0.0500
	2/23/1988	0.200	--	--	--	--	--	--	--	--	--	--
	5/18/1988	0.200	--	--	--	--	--	--	--	--	--	--
	8/19/1988	1.50	--	--	--	--	--	--	--	--	--	--
	10/18/1988	0.100	--	--	--	< 0.0100	< 0.0500	--	< 0.0500	0.0600	< 0.100	< 0.0500
	3/15/1989	1.000	--	--	--	--	--	--	--	--	--	--
	6/27/1989	0.200	--	--	--	--	--	--	--	--	--	--
	8/15/1989	0.100	0	< 0.100	< 0.0100	< 0.0050	0.0210	--	--	< 0.0500	< 0.100	< 0.0500
	9/12/1989	0.600	0	< 0.100	< 0.0100	< 0.0050	< 0.0100	--	--	< 0.0500	< 0.100	< 0.0500
	10/10/1989	0.500	21.7	< 0.100	< 0.0100	< 0.0050	< 0.0100	--	< 0.0500	0.0570	< 0.100	< 0.0500
	2/19/1990	--	--	--	--	--	--	0.420	--	--	--	--
	6/5/1990	< 0.200	0.800	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.460	--	< 0.0500	< 0.100	< 0.0500
	8/24/1990	--	--	--	--	--	--	0.500	--	--	--	--
	11/13/1990	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.0100	--	< 0.0500	< 0.100	< 0.0500
	3/5/1991	--	--	--	--	--	--	0.450	--	--	--	--
	5/8/1991	< 0.0003	2.60	< 0.100	< 0.0500	< 0.0100	< 0.0500	0.480	--	< 0.0500	< 0.100	< 0.0500
	5/8/1991	< 0.200	--	--	--	--	--	--	--	--	--	--
	8/6/1991	--	--	--	--	--	--	0.230	--	--	--	--
	11/7/1991	< 0.0003	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.0100	--	< 0.0500	< 0.100	< 0.0500
	11/7/1991	< 0.200	--	--	--	--	--	--	--	--	--	--
	2/4/1992	< 0.200	1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500
	5/8/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.200	--	< 0.0100	< 0.100	< 0.0500
	8/3/1992	--	--	--	--	--	--	0.200	--	--	--	--
	11/16/1992	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.100	--	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-21B	2/17/1993	< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/2/1993	—	—	—	—	—	—	0.640	—	—	—	—
	10/7/1993	< 1.000	4.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/3/1994	< 0.200	2.50	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.970	—	< 0.0500	< 0.100	< 0.0500
	6/17/1994	< 0.200	45.9	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.310	—	< 0.0500	< 0.100	< 0.0500
	8/17/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.230	—	< 0.0500	< 0.100	< 0.0500
	10/19/1994	< 0.200	19.0	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.260	—	< 0.0500	< 0.100	< 0.0500
	2/10/1995	—	—	—	—	—	—	0.220	—	—	—	—
	8/22/1995	—	—	—	—	—	—	0.420	—	—	—	—
	11/8/1995	< 0.200	3.10	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.540	—	< 0.0500	< 0.100	< 0.0500
	5/13/1996	< 0.200	—	< 0.100	< 0.0050	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/12/1996	< 0.200	< 1.000	< 0.100	< 0.0100	—	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500
	12/30/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	6/1/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/11/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	6/16/1999	< 0.200	< 1.000	< 0.100	< 0.100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/7/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	3/10/2000	—	—	—	—	—	—	0.400	—	—	—	—
	5/31/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.450	—	< 0.0500	< 0.100	< 0.0500
	8/30/2000	—	—	—	—	—	—	0.390	—	—	—	—
11/14/2000	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	0.460	—	< 0.0500	< 0.100	< 0.0500	
RPI-22	10/15/1979	1.20	—	0.0700	—	0.0100	0.0400	1.50	0.0600	0.400	0.0600	0.0100
	11/17/1981	—	—	< 0.100	—	< 0.0200	< 0.0100	—	0.0800	0.120	< 0.100	0.0700
	8/6/1991	—	—	—	—	—	—	0.0400	—	—	—	—
	3/4/1992	< 0.200	5.70	0.180	< 0.0500	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/13/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/3/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	11/16/1992	< 0.200	< 1.000	< 0.100	< 0.0500	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
2/2/1993	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.960	—	< 0.0500	< 0.100	< 0.0500	

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-22	8/2/1993	—	—	—	—	—	—	0.640	—	—	—	—
	10/6/1993	< 1.000	3.90	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.100	—	< 0.0500	< 0.100	< 0.0500
	10/6/1993	—	—	—	—	—	—	0.500	—	—	—	—
	3/2/1994	< 0.200	4.40	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.100	—	< 0.0500	< 0.100	< 0.0500
	6/17/1994	< 0.200	1.90	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/24/1994	< 0.200	3.80	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.650	—	< 0.0500	< 0.100	< 0.0500
	10/19/1994	< 0.200	19.0	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.320	—	< 0.0500	< 0.100	< 0.0500
	2/24/1995	—	—	—	—	—	—	0.300	—	—	—	—
	5/3/1995	< 0.200	1.90	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.33	—	< 0.0500	< 0.100	< 0.0500
	8/27/1995	—	—	—	—	—	—	0.590	—	—	—	—
	11/8/1995	0.900	1.40	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.750	—	< 0.0500	< 0.100	< 0.0500
	9/19/1996	0.600	—	< 0.100	< 0.100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/15/1997	< 0.200	< 0.100	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/7/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/13/1999	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/27/2000	< 0.200	—	—	< 0.0100	< 0.0050	< 0.0500	0.600	—	—	—	< 0.0500
RPI-24	12/28/1990	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	0.700	—	< 0.0500	< 0.100	< 0.0500
	9/17/1991	< 0.0003	—	< 0.100	—	< 0.0100	< 0.0500	0.910	—	< 0.0500	< 0.100	< 0.0500
	9/17/1991	< 0.200	—	—	—	—	—	—	—	—	—	—
	10/7/1992	—	—	< 0.100	—	—	—	—	—	< 0.0500	< 0.100	< 0.0500
	8/20/1993	< 1.000	—	< 0.100	—	< 0.0100	< 0.0500	0.620	—	< 0.0500	< 0.100	< 0.0500
	7/28/1994	< 0.200	—	< 0.100	—	< 0.0500	< 0.0500	0.630	—	< 0.0500	< 0.100	< 0.0500
	10/26/1995	0.400	2.90	< 0.100	—	< 0.0100	< 0.0500	1.30	—	< 0.0500	< 0.100	< 0.0500
	9/24/1996	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	—	—	—	< 0.0500	< 0.100	< 0.0500
	9/26/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	9/23/1998	—	< 1.000	—	—	—	—	—	—	—	—	—
	9/17/1999	—	< 1.000	—	—	—	—	—	—	—	—	—
9/19/2000	—	1.000	—	—	—	—	1.34	—	—	—	—	

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-32	10/15/1979	0.400	--	0.0800	--	0.0100	0.0100	< 0.0500	0.0100	0.0700	0.0400	0.0100
	9/1/1983	--	--	--	--	< 0.0040	< 0.0050	--	1.20	--	< 0.0100	0.0620
	12/4/1984	--	--	--	--	--	< 0.0500	--	< 0.0300	--	0.0200	< 0.0400
	10/24/1985	--	--	--	--	< 0.0100	< 0.0500	--	< 0.0300	--	< 0.0200	< 0.0400
	10/17/1986	--	--	--	--	< 0.0100	< 0.0500	--	< 0.0500	--	< 0.0200	< 0.0500
	11/4/1987	--	--	--	--	< 0.0100	< 0.0500	--	< 0.0500	--	< 0.0200	< 0.0500
	9/29/1988	--	--	--	--	< 0.0100	< 0.0500	--	< 0.0500	< 0.0500	< 0.100	< 0.0500
	10/16/1989	--	--	< 0.100	--	< 0.0050	< 0.0100	--	< 0.0500	< 0.0500	< 0.100	< 0.0500
	RPI-42A	10/15/1979	0.400	--	0.360	--	0.0100	0.0200	--	0.0500	0.150	0.0900
8/19/1982		2.90	--	--	--	--	--	--	--	--	--	--
10/28/1982		0.400	--	--	--	< 0.0200	< 0.0100	--	0.240	--	< 0.100	0.0700
9/1/1983		0.800	--	--	--	< 0.0040	< 0.0050	--	0.600	--	< 0.0100	0.0470
12/22/1983		0.700	--	--	--	--	--	--	--	--	--	--
5/22/1984		0.700	--	--	--	--	--	--	--	--	--	--
9/20/1984		0.400	--	--	--	--	--	--	--	--	--	--
11/15/1984		0.100	--	--	--	--	--	--	--	--	--	--
3/22/1985		0.700	--	--	--	--	--	--	--	--	--	--
5/9/1985		0.700	--	--	--	--	--	--	--	--	--	--
8/20/1985		0.600	--	--	--	--	--	--	--	--	--	--
11/19/1985		3.30	--	--	--	< 0.0100	< 0.0500	--	0.200	--	< 0.0200	< 0.0400
3/17/1986		1.000	--	--	--	--	--	--	--	--	--	--
5/20/1986		0.100	--	--	--	--	--	--	--	--	--	--
9/30/1986		0.500	--	--	--	< 0.0100	< 0.0500	--	< 0.0500	--	< 0.0200	< 0.0500
12/3/1986		0.400	--	--	--	--	--	--	--	--	--	--
3/30/1987		0.300	--	--	--	--	--	--	--	--	--	--
5/7/1987		0.100	--	--	--	--	--	--	--	--	--	--
8/19/1987		0.800	--	--	--	--	--	--	--	--	--	--
11/12/1987		0.500	--	--	--	< 0.0100	< 0.0500	--	2.00	--	0.0300	< 0.0500
2/24/1988	0.800	--	--	--	--	--	--	--	--	--	--	

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-42A	5/24/1988	0.200	—	—	—	—	—	—	—	—	—	—
	8/24/1988	0.400	—	—	—	—	—	—	—	—	—	—
	3/20/1989	0.900	—	—	—	—	—	—	—	—	—	—
	6/27/1989	0.500	—	—	—	—	—	—	—	—	—	—
	8/17/1989	0.200	609	0.170	< 0.0100	0.0090	0.0250	—	—	< 0.0500	< 0.100	0.0660
	9/15/1989	0.200	715	0.200	< 0.0100	< 0.0050	0.0270	—	—	< 0.0500	< 0.100	0.0950
	10/11/1989	—	597	0.100	0.0800	0.0070	0.0240	—	1.90	< 0.0500	< 0.100	< 0.0500
	2/20/1990	—	—	—	—	—	—	0.150	—	—	—	—
	6/8/1990	< 0.200	2.30	0.180	< 0.0500	< 0.0100	< 0.0500	0.840	—	< 0.0500	< 0.100	< 0.0500
	9/12/1990	—	—	—	—	—	—	0.0800	—	—	—	—
	11/16/1990	< 0.200	< 1.000	0.180	< 0.0100	< 0.0100	< 0.0500	0.0900	—	< 0.0500	< 0.100	< 0.0500
	3/7/1991	—	—	—	—	—	—	< 0.0100	—	—	—	—
	6/28/1991	< 0.200	< 1.000	0.160	< 0.0500	< 0.0100	< 0.0500	< 0.0100	—	< 0.0500	< 0.100	< 0.0500
	6/28/1991	< 0.0003	—	—	—	—	—	—	—	—	—	—
	11/12/1991	< 0.200	2.00	0.210	< 0.0100	< 0.0100	< 0.0500	< 0.0100	—	< 0.0500	< 0.100	< 0.0500
	11/12/1991	< 0.0003	—	—	—	—	—	—	—	—	—	—
	2/24/1992	< 0.200	< 1.000	0.170	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/19/1992	< 0.200	1.60	0.150	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/9/1992	—	—	—	—	—	—	< 0.100	—	—	—	—
	12/7/1992	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/29/1993	< 1.000	< 1.000	0.170	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/15/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	8/9/1993	—	—	—	—	—	—	< 0.100	—	—	—	—
	10/12/1993	< 1.000	2.40	0.120	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/8/1994	< 0.0200	13.9	0.110	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	3/8/1994	< 0.200	—	—	—	—	—	—	—	—	—	—
	5/17/1994	< 0.200	4.40	0.120	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/25/1994	< 0.200	5.40	0.120	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	12/7/1994	< 0.200	3.90	0.140	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
RPI-42A	2/24/1995	—	—	—	—	—	—	< 0.100	—	—	—	—
	6/6/1995	1.000	2.70	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.120	—	< 0.0500	< 0.100	< 0.0500
	9/15/1995	—	—	—	—	—	—	< 0.100	—	—	—	—
	11/15/1995	0.700	< 1.000	0.0120	< 0.0100	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	5/29/1996	0.900	—	< 0.100	< 0.0050	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/20/1996	< 0.200	< 1.000	0.100	< 0.0100	—	< 0.0100	—	—	< 0.0500	< 0.100	< 0.0500
	SDP-1	12/13/1999	4.40	< 1.000	0.160	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100
SDP-2	12/13/1999	< 0.200	< 1.000	< 0.100	—	< 0.0050	< 0.0500	—	< 0.0500	< 0.0500	< 0.100	< 0.0500
SDP-3	12/13/1999	< 0.200	< 1.000	< 0.100	—	< 0.0050	< 0.0500	—	0.540	< 0.0500	< 0.100	< 0.0500
SP03	12/27/1990	< 0.200	3.70	< 0.100	< 0.0500	< 0.0100	< 0.0500	1.54	—	< 0.0500	< 0.100	< 0.0500
	9/13/1991	< 0.200	2.00	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.530	—	< 0.0500	< 0.100	< 0.0500
	10/6/1992	—	1.10	0.100	< 0.0500	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	8/19/1993	< 1.000	1.10	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.75	—	< 0.0500	< 0.100	< 0.0500
	7/27/1994	< 0.200	1.70	0.110	< 0.0050	< 0.0100	< 0.0500	2.93	—	< 0.0500	< 0.100	< 0.0500
	10/25/1995	< 0.200	3.20	0.120	—	< 0.0100	< 0.0500	3.92	—	< 0.0500	< 0.100	< 0.0500
	9/24/1996	0.600	< 1.000	< 0.100	< 0.0100	< 0.0100	—	—	—	< 0.0500	< 0.100	< 0.0500
	9/23/1997	—	< 1.000	—	—	—	—	—	—	—	—	—
	9/21/1998	—	2.60	—	—	—	—	—	—	—	—	—
	9/15/1999	—	1.60	—	—	—	—	—	—	—	—	—
9/14/2000	—	< 1.000	—	—	—	—	1.16	—	—	—	—	
SP04	12/27/1990	< 0.200	1.10	0.110	< 0.0500	< 0.0100	< 0.0500	12.0	—	< 0.0500	< 0.100	< 0.0500
	9/13/1991	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	8.30	—	< 0.0500	< 0.100	< 0.0500
	10/6/1992	—	< 1.000	0.100	< 0.0500	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	8/19/1993	< 1.000	1.30	< 0.100	< 0.0050	< 0.0100	< 0.0500	3.13	—	< 0.0500	< 0.100	< 0.0500
	7/27/1994	< 0.200	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	3.48	—	< 0.0500	< 0.100	< 0.0500
	10/26/1995	0.700	< 1.000	< 0.100	—	< 0.0100	< 0.0500	3.34	—	< 0.0500	< 0.100	< 0.0500
	9/24/1996	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	—	—	—	< 0.0500	< 0.100	< 0.0500
	9/23/1997	—	< 1.000	—	—	—	—	—	—	—	—	—

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
SP04	9/21/1998	—	< 1.000	—	—	—	—	—	—	—	—	—
	9/15/1999	—	< 1.000	—	—	—	—	—	—	—	—	—
	9/14/2000	—	< 1.000	—	—	—	—	0.810	—	—	—	—
TW3-1	4/5/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	11.2	< 0.0500	< 0.0500	< 0.100	< 0.0500
TW4-1B	4/29/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	303	< 0.0500	< 0.100	< 0.0500
	2/29/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	0.170	1.97	< 0.0500	< 0.100	0.240
TW4-2B	6/16/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	0.240	4.82	< 0.0500	< 0.100	< 0.0500
	2/28/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	0.980	1.09	< 0.0500	< 0.100	< 0.0500
TW4-3B	8/2/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	0.350	3.75	< 0.0500	< 0.100	< 0.0500
TW4-4B	4/30/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	2.15	< 0.0500	< 0.100	0.0800
	2/29/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	23.4	< 0.0500	< 0.100	0.0700
TW4-5B	8/2/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	1273	< 0.0500	0.180	1.12
TW4-6B	7/26/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	162	< 0.0500	< 0.100	0.200
	2/28/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	250	< 0.0500	< 0.100	0.190
TW4-8B	8/2/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	285	< 0.0500	< 0.100	< 0.0500
	2/28/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	0.170	104	< 0.0500	< 0.100	< 0.0500
TW4-9B	6/30/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	1.07	< 0.0500	< 0.100	< 0.0500
	2/28/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	2.54	< 0.0500	< 0.0500	< 0.100	< 0.0500
TW4-10B	7/12/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	0.240	< 0.0500	< 0.100	< 0.0500
	2/29/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	1.29	4.56	< 0.0500	< 0.100	< 0.0500
TW4-11B	7/25/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	2.60	185	< 0.0500	< 0.100	< 0.0500
	2/29/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	5.77	29.4	< 0.0500	< 0.100	0.0500
TW5-1B	7/27/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	1.35	10.8	< 0.0500	< 0.100	< 0.0500
	2/28/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	1.26	2.48	< 0.0500	< 0.100	< 0.0500
TW5-2B	3/24/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	180	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
TW5S-1	3/2/1994	—	—	< 0.100	—	< 0.0100	< 0.0500	9.18	< 0.0500	< 0.0500	< 0.100	< 0.0500
TW5S-2	3/2/1994	—	—	0.200	—	< 0.0100	< 0.0500	8.35	< 0.0500	< 0.0500	< 0.100	< 0.0500
TW5S-3	2/14/1994	—	—	< 0.100	—	< 0.0100	< 0.0500	15.9	< 0.0500	< 0.0500	< 0.100	< 0.0500
TW5S-4	2/18/1994	—	—	< 0.100	—	< 0.0100	< 0.0500	4.35	< 0.0500	< 0.0500	< 0.100	< 0.0500
TW5S-5	1/27/1994	—	—	< 0.100	—	< 0.0100	< 0.0500	3.52	< 0.0500	< 0.0500	< 0.100	< 0.0500
	2/28/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	2.76	< 0.0500	< 0.0500	< 0.100	< 0.0500
TWI-1	1/21/1994	—	—	0.190	—	< 0.0100	< 0.0500	0.690	< 0.0500	< 0.0500	< 0.100	< 0.0500
TWI-2	12/17/1993	—	—	0.210	—	< 0.0100	< 0.0500	1.36	0.0900	< 0.0500	< 0.100	< 0.0500
TWI-3	12/17/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	0.710	< 0.0500	< 0.0500	< 0.100	< 0.0500
TWI-4	12/16/1993	—	—	0.200	—	< 0.0100	< 0.0500	0.860	< 0.0500	< 0.0500	< 0.100	< 0.0500
TWI-5	12/17/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	0.910	0.0700	< 0.0500	< 0.100	< 0.0500
TWI-6	1/13/1994	—	—	< 0.100	—	< 0.0100	< 0.0500	0.640	< 0.0500	< 0.0500	< 0.100	< 0.0500
TWI-7	12/21/1993	—	—	0.100	—	< 0.0100	< 0.0500	0.540	< 0.0500	< 0.0500	< 0.100	< 0.0500
TWI-8	12/22/1993	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	< 0.0500	< 0.0500	< 0.100	< 0.0500
TWI-9	1/20/1994	—	—	0.120	—	< 0.0100	< 0.0500	1.18	< 0.0500	< 0.0500	< 0.100	< 0.0500
TWI-10	1/24/1994	—	—	0.230	—	< 0.0100	< 0.0500	1.85	< 0.0500	< 0.0500	< 0.100	< 0.0500
TWI-11	2/9/1994	—	—	< 0.100	—	< 0.0100	< 0.0500	0.120	< 0.0500	< 0.0500	< 0.100	< 0.0500
TWI-12	7/7/1995	—	—	0.140	—	< 0.0100	< 0.0500	1.79	0.150	< 0.0500	< 0.100	< 0.0500
TWI-13	6/30/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	1.25	0.510	< 0.0500	< 0.100	< 0.0500
TWI-14	8/2/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	2.48	< 0.0500	< 0.100	0.290
TWI-15	7/21/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	0.180	< 0.0500	< 0.100	< 0.0500
TWI-16	7/20/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	0.150	< 0.0500	< 0.100	< 0.0500
TWI-17	7/20/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	0.400	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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)
TWI-18	7/18/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	0.830	0.340	< 0.0500	< 0.100	< 0.0500
TWI-19	7/24/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	2.02	0.0800	< 0.0500	< 0.100	< 0.0500
TWI-20	7/17/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	0.170	< 0.0500	< 0.100	< 0.0500
TWI-21	7/17/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	1.18	< 0.0500	< 0.100	< 0.0500
	2/28/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	2.65	< 0.0500	< 0.100	< 0.0500
TWI-22	7/21/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	0.340	< 0.0500	< 0.100	< 0.0500
TWI-23	7/24/1995	—	—	< 0.100	—	< 0.0100	< 0.0500	< 0.100	2.85	< 0.0500	< 0.100	< 0.0500
	2/28/1996	—	—	< 0.100	—	< 0.0100	< 0.0500	0.110	2.87	< 0.0500	< 0.100	< 0.0500
WWL-3A	10/16/1991	< 0.200	0.0040	0.140	< 0.0100	< 0.0100	< 0.0500	7.10	—	< 0.0500	< 0.100	< 0.0500
	10/16/1991	< 0.0003	3.00	—	—	—	—	—	—	—	—	—
	8/17/1993	< 1.000	22.7	0.120	< 0.0050	< 0.0100	< 0.0500	3.51	—	< 0.0500	< 0.100	< 0.0500
	8/11/1994	< 0.200	15.9	< 0.100	< 0.0050	< 0.0100	< 0.0500	6.69	—	< 0.0500	< 0.100	< 0.0500
	8/9/1995	12.3	19.8	< 0.100	< 0.0100	< 0.0100	< 0.0500	4.79	—	< 0.0500	< 0.100	< 0.0500
	9/30/1997	< 0.200	10.1	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/27/1998	< 0.200	11.3	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/11/1999	< 0.200	8.60	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/8/2000	< 0.200	11.6	< 0.100	< 0.0100	< 0.0050	< 0.0500	12.9	—	< 0.0500	< 0.100	< 0.0500
WWL-4A	10/17/1991	< 0.200	0.0300	0.170	< 0.0100	< 0.0100	< 0.0500	0.910	—	< 0.0500	< 0.100	< 0.0500
	10/17/1991	< 0.0003	20.0	—	—	—	—	—	—	—	—	—
	8/17/1993	< 1.000	3.40	< 0.100	< 0.0050	< 0.0100	< 0.0500	1.17	—	< 0.0500	< 0.100	< 0.0500
	7/22/1994	< 0.200	104	0.330	< 0.0050	< 0.0100	< 0.0500	0.500	—	< 0.0500	< 0.100	< 0.0500
	9/8/1994	< 0.200	39.3	0.130	< 0.0050	< 0.0100	< 0.0500	1.11	—	< 0.0500	< 0.100	< 0.0500
	8/9/1995	90.9	67.4	< 0.100	< 0.0100	< 0.0100	< 0.0500	1.57	—	< 0.0500	< 0.100	< 0.0500
	8/27/1996	< 1.000	1.80	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	—
	10/6/1997	< 0.200	2.40	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/27/1998	< 0.200	2.20	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/11/1999	< 0.200	1.90	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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-4A	11/8/2000	< 0.200	1.40	< 0.100	< 0.0100	< 0.0050	< 0.0500	1.84	—	< 0.0500	< 0.100	< 0.0500
WWL-4B	8/17/1993	< 1.000	49.0	0.380	< 0.0050	< 0.0100	< 0.0500	1.42	—	< 0.0500	< 0.100	< 0.0500
	7/22/1994	< 0.200	75.6	0.510	< 0.0050	< 0.0100	< 0.0500	0.920	—	< 0.0500	< 0.100	< 0.0500
	9/8/1994	< 0.200	25.6	0.160	< 0.0050	< 0.0100	< 0.0500	3.10	—	< 0.0500	< 0.100	< 0.0500
	8/9/1995	25.7	28.8	< 0.100	< 0.0100	< 0.0100	< 0.0500	3.17	—	< 0.0500	< 0.100	< 0.0500
	8/27/1996	0.800	7.10	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/6/1997	< 0.200	6.90	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/17/1991	< 0.200	1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	3.50	—	< 0.0500	< 0.100	< 0.0500
WWL-10B	10/17/1991	< 0.0003	0.0010	—	—	—	—	—	—	—	—	—
	8/16/1993	< 1.000	1.30	< 0.100	< 0.0050	< 0.0100	< 0.0500	3.17	—	< 0.0500	< 0.100	< 0.0500
	9/24/1996	< 0.200	2.00	< 0.100	< 0.0100	< 0.0100	—	—	—	< 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
	12/1/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/11/1999	< 0.200	1.10	< 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	6.35	—	< 0.0500	< 0.100	< 0.0500
	10/17/1991	< 0.0003	3.00	0.170	< 0.0100	< 0.0100	< 0.0500	4.00	—	< 0.0500	< 0.100	< 0.0500
WWL-12B	10/17/1991	< 0.200	—	—	—	—	—	—	—	—	—	—
	8/19/1993	< 1.000	4.20	0.120	< 0.0050	< 0.0100	< 0.0500	2.28	—	< 0.0500	< 0.100	< 0.0500
	7/21/1994	< 0.200	60.7	0.150	< 0.0050	< 0.0100	< 0.0500	2.14	—	< 0.0500	< 0.100	< 0.0500
	8/15/1995	4.70	9.20	< 0.100	< 0.0100	< 0.0100	< 0.0500	4.45	—	< 0.0500	< 0.100	< 0.0500
	8/27/1996	1.30	2.30	0.120	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/8/1997	< 0.200	2.80	0.140	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/4/1998	< 0.200	3.90	0.120	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/12/1999	< 0.200	3.30	0.140	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/8/2000	< 0.200	4.30	0.172	< 0.0100	< 0.0050	< 0.0500	5.35	—	0.0559	< 0.100	< 0.0500
	10/17/1991	< 0.200	25.0	< 0.100	< 0.0100	< 0.0100	< 0.0500	6.90	—	< 0.0500	< 0.100	< 0.0500
WWL-13B	8/16/1993	< 1.000	26.3	< 0.100	< 0.0050	< 0.0100	< 0.0500	8.50	—	< 0.0500	< 0.100	< 0.0500
	7/20/1994	< 0.200	21.4	< 0.100	< 0.0500	< 0.0100	< 0.0500	3.72	—	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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-13B	8/15/1995	27.1	34.3	0.100	< 0.0100	< 0.0100	< 0.0500	6.35	—	< 0.0500	< 0.100	< 0.0500
	8/27/1996	1.10	2.00	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/8/1997	< 0.200	2.20	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/4/1998	9.20	11.0	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/12/1999	0.900	5.30	0.110	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/8/2000	< 0.200	2.50	< 0.100	< 0.0100	< 0.0050	< 0.0500	6.05	—	< 0.0500	< 0.100	< 0.0500
WWL-14A	10/16/1991	< 0.200	1.000	0.310	< 0.0100	< 0.0100	< 0.0500	0.0700	—	< 0.0500	< 0.100	< 0.0500
	8/18/1993	< 1.000	1.50	< 0.100	< 0.0050	< 0.0100	—	0.430	—	—	—	< 0.0500
	8/16/1995	0.600	5.20	0.100	< 0.0100	< 0.0100	< 0.0500	1.10	—	< 0.0500	< 0.100	< 0.0500
	8/27/1996	0.900	< 1.000	0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/30/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/27/1998	0.600	3.20	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/8/1999	< 1.000	1.40	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/3/2000	—	—	—	< 0.0100	< 0.0050	< 0.0500	1.63	—	—	—	< 0.0500
WWL-14B	10/16/1991	< 0.0003	0.0030	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.890	—	< 0.0500	< 0.100	< 0.0500
	10/16/1991	< 0.200	2.00	—	—	—	—	—	—	—	—	—
	8/18/1993	< 1.000	2.70	< 0.100	< 0.0050	< 0.0100	< 0.0500	0.220	—	< 0.0500	< 0.100	< 0.0500
	8/16/1995	4.00	10.6	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.380	—	< 0.0500	< 0.100	< 0.0500
	8/27/1996	< 1.000	3.20	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	9/30/1997	< 0.200	4.00	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/27/1998	< 0.200	5.40	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/11/1999	< 0.200	4.00	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/3/2000	—	—	—	< 0.0100	< 0.0050	< 0.0500	< 0.100	—	—	—	< 0.0500
	WWL-15A	10/16/1991	< 0.200	< 0.0010	0.110	< 0.0100	< 0.0100	< 0.0500	0.200	—	< 0.0500	< 0.100
8/17/1993		< 1.000	< 1.000	< 0.100	< 0.0050	< 0.0100	< 0.0500	2.79	—	< 0.0500	< 0.100	< 0.0500
8/11/1994		< 0.200	3.90	< 0.100	< 0.0050	< 0.0100	< 0.0500	2.17	—	< 0.0500	< 0.100	< 0.0500
8/14/1995		8.70	9.50	< 0.100	< 0.0100	< 0.0100	< 0.0500	3.29	—	< 0.0500	< 0.100	< 0.0500
8/27/1996		< 1.000	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500

TABLEA-2. SHIRLEY BASIN MINE SURFICIAL 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-15A	9/30/1997	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/27/1998	< 0.200	< 1.000	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/11/1999	0.400	1.80	< 0.100	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/8/2000	< 0.200	2.50	< 0.100	< 0.0100	< 0.0050	< 0.0500	2.95	—	< 0.0500	< 0.100	< 0.0500
WWL-19B	8/16/1993	< 1.000	8.70	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/6/1994	< 0.200	12.8	< 0.100	< 0.0050	< 0.0100	< 0.0500	< 0.100	—	< 0.0500	< 0.100	< 0.0500
	8/16/1995	1.50	7.00	< 0.100	< 0.0100	< 0.0100	< 0.0500	0.380	—	< 0.0500	< 0.100	< 0.0500
	8/27/1996	0.700	1.70	< 0.100	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
WWL-20B	10/18/1991	< 0.0003	0.0010	0.110	< 0.0100	< 0.0100	< 0.0500	11.4	—	< 0.0500	< 0.100	< 0.0500
	10/18/1991	< 0.200	1.000	—	—	—	—	—	—	—	—	—
	8/16/1993	< 1.000	14.5	0.340	< 0.0050	< 0.0100	< 0.0500	2.87	—	< 0.0500	< 0.100	< 0.0500
	7/21/1994	< 0.200	4.80	0.370	< 0.0050	< 0.0100	< 0.0500	2.83	—	< 0.0500	< 0.100	< 0.0500
	8/14/1995	20.8	14.8	0.390	< 0.0100	< 0.0100	< 0.0500	5.21	—	< 0.0500	< 0.100	< 0.0500
	8/27/1996	0.500	1.000	0.220	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/7/1997	< 0.200	< 1.000	0.180	< 0.0100	< 0.0100	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	12/4/1998	< 0.200	3.10	0.360	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	10/12/1999	< 0.200	1.70	0.310	< 0.0100	< 0.0050	< 0.0500	—	—	< 0.0500	< 0.100	< 0.0500
	11/8/2000	< 0.200	< 1.000	0.211	< 0.0100	< 0.0050	< 0.0500	6.78	—	< 0.0500	< 0.100	< 0.0500

APPENDIX B

WHITE RIVER, WIND RIVER, AND TAILINGS WATER QUALITY DATA

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- B-1. Cl, SO₄, pH, TDS, Conductivity, As, Se, U, Ra₂₂₆, Ra₂₂₈, and Ra₂₂₆₊₂₂₈
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- B-2. Th₂₃₀, Gross Alpha, Ba, Be, Cd, Cr, NO₃, Fe, Pb, Mo, and Ni
For White River Aquifer Wells
- B-3. Cl, SO₄, pH, TDS, Conductivity, As, Se, U, Ra₂₂₆, Ra₂₂₈, and Ra₂₂₆₊₂₂₈
For Wind River Aquifer Wells
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For Tailings Wells
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For Tailings Wells

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	
WH-9	11/5/1986	64.0	100.0	7.50	468	900	0.0010	< 0.0010	--	--	--	--
	12/17/1986	--	--	7.80	--	665	--	--	--	--	--	--
	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	--	--	--	--	--	--

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)
WH-9	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	—	—
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	—	—
	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	—	—	—	—	—	—

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	5/15/1984	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	--	--
	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	

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	5/5/1992	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	—	—
	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	—	—	

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	12/11/2000	19.6	52.4	6.40	254	419	0.0030	0.0568	0.160	0.800	4.60	5.40
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
	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	

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-23	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
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	—	—	—	—	—	—	—
	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
WWL-16A	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	—	366	—	< 0.0010	0.121	0.0729	2.00	< 1.000	< 3.00
	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	—	—

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)
WWL-16A	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	—	—
	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	

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)
WWL-20A	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	—	978	—	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	—	—

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
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
	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

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	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	
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	—	—	—	—	—	—	—	—	—	—	
	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	< 0.0500	< 0.0300	
8/18/1987	0.200	—	—	—	—	—	—	—	—	—	—	—	

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	11/12/1987	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
	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	—	—	—	—	—	—	—	—	—	

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	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	
	WW-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	—	—	—	—	—	—	—	—	—	—	
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		

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	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
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
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

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	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
	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	

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

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)
WWV-20	10/15/1973	10.00	196	—	—	—	0.0038	0.0018	—	—	—	—
	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	—	—

TABLE B-3. SHIRLEY BASIN MINE WIND 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)
WW-20	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	—	—
	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	

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)
VVW-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	—	—
	12/11/2000	12.2	283	6.70	615	918	< 0.0010	0.0014	0.0075	0.900	3.60	4.50

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	10/15/1973	---	---	0.0600	---	0.0400	0.0400	6.00	0.570	---	0.0500	0.0200
	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

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	2/7/1991	< 0.200	—	< 0.100	—	< 0.0100	< 0.0500	0.410	—	< 0.0500	< 0.100	< 0.0500
	2/7/1991	< 0.0003	—	—	—	—	—	—	—	—	—	—
	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	

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

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)
TW4-1C	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
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	—	—

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)
TW4-11CA	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	--	--	--	--	--	--
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
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

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

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	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

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	5/31/1990	8.40	1005	456	51.6	912	5.10	0.209	< 0.200	< 0.200	3.70	< 1.000
	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	
SW-2	6/20/1967	7.80	360	--	--	--	--	--	--	--	--	--
	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

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	10/17/1992	7.90	483	44.9	17.7	257	19.0	—	0.600	1.000	—	< 1.000
	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
	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	—	—	—	—	—
4/15/1983		8.10	118	10.00	2.00	—	—	0.0200	1.70	—	—	—

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	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
	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
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

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	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	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	—	—	—
	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	—	—	—	

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	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	
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

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	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
	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

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	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
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
	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	

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	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
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	—	—	—	—
	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	—	—	—

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	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	—	—	—
	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	—	—	—	—	—	—	—	—	—

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	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	68.0	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
	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

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-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	—	—	—