

APPENDIX. HYDROLOGIC AND WATER-QUALITY DATA

Hydrologic and water-quality data are presented in the CD-ROM (in pocket). Daily mean stream-flow values for the four streamflow-gaging stations are presented in tables 8 through 19. Water-quality data collected at the four streamflow-gaging stations are presented in tables 20 through 23. Water-quality data collected at the nine additional main-stem sites are presented in table 24. Water-quality data collected at selected mine sites are presented in table 25. Water-quality data collected at selected spring and stream sites in subbasins above upper Animas River at Silverton, Cement Creek at Silverton, and Mineral Creek at Silverton are presented in tables 26, 27, and 28, respectively.

Abbreviations and Units Used in Appendix

spec. cond.	specific conductance
temp.	temperature
diss.	dissolved
ac-ft	acre-feet
Alk.	alkalinity
<	less than
--	no data
streamflow	cubic feet per second
Spec. cond.	microsiemens per centimeter at 25 degrees Celsius
pH	standard units
Water temp.	degrees Celsius
diss. oxygen	milligrams per liter
calcium	milligrams per liter
magnesium	milligrams per liter
sodium	milligrams per liter
potassium	milligrams per liter
alkalinity	milligrams per liter as CaCO_3
sulfate	milligrams per liter
silica	milligrams per liter
aluminum	micrograms per liter
barium	micrograms per liter
beryllium	micrograms per liter
cadmium	micrograms per liter
chromium	micrograms per liter
copper	micrograms per liter
iron	micrograms per liter
lead	micrograms per liter
lithium	micrograms per liter
manganese	micrograms per liter
molybdenum	micrograms per liter
nickel	micrograms per liter
strontium	micrograms per liter
vanadium	micrograms per liter
zinc	micrograms per liter

Table 8. Daily mean streamflow for Animas River below Silverton, Colorado, in water year 1997

SITE NAME: ANIMAS RIVER BELOW SILVERTON, CO

STATION NUMBER: 09359020

PERIOD OF RECORD: October 1991 TO CURRENT YEAR

LOCATION: lat 37°47'25", long 107°40'01"

GAGE: Water-stage recorder with satellite telemetry

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	110	e70	e67	e62	e62	116	197	2240	1480	748	271
2	126	105	e70	e66	e64	e59	108	189	2140	1260	669	255
3	224	107	71	e70	e64	e60	107	194	1960	1200	745	242
4	237	106	e74	73	e64	61	112	235	2280	1100	685	244
5	231	104	e76	e70	e64	e60	103	310	2040	984	762	241
6	231	103	e80	e68	e64	e58	96	406	1750	954	689	229
7	237	100	e80	e64	e62	e58	94	438	1380	864	586	219
8	243	e105	e78	e56	e58	56	89	415	1240	826	540	203
9	246	e105	e78	e57	e57	55	87	367	936	797	498	207
10	248	110	e81	e60	e59	61	84	344	879	776	648	209
11	240	110	81	e64	e61	66	81	445	1130	790	592	215
12	231	112	77	e68	e64	72	78	638	1350	766	516	248
13	221	112	76	e66	e64	78	79	832	1290	809	464	244
14	213	110	76	e54	e61	79	85	970	1190	800	436	275
15	196	111	e74	e66	e60	74	90	1090	1260	796	428	304
16	187	109	e68	e62	e61	76	105	1290	1350	768	409	380
17	173	102	e70	e60	e64	78	131	1340	1620	721	388	332
18	159	106	e80	e58	68	77	154	1340	1920	731	373	310
19	158	100	e72	e60	e67	88	200	1300	1970	724	352	303
20	153	99	e66	e62	e65	111	246	1190	2170	745	337	312
21	138	93	e66	e65	e66	131	278	1150	2220	693	320	536
22	125	97	e69	e65	e66	133	247	979	2200	693	315	609
23	124	95	e72	e65	61	145	222	880	2090	745	313	506
24	123	89	e67	e62	e62	154	200	874	1820	712	302	480
25	125	e85	e63	e60	58	132	181	776	1530	650	295	464
26	119	e80	e65	e60	e59	121	178	665	1460	627	341	446
27	119	e77	e70	e62	61	120	191	582	1480	648	312	465
28	124	72	e72	e62	64	117	220	568	1410	760	293	414
29	121	69	e70	e60	---	119	209	622	1510	775	274	392
30	117	65	e68	e62	---	112	195	1020	1590	876	269	365
31	115	---	e68	e62	---	118	---	1710	---	859	271	---
TOTAL	5433	2948	2248	1956	1750	2791	4366	23356	49405	25929	14170	9920
MEAN	175	98.3	72.5	63.1	62.5	90.0	146	753	1647	836	457	331
MAX	248	112	81	73	68	154	278	1710	2280	1480	762	609
MIN	115	65	63	54	57	55	78	189	879	627	269	203
AC-FT	10780	5850	4460	3880	3470	5540	8660	46330	97990	51430	28110	19680

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR			FOR 1997 WATER YEAR		
ANNUAL TOTAL	91260			144272		
ANNUAL MEAN	249			395		
HIGHEST ANNUAL MEAN						
LOWEST ANNUAL MEAN						
HIGHEST DAILY MEAN	1840	May 17		2280	Jun 4	
LOWEST DAILY MEAN	60	Mar 6		54	Jan 14	
ANNUAL SEVEN-DAY MINIMUM	62	Mar 2		58	Mar 3	
INSTANTANEOUS PEAK FLOW				2900	Jun 1	
INSTANTANEOUS PEAK STAGE				4.90	Jun 1	
ANNUAL RUNOFF (AC-FT)	181000			286200		
10 PERCENT EXCEEDS	673			1170		
50 PERCENT EXCEEDS	113			154		
90 PERCENT EXCEEDS	68			62		

e -- Estimated values in winter are derived by using a combination of the following methods.
1. Periodic measurements at the individual sites. 2. Hydrographic comparison with two sites geographically similar that are relatively ice free during the winter months (09361500 Animas River at Durango and 09342500 San Juan River at Pagosa Springs, CO). 3. Use of adjacent recorded ice free data and analysis of weather records for Silverton and Durango, Colorado.

Table 9. Daily mean streamflow for Animas River below Silverton, Colorado, in water year 1998

SITE NAME: ANIMAS RIVER BELOW SILVERTON, CO

STATION NUMBER: 09359020

PERIOD OF RECORD: October 1991 TO CURRENT YEAR

LOCATION: lat 37°47'25", long 107°40'01"

GAGE: Water-stage recorder with satellite telemetry

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998 DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	342	183	111	e86	e66	e52	112	350	1240	1060	365	192
2	333	168	111	e90	e66	e54	106	387	1460	993	315	214
3	359	166	107	90	e74	e62	101	465	1420	929	275	183
4	318	165	e105	87	e74	e68	102	501	1040	1040	252	170
5	299	161	e105	86	e74	e68	102	471	738	871	242	155
6	280	e150	e110	e80	e74	e68	105	421	643	878	216	147
7	284	e150	e110	e74	e72	68	106	368	641	893	200	139
8	294	e145	e110	e74	e68	66	102	342	597	837	186	132
9	273	e145	e105	e76	e68	e56	96	320	629	736	180	127
10	281	e145	e100	e80	e70	e62	94	358	632	795	187	122
11	354	e148	e98	e86	e66	e66	105	414	569	738	184	121
12	334	150	e94	e86	e62	e68	118	438	608	682	169	185
13	316	149	e88	e86	e62	e70	113	454	765	602	162	188
14	310	145	e90	e82	e64	e70	112	460	734	527	185	167
15	308	129	e90	e80	e66	64	107	393	744	488	178	163
16	295	e120	e88	e84	e60	69	105	389	799	456	162	150
17	283	e120	e84	e88	e62	e70	104	437	787	443	159	141
18	277	e122	e88	e76	e64	e68	106	510	676	424	184	136
19	267	125	e92	e76	e62	e70	107	553	871	402	160	126
20	256	124	e88	e82	e62	73	112	609	1030	382	151	119
21	242	121	e86	e78	e62	74	119	754	1090	372	167	115
22	231	118	e86	e72	e58	79	146	741	1190	357	162	113
23	225	118	e88	e74	e56	94	200	653	1190	356	147	111
24	220	116	e86	e74	e60	116	242	663	1100	339	161	108
25	206	115	e84	e72	e64	138	230	594	1030	359	201	103
26	201	115	e78	e72	e64	140	200	696	1100	332	214	101
27	201	117	e70	e78	e60	118	184	806	1190	354	187	99
28	200	115	e74	e76	e58	108	201	1030	1220	360	167	97
29	196	e110	e78	e76	---	97	228	1190	1200	338	153	101
30	193	e110	e86	e78	---	100	295	1180	1110	311	144	110
31	189	---	e90	e74	---	103	---	1100	---	296	148	---
TOTAL	8367	4065	2880	2473	1818	2479	4160	18047	28043	17950	5963	4135
MEAN	270	136	92.9	79.8	64.9	80.0	139	582	935	579	192	138
MAX	359	183	111	90	74	140	295	1190	1460	1060	365	214
MIN	189	110	70	72	56	52	94	320	569	296	144	97
AC-FT	16600	8060	5710	4910	3610	4920	8250	35800	55620	35600	11830	8200

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR	
ANNUAL TOTAL	148955		100380	
ANNUAL MEAN	408		275	
HIGHEST ANNUAL MEAN				
LOWEST ANNUAL MEAN				
HIGHEST DAILY MEAN	2280	Jun 4	1460	Jun 2
LOWEST DAILY MEAN	54	Jan 14	52	Mar 1
ANNUAL SEVEN-DAY MINIMUM	58	Mar 3	59	Feb 24
INSTANTANEOUS PEAK FLOW			1890	Jun 2
INSTANTANEOUS PEAK STAGE			4.05	Jun 2
ANNUAL RUNOFF (AC-FT)	295500		199100	
10 PERCENT EXCEEDS	1170		739	
50 PERCENT EXCEEDS	201		146	
90 PERCENT EXCEEDS	62		69	

e -- Estimated values in winter are derived by using a combination of the following methods.
 1. Periodic measurements at the individual sites. 2. Hydrographic comparison with two sites geographically similar that are relatively ice free during the winter months (09361500 Animas River at Durango and 09342500 San Juan River at Pagosa Springs, CO). 3. Use of adjacent recorded ice free data and analysis of weather records for Silverton and Durango, Colorado.

Table 10. Daily mean streamflow for Animas River at Silverton, Colorado, in water year 1999

SITE NAME: ANIMAS RIVER BELOW SILVERTON, CO

STATION NUMBER: 09359020

PERIOD OF RECORD: October 1991 TO CURRENT YEAR

LOCATION: 1at 37°47'25", long 107°40'01"

GAGE: Water-stage recorder with satellite telemetry

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999 DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	136	99	e45	e50	e51	e115	157	1100	1540	472	557
2	118	140	98	e61	e49	e51	e110	147	1100	1350	505	591
3	112	129	99	e58	e52	e54	e100	150	916	1150	532	643
4	139	117	97	e54	e54	e51	e98	139	958	1100	561	573
5	127	114	e96	e58	e57	e45	e97	131	803	947	542	506
6	117	117	e93	e63	e59	e42	e98	119	618	873	546	449
7	126	116	e87	e63	e59	e40	e100	132	720	949	518	399
8	148	117	e84	e60	e52	e39	e105	182	1050	988	467	366
9	147	119	e82	e58	e50	e41	102	266	1340	697	452	335
10	141	114	e85	e54	e53	e42	98	284	1500	614	620	310
11	134	115	e83	e52	e58	e43	92	261	1430	618	673	299
12	128	114	e80	e60	e58	e43	101	262	1320	616	583	280
13	123	114	e78	e65	e50	e41	122	352	1450	562	514	261
14	116	114	e78	e63	e53	e38	130	464	1520	515	457	266
15	112	119	e78	e61	e52	e41	130	479	1210	518	492	288
16	112	120	e75	e64	e53	e45	124	468	1470	494	444	281
17	110	118	e76	e60	e57	e50	123	461	1790	472	486	310
18	104	115	e80	e60	e58	e57	134	518	1540	476	449	290
19	106	111	e80	e63	e58	e59	165	636	1650	677	555	298
20	113	106	e75	e66	e57	e60	208	748	1630	585	581	289
21	120	106	e70	e68	e56	e64	225	851	1470	552	553	274
22	127	103	e68	e65	e52	e70	199	898	1840	532	483	260
23	123	101	e68	e48	e50	e80	184	974	1920	489	454	276
24	116	101	e65	e37	e54	e88	184	990	1870	545	465	278
25	130	100	e62	e36	e54	e92	168	720	1960	718	432	265
26	140	100	e68	e43	e55	e95	159	668	1990	564	406	252
27	152	100	e68	e48	e57	e100	158	704	2030	498	427	239
28	150	100	e59	e54	e55	e105	175	745	1830	479	502	224
29	137	102	e52	e58	---	e120	166	921	1570	466	502	213
30	141	98	e55	e56	---	e125	166	893	1560	451	527	206
31	138	---	e49	e54	---	e125	---	985	---	490	517	---
TOTAL	3925	3376	2387	1755	1522	1997	4136	15705	43155	21525	15717	10078
MEAN	127	113	77.0	56.6	54.4	64.4	138	507	1438	694	507	336
MAX	152	140	99	68	59	125	225	990	2030	1540	673	643
MIN	104	98	49	36	49	38	92	119	618	451	406	206
AC-FT	7790	6700	4730	3480	3020	3960	8200	31150	85600	42690	31170	19990

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR

ANNUAL TOTAL	94756		125278
ANNUAL MEAN	260		343
HIGHEST DAILY MEAN	1460	Jun 2	2030 Jun 27
LOWEST DAILY MEAN	49	Dec 31	36 Jan 25
ANNUAL SEVEN-DAY MINIMUM	59	Feb 24	41 Mar 8
INSTANTANEOUS PEAK FLOW			2730 Jun 27
INSTANTANEOUS PEAK STAGE			4.56 Jun 27
ANNUAL RUNOFF (AC-FT)	187900		248500
10 PERCENT EXCEEDS	739		931
50 PERCENT EXCEEDS	118		128
90 PERCENT EXCEEDS	68		53

e -- Estimated values in winter are derived by using a combination of the following methods.
1. Periodic measurements at the individual sites. 2. Hydrographic comparison with two sites geographically similar that are relatively ice free during the winter months (09361500 Animas River at Durango and 09342500 San Juan River at Pagosa Springs, CO). 3. Use of adjacent recorded ice free data and analysis of weather records for Silverton and Durango, Colorado.

Table 11. Daily mean streamflow for Animas River at Silverton, Colorado, in water year 1997

SITE NAME: ANIMAS RIVER AT SILVERTON, CO

STATION NUMBER: 09358000

PERIOD OF RECORD: October 1991 to September 1993, October 1994 to current year

LOCATION: lat 37°48'40", long 107°39'31"

GAGE: Water-stage recorder

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997 DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	e52	e35	e33	e30	e30	e56	87	907	652	303	85
2	53	e48	e35	e33	e31	e29	e52	76	935	582	285	79
3	105	49	e35	e34	e31	e29	e52	76	1060	558	309	74
4	105	49	e36	e36	e31	e29	e52	90	1180	531	290	74
5	103	48	e38	e35	e31	e29	e52	118	1030	484	352	72
6	106	e48	e39	e33	e31	e28	e47	144	987	452	294	70
7	109	e47	e39	e32	e30	e28	e44	147	808	404	254	66
8	113	e47	e38	e29	e28	e28	e43	145	720	363	225	63
9	118	e46	e38	e28	e28	e27	e41	131	549	353	203	62
10	121	e46	e40	e29	e28	e28	e40	125	468	360	278	62
11	120	e46	e39	e31	e29	e31	e39	152	499	366	266	60
12	116	e47	e38	e33	e30	e33	e38	217	570	354	227	68
13	112	e47	e37	e32	e31	e36	e38	299	565	390	207	65
14	107	e47	e36	e25	e30	e37	e37	383	544	394	195	74
15	99	e48	e35	e31	e29	e36	e39	452	575	389	175	97
16	95	e49	e34	e30	e30	e36	45	568	637	364	162	141
17	87	e48	e35	e29	e31	e37	57	610	805	337	147	104
18	79	e47	e38	e28	e33	e37	74	600	988	346	136	93
19	81	e45	e36	e28	e32	e40	100	608	1020	346	127	85
20	72	e46	e32	e30	e32	e50	116	535	1020	345	119	90
21	65	e47	e32	e31	e32	e60	129	517	1030	335	112	266
22	e63	e48	e33	e31	e32	e64	118	424	1030	354	109	300
23	59	e47	e35	e31	e31	e68	106	372	1010	373	109	236
24	59	e45	e34	e30	e29	e72	94	368	882	347	105	212
25	59	e42	e31	e29	e27	e62	83	314	701	302	100	202
26	e56	e40	e33	e29	e28	e56	80	271	670	274	113	213
27	56	e38	e34	e30	e29	e56	84	244	652	272	102	239
28	55	e36	e35	e30	e30	e56	98	239	621	299	94	209
29	e56	e35	e35	e30	---	e56	96	250	665	303	88	179
30	e53	e33	e34	e30	---	e56	87	377	693	346	82	154
31	e52	---	e34	e31	---	e54	---	671	---	364	84	---
TOTAL	2588	1361	1103	951	844	1318	2037	9610	23821	11939	5652	3794
MEAN	83.5	45.4	35.6	30.7	30.1	42.5	67.9	310	794	385	182	126
MAX	121	52	40	36	33	72	129	671	1180	652	352	300
MIN	52	33	31	25	27	27	37	76	468	272	82	60
AC-FT	5130	2700	2190	1890	1670	2610	4040	19060	47250	23680	11210	7530

SUMMARY STATISTICS FOR 1996 CALENDAR YEAR FOR 1997 WATER YEAR

ANNUAL TOTAL	43597	65018
ANNUAL MEAN	119	178
HIGHEST ANNUAL MEAN		
LOWEST ANNUAL MEAN		
HIGHEST DAILY MEAN	861 May 19	1180 Jun 4
LOWEST DAILY MEAN	26 Mar 6	25 Jan 14
ANNUAL SEVEN-DAY MINIMUM	27 Mar 3	28 Mar 4
INSTANTANEOUS PEAK FLOW		1470 Jun 4
INSTANTANEOUS PEAK STAGE		3.99 Jun 4
ANNUAL RUNOFF (AC-FT)	86470	129000
10 PERCENT EXCEEDS	372	539
50 PERCENT EXCEEDS	48	65
90 PERCENT EXCEEDS	30	30

e -- Estimated values in winter are derived by using a combination of the following methods.
1. Periodic measurements at the individual sites. 2. Hydrographic comparison with two sites geographically similar that are relatively ice free during the winter months (09361500 Animas River at Durango and 09342500 San Juan River at Pagosa Springs, CO). 3. Use of adjacent recorded ice free data and analysis of weather records for Silverton and Durango, Colorado.

Table 12. Daily mean streamflow for Animas River at Silverton, Colorado, in water year 1998

SITE NAME: ANIMAS RIVER AT SILVERTON, CO

STATION NUMBER: 09358000

PERIOD OF RECORD: October 1991 to September 1993, October 1994 to current year

LOCATION: 1at 37°48'40", long 107°39'31"

GAGE: Water-stage recorder

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	164	92	e52	e37	e27	e20	e40	106	587	508	143	71
2	175	84	e51	e39	e28	e22	e37	125	660	487	130	84
3	187	84	e50	e39	e30	e24	e36	167	640	455	116	74
4	162	83	e48	e38	e31	e26	e36	195	480	515	108	70
5	148	79	e47	e36	e30	e26	e36	184	327	433	105	65
6	138	e75	e49	e33	e30	e26	e37	162	284	424	95	63
7	141	e74	e51	e32	e28	e26	e37	139	281	445	88	61
8	145	e70	e49	e32	e27	e24	e35	128	266	425	84	58
9	134	e70	e47	e33	e28	e22	e34	118	288	363	82	57
10	140	e70	e46	e34	e28	e24	30	131	291	389	83	55
11	179	e72	e44	e36	e26	e25	36	154	262	358	83	56
12	166	e73	e42	e37	e25	e26	39	165	292	324	77	70
13	159	e72	e39	e37	e24	e26	36	172	382	282	75	71
14	159	e66	e40	e35	e26	e26	35	177	340	244	76	67
15	160	e60	e40	e34	e25	e25	34	147	335	225	76	69
16	148	e56	e38	e36	e24	e25	31	145	378	208	70	64
17	138	e58	e38	e37	e25	e26	30	167	370	199	69	62
18	139	e58	e40	e32	e25	e25	28	208	302	189	74	61
19	135	e60	e39	e33	e25	e26	28	240	405	177	67	57
20	132	e58	e38	e34	e25	e27	31	274	520	166	65	54
21	126	e58	e38	e32	e24	e28	36	340	554	159	70	52
22	120	e55	e39	e30	e22	e31	43	347	597	156	69	e51
23	115	e50	e39	e31	e23	e36	55	306	582	152	64	e48
24	114	e50	e37	e31	e24	e42	66	311	533	148	65	e47
25	111	e53	e35	e30	e25	e49	67	271	505	166	70	e46
26	104	e55	e31	e32	e24	e50	63	328	541	149	72	e45
27	99	e55	e31	e32	e23	e44	61	402	588	151	68	e44
28	100	e54	e34	e31	e22	e39	66	504	593	153	64	e44
29	99	e52	e36	e31	---	e36	72	570	570	145	62	e48
30	97	e52	e38	e32	---	e36	88	553	536	133	61	e49
31	95	---	e38	e30	---	e38	---	513	---	124	60	---
TOTAL	4229	1948	1284	1046	724	926	1303	7749	13289	8452	2491	1763
MEAN	136	64.9	41.4	33.7	25.9	29.9	43.4	250	443	273	80.4	58.8
MAX	187	92	52	39	31	50	88	570	660	515	143	84
MIN	95	50	31	30	22	20	28	106	262	124	60	44
AC-FT	8390	3860	2550	2070	1440	1840	2580	15370	26360	16760	4940	3500

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR

ANNUAL TOTAL	67427	45204
ANNUAL MEAN	185	124
HIGHEST ANNUAL MEAN		
LOWEST ANNUAL MEAN		
HIGHEST DAILY MEAN	1180 Jun 4	660 Jun 2
LOWEST DAILY MEAN	25 Jan 14	20 Mar 1
ANNUAL SEVEN-DAY MINIMUM	28 Mar 4	23 Feb 24
INSTANTANEOUS PEAK FLOW		906 Jun 2
INSTANTANEOUS PEAK STAGE		4.05 Jun 2
ANNUAL RUNOFF (AC-FT)	133700	89660
10 PERCENT EXCEEDS	539	343
50 PERCENT EXCEEDS	83	62
90 PERCENT EXCEEDS	30	26

e --Estimated values in winter are derived by using a combination of the following methods.
1. Periodic measurements at the individual sites. 2. Hydrographic comparison with two sites geographically similar that are relatively ice free during the winter months (09361500 Animas River at Durango and 09342500 San Juan River at Pagosa Springs, CO). 3. Use of adjacent recorded ice free data and analysis of weather records for Silverton and Durango, Colorado.

Table 13. Daily mean streamflow for Animas River at Silverton, Colorado, in water year 1999

SITE NAME: ANIMAS RIVER AT SILVERTON, CO

STATION NUMBER: 09358000

PERIOD OF RECORD: October 1991 to September 1993, October 1994 to current year

LOCATION: lat 37°48'40", long 107°39'31"

GAGE: Water-stage recorder

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999 DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e57	e60	e44	e19	e23	e23	e50	63	502	634	246	210
2	e65	e60	e44	e25	e22	e22	e48	59	516	588	256	231
3	e63	59	e44	e27	e23	e23	e46	62	415	537	255	313
4	e63	53	e44	e25	e23	e23	e43	56	467	547	253	286
5	e64	51	e42	e24	e24	e20	e43	52	412	509	243	248
6	e63	e50	e43	e26	e25	e19	e42	40	349	479	254	218
7	61	e48	e41	e27	e26	e17	e42	51	436	494	245	194
8	63	e48	e38	e26	e24	e17	e44	72	613	535	219	172
9	63	e48	e36	e26	e22	e18	e44	104	727	440	208	156
10	65	e46	e36	e24	e22	e19	e42	111	761	394	261	144
11	63	e47	e37	e23	e25	e19	e39	99	761	375	291	137
12	62	e48	e36	e25	e25	e19	e39	100	764	370	265	117
13	62	e48	e35	e29	e24	e19	46	138	847	338	234	89
14	61	e49	e33	e28	e23	e17	48	194	874	305	210	85
15	60	e52	e33	e27	e24	e17	47	216	771	312	225	113
16	59	e53	e34	e27	e24	e19	45	212	852	299	209	91
17	57	e52	e34	e28	e26	e21	45	208	897	279	213	119
18	52	e51	e35	e26	e25	e24	47	240	827	260	191	87
19	53	e49	e35	e27	e25	e25	55	297	887	317	198	92
20	57	e48	e35	e29	e25	e26	72	352	856	316	201	113
21	59	e47	e32	e29	e25	e28	82	411	781	310	200	85
22	59	e46	e31	e29	e23	e30	75	438	897	296	184	71
23	59	e45	e30	e26	e22	e34	72	478	825	264	190	67
24	56	e45	e29	e17	e22	e38	71	471	780	252	207	71
25	61	e46	e27	e16	e23	e40	66	339	783	301	199	69
26	64	e45	e27	e17	e23	e41	63	329	683	268	184	54
27	70	e45	e28	e20	e25	e43	62	340	713	252	191	39
28	69	e45	e27	e23	e25	e45	67	354	641	259	224	27
29	63	e46	e23	e25	---	e48	65	456	597	248	225	23
30	65	e44	e24	e25	---	e54	66	440	606	231	218	21
31	e61	---	e24	e24	---	e52	---	470	---	241	204	---
TOTAL	1899	1474	1061	769	668	860	1616	7252	20840	11250	6903	3742
MEAN	61.3	49.1	34.2	24.8	23.9	27.7	53.9	234	695	363	223	125
MAX	70	60	44	29	26	54	82	478	897	634	291	313
MIN	52	44	23	16	22	17	39	40	349	231	184	21
AC-FT	3770	2920	2100	1530	1320	1710	3210	14380	41340	22310	13690	7420

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR

ANNUAL TOTAL	42177	58334
ANNUAL MEAN	116	160
HIGHEST DAILY MEAN	660 Jun 2	897 Jun 17
LOWEST DAILY MEAN	20 Mar 1	16 Jan 25
ANNUAL SEVEN-DAY MINIMUM	23 Feb 24	18 Mar 6
ANNUAL RUNOFF (AC-FT)	83660	115700
10 PERCENT EXCEEDS	343	468
50 PERCENT EXCEEDS	54	59
90 PERCENT EXCEEDS	26	23

e -- Estimated values in winter are derived by using a combination of the following methods.
 1. Periodic measurements at the individual sites. 2. Hydrographic comparison with two sites geographically similar that are relatively ice free during the winter months (09361500 Animas River at Durango and 09342500 San Juan River at Pagosa Springs, CO). 3. Use of adjacent recorded ice free data and analysis of weather records for Silverton and Durango, Colorado.

Table 14. Daily mean streamflow for Cement Creek at Silverton, Colorado, in water year 1997

SITE NAME: CEMENT CREEK AT SILVERTON, CO

STATION NUMBER: 09358550

PERIOD OF RECORD: October 1991 to September 1993, October 1994 to current year

LOCATION: lat 37°49'11", long 107°39'47"

GAGE: Water-stage recorder

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	17	e16	e14	e13	e13	22	30	288	137	49	22
2	15	17	16	e14	14	e13	20	28	214	125	47	20
3	26	17	e16	e15	14	13	20	30	219	118	48	18
4	25	17	e16	16	e14	13	20	45	253	109	44	20
5	28	17	e16	e15	14	e13	19	65	269	102	52	18
6	28	17	16	e14	13	e13	18	81	217	98	45	18
7	28	16	15	e13	e13	e13	18	80	183	91	39	17
8	27	18	e15	e13	e13	e13	18	68	164	81	35	17
9	25	17	15	e13	e13	14	17	56	127	75	33	17
10	24	17	16	e13	e13	15	17	53	121	75	52	17
11	23	18	15	e14	13	16	17	78	137	76	43	16
12	23	18	15	e14	14	17	16	106	151	74	36	16
13	22	18	15	e14	13	17	16	129	144	78	33	13
14	21	18	15	e12	e13	17	17	143	134	77	32	15
15	20	18	e14	e14	13	17	17	166	134	75	29	22
16	20	18	e14	e13	14	17	20	174	138	70	27	32
17	19	e17	e16	e13	14	18	24	168	165	65	25	21
18	18	17	e15	e13	13	17	29	166	191	61	24	19
19	18	17	e14	e13	14	19	38	156	198	57	24	19
20	18	18	e13	14	14	25	50	143	217	60	22	23
21	18	e17	e14	14	14	27	51	142	205	56	21	72
22	18	18	e15	13	e14	27	41	123	201	53	22	81
23	18	18	e14	14	13	29	36	114	201	54	23	59
24	17	17	e13	14	13	28	30	111	191	51	21	49
25	18	e16	e13	e13	13	22	27	97	165	47	20	44
26	17	e16	e14	e13	e13	22	27	82	153	45	26	42
27	17	16	e15	e13	13	23	34	74	147	45	23	41
28	18	e16	e15	e13	e13	23	39	72	141	53	20	37
29	17	e16	e14	e13	---	24	33	84	145	50	19	33
30	17	16	e14	e13	---	23	30	148	145	62	21	30
31	17	---	e14	e13	---	23	---	232	---	57	22	---
TOTAL	635	513	458	420	375	584	781	3244	5358	2277	977	868
MEAN	20.5	17.1	14.8	13.5	13.4	18.8	26.0	105	179	73.5	31.5	28.9
MAX	28	18	16	16	14	29	51	232	288	137	52	81
MIN	15	16	13	12	13	13	16	28	121	45	19	13
MED	18	17	15	13	13	17	21	97	165	70	27	21
AC-FT	1260	1020	908	833	744	1160	1550	6430	10630	4520	1940	1720

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR	
ANNUAL TOTAL	13164		16490	
ANNUAL MEAN	36.0		45.2	
HIGHEST ANNUAL MEAN				
LOWEST ANNUAL MEAN				
HIGHEST DAILY MEAN	244	May 16	288	Jun 1
LOWEST DAILY MEAN	13	Mar 4	12	Jan 14
ANNUAL SEVEN-DAY MINIMUM	14	Feb 28	13	Jan 25
INSTANTANEOUS PEAK FLOW			385	Jun 1
INSTANTANEOUS PEAK STAGE			2.69	Jun 1
ANNUAL RUNOFF (AC-FT)	26110		32710	
10 PERCENT EXCEEDS	87		137	
50 PERCENT EXCEEDS	18		20	
90 PERCENT EXCEEDS	15		13	

e -- Estimated values in winter are derived by using a combination of the following methods.
1. Periodic measurements at the individual sites. 2. Hydrographic comparison with two sites geographically similar that are relatively ice free during the winter months (09361500 Animas River at Durango and 09342500 San Juan River at Pagosa Springs, CO). 3. Use of adjacent recorded ice free data and analysis of weather records for Silverton and Durango, Colorado.

Table 15. Daily mean streamflow for Cement Creek at Silverton, Colorado, in water year 1998

SITE NAME: CEMENT CREEK AT SILVERTON, CO

STATION NUMBER: 09358550

PERIOD OF RECORD: October 1991 to September 1993, October 1994 to current year

LOCATION: lat 37°49'11", long 107°39'47"

GAGE: Water-stage recorder

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998 DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	21	16	e15	e13	e13	16	65	193	109	36	19
2	28	20	16	e16	e14	e13	16	73	209	101	30	18
3	31	19	e15	e16	e14	14	15	88	183	98	27	18
4	25	e18	e15	e15	e14	e13	15	94	137	104	25	17
5	23	e18	e15	e14	e14	14	15	80	102	93	24	17
6	22	18	e16	e13	e13	e14	15	61	90	91	23	16
7	24	17	e16	e13	e13	e12	15	49	88	91	22	16
8	26	e17	e15	e13	e13	e13	15	43	84	84	21	16
9	26	e17	e15	e14	e14	14	14	41	85	74	21	16
10	27	e17	e14	e15	e13	13	14	55	85	75	23	16
11	51	18	e14	e15	e14	13	17	69	77	73	21	16
12	42	e16	e14	e15	e14	e13	18	74	80	69	20	24
13	38	e16	e14	e14	e14	e13	17	81	95	63	21	20
14	38	e16	e14	e14	e13	e13	16	81	94	57	24	20
15	38	16	e14	e15	e14	e13	16	62	96	54	20	19
16	36	e16	e14	e14	e14	e13	15	63	98	51	19	18
17	35	e16	e15	e14	e14	e13	15	80	93	50	20	18
18	34	e16	e15	e15	e14	e13	15	96	86	48	21	18
19	33	17	e14	e14	e14	14	15	102	103	46	19	18
20	31	e16	e14	e13	e13	14	16	112	117	43	18	18
21	29	e16	e15	e13	e13	15	19	141	117	42	19	18
22	26	16	e15	e14	e13	16	27	134	125	40	18	17
23	25	e16	e14	e13	e14	19	42	116	126	39	17	17
24	24	16	e13	e13	15	22	49	112	116	38	19	17
25	24	16	e13	e14	e13	26	40	105	113	37	20	17
26	23	17	e13	e15	e13	24	30	126	117	34	20	17
27	23	17	e13	e14	e13	20	27	149	124	34	18	17
28	22	16	e14	e14	e13	18	32	176	124	34	17	17
29	21	e15	e15	e14	---	16	43	196	122	33	17	18
30	21	16	e15	e13	---	17	59	190	113	31	17	18
31	21	---	e15	e13	---	16	---	178	---	31	18	---
TOTAL	895	506	450	437	380	474	678	3092	3392	1867	655	531
MEAN	28.9	16.9	14.5	14.1	13.6	15.3	22.6	99.7	113	60.2	21.1	17.7
MAX	51	21	16	16	15	26	59	196	209	109	36	24
MIN	21	15	13	13	13	12	14	41	77	31	17	16
MED	26	16	15	14	14	14	16	88	108	51	20	18
AC-FT	1780	1000	893	867	754	940	1340	6130	6730	3700	1300	1050

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR

ANNUAL TOTAL	16735	13357
ANNUAL MEAN	45.8	36.6
HIGHEST ANNUAL MEAN		
LOWEST ANNUAL MEAN		
HIGHEST DAILY MEAN	288 Jun 1	209 Jun 2
LOWEST DAILY MEAN	12 Jan 14	12 Mar 7
ANNUAL SEVEN-DAY MINIMUM	13 Jan 25	13 Mar 7
INSTANTANEOUS PEAK FLOW		246 Jun 2
INSTANTANEOUS PEAK STAGE		2.05 Jun 2
ANNUAL RUNOFF (AC-FT)	33190	26490
10 PERCENT EXCEEDS	137	96
50 PERCENT EXCEEDS	22	18
90 PERCENT EXCEEDS	13	13

e -- Estimated values in winter are derived by using a combination of the following methods.
1. Periodic measurements at the individual sites. 2. Hydrographic comparison with two sites geographically similar that are relatively ice free during the winter months (09361500 Animas River at Durango and 09342500 San Juan River at Pagosa Springs, CO). 3. Use of adjacent recorded ice free data and analysis of weather records for Silverton and Durango, Colorado.

Table 16. Daily mean streamflow for Cement Creek at Silverton, Colorado, in water year 1999

SITE NAME: CEMENT CREEK AT SILVERTON, CO

STATION NUMBER: 09358550

PERIOD OF RECORD: October 1991 to September 1993, October 1994 to current year

LOCATION: lat 37°49'11", long 107°39'47"

GAGE: Water-stage recorder

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	21	19	e9.4	e12	e13	23	21	165	151	54	52
2	19	21	19	e13	e12	e14	21	20	152	135	54	60
3	18	20	19	e12	e12	e14	20	20	133	117	54	72
4	22	19	19	e12	e13	e13	18	19	138	113	60	62
5	20	19	19	e13	e14	e12	17	18	116	105	57	52
6	20	20	e18	e14	e14	e11	17	18	92	97	58	46
7	19	20	e17	e14	e14	e10	18	20	106	97	53	41
8	18	20	e16	e14	e13	e10	18	31	147	99	47	38
9	18	20	e17	e13	e12	e11	18	45	174	87	45	35
10	19	20	e17	e12	e13	e11	17	45	185	82	72	33
11	18	21	e16	e12	e14	e12	17	39	179	81	79	32
12	18	19	e16	e14	e14	e12	20	40	157	79	67	29
13	18	19	e16	e15	e13	e11	24	66	174	73	57	27
14	18	20	e15	e14	e13	e11	24	91	193	66	50	29
15	18	21	e16	e14	e13	e11	23	85	168	64	52	31
16	18	21	e15	e14	e13	e12	22	78	183	61	44	29
17	18	21	e16	e13	e14	e14	21	76	206	57	48	34
18	18	20	e16	e14	e14	16	25	90	193	57	41	29
19	18	19	e16	e15	e15	e16	32	108	191	79	46	30
20	19	20	e15	e15	e15	e17	39	120	190	74	46	28
21	19	20	e14	e16	e14	e19	38	131	174	72	45	26
22	19	19	e14	e15	e13	e21	30	138	193	69	42	25
23	20	19	e14	e11	e13	24	26	151	192	62	45	27
24	19	19	e13	e8.5	e14	25	25	141	182	63	52	27
25	20	19	e13	e8.2	e14	e26	23	105	184	83	44	25
26	21	19	e14	e10	e14	e25	22	98	188	72	40	25
27	22	20	e13	e12	e15	24	23	104	190	65	40	24
28	21	20	e12	e13	e14	22	24	118	182	59	43	24
29	20	20	e11	e13	---	25	23	133	157	58	44	23
30	21	19	e12	e13	---	28	22	132	153	54	46	23
31	20	---	e11	e13	---	25	---	147	---	56	47	---
TOTAL	596	595	478	399.1	378	515	690	2448	5037	2487	1572	1038
MEAN	19.2	19.8	15.4	12.9	13.5	16.6	23.0	79.0	168	80.2	50.7	34.6
MAX	22	21	19	16	15	28	39	151	206	151	79	72
MIN	18	19	11	8.2	12	10	17	18	92	54	40	23
MED	19	20	16	13	14	14	22	85	176	73	47	29
AC-FT	1180	1180	948	792	750	1020	1370	4860	9990	4930	3120	2060

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

ANNUAL TOTAL	13175			16233.1
ANNUAL MEAN	36.1			44.5
HIGHEST DAILY MEAN	209	Jun 2		206 Jun 17
LOWEST DAILY MEAN	11	Dec 29		8.2 Jan 25
ANNUAL SEVEN-DAY MINIMUM	12	Dec 25		11 Jan 23
ANNUAL RUNOFF (AC-FT)	26130			32200
10 PERCENT EXCEEDS	96			124
50 PERCENT EXCEEDS	19			21
90 PERCENT EXCEEDS	13			13

e -- Estimated values in winter are derived by using a combination of the following methods.
 1. Periodic measurements at the individual sites. 2. Hydrographic comparison with two sites geographically similar that are relatively ice free during the winter months (09361500 Animas River at Durango and 09342500 San Juan River at Pagosa Springs, CO). 3. Use of adjacent recorded ice free data and analysis of weather records for Silverton and Durango, Colorado.

Table 17. Daily mean streamflow for Mineral Creek at Silverton, Colorado, in water year 1997

SITE NAME: MINERAL CREEK AT SILVERTON, CO

STATION NUMBER: 09359010

PERIOD OF RECORD: October 1991 to September 1993, October 1994 to current year

LOCATION: lat 37°48'10", long 107°40'20"

GAGE: Water-stage recorder

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997 DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	e45	e28	e26	e23	e22	e40	65	779	524	249	110
2	49	e44	e28	e26	e24	e21	e38	60	903	449	219	101
3	83	45	e29	e27	e24	e21	e36	62	852	429	280	96
4	85	44	e30	e28	e24	e21	e37	77	964	399	229	103
5	87	43	e31	e27	e24	e21	e36	105	959	363	302	102
6	91	e42	e32	e25	e24	e21	e33	137	802	340	246	94
7	97	e40	e31	e23	e23	e21	e32	151	649	288	188	88
8	100	e44	e31	e21	e21	e21	e31	138	558	241	160	83
9	105	e44	e31	e22	e21	e21	e29	118	423	246	151	83
10	107	e45	e32	e23	e22	e21	e28	110	399	247	311	83
11	103	e45	e32	e25	e23	e23	e27	135	487	254	288	86
12	98	e46	e31	e26	e23	e24	e26	179	545	246	217	107
13	91	e46	e30	e23	e23	e27	e26	234	509	277	192	105
14	85	e45	e30	e20	e22	e27	e28	287	470	293	180	124
15	77	e45	e28	e24	e22	e26	e30	334	483	301	159	154
16	73	e43	e27	e23	e22	e26	33	385	472	269	147	212
17	66	e42	e28	e22	e23	e27	39	398	533	238	136	149
18	61	e42	e31	e22	e24	e27	44	398	637	235	129	126
19	62	e38	e28	e23	e25	e30	57	383	723	226	120	119
20	59	e37	e26	e24	e24	e35	79	352	813	262	113	124
21	52	e37	e26	e25	e24	e43	96	352	798	215	108	287
22	e52	e38	e27	e25	e23	e46	87	308	784	220	109	325
23	51	e37	e28	e24	e22	e48	77	274	753	256	108	251
24	49	e35	e26	e23	e22	e45	68	275	671	234	104	211
25	50	e34	e25	e23	e21	e41	61	238	540	202	106	181
26	e48	e32	e26	e23	e21	e40	58	200	503	195	152	166
27	48	e30	e28	e23	e22	e40	62	178	492	207	131	167
28	49	e28	e28	e23	e23	e40	74	175	478	283	118	144
29	e48	e28	e27	e22	---	e40	72	188	519	297	107	127
30	e48	e27	e26	e23	---	e40	66	301	555	380	105	115
31	e46	---	e26	e23	---	e39	---	531	---	345	107	---
TOTAL	2169	1191	887	737	639	945	1450	7128	19053	8961	5271	4223
MEAN	70.0	39.7	28.6	23.8	22.8	30.5	48.3	230	635	289	170	141
MAX	107	46	32	28	25	48	96	531	964	524	311	325
MIN	46	27	25	20	21	21	26	60	399	195	104	83
AC-FT	4300	2360	1760	1460	1270	1870	2880	14140	37790	17770	10460	8380

SUMMARY STATISTICS FOR 1996 CALENDAR YEAR FOR 1997 WATER YEAR

ANNUAL TOTAL	31685	52654
ANNUAL MEAN	86.6	144
HIGHEST ANNUAL MEAN		
LOWEST ANNUAL MEAN		
HIGHEST DAILY MEAN	658 May 17	964 Jun 4
LOWEST DAILY MEAN	16 Jan 26	20 Jan 14
ANNUAL SEVEN-DAY MINIMUM	18 Jan 21	21 Mar 2
INSTANTANEOUS PEAK FLOW		1540 Jun 1
INSTANTANEOUS PEAK STAGE		3.21 Jun 1
ANNUAL RUNOFF (AC-FT)	62850	104400
10 PERCENT EXCEEDS	235	398
50 PERCENT EXCEEDS	44	57
90 PERCENT EXCEEDS	20	23

e -- Estimated values in winter are derived by using a combination of the following methods.
1. Periodic measurements at the individual sites. 2. Hydrographic comparison with two sites geographically similar that are relatively ice free during the winter months (09361500 Animas River at Durango and 09342500 San Juan River at Pagosa Springs, CO). 3. Use of adjacent recorded ice free data and analysis of weather records for Silverton and Durango, Colorado.

Table 18. Daily mean streamflow for Mineral Creek at Silverton, Colorado, in water year 1998

SITE NAME: MINERAL CREEK AT SILVERTON, CO

STATION NUMBER: 09359010

PERIOD OF RECORD: October 1991 to September 1993, October 1994 to current year

LOCATION: lat 37°48'10", long 107°40'20"

GAGE: Water-stage recorder

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	63	e38	e28	e21	e16	e29	108	465	382	163	89
2	104	e58	e37	e29	e21	e18	e25	133	528	362	129	94
3	118	e57	e36	e29	e23	e20	e25	173	516	340	108	80
4	99	e55	e35	e29	e24	e21	27	186	389	365	98	75
5	92	e54	e35	e27	e23	e21	27	165	278	327	91	67
6	88	e51	e36	e25	e23	e21	e25	138	245	345	83	62
7	92	e50	e37	e24	e22	e21	27	111	249	330	77	58
8	97	e49	e36	e24	e21	e19	e25	99	235	305	72	54
9	89	e49	e35	e25	e22	e17	26	93	245	269	70	51
10	98	e50	e33	e26	e21	e18	26	112	243	319	71	49
11	152	e51	e32	e27	e20	e20	28	139	222	288	68	49
12	136	e51	e31	e28	e19	e21	29	152	233	269	63	84
13	121	e50	e29	e28	e19	e21	27	158	292	235	63	86
14	119	e47	e30	e26	e20	e21	26	156	290	209	76	71
15	117	e48	e30	e26	e20	e20	25	124	296	194	74	68
16	114	e48	e28	e27	e19	e20	23	121	317	179	66	64
17	110	e48	e28	e28	e20	22	23	147	299	172	68	59
18	106	e44	e29	e25	e20	e20	22	187	268	164	79	56
19	100	e44	e30	e26	e20	e21	23	205	346	156	69	52
20	96	e43	e29	e26	e20	e21	24	227	415	149	64	50
21	91	e41	e29	e24	e19	e22	27	289	429	146	72	48
22	86	e41	e29	e23	e18	e23	36	279	456	137	68	46
23	83	e40	e28	e24	e18	30	54	249	456	136	63	43
24	80	e39	e29	e24	e19	38	68	254	422	127	74	41
25	e76	e40	e27	e23	e20	44	60	237	400	126	99	39
26	e74	e41	e23	e24	e19	43	52	283	424	118	110	38
27	e72	e40	e23	e25	e18	37	49	332	436	140	90	37
28	72	e39	e24	e24	e17	30	54	400	430	143	79	37
29	69	e38	e26	e25	---	e22	63	451	419	133	71	38
30	67	e38	e28	e24	---	e18	88	451	388	119	66	42
31	65	---	e29	e23	---	e27	---	425	---	116	68	---
TOTAL	2988	1407	949	796	566	733	1063	6584	10631	6800	2512	1727
MEAN	96.4	46.9	30.6	25.7	20.2	23.6	35.4	212	354	219	81.0	57.6
MAX	152	63	38	29	24	44	88	451	528	382	163	94
MIN	65	38	23	23	17	16	22	93	222	116	63	37
AC-FT	5930	2790	1880	1580	1120	1450	2110	13060	21090	13490	4980	3430

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR			FOR 1998 WATER YEAR		
ANNUAL TOTAL	53751			36756		
ANNUAL MEAN	147			101		
HIGHEST ANNUAL MEAN						
LOWEST ANNUAL MEAN						
HIGHEST DAILY MEAN	964	Jun	4	528	Jun	2
LOWEST DAILY MEAN	20	Jan	14	16	Mar	1
ANNUAL SEVEN-DAY MINIMUM	21	Mar	2	18	Feb	23
INSTANTANEOUS PEAK FLOW				676	Jun	2
INSTANTANEOUS PEAK STAGE				2.55	Jun	2
ANNUAL RUNOFF (AC-FT)	106600			72910		
10 PERCENT EXCEEDS	398			288		
50 PERCENT EXCEEDS	72			51		
90 PERCENT EXCEEDS	23			21		

e -- Estimated values in winter are derived by using a combination of the following methods.
1. Periodic measurements at the individual sites. 2. Hydrographic comparison with two sites geographically similar that are relatively ice free during the winter months (09361500 Animas River at Durango and 09342500 San Juan River at Pagosa Springs, CO). 3. Use of adjacent recorded ice free data and analysis of weather records for Silverton and Durango, Colorado.

Table 19. Daily mean streamflow for Mineral Creek at Silverton, Colorado, in water year 1999

SITE NAME: MINERAL CREEK AT SILVERTON, CO

STATION NUMBER: 09359010

PERIOD OF RECORD: October 1991 to September 1993, October 1994 to current year

LOCATION: lat 37°48'10", long 107°40'20"

GAGE: Water-stage recorder

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999 DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	42	e33	e16	e18	e19	e43	49	424	815	233	342
2	42	45	e32	e21	e18	e19	e42	47	415	702	252	383
3	40	42	e32	e20	e18	e20	e39	46	349	626	269	382
4	47	41	e32	e19	e19	e19	e38	45	370	590	318	293
5	43	e40	e31	e19	e20	e17	e37	43	308	524	279	229
6	40	40	e30	e21	e21	e16	e38	41	236	523	257	192
7	43	39	e29	e22	e21	e15	e39	43	265	617	229	163
8	43	39	e28	e21	e20	e14	e39	56	377	570	202	142
9	41	e38	e27	e20	e18	e15	39	82	468	437	198	127
10	40	e37	e27	e19	e19	e16	38	87	478	378	381	116
11	39	e37	e28	e18	e21	e16	36	82	473	361	453	110
12	38	36	e27	e20	e21	e16	38	86	456	361	314	101
13	36	e36	e26	e23	e18	e16	45	124	472	296	233	93
14	36	e37	e25	e22	e19	e15	48	178	497	265	197	97
15	35	e38	e26	e21	e19	e14	48	181	433	281	219	109
16	36	e39	e25	e22	e19	e16	47	170	505	253	190	109
17	36	e38	e25	e22	e21	e18	45	170	663	228	229	128
18	36	e37	e26	e21	e21	e20	50	197	600	236	216	120
19	36	e36	e26	e22	e21	e22	61	242	626	530	362	122
20	39	e35	e26	e23	e21	e22	77	283	597	403	400	116
21	40	e34	e24	e24	e20	e23	82	328	552	348	335	105
22	41	e34	e23	e23	e19	e26	69	349	673	330	260	98
23	42	e33	e23	e18	e18	e30	63	370	673	287	219	109
24	40	e33	e23	e13	e19	e33	62	373	616	401	209	109
25	43	e32	e22	e12	e20	e34	56	270	646	612	193	100
26	46	e33	e21	e15	e20	e36	53	246	713	376	171	94
27	48	e33	e22	e17	e21	e38	53	258	807	294	184	89
28	46	e33	e21	e19	e20	e41	58	275	819	238	237	83
29	43	e34	e18	e20	---	e43	53	342	791	231	240	78
30	44	e33	e18	e20	---	e47	52	330	794	235	277	75
31	43	---	e19	e19	---	e45	---	372	---	286	292	---
TOTAL	1265	1104	795	612	550	741	1488	5765	16096	12634	8048	4414
MEAN	40.8	36.8	25.6	19.7	19.6	23.9	49.6	186	537	408	260	147
MAX	48	45	33	24	21	47	82	373	819	815	453	383
MIN	35	32	18	12	18	14	36	41	236	228	171	75
AC-FT	2510	2190	1580	1210	1090	1470	2950	11430	31930	25060	15960	8760

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR

ANNUAL TOTAL	34576			53512
ANNUAL MEAN	94.7			147
HIGHEST DAILY MEAN	528	Jun 2		819
LOWEST DAILY MEAN	16	Mar 1		12
ANNUAL SEVEN-DAY MINIMUM	18	Feb 23		15
ANNUAL RUNOFF (AC-FT)	68580			106100
10 PERCENT EXCEEDS	288			408
50 PERCENT EXCEEDS	40			43
90 PERCENT EXCEEDS	21			19

e -- Estimated values in winter are derived by using a combination of the following methods.
1. Periodic measurements at the individual sites. 2. Hydrographic comparison with two sites geographically similar that are relatively ice free during the winter months (09361500 Animas River at Durango and 09342500 San Juan River at Pagosa Springs, CO). 3. Use of adjacent recorded ice free data and analysis of weather records for Silverton and Durango, Colorado.

Table 20. Water-quality data for the Animas River below Silverton, Colorado, 1997–99

Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium		Magnesium		Sodium		Potassium	
							diss.	total	diss.	total	diss.	total	diss.	total
11/19/96	0930	100	440	6.50	0.2	10	75	72	4.5	4.5	2.9	3.4	--	--
01/8/97	1130	56	554	5.88	3.6	9.1	85	89	5.3	5.8	3.3	3.6	--	--
01/31/97	1100	74	565	5.64	0.5	11	105	92	6.3	5.8	3.9	3.8	--	--
02/26/97	1100	65	642	4.90	0.7	8.9	113	100	6.8	6.3	4.1	4.1	--	--
03/26/97	1200	120	466	6.17	4.8	9.0	72	65	4.6	4.3	2.9	2.6	--	--
04/28/97	1100	214	333	6.96	5.5	8.8	50	52	3.4	3.4	2.1	2.6	--	--
05/13/97	1310	705	194	6.78	9.1	7.5	26	31	2.0	2.3	1.1	1.6	--	--
05/20/97	0945	1,190	159	6.85	4.7	8.9	21	23	1.6	1.8	1.1	1.2	--	--
05/28/97	1030	547	196	6.93	4.3	9.0	29	32	2.1	2.3	1.3	1.5	--	--
06/4/97	1030	1,620	121	6.91	8.4	8.6	16	18	1.3	1.6	0.89	0.96	--	--
06/12/97	1000	1,230	122	6.41	4.1	9.0	20	20	1.5	1.5	0.97	0.97	--	--
06/16/97	1000	1,250	142	6.78	4.3	10	21	21	1.6	1.6	1.1	0.98	--	--
06/25/97	1500	1,350	130	6.41	8.6	9.3	21	14	1.6	1.1	1.1	0.65	--	--
07/1/97	0930	1,350	126	6.65	7.0	11	20	14	1.4	1.1	0.99	0.64	--	--
07/14/97	1115	769	159	7.05	7.0	8.3	25	20	1.7	1.4	1.2	0.88	--	--
07/31/97	1115	856	155	6.80	9.3	8.0	25	--	1.8	--	1.2	--	--	--
08/13/97	1000	467	215	6.50	7.6	8.4	33	27	2.3	1.9	1.5	1.2	--	--
09/25/97	1400	406	229	6.67	9.8	--	35	30	2.5	2.1	1.6	1.2	--	--
10/22/97	1010	220	312	6.66	2.0	10	51	16	3.2	2.8	2.0	2.6	--	--
11/25/97	1030	115	448	6.45	0.0	9.8	76	19	4.6	3.6	2.8	2.9	--	--
12/23/97	1030	86	527	5.56	1.0	--	85	84	5.3	5.2	3.3	2.9	1.0	--
02/13/98	1100	61	538	6.11	1.0	10	99	114	6.3	7.0	3.7	4.5	1.3	--
03/16/98	1030	65	628	5.90	2.5	9.4	96	98	5.9	5.8	3.7	2.9	1.0	0.96
04/23/98	1415	181	427	6.29	9.6	--	69	73	4.4	4.6	3.1	2.9	0.89	0.86
05/5/98	1100	459	250	5.84	4.6	--	40	34	2.5	2.4	2.2	1.8	0.55	0.52
05/29/98	0915	1,220	140	6.54	2.7	9.2	22	20	1.5	1.5	1.1	0.85	0.37	0.47
06/2/98	1025	1,190	137	6.52	4.8	9.2	22	20	1.5	1.5	1.2	0.99	0.37	0.43
06/10/98	1000	663	172	6.78	3.5	9.2	26	26	1.8	1.8	1.2	1.1	0.40	0.42
06/25/98	1025	901	142	7.09	4.4	8.8	22	19	1.5	1.5	1.1	0.93	0.35	0.37
07/9/98	1045	691	160	7.20	7.2	8.0	25	25	1.8	1.7	1.1	1.1	0.35	0.37
07/22/98	1115	334	232	6.28	10	7.8	36	36	2.4	2.5	1.5	1.5	0.50	0.48
09/30/98	1100	111	440	6.73	7.5	6.6	73	78	4.6	4.8	2.8	3.5	0.83	0.73
02/19/99	1140	59	592	6.04	1.4	11	106	--	6.2	--	3.7	--	1.1	--
04/30/99	1015	158	242	6.20	2.9	8.7	69	--	4.4	--	3.2	--	0.72	--
08/19/99	1300	500	198	6.44	12	7.5	32	--	2.3	--	1.6	--	0.45	--

Table 20. Water-quality data for the Animas River below Silverton, Colorado, 1997–99—Continued

Alk., field	Sulfate, diss.	Silica		Aluminum		Barium		Beryllium		Cadmium		Chromium		Copper		Iron	
		diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
10.2	202	15	15	98	1,850	21	22	<1	<1	<2	<2	<15	<15	12	34	1,640	2,700
4.8	248	18	17	445	2,640	22	24	<1	<1	6	<2	<15	<15	19	33	1,860	3,700
4.0	255	21	18	675	2,830	25	23	<1	<1	<2	<2	<15	<15	22	31	1,890	3,660
2.0	285	23	20	1,490	3,470	22	20	<1	<1	<2	<2	<15	<15	27	32	2,750	5,050
5.5	173	16	14	164	2,100	22	21	<1	<1	5	<2	<15	<15	21	39	1,950	3,810
9.0	127	12	12	80	1,340	21	23	<1	<1	<2	<2	<15	<15	9	42	814	2,060
10.5	74	7.2	10	<40	1,260	17	29	<1	<1	<2	3	<15	<15	7	65	349	4,660
12.5	48	6.6	7.8	<40	613	16	21	<1	<1	<2	2	<15	<15	9	36	173	1,390
13.0	77	7.9	9.1	<40	681	17	22	<1	<1	<2	<2	<15	<15	7	35	318	1,200
11.2	36	5.6	8.1	<40	967	14	29	<1	<1	<2	<2	<15	<15	<4	27	<30	2,030
14.5	42	6.8	7.2	<40	480	16	20	<1	<1	<2	<2	<15	18	6	24	141	878
15.5	39	7.1	6.9	<40	371	17	19	<1	<1	<2	<2	<15	<15	8	19	98	671
13.0	41	6.9	4.9	49	190	19	13	<1	<1	<2	<2	<15	<15	7	8	105	422
13.0	41	6.2	4.6	<40	168	15	12	<1	<1	<2	<2	<15	16	4	9	52	510
14.5	54	6.6	5.4	<40	240	16	13	<1	<1	<2	<2	<15	<15	<4	10	102	583
14.5	54	6.8	--	43	--	18	--	<1	--	<2	--	<15	--	5	--	62	--
18.0	72	8.2	6.6	<40	353	20	19	<1	<1	<2	2	<15	20	<4	12	132	562
16.0	83	8.7	7.4	<40	497	23	21	<1	<1	<2	<2	<15	<15	<4	18	168	942
14.0	143	9.2	8.7	<40	737	20	3	<1	<1	<2	13	<15	<15	5	41	769	1,490
11.5	194	12	11	43	1,230	22	<2	<1	<1	3	10	<15	<15	7	31	1,620	2,180
2.5	247	15	15	219	2,320	23	19	<1	<1	<2	<2	<15	<15	13	21	2,070	3,390
3.5	310	18	21	752	3,710	21	24	<1	<1	<2	<2	<15	<15	23	30	2,600	5,220
3.0	293	17	16	508	2,730	21	17	1	<1	<2	<2	<15	<15	26	35	2,330	4,030
2.0	195	14	15	198	1,990	21	22	2	<1	2	3	<15	<15	16	32	1,380	3,100
9.0	98	9.6	10	70	872	21	23	<1	<1	<2	5	<15	18	6	37	584	2,080
11.0	47	6.3	7.2	<40	762	15	24	<1	<1	<2	3	<15	<15	<4	29	178	2,970
11.0	44	6.4	7.0	77	638	16	21	<1	<1	<2	3	<15	<15	<4	27	120	1,700
13.0	63	6.6	7.1	<40	488	17	17	<1	<1	<2	<2	<15	<15	<4	21	36	905
16.0	48	5.6	5.4	65	321	15	15	<1	<1	<2	<2	<15	<15	<4	12	64	571
12.0	57	5.9	6.5	<40	426	18	19	<1	<1	<2	<2	<15	<15	<4	15	182	694
14.0	90	7.7	8.4	62	656	19	21	<1	<1	<2	<2	<15	<15	<4	15	164	978
18.0	197	13	15	77	2,180	23	28	<1	<1	<2	<2	<15	<15	<4	31	895	3,560
4.0	289	18	--	634	--	21	--	3	--	<2	--	<15	--	16	--	2,290	--
7.0	157	14	--	<40	--	19	--	<1	--	<2	--	<15	--	12	--	1,640	--
16.0	60	7.8	--	81	--	22	--	<1	--	2	--	<15	--	<4	--	<30	--

Table 20. Water-quality data for the Animas River below Silverton, Colorado, 1997–99–Continued

Lead		Lithium		Manganese		Molybdenum		Nickel		Strontium		Vanadium		Zinc	
diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
<30	<30	21	<6	879	860	<10	<10	<20	<20	763	786	<4	<4	533	540
<30	<30	<6	<6	1,000	1,110	28	<10	<20	<20	878	980	<4	<4	596	660
<30	<30	<6	7	1,250	1,150	<10	<10	<20	<20	1,100	1,030	<4	<4	706	651
<30	<30	<6	7	1,450	1,340	<10	<10	<20	<20	1,220	1,130	<4	<4	752	722
<30	<30	<6	<6	1,410	1,310	<10	<10	<20	<20	735	671	<4	<4	868	863
<30	<30	<6	<6	1,110	1,110	<10	<10	<20	<20	500	517	<4	<4	654	649
<30	<30	<6	6	509	873	<10	<10	<20	<20	249	299	<4	<4	484	664
<30	<30	<6	<6	310	388	<10	<10	<20	<20	196	219	<4	<4	334	423
<30	<30	<6	<6	457	500	<10	<10	<20	<20	274	313	<4	<4	385	481
<30	30	<6	<6	202	398	<10	<10	<20	<20	146	163	<4	<4	197	308
<30	<30	<6	<6	246	277	<10	10	<20	21	185	183	<4	5	287	312
<30	<30	<6	<6	258	276	<10	<10	<20	23	195	187	<4	<4	276	311
<30	<30	<6	<6	235	184	<10	<10	<20	<20	194	124	<4	<4	239	176
<30	<30	<6	<6	225	180	<10	<10	<20	<20	179	124	<4	<4	232	181
<30	<30	<6	<6	269	226	<10	16	<20	<20	227	179	<4	<4	207	189
<30	--	<6	--	305	--	<10	--	<20	--	231	--	<4	--	191	--
<30	<30	<6	<6	433	368	<10	<10	<20	26	320	271	<4	7	248	231
<30	<30	<6	<6	444	408	<10	17	<20	<20	347	302	<4	<4	255	278
<30	36	6	18	653	531	<10	<10	<20	<20	475	410	<4	6	382	410
<30	49	10	17	1,070	818	<10	25	<20	<20	728	542	<4	6	469	411
<30	<30	<6	<6	1,300	1,200	<10	<10	<20	<20	886	781	<4	<4	528	520
<30	<30	7	<6	1,430	1,520	12	<10	<20	<20	1,050	1,140	<4	<4	571	632
<30	<30	<6	<6	1,300	1,200	<10	<10	<20	<20	1,010	865	<4	<4	718	731
<30	<30	<6	10	1,590	1,580	<10	<10	<20	<20	704	679	<4	<4	724	786
<30	<30	<6	<6	715	765	<10	<10	<20	<20	386	349	<4	<4	515	502
<30	<30	<6	<6	256	375	<10	12	<20	24	203	187	<4	<4	256	286
<30	<30	<6	<6	236	342	<10	<10	<20	<20	201	184	<4	5	239	265
<30	<30	<6	<6	306	337	<10	<10	<20	<20	246	242	<4	<4	240	261
<30	<30	<6	<6	263	262	<10	<10	<20	<20	200	178	<4	<4	189	209
<30	<30	<6	<6	332	347	<10	<10	<20	<20	233	237	5	<4	224	226
<30	<30	<6	<6	456	489	<10	<10	<20	<20	340	347	<4	<4	216	275
<30	<30	<6	<6	1,100	1,150	<10	14	<20	<20	762	807	<4	<4	375	418
<30	--	<6	--	1,640	--	<10	--	<20	--	1,080	--	<4	--	529	--
<30	--	10	--	1,600	--	<10	--	<20	--	680	--	<4	--	694	--
<30	--	<6	--	446	--	10	--	<20	--	293	--	<4	--	214	--

Table 21. Water-quality data for the Animas River at Silverton, Colorado, 1997–99

Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium		Magnesium		Sodium		Potassium	
							diss.	total	diss.	total	diss.	total	diss.	total
11/19/96	1310	43	311	7.54	3.0	9.6	52	51	2.9	28	2.3	2.5	--	--
1/8/97	1530	47	361	6.67	0.0	7.7	56	59	3.0	32	2.4	2.8	--	--
1/30/97	1000	8.5	433	6.48	-0.2	10	69	71	3.5	37	2.9	3.3	--	--
2/25/97	1200	18	360	6.90	0.1	9.8	60	59	3.2	32	2.5	2.4	--	--
3/25/97	1145	45	349	6.42	3.8	9.7	45	52	2.7	32	1.9	2.1	--	--
4/29/97	1000	96	284	6.14	3.5	10	42	41	2.6	26	1.8	1.9	--	--
5/14/97	0920	433	144	7.15	3.3	8.6	25	24	1.6	17	1.2	1.1	--	--
5/21/97	0830	514	129	6.10	3.8	9.7	22	20	1.4	14	1.1	0.91	--	--
5/29/97	0930	238	164	6.45	4.3	8.4	27	26	1.7	17	1.4	1.1	--	--
6/5/97	1100	883	138	6.09	7.6	9.4	17	16	1.1	13	0.93	0.68	--	--
6/11/97	1000	451	152	6.95	4.5	9.0	22	20	1.4	13	1.1	0.90	--	--
6/16/97	1300	580	128	6.85	8.0	10	21	19	1.4	13	1.1	0.90	--	--
6/26/97	1100	606	117	6.65	6.5	8.8	19	18	1.2	13	0.86	0.88	--	--
7/1/97	1400	585	119	6.69	10	7.8	19	17	1.3	12	0.90	0.78	--	--
7/15/97	1100	355	130	6.70	7.1	8.6	21	20	1.4	13	0.97	0.85	--	--
7/30/97	1115	324	136	6.79	8.7	8.4	23	20	1.6	13	1.1	0.84	--	--
8/12/97	1200	232	182	6.64	9.1	8.8	28	24	1.9	16	1.3	1.0	--	--
9/25/97	1100	202	185	6.83	5.7	--	29	30	2.0	20	1.3	1.3	--	--
10/22/97	1400	115	245	6.42	7.0	9.1	36	14	2.1	21	1.4	2.6	--	--
11/25/97	1515	44	295	6.48	2.3	9.1	50	17	2.7	25	2.0	2.9	--	--
12/23/97	1400	39	343	5.80	2.5	--	56	59	3.1	32	2.4	2.2	0.76	--
2/12/98	1330	25	320	5.96	-0.2	11	60	58	3.3	32	2.6	2.6	0.76	--
3/16/98	1430	25	406	7.40	4.5	9.1	57	59	3.2	32	2.2	2.6	0.76	0.73
4/23/98	1230	52	357	6.54	7.5	8.4	56	63	3.3	37	2.7	2.8	0.75	0.77
5/6/98	1115	168	205	6.98	4.0	9.2	36	29	2.1	19	1.7	1.7	0.57	0.53
5/29/98	1300	449	127	6.81	7.9	8.3	21	22	1.3	14	1.1	1.1	0.43	0.47
6/2/98	0730	621	106	6.56	2.5	--	18	19	1.1	13	0.86	0.93	0.45	0.46
6/9/98	1430	193	147	6.60	9.8	--	24	22	1.5	17	1.1	1.3	0.43	0.43
6/24/98	1200	485	114	6.86	5.6	8.8	19	17	1.2	12	0.87	0.81	0.36	0.37
7/9/98	1450	325	133	7.00	9.8	8.1	22	19	1.4	13	1.0	0.85	0.36	0.37
7/22/98	1430	141	181	6.95	14	7.1	28	30	1.8	17	1.3	1.3	0.50	0.43
9/30/98	1315	34	295	7.27	11	7.9	49	50	2.8	28	2.2	2.3	0.63	0.63
2/17/99	1445	28	360	7.13	0.4	--	62	--	3.3	--	2.7	--	0.70	--
4/29/99	1200	58	323	6.90	5.1	9.3	52	--	3.1	--	2.4	--	0.66	--
8/19/99	1230	205	194	7.05	11	7.4	31	--	2.0	--	1.4	--	0.48	--

Table 21. Water-quality data for the Animas River at Silverton, Colorado, 1997–99—Continued

Alk., field	Sulfate, diss.	Silica		Aluminum		Barium		Beryllium		Cadmium		Chromium		Copper		Iron	
		diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
33	116	8.7	7.7	78	141	26	26	<1	<1	4	<2	<15	<15	6	6	<30	115
34	83	8.8	8.6	89	197	22	26	<1	<1	4	2	<15	<15	<4	8	<30	155
35	155	10	10	79	213	26	29	<1	<1	5	2	<15	<15	5	9	68	203
24	141	9.1	8.2	119	162	21	23	<1	<1	3	3	<15	<15	4	16	79	450
31	116	8.0	8.2	115	339	19	23	<1	<1	7	5	<15	<15	7	26	120	521
23	92	8.0	7.3	133	219	21	21	<1	<1	5	<2	<15	<15	10	25	<30	240
21	46	5.8	6.8	135	555	18	24	<1	<1	<2	<2	<15	<15	15	42	55	1,060
20	40	5.6	5.3	114	130	17	17	<1	<1	<2	<2	<15	<15	6	15	<30	191
23	52	6.1	5.8	107	95	18	18	<1	<1	<2	2	<15	<15	9	12	<30	96
16.0	28	4.6	5.6	92	473	14	21	<1	<1	<2	<2	<15	<15	6	17	<30	837
21	36	5.8	5.3	<40	105	16	16	<1	<1	<2	2	<15	<15	5	7	32	97
21	32	5.6	5.2	60	67	18	16	<1	<1	<2	2	<15	<15	8	7	76	265
21	33	4.9	5.1	<40	51	15	17	<1	<1	<2	2	<15	18	5	6	<30	167
19.0	31	5.5	4.3	<40	<40	16	15	<1	<1	<2	<2	<15	<15	<4	8	<30	86
21	34	4.8	4.4	<40	<40	16	16	<1	<1	<2	<2	<15	<15	<4	<4	50	185
23	40	5.2	4.3	48	45	19	15	<1	<1	<2	3	<15	16	<4	4	<30	200
27	51	5.8	4.8	<40	<40	23	20	<1	<1	<2	<2	<15	23	<4	4	120	274
36	56	6.0	5.8	90	124	23	25	<1	<1	<2	<2	<15	<15	<4	6	233	257
31	75	5.4	5.9	<40	<40	23	6	2	<1	<2	11	<15	<15	4	41	95	65
30	110	6.7	6.8	<40	<40	24	6	<1	<1	<2	10	<15	<15	<4	23	45	72
25	130	7.9	7.7	<40	114	25	23	<1	<1	3	<2	<15	15	<4	<4	<30	293
31	150	8.4	8.7	<40	148	25	24	<1	<1	3	4	<15	<15	<4	7	<30	629
27	286	7.6	8.2	66	145	22	23	1	<1	3	6	<15	<15	<4	7	<30	209
31	135	8.4	9.3	169	374	22	25	2	<1	4	5	<15	<15	7	20	114	752
16.0	75	6.7	7.0	118	164	20	20	<1	<1	<2	4	<15	<15	7	18	55	237
24	36	4.7	5.9	74	345	15	21	<1	<1	<2	<2	<15	<15	7	21	57	499
15.0	31	4.3	5.9	67	539	14	22	<1	<1	<2	<2	<15	<15	<4	22	33	770
23	43	5.1	5.0	80	108	16	17	<1	<1	<2	<2	<15	<15	5	7	34	98
25	32	4.1	4.0	64	138	14	18	<1	<1	<2	<2	<15	<15	<4	6	41	61
21	37	4.4	4.1	68	108	16	18	<1	1	<2	2	<15	<15	<4	6	44	57
21	59	5.3	5.4	44	95	19	20	<1	<1	<2	<2	<15	<15	5	6	<30	125
33	108	7.3	7.5	80	127	26	27	<1	<1	<2	3	<15	<15	<4	5	<30	109
27	109	8.3	--	<40	--	24	--	1	--	<2	--	<15	--	<4	--	<30	--
29	107	7.9	--	<40	--	21	--	1	--	3	--	<15	--	6	--	<30	--
31	69	5.4	--	85	--	23	--	<1	--	<2	--	<15	--	<4	--	<30	--

Table 21. Water-quality data for the Animas River at Silverton, Colorado, 1997–99—Continued

Lead		Lithium		Manganese		Molybdenum		Nickel		Strontium		Vanadium		Zinc	
diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
<30	<30	9	<6	1,210	1,180	10	<10	<20	<20	524	528	<4	<4	574	564
<30	<30	<6	<6	1,590	1,690	<10	<10	<20	<20	567	616	<4	<4	737	806
<30	<30	17	6	2,830	2,950	13	<10	<20	<20	700	754	<4	<4	938	1,020
52	<30	<6	6	1,950	2,030	<10	<10	<20	<20	606	599	<4	<4	860	939
<30	<30	<6	<6	2,390	2,810	<10	<10	<20	<20	439	511	<4	<4	1,240	1,540
<30	<30	<6	<6	1,810	1,800	<10	<10	<20	<20	402	397	<4	<4	882	929
<30	59	<6	<6	585	1,050	<10	<10	<20	<20	227	224	<4	<4	597	772
<30	<30	<6	<6	425	451	<10	<10	<20	<20	196	186	<4	<4	393	452
<30	<30	<6	<6	642	638	<10	<10	<20	<20	254	245	<4	<4	482	482
<30	55	<6	<6	216	500	<10	<10	<20	<20	151	142	<4	<4	266	374
<30	<30	<6	<6	401	388	<10	<10	<20	25	202	177	<4	<4	419	391
<30	45	<6	<6	399	395	<10	<10	<20	<20	192	172	<4	<4	385	370
<30	<30	<6	<6	301	322	<10	<10	<20	<20	170	166	<4	5	318	327
<30	31	<6	<6	306	186	<10	<10	<20	<20	178	156	<4	<4	244	272
<30	<30	<6	<6	378	364	<10	<10	21	<20	195	181	<4	<4	264	281
<30	42	9	<6	493	428	<10	<10	<20	<20	227	189	<4	7	255	255
<30	<30	9	<6	723	641	<10	<10	<20	25	272	239	<4	<4	353	355
<30	<30	<6	<6	562	566	<10	<10	<20	<20	288	285	<4	<4	309	344
<30	33	8	15	778	798	11	<10	<20	<20	331	352	5	<4	378	461
<30	45	10	18	1,460	1,440	14	16	<20	<20	460	439	<4	<4	499	528
<30	<30	<6	<6	2,200	2,110	29	<10	<20	<20	556	514	<4	<4	611	664
<30	<30	<6	<6	1,800	1,830	20	<10	<20	<20	601	587	<4	<4	600	647
<30	48	<6	<6	2,260	2,330	23	<10	<20	<20	566	563	<4	<4	837	831
<30	<30	<6	<6	3,450	3,680	43	<10	<20	<20	551	571	<4	<4	1,180	1,330
<30	<30	<6	<6	1,270	1,330	18	<10	<20	<20	338	312	<4	<4	742	669
<30	34	<6	<6	322	537	<10	<10	<20	22	191	206	<4	<4	289	345
<30	60	<6	<6	272	591	<10	18	<20	<20	163	176	<4	<4	283	379
33	<30	<6	<6	431	444	<10	<10	<20	<20	226	207	<4	<4	297	325
<30	<30	<6	<6	339	358	<10	<10	<20	<20	169	155	<4	<4	245	241
<30	<30	<6	<6	421	429	<10	<10	<20	<20	199	179	<4	<4	227	231
<30	<30	<6	<6	643	629	<10	<10	<20	<20	278	285	<4	<4	226	260
<30	<30	<6	7	1,220	1,250	<10	<10	<20	<20	500	502	<4	<4	351	362
<30	--	10	--	2,380	--	<10	--	<20	--	620	--	<4	--	640	--
<30	--	9	--	2,880	--	<10	--	<20	--	509	--	<4	--	899	--
<30	--	<6	--	865	--	16	--	<20	--	294	--	<4	--	296	--

Table 22. Water-quality data for Cement Creek at Silverton, Colorado, 1997–99

Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium		Magnesium		Sodium		Potassium	
							diss.	total	diss.	total	diss.	total	diss.	total
1/9/97	0930	12	1,070	4.07	0.0	7.0	176	157	8.9	8.9	4.2	4.2	--	--
1/30/97	1145	13	960	3.57	1.7	11	180	162	8.5	9.0	4.2	4.1	--	--
2/25/97	1000	13	1,110	3.65	1.5	8.5	169	160	8.4	8.9	4.1	4.1	--	--
3/25/97	1400	22	746	3.63	6.8	8.6	116	91	6.0	5.5	2.9	1.6	--	--
4/28/97	1630	39	561	4.14	8.0	8.3	82	83	5.0	5.3	2.2	2.5	--	--
5/14/97	1100	120	288	4.21	5.0	8.1	30	32	2.5	2.9	1.2	1.3	--	--
5/21/97	1300	137	217	3.80	5.8	8.8	30	30	2.3	2.5	1.3	1.3	--	--
5/29/97	1200	72	324	4.28	6.2	8.4	46	48	3.2	3.3	1.6	1.8	--	--
6/5/97	0930	265	210	4.39	3.2	9.5	21	21	1.8	3.0	0.95	1.1	--	--
6/11/97	1345	130	166	4.46	9.6	8.0	30	29	2.3	2.3	1.1	1.1	--	--
6/17/97	1130	148	209	4.63	7.6	8.4	28	25	2.1	2.0	1.0	0.87	--	--
6/25/97	0930	167	234	4.67	5.9	8.7	32	28	2.4	2.2	1.1	0.90	--	--
7/2/97	0745	120	316	4.02	2.3	14	39	35	2.8	2.5	1.3	0.99	--	--
7/15/97	1245	67	387	4.53	8.6	9.0	61	59	3.9	3.7	1.7	1.6	--	--
7/29/97	1400	46	476	4.28	11	7.5	72	70	4.6	4.1	2.0	2.1	--	--
8/13/97	0845	35	581	4.19	6.6	8.8	90	85	5.4	4.8	2.4	2.3	--	--
9/25/97	0930	44	499	4.51	5.1	--	83	63	5.0	3.7	2.5	1.7	--	--
10/22/97	1510	27	646	3.86	7.3	9.4	106	29	5.7	5.6	2.5	3.2	--	--
11/26/97	0945	17	--	--	--	--	163	39	8.0	7.7	3.9	4.1	--	--
12/23/97	1430	15	1,010	4.41	7.7	--	161	194	8.5	9.5	3.9	5.0	2.0	--
2/12/98	1700	15	967	3.85	3.6	8.9	171	196	8.9	9.5	4.0	4.7	2.1	--
3/16/98	1515	13	1,110	4.10	6.2	--	184	213	8.8	10.0	4.4	5.0	1.9	1.8
4/23/98	1045	35	697	4.22	5.2	8.9	117	119	6.3	6.3	3.7	2.9	1.3	1.2
5/6/98	1430	61	437	4.29	7.4	8.6	68	114	4.1	7.4	2.0	4.0	0.88	0.82
5/29/98	1530	184	210	4.75	8.4	8.3	29	28	2.1	2.4	1.0	0.95	0.53	0.63
6/2/98	2250	161	183	4.67	6.0	--	23	25	1.8	3.2	0.85	0.97	0.47	0.81
6/3/98	1015	168	204	4.82	4.0	9.1	29	27	2.1	2.2	1.0	0.90	0.49	0.56
6/9/98	1230	76	349	4.99	8.2	8.2	48	49	3.1	3.0	1.3	1.4	0.69	0.65
6/24/98	1315	108	274	4.89	8.5	8.3	39	36	2.6	2.7	1.0	1.2	0.54	0.55
7/9/98	1615	71	375	4.97	11	7.5	54	55	3.4	3.7	1.4	1.8	0.67	0.67
7/22/98	1450	39	591	4.32	15	6.9	97	88	5.4	5.0	2.4	2.6	1.1	0.96
9/30/98	1340	18	963	3.78	12	6.9	153	172	7.8	8.9	3.4	4.0	1.6	1.6
11/3/98	1635	--	923	3.93	4.9	--	172	--	8.7	--	4.4	--	1.5	--
2/9/99	1420	13	1,110	3.44	5.4	9.6	174	--	8.8	--	3.8	--	2.2	--
4/29/99	1500	22	505	4.14	6.7	10	129	--	6.4	--	3.0	--	1.3	--
5/26/99	1430	116	274	4.73	8.1	8.0	37	--	2.8	--	1.4	--	0.57	--
6/9/99	1245	150	215	4.28	8.0	8.3	28	--	2.1	--	1.1	--	0.43	--
7/15/99	1200	67	355	5.12	8.3	7.9	53	--	3.7	--	1.6	--	0.64	--
7/29/99	1510	63	380	4.68	12	7.0	57	--	4.6	--	1.9	--	1.5	--
8/17/99	1530	46	498	4.48	11	--	76	--	4.6	--	2.2	--	0.90	--

Table 22. Water-quality data for Cement Creek at Silverton, Colorado, 1997–99—Continued

Alk., field	Sulfate, diss.	Silica		Aluminum		Barium		Beryllium		Cadmium		Chromium		Copper		Iron	
		diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
--	494	35	30	5,710	5,560	13	12	<1	<1	<2	<2	<15	<15	38	37	5,380	8,520
--	487	37	32	6,090	6,080	11	12	<1	1	<2	<2	<15	<15	28	26	7,480	12,730
--	537	35	31	5,720	5,900	10	11	<1	<1	<2	<2	<15	<15	22	25	6,780	12,050
--	521	36	32	5,980	6,200	8	10	<1	<1	<2	<2	<15	<15	22	25	6,900	10,110
--	338	26	19	4,150	3,100	13	12	<1	<1	5	<2	<15	<15	44	32	6,130	7,300
--	241	22	20	3,160	3,060	15	17	<1	<1	2	<2	<15	<15	57	60	<30	289
--	121	11	13	1,910	2,550	19	32	<1	<1	<2	4	<15	<15	118	128	2,890	14,860
--	95	11	12	1,760	1,940	20	23	<1	<1	2	3	<15	<15	110	108	2,540	4,280
--	155	14	15	2,310	2,620	18	20	<1	<1	2	3	<15	<15	115	118	3,340	4,610
--	59	9.8	16	882	3,500	24	67	<1	<1	<2	<2	<15	<15	87	102	1,190	10,860
--	79	12	11	1,380	1,560	20	22	<1	<1	<2	<2	<15	<15	102	98	2,610	3,230
1.7	78	11	9.4	1,160	1,250	19	20	<1	<1	<2	3	<15	<15	88	81	1,720	2,830
2.4	91	11	10	1,220	1,310	20	20	<1	<1	<2	5	<15	<15	101	90	1,580	2,810
--	113	12	10	1,220	1,350	19	17	<1	<1	<2	<2	<15	31	90	84	1,930	3,020
--	161	15	13	1,790	2,050	19	17	<1	<1	<2	2	<15	<15	93	88	2,370	3,680
--	216	17	15	2,490	2,210	19	18	<1	<1	<2	<2	<15	<15	87	87	1,510	2,230
--	268	21	18	3,080	2,650	17	17	<1	<1	<2	<2	<15	21	75	77	1,820	2,590
--	249	21	15	2,720	2,060	20	18	<1	<1	<2	<2	<15	<15	80	62	4,240	3,760
--	319	19	20	3,190	3,230	14	<2	<1	<1	3	10	<15	<15	52	79	3,860	5,500
--	490	27	27	5,110	4,770	12	<2	1	<1	<2	5	<15	<15	31	39	4,820	7,260
--	537	30	33	5,400	6,340	12	16	<1	<1	<2	<2	<15	<15	31	35	5,200	9,150
--	545	32	34	5,830	6,410	12	15	<1	<1	3	<2	<15	<15	30	24	5,330	8,970
--	557	31	35	6,140	7,400	17	17	<1	2	<2	<2	<15	<15	30	29	6,150	10,230
--	341	24	21	4,240	4,130	17	18	2	<1	<2	<2	<15	<15	46	30	5,470	8,420
--	207	17	34	2,880	4,950	18	38	<1	<1	<2	7	<15	<15	83	176	4,460	11,470
<1	89	10	13	1,210	2,080	21	50	<1	<1	<2	5	<15	<15	69	77	2,170	11,380
--	76	8.6	17.7	1,080	3,920	20	106	<1	<1	<2	6	<15	<15	82	114	1,090	36,320
1.0	87	10	11	1,050	1,630	21	34	<1	<1	<2	4	<15	<15	78	90	65	8,580
0.2	170	13	14	1,760	1,870	18	19	<1	<1	<2	<2	<15	<15	84	89	3,080	3,860
0.7	120	10	10	857	1,370	16	16	<1	<1	<2	<2	<15	<15	59	61	1,970	3,200
0.4	173	12	13	1,510	2,140	16	18	<1	<1	<2	<2	<15	<15	78	84	2,560	4,180
--	287	19	19	3,130	2,800	22	26	<1	<1	<2	10	<15	<15	74	76	1,720	2,990
--	493	26	30	4,810	5,410	15	24	<1	<1	<2	<2	<15	<15	26	35	4,100	8,130
--	493	31	--	5,800	--	21	--	<1	--	<2	--	<15	--	42	--	5,640	--
--	562	30	--	5,550	--	9	--	<1	--	<2	--	<15	--	19	--	5,120	--
--	378	24	--	4,250	--	16	--	4	--	<2	--	<15	--	43	--	5,060	--
--	128	13	--	1,870	--	26	--	2	--	3	--	23	--	98	--	3,660	--
--	74	10	--	1,200	--	18	--	<1	--	3	--	<15	--	92	--	2,150	--
0.8	147	14	--	1,830	--	19	--	<1	--	6	--	<15	--	129	--	3,100	--
0.3	179	14	--	888	--	223	--	<1	--	<2	--	<15	--	22	--	<30	--
--	264	18	--	2,930	--	21	--	<1	--	7	--	<15	--	149	--	2,490	--

Table 22. Water-quality data for Cement Creek at Silverton, Colorado, 1997–99—Continued

Lead		Lithium		Manganese		Molybdenum		Nickel		Strontium		Vanadium		Zinc	
diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
<30	<30	31	18	1,900	1,780	34	<10	<20	<20	1,990	1,900	<4	<4	810	784
<30	<30	20	20	1,810	1,820	<10	<10	<20	<20	2,130	2,140	<4	<4	679	712
<30	<30	35	20	1,800	1,890	<10	<10	<20	<20	2,130	2,210	<4	5	702	727
<30	<30	19	19	1,600	1,690	<10	<10	<20	<20	2,050	2,180	<4	<4	662	734
<30	<30	<6	7	1,350	1,210	17	<10	<20	<20	1,280	1,020	<4	<4	785	738
<30	<30	<6	10	1,640	1,710	<10	<10	<20	<20	909	957	<4	<4	792	825
<30	<30	<6	<6	770	852	<10	<10	<20	<20	323	348	<4	<4	903	967
<30	<30	<6	<6	608	636	<10	<10	<20	<20	311	319	<4	<4	713	741
<30	<30	7	6	806	833	<10	<10	<20	<20	503	534	<4	<4	835	875
50	87	<6	6	376	582	<10	<10	<20	<20	210	227	<4	5	527	576
<30	<30	9	<6	495	488	<10	32	<20	<20	312	299	<4	<4	627	613
<30	<30	9	<6	415	385	<10	29	<20	<20	285	255	<4	<4	534	468
<30	<30	9	<6	453	417	<10	<10	<20	32	331	290	<4	6	563	495
<30	<30	9	<6	532	473	<10	16	<20	43	414	355	<4	10	553	491
<30	<30	9	<6	755	723	<10	29	23	<20	662	631	<4	<4	617	608
<30	<30	8	<6	1,040	1,000	<10	<10	<20	<20	823	850	<4	<4	672	630
<30	<30	13	<6	1,230	1,160	<10	27	<20	37	1,050	1,040	<4	<4	707	687
<30	<30	10	<6	1,060	827	<10	<10	<20	<20	956	744	<4	<4	737	620
<30	49	10	15	1,110	1,060	<10	<10	<20	<20	1,140	1,020	<4	6	687	702
<30	<30	13	28	1,820	1,730	<10	<10	<20	<20	1,850	1,560	<4	5	644	621
<30	<30	16	16	1,820	2,020	26	<10	<20	<20	1,980	2,210	<4	<4	601	706
<30	<30	17	19	1,890	2,030	18	<10	38	<20	2,130	2,280	5	<4	622	660
<30	<30	14	14	1,650	1,820	<10	<10	<20	<20	2,150	2,250	<4	<4	641	715
<30	<30	7	<6	1,610	1,470	<10	<10	<20	<20	1,360	1,160	<4	<4	665	634
<30	<30	7	28	1,020	2,110	<10	<10	<20	<20	740	1,410	<4	<4	812	1,400
<30	31	<6	7	468	546	<10	<10	<20	<20	309	300	<4	<4	532	501
<30	98	<6	7	342	666	<10	<10	<20	<20	241	279	<4	12	504	577
<30	36	<6	7	401	439	<10	13	<20	<20	299	291	<4	8	518	501
<30	<30	6	8	589	617	<10	24	21	<20	524	537	<4	<4	608	581
<30	<30	<6	6	464	464	13	12	<20	26	409	387	<4	6	462	462
<30	<30	8	6	663	690	<10	<10	<20	<20	584	596	<4	<4	594	604
<30	<30	<6	<6	1,140	1,180	<10	41	<20	<20	1,060	949	<4	<4	656	643
<30	<30	14	13	2,490	2,830	<10	<10	<20	<20	1,760	1,960	<4	<4	638	605
<30	--	18	--	1,820	--	20	--	<20	--	1,960	--	<4	--	731	--
<30	--	21	--	2,460	--	<10	--	<20	--	2,000	--	<4	--	671	--
<30	--	23	--	1,440	--	<10	--	<20	--	1,420	--	<4	--	744	--
<30	--	<6	--	702	--	<10	--	<20	--	395	--	<4	--	704	--
<30	--	<6	--	401	--	<10	--	<20	--	296	--	<4	--	564	--
<30	--	<6	--	775	--	24	--	<20	--	584	--	<4	--	813	--
<30	--	<6	--	2,140	--	<10	--	<20	--	668	--	<4	--	632	--
<30	--	<6	--	1,050	--	<10	--	<20	--	848	--	<4	--	1,060	--

Table 23. Water-quality data for Mineral Creek at Silverton, Colorado, 1997–99

Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium		Magnesium		Sodium		Potassium	
							diss.	total	diss.	total	diss.	total	diss.	total
11/19/96	1155	35	407	6.30	3.0	11	67	64	5.1	5.0	3.1	3.2	--	--
1/3/97	1030	26	498	4.44	1.0	6.9	81	77	6.2	6.2	3.6	3.7	--	--
1/30/97	1400	26	493	4.76	3.4	10	83	87	6.5	7.1	3.6	4.0	--	--
2/25/97	1500	21	550	4.25	0.9	9.3	95	81	7.1	6.6	3.9	3.4	--	--
3/25/97	1015	40	398	5.06	1.5	11	56	56	4.2	4.4	2.5	2.5	--	--
4/29/97	1300	69	325	5.75	4.2	9.0	54	47	4.1	3.7	2.7	2.4	--	--
5/13/97	1450	210	175	6.97	9.3	9.0	28	28	2.3	2.3	1.7	1.6	--	--
5/20/97	1400	273	150	6.31	5.8	13	23	22	1.8	1.8	1.5	1.2	--	--
5/28/97	1530	171	181	6.40	7.2	8.6	30	29	2.4	2.3	1.8	1.6	--	--
6/5/97	1400	752	105	6.57	8.0	8.3	16	16	1.3	1.5	1.1	0.98	--	--
6/12/97	1330	494	136	6.45	7.4	9.4	18	19	1.5	1.5	1.0	1.0	--	--
6/17/97	0900	468	124	6.08	4.3	9.2	18	19	1.4	1.5	1.1	1.0	--	--
6/26/97	1230	445	117	6.84	7.9	8.4	17	18	1.4	1.4	0.95	0.97	--	--
7/1/97	1130	487	105	6.66	6.9	9.0	16	16	1.3	1.3	0.87	0.86	--	--
7/14/97	1400	242	138	6.51	9.9	7.9	20	20	1.7	1.6	1.1	0.99	--	--
7/30/97	1330	393	117	6.52	8.3	--	19	17	1.6	1.5	1.2	0.93	--	--
8/12/97	1400	204	178	6.48	11	7.8	26	26	2.2	2.0	1.3	1.4	--	--
8/25/97	1440	90	255	6.33	11	7.9	40	38	3.2	2.9	2.1	2.0	--	--
8/25/97	1517	94	255	6.58	11	7.9	41	37	3.3	2.9	2.2	1.8	--	--
9/25/97	1230	181	203	6.82	7.6	--	31	30	2.6	2.3	1.6	1.5	--	--
10/22/97	1245	83	298	6.30	4.5	8.9	48	15	3.6	3.2	2.1	2.7	--	--
11/25/97	1100	39	429	5.54	0.0	9.8	73	21	5.5	5.2	3.2	3.6	--	--
12/23/97	1230	15	505	5.42	0.0	--	74	80	6.0	6.4	3.1	4.0	0.79	--
2/13/98	1430	29	505	5.51	3.0	9.0	87	89	6.9	7.1	4.2	4.4	0.86	--
3/16/98	1230	19	616	5.20	4.0	9.3	83	107	6.5	7.9	3.8	4.6	0.93	0.81
3/19/98	1615	25	608	5.40	2.3	--	80	86	6.4	6.8	3.5	4.1	0.72	0.70
4/22/98	1615	29	428	5.89	10	8.0	71	72	5.2	5.3	3.8	3.6	0.72	0.68
5/5/98	1345	157	212	6.01	5.2	9.2	34	32	2.5	2.6	2.1	2.1	0.45	0.44
5/28/98	1545	424	142	6.71	9.0	8.2	21	21	1.6	1.7	1.1	1.3	0.31	0.36
6/2/98	1815	618	111	6.55	6.5	8.7	18	17	1.3	1.6	1.0	0.94	0.30	0.41
6/10/98	1230	197	162	6.80	5.6	8.6	26	24	1.9	1.8	1.3	1.1	0.32	0.32
6/25/98	1245	300	129	5.90	8.5	8.2	22	20	1.5	1.5	1.2	0.94	0.27	0.30
7/9/98	1130	254	144	7.03	7.6	8.3	23	22	1.7	1.7	1.2	1.0	0.27	0.29
7/22/98	1400	119	209	6.61	12	7.2	31	34	2.6	2.7	1.6	1.9	0.40	0.35
9/30/98	1125	45	389	6.75	7.9	8.4	62	61	5.0	4.9	2.9	2.9	0.60	0.53
2/24/99	1540	21	470	5.52	3.6	9.6	88	--	7.0	--	4.1	--	0.83	--
4/29/99	1550	53	229	6.22	6.0	10	59	--	4.5	--	3.4	--	0.58	--
8/18/99	1245	214	184	6.40	12	7.2	28	--	2.3	--	1.5	--	0.32	--

Table 23. Water-quality data for Mineral Creek at Silverton, Colorado, 1997–99—Continued

Alk., field	Sulfate, diss.	Silica		Aluminum		Barium		Beryllium		Cadmium		Chromium		Copper		Iron	
		diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
3.4	198	16	15	139	3,140	24	24	<1	<1	3	<2	<15	<15	41	75	3,120	4,660
--	207	20	18	1,400	4,730	24	27	<1	2	3	<2	<15	<15	59	79	2,570	6,560
2.0	250	20	20	2,730	5,140	23	26	<1	<1	<2	<2	<15	<15	49	62	2,500	6,340
--	242	19	17	2,690	4,850	24	22	<1	<1	<2	<2	<15	<15	54	58	2,640	7,310
1.8	165	14	15	469	2,940	20	24	<1	<1	4	<2	<15	<15	42	59	2,130	5,920
5.5	124	14	13	68	1,820	25	23	<1	<1	<2	<2	<15	<15	17	54	1,520	2,870
9.4	66	9.5	10	63	1,130	23	27	<1	<1	<2	3	<15	<15	7	53	228	3,200
14.5	53	8.4	8.3	123	624	21	22	<1	<1	<2	<2	<15	<15	10	28	320	1,370
14.0	69	9.7	9.8	51	742	22	23	<1	<1	<2	<2	<15	<15	9	39	274	1,390
13.5	31	6.6	8.4	131	977	17	31	<1	<1	<2	<2	<15	<15	6	19	143	2,460
15.5	36	7.6	7.7	45	377	19	20	<1	<1	<2	<2	<15	<15	7	18	248	705
15.5	31	7.1	7.4	<40	339	18	20	<1	<1	<2	<2	<15	<15	6	18	175	648
14.0	36	6.7	6.9	<40	317	17	20	<1	<1	<2	<2	<15	<15	<4	9	92	600
12.5	32	6.1	6.4	<40	309	15	17	<1	<1	<2	<2	<15	<15	<4	6	111	570
12.5	44	6.7	6.6	<40	363	16	17	<1	<1	<2	<2	<15	<15	<4	10	151	676
13.0	38	6.7	6.4	69	724	18	20	<1	<1	<2	<2	<15	<15	4	20	141	1,110
14.5	62	8.2	8.0	<40	541	18	23	<1	<1	<2	<2	<15	20	<4	23	299	759
--	100	11	10	48	1,070	25	23	<1	<1	<2	<2	<15	<15	<4	35	422	1,530
--	105	11	10	<40	1,100	26	23	<1	<1	<2	<2	<15	26	<4	39	451	1,670
21	78	9.3	8.6	44	670	23	25	<1	<1	<2	<2	<15	<15	<4	28	281	1,030
14.0	124	9.9	9.8	<40	1,260	23	5	<1	<1	<2	17	<15	<15	<4	78	1,180	2,340
4.0	201	14	15	62	2,980	25	7	<1	<1	<2	7	<15	<15	23	70	3,260	4,510
0.8	233	16	19	427	3,950	25	26	<1	<1	<2	<2	<15	<15	43	66	3,710	5,760
1.0	287	19	21	2,570	5,420	25	26	<1	<1	<2	<2	<15	<15	44	56	3,390	7,020
2.0	293	18	21	2,360	5,140	23	25	1	<1	<2	<2	<15	<15	66	79	3,090	6,170
1.6	304	16	19	2,130	5,100	22	28	1	<1	<2	2	15	<15	45	60	3,040	10,240
1.0	--	17	18	848	3,410	26	28	1	<1	<2	2	<15	<15	59	69	2,200	4,330
11.0	200	10	12	65	1,140	22	25	<1	<1	<2	3	<15	<15	6	36	471	2,100
18.0	45	6.9	8.0	48	789	19	22	<1	<1	<2	<2	<15	<15	<4	25	150	1,640
17.0	36	6.0	8.3	75	1,510	16	36	<1	<1	<2	<2	<15	<15	<4	39	124	4,750
17.0	83	7.6	7.7	<40	462	16	19	<1	<1	<2	2	<15	<15	<4	19	<30	830
11.0	39	6.4	6.6	100	383	18	20	<1	<1	<2	2	<15	<15	<4	13	99	683
16.0	53	6.6	6.9	96	447	17	20	<1	<1	<2	<2	<15	<15	<4	11	311	777
10.0	83	8.1	9.4	<40	996	20	23	<1	<1	<2	<2	<15	<15	<4	18	229	1,610
5.0	175	13	15	88	2,890	24	28	<1	<1	<2	<2	<15	<15	10	42	1,760	3,960
3.0	270	19	--	2,160	--	26	--	1	--	2	--	<15	--	27	--	2,480	--
4.0	165	15	--	<40	--	26	--	<1	--	4	--	<15	--	18	--	2,090	--
24	160	7.9	--	65	--	22	--	<1	--	<2	--	<15	--	<4	--	<30	--

Table 23. Water-quality data for Mineral Creek at Silverton, Colorado, 1997–99—Continued

Lead		Lithium		Manganese		Molybdenum		Nickel		Strontium		Vanadium		Zinc	
diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
62	<30	<6	<6	398	388	<10	<10	<20	<20	639	631	<4	<4	457	454
<30	<30	<6	<6	470	469	<10	<10	<20	<20	770	776	<4	<4	490	510
<30	<30	<6	<6	498	542	12	<10	<20	<20	799	880	<4	<4	483	505
<30	<30	9	<6	542	515	<10	<10	<20	<20	883	821	<4	<4	517	491
<30	<30	9	<6	360	387	<10	<10	<20	<20	523	551	<4	<4	487	527
<30	<30	9	<6	394	366	<10	<10	<20	<20	487	445	<4	<4	426	402
<30	<30	<6	<6	194	201	<10	<10	<20	<20	268	264	<4	<4	238	294
<30	<30	<6	<6	118	124	<10	<10	<20	<20	203	195	<4	<4	148	157
<30	<30	<6	<6	177	173	<10	<10	<20	<20	270	264	<4	<4	206	258
<30	<30	<6	<6	76	135	<10	<10	<20	<20	134	134	<4	<4	64	93
<30	<30	<6	<6	79	84	<10	14	<20	<20	156	154	<4	<4	102	110
<30	<30	<6	<6	70	75	<10	<10	<20	<20	149	154	4	<4	96	105
<30	<30	<6	<6	65	72	<10	<10	<20	<20	141	143	<4	<4	66	79
<30	<30	<6	<6	59	66	<10	<10	<20	<20	129	129	<4	<4	46	73
<30	<30	<6	<6	82	82	<10	<10	<20	22	168	162	<4	<4	71	94
<30	<30	<6	<6	81	95	<10	22	<20	32	158	143	<4	<4	73	85
<30	<30	<6	<6	123	121	<10	<10	<20	<20	223	237	<4	<4	100	128
<30	<30	<6	<6	216	205	<10	<10	<20	<20	354	351	<4	<4	174	180
<30	<30	<6	<6	222	203	<10	<10	<20	32	369	340	<4	<4	177	196
<30	<30	<6	<6	144	140	12	<10	<20	<20	274	276	<4	<4	131	165
<30	65	<6	13	319	135	<10	<10	<20	<20	398	347	<4	10	237	345
<30	<30	<6	13	410	312	<10	13	<20	<20	637	565	<4	4	359	353
<30	<30	<6	<6	460	507	24	<10	<20	<20	687	765	<4	<4	366	404
<30	<30	<6	<6	538	573	31	12	<20	<20	823	870	<4	<4	350	384
<30	<30	<6	<6	524	599	<10	<10	<20	<20	793	890	<4	<4	505	578
<30	<30	<6	<6	504	561	<10	<10	<20	<20	769	838	<4	<4	443	447
<30	<30	<6	<6	418	415	<10	<10	<20	<20	688	660	<4	<4	516	534
<30	<30	<6	<6	229	253	<10	<10	<20	<20	315	320	<4	<4	247	258
<30	<30	<6	<6	96	106	<10	<10	<20	<20	180	186	<4	<4	89	112
<30	<30	<6	<6	75	170	<10	<10	<20	<20	144	142	<4	<4	57	116
<30	<30	<6	7	102	110	12	<10	<20	<20	219	209	<4	<4	51	118
<30	<30	<6	<6	72	82	<10	<10	<20	<20	175	168	<4	<4	73	80
<30	<30	<6	<6	86	96	10	<10	<20	<20	190	188	<4	<4	68	82
<30	<30	<6	<6	160	171	31	<10	<20	<20	274	294	<4	<4	114	147
<30	<30	<6	<6	371	383	<10	<10	<20	<20	572	556	<4	<4	239	252
<30	--	<6	--	519	--	<10	--	<20	--	851	--	<4	--	324	--
<30	--	9	--	379	--	16	--	<20	--	552	--	<4	--	322	--
<30	--	<6	--	125	--	27	--	29	--	224	--	<4	--	88	--

Table 24. Water-quality data for nine sites along the main-stem upper Animas River and two major tributaries, 1998–99

[Site numbers from table 1; site locations shown in figure 1]

Site number	Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium, diss.	Magnesium, diss.	Sodium, diss.	Potassium, diss.	Alk., field	Sulfate, diss.	Silica, diss.
A33	8/20/98	1100	14.2	176	6.76	9.0	8.0	28	2.2	0.87	0.45	26	61	4.3
A33	9/23/98	1105	8.78	219	6.48	6.6	8.2	32	2.6	0.91	0.55	22	78	4.4
A33	11/4/98	1115	4.68	195	6.41	-0.2	--	31	2.2	0.95	0.46	22	66	5.2
A33	2/17/99	1130	1.16	282	7.08	0.4	--	48	3.4	1.5	0.68	31	99	5.9
A33	4/6/99	1110	5.29	174	7.47	0.1	11	28	2.0	0.86	0.54	15.0	46	4.9
A33	4/26/99	1320	8.70	143	6.49	3.7	8.9	23	1.6	0.74	0.49	19.0	40	4.7
A33	5/10/99	1205	16.6	126	6.93	2.8	7.8	19	1.4	0.61	0.41	21	33	4.2
A33	5/27/99	940	90.0	77	7.06	2.0	9.6	12	0.95	0.36	0.34	14.0	22	3.8
A33	6/10/99	1050	177	81	6.21	3.7	9.0	11	0.87	0.45	0.37	10.0	24	3.1
A33	7/16/99	1130	65.3	100	7.14	7.6	8.0	16	1.5	0.45	0.37	16.0	30	3.2
A33	7/29/99	1100	64.3	122	7.27	9.1	8.3	19	1.6	0.54	0.37	15.0	42	3.5
A33	8/19/99	1030	41.5	141	7.12	7.5	7.6	22	1.8	0.72	0.42	17.0	56	4.2
A53	8/20/98	1230	49.2	226	6.90	12	7.5	36	2.2	1.6	0.52	32	71	6.2
A53	9/23/98	1525	37.7	257	7.83	11	7.6	39	2.4	1.6	0.57	33	97	6.1
A53	11/4/98	1210	37.3	261	6.96	5.7	--	44	2.5	2.1	0.52	33	96	6.7
A53	2/17/99	1240	16.4	305	6.95	0.2	--	55	3.0	2.5	0.64	37	101	7.7
A53	4/6/99	1200	31.7	271	7.37	4.9	9.4	41	2.4	1.6	0.57	21	79	6.2
A53	4/26/99	1600	49.8	250	7.25	8.2	8.5	40	2.4	1.6	0.58	21	79	6.3
A53	5/10/99	1300	73.9	216	7.59	6.4	6.9	33	2.1	1.5	0.49	26	63	5.9
A53	5/27/99	1220	300	134	7.03	5.0	8.9	22	1.5	0.99	0.38	24	39	4.9
A53	6/10/99	1255	505	104	6.55	7.4	8.3	17	1.2	0.84	0.37	18.0	24	4.1
A53	7/16/99	1230	242	116	7.01	8.8	8.0	21	1.5	0.89	0.39	22	33	4.3
A53	7/29/99	1145	193	154	7.60	12	7.4	26	1.8	1.2	0.42	19.0	45	4.9
A53	8/19/99	1115	141	173	7.35	9.5	7.8	29	2.0	1.3	0.48	31	46	5.2
A60	4/6/99	1230	34.8	270	7.61	2.0	10	43	2.4	1.8	0.56	23	74	6.7
A60	4/27/99	1120	26.2	253	7.50	5.0	9.0	43	2.6	1.9	0.48	26	97	7.1
A60	5/10/99	1450	92.6	222	7.68	8.0	6.6	35	2.2	1.7	0.47	51	62	6.6
A60	5/28/99	1030	288	143	6.53	4.3	8.8	24	1.5	1.0	0.37	28	43	5.2
A60	6/10/99	1540	591	106	6.62	8.0	8.2	17	1.2	0.85	0.36	20	30	4.1
A60	7/15/99	1415	304	136	7.30	9.3	8.3	22	1.5	0.98	0.42	19.0	28	4.5
A60	7/30/99	945	193	169	7.25	7.8	8.4	26	1.8	1.1	0.42	32	46	5.0
A60	8/19/99	1205	167	175	7.37	9.5	7.8	30	2.0	1.4	0.45	31	53	5.4
C17	11/3/98	1430	2.34	700	5.75	2.9	8.1	120	6.7	2.7	0.73	1.0	370	18
C17	2/9/99	1130	1.63	938	6.02	2.7	8.8	166	8.5	3.7	0.95	1.8	408	21
C17	5/11/99	1210	2.30	670	5.38	3.2	9.0	123	6.5	3.1	0.65	1.0	273	19
C17	5/25/99	1200	11.2	317	5.48	2.7	9.8	44	2.9	1.4	0.39	1.0	137	11
C17	6/21/99	1200	37.7	192	6.45	4.8	8.8	28	2.0	1.1	0.29	7.0	76	8.7
C17	7/28/99	1115	13.1	297	6.40	7.8	8.0	48	3.1	1.4	0.37	3.0	147	11
C17	8/17/99	1245	7.85	344	6.34	9.9	--	54	3.5	1.7	0.43	1.0	147	12
C31	11/3/98	1515	10.7	1,010	4.04	6.0	--	184	9.5	3.8	1.5	--	553	30

Table 24. Water-quality data for nine sites along the main-stem upper Animas River and two major tributaries, 1998–99
—Continued

[Site numbers from table 1; site locations shown in figure 1]

Site number	Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium, diss.	Magnesium, diss.	Sodium, diss.	Potassium, diss.	Alk., field	Sulfate, diss.	Silica, diss.
C31	2/9/99	1250	7.23	1,160	3.59	7.0	7.5	198	10.6	3.7	2.2	--	619	35
C31	4/6/99	1615	8.17	969	5.01	8.7	7.8	194	7.3	4.1	1.9	0.3	485	30
C31	4/27/99	1230	11.1	954	3.91	8.6	8.5	169	9.2	3.7	1.5	--	462	32
C31	5/11/99	1250	16.4	727	4.13	6.8	8.6	121	6.9	2.6	1.2	--	339	23
C31	5/25/99	1310	44.5	491	4.01	4.2	9.3	71	3.6	1.5	0.63	--	214	15
C31	6/9/99	1140	89.2	264	3.52	4.5	8.9	27	2.1	0.86	0.40	--	88	9.7
C31	6/21/99	1255	98.1	255	3.96	5.8	8.6	28	2.2	0.92	0.39	--	101	9.6
C31	7/14/99	1130	30.7	368	3.99	8.1	7.4	44	3.7	1.2	0.48	--	130	14
C31	7/28/99	1205	27.6	490	4.00	11	7.0	70	4.5	1.6	0.74	--	243	16
C31	8/17/99	1410	22.9	588	3.87	11	--	81	5.0	1.9	0.89	--	267	19
C43	8/17/99	1520	35.7	542	4.22	11	--	78	4.7	2.0	0.83	--	288	17
M07	4/6/99	1415	1.76	205	4.19	0.3	9.1	19	1.8	2.8	0.42	--	65	5.7
M07	4/28/99	1045	3.25	115	5.10	1.0	9.5	18	1.8	3.5	0.39	3.0	65	5.7
M07	5/11/99	1505	6.40	141	5.68	2.7	10	16	1.5	2.7	0.34	2.0	57	5.1
M07	5/28/99	1220	25.1	80	6.67	4.8	8.9	9.6	1.0	0.98	0.25	10.0	26	3.6
M07	6/9/99	1530	65.5	62	6.18	4.7	8.7	8.2	0.97	0.72	0.31	7.5	17	3.1
M07	6/21/99	1550	57.3	62	6.33	4.0	8.9	13	1.1	0.87	0.28	4.0	17	3.9
M07	7/14/99	1315	11.9	89	5.66	8.6	7.5	9.6	0.92	0.80	0.23	1.0	34	2.9
M07	7/28/99	1300	13.5	89	6.41	13	6.9	11	0.99	0.96	0.26	5.0	34	3.4
M07	8/18/99	1055	11.8	102	6.05	8.7	7.6	13	1.2	1.2	0.27	3.0	38	3.9
M13	11/4/98	1400	5.97	378	6.27	4.9	--	63	3.0	4.1	0.47	3.4	172	9.3
M13	2/24/99	1115	3.48	691	6.50	0.1	10	121	3.9	7.4	0.72	8.5	346	13
M13	4/6/99	1500	5.80	428	6.38	5.9	8.5	72	2.9	4.8	0.57	1.0	156	10
M13	4/28/99	1300	13.9	354	6.55	2.7	--	61	2.8	5.2	0.47	6.0	135	11
M13	5/11/99	1555	17.7	287	6.70	7.9	8.5	45	2.3	3.7	0.42	5.0	112	8.9
M13	5/28/99	1145	55.2	153	6.90	6.4	8.6	23	1.7	2.0	0.31	5.0	65	6.8
M13	6/9/99	1610	116	95	6.34	6.3	8.4	13	1.1	0.94	0.27	8.0	29	4.0
M13	6/21/99	1645	123	91	6.93	5.1	8.8	8.7	1.1	0.71	0.29	9.0	28	2.8
M13	7/15/99	1350	36.6	139	6.73	7.8	8.2	20	1.3	1.3	0.28	3.0	47	5.2
M13	7/28/99	1335	41.8	156	7.07	14	6.8	24	1.5	1.6	0.28	6.0	68	6.0
M13	8/18/99	1140	35.8	187	6.10	10	7.6	28	1.8	1.8	0.33	7.0	46	6.9
M27	4/22/98	1415	19.1	607	4.45	6.2	8.4	74	5.8	3.6	0.69	--	313	16
M27	5/28/98	1345	134	165	5.80	7.6	8.1	21	1.7	1.3	0.35	1.2	71	7.7
M27	6/10/98	1200	78.4	207	6.94	4.2	8.9	32	2.5	1.7	0.36	1.0	83	9.9
M27	6/25/98	1130	100	167	5.15	7.0	8.4	26	2.0	1.4	0.29	1.6	73	7.6
M27	7/23/98	1145	42.8	293	5.05	7.8	8.1	41	3.3	1.9	0.41	0.5	135	9.7
M27	9/30/98	1245	15.0	646	4.25	9.3	8.1	101	7.8	4.5	0.78	--	330	19
M27	11/4/98	1500	19.1	619	4.62	0.0	--	95	7.6	4.2	0.59	0.9	323	18
M27	2/24/99	1245	9.14	942	3.94	1.2	10	159	12.1	8.0	0.91	--	470	28
M27	8/18/99	1225	58.5	280	5.10	11	7.6	40	3.3	2.2	0.41	4.0	138	12

Table 24. Water-quality data for nine sites along the main-stem upper Animas River and two major tributaries, 1998–99
—Continued

[Site numbers from table 1; site locations shown in figure 1]

Alum., diss.	Barium, diss.	Beryll., diss.	Cadm., diss.	Chrom., diss.	Copper, diss.	Iron, diss.	Lead, diss.	Lithium, diss.	Mang., diss.	Moly., diss.	Nickel, diss.	Stron., diss.	Van., diss.	Zinc, diss.
57	10	<1	<2	<15	5	<30	<30	6	701	<10	<20	173	<4	438
<40	12	<1	<2	<15	<4	<30	<30	6	971	<10	<20	197	<4	573
<40	11	<1	3	<15	11	<30	<30	<6	308	<10	<20	200	<4	556
<40	13	<1	<2	<15	20	<30	<30	<6	139	<10	<20	338	<4	493
<40	9	<1	<2	<15	19	<30	<30	9	176	<10	<20	181	<4	510
<40	9	<1	<2	<15	26	<30	<30	<6	192	11	<20	142	<4	508
<40	9	<1	3	20	31	<30	<30	<6	206	25	23	115	<4	458
200	10	2	<2	<15	32	84	150	<6	235	<10	<20	63	<4	389
76	6	<1	3	<15	11	<30	<30	<6	250	<10	<20	53	<4	260
<40	11	<1	3	<15	<4	<30	<30	<6	772	18	<20	100	<4	358
87	12	<1	2	<15	4	<30	<30	<6	741	<10	<20	110	<4	379
110	11	<1	3	<15	9	<30	<30	<6	799	32	<20	129	<4	429
<40	23	<1	<2	<15	<4	50	<30	8	207	<10	<20	348	<4	239
<40	24	<1	<2	<15	<4	44	<30	8	253	<10	<20	378	<4	231
<40	26	<1	<2	<15	<4	46	<30	11	262	<10	<20	421	<4	275
<40	26	1	<2	<15	<4	171	<30	7	451	<10	<20	529	<4	366
<40	23	<1	2	16	<4	<30	<30	7	197	22	<20	386	<4	273
<40	22	<1	<2	<15	<4	43	<30	10	235	11	<20	374	<4	314
<40	22	<1	3	<15	7	<30	<30	12	242	18	<20	309	<4	287
113	26	1	6	<15	10	58	95	<6	167	<10	<20	199	<4	305
63	14	<1	<2	<15	4	<30	<30	<6	125	<10	<20	149	<4	197
<40	20	<1	<2	<15	<4	<30	<30	<6	183	13	<20	194	<4	220
67	21	<1	<2	<15	<4	<30	<30	<6	245	21	<20	240	<4	228
84	25	<1	<2	<15	<4	<30	<30	<6	288	33	<20	272	<4	243
<40	21	<1	<2	<15	<4	<30	<30	11	174	<10	<20	414	<4	269
<40	21	<1	<2	<15	<4	<30	<30	11	182	12	<20	414	<4	277
<40	20	<1	2	<15	<4	<30	<30	12	206	<10	<20	333	<4	297
150	23	2	<2	27	15	69	<30	<6	164	<10	<20	212	<4	268
57	16	<1	<2	<15	5	<30	<30	6	105	<10	<20	153	<4	159
43	19	<1	<2	<15	<4	<30	<30	<6	162	17	21	207	<4	205
<40	21	<1	3	<15	<4	<30	<30	<6	214	18	38	250	<4	220
72	24	<1	<2	<15	<4	<30	<30	<6	243	16	<20	284	<4	226
974	10	<1	5	<15	42	2,250	<30	18	2,370	<10	<20	1,400	<4	965
1,030	10	<1	5	<15	17	2,270	<30	21	2,280	<10	<20	2,000	<4	798
1,270	11	5	<2	<15	50	2,460	<30	22	2,510	<10	<20	1,460	<4	1,150
924	8	<1	<2	41	38	955	<30	<6	903	23	<20	483	<4	568
100	11	<1	<2	<15	12	995	<30	<6	327	<10	<20	286	<4	246
55	11	<1	<2	<15	<4	702	<30	<6	628	19	<20	513	<4	284
196	12	<1	<2	<15	10	998	<30	6	784	<10	<20	606	<4	366
6,560	13	2	4	<15	34	16,310	<30	17	1,910	<10	<20	1,780	<4	957
7,850	11	<1	<2	<15	16	20,900	<30	26	3,710	<10	<20	1,940	<4	937

Table 24. Water-quality data for nine sites along the main-stem upper Animas River and two major tributaries, 1998–99
—Continued

[Site numbers from table 1; site locations shown in figure 1]

Alum., diss.	Barium, diss.	Beryll., diss.	Cadm., diss.	Chrom., diss.	Copper, diss.	Iron, diss.	Lead, diss.	Lithium, diss.	Mang., diss.	Moly., diss.	Nickel, diss.	Stron., diss.	Van., diss.	Zinc, diss.
4,910	11	<1	7	<15	26	16,330	<30	17	1,620	<10	<20	1,720	<4	952
7,150	14	2	6	<15	53	17,450	<30	16	2,770	<10	<20	1,600	<4	1,250
5,080	9	<1	11	<15	85	12,050	<30	19	1,850	<10	<20	1,080	<4	1,230
3,150	22	2	4	<15	193	5,890	<30	<6	1,170	<10	234	614	<4	1,360
1,640	14	<1	6	21	156	3,490	<30	<6	472	16	20	247	<4	879
1,680	15	<1	7	15	176	3,070	<30	<6	481	<10	<20	263	<4	869
2,810	14	<1	9	<15	201	5,280	<30	<6	856	18	<20	411	<4	1,180
3,310	15	<1	15	<15	224	5,720	<30	<6	1,140	<10	24	657	<4	1,460
4,020	15	1	16	<15	261	6,800	<30	6	1,280	25	<20	783	<4	1,750
2,970	17	<1	13	<15	186	2,500	<30	<6	1,140	21	<20	879	<4	1,270
1,080	22	<1	12	<15	594	1,060	197	13	462	20	<20	394	<4	3,050
844	23	<1	5	<15	462	727	84	13	386	<10	<20	371	<4	2,300
268	20	<1	7	<15	299	565	48	13	316	<10	<20	309	<4	1,900
132	28	2	<2	<15	41	154	47	<6	110	<10	<20	197	<4	511
195	20	<1	<2	<15	54	795	<30	<6	89	<10	<20	163	<4	302
67	14	<1	<2	<15	18	62	<30	<6	87	<10	<20	196	<4	180
218	19	<1	4	<15	431	1,640	<30	<6	174	32	<20	188	<4	1,390
<40	20	<1	5	<15	122	100	<30	<6	140	12	40	206	<4	994
<40	24	<1	4	<15	78	33	33	<6	148	14	<20	252	<4	993
<40	26	1	5	<15	79	103	<30	8	452	<10	<20	897	<4	1,270
<40	28	<1	5	<15	129	<30	<30	15	522	29	<20	1,600	<4	1,590
<40	22	1	6	<15	66	128	<30	8	444	<10	<20	989	<4	1,210
<40	21	1	5	<15	86	210	<30	<6	490	<10	<20	833	<4	1,140
<40	18	<1	3	<15	51	115	<30	<6	374	35	<20	618	<4	949
180	20	1	<2	21	19	47	109	<6	236	<10	<20	337	<4	469
<40	15	<1	<2	<15	15	32	<30	<6	116	<10	<20	204	<4	211
90	17	<1	<2	<15	48	262	<30	<6	63	<10	<20	167	<4	287
<40	18	<1	3	<15	26	35	<30	<6	152	21	<20	283	<4	446
60	21	<1	3	<15	17	<30	<30	<6	166	26	<20	335	<4	331
<40	22	<1	2	<15	18	<30	<30	<6	240	27	<20	387	<4	432
4,800	17	<1	3	<15	115	2,760	<30	<6	642	30	<20	780	<4	729
139	17	<1	<2	<15	20	960	<30	<6	176	21	<20	246	<4	235
292	21	<1	<2	<15	42	1,770	<30	<6	235	<10	<20	365	<4	317
61	17	<1	<2	<15	13	1,120	39	<6	162	<10	<20	290	<4	181
861	18	<1	<2	<15	37	2,670	<30	<6	334	<10	<20	431	<4	308
6,310	23	<1	<2	<15	112	4,420	<30	<6	894	<10	<20	1,060	<4	627
6,110	18	4	<2	<15	89	7,600	<30	<6	783	30	<20	985	<4	583
11,740	22	2	<2	<15	88	4,690	<30	<6	1,150	<10	<20	1,610	<4	727
637	22	<1	<2	<15	48	2,330	<30	<6	387	21	<20	417	<4	334

Table 25. Water-quality data for selected mine sites in the upper Animas River watershed, 1997–99—Continued

[Site numbers from table 2; site locations shown in figure 2]

Site number	Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium		Magnesium		Sodium		Potassium	
								diss.	total	diss.	total	diss.	total	diss.	total
MS1	10/10/97	1000	--	1,490	6.70	11.8	--	343	--	20	--	9.7	--	--	--
	8/7/98	1045	0.050	1,871	6.54	11.9	--	286	--	19	--	8.8	--	2.6	--
MS2	9/5/97	1025	0.009	614	3.92	5.6	3.9	57	--	9.8	--	2.8	--	--	--
	3/26/98	1000	0.015	563	3.69	4.4	7.4	55	54	7.2	7.0	2.7	2.9	1.3	1.2
	4/22/98	915	0.016	449	3.40	4.7	6.5	55	53	6.9	6.7	2.7	2.9	1.3	1.2
	5/6/98	1230	0.022	542	3.99	5.3	8.1	53	56	7.6	8.0	2.5	3.0	1.3	1.3
	5/21/98	1715	0.028	654	3.92	5.5	8.0	60	50	12	10	3.2	2.4	1.4	1.4
	6/10/98	1600	0.024	628	3.85	5.3	6.7	50	56	9.9	9.7	2.3	2.7	1.6	1.5
	7/1/98	1415	0.008	627	3.80	5.4	6.0	46	53	8.3	8.8	2.1	2.3	1.6	1.5
	7/23/98	1145	0.011	601	3.99	5.6	8.8	48	49	8.0	8.1	2.0	2.7	1.6	1.4
	7/30/98	1530	0.014	598	3.85	5.5	7.9	52	47	8.5	8.0	2.1	2.3	1.6	1.4
	8/19/98	1230	0.015	565	3.91	5.5	8.1	54	56	8.4	8.6	2.7	2.4	1.6	1.4
	9/24/98	1005	0.010	546	3.93	5.4	5.8	57	57	8.4	8.2	2.8	2.6	1.4	1.3
	10/14/98	1000	0.003	534	3.92	5.3	4.6	54	53	7.6	7.5	2.4	2.7	1.3	1.3
	11/5/98	930	0.017	535	4.04	4.8	--	54	--	7.6	--	2.4	--	1.3	--
	12/18/98	1150	0.031	551	4.02	5.1	--	55	--	8.3	--	2.0	--	1.5	--
MS3	8/24/98	1045	0.062	845	6.21	10.9	0.6	113	--	6.9	--	4.6	--	2.7	--
MS4	5/28/98	930	0.10	624	6.04	8.1	2.8	95	89	7.8	7.3	3.5	3.1	0.33	0.35
	7/22/98	1100	0.11	588	6.25	8.0	2.4	87	80	7.0	7.1	3.0	3.1	0.34	0.43
	10/13/98	1300	0.090	556	6.06	8.0	0.9	83	89	6.5	6.7	2.8	3.0	0.29	0.30
	12/17/98	1305	0.031	545	5.95	7.9	--	89	--	6.5	--	3.0	--	0.32	--
	5/27/99	1030	0.090	628	5.36	7.6	0.6	87	--	7.2	--	2.8	--	0.30	--
	7/17/99	930	0.13	591	6.04	7.9	0.8	84	--	7.2	--	2.9	--	0.34	--
MS5	8/25/99	1100	0.15	618	5.72	7.9	0.9	91	--	7.7	--	3.1	--	--	--
	10/18/96	1230	0.016	660	3.17	6.6	6.6	64	--	8.3	--	3.2	--	--	--
MS6	8/20/98	1300	--	1,088	4.74	6.7	--	109	--	12	--	3.9	--	3.3	--
	10/1/97	1400	0.60	1,020	6.95	7.8	7.2	259	--	13	--	4.1	--	--	--
MS7	12/17/97	1230	0.072	795	3.16	0.4	9.2	89	88	6.2	6.1	6.2	6.7	0.66	--
	3/25/98	1200	0.057	938	2.74	1.0	9.5	92	86	6.4	5.9	7.1	6.7	0.64	0.59
	5/22/98	910	0.036	1,220	3.00	4.8	3.1	155	151	9.0	8.5	10	9.1	0.67	0.66
	7/22/98	1300	0.047	895	3.28	9.6	10.5	88	81	6.0	5.5	5.9	5.1	0.51	0.40
	10/13/98	1450	0.030	874	3.09	4.2	10.3	91	89	6.3	6.3	6.0	6.3	0.51	0.47
	7/16/99	1115	0.074	807	3.23	9.8	8.0	77	--	5.2	--	5.7	--	0.46	--
	8/25/99	1000	0.049	770	3.35	7.0	8.5	76	--	5.7	--	5.8	--	--	--
MS8	7/18/99	1300	0.080	802	3.68	15.0	10.2	84	--	16	--	1.8	--	0.75	--
MS9	8/24/99	1240	0.050	208	6.34	3.6	7.5	33	--	0.66	--	0.96	--	0.59	--
MS10	8/24/98	1400	0.087	898	6.31	2.9	0.5	135	--	17	--	4.3	--	0.72	--
MS11	10/10/97	1030	--	1,280	7.10	12.0	--	342	--	6.0	--	7.9	--	--	--
	12/29/97	1130	0.40	1,460	6.14	11.4	--	305	318	6.1	6.2	8.4	8.2	1.2	--
	2/12/98	1100	0.30	1,475	6.20	14.7	0.6	300	324	6.0	6.3	7.8	8.2	1.1	--
	3/24/98	1300	0.58	1,510	6.79	15.0	0.0	270	318	6.2	6.2	9.3	9.9	1.0	0.90
	4/21/98	1605	0.43	1,480	6.54	14.8	0.2	277	278	6.1	5.5	8.7	8.6	0.98	0.92
	5/5/98	1550	0.55	1,511	7.04	15.0	0.1	300	340	6.4	6.6	8.1	9.4	0.96	0.95
	5/21/98	1530	0.45	1,484	7.18	15.0	0.1	286	311	6.1	6.0	8.6	8.1	0.93	0.89
	6/24/98	1515	0.34	1,406	6.50	15.0	0.3	252	296	5.7	6.0	7.3	9.1	0.96	0.93

Table 25. Water-quality data for selected mine sites in the upper Animas River watershed, 1997–99—Continued

[Site numbers from table 2; site locations shown in figure 2]

Site number	Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium		Magnesium		Sodium		Potassium	
								diss.	total	diss.	total	diss.	total	diss.	total
MS12	7/23/98	1300	0.34	1,458	6.93	14.8	1.2	307	335	5.9	6.7	7.3	8.6	1.1	0.93
	10/14/98	1105	0.34	1,451	6.79	15.0	0.3	322	310	6.1	6.3	7.9	6.6	0.92	0.92
	10/3/98	1130	0.050	252	6.96	4.5	11.5	41	--	3.2	--	3.2	--	0.69	--
MS13	11/6/96	1300	0.010	472	3.31	3.5	--	4.6	4.7	10	10	2.4	2.4	--	--
	12/11/96	1200	0.030	490	3.29	3.5	1.9	5.0	4.8	11	10	2.5	2.5	--	--
	1/22/97	1330	0.016	500	3.20	3.1	2.3	4.7	4.7	10	10	2.4	2.3	--	--
	2/13/97	1000	0.014	493	2.81	3.1	3.0	4.5	4.6	10	10	2.3	2.2	--	--
	3/14/97	930	0.023	502	3.18	3.4	4.9	5.1	4.7	11	10	2.4	2.3	--	--
	4/25/97	1030	0.012	510	3.00	4.0	--	4.7	4.6	10	10	2.2	2.3	--	--
	5/22/97	1000	0.018	502	3.16	3.7	3.2	4.9	4.9	11	11	2.5	2.6	--	--
	6/5/97	1300	0.026	494	3.15	4.1	2.4	4.7	4.8	11	10	2.3	2.5	--	--
	7/17/97	930	0.017	470	3.19	3.5	2.1	4.6	4.8	10	10	2.4	2.3	--	--
	8/19/97	1100	0.010	468	3.11	4.0	2.6	4.7	4.5	10	9.6	2.5	2.1	--	--
	9/11/97	1000	0.022	457	3.04	3.4	1.4	4.7	4.6	10	9.9	2.5	2.3	--	--
	9/15/99	1400	0.52	480	6.04	4.9	2.4	66	--	6.7	--	5.7	--	0.60	--
MS15	11/6/96	1530	0.036	856	4.68	7.7	0.5	137	117	14	14	8.8	7.0	--	--
	12/11/96	1030	0.039	865	4.69	7.8	0.4	132	115	13	13	8.5	6.5	--	--
	1/22/97	930	0.058	870	4.80	7.7	0.2	153	121	15	14	9.9	7.3	--	--
	2/12/97	1500	0.036	883	4.44	7.8	0.4	133	117	13	13	8.5	7.7	--	--
	3/13/97	1330	0.036	872	4.76	7.9	0.0	128	120	13	13	7.9	8.0	--	--
	4/24/97	1300	0.022	895	4.57	8.2	--	144	--	15	--	9.5	--	--	--
	5/22/97	930	0.044	854	4.49	8.0	0.0	141	128	14	14	9.3	8.0	--	--
	6/5/97	900	0.052	920	3.72	7.6	0.0	141	129	14	14	8.4	7.3	--	--
	6/19/97	1315	0.077	969	5.06	8.1	0.0	125	152	12	14	6.7	8.8	--	--
	7/18/97	1520	0.070	934	4.92	8.6	0.4	141	139	13	13	8.9	8.2	--	--
	8/18/97	1600	0.050	872	5.05	7.8	0.0	133	128	13	12	8.3	7.8	--	--
	9/11/97	1200	0.036	770	4.64	7.5	0.0	133	114	13	12	8.9	6.3	--	--
	8/11/98	1430	0.083	1,388	6.65	9.1	--	272	309	11	13	8.7	9.3	1.4	1.9
	7/29/99	1220	0.005	1,220	5.83	8.5	3.7	250	--	12	--	9.5	--	3.1	--
	8/3/99	1245	--	1,640	6.27	9.2	--	359	--	11	--	9.6	--	1.6	--
	8/13/99	1000	--	1,590	6.20	9.2	3.9	409	--	13	--	12	--	1.8	--
	8/20/99	1030	--	1,708	6.07	9.0	6.1	378	--	11	--	9.0	--	1.5	--
	8/25/99	1325	--	1,767	5.65	9.4	7.5	393	--	11	--	9.6	--	--	--
	9/1/99	1050	--	1,325	5.69	8.5	7.2	349	--	11	--	10	--	1.6	--
	9/9/99	1000	--	1,385	5.80	8.8	9.0	294	--	12	--	10	--	1.5	--
	9/16/99	945	--	1,513	5.92	8.9	6.9	334	--	11	--	9.6	--	1.1	--
MS16	9/10/97	1035	0.003	488	3.36	9.1	8.1	17	--	6.1	--	1.0	--	--	--
MS17	9/15/99	1230	0.17	334	5.92	3.9	3.5	45	--	3.2	--	5.4	--	0.43	--
MS18	6/10/98	1350	0.040	634	3.23	4.2	8.7	64	67	4.8	4.6	6.1	6.6	0.64	0.62
	6/10/98	1430	0.022	687	3.04	5.6	8.6	65	49	5.0	3.7	6.3	3.9	0.61	0.63
	3/14/97	1330	--	1,150	2.54	1.2	6.8	1.8	1.8	2.3	2.3	<0.10	0.27	--	--
	9/8/97	1730	--	1,087	2.79	9.9	6.6	2.0	--	1.9	--	0.29	--	--	--
	7/29/99	1555	0.001	1,310	3.75	6.7	6.2	4.6	--	0.71	--	0.56	--	0.58	--
	8/5/98	1015	--	392	7.77	5.8	--	59	--	6.2	--	5.9	--	0.95	--
	8/5/98	1030	--	410	7.34	5.7	--	63	--	6.4	--	5.7	--	0.93	--
MS21	7/22/98	1200	0.001	678	2.79	14.0	3.8	5.5	5.0	1.2	1.1	0.59	0.52	0.72	0.63
MS22	9/4/98	1415	0.011	405	6.80	18.0	4.0	59	--	3.9	--	5.2	--	1.2	--

Table 25. Water-quality data for selected mine sites in the upper Animas River watershed, 1997–99—Continued

[Site numbers from table 2; site locations shown in figure 2]

Site number	Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium		Magnesium		Sodium		Potassium	
								diss.	total	diss.	total	diss.	total	diss.	total
MS23	10/3/98	1010	--	284	3.54	3.4	10.4	14	--	1.8	--	1.0	--	0.68	--
MS25	3/5/98	1230	0.044	376	6.43	5.5	8.1	61	62	4.3	4.5	3.6	4.1	0.53	--
	4/21/98	1000	0.076	375	6.35	5.4	8.5	65	62	4.6	4.4	4.2	4.9	0.39	0.41
	5/6/98	1030	0.049	373	7.17	5.6	8.7	63	66	4.5	4.7	3.9	4.7	0.40	0.42
	5/21/98	1000	0.053	371	7.52	5.6	7.0	49	60	3.7	4.5	2.8	4.1	0.37	0.39
	6/8/98	1350	0.078	376	6.70	5.6	8.7	61	63	4.4	4.6	3.8	4.6	0.41	0.43
	7/2/98	1115	0.058	376	6.50	5.4	8.4	57	61	4.2	4.3	3.7	3.5	0.41	0.43
	7/22/98	1545	0.081	377	6.60	5.7	8.6	61	67	4.5	4.8	3.4	4.3	0.43	0.37
	8/19/98	1525	0.047	360	7.20	5.6	8.6	61	64	4.4	4.6	3.8	4.8	0.43	0.38
	9/24/98	1400	0.041	359	6.80	5.5	6.4	63	63	4.6	4.6	3.9	4.0	0.39	0.39
	10/14/98	1510	0.074	359	6.60	5.5	6.4	62	63	4.5	4.6	3.6	4.7	0.38	0.41
	11/2/98	1355	0.044	358	6.18	5.6	7.1	59	--	4.4	--	3.4	--	0.38	--
	12/29/98	1300	0.018	356	7.27	5.2	--	63	--	4.5	--	4.2	--	0.44	--
MS26	9/10/97	1310	0.015	180	4.69	7.7	8.6	25	--	2.5	--	0.72	--	--	--
MS27	9/17/99	1400	0.002	1,300	6.22	2.1	11.6	193	--	38	--	4.3	--	1.7	--
MS28	08/26/99	1415	0.035	1,081	6.68	7.7	0.4	197	--	9.3	--	12	--	1.3	--
MS29	8/28/98	1530	0.300	652	6.52	6.1	0.4	117	--	5.4	--	2.1	--	0.67	--
MS30	9/25/97	1430	--	970	3.40	3.4	10.0	132	--	10	--	2.0	--	--	--
MS31	8/29/97	1300	0.090	882	6.44	7.5	0.0	124	--	17	--	6.8	--	--	--
MS32	9/30/97	1400	0.020	725	5.15	3.0	0.6	144	--	7.8	--	2.5	--	--	--
MS33	10/3/98	1330	0.015	1,260	6.43	9.8	5.7	246	--	6.3	--	8.7	--	0.91	--
MS34	8/27/98	1545	0.009	2,140	5.01	5.3	3.0	359	--	42	--	8.0	--	0.90	0.78
MS35	9/25/97	1200	0.002	420	6.86	3.0	4.1	79	--	3.3	--	1.4	--	--	--
MS36	9/30/98	1215	0.099	416	6.82	8.9	1.6	65	--	1.9	--	1.9	--	0.58	--
MS37	9/18/99	945	0.003	859	2.93	6.6	--	52	--	7.8	--	1.3	--	0.37	--
MS38	10/1/99	1100	0.010	498	4.18	3.2	4.0	60	--	4.9	--	3.8	--	0.76	--
MS39	9/29/98	1240	--	276	7.73	5.3	--	37	--	4.5	--	5.0	--	0.71	--
MS40	9/24/99	1200	0.002	1,172	4.05	1.3	9.0	160	--	38	--	2.4	--	0.90	--
MS41	7/18/99	1430	0.001	368	3.45	10.0	4.4	34	--	3.4	--	1.0	--	0.46	--
MS42	8/27/99	1210	0.095	456	5.75	3.7	5.4	64	--	6.8	--	6.2	--	0.51	--
MS43	8/24/99	1230	0.004	560	3.13	6.6	8.3	34	--	8.8	--	4.7	--	0.84	--
MS44	9/13/99	1530	0.001	220	6.24	10.3	1.1	34	--	2.3	--	4.2	--	0.53	--
MS45	9/17/99	1200	0.019	479	3.25	3.2	11.5	37	--	5.4	--	1.7	--	0.89	--
MS46	9/15/99	1030	0.15	272	6.51	5.2	10.6	34	--	4.4	--	4.5	--	0.50	--
MS47	9/12/98	1500	0.010	1,158	7.04	9.2	4.4	253	--	3.2	--	8.4	--	0.71	--
MS48	08/23/99	1400	0.014	980	7.51	10.2	7.7	186	--	7.3	--	11	--	0.97	--
MS49	10/17/97	1406	--	520	7.50	--	--	109	--	3.4	--	3.8	--	--	--
MS50	9/6/97	1120	--	367	6.98	2.0	8.2	61	--	3.9	--	1.5	--	--	--
MS51	8/25/99	1330	0.16	481	7.60	9.8	5.1	80	--	3.8	--	6.0	--	0.38	--
MS52	10/18/96	1500	0.75	1,090	5.70	5.6	8.2	211	--	9.0	--	3.9	--	--	--
	11/4/97		--	1,000	6.80	6.1	--	200	--	8.7	--	3.2	--	--	--
	8/5/98	1245	--	910	6.34	5.7	--	187	--	8.8	--	3.9	--	0.88	--
MS53	9/30/98	1040	0.060	679	6.47	11.0	7.4	96	--	3.9	--	2.7	--	1.3	--
MS54	9/8/98	1545	0.43	590	7.03	7.2	0.6	77	--	5.8	--	2.0	--	1.4	--
MS55	9/27/99	1600	0.005	783	2.63	2.5	11.4	26	--	1.8	--	0.38	--	0.62	--
MS56	5/15/97	1330	--	956	6.98	14.5	--	178	185	6.3	6.4	4.6	5.3	--	--

Table 25. Water-quality data for selected mine sites in the upper Animas River watershed, 1997–99—Continued

[Site numbers from table 2; site locations shown in figure 2]

Site number	Alk., field	Sulfate, diss.	Silica		Aluminum		Barium		Beryllium		Cadmium		Chromium		Copper		Iron	
			diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
MS1	--	791	32	--	643	--	12	--	<1	--	21	--	<15	--	<4	--	30,500	--
	20	867	30	--	484	--	11	--	<1	--	10	--	<15	--	<4	--	28,760	--
MS2	--	308	63	--	9,360	--	6	--	2	--	<2	--	<15	--	69	--	48,510	--
	--	237	49	54	4,150	5,000	7	9	2	<1	<2	6	<15	<15	45	46	27,850	31,210
	--	205	47	52	3,920	4,650	7	9	1	<1	<2	3	<15	<15	40	44	25,950	31,010
	--	237	48	56	5,230	6,310	10	10	1	<1	4	6	<15	<15	42	51	30,960	33,960
	--	293	65	57	10,520	9,250	6	6	3	<1	7	6	<15	<15	63	55	62,100	53,610
	--	330	57	66	9,650	10,250	5	5	<1	3	5	11	<15	<15	57	70	54,240	53,740
	--	300	50	58	7,690	8,580	3	8	<1	<1	3	<2	<15	<15	49	58	40,980	44,160
	--	290	50	56	6,820	7,230	4	8	<1	<1	<2	6	<15	<15	43	48	36,170	37,070
	--	267	50	50	7,040	7,160	<2	4	<1	<1	8	5	<15	<15	41	42	37,870	36,100
	--	286	53	52	7,130	7,530	5	6	<1	<1	5	6	<15	<15	44	44	36,710	38,370
	--	270	54	53	6,250	6,600	4	7	<1	<1	2	8	<15	<15	42	40	33,990	34,140
	--	260	50	51	5,170	5,790	4	5	<1	<1	5	4	<15	<15	40	42	30,950	31,260
	--	252	50	--	5,010	--	4	--	<1	--	3	--	<15	--	39	--	30,350	--
	--	259	49	--	5,920	--	<2	--	4	--	<2	--	<15	--	38	--	34,660	--
MS3	78	300	9.2	--	116	--	11	--	<1	--	5	--	<15	--	<4	--	226	--
MS4	40	260	14	15	86	179	18	16	2	<1	55	58	18	<15	55	231	8,260	17,340
	33	238	13	17	<40	1,100	12	23	<1	<1	55	65	<15	<15	79	302	7,290	17,960
	42	260	12	13	55	119	14	17	<1	<1	43	47	<15	<15	39	169	6,770	14,190
	43	219	13	--	<40	--	15	--	3	--	40	--	<15	--	30	--	6,670	--
	36	192	12	--	320	--	28	--	5	--	61	--	60	--	72	--	8,130	--
	39	240	13	--	94	--	15	--	<1	--	65	--	<15	--	121	--	7,750	--
	22	325	13	--	232	--	14	--	3	--	78	--	<15	--	143	--	8,480	--
MS5	--	277	47	--	9,460	--	7	--	<1	--	<2	--	<15	--	79	--	1,390	--
	--	500	50	--	6,610	--	<2	--	<1	--	11	--	<15	--	18	--	64,540	--
MS6	70	600	15	--	123	--	12	--	<1	--	2	--	<15	--	<4	--	1,220	--
MS7	--	346	49	49	7,450	7,520	10	13	<1	<1	12	10	<15	<15	106	91	3,900	3,950
	--	356	50	49	7,490	6,680	12	13	2	<1	3	6	<15	<15	94	88	4,130	3,740
	--	510	47	48	6,620	6,000	7	7	2	<1	11	17	<15	<15	59	62	17,710	16,450
	--	350	49	50	6,460	5,730	14	16	<1	<1	14	10	<15	<15	100	102	3,990	4,580
	--	360	49	50	7,390	7,170	12	16	<1	<1	13	12	<15	<15	97	96	4,100	4,110
	--	291	45	--	6,120	--	16	--	<1	--	7	--	<15	--	96	--	3,540	--
	--	325	46	--	7,270	--	22	--	2	--	33	--	<15	--	121	--	3,630	--
MS8	--	311	10	--	2,250	--	16	--	<1	--	18	--	<15	--	338	--	17,300	--
MS9	18.5	68	5.7	--	41	--	11	--	<1	--	4	--	<15	--	<4	--	872	--
MS10	108	327	12	--	<40	--	18	--	<1	--	<2	--	<15	--	<4	--	2,810	--
MS11	--	815	27	--	<40	--	14	--	<1	--	<2	--	<15	--	<4	--	3,060	--
	72	790	28	28	<40	<40	10	9	<1	<1	<2	11	<15	<15	<4	<4	3,080	3,440
	61	796	27	28	<40	<40	12	11	<1	<1	<2	<2	<15	<15	<4	<4	3,280	3,600
	65	800	29	32	125	<40	11	11	2	<1	<2	<2	<15	<15	<4	<4	3,380	3,540
	69	817	27	31	66	<40	11	11	1	<1	<2	<2	<15	<15	<4	<4	3,450	8,950
	58	820	28	35	49	249	10	31	<1	<1	<2	7	<15	<15	<4	<4	3,630	15,430
	60	793	28	29	48	<40	11	10	1	<1	<2	<2	<15	<15	<4	<4	3,580	3,890
	60	800	27	30	<40	241	11	10	<1	<1	2	<2	<15	<15	<4	<4	3,480	3,840

Table 25. Water-quality data for selected mine sites in the upper Animas River watershed, 1997–99—Continued

[Site numbers from table 2; site locations shown in figure 2]

Site number	Alk., field	Sulfate, diss.	Silica		Aluminum		Barium		Beryllium		Cadmium		Chromium		Copper		Iron	
			diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
MS12	63	780	27	32	<40	239	<2	21	<1	<1	<2	6	<15	<15	<4	<4	3,560	5,280
	72	867	28	27	123	123	10	12	<1	<1	<2	8	<15	<15	<4	<4	3,540	4,870
	66	56	5.3	--	<40	--	42	--	<1	--	<2	--	<15	--	<4	--	<30	--
MS13	--	178	57	49	10,640	10,740	<2	<2	<1	<1	5	9	<15	<15	55	51	15,500	17,690
	--	162	59	50	11,020	10,970	<2	<2	<1	<1	6	8	<15	<15	54	48	15,600	17,670
	--	156	57	49	10,820	10,700	<2	<2	<1	<1	4	7	<15	<15	53	47	15,080	17,280
	--	153	55	47	10,320	10,340	<2	<2	<1	<1	5	4	<15	<15	43	47	14,660	16,890
	--	161	52	47	11,050	10,570	<2	2	<1	<1	7	6	<15	<15	49	46	14,710	14,690
	--	171	49	47	10,960	10,710	<2	3	<1	<1	2	7	<15	<15	41	47	13,670	15,190
	--	170	50	51	11,140	12,340	<2	<2	<1	<1	4	10	<15	<15	67	292	17,370	26,280
	--	183	50	50	11,750	11,370	<2	<2	<1	<1	9	7	<15	<15	283	68	24,600	25,960
	--	173	60	59	11,270	11,130	<2	<2	<1	<1	3	<2	<15	<15	206	202	20,890	23,210
	--	175	60	56	11,070	10,180	<2	<2	<1	<1	4	<2	<15	<15	100	88	17,940	18,770
	--	180	60	58	10,940	10,570	<2	<2	<1	<1	3	<2	<15	<15	88	82	16,560	18,040
MS14	12.5	193	30	--	962	--	10	--	2	--	3	--	<15	--	<4	--	11,290	--
MS15	3.0	433	57	45	2,150	1,900	7	6	<1	<1	8	6	<15	<15	<4	<4	25,320	24,280
	0.1	446	55	44	2,070	1,830	7	5	<1	<1	5	6	<15	<15	<4	<4	24,500	23,620
	1.5	442	62	47	2,370	1,980	7	6	<1	<1	3	5	<15	<15	<4	<4	28,130	24,890
	--	450	54	45	2,050	2,370	7	6	<1	<1	8	6	<15	<15	<4	4	24,290	23,990
	2.5	425	46	45	2,060	1,970	5	5	<1	<1	5	3	<15	<15	<4	<4	23,230	24,000
	--	461	50	--	2,060	--	6	--	<1	--	3	--	<15	--	<4	--	25,550	--
	--	477	60	47	2,130	2,010	5	6	<1	<1	<2	6	<15	<15	<4	<4	25,210	25,070
	--	472	57	45	1,890	1,840	5	6	<1	<1	4	5	<15	<15	<4	<4	23,990	24,330
	4.1	456	49	57	1,580	2,020	7	5	<1	<1	<2	3	<15	<15	<4	<4	21,130	25,600
	3.7	449	58	55	1,920	1,870	6	5	<1	<1	4	5	<15	<15	<4	<4	24,340	24,260
	4.0	481	55	53	1,820	1,810	6	5	<1	<1	9	7	<15	<15	<4	<4	23,670	22,890
	1.0	475	58	50	1,960	1,650	5	4	<1	<1	8	7	<15	<15	<4	<4	24,410	22,270
	22	787	39	58	305	5,360	13	46	<1	<1	<2	43	<15	<15	<4	20	10,930	42,680
	9.0	746	43	--	1,450	--	19	--	<1	--	112	--	<15	--	<4	--	2,380	--
	7.0	1,249	37	--	540	--	14	--	<1	--	85	--	<15	--	<4	--	10,160	--
	15.0	1,191	44	--	705	--	12	--	<1	--	86	--	<15	--	<4	--	12,070	--
	27	1,112	35	--	241	--	15	--	<1	--	37	--	<15	--	<4	--	11,530	--
	27	1,008	36	--	244	--	19	--	<1	--	32	--	<15	--	<4	--	11,390	--
	35	756	38	--	523	--	13	--	<1	--	24	--	<15	--	<4	--	10,490	--
	10.0	746	42	--	1,120	--	10	--	<1	--	71	--	<15	--	14	--	8,610	--
	16.0	577	39	--	601	--	13	--	<1	--	39	--	47	--	<4	--	10,380	--
MS16	--	190	22	--	9,170	--	22	--	<1	--	89	--	<15	--	3,240	--	1,470	--
MS17	7.0	123	29	--	445	--	5	--	<1	--	<2	--	<15	--	<4	--	5,230	--
MS18	--	263	45	50	4,140	4,050	9	10	<1	<1	<2	<2	20	<15	51	54	11,440	10,980
	--	247	47	38	5,280	3,570	17	13	<1	<1	3	<2	<15	<15	56	40	2,440	1,830
	--	371	58	56	13,760	13,850	5	12	<1	<1	47	49	<15	<15	597	605	63,350	66,490
MS19	--	367	62	--	12,610	--	10	--	<1	--	58	--	<15	--	638	--	60,300	--
	--	40	26	--	835	--	54	--	<1	--	3	--	<15	--	116	--	793	--
	74	115	7.2	--	42	--	14	--	<1	--	5	--	<15	--	160	--	<30	--
MS20	102	123	7.2	--	<40	--	12	--	<1	--	<2	--	<15	--	26	--	<30	--
	--	133	25	24	1,850	1,800	42	49	<1	<1	44	41	<15	<15	1,640	1,510	11,250	12,070
	32	167	11	--	<40	--	10	--	<1	--	44	--	20	--	6	--	<30	--

Table 25. Water-quality data for selected mine sites in the upper Animas River watershed, 1997–99—Continued

[Site numbers from table 2; site locations shown in figure 2]

Site number	Alk., field	Sulfate, diss.	Silica		Aluminum		Barium		Beryllium		Cadmium		Chromium		Copper		Iron	
			diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
MS23	--	80	9.1	--	1,220	--	17	--	<1	--	21	--	<15	--	63	--	2,050	--
MS25	62	124	13	15	<40	114	23	21	<1	<1	6	5	<15	<15	<4	10	102	686
	66	118	14	17	96	72	19	23	1	<1	<2	<2	<15	<15	<4	<4	31	545
	61	115	14	16	90	103	17	22	<1	<1	<2	<2	<15	<15	<4	<4	64	393
	64	120	11	15	<40	99	15	19	<1	<1	<2	2	<15	<15	<4	9	34	451
	54	120	13	15	<40	141	22	20	<1	<1	3	<2	<15	<15	<4	6	58	471
	65	123	13	15	<40	62	19	20	<1	<1	<2	3	16	<15	4	9	57	468
	63	120	14	16	<40	88	18	21	<1	<1	<2	3	<15	<15	<4	7	44	429
	66	115	14	15	54	137	19	22	<1	<1	2	<2	<15	<15	<4	8	46	393
	63	122	14	15	<40	77	18	20	<1	<1	<2	<2	<15	<15	<4	5	33	364
	69	120	14	16	55	182	18	21	<1	<1	<2	3	<15	<15	<4	11	<30	578
	72	123	13	--	<40	--	16	--	1	--	2	--	<15	--	<4	--	<30	--
	65	91	14	--	<40	--	15	--	1	--	2	--	<15	--	<4	--	<30	--
MS26	<0.1	85	7.1	--	373	--	40	--	<1	--	2	--	<15	--	10	--	<30	--
MS27	98	506	7.3	--	320	--	<2	--	<1	--	<2	--	<15	--	<4	--	<30	--
MS28	12	480	13	--	221	--	7	--	<1	--	<2	--	<15	--	<4	--	3,610	--
MS29	6.0	253	14	--	<40	--	7	--	<1	--	<2	--	<15	--	<4	--	4,490	--
MS30	--	450	14	--	2,220	--	9	--	<1	--	<2	--	<15	--	145	--	9,600	--
MS31	<0.1	403	34	--	328	--	9	--	3	--	7	--	16	--	<4	--	41,720	--
MS32	6.0	391	22	--	1,930	--	<2	--	<1	--	<2	--	<15	--	<4	--	19,300	--
MS33	52	620	23	--	<40	--	16	--	<1	--	<2	--	<15	--	<4	--	<30	--
MS34	--	1300	29	--	21,180	--	9	--	5	--	<2	--	<15	--	<4	--	72,980	--
MS35	65	143	5.2	--	<40	--	14	--	<1	--	<2	--	17	--	<4	--	<30	--
MS36	98	103	11	--	<40	--	3	--	<1	--	<2	--	<15	--	<4	--	<30	--
MS37	--	240	11	--	4,220	--	13	--	<1	--	28	--	<15	--	490	--	27,650	--
MS38	--	169	35	--	3,180	--	11	--	2	--	51	--	<15	--	81	--	11,520	--
MS39	96	45	4.3	--	<40	--	50	--	<1	--	<2	--	16	--	<4	--	<30	--
MS40	--	595	17	--	13,680	--	14	--	3	--	<2	--	37	--	93	--	567	--
MS41	--	94	4.9	--	589	--	8	--	<1	--	<2	--	<15	--	5	--	932	--
MS42	7.0	218	35	--	656	--	5	--	2	--	<2	--	--	--	<4	--	1,870	--
MS43	--	177	41	--	5,560	--	3	--	<1	--	<2	--	<15	--	629	--	4,770	--
MS44	18.0	71	17	--	72	--	9	--	<1	--	<2	--	<15	--	<4	--	<30	--
MS45	--	133	5.4	--	989	--	30	--	<1	--	2	--	<15	--	17	--	2,460	--
MS46	20	71	23	--	331	--	11	--	<1	--	3	--	<15	--	5	--	5,580	--
MS47	85	627	28	--	<40	--	4	--	<1	--	<2	--	<15	--	<4	--	<30	--
MS48	40	501	29	--	147	--	11	--	<1	--	<2	--	<15	--	11	--	88	--
MS49	--	205	13	--	229	--	14	--	<1	--	<2	--	<15	--	<4	--	<30	--
MS50	26	344	8.1	--	116	--	9	--	1	--	11	--	<15	--	98	--	77	--
MS51	73	156	13	--	<40	--	27	--	<1	--	<2	--	<15	--	<4	--	<30	--
MS52	30	518	27	--	879	--	9	--	<1	--	6	--	<15	--	11	--	12,260	--
	--	527	22	--	1,040	--	<2	--	<1	--	10	--	<15	--	<4	--	12,720	--
	2.6	490	26	--	1,430	--	7	--	<1	--	6	--	<15	--	17	--	13,660	--
MS53	38	307	10	--	<40	--	17	--	<1	--	11	--	<15	--	14	--	4,750	--
MS54	122	203	6.8	--	<40	--	14	--	<1	--	<2	--	<15	--	<4	--	<30	--
MS55	--	269	13	--	--	<2	<15	1,410	21,520	--	<6	7,340	<10	<20	1,380	--	51	--
MS56	64	538	17	18	<40	175	16	17	<1	<1	<2	<2	<15	<15	<4	11	222	1,130

Table 25. Water-quality data for selected mine sites in the upper Animas River watershed, 1997-99—Continued

[Site numbers from table 2; site locations shown in figure 2]

Site number	Lead		Lithium		Manganese		Molybdenum		Nickel		Strontium		Vanadium		Zinc	
	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
MS1	<30	--	50	--	9,820	--	<10	--	<20	--	4,940	--	<4	--	3,060	--
	<30	--	39	--	9,320	--	<10	--	<20	--	4,350	--	<4	--	3,050	--
MS2	<30	--	44	--	812	--	<10	--	30	--	717	--	<4	--	219	--
	<30	<30	32	41	716	767	40	<10	<20	<20	466	484	<4	<4	166	157
	<30	<30	41	36	699	728	43	20	<20	<20	448	464	<4	<4	179	140
	<30	<30	38	48	720	801	<10	<10	<20	<20	463	507	<4	<4	177	177
	<30	<30	44	38	864	751	<10	22	35	<20	752	621	5	<4	241	238
	<30	<30	30	43	712	823	<10	<10	27	56	723	796	<4	11	193	219
	<30	<30	31	49	670	774	<10	<10	40	50	597	687	<4	<4	190	208
	<30	<30	33	38	696	785	22	<10	29	<20	539	540	5	<4	172	197
	<30	<30	27	33	741	708	<10	<10	45	21	569	511	<4	<4	180	181
	<30	<30	30	25	748	766	<10	<10	<20	<20	554	567	<4	<4	195	231
	<30	<30	43	23	755	773	14	<10	<20	<20	542	522	<4	<4	189	157
	<30	<30	31	34	721	741	<10	<10	<20	<20	488	472	<4	<4	171	193
	<30	--	29	--	722	--	<10	--	<20	--	481	--	<4	--	162	--
	<30	--	43	--	753	--	27	--	<20	--	527	--	<4	--	177	--
MS3	<30	--	23	--	6,860	--	<10	--	<20	--	683	--	<4	--	3,000	--
MS4	<30	100	<6	<6	8,230	8,040	<10	<10	55	<20	587	556	5	<4	15,700	14,940
	<30	322	13	<6	6,680	7,010	<10	52	<20	<20	533	487	<4	<4	13,140	13,980
	<30	<30	<6	<6	5,780	6,030	<10	66	20	<20	554	565	<4	<4	10,460	11,560
	<30	--	<6	--	5,720	--	<10	--	<20	--	597	--	<4	--	10,150	--
	153	--	<6	--	7,610	--	<10	--	<20	--	529	--	<4	--	15,350	--
	<30	--	<6	--	7,030	--	27	--	26	--	528	--	<4	--	14,430	--
	<30	--	<6	--	8,120	--	<10	--	<20	--	538	--	<4	--	17,380	--
MS5	<30	--	61	--	1,310	--	<10	--	<20	--	511	--	<4	--	553	--
	<30	--	56	--	2,170	--	<10	--	<20	--	837	--	<4	--	1,020	--
MS6	<30	--	14	--	4,300	--	<10	--	<20	--	4,510	--	<4	--	1,130	--
MS7	<30	<30	<6	<6	2,590	2,580	34	<10	<20	<20	381	364	<4	<4	1,830	1,850
	<30	<30	6	19	2,490	2,410	16	<10	<20	<20	420	388	<4	<4	1,490	1,380
	<30	<30	9	21	3,650	3,640	25	<10	<20	75	539	516	<4	<4	1,840	1,810
	<30	<30	<6	11	2,560	2,590	<10	<10	<20	24	393	386	<4	<4	2,140	2,040
	<30	<30	<6	<6	2,950	2,970	<10	<10	<20	<20	395	390	<4	<4	2,330	1,910
	<30	--	<6	--	2,440	--	<10	--	<20	--	348	--	<4	--	2,610	--
	<30	--	<6	--	3,430	--	<10	--	<20	--	349	--	<4	--	3,730	--
MS8	<30	--	<6	--	6,750	--	26	--	<20	--	2,170	--	<4	--	5,560	--
MS9	<30	--	<6	--	1,170	--	<10	--	<20	--	340	--	<4	--	1,240	--
MS10	<30	--	<6	--	1,310	--	<10	--	<20	--	674	--	<4	--	47	--
MS11	<30	--	<6	--	1,750	--	90	--	<20	--	4,790	--	<4	--	225	--
	<30	<30	17	<6	1,730	1,740	27	<10	<20	<20	4,880	4,620	<4	<4	152	170
	<30	<30	17	<6	1,690	1,760	41	<10	<20	<20	4,790	4,720	<4	<4	164	185
	<30	<30	19	<6	1,740	1,990	26	<10	<20	<20	5,160	5,600	<4	<4	168	159
	<30	<30	23	32	1,690	1,820	<10	<10	<20	<20	4,930	4,900	<4	<4	168	204
	<30	<30	14	<6	1,800	6,440	<10	<10	<20	<20	5,140	5,280	5	<4	174	367
	<30	<30	17	20	1,760	1,810	<10	73	28	<20	4,910	4,890	5	<4	215	187
	38	<30	17	<6	1,900	1,790	<10	<10	<20	70	4,490	4,550	<4	<4	201	200

Table 25. Water-quality data for selected mine sites in the upper Animas River watershed, 1997-99—Continued

[Site numbers from table 2; site locations shown in figure 2]

Site number	Lead		Lithium		Manganese		Molybdenum		Nickel		Strontium		Vanadium		Zinc	
	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
MS12	<30	<30	<6	<6	1,710	1,930	<10	<10	87	<20	4,590	5,110	<4	<4	164	224
	<30	<30	<6	<6	1,720	1,720	<10	<10	<20	<20	5,020	4,720	<4	<4	187	192
	<30	--	<6	--	7	--	<10	--	<20	--	1,050	--	<4	--	<20	--
MS13	<30	<30	10	16	843	853	15	<10	<20	<20	77	76	<4	<4	858	874
	<30	<30	16	17	881	851	18	<10	<20	<20	81	78	<4	<4	885	855
	<30	<30	34	16	860	869	<10	<10	<20	<20	79	77	<4	<4	826	878
	<30	<30	17	15	829	838	<10	<10	<20	21	74	75	<4	<4	837	829
	<30	<30	18	16	889	828	15	<10	<20	20	87	75	<4	<4	904	838
	<30	<30	18	16	836	838	<10	<10	<20	<20	81	76	<4	<4	851	843
	<30	<30	16	18	878	901	<10	<10	<20	<20	79	80	<4	<4	895	1,230
	<30	<30	16	17	911	869	<10	<10	<20	25	76	80	<4	<4	1,240	900
	<30	<30	17	14	853	841	<10	<10	21	<20	75	77	<4	<4	949	904
	<30	<30	18	16	859	802	<10	<10	<20	<20	78	72	<4	<4	892	805
	<30	<30	19	17	859	827	22	<10	<20	<20	76	75	<4	<4	885	823
	<30	--	8	--	2,540	--	<10	--	<20	--	558	--	<4	--	380	--
MS15	44	<30	62	35	2,460	2,370	<10	<10	<20	<20	1,270	1,180	<4	<4	641	627
	40	<30	62	33	2,390	2,350	<10	<10	<20	<20	1,220	1,150	<4	<4	599	615
	<30	<30	60	36	2,740	2,440	20	<10	<20	<20	1,420	1,220	<4	<4	709	652
	<30	<30	63	37	2,390	2,330	<10	<10	<20	<20	1,220	1,190	<4	<4	604	592
	<30	<30	45	37	2,270	2,320	<10	<10	<20	<20	1,140	1,210	<4	<4	569	577
	<30	--	49	--	2,500	--	<10	--	<20	--	1,310	--	<4	--	634	--
	<30	<30	49	38	2,510	2,480	<10	<10	<20	20	1,390	1,350	<4	<4	613	618
	<30	<30	49	36	2,420	2,430	<10	<10	<20	28	1,420	1,390	<4	<4	598	643
	<30	<30	48	54	2,120	2,490	<10	<10	<20	<20	1,250	1,540	<4	<4	538	601
	<30	<30	48	52	2,350	2,310	<10	<10	<20	<20	1,450	1,400	<4	<4	588	583
	<30	<30	57	44	2,270	2,190	<10	<10	<20	<20	1,340	1,300	<4	<4	567	538
	<30	<30	55	45	2,330	2,040	<10	<10	<20	<20	1,320	1,130	<4	<4	605	526
	<30	<30	40	36	2,250	2,480	<10	<10	<20	<20	3,760	4,050	<4	<4	349	585
	<30	--	25	--	2,410	--	67	--	<20	--	2,970	--	<4	--	828	--
	<30	--	<6	--	2,550	--	<10	--	<20	--	4,710	--	<4	--	485	--
	<30	--	<6	--	2,830	--	75	--	<20	--	5,360	--	<4	--	477	--
	<30	--	<6	--	2,710	--	67	--	107	--	5,150	--	<4	--	355	--
	<30	--	39	--	2,860	--	<10	--	<20	--	5,500	--	<4	--	386	--
	<30	--	32	--	2,600	--	<10	--	<20	--	4,550	--	13	--	337	--
	<30	--	32	--	2,450	--	51	--	<20	--	3,620	--	<4	--	545	--
	<30	--	23	--	2,590	--	48	--	<20	--	4,350	--	17	--	393	--
MS16	44	--	15	--	7,110	--	<10	--	24	--	69	--	<4	--	15,770	--
MS17	<30	--	<6	--	884	--	<10	--	<20	--	275	--	<4	--	118	--
MS18	<30	<30	<6	7	1,090	1,250	<10	<10	<20	<20	284	301	<4	<4	225	210
	<30	<30	<6	7	1,420	1,240	<10	22	<20	<20	294	219	<4	<4	279	206
MS19	197	376	9	<6	377	382	<10	<10	32	45	45	39	<4	<4	10,270	10,310
	931	--	<6	--	244	--	19	--	22	--	38	--	<4	--	11,960	--
	46	--	<6	--	112	--	15	--	<20	--	23	--	<4	--	1,190	--
MS20	<30	--	28	--	256	--	24	--	<20	--	1,560	--	<4	--	1,440	--
	<30	--	24	--	102	--	34	--	<20	--	1,570	--	<4	--	796	--
MS21	357	283	<6	<6	208	201	42	<10	<20	40	39	36	<4	<4	9,780	9,110
MS22	<30	--	11	--	1,400	--	<10	--	<20	--	747	--	<4	--	6,450	--

Table 25. Water-quality data for selected mine sites in the upper Animas River watershed, 1997-99—Continued

[Site numbers from table 2; site locations shown in figure 2]

Site number	Lead		Lithium		Manganese		Molybdenum		Nickel		Strontium		Vanadium		Zinc	
	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total	diss.	total
MS23	253	--	<6	--	615	--	<10	--	<20	--	93	--	<4	--	4,270	--
MS25	<30	<30	<6	<6	786	1,030	60	<10	<20	<20	548	572	<4	<4	458	570
	<30	<30	<6	<6	793	1,170	13	<10	<20	<20	606	662	<4	<4	449	500
	<30	<30	<6	<6	803	975	15	<10	<20	<20	581	634	<4	<4	466	491
	31	<30	<6	<6	678	865	38	18	<20	<20	449	568	4	<4	376	512
	<30	<30	<6	<6	985	1,020	<10	10	<20	<20	566	590	<4	<4	519	568
	<30	<30	<6	<6	837	973	<10	<10	<20	<20	533	583	<4	<4	469	504
	<30	<30	<6	<6	869	952	29	<10	<20	<20	568	633	<4	<4	447	503
	<30	<30	<6	<6	860	903	10	<10	<20	<20	562	599	<4	<4	464	484
	<30	<30	<6	<6	881	927	<10	<10	<20	<20	584	592	<4	<4	484	499
	<30	<30	<6	<6	895	1,030	<10	10	<20	<20	585	595	<4	<4	473	509
	<30	--	<6	--	906	--	29	--	<20	--	553	--	<4	--	483	--
	<30	--	<6	--	676	--	12	--	<20	--	595	--	<4	--	426	--
MS26	<30	--	<6	--	36	--	<10	--	<20	--	113	--	<4	--	1,050	--
MS27	<30	--	<6	--	11,430	--	<10	--	<20	--	6,080	--	<4	--	579	--
MS28	<30	--	49	--	1,730	--	<10	--	<20	--	4,510	--	<4	--	106	--
MS29	<30	--	15	--	1,980	--	<10	--	<20	--	1,070	--	<4	--	304	--
MS30	<30	--	<6	--	2,050	--	<10	--	24	--	1,900	--	<4	--	98	--
MS31	<30	--	43	--	4,190	--	<10	--	43	--	1,190	--	<4	--	200	--
MS32	<30	--	<6	--	1,220	--	<10	--	<20	--	1,950	--	<4	--	872	--
MS33	<30	--	<6	--	45	--	<10	--	<20	--	3,150	--	<4	--	<20	--
MS34	<30	--	<6	--	5,920	--	<10	--	<20	--	2,790	--	<4	--	620	--
MS35	<30	--	8	--	10	--	<10	--	<20	--	3,090	--	5	--	<20	--
MS36	<30	--	7	--	216	--	<10	--	<20	--	609	--	<4	--	635	--
MS37	168	--	<6	--	4,490	--	37	--	<20	--	261	--	<4	--	2,810	--
MS38	60	--	28	--	2,670	--	<10	--	<20	--	738	--	<4	--	3,880	--
MS39	<30	--	11	--	<3	--	<10	--	<20	--	1,270	--	<4	--	<20	--
MS40	<30	--	43	--	12,890	--	34	--	67	--	1,080	--	<4	--	1,580	--
MS41	<30	--	<6	--	292	--	<10	--	<20	--	303	--	<4	--	28	--
MS42	<30	--	10	--	1,190	--	<10	--	<20	--	543	--	<4	--	171	--
MS43	<30	--	11	--	1,140	--	<10	--	<20	--	77	--	<4	--	224	--
MS44	<30	--	<6	--	45	--	<10	--	<20	--	166	--	<4	--	<20	--
MS45	71	--	<6	--	674	--	30	--	<20	--	985	--	<4	--	733	--
MS46	<30	--	<6	--	2,270	--	<10	--	<20	--	139	--	<4	--	592	--
MS47	<30	--	<6	--	<10	--	<10	--	<20	--	4,320	--	<4	--	<20	--
MS48	<30	--	<6	--	829	--	<10	--	<20	--	1,330	--	<4	--	106	--
MS49	<30	--	<6	--	<3	--	<10	--	<20	--	948	--	<4	--	127	--
MS50	<30	--	<6	--	1,680	--	<10	--	<20	--	330	--	<4	--	2,430	--
MS51	<30	--	10	--	69	--	<10	--	<20	--	3,560	--	<4	--	34	--
MS52	<30	--	41	--	2,430	--	<10	--	<20	--	2,550	--	<4	--	701	--
	<30	--	<6	--	2,710	--	<10	--	<20	--	2,060	--	<4	--	805	--
	<30	--	21	--	2,470	--	<10	--	<20	--	2,100	--	<4	--	895	--
MS53	<30	--	14	--	3,130	--	<10	--	<20	--	1,140	--	<4	--	2,460	--
MS54	<30	--	11	--	717	--	<10	--	<20	--	780	--	<4	--	27	--
MS55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MS56	<30	<30	17	18	664	703	<10	<10	<20	<20	4,770	5,050	<4	<4	77	83

Table 26. Water-quality data for selected streams and springs in the subbasin above upper Animas River at Silverton
[Site numbers and locations listed in table 3]

Site number	Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium, diss.	Magnesium, diss.	Sodium, diss.	Potassium, diss.	Alk., field	Sulfate, diss.	Silica, diss.
UA1	09/26/97	1400	5.00	93	7.45	7.4	8.6	15	0.74	0.69	--	22	22	3.5
UA2	09/05/98	1445	0.57	181	4.55	16.1	5.8	13	2.0	0.84	0.73	--	83	7.5
UA3	09/05/98	1130	--	215	4.30	13.0	10.4	12	1.7	0.92	0.55	--	199	7.2
UA4	09/05/98	1340	0.72	192	4.49	15.7	9.8	13	2.2	0.90	0.75	--	84	7.7
UA5	08/18/98	1400	1.74	135	4.90	13.5	--	30	4.5	1.1	0.75	2.0	69	8.5
UA6	08/11/98	1400	0.52	474	6.63	6.4	9.6	71	7.0	0.97	0.43	25	177	4.4
UA7	08/11/98	1530	0.65	365	6.55	8.8	9.3	55	5.6	0.85	0.44	19.4	141	5.0
UA8	09/08/98	1045	2.32	174	7.32	7.4	7.6	29	1.9	0.50	0.37	35	44	2.5
UA9	09/23/98	1415	7.460	260	8.13	12.1	7.5	44	2.3	2.0	0.53	50	83	5.9
UA10	09/08/98	1200	0.040	86	5.81	7.5	7.2	11	1.2	0.37	--	1.0	32	5.2
UA11	09/13/98	1500	0.53	161	6.62	10.8	7.0	30	2.0	0.77	0.25	20	62	2.8
UA12	09/08/98	1400	0.39	208	7.44	16.0	6.3	33	2.9	1.6	0.37	33	64	2.8
UA13	09/13/98	1300	2.17	148	6.28	11.3	7.0	26	2.0	0.78	0.28	18.0	63	3.7
UA14	09/14/98	1130	6.72	308	7.10	8.4	8.8	53	2.9	1.6	0.40	22	117	7.0
UA15	09/06/98	1245	1.76	228	6.97	9.9	7.5	38	2.4	0.43	0.48	35	68	2.6
UA16	09/23/98	1350	0.68	277	8.24	9.0	7.5	46	1.9	2.2	0.34	59	81	5.9
UA17	09/04/98	1040	0.95	109	6.76	8.5	7.3	16	1.6	0.30	0.47	11.5	37	1.9
UA18	08/18/98	1600	2.19	278	5.32	12.3	--	35	4.5	1.5	0.78	4.0	117	8.5
UA19	09/23/98	1255	1.98	232	8.49	9.2	8.0	40	3.2	2.5	0.53	62	55	5.1
UA20	10/03/98	1500	0.65	193	6.81	7.0	8.2	28	3.7	1.9	0.66	39	51	3.9
UA21	09/13/98	1630	0.37	109	6.67	9.3	7.0	19	1.7	0.61	0.18	19.0	41	3.4
UA22	09/29/98	1330	1.21	185	8.15	8.4	8.1	26	2.7	2.3	0.55	68	25	2.9
UA23	09/23/98	1205	2.71	253	8.42	7.4	8.4	45	3.2	2.8	0.52	54	72	6.6
UA24	09/09/98	0940	0.51	195	7.27	6.4	8.0	31	1.3	1.0	0.34	35	61	2.8
UA25	09/05/98	1530	1.52	105	6.76	15.6	6.4	15	1.8	0.47	0.51	13.0	32	2.4
UA26	09/06/98	1130	2.60	114	5.99	10.7	7.1	15	1.8	0.59	0.49	1.5	45	4.0
UA27	09/05/98	1615	1.88	121	5.41	15.5	6.4	15	1.9	0.61	0.59	1.2	48	4.2
UA28	10/03/98	1315	0.26	219	6.79	4.4	7.8	35	2.5	2.2	0.52	45	55	4.6
UA29	09/09/98	0830	1.09	386	6.86	6.7	8.7	68	5.4	1.9	0.78	69	127	5.2
UA30	09/23/98	1330	0.050	171	7.34	6.4	8.1	31	2.1	1.2	0.28	32	52	3.4
UA31	09/28/98	1430	0.53	184	6.40	9.7	6.9	26	2.3	0.85	0.40	11.0	69	5.3
UA32	09/23/98	1630	0.41	141	6.61	9.5	6.4	22	1.7	0.88	0.44	11.0	53	5.8
UA33	09/28/98	1530	0.63	195	5.93	9.4	6.9	25	2.5	0.83	0.66	3.0	78	6.8
UA34	09/07/98	1500	3.70	307	6.37	10.4	6.9	54	3.2	1.3	0.23	19.0	135	6.9
UA35	09/04/98	1450	--	949	2.93	15.9	6.0	45	5.6	3.7	0.59	--	333	36
UA36	09/06/98	1500	0.20	168	6.78	6.3	8.7	25	1.5	0.63	0.40	14.5	57	3.3
UA37	08/12/98	1200	0.002	793	4.55	2.4	6.9	69	11	3.0	2.2	--	430	20
UA38	09/23/98	1530	0.005	145	4.56	5.2	6.7	19	1.8	0.28	0.38	<0.5	61	5.7
UA39	09/07/98	1300	0.080	745	3.26	10.2	6.9	77	11	0.92	0.43	--	313	23
UA40	09/04/98	1530	0.019	609	3.95	0.6	11.9	22	4.3	2.5	1.4	--	363	16
UA41	09/30/98	1030	0.0004	1,034	3.05	8.4	9.1	81	6.5	2.6	0.82	--	390	17
UA42	09/04/98	1235	0.26	63	7.15	18.0	5.7	9.4	0.91	0.87	0.32	14.0	16	2.0
UA43	09/04/98	1215	0.067	100	6.72	14.1	6.3	12	1.8	0.99	0.52	8.0	34	5.0
UA44	09/23/98	1200	0.24	100	4.86	6.4	6.7	15	1.4	1.1	0.52	0.6	47	9.7
UA45	09/08/98	1140	4.80	211	6.22	10.4	7.1	27	3.1	1.1	0.66	1.8	89	6.5
UA46	09/30/98	1400	10.40	228	6.68	10.2	7.0	32	2.7	0.91	0.65	21	81	4.3
UA47	09/07/98	1100	2.30	147	6.60	6.8	8.8	24	1.3	0.65	0.32	22	44	2.3
UA48	09/07/98	1200	2.07	160	6.81	8.9	8.4	26	1.5	0.67	0.36	28	53	3.1
UA49	09/08/98	1400	0.060	254	6.45	9.7	8.6	39	3.1	0.76	0.46	6.0	103	6.6
UA50	08/19/98	1200	0.31	180	5.75	10.0	--	26	3.1	1.0	0.63	2.0	81	6.8
UA51	08/19/98	1500	3.49	190	5.89	13.1	--	29	3.2	1.1	0.71	4.0	90	6.8

Table 26. Water-quality data for selected streams and springs in the subbasin above upper Animas River at Silverton
—Continued

[Site numbers and locations listed in table 3]

Alum., diss.	Barium, diss.	Beryll., diss.	Cadm., diss.	Chrom., diss.	Copper, diss.	Iron, diss.	Ferrous Iron, diss.	Lead, diss.	Lithium, diss.	Mang., diss.	Moly., diss.	Nickel, diss.	Stron., diss.	Van., diss.	Zinc, diss.
63	9	<1	<2	<15	<4	37	2	<30	<6	<3	<10	<20	133	<4	25
5,350	21	3	12	<15	58	93	90	<30	9	2,660	<10	<20	39	<4	2,330
9,140	27	4	22	<15	66	137	120	<30	<6	2,540	11	24	32	<4	3,880
6,230	21	4	15	<15	63	146	100	<30	9	2,910	<10	<20	39	<4	2,510
3,220	18	7	7	<15	16	67	--	<30	<6	9,670	17	<20	166	<4	1,540
<40	25	<1	<2	<15	10	<30	--	<30	<6	19	21	<20	607	<4	44
109	27	<1	<2	<15	12	<30	--	<30	<6	143	25	<20	469	<4	204
<40	8	<1	<2	<15	<4	<30	10	<30	<6	<3	<10	<20	103	<4	<20
<40	44	<1	<2	<15	<4	<30	--	<30	8	<3	38	<20	422	<4	27
112	24	<1	<2	<15	<4	<30	--	<30	6	27	<10	<20	40	<4	198
<40	16	<1	<2	<15	<4	<30	--	<30	<6	21	<10	<20	231	<4	220
141	57	<1	<2	<15	<4	<30	30	<30	<6	96	<10	<20	518	<4	28
96	14	<1	<2	<15	10	<30	--	<30	<6	287	<10	<20	230	<4	338
140	14	<1	3	<15	6	<30	--	<30	8	161	<10	<20	539	<4	373
<40	12	<1	<2	<15	<4	<30	10	<30	<6	<3	<10	<20	107	<4	<20
<40	<2	<1	<2	<15	<4	<30	--	<30	8	<3	<10	<20	620	<4	<20
<40	8	<1	<2	<15	<4	<30	1,950	<30	<6	<3	<10	<20	41	<4	34
1,800	19	5	4	<15	8	113	--	<30	<6	8,640	<10	<20	232	<4	1,440
<40	48	<1	<2	<15	<4	<30	--	<30	8	<3	<10	<20	432	<4	<20
42	34	<1	<2	<15	<4	<30	10	<30	<6	25	<10	<20	283	<4	<20
57	18	<1	<2	<15	<4	<30	--	<30	<6	17	15	<20	136	<4	29
<40	92	<1	<2	<15	<4	35	<10	<30	<6	<3	<10	<20	594	<4	<20
77	52	<1	<2	<15	<4	<30	--	<30	8	23	<10	<20	585	<4	<20
<40	5	<1	<2	<15	<4	<30	<10	<30	<6	<3	<10	<20	186	<4	<20
43	10	<1	<2	<15	<4	<30	<10	<30	<6	<3	21	<20	47	<4	44
55	13	1	6	<15	9	<30	30	<30	<6	663	<10	<20	44	<4	772
360	14	1	7	<15	17	54	20	<30	<6	920	<10	<20	44	<4	840
<40	35	<1	<2	<15	<4	<30	<10	<30	<6	<3	<10	<20	414	<4	<20
62	37	<1	<2	<15	<4	<30	<10	<30	<6	11	<10	<20	737	<4	<20
<40	28	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	413	<4	256
92	18	<1	4	<15	6	<30	--	<30	<6	270	<10	<20	165	<4	905
57	18	<1	<2	<15	<4	<30	--	<30	<6	736	<10	<20	179	<4	839
362	17	<1	5	<15	21	704	--	<30	<6	1,180	<10	<20	143	<4	1,210
115	13	<1	<2	<15	5	431	--	<30	8	116	<10	<20	493	<4	46
6,090	4	2	102	<15	1,420	15,180	240	<30	33	4,680	<10	<20	331	<4	15,680
<40	8	<1	24	<15	16	<30	10	<30	<6	137	<10	<20	133	<4	2,740
28,680	10	65	<2	<15	<4	<30	--	<30	13	74,670	<10	<20	104	<4	4,780
427	18	<1	5	<15	20	<30	--	<30	<6	2,250	<10	<20	80	<4	2,400
4,220	7	3	4	<15	87	5,690	--	<30	43	2,660	<10	<20	229	<4	640
39,720	15	12	84	<15	309	<30	10	<30	9	6,430	<10	43	60	<4	14,380
5,490	<2	<1	26	<15	3,670	3,970	460	<30	14	6,090	<10	<20	826	<4	5,370
<40	8	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	58	<4	<20
<40	16	<1	7	<15	<4	33	20	<30	<6	205	<10	22	47	<4	665
2,200	17	3	<2	<15	5	<30	--	<30	<6	922	<10	<20	59	<4	154
369	17	2	6	<15	16	75	50	<30	<6	3,690	10	<20	148	<4	1,430
65	13	<1	2	<15	4	<30	<10	<30	<6	1,300	<10	24	191	<4	628
<40	8	<1	<2	<15	<4	<30	10	<30	<6	<3	<10	<20	142	<4	35
59	9	<1	7	<15	28	<30	<10	<30	<6	45	<10	<20	142	<4	790
63	20	<1	7	<15	5	<30	--	<30	8	1,210	<10	<20	254	<4	2,070
606	17	2	4	<15	7	112	--	<30	<6	4,700	10	<20	167	<4	1,070
326	16	2	5	<15	19	<30	--	<30	<6	4,260	<10	<20	183	<4	1,390

Table 27. Water-quality data for selected streams and springs in the subbasin above Cement Creek at Silverton
—Continued

[Site numbers and locations listed in table 3]

Site number	Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium, diss.	Magnesium, diss.	Sodium, diss.	Potas-sium, diss.	Alk., field	Sulfate, diss.	Silica, diss.
CC1	01/21/97	1600	0.45	1,100	3.38	8.9	0.0	163	12	2.7	--	--	558	58
	02/12/97	1300	1.36	1,152	3.04	9.0	1.3	157	13	2.7	--	--	525	59
	03/13/97	1530	1.43	1,305	3.36	16.1	6.2	167	11	2.5	--	--	703	56
	04/25/97	1200	0.22	1,266	3.06	21.4	--	160	11	2.5	--	--	634	56
	05/22/97	1600	14.70	1,347	3.22	17.4	5.3	148	11	1.9	--	--	745	44
	07/17/97	1300	--	1,050	3.26	11.0	0.0	160	12	2.7	--	--	692	55
CC2	09/04/97	1620	0.50	243	7.96	7.0	7.6	37	3.4	1.0	--	29	83	3.7
CC3	09/10/97	1515	1.19	199	6.17	10.2	7.3	29	2.9	0.86	--	2.1	90	5.6
CC4	09/10/97	1015	0.40	189	6.82	8.1	7.8	27	2.3	0.78	--	14.8	82	3.5
CC5	09/26/97	930	0.27	89	3.89	7.3	8.1	1.6	0.68	0.56	--	--	22	11
CC6	09/06/97	1330	0.34	392	4.48	4.2	8.1	45	6.2	0.81	--	--	180	8.2
CC7	09/26/97	1215	0.71	113	7.50	7.2	8.1	19	1.5	0.80	--	28	30	4.2
CC8	09/25/97	1630	0.65	205	5.86	8.5	8.4	27	3.9	0.95	--	1.4	95	7.6
CC9	09/04/97	1520	0.20	236	7.68	8.2	7.7	38	2.8	1.2	--	39	75	5.8
CC10	08/29/97	1415	0.20	233	6.93	4.7	8.2	39	2.4	0.92	--	54	56	3.7
CC11	09/03/97	1500	0.37	290	7.23	10.1	6.9	45	3.4	1.7	--	40	101	7.3
CC12	09/04/97	1700	0.050	162	7.91	8.4	7.8	26	1.6	0.78	--	29	45	5.1
CC13	09/30/97	1200	--	444	6.64	4.6	7.9	81	4.6	1.3	--	11.0	200	7.3
CC14	09/27/97	1300	0.77	196	6.90	13.8	6.9	26	4.2	1.1	--	5.8	88	7.6
CC15	09/30/97	1545	0.71	144	7.32	7.6	8.7	24	1.6	1.1	--	22	45	6.3
CC16	09/28/97	1125	0.069	437	3.14	11.0	7.1	1.5	0.80	0.64	--	--	95	15
CC17	09/28/97	1430	0.49	247	3.51	11.8	7.3	5.4	1.3	1.1	--	--	65	23
CC18	09/24/99	1400	0.080	395	4.79	5.5	12.1	59	7.0	1.9	--	--	133	13
CC19	09/22/99	1500	0.14	300	3.70	9.7	10.7	38	4.6	1.8	--	--	109	16
CC20	09/29/97	1430	0.21	168	6.99	8.7	8.0	23	4.1	1.1	--	34	53	8.0
CC21	09/29/97	1600	0.34	655	6.38	10.2	7.5	107	8.0	3.9	--	11.1	325	17
CC22	11/05/97	1130	0.44	415	3.23	0.1	9.5	25	4.2	0.76	--	--	132	13
CC23	06/11/97	1300	14.90	194	3.25	6.0	--	6.3	1.3	0.38	--	--	49	8.1
CC24	09/09/97	1200	0.29	392	3.18	9.4	8.0	33	4.7	0.85	--	--	141	12
CC25	06/11/97	1400	13.30	234	3.41	7.5	--	7.0	1.5	0.40	--	--	51	9.5
CC26	09/08/97	1800	0.56	526	3.22	8.9	7.8	29	6.5	1.1	--	--	227	40
CC27	09/06/97	1300	0.20	176	7.20	7.8	7.1	26	2.6	0.59	--	4.2	72	3.7
CC28	09/10/97	1245	0.30	252	5.19	8.9	7.7	34	3.8	0.83	--	1.6	121	6.5
CC29	12/11/96	1500	0.002	742	3.06	2.7	3.6	32	8.5	1.2	--	--	278	60
	01/21/97	1300	0.39	750	3.14	1.7	0.8	32	8.3	1.5	--	--	315	59
	02/12/97	1030	0.28	707	3.01	3.8	0.2	31	8.2	1.2	--	--	308	58
	03/14/97	1530	0.18	728	3.24	6.8	3.7	32	8.3	1.1	--	--	333	60
	04/24/97	1500	0.29	595	3.20	7.5	--	15	3.9	0.73	--	--	208	29
	05/22/97	1400	--	290	3.42	5.9	6.0	13	3.2	0.74	--	--	149	20
	06/11/97	1400	--	510	3.52	12.1	2.7	27	7.1	1.1	--	--	265	49
	07/14/97	1100	--	860	3.13	5.8	0.8	32	8.6	1.1	--	--	351	58
CC30	10/17/96	1400	0.48	191	5.36	3.8	8.1	29	1.7	1.2	--	5.0	62	9.6
CC31	10/17/96	1130	1.78	603	5.78	3.8	11.0	112	5.6	2.6	--	7.5	283	23
CC32	10/17/96	1530	0.43	150	7.10	3.0	8.1	22	1.3	0.96	--	15.0	33	7.2
CC33	10/17/96	1000	1.87	640	5.07	1.8	12.4	120	6.1	2.9	--	5.0	274	25
CC34	10/18/96	1130	0.46	295	3.75	4.1	7.6	26	2.2	1.5	--	--	89	20
CC35	09/08/97	1435	0.001	19	5.74	5.7	6.6	2.3	0.41	0.18	--	1.4	0	3.4
CC36	09/08/97	1530	0.005	654	3.25	1.1	9.3	35	10	0.32	--	--	238	16
CC37	09/24/99	1000	0.029	561	3.72	6.7	0.2	51	7.6	3.2	--	--	233	56
CC38	08/12/98	1400	<.01	50	4.45	13.1	5.8	0.98	0.39	0.25	0.24	--	9	7.4
CC39	09/08/97	1630	0.001	24	4.72	7.2	24.0	0.96	0.33	0.41	--	1.0	1	12
CC40	10/01/97	1245	0.045	195	3.77	3.8	10.2	12	2.8	0.55	--	--	61	7.7

Table 27. Water-quality data for selected streams and springs in the subbasin above Cement Creek at Silverton
—Continued

[Site numbers and locations listed in table 3]

Site number	Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium, diss.	Magnesium, diss.	Sodium, diss.	Potassium, diss.	Alk., field	Sulfate, diss.	Silica, diss.
CC41	09/30/97	1325	0.54	173	6.82	1.4	9.3	30	1.5	0.97	--	39	51	4.2
CC42	09/28/97	1030	0.040	12	5.63	8.7	6.9	0.76	0.13	0.56	--	<0.5	1	9.7
CC43	09/09/97	1100	0.010	370	2.99	9.9	6.3	8.0	2.0	1.1	--	--	92	13
CC44	09/09/97	1145	0.020	685	6.40	1.6	10.1	111	8.4	1.9	--	63	320	5.7
CC45	09/09/97	1500	0.012	78	3.80	7.8	7.2	6.3	1.2	0.20	--	--	32	22
CC46	07/16/98	1130	0.001	940	2.75	5.5	2.5	4.3	6.3	0.22	0.51	--	327	28
CC47	07/21/99	1330	0.001	32	4.56	5.0	8.0	1.3	0.30	0.21	0.75	--	7.0	15
CC48	08/07/98	1050	0.010	63	3.48	12.8	6.9	2.2	0.56	0.18	0.11	--	15	3.5
CC49	08/07/98	1400	--	118	4.15	14.0	6.7	11	1.5	0.49	0.38	--	45	6.3
CC50	09/05/97	1320	0.001	87	6.92	2.2	6.9	13	0.77	0.44	--	10.0	28	3.1
CC51	09/05/97	1410	0.010	287	6.96	1.2	8.5	42	5.0	1.4	--	15.8	113	5.5
CC52	10/18/96	1000	0.031	520	3.95	1.8	9.7	88	6.0	3.1	--	--	175	35
CC53	09/07/07	1435	0.010	76	3.92	11.2	5.7	1.4	0.30	0.28	--	--	25	13
CC54	09/25/97	1145	0.067	564	3.95	9.0	1.2	53	7.8	3.0	--	--	303	55
CC55	09/25/97	1100	<.10	583	3.45	7.9	2.6	29	6.7	2.3	--	--	207	55
CC56	09/06/97	1415	0.035	686	4.37	1.4	9.7	81	13	1.2	--	--	333	12
CC57	09/09/97	1100	0.008	608	2.98	8.6	7.2	17	2.6	0.13	--	--	145	7.7
CC58	09/25/97	1530	0.033	775	3.30	8.4	8.2	78	6.7	0.81	--	--	338	11
CC59	09/30/97	1230	0.015	565	3.06	16.8	5.9	8.0	3.6	1.5	--	--	135	25
CC60	09/30/97	1000	0.33	63	6.52	6.9	7.3	16	1.6	0.49	--	3.0	37	4.3
CC61	09/27/97	1000	0.26	146	7.46	12.6	7.0	24	1.9	1.2	--	31	41	5.1
CC62	09/27/97	1115	0.078	444	3.32	14.2	6.0	28	3.9	1.5	--	--	141	14
CC63	09/28/97	1220	0.16	64	4.11	4.6	9.2	1.3	0.48	1.0	--	--	17	26
CC64	09/28/97	1310	0.036	673	2.97	16.7	5.9	5.1	2.6	1.9	--	--	173	45
CC65	09/29/97	1330	0.058	47	6.59	10.4	7.3	5.5	0.94	0.98	--	3.7	18	7.0
CC66	09/09/97	1545	0.018	142	3.59	11.5	7.2	5.2	1.1	0.19	--	--	34	19
CC67	09/10/97	1000	0.022	370	3.26	7.8	7.6	27	7.4	0.32	--	--	162	13
CC68	09/10/97	1130	0.42	245	6.32	10.0	6.9	42	4.1	1.1	--	4.3	118	6.9
CC69	09/10/97	1400	0.020	428	3.50	8.0	7.2	48	8.7	0.48	--	--	195	7.3
CC70	09/10/97	1500	0.055	158	6.83	10.0	7.4	23	3.2	0.95	--	8.0	72	5.4
CC71	09/26/97	1000	0.18	365	6.90	4.8	8.6	60	4.9	1.1	--	14.0	153	5.2
CC72	08/07/98	1130	0.047	103	6.16	18.5	18.2	14	2.0	0.76	0.24	12.4	33	3.6
CC73	08/07/98	1230	--	57	6.05	21.0	4.7	7.4	1.2	0.37	0.15	10.4	16	1.9
CC74	08/07/98	1320	--	228	6.60	17.8	5.2	33	5.1	1.8	0.32	57	61	4.5
CC75	08/07/98	1430	0.010	287	3.72	17.7	5.7	34	4.1	0.70	0.46	--	118	7.6
CC76	08/07/98	1500	0.013	165	5.16	16.6	5.1	22	2.8	0.83	0.40	6.0	71	5.3
CC77	08/07/98	1540	0.033	58	5.82	18.5	5.2	8.2	1.3	0.74	0.15	18.0	9	2.6
CC78	10/01/99	1300	--	52	4.59	2.5	8.1	3.7	0.91	1.1	--	--	8	13
CC79	09/05/97	1105	0.055	124	4.58	7.1	8.1	13	2.1	0.91	--	--	49	8.5
CC80	09/05/97	1215	0.035	160	4.28	10.0	7.2	14	2.5	1.1	--	--	67	14
CC81	09/07/97	1345	0.010	163	7.16	16.5	5.9	25	1.5	0.73	--	17.0	56	4.3
CC82	05/13/98	1255	1.26	343	3.75	3.1	--	34	2.9	1.7	0.82	--	123	11
CC83	09/07/97	1230	0.21	285	4.61	1.8	8.8	38	4.5	0.79	--	<0.5	130	9.1
CC84	09/07/97	1335	0.006	76	6.72	8.4	--	11	0.84	0.70	--	6.0	28	4.8
CC85	09/05/97	1445	0.44	215	7.36	13.4	6.4	34	2.6	0.84	--	21	78	2.9
CC86	09/25/97	1325	0.28	316	6.54	9.2	7.4	44	8.3	1.1	--	15.0	143	5.7

Table 27. Water-quality data for selected streams and springs in the subbasin above Cement Creek at Silverton
—Continued

[Site numbers and locations listed in table 3]

Alumi- num, diss.	Barium, diss.	Beryl- lium, diss.	Cad- mium, diss.	Chro- mium, diss.	Copper, diss.	Iron, diss.	Ferrous Iron, diss.	Lead, diss.	Lithium, diss.	Manga- nese, diss.	Molyb- demum, diss.	Nickel, diss.	Stron- tium, diss.	Vana- dium, diss.	Zinc, diss.
14,260	8	1	4	<15	<4	67,450	53,100	<30	18	1,840	<10	36	1,350	<4	1,280
13,710	11	1	<2	<15	<4	58,670	43,300	<30	19	1,980	<10	<20	1,310	<4	1,220
12,780	7	<1	<2	<15	<4	46,000	--	<30	19	1,760	<10	<20	1,420	<4	1,240
12,870	9	<1	<2	<15	<4	38,450	--	<30	19	1,710	<10	<20	1,370	<4	1,260
12,160	6	<1	<2	<15	<4	50,300	--	<30	14	1,780	<10	32	1,390	<4	1,270
14,340	8	<1	<2	<15	<4	57,280	--	<30	23	1,880	<10	37	1,410	<4	1,250
<40	23	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	323	<4	<20
109	27	<1	6	<15	66	<30	7	<30	<6	745	<10	<20	174	<4	1,200
76	25	<1	<2	<15	23	<30	105	<30	<6	47	12	<20	236	<4	470
907	48	<1	<2	<15	36	155	115	<30	<6	64	<10	<20	15	<4	91
3,280	29	<1	13	<15	141	<30	--	<30	<6	5,770	<10	30	103	<4	2,370
<40	22	<1	<2	<15	<4	<30	12	<30	<6	<3	16	<20	194	<4	<20
43	27	<1	<2	<15	10	55	12	<30	<6	323	<10	23	279	<4	424
<40	34	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	396	<4	<20
<40	37	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	452	<4	<20
73	32	<1	<2	<15	<4	<30	--	<30	<6	61	<10	<20	499	<4	<20
<40	17	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	212	<4	<20
45	11	<1	<2	<15	<4	71	--	<30	<6	575	12	<20	1,140	<4	278
45	33	<1	<2	<15	5	<30	18	<30	<6	364	<10	<20	367	<4	147
68	18	<1	<2	<15	6	<30	43	<30	<6	15	<10	<20	214	<4	72
1,530	37	<1	<2	<15	99	19,370	2,350	31	<6	420	<10	<20	15	<4	448
2,930	44	<1	<2	<15	20	2,460	2,040	<30	<6	194	<10	<20	41	<4	93
100	32	<1	<2	<15	<4	<30	--	<30	6	507	<10	<20	470	<4	64
1,350	32	<1	<2	<15	136	204	--	<30	<6	385	12	<20	232	<4	549
<40	93	<1	2	<15	<4	37	12	<30	<6	<3	<10	<20	405	<4	<20
86	43	<1	3	<15	<4	3,220	3,200	<30	20	4,760	<10	<20	1,680	<4	930
4,120	31	<1	7	<15	363	3,150	1,040	<30	<6	417	<10	<20	507	<4	2,010
1,310	27	<1	3	<15	258	4,200	--	40	<6	138	<10	<20	112	<4	1,020
2,800	40	<1	<2	<15	282	3,890	74	<30	<6	428	<10	<20	781	<4	1,370
1,760	29	<1	5	16	267	5,580	--	<30	<6	155	<10	22	119	<4	1,050
11,520	22	<1	<2	<15	136	26,800	425	<30	8	603	<10	<20	491	5	1,130
<40	23	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	160	<4	96
1,110	27	<1	3	<15	55	<30	12	<30	<6	1,660	<10	<20	124	<4	1,410
20,620	4	<1	<2	<15	<4	47,450	31,200	<30	15	748	<10	<20	398	<4	1,040
20,370	7	<1	<2	<15	<4	46,150	37,300	<30	33	741	11	<20	393	<4	1,040
20,350	<2	<1	<2	<15	<4	45,620	--	<30	17	726	<10	21	387	<4	1,050
20,940	3	<1	<2	<15	<4	50,510	--	<30	16	739	16	<20	397	<4	1,050
8,700	2	<1	<2	<15	<4	15,720	--	<30	<6	314	<10	<20	180	<4	456
6,570	5	<1	<2	<15	<4	13,800	--	<30	<6	239	<10	<20	143	<4	327
17,090	5	<1	<2	<15	<4	42,250	--	<30	12	614	12	24	340	<4	905
20,690	4	<1	<2	<15	<4	55,150	--	<30	16	758	<10	29	406	5	1,070
168	9	<1	<2	<15	8	<30	37	<30	<6	61	<10	<20	252	<4	38
932	7	<1	3	<15	17	4,800	4,790	<30	32	1,180	16	<20	1,250	<4	381
98	9	<1	3	<15	<4	<30	6	<30	<6	10	<10	<20	167	<4	<20
1,030	7	<1	2	<15	24	4,130	3,910	<30	20	1,310	<10	<20	1,350	<4	473
2,940	6	<1	<2	<15	36	83	50	<30	<6	154	<10	<20	264	<4	55
<40	64	<1	<2	<15	<4	<30	--	<30	<6	5	<10	<20	44	<4	<20
14,190	30	2	<2	<15	45	5,210	868	<30	<6	1,470	12	<20	285	<4	156
8,130	<2	2	<2	<15	<4	33,640	--	<30	17	1,100	<10	<20	542	8	498
232	56	<1	<2	<15	7	50	40	<30	<6	18	17	<20	7	<4	<20

Table 27. Water-quality data for selected streams and springs in the subbasin above Cement Creek at Silverton
—Continued

[Site numbers and locations listed in table 3]

Alumi- num, diss.	Barium, diss.	Beryl- lium, diss.	Cad- mium, diss.	Chro- mium, diss.	Copper, diss.	Iron, diss.	Ferrous Iron, diss.	Lead, diss.	Lithium, diss.	Manga- nese, diss.	Molyb- demum, diss.	Nickel, diss.	Stron- tium, diss.	Vana- dium, diss.	Zinc, diss.
82	57	<1	<2	16	9	39	12	<30	<6	4	<10	25	6	<4	<20
1,600	15	<1	4	<15	186	244	23	<30	9	498	10	<20	58	<4	965
<40	22	<1	<2	<15	<4	<30	12	<30	<6	<3	<10	<20	286	<4	<20
<40	27	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	8	<4	<20
3,330	29	<1	<2	<15	744	1,900	43	<30	11	305	<10	21	65	4	292
<40	74	<1	<2	<15	<4	48	12	<30	<6	<3	<10	<20	4,200	<4	<20
968	45	<1	<2	<15	4	686	486	<30	<6	137	15	<20	65	<4	<20
8,840	20	<1	3	23	188	41,920	--	<30	<6	582	<10	41	47	<4	132
204	101	<1	<2	<15	<4	<30	--	<30	<6	18	<10	<20	10	<4	<20
356	47	<1	<2	<15	<4	38	40	<30	<6	48	23	<20	9	<4	<20
1,580	30	<1	<2	<15	10	<30	10	<30	<6	245	11	<20	200	<4	<20
<40	16	<1	<2	<15	<4	<30	--	<30	<6	<3	14	<20	81	<4	<20
<40	34	<1	<2	<15	<4	<30	--	<30	<6	4	<10	<20	349	<4	237
2,210	7	<1	<2	<15	24	73	43	<30	26	1,170	<10	<20	916	<4	337
1,000	48	<1	<2	<15	<4	<30	--	<30	<6	12	<10	<20	11	<4	<20
8,390	<2	2	<2	<15	<4	34,310	33,020	<30	19	1,170	<10	24	610	11	545
6,870	<2	<1	<2	<15	<4	16,440	12,000	<30	14	1,020	<10	44	291	<4	663
7,800	18	2	26	<15	189	44	--	<30	9	19,800	<10	35	146	<4	4,240
1,710	11	<1	<2	<15	34	8,190	409	<30	<6	1,100	<10	<20	164	<4	92
3,110	19	1	13	<15	619	6,600	110	177	<6	10,800	<10	<20	618	<4	3,950
4,690	32	<1	4	<15	380	7,450	110	322	23	1,210	<10	<20	60	<4	3,880
<40	12	<1	<2	<15	<4	<30	10	<30	<6	5	<10	<20	69	<4	<20
63	42	<1	<2	<15	<4	<30	12	<30	<6	13	10	<20	363	<4	<20
2,150	22	<1	<2	<15	65	2,380	1,100	<30	6	864	<10	<20	124	<4	763
812	57	<1	<2	<15	7	<30	49	<30	<6	48	<10	<20	20	<4	36
7,160	25	<1	<2	<15	41	11,650	3,330	<30	<6	332	<10	24	68	<4	93
111	54	<1	<2	<15	4	93	105	<30	<6	16	<10	<20	63	<4	<20
541	52	<1	<2	<15	205	697	28	87	<6	101	<10	<20	46	<4	93
8,660	44	1	<2	<15	14	461	79	38	<6	1,160	25	<20	248	<4	123
99	45	<1	2	<15	45	437	404	<30	<6	233	<10	<20	1,200	<4	834
2,120	22	<1	3	<15	113	435	33	<30	<6	588	27	33	770	<4	202
<40	35	<1	<2	<15	<4	64	105	<30	<6	191	<10	<20	532	<4	<20
76	35	<1	<2	<15	<4	68	115	<30	<6	199	<10	<20	1,670	5	205
122	31	<1	<2	<15	5	421	360	<30	<6	66	16	<20	513	<4	<20
<40	34	<1	<2	<15	<4	<30	--	<30	<6	<3	21	<20	399	<4	<20
<40	61	<1	<2	<15	<4	67	--	<30	<6	81	29	<20	1,210	<4	<20
1,760	27	<1	<2	<15	12	209	90	38	6	469	21	<20	628	<4	426
<40	34	<1	<2	<15	<4	92	40	<30	<6	229	21	<20	472	<4	<20
<40	34	<1	<2	<15	6	<30	10	<30	<6	6	<10	<20	370	<4	<20
437	7	<1	<2	<15	17	<30	--	<30	<6	61	<10	<20	27	<4	74
583	13	<1	<2	<15	19	60	--	<30	<6	70	<10	<20	75	<4	42
1,750	18	<1	<2	<15	31	33	--	<30	7	149	<10	<20	110	<4	56
55	25	<1	<2	<15	<4	<30	--	<30	<6	9	<10	<20	247	<4	<20
1,920	32	<1	<2	<15	23	1,530	--	34	<6	1,530	<10	20	442	<4	150
2,110	44	1	9	<15	175	<30	--	<30	<6	2,420	<10	<20	100	<4	1,990
<40	22	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	82	<4	<20
<40	24	<1	<2	<15	<4	<30	--	<30	<6	9	<10	<20	318	<4	34
133	46	<1	<2	<15	<4	<30	33	<30	<6	559	<10	<20	673	<4	178

Table 28. Water-quality data for selected streams and springs in the subbasin above Mineral Creek at Silverton

[Site numbers and locations listed in table 3]

Site number	Date	Time	Stream-flow	Spec. cond.	pH	Water temp.	Oxygen, diss.	Calcium, diss.	Magnesium, diss.	Sodium, diss.	Potassium, diss.	Alk., field	Sulfate, diss.	Silica, diss.
MC1	09/27/97	1430	--	135	7.51	8.6	8.3	21	1.7	1.1	--	41	32	6.7
MC2	09/18/99	1040	0.80	281	4.62	4.0	--	25	4.9	1.2	0.69	--	112	8.8
	07/17/99	1500	0.820	192	4.86	20.0	8.2	18	3.3	0.86	0.43	1.0	63	7.5
MC3	07/18/99	1530	1.400	270	4.30	12.0		27	4.9	1.2	0.51	--	138	9.7
MC4	09/18/99	1215	1.04	349	4.01	5.6	--	32	6.1	1.4	0.62	--	121	10
	07/17/99	1300	1.280	262	3.87	9.1	8.5	23	4.3	0.93	0.45	--	96	8.4
MC5	08/27/98	1635	0.402	204	6.84	12.9	6.7	32	2.0	1.9	0.22	6.0	77	11
MC6	08/26/97	1200	--	702	2.99	18.8	5.3	31	8.0	3.4	--	--	309	75
MC7	08/27/98	1615	1.760	566	6.86	9.8	6.4	98	6.0	3.2	0.42	9.5	263	16
MC8	08/27/98	1405	3.960	874	5.32	11.4	6.3	156	13	4.2	0.49	1.2	423	18
MC9	08/26/99	1100	3.83	89	7.69	9.9	7.3	14	1.1	0.68	0.19	14.0	21	2.7
MC10	08/25/99	0940	3.14	77	7.33	8.5	7.0	13	0.77	0.80	0.23	16.5	19	2.9
MC11	08/26/97	1600	--	307	4.14	17.0	5.1	35	2.6	3.1	--	--	127	25
MC12	09/21/99	1500	0.36	188	4.89	8.3	9.6	26	3.3	1.4	0.42	4.0	73	5.4
MC13	09/21/99	1700	0.37	200	4.84	8.9	11.0	25	3.2	1.4	0.41	1.2	83	5.9
MC14	08/24/99	1325	0.77	52	6.70	12.5	7.0	7.9	0.42	0.38	0.17	7.9	21	2.1
MC15	08/24/99	1430	0.80	60	6.67	10.5	7.4	9.3	0.44	0.45	0.19	6.0	19	2.4
MC16	08/25/99	1045	--	68	7.18	10.4	7.0	11	0.69	0.71	0.23	11.0	19	3.4
MC17	10/02/98	0930	0.86	1,369	3.74	1.4	16.3	109	27	6.1	0.94	--	800	33
MC18	10/02/98	1030	0.84	1,785	3.74	2.6	16.1	113	34	6.8	1.1	--	980	35
MC19	10/02/98	1100	0.71	586	4.64	2.8	13.1	86	5.2	4.9	0.59	<0.5	280	26
MC20	10/02/98	1230	0.49	419	4.65	4.1	12.0	61	4.3	4.6	0.48	<0.5	180	25
MC21	10/02/98	1330	0.20	109	6.95	3.9	9.4	14	1.2	1.7	0.27	10.5	33	9.4
MC22	10/02/98	1430	1.01	1,406	3.32	11.2	7.2	112	28	7.0	1.0	--	780	38
MC23	10/02/98	1130	0.024	766	6.11	9.3	8.7	129	3.2	4.9	0.89	4.0	363	28
MC24	08/05/98	1800	--	392	3.52	11.9	--	8.1	9.0	5.8	1.5	--	187	63
MC25	08/05/98	1225	--	993	3.39	9.6	--	31	27	4.9	0.78	--	508	59
MC26	08/05/98	1600	--	130	4.61	2.0	--	12	1.9	3.7	0.45	<0.5	49	27
MC27	08/05/98	1500	--	58	6.50	8.0	--	8.8	0.56	0.36	0.21	13.0	12	1.6
MC28	08/12/98	1630	0.002	465	3.59	8.3	2.0	28	5.8	6.9	1.9	--	230	60
MC29	08/12/98	1530	0.001	459	3.22	8.0	2.6	13	5.6	5.0	1.3	--	193	56
MC30	08/28/97	1730	0.001	576	3.02	15.8	5.4	22	4.7	5.2	--	--	182	52
MC31	07/15/99	1100	--	1,066	6.57	6.6	--	199	6.3	9.5	0.72	--	567	29
MC32	08/27/99	1100	--	271	3.83	10.6	6.4	22	5.1	6.1	0.52	--	99	41
MC33	09/30/99	1400	--	297	3.80	4.4	6.0	23	5.4	6.2	0.56	--	101	44
MC34	08/28/97	1130	--	675	2.70	10.0	6.2	4.0	1.5	<0.10	--	--	139	25
MC35	08/27/98	1435	0.010	2130	7.33	15.5	4.2	521	6.0	5.9	0.57	46	1,260	25
MC36	09/10/99	1000	0.15	256	6.22	4.2	1.0	40	2.9	4.2	0.48	42	65	17
MC37	09/16/99	1000	0.13	269	4.00	5.7	11.5	22	5.1	5.6	0.53	--	85	42
MC38	08/09/99	1230	--	1,340	2.58	--	--	71	8.1	<0.10	0.35	--	568	49
MC39	09/17/99	1600	0.038	715	2.93	8.9	10.8	19	3.3	2.3	0.51	--	215	12
MC40	09/17/99	1500	0.067	466	6.59	9.5	10.9	64	13	1.8	0.86	12.0	185	5.1
MC41	08/27/99	0900	0.79	179	6.36	7.1	--	25	2.4	1.6	0.27	15.1	62	5.6
MC42	08/27/99	0930	0.72	112	6.11	7.8	--	15	2.1	0.95	0.23	9.2	35	5.3
MC43	10/02/98	1000	0.021	1,200	3.20	1.4	16.3	24	26	5.2	0.87	--	653	53
MC44	10/02/98	1200	0.14	1,070	4.48	2.4	12.8	183	9.5	6.6	0.56	--	540	34
MC45	08/12/98	1730	0.040	347	3.02	12.9	--	15	3.4	4.3	1.1	--	120	46
MC46	08/26/99	1345	--	313	3.25	--	--	25	2.1	0.84	0.49	--	91	8.9
MC47	08/26/97	1500	--	377	3.63	--	--	47	3.6	4.4	--	--	157	41
MC48	09/03/98	1650	0.10	471	3.45	11.9	7.1	45	4.7	5.4	0.64	--	171	38
MC49	09/03/98	1745	0.50	507	3.71	14.6	6.8	59	4.7	5.1	0.97	--	208	50
MC50	08/25/99	1500	1.95	311	3.25	10.1	7.4	13	2.6	1.6	0.58	--	98	19
MC51	08/25/99	1400	0.41	70	3.88	9.3	7.6	4.2	0.70	1.1	0.44	--	21	22
MC52	08/25/99	1430	1.62	355	3.21	9.4	7.5	16	3.1	1.7	0.62	--	117	20
MC53	08/09/99	1200	--	1,035	2.61	9.8	7.1	59	6.2	0.33	0.59	--	383	34
MC54	08/25/99	1030	0.18	163	3.18	5.2	8.9	1.6	0.44	1.0	0.35	--	30	24
MC55	08/25/99	1000	0.057	17	5.53	6.9	7.6	1.5	0.29	0.97	0.25	2.6	4	17
MC56	08/25/99	1330	0.22	48	3.90	10.3	7.8	1.9	0.42	0.94	0.36	--	10	20
MC57	09/13/99	1700	0.36	241	6.24	4.6	6.8	35	3.0	4.1	0.46	36	77	18

Table 28. Water-quality data for selected selected streams and springs in the subbasin above Mineral Creek at Silverton

[Site numbers and locations listed in table 3]

Alum., diss.	Barium, diss.	Beryll., diss.	Cadm., diss.	Chrom., diss.	Copper, diss.	Iron, diss.	Ferrous Iron, diss.	Lead, diss.	Lithium, diss.	Mang., diss.	Moly., diss.	Nickel, diss.	Stron., diss.	Van., diss.	Zinc, diss.
78	20	<1	<2	<15	<4	<30	12	<30	<6	7	<10	<20	89	<4	<20
9,110	59	<1	<2	<15	18	405	--	<30	<6	569	11	<20	343	<4	55
5,020	55	<1	<2	<15	14	373	0	<6	362	<10	<20	<30	279	<4	35
4,110	46	<1	<2	<15	53	376	0	<6	1,310	<10	<20	<30	347	<4	940
8,110	51	2	<2	<15	67	829	--	<30	<6	1,470	<10	<20	458	<4	749
4,760	50	<1	<2	<15	49	669	0	<6	1,060	<10	<20	<30	356	<4	597
59	22	<1	<2	<15	<4	<30	0	<6	38	<10	<20	<30	244	<4	<20
18,980	12	<1	<2	<15	<4	38,060	600	<30	<6	235	<10	<20	198	<4	<20
100	19	<1	<2	<15	<4	310	0	<6	291	<10	<20	<30	1,150	<4	52
2,710	18	2	<2	<15	<4	14,640	0	<6	1,430	26	<20	<30	1,360	<4	164
<40	24	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	278	<4	<20
<40	27	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	223	<4	<20
720	9	<1	<2	<15	<4	255	280	<30	10	202	<10	<20	262	<4	<20
72	47	<1	2	<15	<4	41	--	<30	<6	84	23	<20	502	<4	23
252	47	<1	<2	<15	69	228	--	<30	<6	150	<10	<20	484	<4	494
<40	11	<1	<2	<15	<4	<30	--	<30	<6	4	<10	<20	73	<4	<20
75	12	<1	2	<15	<4	<30	--	<30	<6	73	<10	<20	87	<4	120
45	20	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	134	<4	35
51,530	15	<1	<2	<15	22	76,650	--	<30	<6	1,770	<10	<20	909	<4	302
71,430	19	<1	<2	<15	<4	117,290	--	<30	<6	2,150	<10	<20	990	<4	353
1,470	21	<1	<2	<15	28	488	--	<30	<6	625	<10	<20	678	<4	<20
1,170	25	<1	<2	<15	<4	483	--	<30	<6	494	35	<20	544	<4	<20
51	33	<1	<2	<15	<4	<30	--	<30	<6	19	<10	<20	71	<4	<20
54,020	18	<1	<2	<15	21	69,310	--	<30	<6	1,840	65	<20	953	<4	354
312	10	<1	6	<15	<4	1,760	--	<30	<6	453	<10	<20	890	<4	<20
9,920	13	<1	<2	<15	<4	19,550	12,330	<30	<6	457	25	<20	101	4	134
57,550	25	<1	<2	<15	28	2,960	3,430	<30	19	1,250	<10	<20	261	<4	301
949	18	<1	<2	<15	<4	<30	<10	<30	<6	240	25	<20	105	<4	<20
<40	16	<1	<2	<15	<4	<30	--	<30	<6	<3	<10	<20	35	<4	<20
11,880	11	2	<2	<15	147	33,520	--	<30	<6	1,180	<10	<20	93	10	445
14,380	10	<1	<2	<15	372	15,050	--	141	12	1,160	<10	<20	74	<4	580
7,650	21	<1	<2	<15	80	4,260	140	<30	10	772	<10	<20	69	<4	314
121	14	<1	<2	--	<4	6,070	--	<30	<6	1,400	<10	<20	1,930	<4	45
3,620	12	1	<2	--	11	35	--	<30	10	646	<10	<20	125	<4	173
3,830	9	<1	<2	<15	6	57	--	<30	<6	692	17	<20	125	<4	178
1,630	41	<1	<2	<15	193	16,200	320	<30	<6	22	<10	<20	32	<4	<20
<40	12	<1	<2	<15	<4	297	0	<6	449	<10	<20	<30	4,820	<4	<20
65	15	<1	<2	<15	<4	575	--	<30	<6	392	<10	<20	183	<4	<20
3,510	14	<1	<2	<15	6	<30	--	<30	8	648	<10	<20	121	<4	176
19,160	12	<1	<2	--	135	52,000	--	<30	<6	4,530	<10	<20	322	<4	198
3,180	33	<1	33	<15	8,390	40,540	--	<30	<6	384	<10	<20	404	<4	10,940
129	24	<1	3	<15	<4	134	--	<30	6	3,970	18	<20	1,770	<4	353
207	13	1	<2	--	7	100	--	<30	<6	165	<10	<20	401	<4	54
198	13	1	<2	--	7	105	--	<30	<6	140	<10	<20	172	<4	46
65,710	28	<1	<2	<15	<4	44,660	--	<30	<6	1,320	71	<20	281	<4	340
3,060	12	<1	<2	<15	136	394	--	<30	<6	1,210	70	<20	1,290	<4	<20
5,810	46	<1	<2	<15	81	2,680	--	<30	6	580	<10	<20	58	<4	224
923	6	1	<2	--	32	849	--	<30	<6	822	<10	<20	312	<4	310
2,570	21	<1	<2	<15	4	645	160	<30	<6	355	<10	<20	295	<4	61
2,820	30	<1	<2	<15	13	4,040	2,210	<30	<6	771	21	<20	177	<4	90
3,470	23	<1	<2	<15	<4	553	230	<30	<6	476	<10	<20	375	<4	76
5,510	51	<1	<2	<15	78	2,160	--	<30	<6	271	<10	<20	132	<4	38
599	78	<1	3	--	<4	211	--	<30	<6	46	<10	<20	34	<4	29
6,640	50	1	<2	--	100	2,950	--	<30	<6	331	21	<20	160	<4	76
14,800	29	2	<2	<15	44	36,790	--	<30	<6	4,130	<10	<20	309	<4	186
1,070	47	<1	<2	--	103	490	--	<30	<6	12	<10	<20	17	<4	54
74	39	<1	<2	<15	<4	33	--	<30	<6	<3	<10	<20	13	<4	<20
315	47	<1	<2	<15	19	99	--	<30	<6	9	<10	<20	16	<4	<20
71	5	<1	<2	<15	<4	<30	--	<30	<6	7	<10	<20	169	<4	25