SELECTED HYDROLOGIC DATA FOR THE UPPER ARKANSAS RIVER BASIN, COLORADO, 1986-89

by Gregory A. Wetherbee, Briant A. Kimball, and Wendy S. Maura

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CONVERSION FACTORS AND ABBREVIATED WATER-QUALITY UNITS

Multiply	*By*	*To obtain*
centimeter (cm)	0.3937	inch
feet (ft)	0.3048	meter
inch (in.)	25.4	millimeter
nanometer (n)	0.00000003937	inch
square mile (mi^2)	2.59	square kilometer

Temperature in degree Celsius (°C) can be converted to degree Fahrenheit (°F) as follows:

$$°F = 9/5(°C) + 32$$

The following term and abbreviation also is used in this report:

microgram per liter (µg/L)

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ABSTRACT

As part of the U.S. Geological Survey Toxic Substances Hydrology Program, a surface-water toxics project was done in the upper Arkansas River basin. Selected hydrologic data were collected in the basin in the Leadville, Colorado, area from 1986 through 1989. These data will provide a baseline source of information for scientific research of processes that affect metal transport in streams and for water-use and water-development planning.

Data presented in this report include discharge, onsite measurements of pH, water temperature, specific conductance, alkalinity, and light intensity and concentrations of major ions, selected nutrients, and trace elements. In addition, quality-assurance and analytical detection-limit data are provided in the report. The data are presented for 24 sites in the Arkansas River basin (excluding the Saint Kevin Gulch drainage basin) from the headwaters of the Arkansas River downstream to the town of Granite, Colorado.

INTRODUCTION

Acid mine drainage affects the water quality of many streams in Colorado (fig. 1) (Moran and Wentz, 1974). Historical mining of metal-sulfide ores in the Leadville, Colorado area produced large quantities of gold, lead, silver, and zinc. Some of the now-abandoned mines serve as conduits for water that is introduced to the mines by direct precipitation and by runoff or groundwater seepage and discharged through tunnel portals. Water discharged from mines typically has large concentrations of trace elements and small values of pH (Moran and Wentz, 1974). Some of these trace elements are toxic, even in very small concentrations. For example, cadmium can be toxic to aquatic life at a concentration of 7.0 µg/L (Jeb Love, Colorado Department of Health, oral commun., 1990).

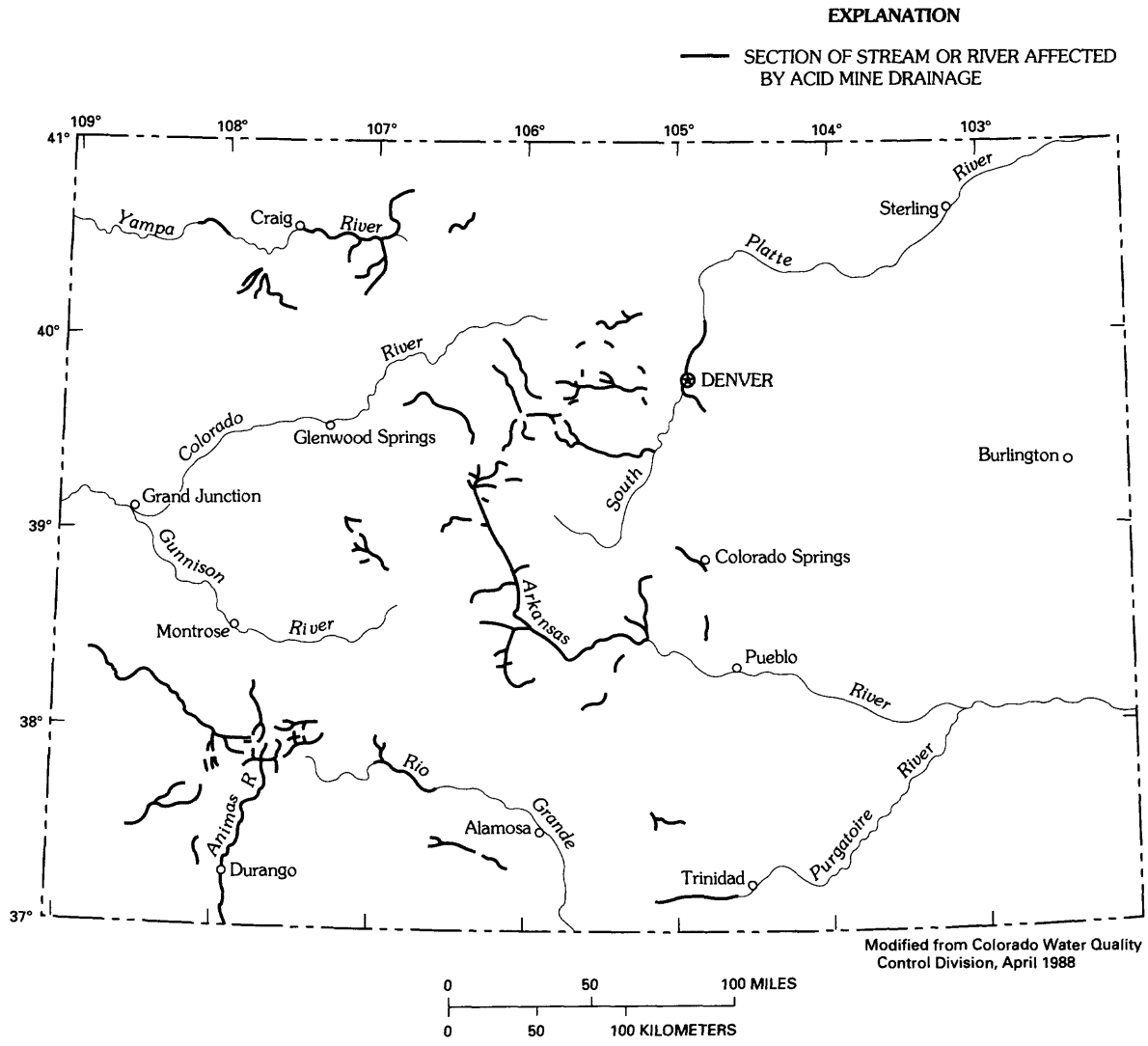

Figure 1.--Streams affected by acid mine drainage in Colorado. (modified from Colorado Water Quality Control Division, 1988, p. 9)

In 1986, the U.S. Geological Survey began an interdisciplinary study, as part of the Toxic Substances Hydrology Program, of controls on trace-element concentrations in the upper Arkansas River basin in the Leadville area. Understanding the transport and removal mechanisms controlling trace-element concentrations may provide insights into efficient management and treatment of acid mine drainage. However, discharge and water-quality data needed to be collected from a network of sites to define the physical, chemical, and biological processes that affect trace-element transport and removal. These data will provide a baseline source of information for scientific research of processes controlling metal transport in streams and for water-use and water-development planning.

Purpose and Scope

This report presents discharge and selected water-quality data for calendar years 1986-89. Data are presented for 6 sites on the main stem of the Arkansas River, 3 sites on the East Fork Arkansas River, and 15 sites on tributaries from the Leadville area downstream to Granite, Colorado. No data collected from Saint Kevin Gulch are presented in this report. Data reported include discharge, onsite measurements of pH, water temperature, specific conductance, alkalinity, light intensity, concentrations of major ions, selected nutrients, and trace elements. Concentrations of suspended sediment also are reported for selected dates at selected sites. Most of the water-quality samples were analyzed in the project laboratory by project personnel. In additon, quality-assurance and analytical detection-limit data are provided in the report.

Location and Description of Study Area and Sampling Sites

The study area is the upper Arkansas River basin upstream from Granite, Colorado (fig. 2). The drainage area of the study area upstream from the Granite site is about 427 mi^2. Elevations range from about 8,800 to about 14,400 ft above mean sea level.

Streams in the study area generally are high-gradient mountain streams with cobble and gravel stream beds. The study area has a montane climate, and precipitation increases with elevation. Snow accounts for most of the annual precipitation in the study area (National Oceanic and Atmospheric Administration, 1976-85). Streamflow in the upper Arkansas River and its tributaries is sustained mostly by snowmelt; baseflow is supported primarily by shallow ground-water systems. Several transmountain diversions transmit water to the study area, and Lake Fork of the Arkansas River and Lake Creek are dam-controlled tributaries to the Arkansas River in the study area.

Data from 24 sampling sites are included in this report. These sampling sites generally are on the Arkansas River upstream and downstream from confluences of major tributaries to the river, as well as on the main tributaries. The location and description of each sampling site shown in figure 2 is listed in table 1. The site identification numbers in figure 2 were established to correspond to the table numbers in the "Hydrologic Data" section at the back of this report.

DESCRIPTION OF DATA

The hydrologic data presented in this report were collected by U.S Geological Survey personnel and contracted observers. Water-quality and suspended-sediment samples were collected by the equal-transit rate (ETR) increment method (Guy and Norman, 1970, p. 32) and were accompanied by measurements of discharge, pH, water temperature, specific conductance, alkalinity, and light intensity. Discharge was measured by using current meters or was estimated with staff-gage readings that were rated using

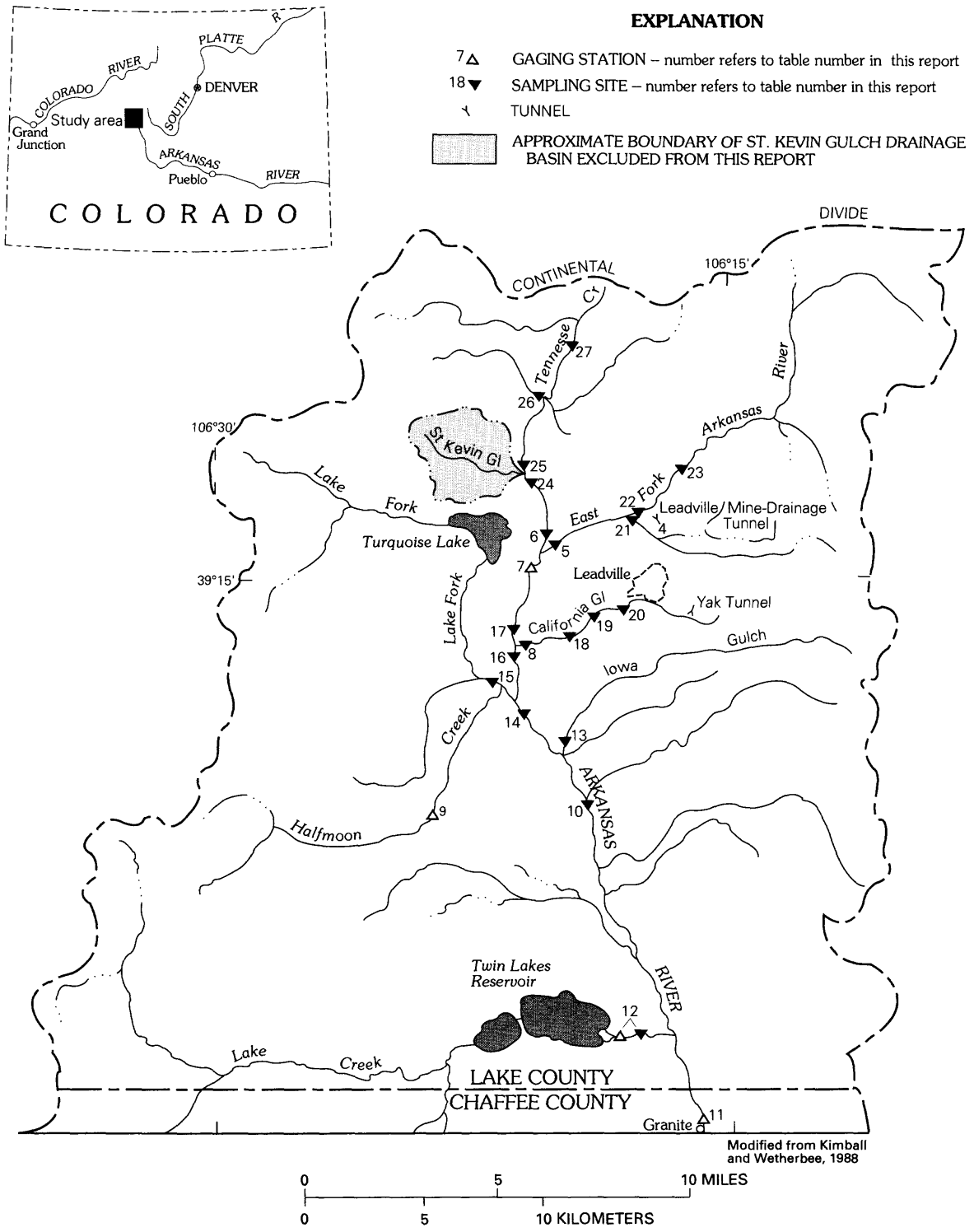

Figure 2.--Locations of the study area and sampling sites in the upper Arkansas River basin upstream from Granite (modified from Kimball and Wetherbee, 1988, fig. 1).

Table 1.--*Water-quality sampling sites for the upper Arkansas River basin*

[Site number corresponds to numbered site in figure 2 and table number in "Hydrologic Data" section; EPA, U.S. Environmental Protection Agency; USGS, U.S. Geological Survey; °, degrees; ', minutes; ", seconds; SHWYD, State Highway Department; HWY, highway]

Site number	EPA site number	USGS station number	Site name	Latitude	Longitude
4		07079200	Leadville Mine-Drainage Tunnel at Leadville	39°16'29"	106°17'15"
5		07079500	East Fork Arkansas River at mouth, near Leadville.	39°15'35"	106°20'24"
6		07081000	Tennessee Creek near mouth, near Leadville	39°15'51"	106°20'25"
7	SW-13	07081200	Arkansas River near Leadville	39°15'26"	106°20'35"
8	SW-12	07081800	California Gulch at mouth, at Malta	39°13'21"	106°21'14"
9		07083000	Halfmoon Creek near Malta	39°10'20"	106°23'19"
10		07083700	Arkansas River near Malta	39°10'05"	106°19'25"
11		07086000	Arkansas River at Granite	39°02'34"	106°15'55"
12		390444106174900	Lake Creek below Twin Lakes Reservoir, near Granite.	39°04'44"	106°17'49"
13		391120106194900	Iowa Gulch at mouth, near Malta	39°11'20"	106°19'49"
14		391141106205500	Arkansas River at Smith Ranch	39°11'41"	106°20'55"
15		391231106213800	Lake Fork Arkansas River near Malta	39°12'31"	106°21'38"
16	SW-14	391313106212000	Arkansas River at Malta	39°13'13"	106°21'20"
17		391322106212400	Arkansas River above California Gulch at Malta	39°13'22"	106°21'24"
18	SW-11	391339106200200	Public Treatment Works Discharge near Stringtown	39°13'39"	106°20'02"
19	SW-7	391420106180400	California Gulch at SHWYD, at Leadville	39°14'20"	106°18'04"
20	SW-5	391432106173400	Star Ditch near mouth, at Leadville	39°14'32"	106°17'34"
21		391626106180000	Evans Gulch near mouth, at Leadville	39°16'26"	106°18'00"
22		391700106175600	East Fork Arkansas River at HWY 24, at Leadville	39°17'00"	106°17'56"
23		391709106164600	East Fork Arkansas River at HWY 91, near Leadville.	39°17'09"	106°16'46"
24		391713106205000	Tennessee Creek below Saint Kevin Gulch, near Leadville.	39°17'13"	106°20'50"
25		391717106205500	Tennessee Creek above Saint Kevin Gulch, near Leadville.	39°17'17"	106°20'55"
26		391901106202200	Longs Gulch at mouth, near Leadville	39°19'01"	106°20'22"
27		391937106200300	Tennessee Creek at HWY 24, near Leadville	39°19'37"	106°20'03"

current-meter measurements. Water temperature was measured with a Celsius-scale mercury thermometer. Measurements of pH were made with Beckman[1] PHI-12 and PHI-21 and Orion Ionalyzer pH meters. Specific conductance was measured with a Kent EIL5009 and Beckman Solu-Bridge conductivity meters. Alkalinity determinations were made using the Gran titration method (Stumm and Morgan, 1981, p. 221-223). Intensity of photo-synthetically active radiation (PAR) (400 to 700 nm) was measured at about 3 cm below the water surface with a Li-cor LI-192SA underwater quantum sensor and LI-1000 data logger.

To investigate the role of colloids and other particulates in controlling metal transport, water samples for analysis of major ions and trace elements were filtered with different pore-size filters. For analysis of total-recoverable metal concentrations, unfiltered, whole-water samples were collected and acidified with nitric acid to a pH less than 2.

[1]Use of trade names in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.

Most of the water samples collected for this project were analyzed in the project laboratory by project personnel. Analyses of organic carbon and some quality-assurance samples were done by the U.S. Geological Survey National Water-Quality Laboratory in Arvada, Colorado. Major cations and transition metals were analyzed on a Fisher-Jarrel Ash model 975 inductively coupled argon plasma spectrometer (ICP). Anions were analyzed on a Dionex 2000i ion chromatograph (IC). Colorimetric determination of ferrous and ferric iron, by using a 2,2-bipyridine method (Brown and others, 1970, p. 101-105), were done on a Spectronic 1001 ultra-violet/visible light spectrometer (UV/VIS).

This project participated in the U.S. Geological Survey Standard Reference Water Sample Program (SRWSP) to provide a measure of quality of the chemical analyses done using project personnel and instrumentation. The SRWSP evaluates laboratories participating in the program and provides overall performance ratings based on each laboratory's analyses of standard reference water samples. Each laboratory's reported analytical values are compared to median values for each constituent to determine the number of F-pseudosigma values (z-value) the reported values are from the median, which normally is considered the most probable value (MPV). The z-values are then used to evaluate each laboratory's performance (Keith J. Long, U.S. Geological Survey, written commun., 1990). The non-parametric statistics used to develop these performance ratings are described by Hoaglin and others (1983). Analytical data produced by this project for the SRWSP received good and satisfactory ratings (table 2). The detection limits for the constituents analyzed by ICP, IC, and UV/VIS for this project are listed in table 3.

Table 2.--*Overall laboratory performance ratings for the upper Arkansas River Surface-Water Toxics Project laboratory*

[Good, absolute Z-value range of 0.51-1.00; Satisfactory, absolute Z-value range of 1.01-1.50; Overall performance rating based on absolute Z-value, which is the number of F-pseudosigma values the reported value is from the most probable value for constituents as determined by the Standard Reference Water Sample Program[1]]

Date	Overall performance rating	Constituents
January 1987	Good	anions, metals
December 1987	Satisfactory	anions and iron
August 1988	Good	anions only
August 1989	Good	anions, metals
January 1990	Good	anions, metals

[1]Keith H. Long (U.S. Geological Survey, written commun., 1990). The non-parametric statistics used to develop these performance ratings are described by Hoaglin and others (1983).

Table 3.--*Methodology information for constituents analyzed by the upper Arkansas River Surface-Water Toxics Project laboratory*

[ICP, inductively coupled argon plasma spectrometry; IC, ion chromatography; UV/VIS, ultra violet/visible light spectrometry (colorimetry); µg/L, micrograms per liter; mg/L, milligrams per liter]

Constituent	Method	Detection Limit	Units
Calcium	ICP	1	µg/L
Magnesium	ICP	.2	µg/L
Sodium	ICP	6	µg/L
Sulfate	IC	2	mg/L
Fluoride	IC	.3	mg/L
Chloride	IC	.3	mg/L
Silica	ICP	40	µg/L
Nitrate	IC	.2	mg/L
Aluminum	ICP	40	µg/L
Barium	ICP	.3	µg/L
Beryllium	ICP	.7	µg/L
Boron	ICP	2	µg/L
Cadmium	ICP	7	µg/L
Cobalt	ICP	7	µg/L
Copper	ICP	1	µg/L
Chromium	ICP	6	µg/L
Iron	ICP	5	µg/L
Ferrous iron	UV/VIS	5	µg/L
Ferric + ferrous iron	UV/VIS	5	µg/L
Lead	ICP	50	µg/L
Lithium	ICP	5	µg/L
Manganese	ICP	.8	µg/L
Molybdenum	ICP	50	µg/L
Nickel	ICP	20	µg/L
Strontium	ICP	.2	µg/L
Vanadium	ICP	5	µg/L
Zinc	ICP	10	µg/L

[1]International Union of Pure and Applied Chemistry (1977, p. 346-347).

REFERENCES CITED

Brown, Eugene, Skougstad, M.W., and Fishman M.J., 1970, Methods for collection and analysis of water samples for dissolved minerals and gases: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 5, Chapter A1, 160 p. [Out of print; available only in U.S. Depository Libraries]

Colorado Water Quality Control Division, 1988, Nonpoint source assessment report: Denver, Colo., 160 p.

Guy, H.P., and Norman, V.W., 1970, Field methods for measurement of fluvial sediment: U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter C2, 59 p.

Hoaglin, D.C., Mosteller, Frederich, and Tukey, J.W., editors, 1983, Understanding robust and exploratory data analysis: New York, John Wiley, 447 p.

International Union of Pure and Applied Chemistry, 1977, Nomenclature, symbols, units, and their usage in spectrochemical analysis-II--Data interpretation: Applied Spectroscopy, v. 31, no. 4, p. 345-347.

Kimball, B.A., and Wetherbee, G.A., 1988, Instream chemical reactions of acid mine water entering a neutral stream near Leadville, Colorado, *in* Mallard, G.E., and Ragone, S.E., eds., U.S. Geological Survey Toxic Substances Hydrology Program--Proceedings of the technical meeting, Phoenix, Arizona, 1988: U.S. Geological Survey Water-Resources Investigations Report 88-4220, p. 71-79.

Moran, R.E., and Wentz, D.A., 1974, Effects of metal-mine drainage on water quality in selected areas of Colorado, 1972-73: Colorado Water Conservation Board Water-Resources Circular no. 25, 250 p.

National Oceanic and Atmospheric Administration, 1976-85, Colorado climatological data, annual summaries: National Climatic Data Center, v. 78-90, variously paginated.

Stumm, Werner, and Morgan, J.J., 1981, Aquatic chemistry, 2d ed.: New York, John Wiley, 780 p.

HYDROLOGIC DATA

The following abbreviations are used in tables 4-27.

inst.	= instantaneous
ft^3/s	= cubic feet per second
°C	= degrees Celsius
µS/cm	= microsiemens per centimeter at 25 degrees Celsius
mg/L	= milligrams per liter
µm	= micrometers
µg/L	= micrograms per liter
PAR	= photosynthetically active radiation from 400-700 nanometers
μ-Eins/m^2/s	= micro-Einsteins per square meter per second
--	= no data
<	= less than

Time is in millitary hours.

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April											
07...	1150	--	--	--	--	--	0.45	--	--	100	--
29...	1100	3.8	7.1	7.5	800	140	.10	--	110	--	46
29...	1105	3.8	7.1	7.5	800	140	.45	--	--	110	--
May											
05...	1420	3.9	6.8	--	550	130	.45	--	--	20	--
June											
02...	1135	3.9	6.7	--	470	120	.45	--	--	97	--
03...	0735	3.4	7.0	7.0	840	100	.45	--	--	100	--
July											
08...	1105	4.1	7.3	7.0	650	130	.45	--	--	70	--
August											
06...	1150	4.4	7.5	7.0	630	130	.45	1,100	--	79	--
September											
03...	1245	4.6	6.6	9.0	650	110	.10	370	--	85	--
November											
19...	1130	4.0	7.0	.0	720	86	.10	--	94	94	41
December											
10...	0850	--	7.0	6.0	740	85	.10	--	--	100	--

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
April											
07...	45	--	4.5	290	--	--	--	--	--	--	--
29...	--	4.0	--	--	--	--	--	--	0.1	<40	--
29...	46	--	4.3	320	<0.3	1.7	11	2.1	.1	--	<40
May											
05...	.60	--	3.7	370	--	1.8	--	--	--	--	--
June											
02...	47	--	3.7	330	--	1.4	--	--	--	--	--
03...	44	--	3.6	340	--	1.7	11	1.6	.1	--	<40
July											
08...	32	--	3.0	240	--	1.4	--	--	.5	--	--
August											
06...	34	--	3.0	210	<0.3	1.4	9.9	1.9	1.9	--	<40
September											
03...	36	--	3.4	230	<0.3	1.4	10	1.8	.1	--	<40
November											
19...	41	3.4	4.0	300	--	2.1	7.1	2.3	.6	<40	<40
December											
10...	43	--	3.7	330	1.2	1.9	10	2.3	2.2	--	<40

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)
				CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986--Continued							
April											
07...	--	<2	--	<0.5	--	<2	--	10	--	<6	--
29...	60	--	0.5	--	<2	--	10	--	<6	--	<7
29...	--	66	--	.5	--	<2	--	10	--	<6	--
May											
05...	--	<2	--	<.5	--	<2	--	30	--	<6	--
June											
02...	--	<2	--	<.5	--	<2	--	40	--	<6	--
03...	--	11	--	.5	--	<2	--	50	--	<6	--
July											
08...	--	<2	--	<.5	--	<2	--	20	--	<6	--
August											
06...	--	63	--	.5	--	<2	--	10	--	<6	--
September											
03...	--	68	--	.6	--	<2	--	10	--	<6	--
November											
19...	60	95	.5	<.5	<2	<2	7	13	<6	<6	<7
December											
10...	--	60	--	.5	--	<2	--	10	--	<6	--

Date	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
April										
07...	<7	--	10	--	1,800	--	<50	--	--	--
29...	--	10	--	20	--	<50	--	10	--	1,700
29...	<7	--	10	--	30	--	<50	--	10	--
May										
05...	<7	--	30	--	2,000	--	<50	--	--	--
June										
02...	<7	--	10	--	2,200	--	<50	--	--	--
03...	<7	--	10	--	40	--	<50	--	10	--
July										
08...	<7	--	10	--	1,600	--	<50	--	--	--
August										
06...	<7	--	10	--	40	--	<50	--	5	--
September										
03...	<7	--	10	--	40	--	<50	--	10	--
November										
19...	<7	10	6	1,300	40	<50	<50	10	<5	1,300
December										
10...	<7	--	10	--	<5	--	<50	--	10	--

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986--Continued										
April										
07...	1,400	--	<50	--	--	--	--	<5	--	3,500
29...	--	<50	--	--	150	--	<5	--	3,800	--
29...	1,700	--	<50	--	--	150	--	6	--	4,000
May										
05...	3,800	--	<50	--	--	--	--	<5	--	9,800
June										
02...	3,900	--	<50	--	--	--	--	<5	--	10,000
03...	3,900	--	<50	--	--	140	--	6	--	8,600
July										
08...	1,600	--	<50	--	--	--	--	<5	--	4,700
August										
06...	1,000	--	<50	--	--	120	--	6	--	2,900
September										
03...	1,200	--	<50	--	--	130	--	6	--	3,100
November										
19...	2,300	<50	<50	<20	130	130	6	12	3,100	4,100
December										
10...	1,500	--	<50	--	--	140	--	6	--	3,400

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987											
January											
22...	1040	--	7.3	7.0	640	94	0.10	--	--	100	--
22...	1045	--	--	--	--	--	.45	--	--	35	--
March											
04...	1030	--	6.8	7.0	630	96	.10	--	110	110	47
04...	1035	--	--	--	--	--	.45	--	--	110	--
April											
27...	1630	3.3	6.7	8.0	720	87	.10	--	110	110	50
May											
20...	1320	3.3	6.8	7.0	620	77	.10	430	--	82	--
28...	1940	3.6	6.8	9.5	910	85	.10	34.0	100	100	48
June											
09...	1730	3.8	6.9	7.5	650	38	.10	310	--	88	--
24...	0900	3.8	6.8	8.0	670	90	.10	1,000	84	87	42
July											
16...	1215	4.0	6.9	9.0	490	40	.10	310	86	86	51
August											
18...	1215	4.0	7.0	7.5	610	100	.10	1,600	88	88	53
October											
27...	1010	3.8	7.2	7.0	770	100	.10	850	100	100	41
December											
21...	0830	3.1	7.5	8.0	840	93	.10	--	120	120	49

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
January											
22...	40	--	1.8	--	--	--	6.7	--	3.0	--	--
22...	11	--	1.2	--	--	--	4.9	--	--	790	--
March											
04...	46	2.7	2.8	--	--	--	6.9	--	.5	<40	60
04...	47	--	2.9	--	--	--	6.9	--	--	<40	--
April											
27...	46	2.6	2.6	--	--	--	5.2	--	.6	--	70
May											
20...	56	--	14	390	--	2.5	--	2.4	.8	--	--
28...	47	3.3	3.3	--	--	--	9.0	--	.1	--	60
June											
09...	37	--	3.2	350	<0.3	2.2	10	1.8	1.1	<40	--
24...	40	2.8	3.1	280	<0.3	1.7	8.4	1.7	.1	<40	60
July											
16...	51	2.8	3.1	--	--	--	--	--	.2	--	60
August											
18...	53	1.4	3.0	230	--	--	2.6	--	0.2	--	70
October											
27...	43	3.1	3.3	200	.77	1.5	11	2.2	0.1	--	60
December											
21...	50	4.3	4.5	--	--	--	3.9	--	0.4	--	60

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
January											
22...	57	--	0.5	--	6	--	<7	--	70	--	8
22...	80	--	.9	--	10	--	--	--	50	--	<7
March											
04...	<2	1.1	<.5	10	60	<7	10	<6	9	<7	<7
04...	<2	--	<.5	--	60	--	9.0	--	9	--	40
April											
27...	64	<.5	.7	10	20	<7	9.0	<6	<6	<7	10
May											
20...	37	--	28	--	80	--	--	--	<6	--	20
28...	57	.5	<.5	<2	<2	50	50	<6	<6	10	<7
June											
09...	62	--	.5	--	<2	--	30	--	<6	--	<7
24...	34	<.5	30	10	<2	30	30	<6	<6	<7	<7
July											
16...	65	<.5	<.5	<2	<2	20	20	<6	<6	<7	<7
August											
18...	69	.6	<.5	9	3	<7	20	<6	<6	<7	<7
October											
27...	61	<.5	<.5	<2	<2	20	10	49	40	10	<7
December											
21...	66	<.5	.5	7	20	7	10	<6	40	<7	10

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
January											
22...	--	20	--	200	--	--	--	--	--	--	--
22...	--	20	--	120	--	--	--	--	--	--	--
March											
04...	8	--	1,700	140	--	--	--	60	--	--	1,500
04...	--	--	--	180	--	--	--	--	--	<5	--
April											
27...	9	10	2,000	450	--	--	--	--	5	--	1,700
May											
20...	--	--	--	240	--	--	--	890	--	--	--
28...	20	8	2,100	120	100	370	<50	<50	10	20	3,600
June											
09...	--	10	--	40	--	--	--	<50	--	10	--
24...	7	8	1,500	15	20	4,300	<50	<50	5	6	2,000
July											
16...	6	5	2,100	30	--	340	--	--	<5	<5	1,300
Aug											
18...	<1	2	60	55	30	3,100	<50	--	<5	20	30
Oct											
27...	9	<1	1,600	40	30	30	--	--	<5	<5	1,400
Dec											
21...	<1	6	2,100	50	--	--	--	<50	40	40	1,700

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
January											
22...	1,500	--	<50	--	<20	--	140	--	<5	--	3,400
22...	130	--	<50	--	--	--	80	--	<5	--	450
March											
04...	1,500	<50	<50	<20	<20	150	150	<5	10	3,600	3,600
04...	1,500	--	<50	--	<20	--	150	--	<5	--	3,600
April											
27...	1,700	<50	<50	<20	30	150	150	<5	<5	3,600	3,300
May											
20...	2,600	--	--	--	--	--	100	--	<5	--	--
28...	3,600	<50	<50	20	<20	150	150	<5	<5	8,500	8,400
June											
09...	2,400	--	<50	--	--	--	130	--	6	--	5,400
24...	2,000	<50	<50	30	70	120	120	<5	<5	5,000	4,900
July											
16...	1,300	<50	<50	<20	<20	120	120	<5	<5	5,000	4,800
August											
18...	1,200	52	<50	<20	<20	70	120	<5	<5	--	4,600
October											
27...	1,400	<50	<50	20	<20	140	140	<5	<5	3,600	3,500
December											
21...	1,700	<50	<50	<20	60	160	170	<5	<5	4,200	4,200

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988											
January											
27...	0810	3.7	7.7	7.5	720	96	0.10	38.0	110	120	49
February											
29...	0810	3.1	7.1	7.0	770	150	.10	130	120	120	50
April											
06...	0930	2.8	7.1	6.0	1,100	150	.10	1,100	120	120	53
May											
19...	1145	2.8	6.8	7.0	940	130	.10	180	120	120	53
24...	1145	2.7	6.8	7.0	960	130	.10	--	120	120	54
June											
01...	0930	2.5	7.0	7.5	950	130	.10	1,900	120	120	54
08...	1320	2.8	6.9	7.0	960	130	.10	1,900	120	120	51
17...	1445	3.3	7.1	7.0	870	130	.10	1,300	110	110	47
30...	1600	3.1	7.1	7.0	870	130	.10	1,300	97	96	42
July											
22...	1350	3.1	7.2	7.0	710	130	.10	530	87	87	38
August											
17...	1310	3.7	7.3	7.0	660	140	.10	670	92	91	40
September											
14...	1420	2.7	7.2	7.0	780	140	.10	--	100	100	44
October											
20...	0915	2.9	7.1	6.0	740	140	.10	620	97	100	42

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic dissolved (mg/L)	Barium, total recoverable (µg/L)
January											
27...	52	3.7	4.1	420	--	1.2	3.6	2.1	0.9	--	60
February											
29...	52	3.6	4.0	--	--	--	4.1	--	.2	--	60
April											
06...	55	3.4	3.7	360	--	2.5	3.2	2.2	.1	--	60
May											
19...	53	3.8	3.8	470	<0.3	6.1	12	2.3	.2	--	60
24...	53	3.9	3.9	430	<0.3	2.1	12	2.3	.2	--	60
June											
01...	54	3.8	3.8	460	<0.3	3.2	12	2.6	.3	--	60
08...	52	3.5	3.8	400	<0.3	3.2	11	2.5	.1	--	60
17...	46	3.4	3.4	350	.36	3.3	11	2.2	5.5	--	60
30...	42	3.3	3.4	310	--	2.8	11	2.2	--	--	60
July											
22...	38	3.1	3.1	260	--	1.4	10	3.9	.1	1.1	60
August											
17...	40	3.1	3.1	300	--	4.3	10	2.2	.3	.5	60
September											
14...	43	3.4	3.4	310	--	2.9	11	--	--	--	60
October											
20...	43	3.3	3.3	300	--	2.5	11	--	.2	--	50

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
January											
27...	65	<0.5	<0.5	<2	9	<7	7.0	<6	<6	<7	8
February											
29...	61	<.5	1	<2	30	<7	10	<6	--	<7	--
April											
06...	59	<.5	<.5	20	4	7	7.0	<6	<6	<7	<7
May											
19...	56	<.5	<.5	8	7	60	60	<6	<6	10	<7
24...	61	<.5	<.5	20	8	45	50	<6	<6	10	<7
June											
01...	61	<.5	1	10	10	43	40	<6	<6	10	<7
08...	57	<.5	<.5	10	7	40	30	<6	<6	10	<7
17...	57	.5	<.5	10	5	15	20	<6	<6	8	<7
30...	60	<.5	<.5	8	6	40	40	<6	<6	8	<7
July											
22...	61	<.5	<.5	8	8	20	30	<6	<6	<7	<7
August											
17...	62	<.5	<.5	9	20	10	20	<6	<6	<7	<7
September											
14...	65	1	.6	40	20	15	20	<6	<6	<7	<7
October											
20...	54	<.5	1	20	20	25	30	<6	<6	8	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
January											
27...	<1	<1	1,900	170	120	140	--	--	<5	9	1,600
February											
29...	<1	8	1,700	210	170	170	--	60	<5	<5	1,600
April											
06...	<1	<1	1,900	340	40	40	--	--	<5	6	1,700
May											
19...	10	3	2,300	60	--	50	--	<50	<5	5	4,200
24...	10	2	2,700	190	190	190	<50	<50	6	7	4,000
June											
01...	10	7	2,700	210	210	200	<50	<50	<5	<5	3,700
08...	9	1	2,600	60	--	70	90	<50	<5	<5	3,000
17...	14	<1	2,300	70	70	120	--	<50	<5	<5	2,300
30...	7	<1	1,700	7	--	--	120	90	5	<5	2,200
July											
22...	4	<1	1,400	10	--	40	<50	90	<5	<5	1,300
August											
17...	<1	<1	1,500	30	--	30	<50	<50	5	6	1,300
September											
14...	4	<1	1,600	20	70	--	--	--	<5	<5	1,400
October											
20...	4	2	1,700	80	50	200	<50	<50	<5	--	1,500

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
January											
27...	1,700	<50	<50	<20	<20	150	160	<5	<5	3,800	3,900
February											
29...	1,700	<50	<50	<20	40	160	170	<5	<5	3,800	4,000
April											
06...	1,700	<50	<50	<20	<20	160	160	<5	<5	3,800	3,800
May											
19...	4,200	<50	<50	<20	<20	170	170	<5	<5	10,000	9,900
24...	3,900	<50	<50	20	<20	170	170	<5	<5	9,300	9,000
June											
01...	3,700	<50	<50	<20	<20	170	170	<5	<5	8,300	8,100
08...	3,100	<50	<50	20	<20	160	170	<5	<5	6,600	6,800
17...	2,300	<50	<50	<20	<20	150	150	<5	<5	5,300	5,100
30...	2,200	<50	<50	<20	<20	140	140	<5	<5	5,600	5,500
July											
22...	1,300	<50	<50	<20	<20	130	130	<5	<5	3,700	3,600
August											
17...	1,300	<50	<50	<20	<20	130	130	<5	<5	3,600	3,500
September											
14...	1,400	<50	<50	<20	<20	150	150	<5	<5	3,800	3,800
October											
20...	1,400	<50	50	--	20	140	140	<5	<5	3,400	3,400

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989											
March											
30...	0830	2.6	7.1	6.5	950	120	0.01	--	--	120	--
30...	0835	2.6	7.1	6.5	950	120	.10	--	120	120	50
May											
02...	1735	2.6	7.0	8.0	960	130	.01	300	--	120	--
02...	1740	2.6	7.0	8.0	960	130	.10	300	140	120	56
11...	0945	2.8	6.9	7.0	--	120	.10	--	120	120	52
15...	1020	2.8	6.7	7.0	990	120	.10	--	120	120	52
17...	1025	2.5	7.2	7.0	980	130	.01	1,900	--	120	--
17...	1030	2.5	7.2	7.0	980	130	.10	1,900	120	120	54
22...	1555	2.7	6.8	7.0	1,000	130	.01	960	--	120	--
22...	1600	2.7	6.8	7.0	1,000	130	.10	960	120	120	53
22...	1605	--	--	--	--	--	.45	--	--	120	--
June											
06...	1320	2.6	7.1	7.0	960	120	.01	2,000	--	110	--
06...	1325	2.6	7.1	7.0	960	120	.10	2,000	100	100	46
09...	1310	2.6	6.9	5.0	870	130	.10	--	110	100	50
15...	0830	2.6	7.0	0.0	840	130	.10	--	99	110	44
22...	0840	2.6	7.0	7.0	820	130	.10	--	95	95	43
28...	0820	2.6	7.0	7.0	800	130	.10	--	93	92	41
29...	1235	2.5	6.9	6.0	790	130	.01	--	--	84	--
29...	1240	2.5	6.9	6.0	790	130	.10	--	84	89	39
July											
06...	0750	2.6	6.9	7.0	730	130	.10	--	93	94	41
13...	0915	2.7	7.0	7.0	720	130	.10	--	87	89	39
18...	1440	6.3	7.1	7.0	710	140	.01	1,800	--	80	--
18...	1445	6.3	7.1	7.0	710	140	.10	1,800	83	85	39
20...	0800	2.7	6.9	7.0	720	130	.10	--	88	95	38
27...	0755	2.7	6.9	7.0	710	130	.10	--	89	87	36

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic dissolved (mg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
30...	48	--	3.9	--	--	--	11	--	--	--	--
30...	48	3.8	3.7	370	--	3.0	11	3.3	--	--	50
May											
02...	53	--	3.8	--	--	--	12	--	0.2	0.4	--
02...	53	4.1	3.8	420	--	2.8	12	3.2	.2	.4	60
11...	54	3.8	3.8	440	--	1.7	12	2.0	--	--	60
15...	55	3.8	3.7	440	--	1.7	12	2.0	--	--	60
17...	55	--	3.7	--	--	--	12	--	.2	.7	--
17...	53	3.6	3.7	430	.43	1.7	12	1.9	.2	.7	50
22...	54	--	3.8	--	--	--	12	--	--	.6	--
22...	53	3.7	3.7	430	<.3	1.4	11	2.0	--	.6	60
22...	54	--	4.0	430	<.3	1.4	12	2.0	--	--	--
June											
06...	47	--	3.4	--	--	--	11	--	.4	.3	--
06...	48	3.2	3.4	370	.32	.45	11	1.7	.4	.3	60
09...	46	3.5	3.2	350	<.3	2.7	11	3.0	--	--	60
15...	48	3.1	3.4	360	--	2.2	12	2.1	--	--	60
22...	43	3.1	3.2	300	<.3	1.4	11	1.7	--	--	60
28...	41	3.1	3.0	300	<.3	1.4	11	1.5	--	--	60
29...	39	--	3.0	--	--	--	9.7	--	.1	.1	--
29...	40	2.8	2.9	290	<.3	2.6	10	3.3	.1	.1	50
July											
06...	43	3.0	3.1	280	<.3	1.4	11	1.6	--	--	60
13...	40	2.9	3.0	260	<.3	1.4	11	1.5	--	--	60
18...	37	--	2.7	--	--	--	9.6	--	--	--	--
18...	37	2.8	2.8	240	<.3	1.4	10	1.6	--	--	60
20...	41	2.9	3.2	290	<.3	1.8	11	2.2	--	--	60
27...	40	2.9	2.9	280	<.3	1.7	10	2.4	--	--	60

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
30...	53	--	<0.5	--	9	--	10	--	<6	--	<7
30...	53	<0.5	0.9	10	10	15	20	<6	<6	10	<7
May											
02...	54	--	2	--	<2	--	60	--	<6	--	10
02...	55	<.5	<.5	<2	<2	60	50	<6	<6	10	<7
11...	55	.8	1	5	<2	90	80	<6	<6	20	<7
15...	54	<.5	<.5	<2	7	70	70	<6	<6	20	<7
17...	54	--	2	--	<2	--	80	--	<6	--	<7
17...	56	<.5	1	7	<2	60	70	<6	7	10	<7
22...	53	--	<.5	--	7	--	50	--	<6	--	<7
22...	53	<.5	<.5	6	6	60	60	<6	<6	20	<7
22...	54	--	<.5	--	<2	--	60	--	<6	--	<7
June											
06...	54	--	<.5	--	8	--	45	--	9	--	<7
06...	55	<.5	<.5	10	20	40	40	<6	8	20	<7
09...	53	.5	1	4	8	50	40	<6	<6	8	<7
15...	61	<.5	1	8	4	40	40	<6	<6	<7	<7
22...	57	<.5	<.5	8	10	30	30	<6	<6	10	<7
28...	57	<.5	<.5	10	7	30	30	<6	<6	8	<7
29...	51	--	.9	--	10	--	30	--	<6	--	<7
29...	52	.5	<.5	8	<2	30	20	11	8	<7	<7
July											
06...	61	<.5	<.5	10	10	30	20	9	<6	<7	<7
13...	59	<.5	<.5	3	4	20	20	10	6	20	<7
18...	55	--	.6	--	7	--	20	--	10	--	<7
18...	58	<.5	<.5	4	<2	20	10	9	<6	<7	<7
20...	64	<.5	<.5	5	5	20	20	10	<6	<7	<7
27...	59	1.6	<.5	3	3	10	20	<6	<6	<7	9

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
30...	--	6	--	360	410	370	--	<50	--	30	--
30...	7	7	2,200	420	410	370	<50	80	7	<5	2,000
May											
02...	--	10	--	150	380	410	--	--	--	30	--
02...	10	9	2,900	150	380	410	<50	--	<5	6	4,700
11...	30	9	2,400	120	--	--	<50	<50	<5	--	5,900
15...	20	20	2,100	90	--	--	<50	<50	<5	<5	5,100
17...	--	10	--	140	10	130	--	<50	--	30	--
17...	50	9	2,400	160	10	130	<50	--	<5	<5	4,600
22...	--	7	--	70	30	60	--	60	--	50	--
22...	20	2	2,500	80	30	60	<50	<50	<5	6	4,200
22...	--	8	--	100	--	--	--	<50	--	8	--
June											
06...	--	7	--	50	<5	20	--	<50	--	70	--
06...	20	6	1,900	55	<5	20	--	<50	9	10	3,200
09...	10	4	1,800	20	--	--	<50	<50	<5	6	3,300
15...	8	2	1,800	<5	--	--	--	<50	7	--	2,700
22...	8	4	1,500	<5	--	--	<50	<50	<5	5	2,300
28...	6	2	1,400	<5	--	--	<50	80	<5	<5	2,000
29...	--	3	--	20	--	--	--	<50	--	--	--
29...	9	3	1,400	30	--	--	<50	<50	10	<5	1,800
July											
06...	6	2	1,300	10	--	--	<50	<50	9	5	1,700
13...	10	6	1,200	7	--	--	--	--	<5	<5	1,400
18...	--	2	--	20	--	--	--	70	--	60	--
18...	1	<1	1,200	30	--	--	<50	60	5	<5	1,300
20...	60	--	1,100	<5	--	--	<50	70	<5	7	1,300
27...	9	2	1,100	5	--	--	<50	<50	--	5	1,300

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
30...	1,900	--	<50	--	20	--	160	--	<5	--	3,400
30...	1,900	<50	<50	--	--	170	160	<5	<5	3,800	3,500
May											
02...	4,300	--	<50	--	<20	--	170	--	<5	--	9,500
02...	4,400	<50	<50	<20	--	180	170	<5	<5	10,000	9,600
11...	5,700	<50	<50	<20	<20	170	170	<5	<5	14,000	13,000
15...	5,000	<50	<50	20	20	170	170	<5	<5	12,000	11,000
17...	4,700	--	64	--	30	--	170	--	<5	--	11,000
17...	4,700	<50	<50	30	30	160	170	6	<5	11,000	11,000
22...	4,100	--	<50	--	30	--	170	--	<5	--	9,700
22...	4,200	51	<50	<20	<20	170	160	<5	<5	7,400	8,800
22...	2,100	--	<50	--	<20	--	81	--	<5	--	8,300
June											
06...	3,200	--	<50	--	25	--	150	--	<5	--	8,000
06...	3,200	<50	<50	<20	25	150	150	<5	<5	7,700	7,800
09...	3,000	<50	<50	--	--	150	140	<5	<5	8,500	7,600
15...	2,800	<50	<50	<20	--	140	150	<5	<5	6,800	7,300
22...	2,300	<50	<50	<20	<20	140	130	<5	<5	5,900	5,700
28...	1,900	<50	<50	20	30	130	130	<5	<5	5,100	5,000
29...	1,700	--	<50	--	--	--	120	--	<5	--	4,800
29...	1,800	<50	<50	20	25	120	120	<5	5	5,000	4,900
July											
06...	1,700	<50	<50	<20	<20	130	140	<5	<5	4,500	4,400
13...	1,400	<50	<50	<20	<20	130	130	<5	<5	3,900	4,100
18...	1,200	--	<50	--	70	--	120	--	6	--	3,400
18...	1,300	<50	<50	50	--	120	120	<5	<5	3,700	3,500
20...	1,400	<50	<50	30	<20	130	140	<5	<5	3,700	3,900
27...	1,300	68	<50	20	<20	130	120	<5	<5	3,600	3,500

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
August											
01...	0845	2.7	7.1	7.0	690	130	0.10	--	84	86	36
17...	1300	2.8	6.9	6.5	690	140	.01	270	--	93	--
17...	1305	2.8	6.9	6.5	690	140	.10	270	84	86	39
24...	0810	2.8	6.8	7.0	630	130	.10	--	--	84	--
31...	0915	2.8	7.0	7.0	700	130	.10	--	83	86	36
September											
08...	0940	2.8	6.9	7.0	720	140	.10	--	--	87	--
15...	0800	2.9	7.2	6.5	730	140	.10	--	91	92	40
20...	1440	2.8	7.5	7.0	740	130	.10	--	92	91	40
27...	1610	2.8	7.4	--	750	140	.10	--	93	91	41
October											
06...	0925	2.8	7.1	--	760	150	.10	--	95	90	34
18...	1245	2.7	6.7	7.0	780	140	.10	--	100	100	43

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic dissolved (mg/L)	Barium, total recoverable (µg/L)
August											
01...	38	2.9	2.9	260	<0.3	1.3	10	1.7	--	--	60
17...	41	--	3.1	--	--	--	11	--	0.3	0.3	--
17...	40	2.8	2.9	280	<.3	2.8	10	2.0	.3	.3	60
24...	36	--	2.9	260	<.3	1.3	11	1.6	--	--	--
31...	37	2.8	2.9	270	<.3	1.2	11	1.6	--	--	60
September											
08...	38	--	2.9	280	<.3	1.3	10	1.6	--	--	--
15...	40	3.0	3.1	300	<.3	1.2	10	1.7	--	--	60
20...	39	3.0	4.0	310	<.3	1.3	11	1.8	--	--	60
27...	40	3.0	3.0	310	<.3	2.1	11	1.9	--	--	60
October											
06...	40	4.0	3.0	320	<.3	2.2	10	2.0	--	--	20
18...	43	3.1	3.2	330	<.3	3.2	11	--	--	--	60

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
August											
01...	58	0.6	<0.5	8	5	15	10	7	6	<7	<7
17...	60	--	<.5	--	3	--	10	--	<6	--	<7
17...	60	<.5	<.5	8	2	20	10	<6	<6	8	<7
24...	62	--	<.5	--	<2	--	20	--	8	--	<7
31...	60	<.5	<.5	<2	<2	20	10	<6	10	7	<7
September											
08...	59	--	<.5	--	4	--	10	--	<6	--	<7
15...	60	<.5	<.5	6	10	10	20	<6	8	<7	<7
20...	60	<.5	<.5	4	<2	9	10	<6	<6	<7	<7
27...	59	<.5	<.5	3	5	10	8.0	<6	<6	8	<7
October											
06...	58	<.5	<.5	5	7	<7	13	<6	<6	<7	<7
18...	57	<.5	<.5	<2	<2	20	20	<6	<6	<7	<7

Table 4.--*Hydrologic data for station 07079200, Leadville Mine-Drainage Tunnel at Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
August											
01...	7	3	1,000	<5	--	<50	--	<5	--	1,200	1,200
17...	--	2	--	30	10	--	60	--	90	--	1,100
17...	2	<1	1,200	30	10	<50	<50	<5	--	1,100	1,100
24...	--	3	--	10	--	--	<50	--	<5	--	1,100
31...	5	3	1,000	20	--	<50	<50	<5	6	1,100	1,100
September											
08...	--	3	--	30	--	--	--	--	<5	--	1,200
15...	3	5	1,300	50	--	--	<50	<5	--	1,300	1,300
20...	9	6	1,300	30	--	--	--	--	<5	1,200	1,200
27...	3	1	1,400	50	--	<50	<50	<5	--	1,300	1,300
October											
06...	2	<1	420	75	--	<50	<50	7	<5	790	1,200
18...	3	3	1,400	110	--	<50	<50	<5	<5	1,500	1,500

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
August										
01...	<50	<50	25	30	120	120	<5	<5	3,400	3,400
17...	--	<50	--	30	--	140	--	<5	--	3,300
17...	<50	<50	35	40	120	120	<5	<5	3,100	3,100
24...	--	<50	--	<20	--	130	--	<5	--	3,200
31...	<50	<50	<20	30	130	130	<5	<5	3,400	3,400
September										
08...	--	<50	--	<20	--	130	--	<5	--	3,100
15...	<50	<50	<20	30	130	130	<5	<5	3,300	3,300
20...	<50	<50	<20	--	140	140	<5	<5	3,300	3,100
27...	<50	<50	20	--	140	140	<5	<5	3,700	3,400
October										
06...	<50	<50	--	<20	470	130	<5	<5	--	3,300
18...	<50	<50	--	--	140	140	<5	<5	3,600	3,600

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April 29...	1735	23	8.5	12.0	320	87	0.45	--	--	38	--
June 02...	1305	150	7.9	7.0	140	49	.45	--	--	16	--
July 09...	1105	150	7.7	9.5	160	48	.45	--	--	7.4	--
August 07...	1500	41	8.3	13.0	200	64	.10	100	--	24	--
September 03...	1500	27	8.1	10.0	270	56	.10	300	--	47	--
November 19...	1000	--	8.0	.0	330	66	.10	--	40	41	17
December 10...	1100	--	7.1	.0	420	82	.10	--	54	55	22

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
April 29...	17	--	4.9	67	0.60	1.1	6.3	0.62	1.3	--	<40
June 02...	6.7	--	1.1	23	<.3	1.1	4.9	1.5	2.8	--	<40
July 09...	7.4	--	1.1	20	--	.70	4.6	--	1.8	--	<40
August 07...	9.9	--	1.8	31	<.3	.50	5.2	.57	1.6	--	<40
September 03...	13	--	2.0	39	<.3	.60	6.4	.49	1.3	--	<40
November 19...	17	17	2.1	68	<.3	.70	4.7	.68	.9	<40	<40
December 10...	22	2.7	2.7	100	.86	1.2	8.7	1.4	2.1	<40	<40

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)
April 29...	--	90	--	0.5	--	<2	--	<7	--	<6	--
June 02...	--	72	--	.5	--	<2	--	<7	--	<6	--
July 09...	--	55	--	.5	--	<2	--	<7	--	<6	--
August 07...	--	70	--	.5	--	--	--	<7	--	<6	--
September 03...	--	87	--	.5	--	<2	--	<7	--	<6	--
November 19...	100	110	0.5	.6	<2	<2	<7	<7	<6	<6	<7
December 10...	100	110	1.0	.5	<2	<2	<7	<7	<6	<6	<7

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986--Continued										
April 29...	<7	--	10	--	60	--	<50	--	5	--
June 02...	<7	--	10	--	60	--	<50	--	<5	--
July 09...	<7	--	10	--	70	--	<50	--	<5	--
August 07...	<7	--	10	--	60	--	<50	--	<5	--
September 03...	<7	--	10	--	20	--	<50	--	6	--
November 19...	<7	10	7	100	7	<50	<50	5	<5	190
December 10...	<7	10	10	120	<5	<50	<50	10	10	290

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April 29...	140	--	<50	--	--	100	--	6	--	220
June 02...	80	--	<50	--	--	50	--	6	--	170
July 09...	60	--	<50	--	--	60	--	6	--	110
August 07...	80	--	<50	--	--	70	--	6	--	150
September 03...	100	--	<50	--	--	90	--	6	--	190
November 19...	210	<50	<50	<20	80	90	6	8	550	490
December 10...	300	<50	<50	--	100	110	6	6	840	700

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987												
April												
27...	1530	--	7.5	8.5	230	50	0.10	--	32	41	11	13
May												
19...	1450	150	6.8	10.0	99	25	.10	--	15	16	6.4	7.0
27...	1515	100	7.9	8.0	190	53	.10	--	20	21	8.2	8.3
June												
01...	1300	96	7.8	9.0	170	32	.10	1,900	18	17	7.5	7.4
09...	1600	190	7.6	10.0	110	31	.10	1,600	--	--	--	--
19...	1450	--	--	--	--	--	.10	--	--	19	--	7.6
24...	1620	93	7.6	13.0	160	39	.10	1,400	16	16	6.9	6.9
July												
16...	0700	38	7.4	8.0	140	64	.10	47.0	24	25	10	9.8
August												
18...	1455	25	8.3	15.0	230	65	.10	1,500	91	31	--	18

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
April											
27...	1.0	1.5	53	<0.3	0.71	2.2	--	2.6	260	--	80
May											
19...	.9	1.0	23	.35	.50	3.0	0.89	1.4	--	--	50
27...	1.5	1.5	--	--	--	5.7	--	2.2	--	290	60
June											
01...	1.2	1.2	22	.53	.74	5.3	.81	2.4	--	--	50
09...	--	--	14	.50	.65	--	.87	2.2	--	--	--
19...	--	1.1	--	--	--	--	--	--	--	--	--
24...	.9	.97	17	--	.45	3.0	.35	1.1	--	--	50
July											
16...	1.5	1.4	28	<.3	.39	2.7	.29	.9	40	<40	70
August											
18...	3.0	1.6	40	--	.42	--	.43	1.1	--	--	70

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
April											
27...	71	6.1	.7	10	20	10	--	51	10	10	<7
May											
19...	45	<.5	<.5	<2	<2	<7	<7	<6	<6	<7	<7
27...	55	<.5	<.5	<2	<2	<7	<7	<6	<6	<7	<7
June											
01...	49	<.5	<.5	5	9	--	<7	<6	<6	<7	<7
09...	--	--	--	--	--	--	--	--	--	--	--
19...	45	--	<.5	--	40	--	9.0	--	<6	--	<7
24...	48	<.5	.8	6	20	--	--	12	20	<7	<7
July											
16...	68	.5	<.5	<2	<2	<7	<7	<6	<6	<7	<7
Aug											
18...	82	.8	<.5	40	<2	20	--	<6	<6	<7	<7

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
April											
27...	20	10	280	70	--	--	--	--	--	--	160
May											
19...	8	9	510	330	--	--	<50	--	20	10	120
27...	6	4	360	110	--	--	<50	<50	10	11	140
June											
01...	4	3	140	--	--	--	<50	<50	<5	<5	110
09...	--	--	--	--	--	--	--	--	--	--	--
19...	--	8	--	270	--	--	--	<50	--	<5	--
24...	6	3	140	60	30	80	--	--	--	<5	60
July											
16...	10	5	170	30	--	790	<50	<50	<5	<5	110
August											
18...	2	6	1,600	5	20	4,400	<50	--	<5	9	--

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April											
27...	360	<50	<50	--	<20	80	90	7	8	280	520
May											
19...	440	<50	<50	--	--	50	50	<5	<5	230	--
27...	120	<50	<50	--	20	70	70	<5	<5	280	170
June											
01...	90	<50	<50	20	<20	60	50	<5	<5	260	180
09...	--	--	--	--	--	--	--	--	--	--	--
19...	460	--	<50	--	<20	--	50	--	<5	--	--
24...	60	<50	54	30	20	50	50	<5	<5	130	130
July											
16...	95	<50	<50	<20	<20	70	70	6	13	260	210
August											
18...	110	--	<50	<20	30	--	70	7	<5	--	230

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988												
February												
29...	1055	--	7.8	0.0	400	81	0.10	1,300	54	55	24	24
April												
06...	1345	8.6	8.2	6.5	450	110	.10	1,800	49	54	23	25
May												
19...	1030	83	7.7	4.5	170	49	.10	500	19	19	7.2	7.0
23...	1545	46	8.0	11.0	220	67	.10	--	25	25	10	9.8
31...	1530	110	6.3	6.5	150	48	.10	400	16	16	6.1	6.1
June												
07...	1445	210	7.2	10.0	130	40	.10	--	13	12	5.3	4.9
17...	1405	140	7.9	11.0	170	49	.10	380	16	15	6.2	6.1
30...	1335	140	8.1	13.0	140	33	.10	1,900	17	17	6.3	6.3
July												
22...	1210	36	8.4	12.0	230	77	.10	1,700	26	26	10	11
August												
17...	1110	33	8.3	9.5	150	74	.10	860	26	26	11	11
September												
15...	1020	19	8.2	4.0	270	89	.10	--	33	33	13	13
October												
13...	0810	17	8.2	4.0	260	98	.10	290	38	38	16	16
20...	1057	15	8.1	2.5	290	100	.10	860	38	39	16	16

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)
February											
29...	2.3	2.6	120	--	<0.3	1.9	--	0.5	--	--	100
April											
06...	2.2	2.8	120	<0.3	1.1	2.0	0.83	1.0	--	--	100
May											
19...	1.5	1.5	28	<.3	.52	5.0	--	4.5	--	450	60
23...	1.6	1.7	35	<.3	.49	5.7	--	2.0	--	--	70
31...	1.1	1.1	19	<.3	.34	4.7	.36	3.3	--	120	70
June											
07...	.8	.84	15	<.3	.59	4.1	.44	3.3	--	240	50
17...	.9	.90	16	<.3	.48	4.2	.48	2.1	--	--	50
30...	1	.96	17	<.3	.33	4.5	.33	2.5	--	--	50
July											
22...	1.4	1.5	33	<.3	.65	5.4	.34	1.3	1.3	--	70
August											
17...	1.6	1.5	32	<.3	.76	5.5	.45	1.5	.9	--	80
September											
15...	1.8	1.8	43	<.3	.66	6.2	.44	.8	.9	--	100
October											
13...	2.0	2.1	65	<.3	.86	6.6	.80	1.4	--	--	100
20...	2.0	2.0	72	<.3	.83	6.7	.84	--	--	--	90

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
February											
29...	100	<0.5	<0.5	<2	<2	<7	--	<6	<6	<7	<7
April											
06...	110	<.5	<.5	10	<2	--	--	<6	<6	<7	<7
May											
19...	51	<.5	.7	6	10	--	<7	<6	<6	<7	<7
23...	71	<.5	<.5	8	10	--	--	<6	<6	<7	<7
31...	60	.6	.7	20	20	--	<7	<6	<6	<7	<7
June											
07...	38	.8	<.5	10	7	<7	<7	<6	<6	<7	<7
17...	44	<.5	<.5	4	3	--	--	<6	<6	<7	<7
30...	49	<.5	<.5	3	<2	<7	--	<6	<6	<7	<7
July											
22...	71	1.0	<.5	3	3	<7	<7	<6	<6	<7	<7
August											
17...	74	<.5	.5	20	6	7	<7	<6	<6	<7	<7
September											
15...	98	.6	<.5	30	30	--	<7	<6	<6	<7	<7
October											
13...	110	<.5	.6	30	20	<7	<7	<6	<6	<7	<7
20...	90	<.5	<.5	4	10	8	<7	<6	<6	<7	10

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
February											
29...	<1	<1	210	20	--	20	--	--	<5	<5	340
April											
06...	<1	<1	220	40	--	--	--	--	<5	<5	310
May											
19...	6	3	890	50	--	50	<50	<50	<5	<5	210
23...	<1	1	230	100	20	50	--	<50	<5	<5	180
31...	4	2	540	50	30	60	--	<50	<5	<5	120
June											
07...	3	4	740	70	--	90	<50	--	<5	<5	120
17...	1	1	180	40	40	70	<50	<50	<5	<5	60
30...	4	1	380	40	--	--	<50	<50	<5	<5	70
July											
22...	4	3	180	25	--	40	<50	<50	--	<5	120
August											
17...	7	<1	610	50	--	40	<50	<50	5	5	190
September											
15...	2	1	200	20	--	40	--	--	<5	<5	160
October											
13...	--	1	190	10	--	30	<50	--	<5	<5	200
20...	--	4	90	9	<5	<5	<50	<50	--	<5	200

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
February											
29...	390	<50	<50	<20	<20	100	100	<5	<5	950	970
April											
06...	340	<50	<50	<20	<20	90	100	<5	<5	740	730
May											
19...	130	<50	<50	<20	<20	70	70	<5	<5	380	280
23...	160	<50	<50	<20	<20	80	80	<5	<5	340	300
31...	75	<50	<50	<20	<20	60	55	<5	<5	200	130
June											
07...	40	<50	<50	<20	<20	50	40	<5	<5	160	70
17...	50	<50	<50	<20	<20	50	50	<5	<5	100	80
30...	40	<50	<50	<20	<20	50	50	<5	<5	120	70
July											
22...	110	<50	<50	<20	<20	80	75	<5	<5	210	170
August											
17...	110	<50	<50	<20	<20	80	80	<5	<5	340	170
September											
15...	150	<50	<50	<20	<20	90	80	<5	<5	350	300
October											
13...	190	<50	<50	20	<20	90	90	<5	<5	490	470
20...	200	56	<50	<20	<20	80	90	<5	<5	470	490

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989												
March												
30...	0940	8.5	8.2	2.5	420	95	0.01	--	--	51	--	21
30...	0945	8.5	8.2	2.5	420	95	.10	--	51	51	21	21
May												
02...	1355	22	8.0	9.5	290	83	.01	1,200	--	34	--	14
02...	1400	22	8.0	9.5	290	83	.10	1,200	35	35	14	14
11...	1105	60	7.7	5.0	210	67	.10	--	25	24	9.2	9.0
15...	1100	48	7.7	4.0	220	67	.10	--	26	26	10	10
17...	1230	39	8.4	8.5	220	71	.01	560	--	25	--	9.4
17...	1235	39	8.4	8.5	220	71	.10	560	25	25	9.9	9.5
22...	1655	96	7.4	12.0	160	48	.01	990	--	17	--	6.4
22...	1700	96	7.4	12.0	160	48	.10	990	17	17	6.7	6.6
22...	1705	--	--	--	--	--	.45	--	--	17	--	6.5
June												
06...	1140	110	7.7	7.0	160	52	.01	700	--	16	--	6.7
06...	1145	110	7.7	7.0	160	52	.10	700	16	16	6.8	6.7
09...	1320	110	7.6	4.0	150	50	.10	--	15	16	6.3	6.7
15...	0850	110	7.8	0.0	150	53	.10	--	16	16	6.4	6.5
22...	0910	99	7.5	4.0	150	54	.10	--	16	16	6.7	6.6
28...	0900	82	7.7	6.0	160	54	.10	--	17	17	7.0	7.0
29...	1110	85	8.0	10.0	150	53	.01	--	--	16	--	6.3
29...	1115	85	8.0	10.0	150	53	.10	--	16	17	6.4	6.7
July												
06...	0830	71	7.7	9.0	150	55	.10	--	18	18	7.0	6.9
13...	0940	93	7.8	9.0	140	53	.10	--	17	16	6.7	6.6
18...	1325	44	7.8	13.0	180	67	.01	1,700	--	21	--	8.3
18...	1330	44	7.8	13.0	180	67	.10	1,700	21	21	8.6	8.4
20...	0835	39	7.9	8.5	190	70	.10	--	22	24	9.1	9.3
27...	0820	57	7.7	7.0	160	62	.10	--	20	22	7.8	8.4

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
30...	--	2.4	--	--	--	7.2	--	--	1.1	--	--
30...	2.4	2.4	100	<0.3	0.94	7.2	0.88	--	1.1	--	100
May											
02...	--	2.0	--	--	--	6.1	--	0.9	1.1	--	--
02...	2.0	2.1	60	<.3	1.1	6.0	.82	.9	1.1	--	90
11...	1.8	1.8	41	.31	.98	5.4	.87	--	--	--	70
15...	1.7	1.7	43	<.3	.81	5.7	.68	--	--	--	70
17...	--	1.6	--	--	--	5.2	--	1.2	1.5	--	--
17...	1.6	1.7	36	<.3	.78	5.3	.56	1.2	1.5	--	70
22...	--	1.2	--	--	--	4.5	--	--	2.6	--	--
22...	1.2	1.2	25	<.3	.62	4.7	.60	--	2.6	--	50
22...	--	1.2	--	--	--	4.7	--	--	--	--	--
June											
06...	--	.97	--	--	--	4.4	--	2.7	2.2	--	--
06...	1	1.0	19	<.3	.44	4.5	--	2.7	2.2	80	50
09...	.9	1.0	19	<.3	.57	4.4	.50	--	--	--	50
15...	.9	1.0	19	<.3	.55	4.2	.50	--	--	--	50
22...	.9	.98	18	<.3	.55	4.2	.62	--	--	--	50
28...	1.0	1.1	18	--	<.3	4.2	--	--	--	--	50
29...	--	.97	--	--	--	3.6	--	1.7	1.3	--	--
29...	1	1.1	19	<.3	.46	4.3	.48	1.7	1.3	--	50
July											
06...	1.0	1.0	22	<.3	.61	4.2	.36	--	--	--	50
13...	.9	.98	21	<.3	.62	4.0	.63	--	--	--	50
18...	--	1.2	--	--	--	4.6	--	1.1	1.0	--	--
18...	1.2	1.2	27	<.3	.67	4.8	.40	1.1	1.0	--	60
20...	1.3	1.4	29	<.3	.61	5.1	.62	--	--	--	70
27...	1.1	1.3	24	<.3	.59	4.9	.61	--	--	--	60

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
March											
30...	94	--	<0.5	--	5	--	<7	--	<6	--	<7
30...	96	1.4	.9	3	7	<7	--	<6	<6	<7	<7
May											
02...	87	--	1	--	<2	--	--	--	<6	--	<7
02...	84	<.5	<.5	<2	<2	--	<7	<6	<6	<7	<7
11...	63	<.5	<.5	<2	5	<7	<7	<6	<6	<7	<7
15...	66	<.5	.7	6	<2	<7	<7	<6	<6	<7	<7
17...	65	--	1	--	2	--	<7	--	<6	--	<7
17...	67	1.4	<.5	<2	<2	<7	--	<6	<6	<7	<7
22...	47	--	0.6	--	<2	--	<7	--	9	--	<7
22...	50	<.5	<.5	3	4	--	--	8	<6	<7	<7
22...	49	--	.7	--	<2	--	<7	--	<6	--	<7
June											
06...	48	--	.7	--	10	--	--	--	<6	--	<7
06...	48	<.5	<.5	<2	30	<7	<7	<6	<6	<7	9
09...	46	.5	<.5	<2	5	--	<7	<6	<6	<7	<7
15...	48	<.5	<.5	5	8	<7	--	<6	<6	<7	<7
22...	48	<.5	<.5	5	7	<7	<7	<6	<6	<7	<7
28...	52	<.5	<.5	4	5	<7	--	<6	9	<7	<7
29...	45	--	<.5	--	<2	--	--	--	6	--	<7
29...	50	<.5	.9	<2	10	--	<7	12	10	<7	<7
July											
06...	52	<.5	.5	2	<2	<7	--	<6	<6	<7	<7
13...	49	<.5	<.5	<2	4	--	<7	6	<6	9	8
18...	58	--	<.5	--	<2	--	--	--	<6	--	<7
18...	59	<.5	<.5	3	<2	--	<7	<6	<6	10	<7
20...	69	<.5	<.5	8	<2	--	--	<6	<6	<7	<7
27...	64	<.5	<.5	<2	<2	--	--	8	<6	<7	<7

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
30...	--	6	--	<5	--	--	--	<50	--	30	--
30...	5	7	300	10	--	--	<50	--	<5	6	340
May											
02...	--	6	--	20	240	260	--	--	--	50	--
02...	--	--	180	20	240	260	--	<50	<5	<5	300
11...	5	4	490	60	--	--	<50	<50	<5	<5	300
15...	10	<1	190	50	--	--	<50	--	<5	<5	240
17...	--	20	--	10	--	40	--	<50	--	60	--
17...	7	10	170	50	--	40	<50	<50	8	<5	180
22...	--	6	--	20	40	70	--	<50	--	--	--
22...	7	6	390	70	40	70	<50	--	<5	<5	130
22...	--	4	--	80	--	--	--	<50	--	8	--
June											
06...	--	7	--	20	--	10	--	<50	--	50	--
06...	3	8	200	40	--	10	<50	--	6	<5	80
09...	3	--	110	70	--	--	--	--	7	<5	60
15...	--	--	120	40	--	--	<50	<50	<5	5	60
22...	1	1	120	30	--	--	<50	<50	<5	<5	60
28...	<1	2	100	40	--	--	<50	<50	<5	<5	60
29...	--	2	--	7	--	--	--	--	--	--	--
29...	4	2	140	50	--	--	--	<50	6	--	60
July											
06...	3	10	110	40	--	--	--	<50	8	6	60
13...	2	8	140	40	--	--	--	--	<5	<5	50
18...	--	2	--	9	--	--	--	<50	--	--	--
18...	--	2	190	50	--	--	<50	60	<5	7	70
20...	6	--	140	30	--	--	<50	<50	--	7	80
27...	--	--	140	50	--	--	<50	70	--	--	60

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
30...	340	--	<50	--	--	--	100	--	<5	--	640
30...	340	<50	57	<20	--	100	100	<5	<5	710	660
May											
02...	290	--	<50	--	<20	--	90	--	<5	--	500
02...	290	<50	<50	--	<20	90	90	<5	<5	650	570
11...	220	<50	<50	<20	--	80	80	<5	<5	620	490
15...	240	<50	<50	<20	--	80	80	<5	<5	600	560
17...	160	--	<50	--	<20	--	80	--	<5	--	350
17...	160	64	<50	<20	<20	80	80	<5	<5	410	360
22...	90	--	<50	--	20	--	60	--	<5	--	140
22...	90	<50	<50	20	20	60	60	<5	<5	220	130
22...	90	--	<50	--	<20	--	60	--	<5	--	160
June											
06...	60	--	55	--	<20	--	50	--	<5	--	150
06...	60	<50	<50	--	--	50	50	<5	<5	180	160
09...	60	<50	<50	<20	--	50	50	<5	<5	150	130
15...	50	<50	<50	<20	<20	50	50	<5	5	150	120
22...	50	59	<50	<20	<20	50	50	<5	<5	150	130
28...	60	<50	<50	<20	<20	60	60	<5	5	150	150
29...	50	--	<50	--	<20	--	50	--	<5	--	110
29...	50	55	<50	<20	30	50	60	<5	<5	140	130
July											
06...	60	<50	59	<20	20	60	60	<5	<5	140	130
13...	40	<50	<50	--	<20	50	50	<5	<5	110	90
18...	60	--	<50	--	<20	--	60	--	<5	--	90
18...	60	<50	<50	20	<20	70	60	<5	<5	140	100
20...	90	<50	<50	--	<20	70	70	<5	<5	170	170
27...	60	<50	<50	<20	<20	60	70	<5	<5	130	140

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
				CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued							
August											
01...	0915	66	8.0	9.5	170	60	0.10	--	--	20	--
17...	1205	30	7.1	9.5	220	84	.01	370	--	27	--
17...	1210	30	7.1	9.5	220	84	.10	370	26	25	12
24...	0835	22	7.8	7.0	230	84	.10	--	--	29	--
31...	1015	17	7.9	7.5	230	88	.10	--	--	30	--
September											
08...	1020	14	7.7	7.0	250	91	.10	--	32	32	14
15...	0830	17	7.8	4.0	230	93	.10	--	34	37	15
20...	1500	15	7.1	12.0	250	76	.10	--	32	31	14
27...	1630	12	8.0	--	260	95	.10	--	39	31	16
October											
06...	0940	12	7.0	--	270	99	.10	--	35	33	15
18...	1310	21	7.0	3.0	330	93	.10	--	36	42	15

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Barium, total recoverable (µg/L)
August											
01...	7.5	--	1.2	22	<0.3	0.57	4.6	0.66	--	--	--
17...	12	--	1.5	--	--	--	5.7	--	1.0	0.4	--
17...	11	1.5	1.4	34	<.3	.68	5.3	.48	1.0	.4	70
24...	12	--	1.7	36	<.3	.63	6.0	.53	--	--	--
31...	12	--	1.8	45	<.3	.69	6.1	.50	--	--	--
September											
08...	14	1.8	1.8	51	<.3	.77	6.2	.46	--	--	90
15...	15	1.8	2.0	50	<.3	.47	6.9	.50	--	--	90
20...	14	1.7	1.7	49	<.3	.73	5.9	.84	--	--	90
27...	14	2.0	1.8	57	<.3	.72	6.0	.30	--	--	100
October											
06...	15	1.9	1.9	63	<.3	.81	6.3	.36	--	--	90
18...	18	1.9	2.1	78	<.3	.85	7.0	--	--	--	90

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
August											
01...	61	--	<0.5	--	2	--	10	--	<6	--	<7
17...	74	--	<.5	--	<2	--	<7	--	<6	--	<7
17...	71	<0.5	<.5	<2	<2	--	--	<6	<6	<7	<7
24...	84	--	<.5	--	<2	--	<7	--	<6	--	<7
31...	83	--	.5	--	10	--	<7	--	<6	--	<7
September											
08...	89	<.5	<.5	<2	<2	--	<7	<6	<6	<7	<7
15...	96	.6	<.5	<2	10	--	<7	<6	<6	<7	<7
20...	84	<.5	<.5	<2	3	--	--	7	<6	<7	<7
27...	82	.9	<.5	<2	<2	<7	--	6	<6	8	<7
October											
06...	83	<.5	<.5	5	<2	--	--	<6	<6	<7	<7
18...	93	<.5	<.5	<2	<2	<7	<7	<6	10	<7	9

Table 5.--*Hydrologic data for station 07079500, East Fork Arkansas River at mouth, near Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
August											
01...	--	3	--	50	--	--	80	--	--	--	50
17...	--	10	--	10	100	--	70	--	--	--	70
17...	1	2	190	40	100	--	<50	--	5	80	70
24...	--	2	--	20	--	--	--	--	<5	--	90
31...	--	--	--	20	--	--	<50	--	--	--	100
September											
08...	2	5	190	20	--	--	--	<5	<5	120	110
15...	1	5	180	20	--	--	<50	8	--	130	150
20...	2	1	200	30	--	<50	--	6	8	100	90
27...	1	--	220	20	--	--	--	5	<5	120	90
October											
06...	3	--	190	20	--	--	--	--	<5	140	140
18...	2	3	230	20	--	--	<50	--	<5	180	200

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
August										
01...	--	<50	--	<20	--	60	--	<5	--	100
17...	--	<50	--	<20	--	80	--	<5	--	150
17...	<50	<50	20	<20	70	70	<5	<5	190	150
24...	--	<50	--	--	--	80	--	<5	--	200
31...	--	<50	--	<20	--	80	--	<5	--	220
September										
08...	<50	<50	<20	--	80	80	<5	<5	320	280
15...	<50	<50	--	20	90	90	<5	6	370	370
20...	<50	<50	20	20	80	80	<5	<5	230	190
27...	<50	<50	<20	--	100	80	<5	<5	290	190
October										
06...	<50	<50	--	<20	90	80	<5	<5	430	380
18...	<50	<50	--	<20	90	90	<5	<5	470	510

Table 6.--*Hydrologic data for station 07081000, Tennessee Creek near mouth, near Leadville*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April											
30...	0905	94	7.1	1.0	--	19	0.45	--	--	6.9	--
June											
02...	1605	140	7.1	9.0	50	21	.45	--	--	4.3	--
July											
09...	1335	67	7.2	12.0	50	17	.45	--	--	5.3	--
August											
07...	1305	25	7.7	--	62	21	.45	370	--	5.8	--
September											
03...	1720	21	6.5	13.0	64	23	.10	--	--	7.0	--
November											
19...	1030	--	7.2	.0	77	27	.10	--	9.0	9.5	3.2

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
April											
30...	2.3	--	1.6	10	<0.3	0.80	8.2	0.44	6.4	--	80
June											
02...	1.4	--	1.3	9.6	--	.50	6.2	.44	6.3	--	100
July											
09...	1.6	--	1.4	4.0	<.3	.40	5.4	.29	3.2	--	50
August											
07...	1.9	--	1.8	3.9	<.3	<.3	6.4	<.20	--	--	<40
September											
03...	2.3	--	2.2	5.0	<.3	.33	7.7	<.20	2.7	--	230
November											
19...	2.8	2.3	2.2	8.1	.44	.85	6.6	.64	1.5	<40	<40

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)
April											
30...	--	19	--	0.5	--	<2	--	<7	--	<6	--
June											
02...	--	20	--	.5	--	<2	--	<7	--	<6	--
July											
09...	--	15	--	.5	--	<2	--	<7	--	<6	--
August											
07...	--	14	--	.5	--	<2	--	<7	--	<6	--
September											
03...	--	26	--	.6	--	<2	--	<7	--	<6	--
November											
19...	20	70	0.5	<.5	<2	<2	<7	<7	<6	<6	<7

Table 6.--*Hydrologic data for station 07081000, Tennessee Creek near mouth, near Leadville*--Continued

Date	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986--Continued										
April 30...	<7	--	10	--	600	--	<50	--	<5	--
June 02...	<7	--	10	--	140	--	<50	--	<5	--
July 09...	<7	--	10	--	220	--	<50	--	<5	--
August 07...	<7	--	10	--	190	--	<50	--	<5	--
September 03...	<7	--	9	--	200	--	<50	--	<5	--
November 19...	<7	10	5	250	90	<50	<50	<5	<5	20

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April 30...	90	--	<50	--	--	30	--	6	--	130
June 02...	90	--	<50	--	--	20	--	6	--	280
July 09...	50	--	<50	--	--	30	--	6	--	40
August 07...	30	--	<50	--	--	30	--	6	--	20
September 03...	30	--	<50	20	--	35	--	<5	--	30
November 19...	35	<50	<50	<20	40	40	6	<5	30	--

Table 6.--*Hydrologic data for station 07081000, Tennessee Creek near mouth, near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987												
May												
20...	1100	160	6.9	6.0	39	15	0.10	--	4.5	4.6	1.5	1.5
28...	1630	79	6.4	9.5	59	16	.10	--	4.9	4.9	1.7	1.6
June												
02...	1410	110	6.8	11.0	46	13	.10	--	4.2	4.2	1.4	1.4
09...	1510	160	6.8	10.0	41	13	.10	300	--	--	--	--
23...	1600	55	7.1	15.0	52	18	.10	1,400	4.8	4.8	1.6	1.6
July												
15...	1515	23	6.7	20.0	59	21	.10	1,600	7.0	7.0	1.6	1.6
August												
19...	1300	7.2	6.8	16.0	78	30	.10	1,700	8.8	8.8	4.0	4.1

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recovable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
May											
20...	1.1	1.2	5.5	0.43	0.39	--	0.23	6.5	--	--	20
28...	1.3	1.4	5.0	--	.50	5.8	--	6.2	--	--	20
June											
02...	1.1	1.2	5.4	.44	.63	8.4	--	4.7	880	1,100	10
09...	--	--	4.8	.43	.62	--	--	4.2	--	--	--
23...	1.2	1.3	5.5	.46	.68	5.6	--	2.9	220	180	20
July											
15...	1.7	1.7	--	--	--	--	--	3.0	110	40	10
August											
19...	2.2	2.4	5.3	--	.31	--	--	1.7	60	50	20

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
May											
20...	12	<0.5	0.5	6	10	<7	<7	38	<6	<7	8
28...	14	<.5	<.5	<2	<2	<7	<7	<6	<6	<7	<7
June											
02...	13	<.5	<.5	<2	6	<7	7.0	<6	<6	<7	<7
09...	--	--	--	--	--	--	--	--	--	--	--
23...	13	<.5	<.5	3	4	--	<7	<6	<6	<7	<7
July											
15...	15	.5	.5	10	30	<7	<7	<6	<6	9	<7
August											
19...	23	<.5	<.5	<2	2	--	--	<6	<6	<7	<7

Table 6.--*Hydrologic data for station 07081000, Tennessee Creek near mouth, near Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
May											
20...	--	<1	250	100	--	--	--	<50	<5	20	80
28...	4	5	410	140	--	--	<50	<50	10	10	80
June											
02...	2	5	210	40	--	--	<50	<50	--	<5	40
09...	--	--	--	--	--	120	--	--	--	--	--
23...	2	1	190	30	60	80	<50	<50	--	--	30
July											
15...	2	1	350	150	60	150	<50	--	<5	<5	30
August											
19...	7	3	490	70	40	40	--	--	<5	<5	30

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
May											
20...	70	<50	<50	20	--	30	30	<5	<5	190	170
28...	60	<50	<50	--	--	30	30	<5	<5	150	140
June											
02...	40	<50	<50	<20	<20	20	20	<5	<5	80	80
09...	--	--	--	--	--	--	--	--	--	--	--
23...	30	<50	<50	<20	<20	30	30	<5	<5	40	50
July											
15...	20	<50	<50	<20	<20	40	40	13	13	20	<10
August											
19...	20	<50	<50	30	<20	40	40	<5	<5	20	20

Table 6.--*Hydrologic data for station 07081000, Tennessee Creek near mouth, near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988												
May												
18...	1415	98	6.8	7.5	51	37	0.10	--	4.5	4.1	1.4	1.3
23...	1345	47	7.0	9.5	68	17	.10	--	6.1	6.1	2.0	2.0
31...	1405	85	5.4	8.5	53	13	.10	1,400	4.5	4.5	1.5	1.4
June												
07...	1415	140	7.0	10.0	47	12	.10	750	3.8	4.0	1.2	1.3
17...	1215	90	6.8	11.0	50	14	.10	2,200	4.1	4.1	1.3	1.3
30...	1235	72	7.6	13.0	51	25	.10	1,400	5.2	5.2	1.5	1.6
July												
22...	1140	15	7.9	15.0	73	25	.10	1,600	7.1	7.3	2.1	2.2
August												
17...	1020	10	7.6	10.0	85	33	.10	510	9.2	9.2	3.0	3.0
September												
15...	0810	9.2	7.2	4.5	88	34	.10	--	9.1	9.1	3.0	3.0
October												
13...	1035	8.0	7.0	4.5	86	39	.10	740	10	10	3.4	3.5
20...	1240	7.4	7.4	4.5	88	38	.10	1,200	9.6	9.6	3.3	3.3

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
May												
18...	1.2	1.2	8.7	--	0.88	5.6	--	6.6	--	210	70	20
23...	1.6	1.7	11	--	.93	7.6	--	4.5	--	190	70	20
31...	1.2	1.2	8.5	--	--	5.9	--	4.9	--	100	50	20
June												
07...	1	1.0	5.4	--	.40	5.3	<0.20	4.5	--	160	160	10
17...	1	1.0	5.1	--	--	4.8	--	3.7	--	40	--	10
30...	1.2	1.2	5.7	--	.72	5.6	--	--	--	--	--	10
July												
22...	1.8	1.9	5.5	--	.50	7.4	--	2.2	2.4	<40	40	20
August												
17...	2.3	2.3	6.5	<0.3	1.3	8.6	--	2.7	1.8	--	--	30
September												
15...	2.4	2.4	6.2	<.3	.50	8.8	<.20	2.2	2.1	<40	40	40
October												
13...	2.6	2.6	6.6	<.3	.63	9.5	--	2.2	--	--	--	40
20...	2.5	2.5	8.0	--	.65	9.7	--	--	--	--	--	30

Table 6.--*Hydrologic data for station 07081000, Tennessee Creek near mouth, near Leadville*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
May											
18...	17	<0.5	<0.5	20	9	<7	<7	<6	<6	<7	<7
23...	18	0.8	<.5	9	9	<7	8.0	<6	<6	<7	<7
31...	24	.9	.7	8	10	<7	<7	<6	<6	<7	<7
June											
07...	14	.9	1	3	3	<7	7.0	<6	<6	<7	<7
17...	12	<.5	<.5	8	5	--	--	<6	<6	<7	<7
30...	14	<.5	.6	<2	<2	<7	--	<6	<6	<7	<7
July											
22...	18	<.5	<.5	<2	<2	10	7.0	<6	<6	<7	<7
August											
17...	24	.6	<.5	10	5	<7	<7	<6	<6	<7	<7
September											
15...	35	<.5	1	20	20	<7	7.0	<6	<6	<7	<7
October											
13...	38	<.5	<.5	20	20	--	--	<6	<6	<7	<7
20...	26	<.5	<.5	4	<2	--	--	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
May											
18...	4	<1	470	120	70	120	<50	--	<5	<5	140
23...	7	7	300	180	70	110	<50	--	<5	<5	170
31...	5	5	260	100	50	100	<50	<50	<5	<5	110
June											
07...	<1	2	290	200	80	140	<50	<50	<5	<5	50
17...	3	2	200	80	80	120	<50	--	<5	<5	40
30...	2	3	280	110	--	70	<50	--	<5	<5	40
July											
22...	4	3	320	200	60	170	<50	<50	<5	<5	40
August											
17...	<1	<1	440	180	20	160	<50	--	<5	6	40
September											
15...	2	1	330	140	50	130	--	--	--	<5	20
October											
13...	1	<1	240	110	80	130	100	70	<5	<5	20
20...	3	2	230	100	7	80	--	<50	--	--	20

Table 6.--*Hydrologic data for station 07081000, Tennessee Creek near mouth, near Leadville*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
May											
18...	110	<50	<50	<20	<20	20	20	<5	<5	420	360
23...	160	<50	<50	<20	<20	30	30	<5	<5	490	460
31...	100	<50	<50	<20	<20	20	20	<5	<5	330	300
June											
07...	50	<50	<50	<20	<20	20	20	<5	<5	110	120
17...	40	<50	<50	<20	<20	20	20	<5	<5	60	70
30...	40	<50	<50	<20	<20	30	30	<5	<5	50	40
July											
22...	40	<50	<50	<20	<20	40	40	<5	<5	50	60
August											
17...	30	<50	<50	<20	<20	50	50	<5	<5	30	20
September											
15...	20	<50	<50	<20	<20	50	50	<5	<5	30	30
October											
13...	20	<50	<50	<20	<20	50	50	<5	<5	30	50
20...	20	<50	<50	<20	--	50	50	<5	<5	40	50

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Sediment, suspended (mg/L)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989												
May												
02...	1225	28	6.8	6.0	70	18	0.01	2,000	--	--	6.5	--
02...	1230	28	6.8	6.0	70	18	.10	2,000	--	6.8	6.4	2.2
11...	1115	130	6.9	4.0	58	18	.10	--	--	4.1	4.1	1.3
15...	1115	77	6.9	4.0	48	14	.10	--	--	5.1	5.1	1.7
17...	1415	56	7.3	10.0	62	15	.01	500	--	--	5.4	--
17...	1420	56	7.3	10.0	62	15	.10	500	--	5.4	5.6	1.7
23...	0910	170	6.7	4.0	46	11	.01	--	15	--	3.6	--
23...	0915	170	6.7	4.0	46	11	.10	--	15	3.6	3.5	1.2
23...	0920	--	--	--	--	--	.45	--	--	--	3.5	--
June												
06...	0845	110	7.2	6.0	50	15	.01	750	--	--	4.1	--
06...	0850	110	7.2	6.0	50	15	.10	750	--	4.1	4.2	1.3
09...	1330	98	7.2	5.0	44	13	.10	--	--	4.2	4.5	1.3
15...	0920	95	7.4	0.0	46	14	.10	--	--	3.9	4.3	1.2
22...	0945	72	7.3	6.0	43	15	.10	--	--	4.2	4.2	1.3
28...	1015	57	7.3	5.5	44	15	.10	--	--	4.3	4.2	1.3
29...	0845	53	7.3	10.0	45	13	.01	--	--	--	4.0	--
29...	0850	53	7.3	10.0	45	13	.10	--	--	3.9	4.3	1.2
July												
06...	0910	42	7.3	12.0	44	15	.10	--	--	4.5	4.5	1.4
13...	1020	72	7.4	11.0	49	16	.10	--	--	5.0	5.1	1.6
18...	1005	23	6.9	12.0	56	22	.01	1,300	--	--	5.9	--
18...	1010	23	6.9	12.0	56	22	.10	1,300	--	5.7	5.9	1.9
20...	0905	--	--	--	--	--	.10	--	--	6.2	6.8	2.0
27...	0855	26	7.6	11.0	59	22	.10	--	--	6.3	6.3	2.0

Table 6.--*Hydrologic data for station 07081000, Tennessee Creek near mouth, near Leadville*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued												
May												
02...	2.1	--	1.9	--	--	8.3	--	4.4	3.8	--	70	--
02...	2.1	2.0	2.0	10	0.66	8.4	0.48	4.4	3.8	130	<40	20
11...	1.3	1.2	1.2	7.5	.57	6.3	--	--	--	190	50	10
15...	1.6	1.5	1.5	8.3	.51	6.9	--	--	--	150	--	20
17...	1.7	--	1.6	--	--	7.2	--	5.7	4.2	--	--	--
17...	1.8	1.6	1.6	9.1	.41	7.3	--	5.7	4.2	110	--	20
23...	1.2	--	1.1	--	--	5.3	--	--	5.1	--	100	--
23...	1.1	1.0	1.0	5.8	.37	5.2	.37	--	5.1	310	130	10
23...	1.1	--	1.0	--	--	5.4	--	--	--	--	130	--
June												
06...	1.3	--	1.0	--	--	5.0	--	4.8	3.6	--	--	--
06...	1.4	1.0	1.1	5.7	<0.3	5.2	--	4.8	3.6	40	220	10
09...	1.4	1.0	1.2	6.3	.34	5.7	--	--	--	--	110	10
15...	1.4	1.0	1.1	6.0	.33	5.1	--	--	--	--	90	10
22...	1.3	1.0	1.1	5.8	<.3	5.0	--	--	--	50	--	10
28...	1.3	1.1	1.1	5.6	.48	4.6	--	--	--	<40	--	10
29...	1.2	--	1.1	--	--	4.2	--	2.9	2.3	--	--	--
29...	1.3	1.0	1.1	5.9	.32	4.5	--	2.9	2.3	<40	50	9
July												
06...	1.4	1.1	1.1	7.9	.52	4.5	--	--	--	<40	--	10
13...	1.6	1.2	1.2	8.4	.49	5.0	--	--	--	--	--	10
18...	1.9	--	1.5	--	--	5.9	--	3.0	2.4	--	--	--
18...	1.9	1.4	1.5	7.9	.61	5.9	.21	3.0	2.4	--	--	20
20...	2.1	1.5	1.7	4.4	.31	6.6	.27	--	--	--	--	20
27...	2.0	1.5	1.6	5.5	.39	6.2	--	--	--	--	--	20

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
May											
02...	17	--	2	--	<2	--	<7	--	<6	--	<7
02...	15	<0.5	<.5	<2	<2	--	<7	<6	<6	<7	<7
11...	13	<.5	<.5	9	6	<7	<7	<6	8	<7	<7
15...	14	.6	<.5	4	5	7	<7	<6	<6	<7	<7
17...	15	--	<.5	--	<2	--	--	--	<6	--	<7
17...	15	.5	2	<2	<2	<7	10	9	<6	<7	<7
23...	11	--	1	--	<2	--	9.0	--	<6	--	<7
23...	9	1.4	.7	<2	<2	7	7.0	<6	<6	<7	<7
23...	10	--	.6	--	<2	--	<7	--	20	--	7
June											
06...	10	--	<.5	--	<2	--	--	--	9	--	<7
06...	12	<.5	.5	6	<2	--	--	15	<6	<7	<7
09...	13	<.5	1	4	3	<7	<7	<6	<6	<7	<7
15...	11	<.5	.8	<2	<2	--	9.0	15	<6	<7	<7
22...	12	<.5	<.5	3	6	--	--	<6	<6	7	<7
28...	12	<.5	<.5	3	6	--	--	<6	<6	9	8
29...	9	--	<.5	--	<2	--	--	--	7	--	<7
29...	10	<.5	1	<2	10	--	7.0	7	<6	<7	<7
July											
06...	11	1.0	1	<2	<2	<7	<7	<6	<6	<7	<7
13...	15	.5	<.5	<2	<2	--	--	8	<6	<7	7
18...	14	--	.5	--	5	--	--	--	<6	--	<7
18...	14	<.5	<.5	2	<2	--	--	14	<6	<7	<7
20...	19	<.5	<.5	4	<2	--	<7	9	<6	<7	<7
27...	16	.7	<.5	<2	<2	<7	--	<6	<6	10	<7

Table 6.--*Hydrologic data for station 07081000, Tennessee Creek near mouth, near Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
May											
02...	--	10	--	60	280	330	--	--	--	50	--
02...	1	1	350	100	280	330	<50	<50	<5	<5	150
11...	20	10	350	120	--	--	<50	<50	--	<5	120
15...	20	20	230	100	--	--	<50	<50	--	--	120
17...	--	10	--	40	50	80	--	<50	--	--	--
17...	10	4	250	110	50	80	<50	70	<5	<5	120
23...	--	8	--	60	60	100	--	<50	--	80	--
23...	6	8	500	110	60	100	<50	<50	<5	8	90
23...	--	9	--	140	--	--	--	<50	--	5	--
June											
06...	--	5	--	50	40	70	--	--	--	60	--
06...	5	6	250	80	40	70	--	<50	--	<5	50
09...	10	20	160	80	--	--	<50	<50	<5	--	40
15...	30	10	150	80	--	--	--	<50	--	--	30
22...	<1	20	180	85	--	--	<50	<50	<5	<5	40
28...	7	3	180	80	--	--	--	<50	<5	<5	30
29...	--	2	--	30	--	--	--	--	--	--	--
29...	3	--	210	100	--	--	--	--	<5	<5	30
July											
06...	20	20	250	80	--	--	<50	--	<5	<5	30
13...	20	7	300	110	--	--	<50	<50	6	<5	50
18...	--	10	--	20	10	100	--	<50	--	--	--
18...	--	1	290	210	10	100	<50	<50	8	--	40
20...	20	20	300	110	--	--	--	90	<5	<5	40
27...	10	4	320	150	--	--	--	--	<5	<5	30

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
May											
02...	140	--	<50	--	<20	--	30	--	<5	--	350
02...	140	<50	<50	--	<20	30	30	<5	<5	380	350
11...	100	<50	<50	<20	<20	20	20	<5	<5	390	270
15...	120	<50	<50	<20	<20	30	30	<5	<5	350	360
17...	110	--	<50	--	--	--	30	--	<5	--	300
17...	120	<50	<50	<20	<20	30	30	<5	<5	310	310
23...	70	--	<50	--	--	--	20	--	<5	--	180
23...	60	<50	<50	<20	<20	20	20	<5	<5	200	160
23...	70	--	<50	--	20	--	20	--	<5	--	170
June											
06...	40	--	<50	--	20	--	20	--	6	--	100
06...	40	<50	<50	20	--	20	20	<5	<5	90	110
09...	40	<50	<50	<20	<20	20	20	<5	<5	80	110
15...	30	<50	<50	<20	--	20	20	7	<5	60	60
22...	40	<50	<50	--	--	20	20	<5	<5	60	70
28...	30	<50	<50	<20	<20	20	20	<5	<5	50	40
29...	30	--	<50	--	<20	--	20	--	<5	--	60
29...	30	<50	<50	<20	--	20	20	<5	<5	50	50
July											
06...	30	<50	<50	--	--	30	30	<5	<5	50	40
13...	40	<50	<50	30	--	30	30	<5	<5	60	70
18...	30	--	<50	--	<20	--	30	--	<5	--	40
18...	40	<50	<50	30	--	30	30	<5	<5	40	70
20...	40	<50	<50	<20	<20	30	40	<5	<5	40	30
27...	30	<50	<50	<20	--	30	30	<5	<5	50	40

Table 6.--*Hydrologic data for station 07081000, Tennessee Creek near mouth, near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued												
August												
01...	0940	43	7.5	13.0	57	22	0.10	--	6.2	6.5	1.9	2.0
17...	0920	14	6.8	9.5	--	34	.01	920	--	8.6	--	2.8
17...	0925	14	6.8	9.5	--	34	.10	920	7.6	8.1	2.5	2.7
24...	0900	8.8	7.3	9.0	79	32	.10	--	9.2	9.5	3.0	3.1
31...	1030	15	7.2	8.0	81	35	.10	.0	9.4	10	3.1	3.6
September												
08...	1030	12	7.1	8.0	87	38	.10	.0	10	10	3.5	3.5
27...	1640	11	8.2	--	86	46	.10	--	9.5	10	3.3	3.4
October												
06...	0950	11	6.8	--	90	46	.10	--	10	10	3.4	3.6
18...	1320	1.8	6.6	4.0	86	36	.10	--	9.7	9.8	3.3	3.3

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
August											
01...	1.4	1.6	4.6	--	0.43	6.2	--	--	120	60	20
17...	--	2.1	--	--	--	8.1	3.0	0.9	--	--	--
17...	1.9	2.0	5.7	<0.3	.58	7.9	3.0	.9	<40	<40	20
24...	2.3	2.4	6.1	<.3	.53	8.7	--	--	--	--	20
31...	2.5	2.5	6.8	<.3	.64	9.1	--	--	--	--	20
September											
08...	2.6	2.5	6.7	<.3	.70	9.6	--	--	--	--	30
27...	2.7	2.8	7.3	<.3	.63	9.7	--	--	--	--	20
October											
06...	2.7	2.6	7.8	<.3	.67	9.6	--	--	--	--	20
18...	2.7	2.8	7.9	<.3	.72	11	--	--	--	--	20

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
August											
01...	17	<0.5	<0.5	<2	3	<7	--	<6	<6	<7	<7
17...	19	--	<.5	--	<2	--	<7	--	<6	--	<7
17...	18	<.5	<.5	3	<2	--	<7	14	7	<7	<7
24...	24	.7	<.5	<2	<2	<7	<7	10	<6	<7	<7
31...	27	1.2	<.5	7	<2	<7	<7	<6	<6	7	<7
September											
08...	27	<.5	.7	<2	5	--	--	<6	<6	<7	<7
27...	19	<.5	<.5	4	<2	--	--	<6	<6	<7	<7
October											
06...	24	.6	.5	<2	4	<7	--	<6	<6	<7	<7
18...	22	<.5	<.5	<2	<2	10	<7	15	<6	7	<7

Table 6.--*Hydrologic data for station 07081000, Tennessee Creek near mouth, near Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
August											
01...	1	7	470	130	--	--	<50	--	<5	<5	20
17...	--	1	--	20	110	150	--	70	--	--	--
17...	4	3	390	240	110	150	--	<50	<5	<5	20
24...	3	7	410	150	--	--	<50	--	<5	<5	20
31...	3	7	310	140	--	--	<50	<50	--	<5	20
September											
08...	3	2	230	140	--	--	<50	<50	<5	--	20
27...	1	1	290	140	--	--	<50	--	--	--	9
October											
06...	3	1	270	110	--	--	70	<50	--	<5	20
18...	5	6	250	140	--	--	<50	<50	<5	--	20

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
August											
01...	20	<50	<50	--	<20	40	40	<5	<5	30	30
17...	20	--	<50	--	<20	--	50	--	<5	--	70
17...	20	<50	<50	30	20	40	40	6	<5	30	50
24...	20	<50	<50	--	--	50	50	<5	<5	40	40
31...	25	<50	<50	--	<20	50	50	<5	<5	30	80
September											
08...	20	<50	<50	<20	--	50	50	<5	<5	50	60
27...	8	<50	<50	--	--	50	50	<5	<5	20	30
October											
06...	20	<50	<50	--	--	50	50	<5	<5	30	80
18...	20	<50	<50	<20	--	50	50	<5	<5	40	70
23...	25	--	<.5	--	<2	--	8.0	--	6	--	<7
23...	27	<.5	<.5	<2	<2	<7	<7	<6	<6	<7	<7

Table 7.--*Hydrologic data for station 07081200, Arkansas River near Leadville*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, dissolved solved (mg/L)	Magnesium, dissolved (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April 30...	1105	120	7.6	3.0	35	0.45	13	5.0	1.8	17	<0.3

Date	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, dissolved (µg/L)	Barium, dissolved (µg/L)	Beryllium, dissolved (µg/L)	Boron, dissolved (µg/L)	Cadmium, dissolved (µg/L)	Chromium, dissolved (µg/L)
April 30...	0.90	7.6	0.44	5.4	<40	35	0.5	<2	<7	<6

Date	Cobalt, dissolved (µg/L)	Copper, dissolved (µg/L)	Iron, dissolved (µg/L)	Lead, dissolved (µg/L)	Lithium, dissolved (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, dissolved (µg/L)	Strontium, dissolved (µg/L)	Vanadium, dissolved (µg/L)	Zinc, dissolved (µg/L)
April 30...	<7	10	250	<50	<5	90	<50	50	6	130

Table 7.--*Hydrologic data for station 07081200, Arkansas River near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987												
August 19...	1510	35	8.5	15.0	210	84	0.10	30	29	12	12	0.5

Date	Sodium, dissolved (mg/L)	Silica, dissolved (mg/L)	Carbon, organic, total (mg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)
August 19...	2.1	4.3	1.1	80	71	<0.5	<0.5	3	<2	<7	<7	<6

Date	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)
August 19...	10	<7	7	4	4	170	30	30	<50	<50	50	10

Date	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
August 19...	90	90	<50	<50	<20	<20	80	80	<5	<5	170	110

Table 7.--*Hydrologic data for station 07081200, Arkansas River near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988												
January												
29...	1510	--	--	--	--	--	0.10	--	--	--	--	--
May												
18...	1315	150	7.2	7.0	110	29	.10	2,500	11	11	3.9	3.8
23...	1430	110	7.7	9.5	150	43	.10	1,400	16	16	6.1	6.1
31...	1500	150	6.3	8.5	110	33	.10	500	11	11	4.4	4.2
June												
07...	1830	320	7.4	11.0	95	31	.10	420	9.5	9.4	3.7	3.6
16...	1550	210	7.9	12.0	120	36	.10	540	11	12	4.5	4.5
29...	1755	220	7.8	1.0	120	25	.10	120	12	12	4.5	4.6
July												
22...	0950	52	8.2	8.5	190	66	.10	1,400	21	22	8.3	8.2
August												
17...	0920	48	8.3	8.5	190	70	.10	370	23	24	9.1	9.1
September												
15...	0920	31	8.0	4.0	230	75	.10	--	27	26	11	11
October												
20...	1155	21	8.1	5.0	240	85	.10	1,400	33	33	13	13
25...	1125	20	8.3	3.0	240	85	.01	--	--	32	--	13
25...	1130	20	8.3	3.0	240	85	.10	--	33	32	13	13
25...	1135	--	--	--	--	--	.45	--	--	32	--	13

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)
January											
29...	--	--	34	--	0.46	--	0.35	--	--	--	--
May											
18...	1.4	1.4	16	<0.3	.48	5.6	.25	5.3	--	250	40
23...	1.6	1.6	24	<.3	.51	6.8	.30	3.2	--	--	50
31...	1.2	1.2	15	--	.58	5.6	.32	4.0	--	100	40
June											
07...	.9	.92	9.9	--	.37	4.5	.34	3.9	--	140	40
16...	1	1.0	12	--	.55	4.8	.25	2.9	--	--	40
29...	1	.98	11	--	.60	4.6	.26	3.4	--	190	40
July											
22...	1.6	1.5	25	<0.3	.31	5.9	.36	1.7	1.7	--	60
August											
17...	1.7	1.7	28	<.3	1.2	6.1	.71	1.7	1.0	--	70
September											
15...	2.0	2.0	38	<.3	.70	6.9	.45	--	--	--	80
October											
20...	2.2	2.3	49	<.3	.93	7.7	.60	1.3	1.3	--	80
25...	--	2.2	--	--	--	7.3	--	--	--	--	--
25...	2.2	2.2	52	--	.68	7.3	.53	--	--	--	80
25...	--	2.2	--	--	--	7.3	--	--	--	--	--

Table 7.--*Hydrologic data for station 07081200, Arkansas River near Leadville*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
January											
29...	--	--	--	--	--	--	--	--	--	--	--
May											
18...	34	<0.5	<0.5	10	10	<7	--	<6	<6	<7	<7
23...	48	.9	.6	10	10	--	--	<6	<6	<7	<7
31...	47	<.5	1	7	20	<7	<7	<6	<6	<7	<7
June											
07...	35	<.5	.5	2	8	<7	--	<6	<6	<7	<7
16...	35	<.5	.7	<2	<2	--	--	<6	<6	<7	<7
29...	34	<.5	.7	<2	10	<7	<7	<6	<6	<7	<7
July											
22...	60	.6	<.5	<2	<2	<7	9.0	<6	<6	<7	<7
August											
17...	68	<.5	<.5	20	6	<7	<7	<6	<6	<7	<7
September											
15...	81	.8	<.5	30	30	<7	<7	<6	<6	<7	<7
October											
20...	82	<.5	<.5	9	10	--	--	<6	<6	<7	<7
25...	76	--	<.5	--	10	--	20	--	<6	--	<7
25...	77	<.5	<.5	10	10	15	20	<6	<6	<7	<7
25...	75	--	<.5	--	20	--	10	--	<6	--	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
January											
29...	--	--	--	--	--	--	--	--	--	--	--
May											
18...	3	3	560	90	20	90	--	<50	<5	<5	150
23...	3	3	280	140	--	80	--	--	<5	<5	150
31...	4	2	510	100	30	50	<50	<50	<5	<5	120
June											
07...	1	1	520	50	--	80	--	<50	<5	<5	90
16...	<1	<1	200	60	30	80	--	<50	<5	<5	50
29...	5	5	470	82	<5	40	<50	<50	<5	<5	60
July											
22...	3	3	210	50	20	80	<50	<50	<5	<5	100
August											
17...	<1	<1	420	70	5	40	<50	--	<5	6	140
September											
15...	3	2	240	35	<5	40	<50	<50	<5	<5	110
October											
20...	4	4	190	20	<5	20	--	--	--	--	140
25...	--	2	--	<5	--	--	--	70	--	60	--
25...	3	2	160	20	--	--	<50	100	<5	<5	130
25...	--	5	--	100	--	--	--	90	--	20	--

Table 7.--*Hydrologic data for station 07081200, Arkansas River near Leadville*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
January											
29...	--	--	--	--	--	--	--	--	--	--	--
May											
18...	110	<50	<50	<20	<20	40	40	<5	<5	370	330
23...	150	<50	<50	<20	<20	60	60	<5	<5	400	360
31...	85	<50	<50	<20	<20	40	40	<5	<5	270	200
June											
07...	40	<50	<50	<20	<20	40	30	<5	<5	120	80
16...	40	<50	<50	<20	<20	40	40	<5	<5	80	70
29...	90	<50	<50	<20	<20	40	43	<5	<5	100	150
July											
22...	90	<50	<50	<20	<20	70	70	<5	<5	160	150
August											
17...	90	<50	<50	<20	<20	70	70	<5	<5	280	140
September											
15...	100	<50	<50	<20	<20	80	75	<5	<5	240	210
October											
20...	140	<50	<50	--	--	80	80	<5	<5	340	310
25...	130	--	<50	--	<20	--	80	--	<5	--	270
25...	130	<50	<50	<20	<20	80	80	<5	<5	340	300
25...	130	--	<50	--	<20	--	80	--	<5	--	260

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989												
March												
30...	0955	22	8.2	1.0	210	54	0.01	--	--	23	--	9.0
30...	1000	22	8.2	1.0	210	54	.10	--	23	23	9.2	8.9
May												
02...	1510	52	7.8	9.0	170	48	.01	490	--	19	--	7.6
02...	1515	52	7.8	9.0	170	48	.10	490	19	19	7.5	7.5
11...	1155	180	7.4	5.0	100	48	.10	--	10	11	4.0	3.9
15...	1200	130	7.6	5.0	130	35	.10	--	14	13	5.2	5.2
17...	1205	110	8.1	7.0	130	40	.01	8,500	--	14	--	5.3
17...	1210	110	8.1	7.0	130	40	.10	8,500	15	15	5.4	5.6
23...	1140	290	7.5	7.5	88	25	.01	--	--	8.8	--	3.2
23...	1145	290	7.5	7.5	88	25	.10	--	9.4	9.1	3.5	3.3
23	1150	--	--	--	--	--	.45	--	--	8.8	--	3.2
June												
06...	1015	220	7.9	7.0	110	35	.01	450	--	11	--	4.2
06...	1020	220	7.9	7.0	110	35	.10	450	10	10	4.0	4.1
09...	1340	220	7.6	5.0	110	35	.10	--	11	11	4.2	4.2
15...	0910	220	7.6	0.0	100	33	.10	--	11	10	4.1	4.0
22...	0930	170	7.6	5.0	110	39	.10	--	12	11	4.7	4.6
28...	0915	140	7.6	7.0	120	39	.10	--	13	12	4.9	4.9
29...	0955	130	7.8	10.0	120	39	.01	--	--	13	--	5.0
29...	1000	130	7.8	10.0	120	39	.10	--	12	13	4.8	5.1
July												
06...	0850	120	7.7	10.0	120	42	.10	--	14	14	5.4	5.6
13...	1005	180	7.7	10.0	110	36	.10	--	12	12	4.5	4.5
18...	1125	67	7.4	13.0	150	55	.01	1,100	--	17	--	6.7
18...	1130	67	7.4	13.0	150	55	.10	1,100	16	17	6.3	6.8
20...	0845	62	7.9	9.5	150	57	.10	--	19	19	7.4	7.3
27...	0835	84	7.8	8.0	140	52	.10	--	17	18	6.5	6.8

Table 7.--*Hydrologic data for station 07081200, Arkansas River near Leadville*--Continued

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued												
Mar												
30...	--	2.5	--	--	--	8.9	--	--	0.7	--	--	--
30...	2.5	2.4	38	--	0.85	8.7	0.62	--	.7	--	--	60
May												
02...	--	2.0	--	--	--	7.3	--	2.6	2.3	--	--	--
02...	1.9	2.0	32	<0.3	.84	7.3	.61	2.6	2.3	--	--	50
11...	1.4	1.5	16	.32	1.2	6.1	.80	--	--	170	--	30
15...	1.6	1.6	22	<.3	.64	6.5	.39	--	--	--	--	40
17...	--	1.6	--	--	--	6.5	--	3.5	3.0	--	--	--
17...	1.6	1.7	21	<.3	.70	6.9	.48	3.5	3.0	--	--	40
23...	--	1.1	--	--	--	4.9	--	--	12	--	<40	--
23...	1.2	1.1	12	<.3	.48	5.1	.64	--	12	180	--	30
23...	--	1.1	--	--	--	5.1	--	--	--	--	50	--
June												
06...	--	1.0	--	--	--	4.7	--	3.6	2.7	--	--	--
06...	1.0	1.1	13	--	.50	4.7	--	3.6	2.7	--	--	30
09...	1.0	1.1	13	<.3	.52	4.7	<.20	--	--	--	--	30
15...	1	1.1	13	<.3	.54	4.3	.33	--	--	--	--	30
22...	1.1	1.0	13	<.3	.51	4.5	.40	--	--	--	--	30
28...	1.1	1.1	14	--	<.3	4.4	--	--	--	--	--	40
29...	--	1.1	--	--	--	4.4	--	2.3	1.7	--	--	--
29...	1.1	1.1	15	<.3	.42	4.6	.27	2.3	1.7	--	--	40
July												
06...	1.1	1.1	17	<.3	.54	4.8	.37	--	--	--	--	40
13...	1.1	1.1	17	<.3	.63	4.6	.27	--	--	--	--	40
18...	--	1.3	--	--	--	5.0	--	1.8	1.5	--	--	--
18...	1.2	1.4	22	<.3	.64	5.1	.34	1.8	1.5	--	--	50
20...	1.5	1.5	25	<.3	.66	5.5	.96	--	--	--	--	60
27...	1.3	1.4	18	<.3	.58	5.4	.43	--	--	--	--	50

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
March											
30...	53	--	<0.5	--	10	--	<7	--	6	--	<7
30...	52	<0.5	<.5	10	3	7	--	8	7	<7	<7
May											
02...	50	--	.7	--	<2	--	--	--	<6	--	<7
02...	50	1.6	2	<2	<2	--	--	8	<6	<7	<7
11...	30	<.5	<.5	8	10	<7	<7	<6	<6	<7	<7
15...	35	2.7	<.5	<2	5	10	<7	<6	<6	<7	<7
17...	39	--	1	--	<2	--	<7	--	<6	--	<7
17...	41	.6	2	<2	<2	--	--	<6	<6	<7	<7
23...	25	--	<.5	--	<2	--	8.0	--	6	--	<7
23...	27	<.5	<.5	<2	<2	<7	<7	<6	<6	<7	<7
23...	26	--	.5	--	<2	--	<7	--	<6	--	<7
June											
06...	30	--	.6	--	3	--	<7	--	<6	--	<7
06...	30	<.5	.7	3	3	--	--	12	10	<7	<7
09...	31	<.5	<.5	<2	<2	--	--	16	6	<7	<7
15...	28	<.5	<.5	4	<2	--	--	<6	8	<7	<7
22...	34	<.5	.5	3	6	--	--	<6	<6	<7	<7
28...	38	<.5	<.5	9	5	--	--	<6	9	<7	<7
29...	39	--	.8	--	7	--	--	--	<6	--	<7
29...	39	1.0	1	10	3	<7	<7	12	<6	<7	<7
July											
06...	43	<.5	<.5	7	10	--	--	12	7	<7	<7
13...	35	<.5	<.5	<2	<2	--	--	<6	<6	<7	9
18...	47	--	<.5	--	5	--	--	--	8	--	7
18...	47	<.5	<.5	6	6	--	--	11	<6	<7	<7
20...	54	<.5	.5	3	7	<7	<7	<6	10	<7	<7
27...	52	<.5	<.5	<2	<2	--	--	6	<6	<7	<7

Table 7.--*Hydrologic data for station 07081200, Arkansas River near Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
30...	--	10	--	9	7	130	--	--	--	60	--
30...	10	3	420	130	7	130	<50	--	5	<5	130
May											
02...	--	7	--	20	280	300	--	--	--	50	--
02...	5	8	250	100	280	300	--	--	10	7	160
11...	7	10	320	90	--	--	<50	--	--	<5	130
15...	4	10	190	80	--	--	70	<50	<5	--	150
17...	--	5	--	20	30	60	--	<50	--	30	--
17...	7	6	210	80	30	60	--	--	5	<5	130
23...	--	6	--	40	60	90	--	--	--	--	--
23...	8	5	490	80	60	90	<50	--	<5	5	120
23...	--	6	--	110	--	--	--	--	--	7	--
June											
06...	--	10	--	30	30	30	--	<50	--	80	--
06...	4	4	230	50	30	30	--	--	--	<5	60
09...	4	--	120	60	--	--	--	--	<5	10	50
15...	--	3	130	50	--	--	--	--	5	<5	40
22...	--	1	120	60	--	--	--	60	7	--	50
28...	3	2	140	60	--	--	<50	<50	<5	<5	50
29...	--	--	--	20	--	--	--	--	--	--	--
29...	--	4	230	50	--	--	--	<50	--	--	60
July											
06...	2	1	160	60	--	--	--	<50	6	<5	50
13...	1	2	220	80	--	--	--	--	<5	--	40
18...	--	<1	--	20	--	10	--	<50	--	60	--
18...	1	1	200	80	--	10	--	<50	--	<5	60
20...	--	10	190	60	--	--	--	--	<5	<5	70
27...	1	--	180	90	--	--	<50	<50	<5	<5	50

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
March											
30...	120	--	<50	--	<20	--	60	--	<5	--	210
30...	120	<50	<50	20	<20	60	60	<5	<5	240	200
May											
02...	160	--	<50	--	--	--	60	--	<5	--	350
02...	160	<50	<50	--	<20	60	60	<5	<5	390	350
11...	120	<50	<50	<20	<20	40	40	<5	<5	330	310
15...	140	<50	<50	<20	<20	50	50	<5	<5	410	370
17...	120	--	<50	--	<20	--	50	--	<5	--	300
17...	120	<50	<50	<20	<20	50	50	<5	<5	330	330
23...	70	--	<50	--	<20	--	30	--	<5	--	160
23...	70	<50	<50	<20	<20	40	30	<5	<5	230	160
23...	70	--	<50	--	<20	--	30	--	<5	--	180
June											
06...	50	--	<50	--	20	--	40	--	<5	--	130
06...	40	<50	<50	20	20	40	40	<5	<5	130	120
09...	60	<50	<50	20	<20	40	40	<5	<5	110	130
15...	40	<50	<50	<20	<20	40	40	<5	<5	80	100
22...	40	<50	<50	<20	<20	40	40	<5	<5	100	100
28...	40	<50	<50	<20	20	40	40	8	<5	100	90
29...	40	--	<50	--	<20	--	50	--	<5	--	100
29...	40	<50	<50	20	<20	40	50	<5	5	110	120
July											
06...	50	<50	<50	<20	<20	50	50	<5	<5	90	90
13...	40	<50	<50	--	--	40	40	<5	<5	80	70
18...	50	--	<50	--	30	--	60	--	<5	--	70
18...	50	<50	64	20	30	50	50	<5	<5	120	80
20...	60	<50	<50	<20	40	60	60	<5	<5	120	100
27...	60	<50	<50	20	--	50	60	<5	<5	100	100

Table 7.--*Hydrologic data for station 07081200, Arkansas River near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
August											
01...	0930	110	7.8	11.0	130	49	0.10	--	15	15	5.6
17...	1040	44	7.0	10.0	180	71	.01	690	--	23	--
17...	1045	44	7.0	10.0	180	71	.10	690	23	21	9.0
24...	0850	34	7.6	7.5	180	61	.10	--	27	30	11
31...	1000	28	7.8	8.0	200	78	.10	--	27	28	11
September											
08...	1005	25	7.5	7.5	220	82	.10	--	29	28	12
11...	1155	28	7.3	8.0	210	67	.01	--	--	22	--
11...	1200	28	7.3	8.0	210	67	.10	--	28	27	12
15...	0840	30	7.9	4.0	200	83	.10	--	31	32	13
20...	1515	30	8.0	12.0	220	80	.10	--	27	29	11
27...	1650	23	8.0	--	230	88	.10	--	29	30	12
October											
06...	1050	23	7.3	--	240	92	.10	--	29	29	12
18...	1415	23	6.9	5.0	280	84	.10	--	35	36	15

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic dissolved (mg/L)	Barium, total recoverable (µg/L)
August											
01...	5.7	1.2	1.3	16	<0.3	0.57	5.1	0.38	--	--	40
17...	9.1	--	--	--	--	--	6.1	--	1.4	2.4	--
17...	8.3	1.7	1.6	28	<.3	.68	5.6	.46	1.4	2.4	70
24...	12	1.9	2.1	29	<.3	.61	7.3	.38	--	--	80
31...	11	1.9	2.0	39	<.3	.74	6.9	.48	--	--	80
September											
08...	12	2.0	2.0	42	<.3	.79	7.0	.45	--	--	80
11...	8.9	--	1.4	--	--	--	5.3	--	--	49	--
11...	11	1.9	1.9	40	<.3	.73	6.7	.31	--	49	80
15...	13	2.3	2.3	40	<.3	.62	7.7	.44	--	--	90
20...	12	1.9	2.0	41	<.3	.71	6.9	.31	--	--	80
27...	12	2.0	2.2	46	<.3	.72	7.2	.30	--	--	80
October											
06...	13	2.0	2.0	51	<.3	.77	7.0	.36	--	--	80
18...	15	2.3	2.3	62	<.3	.84	8.1	--	--	--	80

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
August											
01...	44	<0.5	<0.5	<2	6	7	--	<6	7	<7	<7
17...	63	--	<.5	--	<2	--	<7	--	<6	--	<7
17...	60	<.5	<.5	6	3	<7	--	<6	7	<7	<7
24...	80	<.5	<.5	<2	<2	<7	<7	<6	10	<7	<7
31...	73	<.5	1	3	10	--	<7	<6	10	<7	<7
September											
08...	78	<.5	<.5	7	2	--	--	<6	<6	<7	<7
11...	80	--	<.5	--	5	--	--	--	<6	--	<7
11...	75	<.5	<.5	2	3	<7	<7	<6	<6	<7	<7
15...	86	<.5	<.5	9	10	<7	<7	<6	<6	<7	<7
20...	77	<.5	.5	3	5	<7	--	<6	<6	<7	<7
27...	79	<.5	<.5	4	<2	<7	--	<6	<6	<7	<7
October											
06...	73	<.5	<.5	3	<2	--	--	<6	<6	<7	<7
18...	83	.7	<.5	<2	<2	7	--	20	10	10	<7

Table 7.--*Hydrologic data for station 07081200, Arkansas River near Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
August											
01...	2	2	230	90	--	--	60	--	--	--	40
17...	--	1	--	10	10	30	--	70	--	50	--
17...	2	3	260	80	10	30	--	<50	<5	<5	80
24...	2	2	220	70	--	--	--	--	<5	<5	85
31...	--	4	190	40	--	--	<50	<50	<5	--	80
September											
08...	1	1	230	40	--	--	--	<50	--	<5	100
11...	--	8	--	50	--	--	--	<50	--	<5	--
11...	3	9	200	60	--	--	<50	<50	9	<5	90
15...	5	6	220	60	--	--	<50	<50	--	--	110
20...	2	2	200	50	--	--	--	--	<5	--	70
27...	10	1	190	40	--	--	--	--	--	--	80
October											
06...	--	--	160	30	--	--	--	--	<5	--	100
18...	2	1	210	30	--	--	<50	--	<5	<5	150

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
March											
30...	340	--	<50	--	--	--	100	--	<5	--	640
August											
01...	40	<50	<50	<20	20	50	50	<5	<5	90	60
17...	60	--	<50	--	<20	--	70	--	<5	--	110
17...	60	<50	<50	20	30	70	60	<5	<5	150	110
24...	100	<50	<50	--	<20	80	90	<5	<5	200	190
31...	90	<50	<50	--	40	80	80	<5	5	140	170
September											
08...	90	<50	<50	--	<20	80	80	<5	<5	230	200
11...	30	--	<50	--	20	--	80	--	<5	--	--
11...	80	<50	<50	<20	--	80	80	<5	<5	210	160
15...	110	<50	<50	<20	20	90	90	<5	5	260	260
20...	80	<50	<50	--	--	80	80	<5	<5	160	180
27...	80	<50	<50	--	--	80	80	<5	<5	180	160
October											
06...	120	<50	<50	--	--	80	80	<5	<5	300	310
18...	150	<50	<50	20	--	80	90	<5	<5	360	320

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April											
29...	0835	2.0	5.7	11.0	1,300	1	0.45	--	86	--	76
June											
02...	1605	4.2	6.1	14.0	880	5	.45	--	87	--	42
July											
08...	1505	2.1	6.3	16.0	1,100	9	.45	--	94	--	52
August											
06...	1450	1.8	6.7	19.0	1,000	25	.45	--	96	--	49
September											
04...	1430	1.9	6.7	12.0	--	13	.10	--	79	--	44
November											
19...	0825	--	--	--	--	--	.10	76	80	46	48
December											
10...	0955	--	6.8	.0	780	35	.10	66	66	38	39

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
April											
29...	--	17	630	<0.3	9.9	15	--	8.7	--	<40	--
June											
02...	--	11	500	--	6.1	18	7.1	4.5	--	<40	--
July											
08...	--	16	560	--	9.8	16	--	4.6	--	<40	--
August											
06...	--	14	590	<.3	9.3	13	3.7	7.1	--	<40	--
September											
04...	--	15	470	<.3	9.3	13	7.1	9.0	--	1,100	--
November											
19...	17	18	--	--	--	7.1	--	--	1,600	<40	40
December											
10...	25	25	320	--	17	9.5	--	4.1	720	<40	30

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)
April										
29...	44	--	0.5	--	<2	--	100	--	<6	--
June										
02...	34	--	.7	--	<2	--	180	--	<6	--
July										
08...	39	--	.5	--	<2	--	180	--	<6	--
August										
06...	37	--	.5	--	<2	--	140	--	<6	--
September										
04...	47	--	.6	--	60	--	120	--	<6	--
November										
19...	32	0.5	<.5	<2	<2	100	95	<6	<6	<7
December										
10...	2	1.0	5	<2	<2	60	40	<6	<6	<7

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986--Continued										
April 29...	<7	--	180	--	20,000	--	<50	--	20	--
June 02...	8	--	90	--	5,400	--	<50	--	20	--
July 08...	20	--	320	--	1,300	--	<50	--	800	--
August 06...	20	--	40	--	17,000	--	<50	--	20	--
September 04...	10	--	500	--	9,500	--	100	--	20	--
November 19...	20	500	55	11,000	28	100	<50	20	12	18,000
December 10...	20	170	20	6,300	5	80	<50	10	10	14,000

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April 29...	36,000	--	<50	--	--	170	--	6	--	38,000
June 02...	15,000	--	<50	--	--	160	--	6	--	38,000
July 08...	17,000	--	<50	--	--	170	--	6	--	43,000
August 06...	20,000	--	<50	--	--	160	--	6	--	38,000
September 04...	17,000	--	<50	20	--	140	--	6	--	33,000
November 19...	19,000	<50	<50	<20	130	140	6	<5	32,000	28,000
December 10...	14,000	<50	<50	--	110	110	6	6	20,000	15,000

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Sediment, suspended (mg/L)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987												
January												
22...	1300	--	7.3	0.0	560	36	0.10	--	--	63	63	46
March												
04...	1400	--	6.7	2.0	530	45	.10	--	--	--	64	--
04...	1405	--	--	--	--	--	.45	--	--	--	62	--
April												
27...	1345	3.3	4.7	11.0	1,100	3	.10	--	--	76	90	43
May												
19...	1100	4.0	4.4	6.0	670	--	.10	--	--	91	86	56
27...	1035	3.5	5.7	--	--	2	.10	280	--	100	97	54
June												
01...	1440	2.9	6.0	19.0	980	6	.10	1,500	87	97	93	46
10...	1040	3.3	6.1	11.0	1,000	6	.10	180	--	91	90	47
10...	1640	--	--	--	--	--	.10	--	--	--	90	--
24...	1150	2.4	5.6	15.0	1,000	4	.10	800	--	100	100	51
July												
16...	0820	1.7	6.1	10.0	790	9	.10	170	--	120	130	56

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
January												
22...	29	20	17	270	--	16	7.7	--	5.8	--	--	700
March												
04...	35	--	17	330	1.0	14	6.9	--	4.6	--	--	--
04...	34	--	16	--	--	--	6.7	--	--	--	90	--
April												
27...	43	--	8.9	740	<.3	9.0	11	--	2.3	8,300	--	70
May												
19...	48	18	8.1	580	.40	4.4	23	6.2	2.3	--	1,400	40
27...	51	13	13	--	--	--	16	--	6.8	--	--	40
June												
01...	46	9.5	9.1	540	--	8.4	19	5.9	4.1	5,500	40	40
10...	45	14	15	560	<.3	14	17	4.4	--	1,600	<40	200
10...	46	--	14	--	--	--	9.4	--	--	--	--	--
24...	52	13	13	650	<.3	8.0	14	2.4	--	110	--	30
July												
16...	58	12	12	--	--	--	1.0	--	1.9	--	--	30

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
January											
22...	32	16	2	120	110	190	40	530	70	<7	<7
March											
04...	28	--	.6	--	90	--	30	--	20	--	30
04...	<2	--	62,000	--	30	--	20	--	20	--	<7
April											
27...	48	17	3	130	80	80	110	220	50	120	150
May											
19...	40	2.4	1	120	170	1,300	220	<6	<6	100	80
27...	32	.6	<.5	50	60	190	190	37	<6	90	70
June											
01...	36	2.0	<.5	<2	<2	170	170	<6	<6	<7	30
10...	32	1.2	.5	80	<2	160	150	20	<6	70	20
10...	240	--	.6	--	90	--	160	--	<6	--	40
24...	32	.7	<.5	--	70	190	200	<6	20	90	70
July											
16...	32	2.2	<.5	50	90	180	200	43	<6	100	60

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
January											
22...	180	40	--	70	--	--	560	--	--	--	15,000
March											
04...	--	30	--	220	--	--	--	--	--	<5	--
04...	--	--	--	150	--	--	--	<50	--	<5	--
April											
27...	480	370	41,000	38,000	--	--	--	130	--	--	35,000
May											
19...	510	420	8,200	11,000	--	--	890	250	--	10	19,000
27...	340	90	18,000	6,500	--	--	260	70	<5	10	21,000
June											
01...	440	100	17,000	4,500	370	2,900	450	<50	20	20	18,000
10...	1,100	140	15,000	1,000	720	3,600	190	<50	<5	20	18,000
10...	--	160	--	4,000	--	--	--	60	--	<5	--
24...	1,200	690	16,000	5,300	5,800	7,400	75	--	20	7	23,000
July											
16...	560	110	16,000	5,600	730	2,800	<50	90	<5	<5	25,000

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued						
January											
22...	10,000	1,500	62	640	30	--	120	<5	6	6,100	14,000
March											
04...	14,000	--	<50	--	30	--	110	--	<5	--	14,000
04...	13,000	--	<50	--	<20	--	110	--	<5	--	13,000
April											
27...	41,000	<50	<50	90	<20	120	170	<5	<5	32,000	37,000
May											
19...	17,000	250	110	--	40	180	160	<5	23	72,000	42,000
27...	20,000	<50	<50	60	30	180	180	27	<5	43,000	40,000
June											
01...	18,000	<50	<50	--	40	180	170	6	<5	42,000	40,000
10...	18,000	<50	<50	20	--	160	170	22	6	37,000	36,000
10...	17,000	--	<50	--	<20	--	160	--	22	--	35,000
24...	23,000	<50	58	40	60	180	180	<5	<5	45,000	44,000
July											
16...	26,000	<50	<50	60	30	190	200	47	48	48,000	49,000

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
August												
19...	0905	1.5	7.0	9.0	900	36	0.01	1,100	--	100	--	48
19...	0910	1.5	7.0	9.0	900	36	.10	1,100	--	100	--	55
20...	0840	1.5	7.0	8.0	1,100	18	.01	180	--	120	--	56
20...	0845	1.5	7.0	8.0	1,100	18	.10	180	120	--	54	--
20...	0850	--	--	--	--	--	.10	--	--	120	--	55
20...	0855	--	--	--	--	--	.01	--	--	120	--	55
20...	0940	1.5	7.0	9.5	1,100	16	.01	770	--	120	--	55
20...	0945	1.5	7.0	9.5	1,100	16	.10	770	130	120	55	55
20...	0950	--	--	--	--	--	.10	--	--	120	--	55
20...	1015	1.5	6.9	10.0	1,100	10	.01	970	--	120	--	56
20...	1020	1.5	6.9	10.0	1,100	10	.10	--	130	120	55	56
20...	1047	1.5	7.0	10.0	--	--	.01	870	--	120	--	55
20...	1052	1.5	7.0	10.0	--	--	.10	870	130	120	56	56
20...	1057	--	--	--	--	--	.01	--	--	120	--	55
25...	0945	2.1	--	5.0	--	32	.10	--	93	82	48	43
October												
27...	1250	1.4	7.7	8.0	900	--	.10	810	91	90	46	44
December												
21...	1000	1.5	7.4	2.0	850	36	.10	--	80	80	37	37

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
August											
19...	--	17	--	--	--	12	--	4.0	--	<40	--
19...	--	15	520	<0.3	10	--	2.6	4.0	--	--	--
20...	--	14	--	--	--	2.8	--	--	--	--	--
20...	15	--	650	<.3	9.2	--	2.0	--	1,200	--	40
20...	--	15	--	--	--	13	--	--	--	<40	--
20...	--	15	--	--	--	13	--	--	--	<40	--
20...	--	15	--	--	--	13	--	--	--	--	--
20...	15	15	660	<.3	9.1	13	.44	--	1,200	--	40
20...	--	15	--	--	--	13	--	--	--	<40	--
20...	--	15	--	--	--	8.7	--	--	--	<40	--
20...	15	15	660	.40	9.0	13	.44	--	1,200	--	40
20...	--	15	--	--	--	13	--	--	--	--	--
20...	15	15	670	<.3	8.8	13	.44	--	1,100	--	40
20...	--	15	--	--	--	13	--	--	--	<40	--
25...	15	15	530	<.3	8.9	--	2.7	--	1,300	<40	50
October											
27...	13	12	270	.90	7.8	12	--	3.6	--	--	50
December											
21...	19	19	--	--	--	4.4	--	1.8	--	--	40

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
August											
19...	34	--	0.5	--	<2	--	100	--	6	--	30
19...	39	--	3	--	80	--	100	--	<6	--	10
20...	--	--	.6	--	150	--	130	--	10	--	50
20...	--	0.7	--	<2	--	140	--	9	--	10	--
20...	42	--	<.5	--	<2	--	120	--	9	--	40
20...	36	--	.5	--	<2	--	120	--	7	--	40
20...	35	--	<.5	--	<2	--	120	--	8	--	40
20...	36	.6	<.5	<2	<2	150	120	9	7	10	40
20...	36	--	.5	--	<2	--	120	--	7	--	40
20...	35	--	<.5	--	<2	--	120	--	8	--	40
20...	35	.6	<.5	<2	<2	150	120	10	8	10	40
20...	37	--	<.5	--	<2	--	130	--	7	--	40
20...	36	.6	<.5	<2	<2	150	130	8	8	10	40
20...	37	--	5	--	<2	--	130	--	7	--	7
25...	29	.5	.5	<2	<2	110	70	<6	<6	480	30
October											
27...	28	4.5	<.5	100	50	100	80	<6	50	100	30
December											
21...	16	<.5	<.5	120	90	70	40	<6	<6	50	20

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
August											
19...	--	30	--	6	--	650	--	<50	--	10	--
19...	--	5	--	<5	--	650	--	--	--	<5	--
20...	--	20	--	790	940	1,200	--	<50	--	30	--
20...	680	--	27,000	--	940	1,200	140	--	10	--	27,000
20...	--	20	--	810	--	--	--	--	--	8	--
20...	--	20	--	710	--	--	--	<50	--	20	--
20...	--	20	--	530	380	2,600	--	<50	--	8	--
20...	690	20	27,000	910	380	2,600	140	--	10	10	28,000
20...	--	20	--	910	--	--	--	<50	--	10	--
20...	--	20	--	510	920	1,200	--	<50	--	9	--
20...	670	20	27,000	1,000	920	1,200	140	--	10	10	28,000
20...	--	20	--	410	300	1,800	--	--	--	10	--
20...	650	20	27,000	1,000	300	1,800	130	--	10	8	29,000
20...	--	20	--	410	--	--	--	<50	--	10	--
25...	410	10	19,000	20	--	--	300	<50	5	10	22,000
October											
27...	370	10	25,000	20	130	330	320	--	20	<5	19,000
December											
21...	130	4	12,000	10	--	--	80	--	6	7	14,000

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
August											
19...	20	--	<50	--	30	--	170	--	6	--	30
19...	22,000	--	88	--	<20	--	170	--	<5	--	34,000
20...	28,000	--	<50	--	60	--	200	--	51	--	41,000
20...	--	<50	--	40	--	200	--	6	--	46,000	--
20...	27,000	--	<50	--	40	--	210	--	<5	--	39,000
20...	27,000	--	<50	--	40	--	200	--	6	--	41,000
20...	28,000	--	<50	--	40	--	200	--	<5	--	42,000
20...	28,000	<50	<50	40	40	200	200	6	<5	47,000	41,000
20...	28,000	--	<50	--	40	--	200	--	6	--	41,000
20...	28,000	--	<50	--	40	--	210	--	<5	--	41,000
20...	28,000	<50	<50	40	--	210	210	6	<5	47,000	40,000
20...	28,000	--	<50	--	40	--	210	--	<5	--	43,000
20...	29,000	<50	<50	50	40	210	210	6	<5	47,000	43,000
20...	28,000	--	<50	--	--	--	210	--	6	--	43,000
25...	19,000	<50	<50	30	40	160	160	6	6	34,000	24,000
October											
27...	18,000	<50	<50	<20	60	150	160	<5	<5	33,000	27,000
December											
21...	14,000	<50	<50	<20	<20	140	140	<5	<5	24,000	18,000

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Sediment, suspended (mg/L)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988												
January												
27...	0945	1.5	7.6	2.0	550	49	0.10	16.0	--	61	61	32
February												
29...	0915	2.0	7.3	1.0	600	68	.10	190	--	64	63	34
April												
06...	1550	7.1	6.2	3.0	810	9	.10	260	176	97	87	41
May												
18...	1035	2.3	7.1	12.0	690	46	.10	1,800	--	68	65	36
24...	1553	1.8	6.8	17.0	990	22	.10	--	--	91	88	45
June												
01...	0825	1.6	6.9	5.0	990	29	.01	710	--	--	94	--
01...	0830	1.6	6.9	5.0	990	29	.10	710	--	98	89	50
01...	0835	1.6	6.9	5.0	990	29	.45	710	--	--	93	--
03...	1115	2.0	6.3	15.0	--	31	.10	--	--	85	82	43
07...	1000	2.1	6.0	9.5	--	0	.10	--	--	120	120	55
08...	0955	1.6	6.3	12.0	1,100	14	.10	1,600	--	100	99	43
12...	0915	2.9	7.1	11.0	760	32	.10	--	--	71	69	35
15...	1445	1.2	6.3	17.0	1,200	3	.10	--	--	130	120	54
16...	1415	2.0	6.8	18.0	890	22	.10	1,900	--	92	89	41
19...	1455	1.8	6.2	20.0	960	13	.10	--	--	100	98	43
22...	1630	1.6	6.0	18.0	940	11	.10	--	--	90	86	45
26...	1530	1.8	6.0	--	970	8	.10	--	--	91	88	49
29...	1430	2.7	7.0	16.0	950	15	.10	1,200	--	98	95	43

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)
January											
27...	33	19	19	300	14	3.8	--	4.7	--	--	40
February											
29...	33	19	18	--	--	3.9	--	5.4	--	--	60
April											
06...	34	7.5	7.8	360	4.8	6.3	5.1	29	--	7,000	100
May											
18...	35	15	15	300	9.5	9.6	11	7.5	--	990	50
24...	43	17	17	470	12	12	14	5.3	--	290	50
June											
01...	47	--	13	--	--	12	--	4.1	--	--	--
01...	48	13	13	460	7.2	12	--	4.1	--	520	30
01...	47	--	13	480	7.8	12	9.2	4.1	--	--	--
03...	42	16	17	410	10	11	13	--	--	--	60
07...	54	12	12	590	8.6	15	9.6	--	--	710	60
08...	44	15	16	480	11	13	--	6.5	--	880	40
12...	35	14	15	330	7.8	11	10	--	--	820	60
15...	55	11	12	640	8.2	14	7.9	--	--	--	50
16...	40	18	18	430	12	12	14	6.9	--	--	40
19...	41	16	15	530	10	10	--	--	--	--	60
22...	44	16	16	500	9.9	15	12	--	--	--	60
26...	47	13	14	540	10	14	9.5	--	--	890	60
29...	42	20	20	440	12	13	--	--	5.9	530	70

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
January											
27...	46	<0.5	<0.5	80	70	30	20	<6	<6	<7	<7
February											
29...	35	<.5	<.5	90	80	40	20	<6	<6	20	10
April											
06...	51	3.3	3	140	70	130	80	32	<6	220	30
May											
18...	33	2.0	.6	110	90	50	30	12	<6	70	20
24...	35	2.0	<.5	100	100	100	70	<6	<6	170	20
June											
01...	32	--	.8	--	70	--	100	--	<6	--	20
01...	31	<.5	<.5	80	60	90	90	<6	<6	140	20
01...	32	--	1	--	70	--	90	--	<6	--	20
03...	43	2.0	.6	100	90	90	80	12	<6	70	20
07...	46	5.0	<.5	100	80	220	160	<6	<6	100	50
08...	30	<.5	<.5	60	80	70	120	10	<6	90	30
12...	41	<.5	<.5	60	80	20	70	17	<6	50	10
15...	49	<.5	.6	60	70	10	150	8	<6	150	50
16...	28	1.0	<.5	80	80	<7	80	17	<6	50	20
19...	46	<.5	2	60	--	20	95	<6	40	80	10
22...	43	<.5	<.5	40	80	120	140	<6	<6	60	20
26...	36	3.0	<.5	60	70	110	140	38	<6	100	20
29...	27	3.5	<.5	60	--	170	120	<6	<6	40	20

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
January											
27...	<1	<1	40	9	--	--	--	--	<5	<5	8,000
February											
29...	90	<1	12,000	50	7	20	--	--	5	<5	10,000
April											
06...	760	10	65,000	5,100	4,400	4,600	3,300	300	<5	10	17,000
May											
18...	230	10	11,000	30	--	--	--	<50	<5	<5	12,000
24...	300	10	20,000	30	--	30	90	<50	30	10	17,000
June											
01...	--	10	--	20	<90	30	--	<50	--	40	--
01...	240	8	12,000	40	<3,400	19,000	150	--	10	10	17,000
01...	--	10	--	40	90	30	--	--	--	10	--
03...	260	10	14,000	9	--	--	140	<50	10	6	14,000
07...	480	30	25,000	4,500	--	--	--	--	<5	9	24,000
08...	490	30	21,000	780	--	550	100	<50	<5	7	18,000
12...	340	20	12,000	5	--	--	70	<50	30	7	11,000
15...	320	4	23,000	3,600	--	--	--	60	30	9	23,000
16...	370	8	19,000	50	10	50	70	<50	30	7	15,000
19...	520	15	22,000	27	--	--	--	310	40	15	17,000
22...	1,300	60	15,000	10	--	--	120	--	40	10	17,000
26...	1,700	110	23,000	<5	--	--	--	--	40	10	18,000
29...	380	20	15,000	20	--	--	1,000	70	--	10	18,000

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
January											
27...	7,900	<50	<50	<20	<20	110	120	<5	<5	12,000	8,800
February											
29...	9,800	<50	<50	<20	<20	120	120	<5	<5	18,000	11,000
April											
06...	15,000	<50	90	25	<20	170	150	<5	<5	30,000	20,000
May											
18...	11,000	<50	<50	40	20	140	120	14	<5	20,000	9,500
24...	17,000	<50	<50	50	20	170	160	26	<5	29,000	21,000
June											
01...	16,000	--	<50	--	40	--	170	--	<5	--	29,000
01...	16,000	<50	<50	<20	20	170	160	<5	<5	38,000	29,000
01...	16,000	--	<50	--	30	--	170	--	<5	--	28,000
03...	13,000	<50	<50	<20	<20	150	150	<5	<5	31,000	21,000
07...	23,000	<50	<50	<20	40	220	220	<5	<5	47,000	43,000
08...	18,000	<50	<50	<20	30	190	180	<5	<5	33,000	29,000
12...	11,000	540	<50	<20	20	120	120	<5	<5	25,000	18,000
15...	23,000	100	<50	70	40	220	230	<5	<5	43,000	39,000
16...	15,000	330	55	20	20	160	160	<5	<5	29,000	20,000
19...	17,000	<50	<50	80	70	190	180	<5	<5	30,000	23,000
22...	16,000	690	53	70	40	160	150	22	<5	38,000	32,000
26...	18,000	330	<50	80	30	160	160	<5	<5	40,000	35,000
29...	17,000	<50	<50	<20	25	170	160	25	<5	31,000	23,000

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
July												
03...	1530	2.1	6.2	18.0	880	22	0.10	--	89	89	40	41
06...	1445	1.0	5.9	20.0	960	19	.10	--	99	95	48	47
10...	1635	1.8	6.0	--	810	32	.10	--	79	76	37	35
13...	1535	1.1	5.9	23.0	920	17	.10	--	93	87	44	41
17...	1635	1.6	6.1	20.0	780	36	.10	--	81	75	37	35
19...	1505	1.5	6.0	21.0	820	32	.10	--	84	84	39	39
20...	1355	--	--	--	--	--	.10	--	--	76	--	35
20...	1525	1.5	7.5	21.0	860	37	.10	400	81	78	37	37
21...	1525	1.1	7.1	21.0	900	27	.10	1,000	84	91	39	42
24...	1335	1.4	6.1	19.0	860	31	.10	--	87	86	40	40
27...	1520	1.4	6.0	19.0	790	39	.10	--	81	81	38	38
31...	1453	1.4	6.0	20.0	720	41	.10	--	85	76	40	35
August												
04...	1725	1.2	6.0	22.0	740	39	.10	--	80	90	38	42
07...	1525	1.5	7.3	18.0	820	44	.10	--	79	76	38	36
10...	1055	1.2	7.2	15.0	870	42	.10	--	83	82	40	39
14...	1510	1.1	6.9	22.0	810	41	.10	--	79	76	37	36
18...	1355	1.2	7.5	17.0	730	45	.10	260	--	76	--	36
28...	1440	1.0	5.8	18.0	810	41	.10	--	76	74	37	37

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
July											
03...	18	18	430	--	13	12	9.6	--	--	730	--
06...	17	16	450	--	11	13	7.4	--	--	1,100	--
10...	22	22	320	0.40	14	11	9.0	--	--	1,700	--
13...	18	18	410	--	11	12	5.9	--	--	1,600	--
17...	22	22	370	--	14	11	6.5	--	--	1,100	--
19...	19	20	400	--	12	11	5.5	--	--	930	--
20...	--	23	--	--	--	10	--	--	--	--	--
20...	22	22	400	<.3	13	10	4.4	--	4.3	1,700	<40
21...	18	20	480	.68	14	11	3.8	6.3	4.1	840	--
24...	20	20	410	--	14	11	4.5	--	--	800	--
27...	21	21	390	--	15	10	4.8	--	--	560	--
31...	23	20	350	--	13	9.6	4.6	--	--	130	--
August											
04...	21	24	360	.32	13	11	2.7	--	--	210	--
07...	20	21	340	--	15	9.1	4.8	--	--	--	--
10...	17	18	410	--	11	9.7	3.6	--	--	--	--
14...	21	21	360	<.3	13	8.8	5.1	--	--	--	--
18...	--	21	--	--	--	8.7	--	--	--	--	--
28...	20	21	350	.35	13	8.8	3.4	--	--	--	--

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)
July											
03...	50	25	2.0	<0.5	30	90	100	90	13	<6	60
06...	40	31	<.5	<.5	100	80	210	110	<6	<6	80
10...	40	24	3.5	<.5	50	100	40	50	25	<6	60
13...	40	30	3.0	<.5	30	80	130	90	32	<6	60
17...	40	23	2.0	<.5	50	100	90	70	24	<6	60
19...	30	27	6.5	<.5	40	90	120	80	21	<6	60
20...	--	25	--	<.5	--	100	--	100	--	<6	--
20...	30	25	5.2	<.5	<2	<2	59	90	15	<6	30
21...	30	30	.5	4	60	80	150	130	<6	<6	50
24...	30	27	2.5	<.5	30	90	120	80	30	<6	80
27...	30	26	1.5	3	100	100	170	100	<6	<6	50
31...	50	25	6.0	3	170	90	110	30	60	60	70
August											
04...	40	31	4.0	6	120	150	110	80	34	30	70
07...	40	24	<.5	<.5	170	90	90	50	<6	<6	50
10...	40	28	1.0	<.5	100	80	100	400	<6	<6	50
14...	40	28	1.0	<.5	100	90	110	50	<6	<6	80
18...	--	28	--	<.5	--	80	--	50	--	<6	--
28...	40	40	1.9	1	140	110	90	50	33	<6	80

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
July											
03...	20	610	30	15,000	<5	--	480	70	--	9	17,000
06...	20	1,000	30	19,000	<5	--	990	60	7	10	18,000
10...	10	990	40	16,000	<5	--	--	<50	<5	7	13,000
13...	20	1,200	40	18,000	<5	--	--	<50	--	9	17,000
17...	20	940	40	18,000	5	8,700	--	130	<5	9	13,000
19...	10	1,000	40	16,000	<5	7,500	210	<50	--	10	14,000
20...	30	--	35	--	7	--	--	420	--	<5	--
20...	10	610	45	12,000	160	20	130	210	10	13	9,700
21...	10	940	60	21,000	390	--	300	400	<5	9	15,000
24...	20	1,000	40	21,000	--	--	<50	60	--	8	16,000
27...	<7	870	70	17,000	30	--	260	420	10	<5	13,000
31...	<7	750	10	17,000	40	--	640	230	--	--	14,000
August											
04...	20	700	40	18,000	40	--	380	300	--	--	14,000
07...	20	600	20	17,000	27	--	140	<50	9	7	13,000
10...	20	700	20	17,000	<5	--	<50	150	20	7	14,000
14...	20	540	20	17,000	<5	--	190	70	<5	6	12,000
18...	20	--	10	--	6	--	--	--	--	7	--
28...	20	550	20	17,000	20	--	300	<50	--	7	13,000

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
July											
03...	16,000	<50	<50	--	30	160	160	11	<5	27,000	20,000
06...	17,000	<50	<50	<20	40	170	170	<5	<5	33,000	25,000
10...	11,000	57	<50	20	20	140	140	14	<5	25,000	12,000
13...	15,000	82	<50	40	30	160	150	9	<5	32,000	18,000
17...	12,000	<50	<50	<20	20	140	140	15	<5	25,000	12,000
19...	13,000	75	<50	40	20	150	150	12	<5	28,000	14,000
20...	12,000	--	<50	--	<20	--	140	--	<5	--	15,000
20...	12,000	<50	58	27	<20	140	130	<5	<5	16,000	12,000
21...	16,000	78	320	<20	30	150	160	17	7	27,000	18,000
24...	15,000	<50	<50	20	30	150	150	20	<5	29,000	16,000
27...	13,000	51	180	<20	20	140	140	9	12	25,000	13,000
31...	12,000	250	81	60	20	150	130	13	<5	25,000	9,400
August											
04...	15,000	75	170	20	<20	140	150	<5	<5	25,000	12,000
07...	11,000	<50	<50	<20	20	140	140	8	<5	24,000	10,000
10...	13,000	140	<50	20	20	150	150	15	<5	29,000	15,000
14...	12,000	<50	<50	50	<20	140	140	<5	<5	23,000	8,500
18...	11,000	--	<50	--	30	--	140	--	<5	--	11,000
28...	13,000	<50	<50	100	30	130	140	<5	<5	23,000	11,000

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Sediment, suspended (mg/L)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued												
September												
01...	1540	0.80	7.1	15.0	920	21	0.10	--	--	97	93	48
04...	1455	.80	5.8	18.0	750	31	.10	--	--	74	76	37
08...	0840	2.1	5.8	11.0	620	72	.10	--	--	52	52	26
11...	0900	1.8	6.1	11.0	--	61	.10	--	--	--	52	--
15...	0832	1.6	7.0	6.0	750	44	.10	--	--	--	68	--
15...	1115	1.5	7.6	10.0	630	75	.10	--	--	--	51	--
18...	1155	1.9	7.3	13.0	560	66	.10	--	--	54	50	27
22...	0853	2.2	7.1	8.5	580	68	.10	--	--	58	53	28
27...	1320	2.1	7.3	13.0	570	61	.10	--	--	56	52	27
30...	0940	2.5	9.3	6.0	620	53	.10	--	--	61	53	29
October												
03...	1520	1.9	6.4	13.0	540	69	.10	--	--	47	43	23
07...	0845	1.8	7.1	8.0	690	43	.10	--	--	67	62	34
11...	1425	1.2	7.3	13.0	610	57	.10	--	--	59	54	29
14...	0815	.90	6.6	3.0	880	11	.10	--	--	94	90	46
18...	1420	.50	7.1	9.5	760	30	.10	--	--	84	81	40
19...	1335	.50	7.6	5.5	730	29	.10	68.0	--	88	81	43
21...	1125	1.0	6.5	3.5	980	15	.10	--	--	92	88	45
25...	1400	.70	6.4	4.5	1,400	13	.10	--	--	130	86	65
25...	1525	.70	6.8	5.0	850	11	.01	--	128	--	96	--
25...	1530	.70	6.8	5.0	850	11	.10	--	128	96	96	24
25...	1535	--	--	--	--	--	.45	--	--	--	97	--
28...	1215	1.8	6.6	1.0	1,100	4	.10	--	--	110	110	53
November												
10...	0940	.90	8.2	--	520	100	.10	--	--	32	32	15

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)
September												
01...	46	9.4	9.2	440	--	6.6	10	4.3	--	--	--	60
04...	38	11	11	380	<0.3	6.7	8.6	1.8	--	--	--	50
08...	26	27	26	200	--	16	5.5	6.2	--	--	160	50
11...	25	--	24	190	--	13	8.6	10	--	--	--	--
15...	35	--	15	290	.38	12	8.6	9.2	4.6	3.8	--	--
15...	25	--	26	210	<.3	18	7.6	21	4.6	3.8	--	--
18...	25	22	22	190	--	14	6.2	8.5	--	--	1,100	40
22...	26	20	19	210	--	12	7.2	5.7	--	--	--	50
27...	26	20	19	200	--	11	8.5	9.3	--	--	990	60
30...	27	23	22	220	--	13	9.2	--	--	--	640	90
October												
03...	22	30	29	160	--	19	5.4	15	--	--	910	70
07...	32	20	19	300	--	12	9.2	15	--	--	860	50
11...	27	22	21	220	--	13	8.0	20	--	--	--	50
14...	46	3.6	3.6	490	--	2.7	9.5	3.3	--	--	--	50
18...	39	3.6	3.6	390	--	3.3	8.2	2.6	--	--	--	50
19...	41	3.6	3.6	400	--	5.8	8.5	--	0.6	0.5	--	50
21...	43	3.4	3.4	460	--	4.0	8.6	4.1	--	--	--	70
25...	41	3.8	3.7	450	--	3.3	8.2	1.8	--	--	--	60
25...	46	--	3.9	--	--	--	8.9	--	--	--	--	--
25...	24	4.0	4.0	490	.48	2.4	6.6	1.5	--	--	--	10
25...	47	--	4.0	--	--	--	8.9	--	--	--	--	--
28...	49	3.9	3.8	580	.58	2.3	9.0	1.6	--	--	--	70
November												
10...	15	32	33	130	1.1	44	6.4	24	--	--	--	20

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
September											
01...	38	3.0	0.7	70	50	110	80	<6	<6	100	20
04...	40	5.5	9	100	90	110	90	86	60	60	<7
08...	17	1.4	<.5	170	140	80	20	57	<6	50	10
11...	15	--	.6	--	170	--	30	--	<6	--	7
15...	29	--	<.5	--	90	--	50	--	<6	--	20
15...	31	--	.6	--	160	--	25	--	<6	--	8
18...	19	7.0	1	100	100	90	20	<6	<6	20	10
22...	26	4.5	.8	90	90	30	20	<6	<6	50	10
27...	32	7.5	.5	100	80	80	20	<6	<6	20	9
30...	35	7.0	.5	80	100	90	30	<6	<6	110	10
October											
03...	30	4.5	.6	130	140	60	<7	<6	<6	<7	9
07...	35	4.5	.6	110	90	100	40	<6	<6	50	20
11...	34	4.0	<.5	100	110	<7	10	<6	<6	60	9
14...	40	<.5	<.5	50	30	80	85	<6	9	80	30
18...	41	.5	<.5	40	30	60	50	46	10	70	20
19...	45	1.5	<.5	110	30	80	40	23	<6	70	20
21...	50	<.5	.7	60	40	110	70	<6	<6	130	30
25...	37	1.5	.5	60	20	230	60	<6	--	170	30
25...	43	--	.5	--	20	--	90	--	<6	--	30
25...	33	<.5	<.5	7	<2	30	43	<6	<6	20	20
25...	44	--	<.5	--	20	--	90	--	<6	--	30
28...	37	1.0	<.5	50	30	100	90	<6	<6	220	30
November											
10...	6	<.5	.6	150	150	9	9.0	<6	<6	10	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
September											
01...	600	8	18,000	10	--	--	810	--	10	6	18,000
04...	510	20	16,000	70	--	--	730	150	--	--	13,000
08...	320	10	10,000	10	--	--	170	<50	--	5	6,700
11...	--	20	--	10	--	--	--	<50	--	8	--
15...	--	20	--	<5	--	--	--	<50	--	8	--
15...	--	50	--	980	770	1,100	--	--	--	6	--
18...	270	20	8,900	--	--	--	80	<50	<5	7	6,700
22...	300	10	10,000	<5	--	--	720	150	20	8	8,000
27...	240	20	8,300	<5	--	--	120	--	--	6	7,500
30...	620	20	23,000	<5	--	--	970	<50	5	6	8,500
October											
03...	100	6	4,700	--	--	--	190	<50	--	<5	5,400
07...	380	20	15,000	--	--	--	310	--	5	<5	10,000
11...	150	10	6,800	<5	--	--	530	--	8	6	7,800
14...	450	6	27,000	40	--	--	320	<50	--	8	21,000
18...	150	6	12,000	20	<5	<5	380	<50	--	<5	17,000
19...	260	6	16,000	8	<5	<5	100	<50	--	<5	19,000
21...	500	5	34,000	5	--	--	440	<50	20	6	20,000
25...	610	8	36,000	530	--	--	270	<50	20	8	34,000
25...	--	4	--	<5	--	--	--	<50	--	30	--
25...	90	3	5,800	29	--	--	<50	<50	<5	<5	21,000
25...	--	7	--	<5	--	--	--	<50	--	10	--
28...	690	10	52,000	650	--	--	500	--	20	8	25,000
November											
10...	45	20	2,900	170	130	250	60	80	<5	<5	1,500

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
September											
01...	17,000	<50	<50	<20	40	170	160	19	<5	32,000	21,000
04...	13,000	<50	230	60	40	130	130	<5	<5	21,000	12,000
08...	5,900	<50	<50	110	20	100	90	<5	<5	15,000	3,600
11...	6,300	--	<50	--	<20	--	90	--	<5	--	4,500
15...	12,000	--	<50	--	20	--	120	--	<5	--	13,000
15...	6,200	--	<50	--	20	--	90	--	<5	--	4,400
18...	5,900	<50	<50	<20	<20	100	90	<5	<5	13,000	3,100
22...	7,100	<50	<50	--	20	110	90	18	<5	16,000	5,900
27...	6,700	<50	<50	20	<20	100	100	<5	<5	14,000	4,400
30...	7,300	100	<50	<20	20	120	100	6	<5	27,000	7,900
October											
03...	4,400	<50	<50	30	20	90	80	<5	<5	9,400	1,500
07...	9,200	<50	<50	20	30	120	110	<5	<5	24,000	14,000
11...	7,200	<50	<50	--	20	110	100	6	<5	13,000	4,600
14...	21,000	<50	<50	--	45	160	170	<5	<5	35,000	30,000
18...	16,000	<50	<50	70	20	140	140	13	<5	19,000	14,000
19...	17,000	<50	<50	30	25	150	140	6	<5	26,000	19,000
21...	20,000	<50	<50	40	50	160	160	13	<5	33,000	25,000
25...	18,000	<50	69	70	90	230	150	17	<5	54,000	24,000
25...	20,000	--	70	--	30	--	170	--	<5	--	27,000
25...	21,000	<50	53	<20	20	40	140	<5	<5	27,000	27,000
25...	21,000	--	<50	--	40	--	170	--	<5	--	27,000
28...	23,000	160	<50	70	50	190	180	28	<5	40,000	31,000
November											
10...	1,400	<50	<50	20	20	60	60	<5	<5	2,100	640

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989												
March												
29...	1325	1.8	6.8	3.0	1,000	8	0.01	--	--	86	--	55
29...	1330	1.8	6.8	3.0	1,000	8	.10	--	86	80	56	50
May												
03...	1210	1.7	7.1	7.0	1,100	12	.01	800	--	95	--	61
03...	1215	1.7	7.1	7.0	1,100	12	.10	800	98	92	65	58
10...	1415	1.9	6.5	14.0	1,100	29	.10	--	94	92	66	59
16...	0935	2.1	6.6	7.0	1,100	13	.10	--	100	100	61	63
18...	1205	1.9	6.7	13.0	1,000	29	.01	1,700	--	92	--	53
18...	1210	1.9	6.7	13.0	1,000	29	.10	1,700	97	91	55	51
23...	1455	--	6.6	16.0	1,000	26	.01	--	--	98	--	54
23...	1500	--	6.6	16.0	1,000	26	.10	--	98	95	52	52
23...	1505	--	--	--	--	--	.45	--	--	97	--	53
30...	1355	--	--	--	--	--	.01	--	--	190	--	--
June												
05...	1640	1.5	6.0	19.0	1,500	3	.01	710	--	130	--	73
05...	1645	1.5	6.0	19.0	1,500	3	.10	710	130	130	74	75
09...	1355	2.7	6.6	6.0	1,100	15	.10	--	110	110	58	59
16...	0830	1.8	4.9	0.0	1,200	0	.10	--	110	110	61	61
23...	0900	1.8	6.1	8.0	1,000	2	.10	--	95	100	51	55
28...	1215	1.6	6.3	15.0	970	13	.01	--	--	93	--	48
28...	1220	1.6	6.3	15.0	970	13	.10	--	100	93	53	48
29...	1115	--	--	--	--	--	.10	--	81	81	42	42
July												
07...	0820	1.5	6.8	12.0	910	21	.10	--	91	85	46	44
14...	1010	1.8	6.7	9.0	850	26	.10	--	83	80	43	41
17...	1355	1.4	7.0	20.0	860	30	.01	--	--	79	--	40
17...	1400	1.4	7.0	20.0	860	30	.10	--	86	78	44	38
21...	0800	1.5	7.0	12.0	790	32	.10	--	73	75	38	37
28...	0755	1.9	6.8	12.0	900	33	.10	--	87	85	39	37

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued												
March												
29...	--	17	--	--	--	13	--	--	1.7	--	--	--
29...	17	15	530	--	11	13	4.6	--	1.7	210	--	50
May												
03...	--	17	--	--	--	14	--	5.3	2.2	--	--	--
03...	16	16	570	0.57	11	14	5.4	5.3	2.2	2,000	--	70
10...	17	17	590	.60	11	13	4.5	--	--	1,100	--	40
16...	13	13	590	.61	8.5	12	5.2	--	--	1,200	--	40
18...	--	15	--	--	--	11	--	--	--	--	--	--
18...	15	15	500	.51	10	11	7.5	--	--	--	--	70
23...	--	15	--	--	--	12	--	--	2.6	--	--	--
23...	15	15	500	--	12	11	8.6	--	2.6	410	--	50
23...	--	15	--	--	--	12	--	--	--	--	--	--
30...	--	6.1	--	--	--	22	--	--	--	--	2,300	--
June												
05...	--	10	--	--	--	16	--	2.7	1.1	--	--	--
05...	10	11	770	.86	6.1	17	4.4	2.7	1.1	640	--	40
09...	16	16	550	.58	9.9	12	8.7	--	--	--	--	30
16...	14	14	650	.66	9.0	15	9.2	--	--	1,000	--	30
23...	11	12	550	.53	8.9	13	8.0	--	--	--	--	40
28...	--	19	--	--	--	12	--	3.9	2.1	--	--	--
28...	20	19	460	.42	12	12	25	3.9	2.1	1,600	--	40
29...	15	15	430	.40	9.2	10	11	--	--	980	--	50
July												
07...	20	19	430	.48	11	11	11	--	--	--	--	40
14...	16	15	390	.39	9.8	10	7.6	--	--	--	--	40
17...	--	20	--	--	--	10	--	4.0	2.5	--	--	--
17...	22	19	380	.36	13	11	10	4.0	2.5	210	--	50
21...	18	18	400	.37	12	8.9	9.3	--	--	380	--	50
28...	21	20	460	.39	15	11	7.9	--	--	--	--	50

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
29...	41	--	<0.5	--	70	--	80	--	<6	--	40
29...	44	<0.5	.5	90	70	85	70	14	<6	70	40
May											
03...	29	--	<.5	--	50	--	150	--	<6	--	30
03...	29	7.6	<.5	<2	50	210	150	<6	<6	190	30
10...	33	4.8	1	<2	80	200	160	7	6	100	30
16...	30	4.4	<.5	<2	<2	170	160	<6	<6	120	30
18...	32	--	2	--	60	--	120	--	<6	--	20
18...	32	7.6	<.5	<2	70	150	110	<6	8	60	20
23...	32	--	<.5	--	60	--	90	--	70	--	<7
23...	32	<.5	<.5	100	80	110	100	19	110	60	10
23...	25	--	7	--	100	--	120	--	80	--	30
30...	30	--	<.5	--	<2	--	480	--	<6	--	<7
June											
05...	35	--	<.5	--	330	--	250	--	<6	--	40
05...	37	<.5	.6	50	270	310	270	24	<6	90	40
09...	34	<.5	5	80	120	190	200	<6	<6	20	10
16...	37	<.5	1	60	70	250	270	<6	<6	70	50
23...	37	<.5	<.5	50	50	180	220	<6	40	50	<7
28...	34	--	<.5	--	100	--	160	--	50	--	10
28...	33	9.5	<.5	100	90	220	170	<6	30	50	10
29...	31	<.5	1	60	60	140	130	<6	<6	20	<7
July											
07...	40	<.5	.5	80	80	150	130	47	<6	60	<7
14...	34	<.5	<.5	70	60	100	70	<6	<6	60	50
17...	36	--	5	--	70	--	100	--	10	--	<7
17...	33	2.0	<.5	70	80	120	90	<6	20	80	<7
21...	32	1.0	<.5	80	90	110	60	13	<6	90	<7
28...	29	5.5	5	90	110	130	130	12	50	40	20

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
29...	--	20	--	3,700	9,000	9,000	--	<50	--	260	--
29...	170	20	15,000	4,400	9,000	9,000	160	60	30	10	26,000
May											
03...	--	10	--	1,900	1,000	1,200	--	<50	--	30	--
03...	430	10	24,000	2,100	1,000	1,200	1,000	<50	20	20	22,000
10...	340	30	15,000	900	--	--	380	<50	20	10	22,000
16...	270	24	15,000	1,000	--	--	230	150	20	15	21,000
18...	--	10	--	50	--	40	--	60	--	60	--
18...	110	20	7,100	60	--	40	600	<50	30	6	16,000
23...	--	10	--	8	10	--	--	--	--	310	--
23...	180	30	8,500	<5	10	--	170	--	7	6	15,000
23...	--	30	--	100	--	--	--	--	--	6	--
30...	--	710	--	4,300	--	--	--	100	--	40	--
June											
05...	--	170	--	800	60	2,600	--	--	--	80	--
05...	820	260	10,000	1,900	60	2,600	310	<50	7	10	22,000
09...	390	85	3,000	30	--	--	180	120	<5	30	16,000
16...	2,700	2,500	11,000	3,400	--	--	230	200	10	20	20,000
23...	1,100	850	3,300	1,100	--	--	150	--	10	60	17,000
28...	--	120	--	20	--	--	--	--	--	100	--
28...	1,800	150	9,900	25	--	--	390	70	--	25	17,000
29...	1,500	130	12,000	--	--	--	--	--	10	--	14,000
July											
07...	10,000	590	12,000	30	--	--	130	120	10	30	16,000
14...	530	30	8,500	30	--	--	80	--	--	10	14,000
17...	--	40	--	20	--	--	--	200	--	440	--
17...	780	40	14,000	<5	--	--	190	--	5	40	15,000
21...	620	60	12,000	<5	--	--	220	<50	10	20	12,000
28...	990	1	3,100	20	--	--	630	180	--	20	14,000

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
March											
29...	25,000	--	<50	--	30	--	160	--	<5	--	28,000
29...	23,000	55	<50	50	30	160	150	<5	<5	30,000	24,000
May											
03...	22,000	--	<50	--	30	--	180	--	<5	--	38,000
03...	21,000	160	<50	20	60	180	180	<5	<5	43,000	37,000
10...	22,000	130	<50	30	40	180	180	<5	<5	42,000	40,000
16...	21,000	<50	<50	35	20	190	180	<5	<5	43,000	38,000
18...	15,000	--	<50	--	20	--	170	--	<5	--	27,000
18...	15,000	190	<50	20	30	180	170	<5	<5	32,000	26,000
23...	14,000	--	--	--	130	--	170	--	23	--	28,000
23...	14,000	<50	<50	70	220	180	170	12	42	34,000	27,000
23...	14,000	--	<50	--	200	--	180	--	55	--	27,000
30...	31,000	--	<50	--	73	--	330	--	<5	--	100,000
June											
05...	21,000	--	<50	--	30	--	240	--	<5	--	57,000
05...	21,000	<50	<50	45	40	240	250	8	<5	63,000	60,000
09...	16,000	<50	<50	90	51	200	190	<5	<5	44,000	43,000
16...	20,000	97	150	60	40	190	190	6	19	59,000	59,000
23...	18,000	110	<50	50	70	160	170	12	<5	46,000	46,000
28...	15,000	--	<50	--	<20	--	160	--	<5	--	37,000
28...	15,000	<50	<50	50	70	180	170	24	<5	47,000	37,000
29...	14,000	<50	<50	--	--	140	140	<5	<5	37,000	32,000
July											
07...	14,000	55	<50	140	100	160	150	5	<5	39,000	32,000
14...	13,000	<50	<50	--	30	150	140	<5	<5	30,000	23,000
17...	13,000	--	<50	--	20	--	140	--	<5	--	21,000
17...	13,000	100	<50	50	20	150	130	<5	<5	32,000	21,000
21...	13,000	<50	100	20	40	130	140	<5	<5	26,000	21,000
28...	13,000	170	--	80	120	160	150	<5	<5	24,000	22,000

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued												
August												
02...	0735	1.8	6.8	13.0	890	21	0.10	--	89	94	45	48
16...	1435	1.1	6.5	17.0	920	31	.01	1,800	--	89	--	46
16...	1440	1.1	6.5	17.0	920	31	.10	1,800	91	94	47	50
25...	0830	1.7	6.6	9.0	680	39	.10	--	74	73	41	40
September												
01...	0835	1.5	6.9	8.5	850	35	.10	--	85	98	48	49
06...	1350	1.5	6.8	15.0	780	41	.10	--	65	67	36	37
11...	1445	1.5	7.3	13.0	770	43	.01	--	--	65	--	37
11...	1450	1.5	7.3	13.0	770	43	.10	--	67	69	37	39
11...	1455	--	--	--	--	--	.45	--	--	68	--	38
12...	0755	1.9	6.3	7.0	830	37	.01	--	--	68	--	38
12...	0800	1.9	6.3	7.0	830	37	.10	--	80	72	44	87
12...	0805	--	--	--	--	--	.45	--	--	71	--	40
13...	1450	1.6	6.5	11.0	880	33	.10	--	--	83	--	45
19...	0840	1.4	6.6	7.0	780	50	.10	--	80	68	44	39
27...	1410	1.2	7.1	--	800	32	.10	--	72	81	41	45
October												
06...	1400	1.1	6.5	10.0	790	38	.10	--	81	81	45	45
22...	1015	2.5	6.4	4.0	730	52	.10	--	71	68	39	37

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
August												
02...	18	20	430	0.38	11	14	26	--	--	--	--	40
16...	--	19	--	--	--	12	--	3.3	1.2	--	--	--
16...	19	20	490	.42	12	13	6.9	3.3	1.2	--	--	60
25...	21	21	390	.41	14	9.6	8.3	--	--	--	--	30
September												
01...	23	14	410	.44	13	20	11	--	--	--	4,400	30
06...	23	23	350	.40	16	7.8	12	--	--	--	--	30
11...	--	22	--	--	--	7.6	--	--	3.3	--	--	--
11...	23	23	330	<.3	14	8.1	2.6	--	3.3	390	--	40
11...	--	24	--	--	--	8.1	--	--	--	--	--	--
12...	--	19	--	--	--	8.1	--	--	--	--	--	--
12...	22	25	390	.43	13	5.1	10	--	--	160	--	40
12...	--	20	--	--	--	8.5	--	--	--	--	--	--
13...	--	21	460	.40	13	12	9.9	--	--	--	--	--
19...	25	22	380	.33	15	8.5	10	--	--	--	--	30
27...	20	23	410	.36	15	9.8	12	--	--	--	--	30
October												
06...	22	22	400	.37	13	9.6	12	--	--	--	--	40
22...	27	26	300	<.3	16	7.7	--	--	--	--	--	30

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
August											
02...	36	<0.5	<0.5	80	90	100	100	<6	20	30	10
16...	31	--	<.5	--	80	--	95	--	<6	--	<7
16...	34	<.5	5	80	110	100	100	<6	<6	40	30
25...	27	<.5	<.5	60	80	70	80	73	<6	30	<7
September											
01...	23	<.5	3	70	<2	80	110	76	30	40	40
06...	22	1.5	<.5	100	90	90	30	20	<6	30	30
11...	22	--	4	--	90	--	50	--	10	--	30
11...	22	<.5	1	90	100	90	40	20	9	20	30
11...	19	--	<.5	--	90	--	30	--	<6	--	10
12...	17	--	<.5	--	70	--	60	--	20	--	30
12...	15	<.5	<.5	110	<2	90	20	23	--	60	20
12...	21	--	<.5	--	90	--	50	--	10	--	30
13...	26	--	<.5	--	120	--	100	--	10	--	40
19...	17	2.5	<.5	--	100	110	30	43	<6	50	40
27...	26	1.0	<.5	100	<2	80	90	13	70	30	40
October											
06...	29	2.5	4	<2	<2	110	80	39	40	30	30
22...	18	1.0	.5	<2	6	90	40	54	80	40	60

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
August											
02...	210	30	6,900	40	--	--	250	80	--	10	15,000
16...	--	20	--	12	100	200	--	340	--	170	--
16...	370	20	5,200	20	100	200	450	--	7	--	16,000
25...	250	20	3,200	10	--	--	<50	--	40	10	13,000
September											
01...	370	290	5,500	--	--	--	70	--	50	20	15,000
06...	350	20	4,700	30	--	--	--	--	20	8	11,000
11...	--	30	--	70	--	--	--	110	--	320	--
11...	460	30	5,700	30	--	--	140	110	20	20	11,000
11...	--	25	--	19	--	--	--	--	--	25	--
12...	--	20	--	20	--	--	--	130	--	80	--
12...	760	1	11,000	10	--	--	100	120	20	50	14,000
12...	--	30	--	50	--	--	--	--	--	40	--
13...	--	130	--	4,600	--	--	--	180	--	20	--
19...	290	20	4,200	7	--	--	--	--	20	30	13,000
27...	380	20	6,400	60	--	--	<50	--	10	20	12,000
October											
06...	340	20	8,200	70	--	--	160	--	40	30	14,000
22...	90	10	2,100	100	--	--	<50	--	30	6	10,000

Table 8.--*Hydrologic data for station 07081800, California Gulch at mouth, at Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
August											
02...	16,000	130	<50	<20	<20	160	170	<5	<5	26,000	24,000
16...	15,000	--	110	--	70	--	160	--	<5	--	23,000
16...	17,000	120	<50	40	50	170	170	<5	--	31,000	25,000
25...	12,000	<50	<50	130	--	140	140	11	<5	25,000	19,000
September											
01...	9,600	<50	<50	100	60	160	250	<5	<5	31,000	16,000
06...	10,000	<50	<50	--	80	130	120	<5	<5	20,000	12,000
11...	10,000	--	<50	--	100	--	120	--	<5	--	13,000
11...	11,000	<50	<50	20	90	130	130	<5	8	25,000	14,000
11...	10,000	--	<50	--	35	--	120	--	<5	--	13,000
12...	11,000	--	<50	--	20	--	120	--	<5	--	19,000
12...	12,000	<50	<50	90	130	150	130	10	--	33,000	20,000
12...	12,000	--	<50	--	120	--	130	--	10	--	19,000
13...	15,000	--	<50	--	50	--	150	--	11	--	24,000
19...	11,000	180	<50	<20	30	150	120	<5	6	28,000	17,000
27...	14,000	<50	220	70	40	130	140	9	<5	25,000	19,000
October											
06...	13,000	180	160	30	--	150	150	<5	<5	27,000	19,000
22...	9,800	180	120	30	50	130	120	<5	<5	20,000	12,000

Table 9.--*Hydrologic data for station 07083000, Halfmoon Creek near Malta*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, dissolved (mg/L)	Magnesium, dissolved (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April 29...	1505	14	7.7	12.0	80	34	0.45	9.5	9.5	1.4	6.5
June 02...	1300	77	8.0	--	66	22	.10	6.9	2.5	1.1	3.8
July 08...	1700	130	7.9	8.0	60	20	.10	5.9	1.9	.70	2.8
August 06...	1625	50	7.8	15.0	62	25	.10	7.6	2.6	1.0	3.6

Date	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, dissolved (µg/L)	Barium, dissolved (µg/L)	Beryllium, dissolved (µg/L)	Boron, dissolved (µg/L)	Cadmium, dissolved (µg/L)	Chromium, dissolved (µg/L)
April 29...	<0.3	1.7	6.0	0.53	1.7	<40	20	0.5	<2	<7	<6
June 02...	<.3	.50	4.3	.84	2.0	<40	34	.5	<2	<7	<6
July 08...	<.3	<.3	15	.57	.8	<40	15	.5	<2	<7	<6
August 06...	<.3	<.3	4.2	.40	1.0	<40	19	.5	<2	<7	<6

Date	Cobalt, dissolved (µg/L)	Copper, dissolved (µg/L)	Iron, dissolved (µg/L)	Lead, dissolved (µg/L)	Lithium, dissolved (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, dissolved (µg/L)	Strontium, dissolved (µg/L)	Vanadium, dissolved (µg/L)	Zinc, dissolved (µg/L)
April 29...	<7	10	80	<50	<5	4	<50	60	6	10
June 02...	<7	10	60	<50	<5	7	<50	50	6	10
July 08...	<7	10	40	<50	20	5	<50	40	6	10
August 06...	<7	10	40	<50	<5	4	<50	50	6	<10

Table 9.--*Hydrologic data for station 07083000, Halfmoon Creek near Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987											
August 18...	1645	24	7.9	16.0	78	28	0.10	900	9.1	9.3	3.3

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)
August 18...	3.4	1.2	1.3	3.6	0.37	0.85	0.71	100	130	<0.5	3

Date	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)
August 18...	<2	<2	<7	<7	<6	10	8	<7	<1	3

Date	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
August 18...	90	65	130	200	<50	<50	20	20	5	20

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
August 18...	<50	<50	<20	<20	60	60	11	<5	160	85

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986												
April												
29...	0935	150	7.7	4.5	--	37	0.45	--	--	17	--	6.7
June												
03...	1150	840	7.5	10.0	86	35	.45	--	--	9.6	--	3.5
August												
07...	0805	140	7.9	11.0	190	50	.45	980	--	19	--	7.3
September												
05...	0930	110	7.0	8.0	230	57	.10	--	--	21	--	8.6
18...	0955	--	--	--	--	--	.01	--	--	25	--	9.6
18...	1000	--	--	--	--	--	.10	--	25	26	9.7	10
18...	1005	--	--	--	--	--	.45	--	--	25	--	9.6
November												
19...	0915	100	7.5	--	210	38	.10	--	23	24	9.0	9.1
December												
10...	1025	--	7.5	0.0	210	28	.10	--	--	23	--	8.8

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
April											
29...	--	3.0	28	<0.3	1.4	8.4	--	3.4	--	<40	--
June											
03...	--	1.5	15	<.3	1.8	15	--	7.7	--	<40	--
August											
07...	--	2.8	--	--	--	7.4	--	2.6	--	<40	--
September											
05...	--	3.6	--	--	--	8.8	--	1.7	--	<40	--
18...	--	3.9	--	--	--	10	--	--	--	--	--
18...	4.0	4.1	--	--	--	7.4	--	--	--	--	60
18...	--	3.9	--	--	--	10	--	--	--	--	--
November											
19...	3.8	3.9	42	.48	1.9	6.4	0.79	1.3	<40	<40	50
December											
10...	--	4.3	38	.56	2.2	10	1.8	2.3	--	<40	--

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
April											
29...	39,000	--	0.5	--	<2	--	<7	--	<6	--	<7
June											
03...	25	--	.5	--	<2	--	<7	--	<6	--	<7
August											
07...	41	--	.5	--	<2	--	<7	--	<6	--	<7
September											
05...	53	--	.5	--	<2	--	<7	--	<6	--	<7
18...	54	--	<.5	--	20	--	<7	--	<6	--	<7
18...	54	<0.5	<.5	20	<2	<7	<7	<6	<6	<7	<7
18...	53	--	2	--	10	--	<7	--	<6	--	<7
November											
19...	45	.5	<.5	<2	<2	<7	<7	<6	<6	<7	<7
December											
10...	46	--	.5	--	<2	--	<7	--	<6	--	<7

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986--Continued											
April											
29...	--	10	--	170	--	--	--	<50	--	5	--
June											
03...	--	10	--	100	--	--	--	<50	--	<5	--
August											
07...	--	10	--	130	--	--	--	<50	--	<5	--
September											
05...	--	10	--	60	--	--	--	<50	--	10	--
18...	--	10	--	--	160	220	--	<50	--	20	--
18...	20	4	400	35	160	220	<50	<50	9	15	290
18...	--	10	--	70	--	--	--	<50	--	20	--
November											
19...	10	6	280	25	--	--	<50	<50	7	<5	290
December											
10...	--	10	--	30	--	--	--	<50	--	10	--

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April											
29...	530	--	<50	--	--	--	60	--	6	--	480
June											
03...	120	--	<50	--	--	--	40	--	6	--	260
August											
07...	200	--	<50	--	--	--	60	--	6	--	400
September											
05...	260	--	<50	--	--	--	70	--	6	--	580
18...	280	--	<50	--	<20	--	70	--	<5	--	500
18...	290	<50	<50	<20	<20	70	80	<5	<5	710	630
18...	280	--	<50	--	--	--	70	--	<5	--	580
November											
19...	280	<50	<50	--	<20	70	70	6	6	570	440
December											
10...	190	--	<50	--	--	--	70	--	6	--	370

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins $/m^2/s$)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987												
March												
04...	1230	110	7.3	1.0	140	46	0.10	--	21	21	8.2	8.9
04...	1235	--	--	--	--	--	.45	--	--	21	--	8.2
April												
27...	1145	210	7.0	12.0	140	31	.10	--	16	17	8.1	8.1
27...	1150	--	--	--	--	--	.45	--	--	--	--	--
May												
20...	0815	500	7.4	6.0	89	31	.10	--	12	12	4.7	4.6
28...	0945	270	7.4	5.0	150	36	.01	--	--	15	--	5.9
28...	0950	270	7.4	5.0	150	36	.10	--	15	18	4.3	5.7
June												
02...	1745	270	7.7	14.0	140	35	.10	--	15	15	5.5	5.4
10...	0715	530	7.5	5.0	130	17	.10	--	15	14	4.2	5.1
25...	0745	240	7.1	7.0	160	44	.10	160	17	17	6.7	6.6
July												
15...	1630	130	7.2	18.0	180	49	.10	1,500	--	23	--	5.4
August												
18...	1230	97	8.3	13.0	180	55	.10	1,600	26	26	9.2	9.2
25...	0818	120	8.0	6.0	--	59	.10	--	22	22	8.5	8.3
October												
27...	1100	71	8.4	5.0	240	--	.10	1,100	27	28	9.4	11
December												
21...	1200	--	7.8	1.0	240	57	.10	--	25	27	9.7	12

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
March											
04...	3.2	3.5	43	0.52	2.5	5.4	2.8	1.6	--	--	50
04...	--	3.2	--	--	--	5.1	--	--	--	--	--
April											
27...	1.6	1.9	39	.50	1.8	3.5	1.3	--	660	620	50
27...	--	--	42	.57	2.3	--	1.5	--	--	--	--
May											
20...	1.8	1.8	22	--	.65	1.5	.50	4.3	--	--	30
28...	--	2.3	--	--	--	4.6	--	3.4	--	--	--
28...	2.2	2.5	29	.51	2.1	<.04	.77	3.4	--	--	50
June											
02...	2.0	2.1	25	.50	1.2	--	.66	2.6	--	--	30
10...	1.6	1.7	22	<.3	.99	4.1	.49	3.1	<40	90	100
25...	2.1	2.2	32	.40	1.2	5.2	.57	1.7	--	<40	40
July											
15...	--	3.2	37	<.3	1.6	3.0	<.20	1.9	--	<40	--
August											
18...	1.1	1.1	36	--	1.6	<.04	.37	--	--	--	50
25...	4.2	4.0	35	<.3	1.5	8.9	.58	--	60	<40	50
October											
27...	4.2	4.4	47	.53	2.0	2.8	--	1.2	--	--	50
December											
21...	4.6	5.4	43	--	2.4	3.6	1.6	.7	--	--	50

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued						
March											
04...	37	1.0	<0.5	10	20	10	<7	<6	7	<7	<7
04...	40	--	<.5	--	10	--	<7	--	<6	--	10
April											
27...	35	1.3	1	10	10	--	--	70	40	10	<7
27...	--	--	--	--	--	--	--	--	--	--	--
May											
20...	28	<.5	<.5	20	20	--	<7	13	<6	<7	9
28...	32	--	.5	--	70	--	<7	--	<6	--	<7
28...	36	<.5	<.5	<2	30	<7	10	<6	<6	<7	30
June											
02...	32	<.5	<.5	10	10	<7	--	<6	<6	<7	<7
10...	160	<.5	<.5	20	<2	--	<7	38	<6	<7	<7
25...	37	<.5	<.5	7	<2	<7	<7	<6	9	<7	<7
July											
15...	<2	--	<.5	--	<2	--	<7	--	<6	--	<7
August											
18...	48	<.5	<.5	20	10	<7	<7	<6	<6	10	9
25...	46	.5	1	<2	<2	<7	<7	<6	<6	20	<7
October											
27...	54	<.5	4	<2	20	9	--	12	<6	<7	<7
December											
21...	52	<.5	<.5	10	10	--	<7	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
March											
04...	10	8	440	40	--	--	90	80	<5	6	260
04...	--	9	--	50	--	--	--	--	--	--	--
April											
27...	20	30	1,200	840	--	--	--	--	--	--	620
27...	--	--	--	--	--	--	--	--	--	--	--
May											
20...	3	4	600	130	--	--	--	<50	7	20	240
28...	--	4	--	300	--	--	--	<50	--	190	--
28...	5	4	680	--	--	--	<50	<50	50	170	300
June											
02...	--	2	290	150	--	--	--	--	5	20	200
10...	8	15	400	120	--	--	--	65	<5	7	160
25...	10	10	400	130	70	210	<50	<50	<5	<5	230
July											
15...	--	6	--	53	--	740	--	<50	--	23	--
August											
18...	9	3	390	40	60	90	<50	<50	60	50	230
25...	10	10	670	90	--	--	<50	<50	<5	5	410
October											
27...	9	2	450	170	10	40	--	--	<5	20	230
December											
21...	<1	<1	230	20	--	--	--	--	<5	30	310

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
March											
04...	350	<50	62	30	<20	60	60	<5	<5	510	470
04...	250	--	<50	--	--	--	60	--	<5	--	410
April											
27...	1,500	<50	57	<20	--	50	50	<5	<5	710	--
27...	--	--	--	--	--	--	--	--	--	--	--
May											
20...	230	<50	<50	--	--	40	40	<5	<5	570	550
28...	290	--	82	--	--	--	50	--	7	--	560
28...	450	<50	54	<20	<20	50	50	<5	16	670	580
June											
02...	180	<50	<50	<20	--	50	50	<5	<5	460	350
10...	150	<50	<50	<20	50	40	40	<5	6	410	360
25...	230	<50	<50	<20	30	50	50	<5	<5	540	500
July											
15...	190	--	<50	--	<20	--	70	--	8	--	180
August											
18...	200	<50	<50	<20	<20	80	80	<5	19	320	150
25...	400	<50	<50	<20	<20	70	70	6	6	750	580
October											
27...	510	<50	<50	<20	<20	80	70	<5	<5	470	850
December											
21...	320	<50	<50	<20	<20	70	80	<5	<5	680	670

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988											
February											
29...	1120	64	7.8	0.0	210	63	0.10	1,000	54	26	24
April											
07...	0845	78	7.2	.0	250	54	.10	360	23	24	9.1
May											
19...	0845	290	7.5	5.0	120	30	.10	300	12	11	4.4
24...	0820	170	7.7	6.0	180	43	.10	--	18	17	6.5
31...	1025	260	8.0	7.0	140	37	.01	1,500	--	14	--
31...	1030	260	8.0	7.0	140	37	.10	1,500	14	13	5.1
31...	1035	260	8.0	7.0	140	37	.45	1,500	--	14	--
June											
03...	1145	340	6.8	10.0	--	34	.10	--	13	13	4.8
07...	1020	550	7.0	8.0	--	31	.10	--	12	12	4.3
08...	0830	590	7.0	7.0	160	31	.10	--	12	12	4.3
12...	0900	490	7.4	7.0	130	39	.10	--	13	13	5.0
15...	1505	340	7.5	13.0	150	40	.10	--	15	15	5.5
16...	0955	350	7.5	8.5	130	39	.10	1,100	15	15	5.7
19...	1440	350	7.1	15.0	140	39	.10	--	15	15	5.6
22...	1605	420	6.7	14.0	150	42	.10	--	16	16	6.0
26...	1515	490	6.7	12.0	140	39	.10	--	15	15	5.4
29...	1325	690	7.7	11.0	140	39	.10	630	16	15	5.5

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
February											
29...	12	2.6	5.4	--	--	--	3.5	--	2.2	--	100
April											
07...	9.8	4.4	4.8	49	<0.3	2.1	6.4	0.72	4.7	--	50
May											
19...	4.1	2.0	2.3	19	<.3	.83	6.1	.49	6.5	450	50
24...	6.3	4.3	2.8	30	<.3	1.1	7.3	.77	2.8	--	50
31...	5.0	--	2.0	--	--	--	6.1	--	3.5	--	--
31...	4.9	2.0	2.0	22	<.3	.92	6.3	.45	3.5	--	40
31...	5.0	--	2.0	22	--	.81	6.3	.36	3.5	--	--
June											
03...	4.7	1.9	1.9	20	<.3	.91	5.8	--	--	<40	50
07...	4.2	1.5	1.5	19	<.3	.68	5.3	.54	--	230	50
08...	4.3	1.5	1.7	16	<.3	.91	5.4	1.0	4.1	110	30
12...	5.0	1.6	1.7	20	<.3	.68	5.5	--	--	--	50
15...	5.5	1.9	1.9	14	<.3	.67	5.9	.38	--	--	50
16...	5.7	1.8	1.9	23	<.3	.89	5.8	.58	2.9	--	40
19...	5.4	1.9	2.0	23	<.3	.82	3.5	.58	--	--	50
22...	5.9	1.8	1.8	25	<.3	.81	5.5	.57	--	--	50
26...	5.3	1.7	1.7	23	<.3	.75	5.5	.59	--	--	50
29...	5.3	1.8	1.7	21	<.3	.82	5.5	.70	--	240	40

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
February											
29...	51	0.5	<0.5	10	<2	<7	--	49	<6	10	<7
April											
07...	47	<.5	<.5	6	20	--	<7	<6	<6	<7	<7
May											
19...	33	<.5	<.5	10	10	--	--	<6	<6	9	<7
24...	43	<.5	.7	20	10	--	--	<6	<6	7	7
31...	31	--	<.5	--	5	--	<7	--	<6	--	<7
31...	31	.9	<.5	4	5	<7	--	<6	<6	<7	<7
31...	32	--	<.5	--	5	--	--	--	<6	--	<7
June											
03...	42	1.1	<.5	20	20	<7	<7	<6	<6	<7	<7
07...	44	<.5	<.5	20	20	<7	8.0	<6	<6	<7	<7
08...	31	<.5	<.5	7	5	<7	--	<6	<6	<7	<7
12...	45	<.5	<.5	10	20	--	7.0	<6	<6	<7	<7
15...	45	<.5	.6	20	20	--	<7	<6	<6	<7	<7
16...	34	.6	<.5	3	5	--	--	<6	<6	<7	<7
19...	29	<.5	<.5	20	10	--	<7	<6	<6	<7	<7
22...	48	.5	<.5	10	10	<7	--	<6	<6	<7	<7
26...	45	<.5	.5	10	20	--	--	<6	<6	<7	<7
29...	31	<.5	<.5	5	<2	--	10	<6	<6	<7	<7

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
February											
29...	<1	<1	210	40	10	20	<50	--	<5	20	350
April											
07...	<1	2	1,300	220	10	20	--	<50	10	10	950
May											
19...	20	<1	1,800	80	20	70	<50	--	<5	5	420
24...	10	5	540	80	10	70	<50	--	5	7	290
31...	--	<1	--	20	<50	100	--	--	--	140	--
31...	4	3	540	120	50	100	<50	<50	5	5	170
31...	--	1	--	110	50	100	--	--	--	5	--
June											
03...	6	2	640	70	--	--	60	--	<5	<5	170
07...	7	2	1,100	100	--	--	--	<50	<5	<5	240
08...	4	6	550	110	20	110	<50	--	5	<5	140
12...	5	1	470	70	--	--	--	<50	<5	<5	130
15...	7	1	550	110	--	--	<50	--	<5	5	160
16...	2	1	380	90	40	120	<50	--	<5	5	150
19...	3	3	390	30	--	--	--	<50	<5	<5	130
22...	7	5	440	50	--	--	<50	--	<5	<5	140
26...	6	4	330	70	--	--	<50	--	<5	<5	110
29...	10	5	1,000	40	--	20	70	<50	<5	<5	200

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
February											
29...	290	<50	<50	20	<20	100	80	<5	<5	970	510
April											
07...	930	<50	<50	<20	<20	70	75	<5	<5	1,200	990
May											
19...	150	<50	<50	<20	<20	40	40	<5	<5	750	350
24...	250	<50	<50	<20	<20	60	60	<5	<5	620	490
31...	120	--	<50	--	<20	--	40	--	<5	--	250
31...	120	<50	<50	<20	<20	50	40	<5	<5	390	250
31...	120	--	<50	--	<20	--	50	--	<5	--	300
June											
03...	100	<50	<50	<20	<20	40	40	<5	<5	380	260
07...	90	<50	<50	<20	<20	40	40	<5	<5	420	230
08...	90	<50	<50	<20	<20	40	40	<5	<5	340	260
12...	90	<50	<50	<20	<20	40	40	<5	<5	310	310
15...	130	<50	<50	<20	<20	50	50	<5	<5	390	290
16...	130	71	76	<20	<20	50	50	<5	<5	330	270
19...	110	<50	<50	<20	<20	50	30	<5	<5	260	170
22...	100	73	<50	<20	<20	50	50	<5	<5	290	240
26...	90	58	<50	<20	<20	50	50	<5	<5	260	210
29...	110	<50	<50	<20	<20	50	50	<5	<5	360	210

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
July											
03...	1600	260	6.8	14.0	180	46	0.10	--	19	20	6.7
06...	1515	210	6.7	16.0	180	48	.10	--	19	19	6.7
10...	1620	180	6.6	14.0	170	49	.10	--	--	20	--
13...	1605	150	6.8	19.0	170	51	.10	--	20	19	7.1
17...	1615	130	6.8	17.0	200	59	.10	--	21	22	7.6
19...	1535	130	6.7	17.0	200	51	.10	--	--	21	--
21...	1140	140	8.2	14.0	200	53	.10	1,900	23	22	7.8
24...	1407	110	6.4	17.0	200	54	.10	--	21	23	7.6
27...	1550	110	6.6	17.0	190	53	.10	--	22	21	7.8
31...	1515	120	6.6	19.0	190	58	.10	--	23	22	8.0
August											
04...	1750	110	6.5	19.0	180	56	.10	--	22	22	7.8
07...	1555	120	7.5	15.0	190	54	.10	--	21	21	7.4
10...	1120	110	8.0	13.0	210	58	.10	--	23	23	8.1
14...	1540	110	7.8	19.0	200	52	.10	--	21	21	7.5
16...	1030	97	8.0	11.0	180	55	.10	430	22	22	7.8
28...	1500	100	6.5	17.0	190	53	.10	--	20	19	7.4
September											
01...	1608	--	8.5	14.0	210	60	.10	--	--	22	--
04...	1525	--	6.5	17.0	210	58	.10	--	23	22	8.5
08...	0905	--	6.3	7.5	230	--	.10	--	24	25	9.1
11...	0925	--	7.7	8.5	230	63	.10	--	--	25	--
15...	0900	--	7.7	5.5	240	65	.10	--	25	24	9.3
16...	1035	71	8.1	6.5	230	63	.10	1,200	26	26	9.3
18...	1220	--	8.0	10.0	230	64	.10	--	25	25	9.1
22...	0920	--	7.8	7.0	220	64	.10	--	24	24	8.9
27...	1350	--	8.2	12.0	220	62	.10	--	24	24	8.8
30...	1010	--	8.0	3.5	220	63	.10	--	24	24	9.1

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
July											
03...	6.9	2.3	2.4	29	<0.3	1.1	6.6	0.74	--	--	40
06...	6.7	2.4	2.5	29	<.3	1.1	6.5	.52	--	--	40
10...	7.0	--	2.7	29	<.3	1.2	6.6	.51	--	--	--
13...	7.1	2.7	2.7	31	--	1.3	6.6	--	--	--	40
17...	7.6	2.9	3.0	24	.51	1.0	7.1	.99	--	--	40
19...	7.3	--	2.9	32	--	1.2	6.8	--	--	--	--
21...	7.5	3.0	2.9	35	--	1.4	6.9	--	2.7	--	50
24...	8.2	3.1	3.4	35	--	1.4	7.1	--	--	--	50
27...	7.7	3.2	3.1	35	<.3	1.5	7.1	.42	--	--	40
31...	7.9	3.2	3.2	40	.32	1.5	7.2	.41	--	--	40
August											
04...	7.7	3.6	3.6	34	<.3	2.0	7.3	.34	--	--	40
07...	7.4	3.1	3.1	33	<.3	1.4	7.1	.39	--	--	40
10...	8.1	3.3	3.4	36	<.3	1.6	7.5	.40	--	--	50
14...	7.5	3.3	3.3	48	<.3	3.5	7.2	2.5	--	--	40
16...	7.8	3.5	3.6	37	<.3	2.0	7.4	.35	2.5	1.2	50
28...	7.3	3.4	3.3	34	<.3	1.6	7.2	.43	--	--	40
September											
01...	8.1	--	3.6	39	<.3	1.8	8.1	.49	--	--	--
04...	8.5	3.6	3.6	39	<.3	1.8	7.9	--	--	--	50
08...	9.2	4.4	4.5	--	--	--	8.6	--	--	--	50
11...	9.2	--	4.3	41	<.3	2.1	9.1	.57	--	--	--
15...	9.2	4.2	4.1	43	<.3	2.4	8.9	.87	--	--	50
16...	9.4	4.2	4.2	48	<.3	2.0	9.2	.85	1.3	1.2	60
18...	9.2	4.3	4.4	41	<.3	4.4	9.0	.70	--	--	50
22...	8.9	4.2	4.2	40	<.3	2.3	8.7	.65	--	--	50
27...	8.8	4.2	4.2	37	<.3	2.2	8.4	.44	--	--	50
30...	8.9	4.2	4.2	41	<.3	1.8	8.8	.71	--	--	50

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
July											
03...	40	0.5	0.9	9	<2	9	--	<6	<6	10	<7
06...	39	<.5	<.5	5	8	7	<7	<6	<6	<7	<7
10...	41	--	.7	--	10	--	<7	--	7	--	8
13...	40	<.5	<.5	8	20	9	--	<6	<6	<7	<7
17...	41	<.5	<.5	20	6	--	10	<6	<6	<7	<7
19...	40	--	<.5	--	5	--	10	--	<6	--	<7
21...	41	<.5	<.5	7	4	<7	10	<6	<6	<7	<7
24...	44	.8	<.5	50	8	8	7.0	<6	<6	<7	<7
27...	41	1.0	<.5	8	6	20	<7	<6	<6	<7	<7
31...	41	<.5	<.5	8	20	<7	10	<6	<6	<7	<7
August											
04...	41	<.5	<.5	10	10	8	10	<6	<6	<7	<7
07...	40	<.5	.8	9	8	<7	<7	<6	<6	<7	<7
10...	45	<.5	<.5	7	8	20	--	<6	<6	<7	<7
14...	40	<.5	.7	9	9	20	<7	<6	<6	<7	<7
16...	46	.5	<.5	20	9	8	<7	<6	<6	<7	<7
28...	47	1.0	<.5	20	30	<7	<7	<6	<6	<7	7
September											
01...	46	--	.9	--	10	--	<7	--	<6	--	<7
04...	44	1.7	<.5	20	20	<7	--	<6	<6	<7	<7
08...	53	<.5	<.5	20	10	--	7.0	<6	<6	<7	<7
11...	54	--	<.5	--	10	--	9.0	--	<6	--	<7
15...	50	<.5	<.5	20	20	7	<7	11	<6	<7	<7
16...	63	.8	.5	30	30	<7	<7	<6	<6	<7	<7
18...	51	.6	<.5	10	10	--	--	<6	<6	<7	<7
22...	51	.5	.9	10	10	--	--	<6	<6	<7	<7
27...	49	<.5	<.5	20	20	<7	--	<6	<6	<7	<7
30...	58	1.1	<.5	10	30	--	--	<6	<6	<7	<7

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
July											
03...	7	4	360	50	--	--	<50	<50	<5	<5	170
06...	8	4	300	50	--	--	90	<50	<5	8	130
10...	--	8	--	50	--	--	--	<50	--	6	--
13...	10	9	260	40	--	--	<50	--	8	5	110
17...	10	8	280	30	<5	170	--	<50	5	5	130
19...	--	9	--	30	<5	150	--	<50	--	<5	--
21...	10	5	330	40	30	100	<50	<50	7	6	160
24...	10	7	270	30	--	--	<50	<50	5	7	65
27...	10	3	280	30	--	--	60	<50	6	7	120
31...	6	5	310	30	--	--	<50	<50	7	5	110
August											
04...	5	4	270	40	--	--	<50	<50	7	8	100
07...	5	4	310	40	--	--	--	<50	7	5	120
10...	6	3	250	30	--	--	100	<50	6	5	130
14...	6	4	250	20	--	--	130	<50	6	5	90
16...	6	2	280	40	<5	10	<50	--	6	5	140
28...	7	4	330	60	--	--	<50	<50	6	10	100
September											
01...	--	2	--	30	--	--	--	--	--	5	--
04...	7	6	290	40	--	--	<50	--	<5	<5	100
08...	2	1	260	20	--	--	<50	<50	8	8	160
11...	--	1	--	20	--	--	--	<50	--	7	--
15...	5	4	340	10	--	--	<50	<50	8	6	220
16...	5	1	290	40	<5	<5	<50	--	6	<5	230
18...	6	4	300	5	--	--	110	80	6	8	160
22...	5	5	290	20	--	--	60	90	8	6	170
27...	7	5	270	<5	--	--	--	<50	7	9	130
30...	5	3	260	10	--	--	80	--	6	8	160

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
July											
03...	160	<50	<50	<20	<20	60	60	<5	<5	320	220
06...	120	<50	<50	--	--	60	60	<5	<5	250	200
10...	120	--	<50	--	<20	--	60	--	<5	--	210
13...	100	<50	<50	<20	<20	60	60	<5	<5	190	110
17...	120	<50	<50	<20	<20	60	60	<5	<5	190	120
19...	100	--	<50	--	<20	--	60	--	<5	--	100
21...	150	<50	<50	<20	<20	70	60	<5	<5	260	160
24...	130	--	<50	<20	<20	60	70	<5	<5	240	130
27...	110	<50	<50	<20	<20	60	60	<5	<5	190	90
31...	90	<50	<50	--	<20	70	60	<5	<5	180	100
August											
04...	90	<50	<50	<20	<20	70	60	<5	<5	150	90
07...	120	<50	<50	<20	<20	60	60	<5	<5	200	160
10...	120	<50	<50	<20	<20	70	70	<5	<5	260	210
14...	80	<50	<50	<20	<20	60	60	<5	<5	140	90
16...	130	<50	<50	<20	<20	70	60	<5	<5	310	260
28...	90	<50	<50	<20	--	60	60	<5	<5	170	80
September											
01...	90	--	<50	--	<20	--	70	--	<5	--	90
04...	80	<50	<50	--	<20	70	70	<5	<5	170	60
08...	160	<50	<50	<20	<20	70	70	<5	<5	440	390
11...	210	--	<50	--	<20	--	70	--	<5	--	480
15...	200	<50	<50	20	--	80	80	<5	<5	560	490
16...	230	<50	<50	<20	--	80	80	<5	<5	470	400
18...	140	<50	<50	<20	<20	70	70	<5	<5	340	240
22...	160	<50	<50	<20	<20	70	70	<5	<5	470	430
27...	110	<50	<50	<20	<20	70	70	<5	<5	240	150
30...	160	<50	<50	--	<20	70	70	<5	<5	500	440

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Sediment, suspended (mg/L)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)
				CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued							
October											
03...	1545	--	8.4	12.0	220	61	0.10	--	--	23	23
07...	0915	--	8.0	6.5	220	62	.10	--	--	25	24
11...	1455	--	8.2	11.0	210	60	.10	--	--	23	23
14...	0840	--	7.8	4.5	220	64	.10	--	--	24	24
18...	1445	65	7.8	13.0	220	64	.10	--	--	25	25
19...	1030	65	8.0	4.5	210	64	.10	280	--	25	25
21...	1155	--	7.7	6.5	230	63	.10	--	--	26	26
25...	1425	62	7.6	7.0	230	63	.10	--	--	25	25
25...	1735	62	8.2	5.5	220	64	.01	--	35	--	26
25...	1740	62	8.2	5.5	220	64	.10	--	35	27	27
25...	1745	--	--	--	--	--	.45	--	--	--	27
28...	1240	--	8.1	5.0	230	--	.10	--	--	26	26

Date	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)
October											
03...	8.6	8.6	4.6	4.6	42	<0.3	3.2	8.1	0.60	50	54
07...	9.0	8.8	4.1	4.1	40	<.3	2.1	8.7	.34	60	62
11...	8.5	8.5	4.1	4.1	39	<.3	1.9	8.4	--	60	55
14...	9.0	9.0	3.8	3.8	41	<.3	2.2	8.8	--	50	53
18...	9.1	9.2	4.1	4.1	42	<.3	2.2	8.7	.64	50	48
19...	9.2	9.1	4.1	4.1	47	<.3	2.5	8.9	.64	50	51
21...	9.4	9.3	4.0	3.9	48	<.3	2.1	8.6	.68	60	61
25...	9.1	9.1	4.0	4.0	44	<.3	2.1	8.7	.62	60	57
25...	--	9.8	--	4.3	--	--	--	8.9	--	--	49
25...	9.4	9.6	4.5	4.4	44	--	2.1	9.1	--	50	51
25...	--	9.6	--	4.5	--	--	--	9.1	--	--	49
28...	9.2	9.2	4.0	4.0	39	<.3	1.6	8.6	.44	50	48

Date	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)
October											
03...	0.7	<0.5	30	30	<7	--	<6	<6	<7	<7	4
07...	.9	.7	30	30	20	<7	<6	<6	<7	<7	7
11...	.5	.7	30	30	<7	<7	<6	<6	<7	<7	7
14...	1.0	<.5	20	10	20	--	10	<6	<7	<7	6
18...	<.5	<.5	10	10	<7	<7	--	<6	<7	<7	6
19...	<.5	<.5	7	8	--	--	<6	<6	<7	<7	4
21...	<.5	<.5	10	30	--	--	<6	<6	<7	<7	3
25...	.5	<.5	30	30	--	--	<6	<6	<7	<7	4
25...	--	.5	--	10	--	8.0	--	<6	--	<7	--
25...	<.5	<.5	8	7	10	20	<6	<6	<7	<7	10
25...	--	<.5	--	7	--	20	--	<6	--	<7	--
28...	<.5	<.5	7	8	--	--	<6	<6	<7	<7	2

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
October											
03...	2	210	<5	--	--	<50	<50	<5	<5	80	70
07...	3	290	10	--	--	<50	110	5	7	180	160
11...	3	300	10	--	--	130	140	8	6	120	90
14...	4	230	30	--	--	110	<50	<5	6	200	190
18...	6	550	20	<5	7	60	<50	<5	<5	110	100
19...	4	230	30	<5	7	<50	--	5	6	150	140
21...	1	280	10	--	--	--	--	7	7	220	200
25...	2	250	10	--	--	<50	--	9	7	140	120
25...	6	--	<5	--	--	--	<50	--	--	--	260
25...	5	270	20	--	--	<50	70	7	7	150	160
25...	10	--	120	--	--	--	70	--	10	--	250
28...	<1	270	10	--	--	--	--	8	8	140	120

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
October										
03...	<50	<50	20	<20	70	70	<5	<5	160	100
07...	<50	<50	20	<20	70	70	<5	<5	510	430
11...	<50	<50	<20	<20	70	70	<5	<5	220	130
14...	<50	<50	<20	--	70	70	<5	<5	560	530
18...	<50	<50	50	--	70	70	<5	<5	170	90
19...	<50	<50	--	--	70	70	<5	<5	330	280
21...	<50	<50	20	<20	70	70	<5	<5	380	300
25...	<50	--	20	<20	70	70	<5	<5	230	170
25...	--	<50	--	<20	--	70	--	<5	--	340
25...	<50	<50	--	--	80	80	<5	<5	260	270
25...	--	<50	--	<20	--	80	--	<5	--	340
28...	<50	<50	<20	20	70	70	<5	<5	310	250

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Sediment, suspended (mg/L)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989												
March												
29...	1055	81	7.2	2.0	230	47	0.01	--	--	--	23	--
29...	1100	81	7.2	2.0	230	47	.10	--	--	23	23	9.1
May												
03...	1355	120	8.0	7.0	190	46	.01	320	--	--	20	--
03...	1400	120	8.0	7.0	190	46	.10	320	--	20	20	7.9
16...	1050	160	7.5	5.0	160	38	.10	--	--	16	16	6.1
18...	0845	140	7.5	5.0	170	46	.01	--	--	--	18	--
18...	0850	140	7.5	5.0	170	46	.10	--	--	17	19	6.8
24...	1110	370	7.1	7.5	100	30	.01	--	24	--	12	--
24...	1115	370	7.1	7.5	100	30	.10	--	24	12	12	4.4
24...	1120	--	--	--	--	--	.45	--	--	--	12	--
24...	1155	--	--	--	--	--	.01	--	--	--	12	--
24...	1157	--	--	--	--	--	.01	--	--	--	12	--
24...	1200	--	--	--	--	--	.01	--	--	--	12	--
24...	1205	--	--	--	--	--	.01	--	--	--	12	--
24...	1220	--	--	--	--	--	.01	--	--	--	12	--
24...	1255	--	--	--	--	--	.01	--	--	--	11	--
24...	1325	--	--	--	--	--	.01	--	--	--	11	--
24...	1415	--	--	--	--	--	.01	--	--	--	12	--
31...	1205	--	--	--	--	--	.10	--	--	--	--	--
June												
05...	1020	--	--	--	--	--	.10	--	--	--	--	--
05...	1055	280	7.1	8.0	170	43	.01	--	--	--	16	--
05...	1100	280	7.1	8.0	170	43	.10	--	--	16	16	5.9
16...	1435	320	7.8	0.0	140	42	.10	--	--	15	15	5.5
23...	0955	230	7.5	8.0	160	44	.10	--	--	17	18	6.5
28...	1155	200	7.8	12.0	160	44	.10	--	--	17	17	6.4
28...	1655	190	8.1	14.0	160	44	.01	--	--	--	17	--
28...	1700	190	8.1	14.0	160	44	1,100	--	--	--	18	--

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued												
March												
29...	9.0	--	4.3	--	--	--	8.9	--	--	2.6	--	--
29...	9.3	4.3	4.6	40	<0.3	1.7	9.1	0.31	--	2.6	--	--
May												
03...	7.9	--	3.7	--	--	--	8.3	--	2.0	1.8	--	--
03...	7.8	3.6	3.4	39	<.3	1.8	8.1	.74	2.0	1.8	--	--
16...	6.2	2.8	2.8	31	<.3	1.5	7.5	.63	--	--	--	--
18...	6.9	--	2.9	--	--	--	7.4	--	--	--	--	--
18...	6.9	2.8	3.0	33	<.3	1.5	7.9	.73	--	--	--	--
24...	4.3	--	1.8	--	--	--	5.6	--	--	3.4	--	--
24...	4.4	1.8	1.8	20	<.3	.88	6.0	.81	--	3.4	310	40
24...	4.3	--	1.8	--	--	--	5.8	--	--	--	--	--
24...	4.3	--	1.8	22	<.3	.91	5.8	.40	--	--	--	--
24...	4.4	--	1.8	19	<.3	.87	5.8	.65	--	--	--	--
24...	4.2	--	1.8	24	<.3	.96	5.7	.22	--	--	--	--
24...	4.2	--	1.8	22	<.3	.87	5.8	.43	--	--	--	--
24...	4.3	--	1.7	22	<.3	.93	5.8	.32	--	--	--	--
24...	4.1	--	1.7	21	<.3	.87	5.7	.38	--	--	--	--
24...	4.2	--	1.7	21	<.3	.91	5.8	.37	--	--	--	--
24...	4.3	--	1.8	22	<.3	.85	5.9	.26	--	--	--	--
31...	--	--	--	19	<.3	.83	--	.65	--	--	--	--
June												
05...	--	--	--	13	<.3	.40	--	--	--	--	--	--
05...	6.0	--	2.1	--	--	--	6.2	--	3.4	2.4	--	--
05...	6.1	2.0	2.0	29	<.3	1.1	6.2	--	3.4	2.4	--	40
16...	5.6	1.8	2.0	25	<.3	1.0	5.7	.57	--	--	--	--
23...	6.6	2.1	2.3	30	<.3	1.2	6.5	.38	--	--	--	--
28...	6.4	2.3	2.3	32	<.3	1.2	6.3	.35	2.6	2.0	--	--
28...	6.2	--	2.4	--	--	--	6.0	--	--	--	--	--
28...	6.6	--	2.4	29	<.3	1.2	6.6	.44	--	--	--	--

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued												
March												
29...	--	42	--	0.7	--	20	--	7.0	--	<6	--	<7
29...	50	44	<0.5	<.5	20	20	<7	<7	<6	<6	<7	<7
May												
03...	--	39	--	<.5	--	<2	--	<7	--	<6	--	<7
03...	40	41	<.5	2	<2	<2	<7	--	<6	<6	<7	<7
16...	40	34	.5	<.5	7	9	<7	<7	<6	<6	<7	<7
18...	--	39	--	2	--	<2	--	<7	--	<6	--	<7
18...	40	40	<.5	.9	5	5	<7	<7	<6	<6	<7	<7
24...	--	27	--	<.5	--	9	--	--	--	9	--	<7
24...	40	28	1.3	<.5	4	<2	<7	<7	<6	<6	<7	<7
24...	--	27	--	<.5	--	10	--	--	--	<6	--	<7
24...	--	27	--	1	--	5	--	<7	--	<6	--	<7
24...	--	28	--	1	--	7	--	7.0	--	<6	--	<7
24...	--	28	--	.6	--	3	--	--	--	<6	--	<7
24...	--	26	--	.5	--	2	--	<7	--	<6	--	<7
24...	--	27	--	.6	--	10	--	--	--	<6	--	<7
24...	--	26	--	<.5	--	8	--	--	--	<6	--	<7
24...	--	28	--	<.5	--	10	--	<7	--	<6	--	<7
24...	--	29	--	.7	--	<2	--	9.0	--	<6	--	8
31...	--	--	--	--	--	--	--	--	--	--	--	--
June												
05...	--	--	--	--	--	--	--	--	--	--	--	--
05...	--	33	--	.5	--	9	--	<7	--	<6	--	<7
05...	40	35	<.5	<.5	8	10	--	<7	8	<6	<7	<7
16...	30	34	.8	<.5	8	6	<7	--	<6	<6	<7	<7
23...	40	38	.5	.5	10	5	<7	<7	<6	8	7	<7
28...	40	37	<.5	<.5	8	<2	<7	<7	8	<6	<7	<7
28...	--	37	--	<.5	--	8	--	<7	--	20	--	<7
28...	--	39	--	<.5	--	9	--	--	--	<6	--	<7

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
July											
03...	7	4	360	50	--	--	<50	<50	<5	<5	170
March											
29...	--	10	--	6	60	400	--	<50	--	--	--
29...	20	8	950	190	60	400	70	<50	9	10	670
May											
03...	--	1	--	10	240	320	--	--	--	40	--
03...	4	8	390	100	240	320	<50	--	8	9	390
16...	10	20	400	110	--	--	<50	--	<5	<5	310
18...	--	10	--	10	30	--	--	60	--	110	--
18...	30	8	400	90	30	--	<50	<50	8	8	320
24...	--	3	--	30	20	60	--	--	--	--	--
24...	20	10	1,300	60	20	60	<50	<50	<5	<5	330
24...	--	5	--	130	--	--	--	<50	--	--	--
24...	--	8	--	40	--	--	--	<50	--	20	--
24...	--	7	--	40	--	--	--	<50	--	8	--
24...	--	8	--	40	--	--	--	<50	--	6	--
24...	--	8	--	40	--	--	--	<50	--	<5	--
24...	--	1	--	30	--	--	--	--	--	5	--
24...	--	10	--	20	--	--	--	<50	--	--	--
24...	--	5	--	20	--	--	--	<50	--	6	--
24...	--	7	--	30	--	--	--	<50	--	<5	--
31...	--	--	--	--	--	--	--	--	--	--	--
June											
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	20	--	40	20	40	--	<50	--	--	--
05...	10	6	300	90	20	40	--	<50	<5	9	170
16...	10	6	260	80	--	--	<50	--	<5	7	120
23...	10	5	240	80	--	--	--	<50	7	9	150
28...	120	70	240	70	--	--	<50	<50	5	8	140
28...	--	5	--	10	--	--	--	--	--	120	--
28...	--	8	--	260	--	--	--	<50	--	7	--

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
29...	640	--	<50	--	<20	--	70	--	<5	--	580
29...	640	<50	<50	<20	<20	70	70	<5	<5	820	620
May											
03...	380	--	<50	--	20	--	60	--	<5	--	610
03...	380	<50	<50	--	--	60	60	<5	<5	710	620
16...	330	<50	<50	--	<20	50	50	<5	<5	680	690
18...	300	--	<50	--	--	--	60	--	<5	--	660
18...	310	<50	<50	<20	<20	60	60	<5	<5	770	720
24...	110	--	<50	--	20	--	40	--	<5	--	300
24...	120	<50	<50	<20	<20	40	40	<5	<5	610	280
24...	110	--	57	--	20	--	40	--	<5	--	320
24...	130	--	<50	--	--	--	40	--	<5	--	450
24...	130	--	<50	--	<20	--	40	--	<5	--	400
24...	120	--	<50	--	<20	--	40	--	<5	--	380
24...	110	--	<50	--	20	--	40	--	<5	--	330
24...	110	--	<50	--	<20	--	40	--	<5	--	290
24...	110	--	<50	--	--	--	40	--	<5	--	280
24...	110	--	<50	--	--	--	40	--	<5	--	240
24...	110	--	<50	--	20	--	40	--	<5	--	260
31...	--	--	--	--	--	--	--	--	--	--	--
June											
05...	--	--	--	--	--	--	--	--	--	--	--
05...	160	--	<50	--	<20	--	50	--	<5	--	440
05...	160	<50	59	20	--	50	50	<5	<5	490	440
16...	110	<50	<50	<20	--	50	50	<5	<5	300	280
23...	140	<50	<50	<20	<20	50	50	<5	<5	390	360
28...	130	<50	<50	30	<20	50	50	<5	<5	320	280
28...	110	--	<50	--	20	--	50	--	<5	--	180
28...	130	--	<50	--	<20	--	60	--	<5	--	290

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
July											
07...	0910	150	7.7	10.0	170	50	0.10	--	--	20	--
14...	1105	190	7.9	12.0	140	38	.10	--	19	19	6.9
17...	1710	140	8.6	17.0	180	50	.01	710	--	18	--
17...	1715	140	8.6	17.0	180	50	.10	710	19	19	7.2
21...	0850	120	7.8	10.0	170	51	.10	--	20	21	7.4
28...	0845	150	7.6	10.0	170	50	.10	--	21	21	7.4
August											
02...	0820	250	7.7	11.0	160	48	.10	--	19	19	6.5
16...	1655	100	7.2	16.0	190	57	.01	900	--	21	--
16...	1700	100	7.2	16.0	190	57	.10	900	22	21	8.0
25...	0920	100	7.4	7.0	180	57	.10	--	22	24	8.1
September											
01...	0930	69	7.5	7.0	200	62	.10	--	27	24	10
06...	1440	65	7.7	15.0	190	58	.10	--	--	23	--
12...	0855	78	7.4	5.0	190	55	.01	--	--	23	--
12...	0900	78	7.4	5.0	190	55	.10	--	23	23	8.5
12...	0905	--	--	--	--	--	.45	--	--	23	--
13...	1530	110	7.5	10.0	160	50	.10	--	23	23	8.5
20...	1530	74	8.0	14.0	190	59	.10	--	26	22	9.9
27...	1455	65	8.0	--	180	55	.10	--	--	23	4.3
October											
06...	1440	65	7.3	10.0	190	58	.10	--	20	22	7.7
22...	1055	72	6.5	4.0	210	58	.10	--	23	24	8.5

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)
July											
07...	7.1	--	2.5	35	<0.3	1.3	6.6	0.37	--	--	--
14...	6.8	2.5	2.5	33	<.3	1.4	6.7	.36	--	--	--
17...	6.6	--	2.6	--	--	--	6.1	--	2.4	1.8	--
17...	6.9	2.8	2.7	36	<.3	1.4	6.4	.29	2.4	1.8	--
21...	7.6	2.9	3.0	37	<.3	1.5	7.2	.51	--	--	--
28...	7.3	2.9	2.9	39	<.3	1.5	7.3	.70	--	--	--
August											
02...	6.4	2.5	2.5	30	<.3	1.2	7.0	.43	--	--	--
16...	7.4	--	2.9	--	--	--	6.8	--	2.0	--	--
16...	7.4	3.1	3.0	40	<.3	1.5	6.9	.24	2.0	--	--
25...	8.4	3.4	3.5	43	<.3	1.7	8.0	--	--	--	--
September											
01...	9.1	4.0	3.8	44	<.3	1.7	8.6	.34	--	--	--
06...	8.7	--	4.1	44	<.3	2.1	8.5	.26	--	--	--
12...	8.4	--	3.8	--	--	--	8.6	--	--	1.4	--
12...	8.5	3.8	3.8	40	<.3	1.9	8.6	.32	--	1.4	--
12...	8.6	--	3.8	--	--	--	8.7	--	--	--	--
13...	8.5	4.2	4.2	32	<.3	1.3	9.5	.40	--	--	--
20...	8.5	4.4	4.1	43	<.3	2.1	8.9	.39	--	--	--
27...	8.6	2.6	4.2	42	<.3	2.0	8.5	.31	--	--	760
October											
06...	8.1	3.6	4.0	41	<.3	2.0	8.3	.35	--	--	--
22...	9.2	4.1	4.6	42	<.3	2.2	9.5	--	--	--	--

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
July											
07...	--	40	--	<0.5	--	3	--	<7	--	<6	--
14...	40	37	<0.5	<.5	9	<2	<7	--	<6	20	10
17...	--	33	--	<.5	--	7	--	--	--	10	--
17...	40	35	<.5	<.5	5	8	--	--	<6	<6	<7
21...	40	45	<.5	<.5	10	5	--	<7	<6	<6	<7
28...	50	43	<.5	.5	9	3	<7	<7	<6	<6	<7
August											
02...	40	38	<.5	<.5	6	4	<7	<7	7	<6	<7
16...	--	38	--	<.5	--	6	--	<7	--	<6	--
16...	40	39	<.5	<.5	6	7	<7	--	<6	<6	<7
25...	50	46	1.3	<.5	10	10	9	--	<6	<6	<7
September											
01...	60	52	<.5	<.5	<2	5	--	<7	10	<6	<7
06...	--	44	--	<.5	--	6	--	--	--	<6	--
12...	--	49	--	<.5	--	6	--	<7	--	<6	--
12...	50	50	<.5	<.5	8	10	--	<7	<6	<6	<7
12...	--	51	--	.6	--	9	--	<7	--	<6	--
13...	50	46	<.5	<.5	20	10	7	7.0	<6	<6	<7
20...	50	43	<.5	<.5	<2	8	--	<7	12	<6	<7
27...	--	44	.6	<.5	<2	<2	20	<7	<6	<6	10
October											
06...	40	40	<.5	<.5	7	10	--	<7	<6	<6	<7
22...	50	50	<.5	<.5	<2	<2	10	<7	17	7	<7

Date	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
July											
07...	<7	--	65	--	150	--	--	<50	--	6	--
14...	<7	10	30	300	90	--	<50	<50	5	6	130
17...	<7	--	3	--	<5	20	--	<50	--	--	--
17...	<7	3	1	320	70	20	<50	--	8	<5	110
21...	<7	8	--	380	110	--	<50	<50	6	<5	180
28...	<7	70	--	710	100	--	100	<50	<5	<5	250
August											
02...	<7	10	3	660	170	--	<50	<50	<5	<5	190
16...	<7	--	3	--	9	140	--	70	--	--	--
16...	<7	2	3	430	190	140	<50	<50	<5	<5	100
25...	<7	5	2	400	90	--	<50	<50	6	<5	170
September											
01...	<7	4	3	440	60	--	--	--	<5	8	200
06...	<7	--	3	--	10	--	--	<50	--	5	--
12...	<7	--	7	--	20	--	--	--	--	--	--
12...	<7	10	10	450	180	--	--	<50	<5	9	190
12...	<7	--	6	--	250	--	--	<50	--	5	--
13...	<7	10	7	1,000	170	--	<50	<50	<5	<5	230
20...	<7	8	6	770	90	--	--	--	8	<5	200
27...	<7	40	2	510	65	--	<50	--	--	8	--
October											
06...	<7	3	4	310	55	--	--	<50	10	<5	70
22...	<7	6	2	220	55	--	<50	<50	<5	8	130

Table 10.--*Hydrologic data for station 07083700, Arkansas River near Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
July											
07...	130	--	<50	--	<20	--	60	--	<5	--	310
14...	120	<50	<50	<20	30	60	60	<5	<5	280	210
17...	90	--	<50	--	20	--	50	--	<5	--	90
17...	90	<50	53	<20	20	60	60	<5	<5	180	100
21...	190	<50	<50	--	20	60	70	<5	<5	390	350
28...	240	<50	55	<20	<20	60	60	<5	<5	520	400
August											
02...	170	<50	<50	20	<20	60	60	<5	<5	340	270
16...	80	--	<50	--	--	--	60	--	<5	--	70
16...	90	<50	<50	<20	<20	60	60	<5	<5	160	110
25...	170	<50	<50	<20	<20	70	70	<5	<5	360	310
September											
01...	180	<50	<50	--	--	80	70	<5	<5	500	390
06...	90	--	<50	--	<20	--	70	--	<5	--	90
12...	190	--	<50	--	<20	--	70	--	<5	--	600
12...	190	<50	<50	--	<20	70	70	<5	<5	600	520
12...	190	--	<50	--	20	--	70	--	<5	--	580
13...	190	<50	<50	<20	<20	70	70	6	<5	380	230
20...	160	<50	<50	<20	<20	80	70	<5	<5	310	130
27...	85	<50	<50	<20	--	40	70	<5	<5	--	100
October											
06...	120	<50	<50	--	--	60	70	<5	<5	180	200
22...	140	<50	<50	<20	<20	70	75	<5	<5	380	380

Table 11.--*Hydrologic data for station 07086000, Arkansas River at Granite*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO^3$)	Filter pore size (µm)	Sediment, suspended (mg/L)	Calcium, dissolved (mg/L)	Magnesium, dissolved (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986												
April 29...	1445	340	7.8	10.0	120	32	0.45	0	13	4.2	2.4	18

Date	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, dissolved (µg/L)	Barium, dissolved (µg/L)	Beryllium, dissolved (µg/L)	Boron, dissolved (µg/L)	Cadmium, dissolved (µg/L)	Chromium, dissolved (µg/L)
April 29...	<0.3	1.2	6.0	0.44	2.7	0.0	<40	31	0.5	<2	<7	10

Date	Cobalt, dissolved (µg/L)	Copper, dissolved (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, dissolved (µg/L)	Lithium, dissolved (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, dissolved (µg/L)	Strontium, dissolved (µg/L)	Vanadium, dissolved (µg/L)	Zinc, dissolved (µg/L)
April 29...	<7	10	180	0	0	<50	<5	150	<50	80	6	160

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Filter pore size (µm)	Calcium, total total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987											
April 21...	1705	180	8.4	9.5	190	0.45	--	--	--	--	--
June 02...	1000	1,020	8.0	10.0	98	.10	--	21	--	8.3	--
August 18...	0900	--	--	--	--	.10	16	15	8.8	8.6	2.3
October 27...	1005	--	--	--	--	.10	--	20	--	6.3	--
27...	1010	--	--	--	--	.45	--	--	--	--	--

Date	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)
April 21...	--	32	0.57	2.0	--	1.8	7.8	--	--	--	--
June 02...	3.5	16	.50	.92	--	.73	8.2	--	--	--	51
August 18...	2.4	--	--	--	0.65	--	--	100	110	40	38
October 27...	3.5	26	<.3	1.5	.46	.22	--	--	--	--	250
27...	--	26	--	12	--	.29	--	--	--	--	--

Table 11.--*Hydrologic data for station 07086000, Arkansas River at Granite*--Continued

Date	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
April 21...	--	--	--	--	--	--	--	--	--	--
June 02...	--	0.5	--	10	--	--	--	<6	--	<7
August 18...	<0.5	<.5	<2	<2	<7	<7	12	<6	<7	<7
October 27...	--	1	--	60	--	7.0	--	<6	--	<7
27...	--	--	--	--	--	--	--	--	--	--

Date	Copper, total recoverable (ug/L)	Copper, dissolved (ug/L)	Iron, total recoverable (ug/L)	Iron, dissolved (ug/L)	Lead, total recoverable (ug/L)	Lead, dissolved (ug/L)	Lithium, total recoverable (ug/L)	Lithium, dissolved (ug/L)	Manganese, total recoverable (ug/L)	Manganese, dissolved (ug/L)
April 21...	--	--	--	--	--	--	--	--	--	--
June 02...	--	20	--	280	--	--	--	30	--	310
August 18...	7	1	120	10	<50	--	<5	<5	90	80
October 27...	--	3	--	10	--	<50	--	<5	--	120
27...	--	--	--	--	--	--	--	--	--	--

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April 21...	--	--	--	--	--	--	--	--	--	--
June 02...	--	<50	--	<20	--	80	--	<5	--	290
August 18...	<50	<50	<20	<20	90	90	<5	<5	190	120
October 27...	--	<50	--	<20	--	100	--	29	--	280
27...	--	--	--	--	--	--	--	--	--	--

Table 11.--*Hydrologic data for station 07086000, Arkansas River at Granite*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988										
October										
26...	0925	120	7.9	1.0	200	64	0.01	--	22	--
26...	0930	120	7.9	1.0	200	64	.10	22	22	7.6
26...	0935	--	--	--	--	--	.45	--	22	--

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)
October										
26...	7.6	--	4.0	--	--	--	8.6	--	--	52
26...	7.7	4.0	4.1	33	0.36	2.3	8.6	0.69	50	52
26...	7.6	--	4.0	--	--	--	8.6	--	--	52

Date	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
October										
26...	--	<0.5	--	9	--	10	--	<6	--	<7
26...	1.1	.6	10	10	9	<7	<6	<6	<7	<7
26...	--	<.5	--	9	--	8.0	--	<6	--	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
October										
26...	--	1	--	10	--	<50	--	30	--	120
26...	2	3	140	35	100	<50	7	6	120	110
26...	--	2	--	70	--	60	--	8	--	110

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
October										
26...	--	<50	--	<20	--	90	--	<5	--	360
26...	<50	<50	<20	<20	90	90	<5	<5	390	360
26...	--	<50	--	20	--	90	--	<5	--	360

Table 12.--*Hydrologic data for station 390444106174900, Lake Creek below Twin Lakes Reservoir, near Granite*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April 29...	1335	160	7.5	6.0	69	18	0.10	8.8	9.1	1.3	1.4

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
April 29...	1.2	1.3	6.1	<0.3	0.50	2.4	0.44	2.3	<40	<40

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (ug/L)	Beryllium, dissolved (ug/L)	Boron, total recoverable (ug/L)	Boron, dissolved (ug/L)	Cadmium, total recoverable (ug/L)	Cadmium, dissolved (ug/L)	Chromium, total recoverable (ug/L)	Chromium, dissolved (ug/L)
April 29...	20	22	0.5	0.5	<2	<2	<7	<7	<6	<6

Date	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)
April 29...	<7	<7	10	10	5	10	<50	<50	<5	<5

Date	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April 29...	6	1	<50	<50	100	100	6	6	30	20

Table 12.--*Hydrologic data for station 390444106174900, Lake Creek below Twin Lakes Reservoir, near Granite*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987											
June											
02...	1430	530	7.5	11.0	67	15	0.10	7.9	8.6	1.2	2.1
August											
18...	1140	170	7.9	17.0	67	16	.10	9.4	9.6	8.0	8.0
October											
27...	0900	51	7.7	7.5	62	75	.10	10	--	1.3	--

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
June											
02...	1.1	1.2	10	0.48	0.50	--	--	2.0	--	--	--
August											
18...	1.2	1.3	9.2	--	--	<0.04	--	--	--	270	180
October											
27...	1.2	--	11	<.3	<.3	--	0.31	--	8.4	40	--

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
June											
02...	20	22	<0.5	<0.5	<2	<2	--	23	<6	<7	<7
August											
18...	20	22	<.5	<.5	<2	<2	<7	32	20	<7	<7
October											
27...	20	--	1.0	--	<2	--	--	14	--	<7	--

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
June											
02...	--	20	--	25	--	--	--	--	15	10	5
August											
18...	5	5	60	5	130	60	<50	20	<5	10	8
October											
27...	4	--	50	--	--	--	--	<5	--	10	--

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
June										
02...	<50	<50	<20	--	90	95	<5	<5	<10	<10
August										
18...	<50	<50	<20	<20	100	100	<5	<5	<10	10
October										
27...	<50	--	<20	--	110	--	<5	--	<10	--

Table 12.--*Hydrologic data for station 390444106174900, Lake Creek below Twin Lakes Reservoir, near Granite*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988										
October										
25...	0905	13	7.5	8.0	77	23	0.01	--	10	--
25...	0910	13	7.5	8.0	77	23	.10	10	10	1.4
25...	0915	--	--	--	--	--	.45	--	9.9	--

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)
October										
25...	1.4	--	1.6	--	--	--	4.4	--	--	22
25...	1.4	1.5	1.5	11	<0.3	0.50	--	0.35	20	--
25...	1.4	--	1.5	--	--	--	4.3	--	--	21

Date	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
October										
25...	--	<0.5	--	<2	--	9.0	--	<6	--	<7
25...	<0.5	<.5	<2	60	10	<7	<6	<6	<7	<7
25...	--	<.5	--	<2	--	<7	--	<6	--	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)
October										
25...	--	3	--	10	<50	--	9	--	10	--
25...	2	1	<5	5	<50	40	40	10	10	68
25...	--	2	--	<5	--	--	<5	--	10	--

Date	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
October									
25...	<50	--	<20	--	110	--	<5	--	130
25...	72	<20	<20	110	--	<5	<5	110	20
25...	<50	--	<20	--	100	--	<5	--	70

Table 13.--*Hydrologic data for station 391120106194900, Iowa Gulch at mouth, near Malta*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, dissolved (mg/L)	Magnesium, dissolved (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April 29...	1550	0.24	8.2	15.0	1,100	62	0.45	170	44	6.1	480

Date	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, dissolved (µg/L)	Barium, dissolved (µg/L)	Beryllium, dissolved (µg/L)	Boron, dissolved (µg/L)	Cadmium, dissolved (µg/L)	Chromium, dissolved (µg/L)
April 29...	<0.3	5.5	4.9	20	0.9	<40	39	0.5	<2	<7	<6

Date	Cobalt, dissolved (µg/L)	Copper, dissolved (µg/L)	Iron, dissolved (µg/L)	Lead, dissolved (µg/L)	Lithium, dissolved (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, dissolved (µg/L)	Strontium, dissolved (µg/L)	Vanadium, dissolved (µg/L)	Zinc, dissolved (µg/L)
April 29...	<7	10	10	<50	20	20	<50	230	6	130

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988											
July 21...	1310	3.0	8.3	17.0	580	94	0.10	2,000	85	83	22
August 16...	1540	1.5	8.4	15.0	580	100	.10	480	95	95	24
September 16...	1155	1.4	8.0	9.5	610	110	.10	1,500	100	100	27
October 19...	1130	1.1	8.3	5.5	700	100	.10	1,400	100	100	28

Table 13.--*Hydrologic data for station 391120106194900, Iowa Gulch at mouth, near Malta*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
July 21...	21	3.0	3.1	220	0.58	2.6	4.8	3.1	1.9	2.1	70
August 16...	24	3.6	3.6	180	<.3	1.6	5.7	2.3	.6	1.1	70
September 16...	27	3.9	4.0	260	--	3.5	5.9	6.7	1.3	1.2	70
October 19...	28	3.7	3.8	--	<.3	2.1	4.4	1.9	--	--	60

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
July 21...	65	<0.5	<0.5	<2	<2	8	<7	<6	<6	<7	<7
August 16...	64	<.5	.5	5	7	<7	<7	<6	<6	<7	<7
September 16...	67	.5	.8	30	30	<7	7.0	<6	<6	<7	<7
October 19...	54	<.5	<.5	2	3	9	7.0	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
July 21...	4	4	170	8	10	60	<50	<50	5	7	80
August 16...	<1	<1	130	8	--	--	--	--	7	8	50
September 16...	1	1	80	<5	--	--	<50	<50	<5	5	40
October 19...	--	--	180	10	--	--	--	<50	<5	<5	50

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
July 21...	40	<50	<50	<20	<20	120	120	<5	<5	70	60
August 16...	20	<50	<50	<20	<20	130	130	<5	<5	60	50
September 16...	30	<50	<50	<20	<20	140	140	<5	<5	80	70
October 19...	10	<50	<50	--	<20	140	140	<5	<5	60	40

Table 13.--*Hydrologic data for station 391120106194900, Iowa Gulch at mouth, near Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989											
May											
18...	0945	0.30	8.1	6.0	960	110	0.01	1,700	--	140	--
18...	0950	.30	8.1	6.0	960	110	.10	1,700	140	140	41
June											
05...	1155	7.3	7.8	7.5	720	93	.01	--	--	90	--
05...	1200	7.3	7.8	7.5	720	93	.10	--	90	95	26
16...	0900	--	8.0	0.0	580	86	.10	--	80	80	22
23...	1005	--	7.9	9.0	600	98	.10	--	83	74	24
28...	1210	--	8.1	14.0	610	98	.10	--	98	83	27
28...	1605	3.4	8.1	14.0	620	98	.01	--	--	88	--
28...	1610	3.4	8.1	14.0	620	98	.10	--	88	82	25
July											
07...	0920	8.2	7.9	11.0	560	91	.10	--	80	81	21
14...	1115	4.4	8.0	12.0	580	99	.10	--	83	84	23
17...	1605	3.3	7.6	16.0	590	95	.01	1,100	--	84	--
17...	1610	3.3	7.6	16.0	590	95	.10	1,100	83	88	21
21...	0910	.80	8.2	10.0	700	120	.10	--	97	96	31
28...	0855	5.0	7.9	10.0	560	93	.10	--	83	80	22
August											
02...	0830	17	8.0	11.0	500	88	.10	--	66	68	17
16...	1750	3.9	7.3	14.0	560	98	.01	140	--	82	--
16...	1755	3.9	7.3	14.0	560	98	.10	140	87	81	23
25...	0930	1.4	7.8	7.5	540	100	.10	--	--	100	--
September											
01...	0940	.10	8.1	5.0	680	130	.10	--	92	93	30

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (µg/L)	Barium, total recoverable (µg/L)
May											
18...	40	--	4.7	--	--	--	5.7	--	--	--	--
18...	39	4.9	4.8	430	0.41	3.0	5.9	5.2	--	--	40
June											
05...	25	--	3.3	--	--	--	4.6	--	--	--	--
05...	25	3.3	3.4	260	--	4.9	4.7	3.1	--	--	50
16...	22	2.9	2.9	210	<.3	2.4	4.1	4.0	--	--	40
23...	22	3.0	2.8	210	<.3	2.6	4.3	3.5	--	--	50
28...	25	3.4	3.0	220	<.3	1.8	4.6	2.4	1.6	1.1	50
28...	25	--	3.2	--	--	--	4.9	--	--	--	--
28...	24	3.2	3.0	230	<.3	2.8	4.5	4.0	--	--	50
July											
07...	21	2.8	2.8	200	<.3	1.5	4.6	1.9	--	--	40
14...	23	3.0	3.1	200	<.3	1.6	5.5	2.0	--	--	50
17...	22	--	3.0	--	--	--	4.8	--	1.2	1.1	--
17...	24	2.9	3.2	210	<.3	1.4	5.0	1.8	1.2	1.1	50
21...	29	3.6	3.6	290	.32	2.3	6.3	2.4	--	--	40
28...	20	3.0	2.9	220	<.3	1.7	5.1	3.0	--	--	50
August											
02...	18	2.4	2.5	170	<.3	1.8	4.7	2.8	--	--	50
16...	20	--	2.8	--	--	--	5.0	--	1.4	1.0	--
16...	21	3.1	3.0	230	<.3	1.8	5.0	2.5	1.4	1.0	50
25...	26	--	3.7	270	<.3	2.3	6.0	1.7	--	--	--
September											
01...	30	3.8	3.9	270	<.3	2.8	7.8	1.5	--	--	40

Table 13.--*Hydrologic data for station 391120106194900, Iowa Gulch at mouth, near Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
May											
18...	39	--	<0.5	--	10	--	<7	--	<6	--	<7
18...	42	0.9	<.5	<2	<2	<7	--	<6	<6	<7	<7
June											
05...	46	--	<.5	--	20	--	--	--	<6	--	10
05...	46	<.5	<.5	<2	<2	--	<7	<6	<6	7	<7
16...	41	<.5	<.5	6	6	<7	--	<6	<6	<7	<7
23...	36	<.5	<.5	8	8	--	<7	<6	<6	<7	<7
28...	44	<.5	<.5	9	10	--	--	<6	<6	<7	<7
28...	45	--	<.5	--	10	--	<7	--	<6	--	<7
28...	41	<.5	<.5	2	<2	<7	--	11	20	<7	<7
July											
07...	44	.6	<.5	<2	2	<7	--	<6	<6	<7	<7
14...	45	<.5	<.5	4	<2	<7	<7	9	<6	9	<7
17...	48	--	<.5	--	<2	--	<7	--	<6	--	<7
17...	51	<.5	<.5	<2	9	<7	--	<6	<6	<7	<7
21...	42	<.5	<.5	4	8	--	--	<6	8	<7	<7
28...	46	<.5	2	2	4	--	--	<6	<6	<7	<7
August											
02...	48	.9	<.5	<2	4	<7	<7	<6	<6	<7	<7
16...	50	--	<.5	--	<2	--	<7	--	<6	--	<7
16...	52	<.5	<.5	3	10	--	<7	<6	<6	<7	<7
25...	53	--	<.5	--	<2	--	<7	--	<6	--	<7
September											
01...	35	<.5	<.5	<2	20	<7	<7	7	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
May											
18...	--	7	--	<5	--	--	--	--	--	90	--
18...	5	2	9	5	--	--	<50	--	<5	7	5
June											
05...	--	5	--	9	<5	20	--	--	--	--	--
05...	4	6	40	8	<5	20	--	<50	9	--	20
16...	--	--	80	9	--	--	<50	--	7	<5	30
23...	<1	2	60	<5	--	--	<50	<50	<5	10	30
28...	<1	<1	40	9	--	--	<50	<50	<5	10	20
28...	--	<1	--	9	--	--	--	--	--	60	--
28...	--	3	50	8	--	--	<50	--	10	<5	20
July											
07...	2	20	70	9	--	--	--	--	<5	10	40
14...	3	10	80	5	--	--	--	<50	<5	10	40
17...	--	1	--	9	--	--	--	<50	--	--	--
17...	1	--	120	--	--	--	<50	<50	5	10	60
21...	2	--	30	9	--	--	<50	<50	--	<5	10
28...	--	--	70	7	--	--	<50	<50	7	<5	40
August											
02...	1	--	90	10	--	--	<50	--	--	--	40
16...	--	2	--	10	20	--	--	<50	--	--	--
16...	2	1	160	20	20	--	<50	<50	--	<5	70
25...	--	--	--	10	--	--	--	<50	--	6	--
September											
01...	3	3	10	20	--	--	<50	<50	<5	--	4

Table 13.--*Hydrologic data for station 391120106194900, Iowa Gulch at mouth, near Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
May											
18...	5	--	<50	--	<20	--	170	--	<5	--	80
18...	6	<50	<50	<20	<20	180	170	<5	<5	80	70
June											
05...	10	--	59	--	--	--	120	--	<5	--	90
05...	10	<50	<50	--	20	130	120	<5	<5	110	100
16...	20	<50	<50	<20	<20	110	110	<5	<5	90	80
23...	20	<50	<50	<20	--	110	100	<5	<5	90	80
28...	20	<50	<50	--	--	130	110	<5	<5	80	70
28...	20	--	<50	--	<20	--	120	--	<5	--	90
28...	20	<50	<50	20	<20	110	100	<5	<5	70	90
July											
07...	30	<50	<50	--	<20	110	110	<5	<5	90	80
14...	30	<50	71	<20	30	110	110	<5	<5	90	70
17...	20	--	<50	--	--	--	110	--	<5	--	80
17...	30	<50	50	--	<20	110	120	<5	<5	80	70
21...	10	<50	<50	--	--	120	120	<5	<5	60	60
28...	40	<50	85	<20	<20	110	110	<5	<5	90	90
August											
02...	30	<50	<50	--	<20	100	90	<5	<5	70	60
16...	20	--	<50	--	<20	--	110	--	<5	--	70
16...	20	<50	<50	<20	<20	120	120	<5	<5	90	65
25...	20	--	56	--	--	--	140	--	<5	--	100
September											
01...	7	<50	<50	<20	<20	110	110	<5	<5	50	40

Table 14.--*Hydrologic data for station 391141106205500, Arkansas River at Smith Ranch*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987											
August 18...	1445	87	8.3	13.0	160	48	0.10	1,500	20	18	7.5

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)
August 18...	7.0	3.3	3.2	26	1.3	<0.04	0.24	200	200	<0.5

Date	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)
August 18...	<0.5	30	20	<7	<7	7	<6	<7	<7	10

Date	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
August 18...	<1	470	60	40	200	<50	<50	20	20	290

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)
August 18...	210	<50	<50	<20	<20	60	60	21	10	380

Table 14.--*Hydrologic data for station 391141106205500, Arkansas River at Smith Ranch*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988												
May												
18...	1705	250	7.5	11.0	110	28	0.10	180	--	11	--	3.9
24...	1000	170	7.7	7.5	150	38	.10	--	15	15	5.5	5.5
31...	1425	240	7.7	9.0	120	33	.01	420	--	12	--	4.3
31...	1430	240	7.7	9.0	120	33	.10	420	--	12	--	4.4
31...	1435	240	7.7	9.0	120	33	.45	420	--	12	--	4.6
June												
08...	0815	470	6.9	7.0	110	30	.10	--	9.9	9.5	3.7	3.6
16...	1145	330	7.5	10.0	130	34	.10	2,000	12	12	4.6	4.5
18...	1705	--	--	--	--	--	.10	--	11	--	4.1	--
29...	1355	650	7.7	11.0	110	32	.10	130	11	11	4.0	3.9
July												
21...	1420	120	8.2	16.0	160	47	.10	1,900	16	16	5.8	5.9
August												
16...	1215	86	8.0	12.0	150	50	.10	820	17	17	6.4	6.3
September												
16...	0935	64	7.9	5.0	190	57	.10	830	21	21	7.8	7.8
October												
19...	1220	60	8.3	6.5	170	54	.10	1,100	20	21	7.7	7.8

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)
May											
18...	--	2.0	18	<0.3	0.84	6.1	0.63	4.8	--	--	--
24...	2.4	2.5	26	--	1.3	6.9	.36	3.1	--	--	40
31...	--	1.8	--	--	--	5.8	--	3.8	--	--	--
31...	--	1.8	18	--	.79	6.0	--	3.8	--	--	--
31...	--	1.9	19	<.3	1.3	6.2	--	3.8	--	--	--
June											
08...	1.3	1.3	12	--	.58	5.1	.36	4.6	--	290	40
16...	1.7	1.6	17	--	.60	5.4	--	3.0	--	--	30
18...	2.0	--	--	--	--	--	--	--	--	70	40
29...	1.5	1.5	27	<.3	1.2	5.1	.80	--	--	190	30
July											
21...	2.6	2.7	22	<.3	1.2	6.3	.37	2.3	2.0	--	40
August											
16...	2.9	3.0	25	<.3	1.5	6.8	--	--	--	--	40
September											
16...	3.7	3.7	35	<.3	2.1	8.6	--	1.5	1.2	--	60
October											
19...	3.5	3.5	33	--	1.7	8.3	--	1.2	0.9	--	50

Table 14.--*Hydrologic data for station 391141106205500, Arkansas River at Smith Ranch*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
May											
18...	31	--	<0.5	--	10	--	--	--	<6	--	<7
24...	38	<0.5	<.5	10	10	--	--	<6	<6	<7	<7
31...	28	--	<.5	--	9	--	<7	--	<6	--	<7
31...	30	--	<.5	--	3	--	<7	--	<6	--	<7
31...	32	--	<.5	--	8	--	<7	--	<6	--	<7
June											
08...	29	<.5	<.5	5	5	<7	--	<6	<6	<7	<7
16...	31	<.5	<.5	9	3	--	<7	<6	<6	<7	<7
18...	--	<.5	--	10	--	<7	--	<6	--	<7	--
29...	27	.6	.7	<2	10	--	--	<6	<6	<7	9
July											
21...	36	<.5	<.5	8	6	10	<7	<6	<6	<7	<7
August											
16...	39	<.5	<.5	10	10	<7	10	<6	<6	<7	<7
September											
16...	59	.6	.8	30	30	<7	<7	<6	<6	<7	<7
October											
19...	45	<.5	<.5	10	10	--	--	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
May											
18...	--	4	--	70	10	80	--	--	--	<5	--
24...	8	3	570	110	50	120	--	--	6	6	340
31...	--	4	--	20	70	120	--	<50	--	--	--
31...	--	3	--	80	70	90	--	--	--	10	--
31...	--	7	--	120	70	120	--	<50	--	10	--
June											
08...	7	5	800	110	120	200	<50	--	5	<5	180
16...	4	<1	410	70	50	110	<50	<50	5	<5	160
18...	9	--	790	--	--	--	<50	--	<5	--	250
29...	6	5	620	70	--	--	70	<50	<5	<5	150
July											
21...	10	7	400	60	40	150	<50	<50	8	6	200
August											
16...	4	<1	410	50	10	40	<50	<50	9	9	190
September											
16...	10	2	670	60	--	40	--	--	5	5	360
October											
19...	7	4	330	50	<5	30	<50	--	<5	<5	210

Table 14.--*Hydrologic data for station 391141106205500, Arkansas River at Smith Ranch*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
May											
18...	160	--	<50	--	<20	--	40	--	<5	--	270
24...	320	<50	<50	<20	<20	50	50	<5	<5	620	520
31...	140	--	<50	--	<20	--	40	--	<5	--	280
31...	140	--	<50	--	<20	--	40	--	<5	--	270
31...	150	--	<50	--	<20	--	40	--	<5	--	340
June											
08...	100	<50	<50	<20	<20	40	40	<5	<5	380	280
16...	140	<50	<50	<20	<20	40	40	<5	<5	330	250
18...	--	<50	--	<20	--	40	--	<5	--	410	--
29...	120	<50	<50	<20	<20	40	40	<5	<5	290	230
July											
21...	190	<50	<50	<20	<20	60	55	<5	<5	300	170
August											
16...	180	<50	<50	<20	<20	60	60	<5	<5	300	200
September											
16...	350	<50	<50	--	--	70	70	<5	<5	710	580
October											
19...	200	<50	<50	<20	<20	70	70	<5	<5	290	220

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989											
May											
03-	1125	99	8.1	6.0	170	40	0.01	1,300	--	18	--
May											
03...	1300	99	8.1	6.0	170	40	.10	1,300	17	17	6.7
16...	1030	--	7.4	5.0	140	34	.10	--	14	14	5.5
18...	1100	140	7.7	7.0	150	39	.10	1,600	16	15	5.9
24...	1805	250	7.6	11.0	--	28	.01	--	--	10	--
24...	1810	250	7.6	11.0	--	28	.10	--	10	9.7	3.9
24...	1815	--	--	--	--	--	.45	--	--	10	--
June											
16...	1420	310	7.7	0.0	120	34	.10	--	12	12	4.7
23...	0935	200	7.4	7.0	130	38	.10	--	14	13	5.6
28...	1455	190	7.7	14.0	130	39	.01	--	--	13	--
28...	1500	190	7.7	14.0	130	39	.10	--	14	13	5.3
29...	1145	--	--	--	--	--	.10	--	14	13	5.2
July											
07...	0855	160	7.6	--	130	42	.10	--	14	14	5.3
14...	1045	190	7.7	12.0	130	40	.10	--	14	13	5.2
17...	1455	150	7.6	17.0	140	44	.01	1,500	--	14	--
17...	1500	150	7.6	17.0	140	44	.10	1,500	14	14	5.3
21...	0835	130	7.6	9.0	140	44	.10	--	15	16	5.8
28...	0830	160	7.4	9.5	130	44	.10	--	16	15	5.9
August											
02...	0810	220	7.5	11.0	120	41	.10	--	14	14	4.9
16...	1600	120	7.2	15.0	150	49	.01	850	--	15	--
16...	1605	120	7.2	15.0	150	49	.10	850	16	16	5.9
25...	0900	93	7.2	7.0	--	48	.10	--	17	17	6.2

Table 14.--*Hydrologic data for station 391141106205500, Arkansas River at Smith Ranch*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
May											
03-	6.9	--	3.2	--	--	--	8.0	--	--	--	--
May											
03...	6.6	3.1	3.1	32	<0.3	1.5	7.6	0.71	--	--	40
16...	5.4	2.4	2.5	27	<.3	1.2	7.3	.58	--	<40	30
18...	6.0	2.5	2.6	28	<.3	1.3	7.1	.64	--	--	40
24...	3.8	--	1.7	--	--	--	5.6	--	3.4	--	--
24...	3.6	1.7	1.6	15	<.3	.76	5.6	--	3.4	150	30
24...	3.9	--	1.7	--	--	--	5.7	--	--	--	--
June											
16...	4.6	1.7	1.8	17	<.3	.84	5.6	.44	--	50	30
23...	5.1	1.9	1.9	18	<.3	.94	5.9	--	--	--	40
28...	5.0	--	2.0	--	--	--	5.3	--	--	--	--
28...	5.1	2.1	2.1	19	<.3	.89	5.8	.30	--	--	40
29...	5.1	1.9	2.0	22	<.3	.89	5.7	--	--	--	30
July											
07...	5.3	2.1	2.1	23	<.3	1.1	5.8	.36	--	--	30
14...	5.1	2.1	2.2	22	<.3	1.0	5.8	.30	--	--	30
17...	5.4	--	2.3	--	--	--	6.2	--	--	--	--
17...	5.5	2.3	2.5	23	<.3	1.2	6.3	--	--	--	40
21...	6.1	2.4	2.7	23	<.3	1.2	6.7	--	--	--	40
28...	5.5	2.6	2.5	23	<.3	1.2	6.7	.54	--	--	40
August											
02...	4.8	2.2	2.1	17	<.3	.93	6.6	.37	--	60	40
16...	5.7	--	2.6	--	--	--	6.5	--	--	--	--
16...	6.0	2.5	2.8	23	<.3	1.3	6.9	.44	--	--	40
25...	6.2	2.9	3.0	25	<.3	1.4	7.3	--	--	--	40

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
May											
03-	40	--	0.6	--	<2	--	--	--	<6	--	<7
May											
03...	35	<0.5	<.5	<2	<2	8	<7	<6	<6	<7	<7
16...	32	<.5	.8	8	5	<7	<7	<6	8	<7	<7
18...	35	.6	.8	<2	4	9	<7	<6	<6	<7	<7
24...	27	--	1	--	<2	--	10	--	<6	--	<7
24...	26	<.5	<.5	10	6	--	--	<6	--	<7	<7
24...	27	--	<.5	--	7	--	--	--	<6	--	<7
June											
16...	31	.8	.7	2	5	<7	10	<6	<6	<7	<7
23...	32	2.1	<.5	5	3	8	<7	<6	8	<7	<7
28...	29	--	<.5	--	<2	--	--	--	7	--	<7
28...	33	<.5	<.5	7	5	<7	<7	11	9	9	<7
29...	32	<.5	.8	<2	8	--	<7	<6	<6	<7	<7
July											
07...	33	<.5	<.5	6	4	--	7.0	<6	<6	<7	<7
14...	31	<.5	<.5	4	5	--	--	<6	<6	8	<7
17...	32	--	<.5	--	5	--	<7	--	<6	--	<7
17...	36	<.5	<.5	4	10	7	--	<6	8	<7	<7
21...	41	<.5	<.5	6	6	--	<7	10	<6	10	<7
28...	36	.5	<.5	6	4	<7	--	<6	<6	<7	<7
August											
02...	33	<.5	<.5	<2	<2	<7	<7	<6	<6	<7	<7
16...	34	--	<.5	--	5	--	<7	--	<6	--	<7
16...	36	.5	<.5	<2	10	<7	8.0	<6	<6	<7	<7
25...	39	<.5	.8	2	10	--	<7	11	<6	<7	<7

Table 14.--*Hydrologic data for station 391141106205500, Arkansas River at Smith Ranch*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
May 03-	--	6	--	10	240	340	--	--	--	30	--
May 03...	8	1	720	110	240	340	<50	<50	<5	8	510
16...	20	6	400	110	--	--	<50	<50	<5	<5	350
18...	50	15	410	50	--	--	<50	<50	6	31	340
24...	--	9	--	30	20	100	--	60	--	--	--
24...	6	6	480	90	20	100	<50	--	<5	--	170
24...	--	2	--	120	--	--	--	--	--	6	--
June 16...	10	10	260	80	--	--	<50	<50	<5	<5	140
23...	30	9	250	90	--	--	<50	--	<5	10	190
28...	--	8	--	10	--	--	--	--	--	70	--
28...	10	2	300	90	--	--	--	--	<5	8	160
29...	30	20	300	70	--	--	--	<50	<5	--	170
July 07...	20	10	350	90	--	--	--	<50	<5	<5	170
14...	10	10	350	80	--	--	--	--	5	--	170
17...	--	4	--	10	10	300	--	<50	--	--	--
17...	7	7	430	360	10	300	80	<50	<5	10	170
21...	10	--	460	120	--	--	<50	80	<5	9	220
28...	60	--	650	150	--	--	70	--	7	<5	300
August 02...	10	3	660	200	--	--	<50	<50	<5	--	190
16...	--	--	--	20	10	220	--	60	--	--	--
16...	3	2	590	320	10	220	60	<50	8	<5	170
25...	9	--	570	180	--	--	<50	--	9	9	240

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
May 03-	470	--	<50	--	--	--	60	--	<5	--	750
May 03...	460	<50	<50	<20	<20	60	60	<5	<5	900	750
16...	340	<50	<50	<20	<20	50	50	<5	<5	740	680
18...	320	<50	<50	<20	<20	50	55	<5	<5	730	610
24...	110	--	<50	--	20	--	40	--	<5	--	280
24...	110	<50	<50	<20	20	40	40	<5	<5	390	250
24...	120	--	<50	--	--	--	40	--	<5	--	300
June 16...	130	<50	<50	--	--	40	40	<5	<5	410	360
23...	170	<50	<50	--	<20	50	50	<5	<5	540	430
28...	140	--	<50	--	20	--	40	--	<5	--	310
28...	140	54	<50	<20	--	50	50	<5	<5	380	350
29...	160	<50	<50	--	--	50	50	<5	<5	470	370
July 07...	180	<50	<50	--	--	50	50	<5	<5	400	410
14...	160	<50	<50	--	--	50	50	<5	<5	350	270
17...	160	--	<50	--	--	--	50	--	<5	--	180
17...	170	<50	<50	--	<20	50	50	<5	<5	280	280
21...	230	<50	<50	<20	<20	50	60	<5	<5	400	380
28...	270	<50	52	<20	--	60	50	<5	<5	590	450
August 02...	170	<50	<50	<20	--	50	50	<5	<5	310	260
16...	150	--	<50	--	--	--	50	--	<5	--	110
16...	160	<50	<50	<20	<20	50	60	<5	<5	220	180
25...	240	<50	<50	<20	--	60	60	<5	<5	410	340

Table 14.--*Hydrologic data for station 391141106205500, Arkansas River at Smith Ranch*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued										
September										
01...	0915	69	7.4	7.0	160	55	0.10	19	19	7.3
06...	1425	64	7.6	14.0	160	53	.10	19	19	7.1
13...	1520	120	7.5	9.5	130	44	.10	16	17	6.0
19...	0910	59	7.7	5.5	170	59	.10	19	21	7.4
27...	1440	64	7.9	--	150	49	.10	16	18	6.5
October										
06...	1430	64	6.8	9.5	160	57	.10	--	19	--
22...	1040	64	6.3	3.5	180	52	.10	19	18	7.4

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)
September										
01...	7.3	3.1	3.2	30	<0.3	1.4	7.7	0.29	50	45
06...	7.2	3.6	3.7	32	<.3	1.9	7.8	.37	40	41
13...	6.4	3.3	3.6	26	<.3	1.7	8.6	.36	40	36
19...	8.1	3.4	3.6	32	<.3	1.6	8.3	.57	50	48
27...	6.8	3.3	3.5	31	<.3	1.8	7.3	.31	40	35
October										
06...	7.5	--	3.6	34	<.3	1.8	7.5	.32	--	37
22...	7.1	3.7	3.6	32	<.3	1.9	7.7	--	40	41

Date	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
September										
01...	<0.5	0.6	5	20	7	9.0	8	<6	<7	<7
06...	<.5	<.5	4	7	<7	--	<6	<6	<7	<7
13...	<.5	<.5	10	8	<7	--	8	<6	<7	<7
19...	<.5	<.5	7	<2	<7	<7	<6	<6	<7	<7
27...	<.5	<.5	7	8	--	--	<6	<6	<7	<7
October										
06...	--	2	--	6	--	9.0	--	<6	--	<7
22...	<.5	<.5	<2	4	<7	10	9	<6	<7	<7

Table 14.--*Hydrologic data for station 391141106205500, Arkansas River at Smith Ranch*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
				CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
September										
01...	8	3	650	150	<50	<50	6	8	270	270
06...	7	5	930	150	--	--	5	<5	210	210
13...	10	4	960	240	<50	<50	8	10	270	270
19...	9	1	540	170	--	--	<5	10	290	330
27...	3	1	520	110	--	--	<5	9	160	170
October										
06...	--	7	--	40	--	<50	--	--	--	260
22...	5	10	290	80	--	<50	<5	<5	210	210

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
September										
01...	<50	<50	<20	20	70	70	<5	<5	520	440
06...	<50	<50	--	<20	70	70	<5	<5	270	150
13...	<50	<50	<20	<20	60	60	<5	<5	380	350
19...	<50	<50	<20	--	70	65	<5	<5	640	680
27...	<50	<50	--	<20	60	60	<5	<5	230	170
October										
06...	--	<50	--	--	--	60	--	<5	--	290
22...	<50	<50	20	--	60	60	<5	<5	460	440

Table 15.--*Hydrologic data for station 391231106213800, Lake Fork Arkansas River near Malta*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April											
29...	1530	--	--	--	--	--	0.10	--	8.7	8.4	2.7
29...	1535	42	7.4	13.0	92	23	.45	--	--	8.4	--
June											
03...	0800	280	7.4	7.0	50	21	.10	--	--	4.2	--
July											
09...	0915	120	7.6	9.5	50	20	.10	--	--	6.6	--
August											
07...	1105	60	7.5	13.0	82	23	.10	480	--	7.8	--

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
April											
29...	2.6	3.6	3.6	--	--	--	8.7	--	--	50	<40
29...	2.6	--	3.6	14	<0.3	1.7	8.7	0.44	2.8	--	<40
June											
03...	1.0	--	1.5	7.1	--	1.1	4.8	.44	3.8	--	<40
July											
09...	1.8	--	2.5	7.3	<.3	1.4	6.9	.27	2.5	--	<40
August											
07...	2.3	--	3.0	7.3	<.3	1.1	7.3	<.20	--	--	<40

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)
April										
29...	20	16	0.5	0.5	<2	<2	<7	<7	<6	<6
29...	--	16	--	.5	--	<2	--	<7	--	<6
June										
03...	--	9	--	.5	--	<2	--	<7	--	<6
July										
09...	--	12	--	.5	--	<2	--	<7	--	<6
August										
07...	--	15	--	.5	--	<2	--	<7	--	<6

Table 15.--*Hydrologic data for station 391231106213800, Lake Fork Arkansas River near Malta*--Continued

Date	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986--Continued										
April										
29...	<7	<7	10	10	110	20	<50	<50	10	9
29...	--	<7	--	10	--	20	--	<50	--	9
June										
03...	--	<7	--	10	--	110	--	<50	--	<5
July										
09...	--	<7	--	10	--	150	--	<50	--	9
August										
07...	--	<7	--	10	--	200	--	<50	--	<5

Date	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April										
29...	340	330	<50	<50	50	40	6	6	150	130
29...	--	330	--	<50	--	40	--	6	--	130
June										
03...	--	70	--	<50	--	20	--	6	--	40
July										
09...	--	50	--	<50	--	40	--	6	--	30
August										
07...	--	50	--	<50	--	40	--	6	--	20

Table 15.--*Hydrologic data for station 391231106213800, Lake Fork Arkansas River near Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987											
August 18...	1630	36	7.7	16.0	99	26	0.10	900	5.6	3.2	1.7

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)
August 18...	1.5	1.6	1.6	8.7	1.5	3.9	2.1	140	20	87

Date	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
August 18...	<0.5	<0.5	10	4	<7	<7	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)
August 18...	<1	<1	190	160	70	2,700	<50	<50	<5	<5

Date	Manganese, total recoverable (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)
August 18...	20	59	<50	<20	<20	30	80	<5	<5	10

Table 15.--*Hydrologic data for station 391231106213800, Lake Fork Arkansas River near Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988												
July												
22...	0830	53	7.3	7.5	85	26	0.10	840	8.0	7.9	2.1	2.1
22...	0835	--	--	--	--	--	.10	--	--	--	--	--
August												
17...	0800	48	7.5	8.5	80	28	.10	220	8.7	8.7	2.5	2.4
September												
16...	0825	22	7.6	4.0	110	37	.10	450	12	12	3.6	3.6
October												
19...	1440	21	8.1	8.0	100	33	.10	1,600	9.9	9.7	3.1	3.1

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
July												
22...	2.9	2.9	9.6	<0.3	1.5	6.0	<0.20	2.2	2.5	<40	<40	10
22...	--	--	13	<.3	1.6	--	.56	--	--	--	--	--
August												
17...	3.1	3.2	9.8	<.3	1.7	6.9	.32	2.4	1.8	<40	--	20
September												
16...	4.5	4.6	13	<.3	2.4	9.3	.73	2.1	2.1	--	--	30
October												
19...	4.2	4.1	13	<.3	2.3	7.7	.27	--	--	--	--	<2

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
July											
22...	14	<0.5	<0.5	7	8	9	<7	<6	<6	<7	<7
22...	--	--	--	--	--	--	--	--	--	--	--
August											
17...	16	<.5	<.5	20	10	<7	<7	<6	<6	<7	<7
September											
16...	34	.7	.7	40	30	--	--	<6	<6	<7	<7
October											
19...	<2	<.5	<.5	<2	<2	7	9.0	<6	<6	<7	<7

Table 15.--*Hydrologic data for station 391231106213800, Lake Fork Arkansas River near Malta*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
July											
22...	5	4	210	120	50	160	55	--	8	9	70
22...	--	--	--	--	--	--	--	--	--	--	--
August											
17...	4	1	400	140	40	100	<50	--	10	7	80
September											
16...	1	1	380	150	--	70	--	<50	9	10	50
October											
19...	2	1	310	100	7	50	<50	<50	7	8	60

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
July											
22...	60	<50	<50	<20	<20	40	40	<5	<5	60	90
22...	--	--	--	--	--	--	--	--	--	--	--
August											
17...	60	<50	<50	<20	<20	40	40	<5	<5	30	50
September											
16...	30	<50	<50	--	<20	50	50	<5	<5	30	50
October											
19...	30	<50	<50	--	--	40	40	<5	<5	10	10

Table 15.--*Hydrologic data for station 391231106213800, Lake Fork Arkansas River near Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989												
March												
29...	1410	37	7.9	4.0	110	26	0.01	--	--	10	--	3.2
29...	1415	37	7.9	4.0	110	26	.10	--	9.8	10	3.1	3.2
May												
03...	0855	40	7.8	4.5	88	22	.01	530	--	8.4	--	2.5
03...	0900	40	7.8	4.5	88	22	.10	530	8.0	8.1	2.4	2.5
16...	1010	76	7.3	6.0	85	18	.10	--	7.6	7.6	2.2	2.3
18...	1415	44	7.6	13.0	87	22	.01	2,000	--	7.8	--	2.3
18...	1420	44	7.6	13.0	87	22	.10	2,000	7.6	7.6	2.3	2.3
23...	1725	63	7.3	7.0	72	19	.01	--	--	7.0	--	2.1
23...	1730	63	7.3	7.0	72	19	.10	--	6.4	7.2	1.8	2.3
23...	1735	--	--	--	--	--	.45	--	--	7.1	--	2.2
June												
05...	1340	56	7.3	12.0	80	21	.01	470	--	6.6	--	1.9
05...	1345	56	7.3	12.0	80	21	.10	470	6.6	6.6	2.0	1.9
16...	0815	120	7.3	0.0	71	22	.10	--	7.1	7.1	2.1	2.1
23...	0840	120	7.4	7.0	75	28	.10	--	7.6	7.7	2.4	2.4
28...	1055	62	6.8	10.0	79	28	.01	--	--	8.4	--	2.5
28...	1100	62	6.8	10.0	79	28	.10	--	7.7	7.1	2.3	2.2
29...	1045	110	7.7	10.0	72	25	.10	--	7.6	8.3	2.4	2.4
July												
07...	0810	120	7.5	9.0	73	25	.10	--	7.8	7.7	2.2	2.2
14...	1000	--	6.8	10.0	70	23	.10	--	7.4	7.3	2.1	2.0
17...	1050	60	6.9	11.0	71	25	.01	1,300	--	7.3	--	2.1
17...	1055	60	6.9	11.0	71	25	.10	1,300	8.1	8.0	2.3	2.2
21...	0750	140	7.4	9.0	73	27	.10	--	7.7	7.8	2.1	2.2
28...	0745	--	7.2	9.0	76	24	.10	--	8.0	8.2	2.2	2.3

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
March												
29...	--	4.3	--	--	--	8.5	--	--	--	--	--	--
29...	4.2	4.3	14	<0.3	2.5	8.6	0.33	--	--	--	--	20
May												
03...	--	3.7	--	--	--	7.5	--	--	--	--	--	--
03...	3.6	3.6	13	<.3	1.8	7.4	.89	--	--	<40	--	10
16...	3.6	3.6	14	<.3	1.7	7.9	--	--	--	60	--	10
18...	--	3.7	--	--	--	7.7	--	--	--	--	--	--
18...	3.6	3.7	13	<.3	1.7	7.9	.40	--	--	40	<40	20
23...	--	2.9	--	--	--	6.6	--	--	4.0	--	<40	--
23...	2.9	3.0	13	<.3	1.3	6.9	.75	--	4.0	120	--	10
23...	--	2.9	--	--	--	6.7	--	--	--	--	60	--
June												
05...	--	3.0	--	--	--	7.0	--	4.3	3.1	--	150	--
05...	2.9	3.0	9.5	<.3	1.3	7.0	--	4.3	3.1	300	160	20
16...	2.9	2.9	9.0	<.3	1.3	6.9	.38	--	--	--	--	10
23...	2.7	2.9	9.0	<.3	1.3	7.0	--	--	--	--	40	20
28...	--	3.0	--	--	--	7.4	--	3.7	3.1	--	<40	--
28...	2.8	2.7	9.0	<.3	1.2	6.5	--	3.7	3.1	<40	--	20
29...	2.8	2.9	12	<.3	1.2	7.4	--	--	--	--	--	20
July												
07...	2.8	2.8	13	<.3	1.4	6.5	.26	--	--	--	--	20
14...	2.8	2.8	12	<.3	1.2	6.5	.46	--	--	--	--	20
17...	--	2.7	--	--	--	6.4	--	3.2	2.6	--	--	--
17...	2.9	2.9	13	<.3	1.3	6.8	.45	3.2	2.6	<40	--	20
21...	2.7	2.8	8.7	<.3	1.3	6.4	.56	--	--	60	--	20
28...	2.8	2.9	8.5	<.3	1.2	7.4	.46	--	--	40	--	20

Table 15.--*Hydrologic data for station 391231106213800, Lake Fork Arkansas River near Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
March											
29...	19	--	0.6	--	10	--	<7	--	<6	--	<7
29...	20	<0.5	.6	20	20	<7	<7	<6	<6	<7	<7
May											
03...	15	--	.9	--	8	--	--	--	<6	--	<7
03...	13	<.5	.9	<2	<2	8	<7	<6	<6	<7	<7
16...	14	1.2	2	8	<2	7	9.0	6	6	<7	<7
18...	14	--	1	--	10	--	<7	--	<6	--	<7
18...	15	2.1	2	<2	<2	9	<7	8	<6	<7	<7
23...	10	--	2	--	2	--	10	--	7	--	<7
23...	13	.6	<.5	7	10	<7	--	<6	<6	<7	<7
23...	10	--	2	--	<2	--	10	--	<6	--	<7
June											
05...	12	--	<.5	--	50	--	<7	--	<6	--	8
05...	12	<.5	<.5	20	40	--	<7	<6	<6	<7	<7
16...	13	<.5	<.5	10	10	--	--	<6	<6	<7	<7
23...	15	<.5	<.5	9	6	--	--	<6	9	<7	<7
28...	14	--	2	--	10	--	<7	--	<6	--	<7
28...	12	<.5	<.5	10	6	--	--	<6	10	<7	<7
29...	17	<.5	<.5	<2	10	--	<7	<6	<6	<7	<7
July											
07...	13	<.5	<.5	5	9	--	<7	<6	<6	7	<7
14...	14	<.5	<.5	7	10	--	--	<6	<6	8	<7
17...	15	--	<.5	--	10	--	--	--	8	--	<7
17...	17	.6	<.5	10	20	--	--	<6	<6	<7	<7
21...	16	1.0	<.5	20	5	--	--	7	<6	7	<7
28...	17	1.0	<.5	10	5	--	--	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
March											
29...	--	6	--	30	450	800	--	<50	--	--	--
29...	10	8	790	440	450	800	<50	<50	10	9	130
May											
03...	--	6	--	20	350	380	--	--	--	40	--
03...	5	4	300	140	350	380	<50	<50	5	<5	210
16...	10	8	370	130	--	--	<50	60	8	20	220
18...	--	10	--	20	--	--	--	--	--	70	--
18...	20	10	460	270	--	--	<50	60	20	10	160
23...	--	10	--	30	70	100	--	--	--	--	--
23...	10	8	540	140	70	100	<50	<50	<5	10	130
23...	--	10	--	180	--	--	--	--	--	10	--
June											
05...	--	10	--	30	90	110	--	<50	--	--	--
05...	7	8	630	140	90	110	--	<50	10	10	100
16...	--	--	380	170	--	--	--	--	<5	9	40
23...	<1	1	320	150	--	--	--	--	9	20	40
28...	--	6	--	30	--	--	--	70	--	--	--
28...	1	3	480	160	--	--	<50	--	9	7	50
29...	2	1	410	170	--	--	<50	--	10	10	45
July											
07...	<1	10	420	200	--	--	--	--	6	<5	50
14...	6	10	420	200	--	--	--	--	6	<5	70
17...	--	1	--	30	10	140	--	--	--	--	--
17...	<1	4	800	270	10	140	<50	--	10	10	160
21...	--	2	600	260	--	--	<50	--	10	<5	140
28...	--	--	550	270	--	--	<50	<50	7	9	110

Table 15.--*Hydrologic data for station 391231106213800, Lake Fork Arkansas River near Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
March											
29...	140	--	<50	--	--	--	50	--	<5	--	130
29...	150	<50	<50	<20	<20	50	50	<5	<5	50	80
May											
03...	210	--	<50	--	--	--	40	--	<5	--	170
03...	210	<50	<50	<20	<20	40	40	<5	<5	120	130
16...	210	<50	<50	20	<20	40	40	<5	<5	160	150
18...	150	--	<50	--	--	--	40	--	<5	--	90
18...	150	87	<50	<20	<20	40	40	<5	<5	120	100
23...	230	--	<50	--	20	--	30	--	<5	--	350
23...	230	<50	<50	<20	<20	40	40	<5	<5	--	320
23...	260	--	<50	--	<20	--	30	--	<5	--	400
June											
05...	60	--	<50	--	--	--	40	--	<5	--	50
05...	60	<50	<50	--	--	40	40	<5	<5	60	50
16...	40	<50	<50	<20	<20	40	40	<5	<5	10	20
23...	60	<50	<50	<20	<20	40	40	<5	<5	20	80
28...	40	--	<50	--	--	--	40	--	5	--	30
28...	30	<50	<50	<20	<20	40	40	<5	<5	20	20
29...	30	<50	<50	<20	<20	40	40	<5	<5	20	10
July											
07...	50	<50	<50	--	--	40	40	<5	<5	30	40
14...	60	<50	<50	--	--	40	40	<5	<5	30	30
17...	100	--	<50	--	<20	--	40	--	<5	--	40
17...	100	<50	<50	--	--	40	40	<5	<5	40	30
21...	140	<50	<50	20	--	40	40	<5	<5	40	50
28...	100	<50	<50	20	20	40	40	<5	<5	40	40

Date	Time	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins /m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
August											
02...	0720	7.0	10.0	72	24	0.10	--	--	7.6	--	2.0
16...	1125	6.9	11.0	85	31	.01	360	--	9.7	--	2.8
16...	1130	6.9	11.0	85	31	.10	360	8.9	8.9	2.6	2.6
25...	0815	7.1	7.0	78	26	.10	--	9.0	9.0	2.6	2.6
September											
01...	0820	7.1	6.5	95	35	.10	--	11	11	3.2	3.2
06...	1340	7.2	15.0	97	33	.10	--	--	11	--	3.3
13...	1440	6.4	9.5	80	27	.10	--	9.4	9.5	2.6	2.7
19...	0825	6.8	5.5	96	37	.10	--	9.8	10	3.1	3.3
27...	1400	8.0	--	91	32	.10	--	9.4	10	2.9	3.2
October											
06...	1350	6.9	10.0	94	35	.10	--	9.7	16	3.1	--
22...	1000	6.2	4.5	94	32	.10	--	9.7	10	3.1	3.2

Table 15.--*Hydrologic data for station 391231106213800, Lake Fork Arkansas River near Malta*--Continued

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
August											
02...	--	2.6	7.4	<0.3	1.2	7.4	0.43	--	--	--	16
16...	--	3.3	--	--	--	7.8	--	2.9	2.6	--	15
16...	3.0	3.1	9.1	<.3	1.4	7.2	.26	2.9	2.6	20	17
25...	3.2	3.1	9.7	<.3	1.4	7.3	--	--	--	20	18
September											
01...	3.5	3.5	11	<.3	1.5	8.4	.28	--	--	30	24
06...	--	4.0	11	<.3	1.8	8.3	.26	--	--	--	22
13...	3.8	4.0	11	<.3	1.7	9.1	.27	--	--	20	17
19...	3.2	3.4	11	<.3	1.5	8.0	.32	--	--	20	23
27...	3.8	4.1	12	<.3	2.0	7.9	.26	--	--	20	17
October											
06...	3.8	4.0	12	<.3	1.9	8.1	<.20	--	--	20	31
22...	3.9	4.0	13	<.3	2.0	8.3	--	--	--	20	20

Date	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)
August											
02...	--	<0.5	--	5	--	<7	--	<6	--	<7	--
16...	--	<.5	--	9	--	--	--	<6	--	<7	--
16...	<0.5	<.5	8	10	--	<7	<6	<6	<7	<7	<1
25...	<.5	1	20	20	8	--	<6	<6	<7	<7	2
September											
01...	<.5	<.5	8	10	<7	--	10	<6	10	<7	2
06...	--	<.5	--	8	--	--	--	<6	--	<7	--
13...	<.5	.7	7	20	--	<7	<6	<6	<7	<7	2
19...	<.5	<.5	10	9	--	--	<6	<6	<7	<7	--
27...	<.5	<.5	20	<2	--	<7	<6	<6	<7	<7	3
October											
06...	.6	.7	10	10	--	8.0	<6	<6	<7	<7	<1
22...	<.5	<.5	<2	<2	<7	<7	8	--	9	<7	5

Table 15.--*Hydrologic data for station 391231106213800, Lake Fork Arkansas River near Malta*--Continued

Date	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
				CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
August										
02...	1	--	280	--	--	<50	--	8	--	140
16...	2	--	20	120	--	<50	--	--	--	130
16...	1	1,100	510	120	<50	90	7	5	150	130
25...	3	1,000	460	--	<50	<50	7	7	150	170
September										
01...	--	1,400	480	--	--	--	6	10	160	220
06...	3	--	270	--	--	--	--	<5	--	120
13...	4	1,300	380	--	--	<50	20	8	150	140
19...	<1	820	340	--	--	--	<5	10	110	110
27...	--	910	380	--	--	<50	<5	7	60	65
October										
06...	3	950	400	--	--	55	6	<5	80	85
22...	3	450	190	--	<50	<50	6	9	60	--

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
August										
02...	--	<50	--	--	--	40	--	<5	--	40
16...	--	<50	--	--	--	50	--	<5	--	30
16...	<50	<50	--	<20	40	40	<5	<5	20	30
25...	<50	<50	20	<20	50	40	<5	<5	30	80
September										
01...	<50	<50	<20	--	50	50	<5	<5	50	--
06...	--	<50	--	--	--	50	--	<5	--	20
13...	<50	<50	<20	<20	50	50	<5	<5	50	60
19...	<50	<50	--	<20	50	50	<5	<5	40	50
27...	<50	<50	--	<20	50	45	<5	<5	20	15
October										
06...	<50	<50	--	<20	50	60	<5	<5	30	95
22...	<50	<50	<20	<20	50	40	<5	<5	30	--

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April 29...	1150	87	7.6	--	--	36	0.45	--	--	18	--
September 04...	1550	43	7.6	14.0	--	65	.45	240	--	24	--
November 19...	0850	31	7.4	--	290	70	.10	--	30	32	14

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
April 29...	8.1	--	2.6	33	<0.3	1.5	8.1	0.71	5.9	--	60
September 04...	11	--	2.5	47	<.3	1.0	6.9	--	1.5	--	<40
November 19...	14	3.3	3.4	65	.63	1.5	4.6	2.5	1.2	150	<40

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)
April 29...	--	47	--	0.5	--	<2	--	<7	--	<6	--
September 04...	--	63	--	.5	--	<2	--	<7	--	<6	--
November 19...	70	100	0.5	.6	<2	<2	<7	7.3	<6	<6	<7

Date	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
April 29...	<7	--	10	--	520	--	<50	--	5	--
September 04...	<7	--	10	--	30	--	<50	--	5	--
November 19...	<7	40	4	1,200	7	<50	<50	5	<5	1,500

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April 29...	1,100	--	<50	--	--	60	--	6	--	980
September 04...	880	--	<50	--	--	70	--	6	--	1,400
November 19...	1,400	<50	<50	<20	70	73	6	7	2,800	1,800

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987												
April												
27...	1435	130	7.2	9.0	200	32	0.10	--	15	16	8.5	8.6
May												
19...	1115	310	6.7	6.0	96	39	.10	--	13	12	5.4	5.4
27...	1235	170	7.1	5.0	160	83	.10	--	17	17	6.9	7.0
June												
01...	1510	170	7.4	13.0	130	39	.10	1,200	13	13	5.5	5.6
10...	0915	290	7.2	5.0	140	41	.10	400	12	13	4.0	4.7
10...	1010	290	7.2	5.0	140	41	.01	--	--	14	--	6.1
10...	1015	--	--	--	--	--	.10	--	8.4	13	3.6	5.8
10...	1210	290	7.2	10.0	140	41	.01	--	--	14	--	6.0
10...	1305	290	7.2	10.0	140	41	.01	--	--	14	--	6.1
24...	1215	140	7.3	11.0	150	50	.10	1,600	--	14	--	6.1
July												
16...	0900	62	7.2	10.0	150	70	.10	570	--	27	--	11
August												
19...	1605	27	8.0	8.0	240	75	.10	1,100	33	32	13	13
19...	1650	27	8.0	8.0	240	75	.10	1,100	--	29	--	12
October												
27...	1320	19	8.6	6.0	320	80	.10	880	36	35	15	15
December												
21...	1045	--	8.0	0.5	380	57	.10	--	42	40	19	17

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
April											
27...	1.3	0.99	38	--	0.84	1.8	--	7.0	--	750	50
May											
19...	1.3	1.4	29	0.52	.83	5.1	0.83	2.6	--	--	30
27...	1.7	1.7	23	--	.70	9.5	--	3.6	--	570	40
June											
01...	1.4	1.5	23	.48	.73	7.6	.76	3.6	--	370	40
10...	1	.97	20	.46	.70	--	.84	3.2	110	--	90
10...	--	1.5	--	--	--	4.7	--	3.2	--	--	--
10...	.9	1.5	--	--	--	4.8	--	--	150	--	20
10...	--	1.5	--	--	--	5.8	--	3.2	--	90	--
10...	--	1.5	--	--	--	4.7	--	3.2	--	--	--
24...	--	1.3	24	.53	.83	3.2	.69	1.8	--	--	--
July											
16...	--	2.3	63	--	1.0	--	--	1.8	--	--	--
August											
19...	3.0	2.9	55	--	1.1	2.4	.49	.9	--	--	80
19...	--	3.2	60	<.3	.90	7.0	.44	.9	--	80	--
October											
27...	3.0	3.0	71	.36	1.4	11	1.7	.9	--	--	80
December											
21...	5.3	4.4	100	--	2.5	3.7	4.0	.7	--	--	80

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued						
April											
27...	44	0.9	1	10	10	--	--	13	--	10	<7
May											
19...	34	<.5	1	8	<2	--	10	21	<6	<7	<7
27...	--	<.5	<.5	110	5	8	10	<6	<6	<7	<7
June											
01...	34	<.5	<.5	10	2	<7	<7	<6	<6	<7	<7
10...	110	.6	<.5	<2	4	<7	<7	<6	10	<7	8
10...	30	--	<.5	--	10	--	10	--	9	--	<7
10...	32	<.5	<.5	9	10	<7	8.0	20	20	<7	<7
10...	31	--	<.5	--	30	--	10	--	<6	--	<7
10...	30	--	<.5	--	7	--	<7	--	<6	--	<7
24...	37	--	<.5	--	10	--	<7	--	<6	--	7
July											
16...	51	--	<.5	--	10	--	20	--	<6	--	<7
August											
19...	72	--	<.5	<2	10	20	<7	<6	<6	10	<7
19...	73	--	.5	--	<2	--	<7	--	<6	--	<7
October											
27...	75	<.5	<.5	<2	<2	<7	10	<6	30	9	8
December											
21...	68	<.5	<.5	20	20	<7	--	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
April											
27...	20	20	2,200	870	--	--	--	--	--	--	1,100
May											
19...	<1	20	--	790	--	--	--	<50	<5	20	660
27...	20	9	910	360	110	2,500	<50	<50	20	8	760
June											
01...	6	7	300	120	--	110	<50	--	--	<5	370
10...	10	40	520	500	--	220	<50	<50	<5	<5	--
10...	--	10	--	--	--	--	--	<50	--	20	--
10...	40	20	550	260	--	--	--	--	--	--	--
10...	--	10	--	--	--	--	--	<50	--	<5	--
10...	--	10	--	--	--	--	--	<50	--	--	--
24...	--	25	--	360	70	1,200	--	<50	--	<5	--
July											
16...	--	10	--	240	--	960	--	<50	--	<5	--
August											
19...	40	5	1,200	20	160	1,200	<50	--	50	35	1,300
19...	--	30	--	1,200	160	1,200	--	<50	--	<5	--
October											
27...	20	8	1,700	20	<5	30	70	--	<5	<5	1,300
December											
21...	7	<1	1,600	<5	90	90	--	--	40	<5	1,800

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
April											
27...	1,100	<50	<50	20	--	50	40	<5	<5	1,100	980
May											
19...	670	<50	<50	<20	--	40	40	<5	<5	1,500	1,700
27...	820	51	<50	--	<20	50	50	19	<5	1,600	1,500
June											
01...	370	<50	<50	--	<20	40	40	<5	<5	810	750
10...	810	<50	<50	<20	30	40	40	<5	<5	--	1,700
10...	900	--	170	--	40	--	40	--	10	--	1,500
10...	840	<50	<50	--	20	30	40	<5	<5	--	1,600
10...	860	--	<50	--	--	--	40	--	<5	--	1,500
10...	750	--	<50	--	30	--	40	--	5	--	1,200
24...	420	--	<50	--	25	--	50	--	<5	--	730
July											
16...	1,700	--	<50	--	<20	--	70	--	19	--	3,200
August											
19...	1,200	<50	<50	<20	<20	80	80	<5	<5	2,100	1,200
19...	1,200	--	<50	--	<20	--	80	--	6	--	2,100
October											
27...	1,200	<50	<50	<20	<20	80	80	<5	<5	2,300	1,800
December											
21...	1,700	<50	<50	<20	<20	90	90	<5	<5	3,300	2,500

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988												
January												
27	1010	--	7.8	0.5	310	60	0.10	700	39	40	18	17
February												
29...	0945	8.4	7.9	1.0	320	84	.10	680	42	39	21	17
April												
06...	1615	24	7.1	6.0	520	54	.10	480	47	46	21	19
May												
18...	0955	190	7.4	5.0	110	31	.10	780	12	12	4.6	4.5
24...	1445	95	7.7	12.0	180	44	.10	--	18	18	7.0	6.9
June												
01...	0945	150	7.6	4.0	140	38	.01	1,500	--	14	--	5.5
01...	0950	150	7.6	4.0	140	38	.10	1,500	13	13	5.3	5.4
01...	0955	150	7.6	4.0	140	38	.45	1,500	--	14	--	5.4
08...	1040	360	7.6	7.0	130	28	.10	1,600	11	11	4.2	4.2
12...	0925	330	7.6	6.0	120	34	.10	--	12	12	4.7	4.8
15...	1730	210	7.2	12.0	140	41	.10	--	15	15	6.0	5.9
16...	1345	230	7.9	11.0	130	38	.10	2,000	12	13	4.9	5.1
19...	1515	230	7.2	18.0	140	37	.10	--	14	14	5.5	5.4
22...	1640	240	6.9	12.0	130	36	.10	--	13	13	5.1	5.1
26...	1540	220	6.8	--	130	37	.10	--	13	13	5.5	5.3
29...	1545	250	7.8	11.0	140	38	.10	1,200	14	14	5.2	5.2

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
January											
27...	4.5	4.6	97	<0.3	2.3	6.4	3.0	1.3	--	--	80
February											
29...	5.4	4.4	98	--	1.4	8.4	1.6	1.2	--	--	80
April											
06...	3.4	4.1	160	<.3	1.8	5.5	2.0	24	--	780	100
May											
18...	1.5	1.5	22	<.3	.66	5.5	.58	5.3	--	320	40
24...	1.9	2.0	33	<.3	.58	6.5	.64	3.1	--	--	50
June											
01...	--	1.4	--	--	--	5.5	--	3.5	--	--	--
01...	1.3	1.3	23	--	.60	5.6	--	3.5	--	--	40
01...	--	1.4	24	--	.56	5.6	--	3.5	--	--	--
08...	1.1	1.2	16	<.3	.51	4.6	.48	4.2	--	240	30
12...	1.2	1.3	17	<.3	.57	4.8	.51	--	--	<40	50
15...	1.3	1.3	23	--	.39	5.3	.58	--	--	--	60
16...	1.1	1.2	16	--	.55	4.9	.60	3.0	--	--	40
19...	1.3	1.3	22	<.3	.52	4.6	.73	--	--	--	50
22...	1.2	1.2	18	<.3	.48	4.5	.70	--	--	--	50
26...	1.2	1.2	22	--	.53	4.5	.70	--	--	--	50
29...	1.3	1.3	17	--	.46	4.7	.62	3.7	4.0	270	50

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
January											
27...	77	<0.5	0.6	10	20	<7	7.0	<6	<6	<7	<7
February											
29...	74	<.5	<.5	<2	30	--	<7	<6	<6	<7	<7
April											
06...	59	<.5	<.5	50	30	20	20	<6	<6	30	10
May											
18...	34	<.5	.6	10	20	8	<7	<6	<6	<7	<7
24...	48	<.5	.7	10	10	--	<7	<6	<6	<7	<7
June											
01...	33	--	.7	--	9	--	<7	--	<6	--	<7
01...	33	<.5	<.5	8	3	<7	<7	<6	<6	<7	<7
01...	35	--	<.5	--	5	--	<7	--	<6	--	<7
08...	27	<.5	<.5	10	8	9	8.0	<6	<6	<7	<7
12...	40	<.5	<.5	20	20	--	--	<6	<6	<7	<7
15...	51	<.5	<.5	20	20	<7	9.0	<6	<6	<7	<7
16...	35	<.5	<.5	2	9	--	--	<6	<6	<7	<7
19...	52	<.5	<.5	10	20	--	--	<6	<6	<7	<7
22...	47	<.5	<.5	10	10	--	<7	<6	<6	<7	<7
26...	47	<.5	1	10	20	<7	--	<6	<6	<7	<7
29...	37	<.5	<.5	3	3	8	<7	<6	<6	<7	<7

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
January											
27...	8	1	1,200	30	--	--	--	<50	<5	<5	1,100
February											
29...	<1	6	1,500	24	--	7	--	<50	30	<5	1,500
April											
06...	150	5	16,000	1,200	880	920	660	<50	<5	7	4,700
May											
18...	5	3	970	80	20	80	--	--	<5	<5	310
24...	7	2	680	70	50	50	--	<50	<5	<5	450
June											
01...	--	3	--	30	40	90	--	<50	--	40	--
01...	3	20	370	70	150	250	<50	--	<5	20	230
01...	--	3	--	80	40	90	--	<50	--	10	--
08...	10	4	820	130	100	160	<50	<50	5	<5	360
12...	7	4	540	50	--	--	--	60	<5	<5	290
15...	9	2	690	110	--	--	<50	<50	<5	<5	450
16...	4	1	330	60	20	80	<50	<50	<5	<5	160
19...	9	<1	610	50	--	--	--	<50	5	<5	410
22...	20	4	410	40	--	--	--	<50	<5	<5	310
26...	30	8	670	50	--	--	--	<50	<5	<5	420
29...	10	3	800	40	--	20	<50	<50	<5	<5	280

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
January											
27...	1,200	<50	<50	<20	<20	80	90	<5	<5	2,700	2,100
February											
29...	1,400	<50	<50	<20	<20	90	90	<5	<5	2,700	1,800
April											
06...	4,400	<50	<50	<20	<20	100	95	<5	<5	8,100	5,400
May											
18...	240	<50	<50	<20	<20	40	40	<5	<5	630	460
24...	420	<50	<50	<20	<20	60	60	<5	<5	850	650
June											
01...	290	--	<50	--	<20	--	50	--	<5	--	760
01...	290	<50	<50	<20	<20	50	40	<5	<5	550	680
01...	290	--	<50	--	<20	--	40	--	<5	--	670
08...	360	74	<50	<20	<20	40	40	<5	<5	660	660
12...	270	<50	<50	<20	<20	40	40	<5	<5	640	560
15...	420	<50	<50	<20	<20	50	50	<5	<5	870	710
16...	150	<50	64	<20	<20	40	40	<5	<5	310	260
19...	370	<50	68	<20	<20	40	40	<5	<5	700	500
22...	290	<50	<50	<20	<20	40	40	<5	<5	710	560
26...	370	56	<50	<20	<20	40	40	<5	<5	890	700
29...	240	<50	<50	<20	--	50	40	<5	<5	460	350

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
July											
03...	1540	150	6.7	14.0	170	41	0.10	--	18	17	7.0
06...	1455	120	6.6	15.0	170	49	.10	--	18	18	6.8
10...	1640	97	6.5	14.0	170	52	.10	--	--	20	--
13...	1545	79	6.7	17.0	190	57	.10	--	21	20	8.2
17...	1640	65	6.7	16.0	200	63	.10	--	22	21	8.3
19...	1520	65	6.5	16.0	200	63	.10	--	23	23	8.7
19...	1535	--	--	--	--	--	.10	--	21	--	7.4
21...	1605	48	8.2	17.0	200	64	.10	1,400	24	23	9.0
24...	1340	55	6.8	15.0	220	66	.10	--	25	24	9.6
24...	1650	--	--	--	--	--	.10	--	--	23	--
27...	1525	55	6.5	15.0	220	63	.10	--	25	25	9.8
31...	1500	58	6.5	15.0	190	62	.10	--	23	23	9.1
August											
04...	1735	49	6.4	19.0	210	71	.10	--	25	25	9.7
07...	1535	55	7.8	14.0	220	65	.10	--	24	24	9.4
10...	1103	46	7.8	11.0	240	71	.10	--	26	26	11
14...	1515	41	7.8	18.0	240	74	.10	--	27	27	11
16...	1430	29	8.3	14.0	220	74	.10	370	28	28	11
28...	1445	35	6.3	16.0	260	76	.10	--	28	29	11

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic total (mg/L)	Carbon, organic, dissolved (mg/L)	Barium, total recoverable (µg/L)
July											
03...	6.7	1.8	1.8	29	--	0.87	5.2	0.80	--	--	50
06...	7.0	1.6	1.6	25	<0.3	.68	5.4	.63	--	--	50
10...	7.5	--	2.0	29	--	.92	5.5	.85	--	--	--
13...	8.2	1.9	1.9	31	<.3	.87	5.8	1.6	--	--	60
17...	8.2	2.1	2.1	31	--	.98	6.0	.69	--	--	60
19...	8.7	2.0	2.1	33	--	.80	6.1	.63	--	--	60
19...	--	2.9	--	--	--	--	--	--	--	--	40
21...	8.9	2.0	2.1	33	--	.81	6.2	.55	1.3	1.5	60
24...	9.5	2.2	2.2	37	<.3	.85	6.3	.62	--	--	60
24...	9.5	--	2.1	--	--	--	6.3	--	--	--	--
27...	9.7	2.4	2.4	38	<.3	.96	6.4	.43	--	--	60
31...	9.1	2.3	2.3	33	<.3	.96	6.4	.38	--	--	60
August											
04...	10	2.4	2.4	36	<.3	.94	6.4	.36	--	--	70
07...	9.3	2.3	2.4	37	<.3	.95	6.2	.33	--	--	60
10...	11	2.3	2.4	41	<.3	.86	6.5	.48	--	--	70
14...	11	2.5	2.6	37	<.3	1.0	--	.53	--	--	70
16...	11	2.4	2.5	44	<.3	1.3	6.5	.43	7.4	1.2	70
28...	12	2.7	2.7	51	<.3	1.1	6.7	.61	--	--	80

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
July											
03...	42	<0.5	<0.5	<2	6	<7	8.0	<6	<6	8	<7
06...	47	<.5	<.5	6	<2	<7	--	<6	<6	<7	<7
10...	50	--	<.5	--	7	--	10	--	<6	--	<7
13...	54	<.5	<.5	6	10	7	<7	<6	<6	<7	<7
17...	55	.5	<.5	5	6	20	10	<6	<6	<7	<7
19...	58	<.5	.6	4	4	10	10	<6	<6	<7	<7
19...	--	<.5	--	5	--	10	--	<6	--	<7	--
21...	61	<.5	<.5	4	6	<7	10	<6	<6	<7	<7
24...	62	<.5	<.5	4	<2	8	12	<6	<6	<7	<7
24...	62	--	.7	--	6	--	20	--	<6	--	<7
27...	63	<.5	.5	6	3	10	20	<6	<6	<7	<7
31...	60	<.5	<.5	10	8	<7	10	<6	<6	<7	<7
August											
04...	67	.6	.5	7	10	10	9.0	<6	<6	<7	<7
07...	62	<.5	.5	8	7	--	10	<6	<6	<7	8
10...	67	.5	<.5	5	6	20	20	<6	<6	<7	<7
14...	70	<.5	<.5	6	5	<7	20	<6	<6	10	<7
16...	71	<.5	<.5	6	7	20	<7	<6	<6	<7	<7
28...	84	1.1	.9	10	30	10	10	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
July											
03...	20	5	780	40	--	--	--	80	<5	<5	640
06...	20	4	590	40	--	--	<50	<50	<5	<5	440
10...	--	8	--	30	--	--	--	<50	--	<5	--
13...	30	9	660	30	--	--	<50	<50	<5	<5	510
17...	30	7	740	30	--	390	<50	<50	<5	<5	480
19...	30	8	620	20	--	--	<50	<50	<5	<5	450
19...	10	--	270	--	--	--	<50	--	<5	--	110
21...	30	6	670	30	10	90	<50	<50	<5	<5	420
24...	30	4	800	17	--	--	70	--	<5	<5	570
24...	--	7	--	10	--	--	--	<50	--	<5	--
27...	30	7	740	20	--	--	90	80	<5	<5	520
31...	20	3	580	30	--	--	80	<50	<5	<5	420
August											
04...	20	4	640	20	--	--	<50	<50	<5	<5	450
07...	20	3	670	30	--	--	--	80	<5	<5	450
10...	30	4	710	30	--	--	160	120	<5	<5	530
14...	20	3	670	10	--	--	--	140	<5	<5	480
16...	20	1	570	30	--	--	120	<50	<5	<5	420
28...	20	3	840	20	--	--	<50	<50	--	<5	620

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
July											
03...	580	<50	<50	<20	<20	60	50	<5	<5	1,000	700
06...	430	<50	<50	<20	<20	50	60	<5	<5	820	580
10...	460	--	<50	--	<20	--	60	--	<5	--	640
13...	470	<50	<50	--	<20	60	60	<5	<5	960	610
17...	440	<50	<50	<20	<20	60	60	<5	<5	910	530
19...	440	<50	<50	<20	<20	70	70	<5	<5	890	580
19...	--	<50	--	<20	--	60	--	<5	--	190	--
21...	440	<50	<50	<20	<20	70	70	<5	<5	750	510
24...	540	<50	<50	<20	<20	70	70	<5	<5	1,000	620
24...	550	--	<50	--	<20	--	70	--	<5	--	630
27...	510	<50	<50	<20	<20	70	70	<5	<5	980	630
31...	420	<50	<50	--	<20	70	70	<5	<5	740	500
August											
04...	460	<50	<50	<20	<20	70	70	<5	<5	830	520
07...	450	<50	<50	<20	<20	70	70	<5	<5	850	600
10...	550	<50	<50	<20	<20	70	70	<5	<5	1,000	800
14...	490	<50	<50	<20	<20	70	--	<5	<5	880	--
16...	440	<50	<50	<20	<20	80	80	<5	<5	790	620
28...	620	<50	<50	<20	<20	80	80	<5	<5	1,100	660

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
September											
01...	1545	33	8.1	12.0	260	77	0.10	--	29	29	12
04...	1502	25	6.3	16.0	270	82	.10	--	30	30	12
08...	0845	25	6.2	7.5	300	84	.10	--	32	32	13
11...	0905	23	7.8	8.0	290	81	.10	--	30	31	13
15...	0840	25	7.5	5.0	280	76	.10	--	--	--	--
15...	1150	24	8.2	6.0	240	77	.10	660	28	28	11
18...	1205	21	7.9	11.0	280	80	.10	--	31	30	13
22...	0900	23	7.7	7.0	290	83	.10	--	33	32	14
27...	1330	21	7.9	10.0	290	80	.10	--	33	32	14
30...	0950	21	8.2	3.5	300	81	.10	--	33	33	14

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic total (mg/L)	Carbon, organic, dissolved (mg/L)	Barium, total recoverable (µg/L)
September											
01...	11	2.1	2.1	48	<0.3	0.79	6.8	0.42	--	--	80
04...	12	2.2	2.3	48	<.3	.68	6.9	.41	--	--	80
08...	14	4.8	5.1	59	<.3	2.2	6.7	.71	--	--	80
11...	13	3.9	4.0	53	<.3	1.8	6.9	2.1	--	--	70
15...	--	--	--	60	<.3	1.7	--	1.3	1.9	1.2	--
15...	11	3.3	3.4	40	<.3	1.7	6.9	1.0	--	--	80
18...	13	4.2	4.2	57	<.3	2.3	6.7	1.1	--	--	80
22...	14	4.1	4.0	61	<.3	1.1	6.8	.75	--	--	80
27...	14	4.2	4.1	63	<.3	2.1	7.0	1.3	--	--	80
30...	14	4.6	4.7	66	<.3	2.3	7.3	3.1	--	--	80

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
September											
01...	78	<0.5	0.8	10	6	9	8.0	<6	<6	<7	<7
04...	80	1.0	<.5	9	7	10	8.0	<6	<6	<7	<7
08...	75	1.1	<.5	20	20	7	10	<6	<6	<7	<7
11...	75	<.5	<.5	20	20	<7	9.0	<6	<6	8	<7
15...	--	--	--	--	--	--	--	--	--	--	--
15...	80	.6	1	30	30	<7	9.0	<6	<6	<7	<7
18...	71	1.1	.5	10	20	20	<7	<6	<6	<7	<7
22...	72	.9	.6	20	20	8	<7	<6	<6	8	<7
27...	75	.9	.6	20	20	<7	<7	<6	<6	9	<7
30...	80	<.5	<.5	20	40	10	<7	<6	<6	10	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
September											
01...	10	2	490	20	--	--	--	--	<5	<5	460
04...	10	<1	610	10	--	--	<50	--	--	<5	450
08...	30	1	1,200	20	--	--	--	<50	<5	<5	810
11...	30	2	1,200	20	--	--	--	<50	<5	<5	670
15...	--	--	--	--	50	40	--	--	--	--	--
15...	10	3	720	210	--	--	--	--	<5	<5	410
18...	30	6	1,100	8	--	--	<50	60	<5	<5	780
22...	35	5	1,300	7	--	--	120	90	<5	<5	1,000
27...	30	5	1,100	<5	--	--	130	<50	<5	5	960
30...	70	5	2,500	7	--	--	<50	<50	7	<5	1,000

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
September											
01...	450	<50	<50	<20	<20	80	80	<5	<5	790	580
04...	440	<50	<50	<20	<20	80	80	<5	<5	740	470
08...	790	<50	<50	<20	<20	80	80	<5	<5	1,700	1,100
11...	660	<50	<50	--	<20	80	80	<5	<5	1,400	840
15...	--	--	--	--	--	--	--	--	--	--	--
15...	430	<50	<50	<20	<20	70	70	<5	<5	810	610
18...	740	<50	<50	--	<20	80	80	<5	<5	1,500	840
22...	940	<50	<50	<20	<20	80	80	<5	<5	2,100	1,300
27...	920	<50	<50	20	<20	80	80	<5	<5	1,800	1,000
30...	1,000	<50	<50	<20	<20	80	80	<5	<5	3,100	1,600

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Sediment, suspended (mg/L)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued												
October												
03...	1530	21	7.8	11.0	290	84	0.10	--	--	32	31	14
07...	0850	21	7.8	6.5	300	79	.10	--	--	33	33	14
11...	1435	20	7.8	11.0	280	81	.10	--	--	31	31	14
14...	0825	17	7.5	4.5	300	79	.10	--	--	33	33	14
18...	1425	16	7.7	9.5	270	83	.10	--	--	31	30	13
19...	1345	16	8.1	6.0	260	83	.10	65.0	--	33	32	13
21...	1135	16	7.4	4.5	310	78	.10	--	--	35	35	15
25...	1415	16	8.3	5.0	270	83	.01	--	14	--	34	--
25...	1420	16	8.3	5.0	270	83	.10	--	14	33	34	14
25...	1425	--	--	--	--	--	.45	--	--	--	34	--
25...	1430	--	--	--	--	--	.10	--	--	--	--	--
25...	1515	--	--	--	--	--	.01	--	--	--	36	--
25...	1535	--	--	--	--	--	.01	--	--	--	36	--
25...	1540	--	--	--	--	--	.10	--	--	35	--	15
25...	1600	--	--	--	--	--	.10	--	--	35	--	15
25...	1630	--	--	--	--	--	.01	--	--	--	35	--
25...	1635	--	--	--	--	--	.01	--	--	35	36	15
25...	1700	--	--	--	--	--	.10	--	--	35	--	15
25...	1725	--	--	--	--	--	.01	--	--	--	37	--
25...	1730	--	--	--	--	--	.10	--	--	36	--	15
25...	1735	--	--	--	--	--	.01	--	--	--	26	--
28...	1225	17	7.5	3.0	370	73	.10	--	--	41	40	18

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic total (mg/L)	Carbon, organic, dissolved (mg/L)	Barium, total recoverable (µg/L)
October											
03...	14	5.0	5.0	57	--	2.6	6.8	2.0	--	--	90
07...	15	3.8	3.8	70	<0.3	1.9	7.2	1.8	--	--	80
11...	14	3.5	3.5	59	<.3	2.2	6.9	1.9	--	--	90
14...	14	2.1	2.1	71	<.3	.92	7.1	.62	--	--	80
18...	13	2.1	2.0	53	.71	2.1	6.9	.53	--	--	80
19...	14	2.2	2.2	66	<.3	.88	7.2	.36	1.0	0.7	80
21...	15	2.2	2.2	78	<.3	.79	7.2	.51	--	--	80
25...	14	--	2.2	--	--	--	7.2	--	--	--	--
25...	14	2.2	2.3	68	<.3	.74	7.2	.76	--	--	80
25...	14	--	2.2	--	--	--	7.3	--	--	--	--
25...	--	--	--	84	<.3	.94	--	.43	--	--	--
25...	15	--	2.2	77	<.3	.69	7.3	.52	--	--	--
25...	15	--	2.3	--	--	--	7.3	--	--	--	--
25...	--	2.3	--	--	--	--	--	--	--	--	80
25...	--	2.2	--	--	--	--	--	--	--	--	80
25...	15	--	2.2	80	<.3	.41	7.2	1.5	--	--	--
25...	15	2.2	2.3	78	<.3	.74	7.3	.67	--	--	80
25...	--	2.2	--	--	--	--	--	--	--	--	80
25...	15	--	2.3	83	<.3	.71	7.5	.80	--	--	--
25...	--	2.3	--	--	--	--	--	--	--	--	80
25...	9.4	--	4.3	--	--	--	8.8	--	--	--	--
28...	18	2.3	2.3	110	<.3	.92	7.2	.57	--	--	80

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
October											
03...	82	1.1	<0.5	40	30	10	--	<6	<6	<7	<7
07...	84	<.5	<.5	30	30	<7	--	<6	<6	8	<7
11...	84	1.2	<.5	40	40	<7	<7	<6	<6	<7	<7
14...	75	.7	<.5	8	8	9	<7	8	10	<7	<7
18...	77	<.5	<.5	20	8	<7	<7	12	10	<7	<7
19...	83	<.5	<.5	5	4	--	--	<6	<6	<7	<7
21...	84	.7	<.5	10	30	9	<7	<6	<6	10	<7
25...	77	--	.6	--	2	--	7.0	--	<6	--	<7
25...	78	<.5	<.5	3	2	10	10	<6	<6	<7	<7
25...	78	--	<.5	--	3	--	9.0	--	<6	--	<7
25...	--	--	--	--	--	--	--	--	--	--	--
25...	79	--	<.5	--	<2	--	8.0	--	<6	--	<7
25...	79	--	.8	--	4	--	10	--	<6	--	<7
25...	--	<.5	--	4	--	20	--	<6	--	10	--
25...	--	.6	--	10	--	15	--	<6	--	<7	--
25...	78	--	<.5	--	7	--	20	--	<6	--	<7
25...	79	<.5	<.5	5	9	20	20	<6	<6	10	<7
25...	--	<.5	--	4	--	20	--	<6	--	10	--
25...	81	--	<.5	--	<2	--	10	--	<6	--	<7
25...	--	<.5	--	3	--	10	--	<6	--	10	--
25...	47	--	<.5	--	8	--	10	--	<6	--	<7
28...	72	<.5	<.5	7	5	10	9.0	<6	<6	30	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
October											
03...	10	2	590	10	--	--	<50	<50	--	<5	640
07...	40	3	1,500	8	--	--	<50	--	<5	--	1,100
11...	20	6	610	9	--	--	130	<50	<5	<5	660
14...	30	4	1,800	20	--	--	<50	--	<5	<5	1,400
18...	9	3	410	10	--	--	<50	<50	--	<5	450
19...	8	4	480	10	<5	<5	<50	--	--	--	490
21...	40	2	2,600	6	--	--	70	--	<5	<5	1,600
25...	--	3	--	<5	--	--	--	--	--	--	--
25...	20	3	1,100	9	--	--	<50	<50	<5	<5	800
25...	--	4	--	70	--	--	--	60	--	<5	--
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	1	--	10	--	--	--	--	--	8	--
25...	--	2	--	6	--	--	--	--	--	<5	--
25...	30	--	1,800	--	--	--	60	--	5	--	1,300
25...	30	--	2,000	--	--	--	<50	--	5	--	1,300
25...	--	2	--	30	--	--	--	<50	--	<5	--
25...	20	2	1,500	30	--	--	80	<50	<5	<5	1,500
25...	20	--	1,400	--	--	--	90	--	6	--	1,500
25...	--	2	--	30	--	--	--	<50	--	6	--
25...	20	--	1,400	--	--	--	<50	--	<5	--	1,600
25...	--	3	--	<5	--	--	--	<50	--	40	--
28...	80	3	6,400	<5	--	--	110	<50	<5	<5	3,100

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
October											
03...	580	<50	<50	<20	<20	80	80	<5	<5	1,200	710
07...	1,000	<50	<50	<20	<20	80	80	<5	<5	2,500	1,800
11...	650	<50	<50	<20	<20	80	80	<5	<5	1,100	800
14...	1,400	<50	<50	--	<20	80	80	<5	<5	2,300	1,900
18...	440	<50	<50	<20	<20	80	70	<5	<5	610	490
19...	480	<50	<50	<20	<20	80	80	<5	<5	760	620
21...	1,600	<50	51	<20	<20	80	80	<5	<5	2,700	1,900
25...	810	--	<50	--	20	--	80	--	<5	--	980
25...	820	63	60	20	<20	80	80	<5	<5	1,300	1,100
25...	810	--	<50	--	20	--	80	--	<5	--	1,000
25...	--	--	--	--	--	--	--	--	--	--	--
25...	1,300	--	<50	--	<20	--	80	--	<5	--	1,700
25...	1,300	--	<50	--	<20	--	80	--	<5	--	1,700
25...	--	<50	--	<20	--	90	--	<5	--	2,200	--
25...	--	<50	--	20	--	80	--	<5	--	2,300	--
25...	1,300	--	<50	--	<20	--	80	--	<5	--	1,700
25...	1,500	53	<50	<20	<20	80	80	<5	<5	2,300	2,000
25...	--	<50	--	<20	--	80	--	<5	--	2,400	--
25...	1,600	--	67	--	<20	--	90	--	<5	--	2,200
25...	--	<50	--	<20	--	80	--	<5	--	2,600	--
25...	260	--	<50	--	20	--	70	--	<5	--	330
28...	3,000	<50	<50	20	30	90	90	<5	<5	5,100	3,600

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Sediment, suspended (mg/L)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989												
March												
29...	1335	22	7.3	3.5	340	58	0.01	--	--	--	36	--
29...	1340	22	7.3	3.5	340	58	.10	--	--	35	34	16
May												
03...	1100	43	7.8	4.0	220	52	.01	230	--	--	23	--
03...	1105	43	7.8	4.0	220	52	.10	230	--	23	24	9.9
10...	1440	150	7.3	8.0	140	38	.10	--	--	13	14	5.8
16...	0955	120	7.4	5.0	160	37	.10	--	--	17	17	6.8
18...	1250	87	7.7	10.0	180	46	.01	1,700	--	--	19	--
18...	1255	87	7.7	10.0	180	46	.10	1,700	--	19	18	7.6
23...	1140	240	7.3	7.0	140	28	.01	--	33	--	13	--
23...	1145	240	7.3	7.0	140	28	.10	--	33	14	14	5.9
23...	1150	--	--	--	--	--	.45	--	--	--	14	--
23...	1345	--	--	--	--	--	.01	--	--	--	13	--
23...	1348	--	--	--	--	--	.01	--	--	--	13	--
23...	1350	--	--	--	--	--	.01	--	--	--	14	--
23...	1351	--	--	--	--	--	.01	--	--	--	13	--
23...	1400	--	--	--	--	--	.01	--	--	--	--	--
23...	1414	--	--	--	--	--	.01	--	--	--	13	--
23...	1420	--	--	--	--	--	.01	--	--	--	13	--
23...	1512	--	--	--	--	--	.01	--	--	--	13	--
June												
05...	1555	170	6.9	12.0	140	41	.01	1,600	--	--	13	--
05...	1600	170	6.9	12.0	140	41	.10	1,600	--	14	13	5.5
16...	0845	190	7.5	0.0	120	35	.10	--	--	12	12	4.8
23...	0920	120	7.1	7.0	150	45	.10	--	--	15	15	6.2
28...	1255	110	7.7	11.0	150	43	.01	--	--	--	15	--
28...	1300	110	7.7	11.0	150	43	.10	--	--	16	16	6.5
29...	1130	120	7.6	11.0	140	40	.10	--	--	15	15	6.0

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued							
March												
29...	16	--	3.8	--	--	--	8.6	--	--	1.6	--	--
29...	16	3.7	3.8	96	<0.3	1.7	8.4	0.85	--	1.6	--	--
May												
03...	10	--	2.5	--	--	--	7.5	--	3.1	2.2	--	--
03...	10	2.4	2.6	51	<.3	1.2	7.7	.78	3.1	2.2	--	--
10...	5.6	1.8	1.9	31	<.3	.87	6.1	.49	--	--	70	--
16...	6.9	1.9	1.9	34	<.3	.80	6.8	.44	--	--	--	--
18...	7.7	--	2.0	--	--	--	6.4	--	--	--	--	--
18...	7.4	2.0	2.0	38	<.3	.92	6.5	.56	--	--	--	--
23...	5.7	--	1.6	--	--	--	5.2	--	--	3.9	--	--
23...	5.7	1.6	1.6	32	<.3	.83	5.4	.97	--	3.9	380	--
23...	5.8	--	1.6	--	--	--	5.4	--	--	--	--	--
23...	5.4	--	1.6	34	<.3	.86	5.4	.69	--	--	--	--
23...	5.4	--	1.6	32	<.3	.84	5.4	.71	--	--	--	--
23...	5.5	--	1.7	33	<.3	.86	5.5	.50	--	--	--	--
23...	5.3	--	1.6	33	<.3	.83	5.3	.49	--	--	--	--
23...	--	--	--	33	<.3	.87	--	.49	--	--	--	--
23...	5.3	--	1.6	32	<.3	.87	5.3	.44	--	--	--	--
23...	5.6	--	1.6	32	<.3	.86	5.3	.44	--	--	--	--
23...	5.5	--	1.6	32	<.3	.91	5.4	.77	--	--	--	--
June												
05...	5.3	--	1.2	--	--	--	5.2	--	3.7	2.3	--	--
05...	5.3	1.2	1.3	21	<.3	.49	5.2	--	3.7	2.3	50	--
16...	4.7	1.1	1.1	18	<.3	.59	4.4	.55	--	--	--	--
23...	6.1	1.2	1.4	23	<.3	.62	5.1	<.20	--	--	--	50
28...	6.4	--	1.5	--	--	--	4.8	--	2.3	1.8	--	--
28...	6.4	1.6	1.6	26	<.3	.72	4.8	.68	2.3	1.8	<40	--
29...	6.1	1.4	1.4	26	<.3	.70	4.8	.41	--	--	--	--

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued												
March												
29...	--	64	--	0.7	--	9	--	8.0	--	<6	--	<7
29...	70	61	0.8	.7	10	20	10	8.0	<6	<6	20	<7
May												
03...	--	54	--	1	--	<2	--	<7	--	<6	--	<7
03...	60	54	.5	.5	<2	<2	<7	10	<6	<6	10	<7
10...	40	35	<.5	.6	10	<2	<7	--	<6	<6	<7	<7
16...	40	40	<.5	.8	<2	<2	<7	<7	<6	<6	<7	<7
18...	--	45	--	2	--	<2	--	11	--	<6	--	<7
18...	50	44	1.3	<.5	<2	7	<7	<7	<6	<6	<7	<7
23...	--	32	--	<.5	--	6	--	<7	--	<6	--	<7
23...	40	32	1.1	<.5	<2	<2	20	10	<6	<6	<7	<7
23...	--	33	--	<.5	--	5	--	<7	--	<6	--	<7
23...	--	28	--	<.5	--	7	--	<7	--	<6	--	<7
23...	--	29	--	<.5	--	10	--	<7	--	<6	--	<7
23...	--	30	--	<.5	--	<2	--	10	--	<6	--	10
23...	--	28	--	<.5	--	10	--	<7	--	<6	--	<7
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	30	--	.6	--	<2	--	10	--	<6	--	<7
23...	--	29	--	<.5	--	10	--	<7	--	<6	--	<7
23...	--	31	--	.6	--	2	--	<7	--	<6	--	<7
June												
05...	--	34	--	<.5	--	5	--	<7	--	10	--	<7
05...	40	35	.9	<.5	5	<2	10	<7	<6	10	<7	<7
16...	30	32	<.5	<.5	6	5	<7	<7	<6	<6	<7	<7
23...	40	41	<.5	<.5	2	<2	<7	10	<6	7	<7	<7
28...	--	37	--	1	--	10	--	9.0	--	<6	--	<7
28...	40	40	<.5	<.5	4	5	<7	<7	<6	<6	<7	<7
29...	40	41	1.5	<.5	<2	2	<7	<7	<6	<6	<7	<7

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
29...	--	7	--	20	--	280	--	<50	--	170	--
29...	30	10	2,300	170	--	280	<50	<50	5	5	2,400
May											
03...	--	7	--	30	250	350	--	--	--	30	--
03...	30	1	790	110	250	350	--	<50	9	<5	870
10...	30	4	750	70	--	--	<50	<50	<5	--	620
16...	6	7	350	110	--	--	<50	<50	<5	5	560
18...	--	5	--	10	--	30	--	60	--	70	--
18...	10	10	460	60	--	30	<50	<50	<5	<5	550
23...	--	7	--	30	40	30	--	--	--	200	--
23...	20	7	1,300	70	40	30	<50	<50	<5	5	840
23...	--	8	--	100	--	--	--	<50	--	<5	--
23...	--	12	--	140	--	--	--	<50	--	<5	--
23...	--	5	--	70	--	--	--	<50	--	<5	--
23...	--	8	--	40	--	--	--	<50	--	<5	--
23...	--	5	--	60	--	--	--	<50	--	<5	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	7	--	40	--	--	--	--	--	<5	--
23...	--	5	--	40	--	--	--	<50	--	<5	--
23...	--	5	--	40	--	--	--	<50	--	<5	--
June											
05...	--	6	--	20	--	50	--	<50	--	190	--
05...	20	5	440	80	--	50	<50	--	<5	<5	280
16...	20	20	280	80	--	--	--	--	<5	<5	250
23...	20	10	220	60	--	--	<50	--	<5	8	340
28...	--	10	--	10	--	--	--	<50	--	50	--
28...	30	6	350	50	--	--	--	--	--	<5	380
29...	20	10	270	50	--	--	--	--	<5	--	310

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
29...	2,400	--	<50	--	<20	--	80	--	<5	--	2,300
29...	2,400	<50	<50	--	--	80	80	<5	<5	2,900	2,400
May											
03...	870	--	<50	--	<20	--	70	--	<5	--	1,600
03...	890	<50	<50	--	20	70	70	<5	<5	1,800	1,700
10...	600	<50	<50	<20	--	40	50	<5	<5	1,200	1,100
16...	550	<50	55	<20	<20	50	50	<5	<5	1,200	1,100
18...	530	--	<50	--	--	--	60	--	<5	--	980
18...	520	<50	<50	<20	<20	60	60	<5	<5	1,200	990
23...	670	--	<50	--	<20	--	40	--	<5	--	1,300
23...	690	<50	<50	<20	<20	40	40	<5	<5	1,900	1,300
23...	690	--	<50	--	<20	--	40	--	<5	--	1,300
23...	590	--	<50	--	<20	--	40	--	<5	--	1,100
23...	590	--	<50	--	<20	--	40	--	<5	--	1,100
23...	600	--	<50	--	20	--	40	--	<5	--	1,200
23...	580	--	<50	--	<20	--	40	--	<5	--	1,100
23...	--	--	--	--	--	--	--	--	--	--	--
23...	570	--	<50	--	<20	--	40	--	<5	--	1,100
23...	600	--	<50	--	--	--	40	--	<5	--	1,100
23...	590	--	<50	--	<20	--	40	--	<5	--	1,200
June											
05...	210	--	<50	--	20	--	40	--	<5	--	550
05...	210	53	<50	--	<20	40	40	<5	<5	670	550
16...	230	<50	<50	<20	--	40	40	<5	<5	680	600
23...	330	<50	<50	<20	<20	50	50	<5	<5	860	760
28...	370	--	<50	--	<20	--	50	--	<5	--	910
28...	370	<50	<50	<20	<20	50	50	<5	<5	960	860
29...	300	<50	<50	--	--	50	50	<5	<5	770	730

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
July											
07...	0820	--	--	--	--	--	0.10	--	16	--	6.7
07...	0840	90	7.7	9.0	160	48	.10	--	--	17	--
14...	1030	100	7.6	11.0	160	47	.10	--	17	17	6.9
17...	1255	65	7.6	13.0	170	55	.01	--	--	19	--
17...	1300	65	7.6	13.0	170	55	.10	--	18	18	7.4
21...	0825	57	7.5	9.5	190	56	.10	--	21	22	8.9
28...	0820	75	7.5	9.5	180	55	.10	--	21	21	8.3
August											
02...	0755	120	7.6	11.0	150	48	.10	--	15	16	6.1
16...	1335	49	7.2	13.0	200	70	.01	580	--	26	--
16...	1340	49	7.2	13.0	200	70	.10	580	27	24	12
25...	0850	35	7.2	7.0	230	74	.10	--	29	28	12
September											
01...	0900	30	7.7	6.5	240	77	.10	0.0	33	30	14
06...	1410	25	7.5	12.0	250	78	.10	0.0	31	29	13
11...	1525	23	7.0	9.0	240	70	.01	0.0	--	29	--
11...	1530	23	7.0	9.0	240	70	.10	0.0	29	--	13
11...	1535	--	--	--	--	--	.45	--	--	29	--
13...	1510	33	7.4	7.5	230	66	.10	0.0	32	31	14
17...	1530	--	--	--	--	--	.10	--	30	--	13
19...	0900	23	7.5	5.5	280	84	.10	--	33	32	15
27...	1430	22	7.7	--	270	84	.10	--	33	32	15
October											
03...	1530	--	--	--	--	--	.10	--	--	--	--
06...	1420	22	6.8	8.5	270	83	.10	--	31	34	14
22...	1030	21	6.6	3.0	310	81	.10	--	33	33	14
25...	1430	--	--	--	--	--	.10	--	--	--	--

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic total (mg/L)	Carbon, organic, dissolved (mg/L)	Barium, total recoverable (µg/L)
July											
07...	--	1.5	--	--	--	--	--	--	--	--	40
07...	6.9	--	1.6	29	<0.3	0.79	5.0	0.48	--	--	--
14...	7.0	1.6	1.7	30	<.3	.88	5.2	.33	--	--	50
17...	7.5	--	1.8	--	--	--	5.3	--	1.9	1.5	--
17...	7.5	1.7	1.9	30	<.3	.91	5.3	.51	1.9	1.5	50
21...	8.9	2.1	2.1	38	<.3	.99	5.6	--	--	--	60
28...	8.4	2.2	2.2	39	<.3	1.1	5.8	.70	--	--	60
August											
02...	6.3	1.6	1.7	23	<.3	.74	5.6	.42	--	--	50
16...	11	--	2.3	--	--	--	6.7	--	1.5	1.3	--
16...	9.6	2.3	2.1	38	<.3	.86	6.1	.43	1.5	1.3	60
25...	12	3.2	3.2	59	<.3	1.5	6.9	.68	--	--	70
September											
01...	13	3.3	3.2	62	<.3	1.5	6.8	.66	--	--	80
06...	12	3.7	3.4	66	<.3	1.8	6.7	1.2	--	--	70
11...	13	--	3.1	--	--	--	6.7	--	--	9.5	--
11...	--	3.1	--	57	<.3	1.4	--	.92	--	9.5	70
11...	13	--	3.1	--	--	--	6.8	--	--	--	--
13...	14	3.4	3.4	66	<.3	1.4	7.2	.96	--	--	70
17...	--	3.2	--	--	--	--	--	--	--	--	70
19...	14	4.1	4.0	78	<.3	2.1	6.9	1.2	--	--	80
27...	15	3.6	3.5	74	<.3	1.7	7.1	1.0	--	--	80
October											
03...	--	--	--	58	<.3	3.3	--	--	--	--	--
06...	15	3.2	3.8	74	<.3	1.6	7.3	.87	--	--	70
22...	14	4.4	4.6	77	<.3	2.2	7.3	--	--	--	70
25...	--	--	--	85	<.3	.90	--	.53	--	--	--

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
July											
07...	--	0.7	--	6	--	<7	--	<6	--	<7	--
07...	45	--	<0.5	--	3	--	<7	--	<6	--	7
14...	44	<.5	.8	2	<2	--	8.0	<6	<6	<7	<7
17...	51	--	<.5	--	<2	--	--	--	<6	--	<7
17...	48	<.5	<.5	<2	<2	<7	<7	<6	<6	<7	<7
21...	58	.5	2	6	9	<7	--	9	<6	<7	<7
28...	54	1.4	1	8	5	10	--	<6	<6	<7	<7
August											
02...	48	.7	<.5	<2	<2	<7	9.0	15	<6	<7	<7
16...	62	--	<.5	--	4	--	<7	--	<6	--	<7
16...	63	<.5	<.5	<2	8	8	--	<6	7	<7	<7
25...	69	<.5	<.5	10	10	10	<7	<6	<6	<7	<7
September											
01...	72	<.5	.7	<2	20	7	8.0	11	<6	<7	<7
06...	71	<.5	<.5	9	6	<7	8.0	8	<6	<7	<7
11...	71	--	<.5	--	10	--	<7	--	<6	--	<7
11...	--	<.5	--	<2	--	<7	--	<6	--	<7	--
11...	72	--	<.5	--	9	--	<7	--	<6	--	<7
13...	68	<.5	<.5	5	6	<7	<7	<6	8	<7	<7
17...	--	<.5	--	10	--	<7	--	<6	--	<7	--
19...	72	<.5	<.5	10	20	10	--	<6	<6	<7	<7
27...	74	.5	<.5	10	8	8	<7	<6	<6	<7	<7
October											
03...	--	--	--	--	--	--	--	--	--	--	--
06...	72	<.5	.5	10	7	--	<7	<6	<6	<7	<7
22...	70	<.5	<.5	<2	10	8	<7	7	10	<7	<7
25...	--	--	--	--	--	--	--	--	--	--	--

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
July											
07...	30	--	380	--	--	<50	--	<5	--	380	--
07...	--	10	--	50	--	--	--	--	<5	--	380
14...	20	--	450	60	--	<50	<50	<5	6	440	460
17...	--	3	--	10	10	--	<50	--	--	--	350
17...	20	5	440	80	10	<50	<50	<5	5	350	350
21...	20	--	620	30	--	--	<50	<5	<5	550	550
28...	70	--	510	60	--	60	<50	5	<5	620	610
August											
02...	8	5	430	120	--	<50	<50	<5	<5	300	280
16...	--	3	--	20	20	--	<50	--	--	--	460
16...	8	1	280	50	20	90	--	--	--	440	430
25...	30	--	460	30	--	--	<50	--	<5	960	910
September											
01...	30	5	540	30	--	<50	<50	<5	--	940	900
06...	30	4	520	25	--	--	--	<5	<5	940	780
11...	--	6	--	5	--	--	--	--	40	--	670
11...	26	--	400	--	--	<50	--	<5	--	700	--
11...	--	7	--	80	--	--	--	--	<5	--	680
13...	20	5	510	30	--	--	--	9	10	1,100	1,100
17...	30	--	400	--	--	<50	--	<5	--	690	--
19...	40	7	630	20	--	<50	--	<5	<5	1,300	1,200
27...	30	4	650	30	--	<50	<50	--	<5	1,100	1,000
October											
03...	--	--	--	--	--	--	--	--	--	--	--
06...	30	3	790	10	--	<50	<50	<5	--	930	1,200
22...	10	5	370	20	--	<50	<50	<5	<5	1,000	990
25...	--	--	--	--	--	--	--	--	--	--	--

Table 16.--*Hydrologic data for station 391313106212000, Arkansas River at Malta*--Continued

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued										
July										
07...	<50	--	--	--	50	--	<5	--	930	--
07...	--	<50	--	--	--	50	--	<5	--	850
14...	<50	<50	<20	30	50	50	<5	<5	940	800
17...	--	<50	--	<20	--	60	--	<5	--	530
17...	<50	<50	<20	<20	50	50	<5	<5	750	570
21...	<50	79	--	<20	60	60	<5	<5	1,100	950
28...	<50	64	<20	20	60	60	<5	<5	1,200	1,000
August										
02...	<50	<50	20	<20	50	60	<5	<5	520	430
16...	--	<50	--	<20	--	70	--	<5	--	700
16...	<50	<50	<20	<20	80	70	<5	<5	880	600
25...	<50	<50	<20	--	80	80	<5	<5	1,900	1,500
September										
01...	<50	<50	--	20	90	80	<5	<5	2,000	1,500
06...	<50	<50	--	--	80	80	<5	<5	1,700	1,200
11...	--	<50	--	20	--	80	--	<5	--	990
11...	<50	--	<20	--	80	--	<5	--	1,500	--
11...	--	<50	--	20	--	80	--	<5	--	1,100
13...	<50	<50	--	<20	80	80	<5	<5	2,200	1,800
17...	<50	--	--	--	80	--	<5	--	1,400	--
19...	<50	<50	<20	20	80	80	<5	<5	2,700	2,000
27...	<50	<50	<20	<20	80	80	<5	<5	2,100	1,700
October										
03...	--	--	--	--	--	--	--	--	--	--
06...	<50	<50	<20	--	80	80	<5	<5	1,900	1,800
22...	<50	<50	20	<20	80	80	<5	<5	2,100	1,500
25...	--	--	--	--	--	--	--	--	--	--

Table 17.--Hydrologic data for station 391322106212400, Arkansas River above California Gulch, at Malta

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Sediment, suspended (mg/L)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April											
29...	1100	85	7.5	1.5	150	42	0.10	8	16	--	6.3
29...	1105	85	7.5	1.5	150	42	.45	8	--	16	--
September											
04...	1345	42	8.0	11.0	290	53	.10	3	--	23	--
November											
19...	0840	30	7.8	0.0	230	53	.10	--	26	27	10
December											
10...	1005	--	7.6	0.0	240	56	.10	--	26	29	10

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
April											
29...	--	2.5	--	--	--	--	--	--	4.2	50	--
29...	6.3	--	2.1	--	--	--	8.1	--	4.2	--	50
September											
04...	9.2	--	2.2	27	<0.3	0.70	6.7	--	1.7	--	<40
November											
19...	10	2.1	2.0	40	.58	.99	4.1	0.96	1.0	<40	<40
December											
10...	12	2.5	2.0	41	.59	.90	9.9	.91	2.1	<40	<40

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)
April											
29...	50	--	0.5	--	<2	--	<7	--	<6	--	<7
29...	--	44	--	0.5	--	<2	--	<7	--	<6	--
September											
04...	--	70	--	.5	--	<2	--	<7	--	<6	--
November											
19...	70	92	.5	<.5	<2	<2	<7	<7	<6	<6	<7
December											
10...	70	73	.5	.5	<2	<2	<7	<7	<6	<6	<7

Table 17.--*Hydrologic data for station 391322106212400, Arkansas River above California Gulch, at Malta*--Continued

Date	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986--Continued										
April										
29...	--	10	--	350	--	<50	--	<5	--	120
29...	<7	--	10	--	370	--	<50	--	<5	--
September										
04...	<7	--	10	--	70	--	<50	--	6	--
November										
19...	<7	10	5	140	15	<50	<50	7	<5	90
December										
10...	<7	10	10	140	50	<50	<50	8	5	70

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April										
29...	--	<50	--	--	60	--	6	--	210	--
29...	110	--	<50	--	--	50	--	6	--	180
September										
04...	60	--	<50	--	--	70	--	6	--	120
November										
19...	95	<50	<50	30	70	70	6	6	260	240
December										
10...	80	<50	<50	--	70	80	6	6	250	240

Table 17.--*Hydrologic data for station 391322106212400, Arkansas River above California Gulch, at Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987												
January												
22...	1330	--	7.7	0.0	250	63	0.10	--	--	14	--	7.9
March												
04...	1345	--	7.5	2.0	210	59	.10	--	33	32	13	14
04...	1350	--	--	--	--	--	.45	--	--	32	--	13
April												
27...	1420	130	7.7	8.0	120	20	.10	--	--	14	--	8.4
May												
19...	1125	340	6.8	6.5	68	13	.10	--	9.6	9.5	3.8	3.8
27...	1100	170	7.8	4.0	130	30	.10	--	14	13	5.3	5.3
June												
01...	1700	160	7.6	13.0	110	20	.10	--	12	12	4.9	4.9
10...	0940	280	7.2	5.0	98	19	.10	1,200	11	11	4.2	4.4
24...	1500	130	7.4	13.0	130	33	.10	1,800	13	13	5.2	5.3
July												
16...	0930	60	7.1	9.0	130	50	.10	1,200	20	20	7.0	7.0
August												
19...	0929	26	7.7	8.0	200	67	.10	1,200	27	27	--	--
September												
27...	1205	--	--	--	--	--	.45	--	--	--	--	--
October												
27...	1310	18	8.8	5.5	280	39	.10	1,000	32	33	13	14
December												
21...	1115	--	7.8	1.0	310	69	.10	--	36	35	16	14

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
January											
22...	0.4	0.61	64	0.60	1.3	2.6	1.4	1.1	2,700	1,300	10
March											
04...	1.9	2.1	40	--	1.5	5.0	--	.6	--	--	80
04...	--	1.9	--	--	--	4.9	--	--	--	--	--
April											
27...	--	.93	25	--	.56	2.6	--	--	--	240	100
May											
19...	1.1	1.0	12	.56	.75	2.2	.72	2.6	--	--	30
27...	1.4	1.4	--	--	--	4.5	--	3.6	--	--	40
June											
01...	1.1	1.2	15	.48	.69	6.1	.67	4.1	150	60	40
10...	1.1	1.3	10	.46	.39	1.5	.52	3.1	--	60	30
24...	1.1	1.1	14	.54	.41	3.1	.96	1.7	--	--	40
July											
16...	1.1	1.2	--	--	<.3	<.04	--	1.2	--	--	60
August											
19...	1.7	1.7	31	--	.43	<.04	.38	.7	--	--	80
September											
27...	--	--	20	.53	1.5	--	.30	--	--	--	--
October											
27...	2.2	2.5	48	.34	.83	2.3	.67	.7	--	--	80
December											
21...	3.0	2.2	59	--	1.0	3.1	.91	.5	--	--	90

Table 17.--*Hydrologic data for station 391322106212400, Arkansas River above California Gulch, at Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued						
January											
22...	47	1.2	2	7	30	20	10	41	70	<7	9
March											
04...	70	.6	.8	8	10	--	<7	<6	<6	<7	<7
04...	71	--	<.5	--	10	--	<7	--	<6	--	<7
April											
27...	45	--	1	--	10	--	<7	560	--	--	<7
May											
19...	29	<.5	<.5	6	<2	--	--	<6	<6	<7	<7
27...	37	<.5	<.5	10	<2	<7	<7	<6	<6	<7	<7
June											
01...	34	.5	<.5	<2	6	--	<7	<6	<6	<7	<7
10...	30	<.5	<.5	<2	<2	--	<7	<6	<6	<7	<7
24...	35	<.5	.7	6	8	--	--	<6	<6	<7	<7
July											
16...	58	<.5	.5	<2	<2	20	30	<6	<6	<7	<7
August											
19...	71	<.5	<.5	10	10	<7	<7	<6	<6	<7	<7
September											
27...	--	--	--	--	--	--	--	--	--	--	--
October											
27...	80	3.6	5	<2	<2	--	10	9	<6	<7	<7
December											
21...	83	<.5	<.5	10	7	--	--	50	<6	8	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
January											
22...	60	20	1,100	1,200	--	--	--	<50	--	--	1,300
March											
04...	2	6	160	60	--	--	--	--	<5	<5	90
04...	--	5	--	50	--	--	--	<50	--	--	--
April											
27...	110	20	510	--	--	--	--	--	--	--	110
May											
19...	--	3	230	120	--	--	--	<50	<5	5	80
27...	6	3	190	130	--	--	<50	<50	20	10	90
June											
01...	3	3	120	10	--	--	--	<50	<5	--	60
10...	<1	<1	230	90	--	80	--	--	<5	10	40
24...	3	6	190	30	70	800	<50	<50	<5	--	50
July											
16...	3	<1	140	40	--	820	300	300	<5	<5	60
August											
19...	<1	2	160	30	30	670	--	--	<5	<5	80
September											
27...	--	--	--	--	--	--	--	--	--	--	--
October											
27...	2	1	150	80	10	20	<50	90	20	20	110
December											
21...	6	<1	120	9	--	--	--	--	30	<5	110

Table 17.--*Hydrologic data for station 391322106212400, Arkansas River above California Gulch, at Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
January											
22...	140	<50	<50	--	30	20	50	<5	<5	3,500	200
March											
04...	90	56	<50	<20	20	80	80	8	7	330	330
04...	100	--	<50	--	--	--	80	--	<5	--	330
April											
27...	--	--	<50	60	--	90	40	500	--	510	--
May											
19...	50	<50	<50	20	<20	40	30	<5	<5	190	150
27...	80	<50	<50	--	--	50	50	<5	<5	220	190
June											
01...	50	<50	<50	<20	<20	40	40	<5	<5	140	140
10...	50	<50	<50	<20	<20	40	40	<5	<5	110	140
24...	50	<50	<50	40	30	40	40	<5	<5	100	100
July											
16...	80	<50	<50	<20	<20	60	60	17	16	130	170
August											
19...	100	<50	<50	<20	<20	70	70	<5	<5	150	--
September											
27...	--	--	--	--	--	--	--	--	--	--	--
October											
27...	350	<50	<50	<20	<20	70	70	<5	<5	280	--
December											
21...	110	<50	<50	<20	<20	80	80	10	<5	390	380

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988												
January												
27...	1040	--	8.4	0.0	270	69	0.10	530	37	37	17	16
February												
29...	1000	6.0	8.1	0.0	280	87	.10	700	36	38	16	17
April												
06...	1645	17	8.7	8.5	310	79	.10	620	31	33	15	16
May												
18...	1055	190	7.1	5.5	100	30	.10	460	11	12	4.0	4.3
24...	1530	93	7.7	12.0	160	44	.10	--	16	16	6.0	6.2
June												
01...	0850	150	7.7	3.0	140	38	.10	940	13	12	4.9	4.8
08...	1040	400	7.7	7.5	100	28	.10	1,600	9.5	9.1	3.6	3.4
16...	1400	230	7.7	11.0	110	37	.10	2,000	12	11	4.5	4.5
29...	1535	250	7.8	11.0	120	39	.10	670	13	13	4.8	4.7
July												
21...	1530	140	8.2	17.0	190	67	.10	1,500	22	22	8.3	8.1
August												
16...	1405	27	8.1	14.0	200	76	.10	550	27	26	11	10
September												
15...	1155	22	7.8	6.0	220	76	.10	670	26	26	11	11
October												
19...	1342	15	8.0	6.0	240	86	.10	65.0	30	30	12	12

Table 17.--*Hydrologic data for station 391322106212400, Arkansas River above California Gulch, at Malta*--Continued

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
January											
27...	2.7	2.7	73	--	1.1	3.3	1.1	0.7	--	--	90
February											
29...	2.6	3.0	71	--	1.0	2.9	.91	.7	--	--	80
April											
06...	2.4	2.9	59	--	.90	1.7	.20	1.6	--	--	70
May											
18...	1.3	1.4	17	--	.57	5.6	<.20	5.1	--	120	40
24...	1.6	1.7	23	<0.3	<.3	6.4	--	3.2	--	--	50
June											
01...	1.2	1.2	18	<.3	.54	5.4	.48	3.4	--	40	40
08...	.9	.85	9.6	<.3	.38	4.5	--	3.6	--	260	40
16...	1	.98	12	--	.51	4.7	.52	2.7	--	--	40
29...	1.0	1.0	12	--	.53	4.6	.39	--	5.1	160	40
July											
21...	1.6	1.6	23	<.3	.45	5.9	.68	1.7	1.7	--	60
August											
16...	2.1	1.9	34	<.3	1.0	6.4	.40	1.8	1.1	--	80
September											
15...	2.0	2.0	35	<.3	.39	7.0	--	1.3	1.1	--	90
October											
19...	2.1	2.1	46	<.3	.75	6.8	.41	--	--	--	80

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
January											
27...	85	<0.5	<0.5	3	4	--	--	<6	<6	<7	<7
February											
29...	87	<.5	.9	4	20	--	<7	<6	--	<7	20
April											
06...	77	<.5	<.5	<2	<2	--	--	<6	<6	<7	<7
May											
18...	35	.8	.9	10	10	--	<7	<6	<6	<7	<7
24...	47	<.5	1	10	8	--	--	<6	<6	<7	<7
June											
01...	35	1.0	<.5	4	3	<7	--	<6	<6	<7	<7
08...	26	<.5	<.5	4	3	8	<7	<6	<6	<7	<7
16...	35	<.5	.7	<2	<2	--	--	<6	<6	<7	<7
29...	35	.5	<.5	<2	<2	--	--	<6	<6	<7	<7
July											
21...	61	<.5	<.5	2	<2	<7	10	<6	<6	<7	<7
August											
16...	73	.6	<.5	4	2	<7	20	<6	<6	<7	<7
September											
15...	85	1.0	.9	20	20	<7	<7	<6	<6	<7	<7
October											
19...	78	<.5	<.5	5	6	9	10	<6	<6	<7	<7

Table 17.--*Hydrologic data for station 391322106212400, Arkansas River above California Gulch, at Malta*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
January											
27...	<1	<1	150	20	--	10	--	--	9	6	150
February											
29...	<1	10	150	50	--	7	--	<50	<5	10	140
April											
06...	70	<1	250	120	<5	<5	--	--	<5	20	110
May											
18...	3	3	530	100	30	70	--	--	<5	<5	140
24...	2	1	210	70	20	80	--	--	<5	<5	100
June											
01...	1	<1	360	60	80	70	--	--	<5	<5	100
08...	4	2	560	90	60	80	<50	<50	<5	<5	100
16...	<1	1	200	70	50	120	--	<50	<5	<5	50
29...	5	2	550	70	--	10	<50	<50	<5	<5	70
July											
21...	2	2	160	20	--	50	<50	<50	<5	<5	60
August											
16...	<1	2	180	40	--	5	<50	--	5	<5	80
September											
15...	1	1	170	40	--	20	--	<50	<5	<5	80
October											
19...	--	--	100	9	<5	<5	<50	<50	<5	--	80

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
January											
27...	160	<50	<50	<20	<20	80	80	<5	<5	450	450
February											
29...	150	<50	<50	<20	80	80	90	<5	6	400	440
April											
06...	190	<50	<50	<20	<20	70	70	<5	<5	300	370
May											
18...	150	<50	<50	<20	<20	40	40	<5	<5	330	380
24...	90	<50	<50	<20	<20	50	50	<5	<5	280	260
June											
01...	70	<50	<50	<20	<20	40	40	<5	<5	250	280
08...	30	<50	<50	<20	<20	30	30	<5	<5	190	110
16...	40	<50	<50	<20	<20	40	40	<5	<5	100	110
29...	60	<50	<50	<20	--	40	40	<5	<5	100	140
July											
21...	50	<50	<50	<20	<20	70	70	<5	<5	100	90
August											
16...	70	<50	<50	<20	<20	80	70	<5	<5	140	110
September											
15...	80	<50	<50	--	<20	70	70	<5	<5	170	190
October											
19...	80	53	<50	--	--	70	70	<5	<5	180	180

Table 17.--*Hydrologic data for station 391322106212400, Arkansas River above California Gulch, at Malta*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989												
March												
29...	1325	20	7.3	3.5	260	65	0.01	--	--	28	--	11
29...	1330	20	7.3	3.5	260	65	.10	--	29	30	12	12
May												
03...	1010	42	7.8	7.0	180	55	.01	320	--	21	--	8.1
03...	1015	42	7.8	7.0	180	55	.10	320	21	20	8.1	8.0
16...	0945	110	7.6	4.0	--	39	.10	--	15	15	5.7	5.5
18...	1315	85	8.0	10.0	150	47	.01	1,800	--	17	--	6.4
18...	1320	85	8.0	10.0	150	47	.10	1,800	16	16	6.3	6.0
23...	1510	240	7.1	8.0	110	29	.01	--	--	10	--	3.7
23...	1515	240	7.1	8.0	110	29	.10	--	9.9	9.5	3.8	3.5
23...	1520	--	--	--	--	--	.45	--	--	9.7	--	3.6
June												
05...	1510	160	7.4	11.0	130	39	.01	2,400	--	12	--	4.9
05...	1515	160	7.4	11.0	130	39	.10	2,400	12	12	4.7	4.9
16...	0835	190	7.5	0.0	100	34	.10	--	10	11	4.1	4.2
23...	0905	120	7.5	6.5	120	43	.10	--	12	13	5.0	5.2
28...	1335	110	7.8	11.0	120	42	.01	--	--	13	--	5.1
28...	1340	110	7.8	11.0	120	42	.10	--	13	14	5.0	5.5
29...	1120	110	7.7	11.0	120	42	.10	--	14	14	5.4	5.4
July												
07...	0825	88	7.7	8.5	130	51	.10	--	15	15	5.9	5.9
14...	1020	99	7.7	11.0	130	47	.10	--	15	15	5.8	5.9
17...	1225	63	7.2	13.0	150	56	.01	1,900	--	18	--	7.3
17...	1230	63	7.2	13.0	150	56	.10	1,900	17	17	6.6	6.7
21...	0810	55	7.8	9.0	160	62	.10	--	19	20	7.7	7.8
28...	0805	73	7.8	9.0	150	56	.10	--	18	18	6.9	7.1

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
March											
29...	--	2.4	--	--	--	7.7	--	--	--	--	--
29...	2.4	2.7	52	<0.3	0.95	8.3	0.62	--	--	--	70
May											
03...	--	2.0	--	--	--	7.3	--	--	--	--	--
03...	2.0	2.0	31	<.3	.85	7.3	.67	--	--	--	60
16...	1.7	1.8	22	<.3	.68	6.7	.47	--	--	--	40
18...	--	1.7	--	--	--	6.5	--	--	--	--	--
18...	1.6	1.7	24	<.3	.73	6.2	.51	--	--	--	50
23...	--	1.2	--	--	--	5.2	--	3.9	--	--	--
23...	1.1	1.1	13	<.3	1.5	5.0	1.6	3.9	450	--	40
23...	--	1.1	--	--	--	5.1	--	--	--	<40	--
June											
05...	--	1.2	--	--	--	5.2	--	--	--	--	--
05...	1.1	1.2	15	<.3	.46	5.1	--	--	--	80	40
16...	.9	1.0	12	<.3	.51	4.1	.48	--	--	--	30
23...	1.1	1.2	16	<.3	.46	4.7	.21	--	--	--	30
28...	--	1.1	--	--	--	4.2	--	--	--	--	--
28...	1.1	1.2	16	<.3	.46	4.8	.35	--	--	--	40
29...	1.2	1.2	17	<.3	.54	4.6	.37	--	--	--	40
July											
07...	1.2	1.2	20	<.3	.61	4.7	.44	--	--	--	50
14...	1.2	1.2	20	<.3	.55	5.0	.31	--	--	--	50
17...	--	1.4	--	--	--	5.5	--	--	--	--	--
17...	1.3	1.4	22	<.3	.66	5.3	.36	--	--	--	50
21...	1.4	1.5	24	<.3	.62	5.5	.39	--	--	--	60
28...	1.4	1.5	21	<.3	.59	5.5	.56	--	--	--	50

Table 17.--*Hydrologic data for station 391322106212400, Arkansas River above California Gulch, at Malta*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
March											
29...	62	--	<0.5	--	6	--	<7	--	<6	--	<7
29...	66	<0.5	.9	10	8	<7	9.0	8	<6	<7	<7
May											
03...	54	--	<.5	--	<2	--	--	--	<6	--	<7
03...	54	1.4	.9	<2	<2	--	--	<6	<6	9	<7
16...	40	2.1	.9	<2	<2	<7	<7	6	<6	<7	<7
18...	47	--	1	--	<2	--	--	--	<6	--	<7
18...	45	<.5	.9	3	<2	<7	--	<6	<6	<7	<7
23...	29	--	<.5	--	<2	--	8.0	--	<6	--	<7
23...	28	1.8	.6	<2	<2	10	7.0	<6	7	<7	<7
23...	29	--	.5	--	<2	--	10	--	6	--	<7
June											
05...	35	--	<.5	--	<2	--	--	--	9	--	<7
05...	36	<.5	<.5	3	<2	--	<7	12	<6	<7	<7
16...	31	.8	<.5	6	4	<7	--	<6	<6	<7	<7
23...	39	1.4	<.5	7	<2	<7	--	<6	<6	<7	<7
28...	36	--	<.5	--	<2	--	--	--	9	--	<7
28...	41	<.5	1	<2	<2	<7	<7	9	<6	<7	<7
29...	42	<.5	<.5	8	8	--	--	<6	<6	<7	<7
July											
07...	45	.8	<.5	3	<2	<7	--	15	10	<7	<7
14...	44	.6	<.5	<2	<2	<7	<7	<6	8	<7	7
17...	54	--	<.5	--	8	--	<7	--	<6	--	<7
17...	51	<.5	<.5	<2	<2	<7	<7	<6	<6	<7	<7
21...	57	.8	<.5	10	<2	--	--	<6	<6	<7	<7
28...	53	<.5	<.5	<2	<2	--	--	15	9	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
March											
29...	--	5	--	9	--	200	--	<50	--	--	--
29...	10	9	280	90	--	200	<50	<50	<5	5	130
May											
03...	--	7	--	20	240	300	--	--	--	30	--
03...	9	5	230	80	240	300	--	--	6	8	140
16...	6	3	190	80	--	--	<50	<50	6	<5	120
18...	--	6	--	20	--	60	--	<50	--	--	--
18...	20	4	200	60	--	60	<50	<50	--	7	110
23...	--	7	--	30	40	40	--	<50	--	--	--
23...	10	6	1,100	70	40	40	<50	--	<5	6	220
23...	--	5	--	90	--	--	--	<50	--	5	--
June											
05...	--	2	--	20	10	30	--	--	--	--	--
05...	4	5	250	60	10	30	--	<50	<5	6	70
16...	--	1	160	50	--	--	<50	<50	<5	5	40
23...	4	--	100	50	--	--	<50	--	5	5	30
28...	--	7	--	20	--	--	--	--	--	90	--
28...	3	--	140	50	--	--	--	--	<5	<5	40
29...	2	--	140	50	--	--	--	<50	--	--	40
July											
07...	20	7	150	20	--	--	<50	<50	<5	9	40
14...	1	2	150	60	--	--	<50	<50	--	<5	40
17...	--	2	--	10	--	--	--	--	--	--	--
17...	9	2	150	70	--	--	<50	<50	<5	<5	40
21...	--	9	130	50	--	--	--	--	<5	6	50
28...	8	5	170	90	--	--	<50	--	5	<5	40

Table 17.--*Hydrologic data for station 391322106212400, Arkansas River above California Gulch, at Malta*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
March											
29...	120	--	<50	--	--	--	70	--	<5	--	210
29...	150	<50	<50	20	<20	70	70	<5	<5	250	240
May											
03...	130	--	<50	--	--	--	60	--	<5	--	380
03...	130	<50	<50	<20	--	60	60	<5	<5	410	360
16...	110	<50	<50	<20	<20	50	50	<5	<5	360	340
18...	100	--	<50	--	<20	--	60	--	<5	--	270
18...	100	<50	<50	<20	<20	50	50	<5	<5	280	260
23...	60	--	<50	--	<20	--	40	--	<5	--	160
23...	60	<50	<50	<20	<20	40	40	<5	<5	330	140
23...	60	--	<50	--	<20	--	30	--	<5	--	170
June											
05...	40	--	<50	--	<20	--	40	--	<5	--	100
05...	40	<50	<50	20	--	40	40	<5	<5	140	120
16...	50	<50	<50	<20	<20	40	40	<5	<5	80	80
23...	40	<50	<50	<20	--	40	40	<5	<5	70	80
28...	40	--	<50	--	<20	--	40	--	<5	--	120
28...	40	<50	<50	<20	<20	40	50	5	<5	90	90
29...	30	<50	<50	--	<20	50	50	<5	<5	80	60
July											
07...	40	56	<50	30	20	50	50	<5	<5	80	70
14...	50	<50	<50	<20	<20	50	50	<5	<5	80	80
17...	40	--	<50	--	<20	--	60	--	<5	--	80
17...	40	<50	<50	--	--	50	50	<5	<5	80	70
21...	60	69	<50	<20	20	60	60	<5	<5	90	90
28...	90	<50	<50	40	20	60	60	6	<5	90	90

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (mm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
August											
02...	0745	120	7.8	11.0	130	47	0.10	--	15	15	5.5
16...	1240	48	7.2	12.0	170	70	.01	1,600	--	21	--
16...	1245	48	7.2	12.0	170	70	.10	1,600	25	21	9.7
25...	0840	33	7.3	6.5	190	74	.10	--	--	24	--
September											
01...	0850	29	7.7	6.0	200	78	.10	--	30	27	12
06...	1400	24	7.6	12.0	210	79	.10	--	27	--	11
11...	1459	21	6.5	9.0	210	71	.01	--	--	26	--
11...	1500	21	6.5	9.0	210	71	.10	0.0	27	--	11
11...	1505	--	--	--	--	--	.45	--	--	26	--
13...	1455	31	7.4	7.0	190	77	.10	--	29	29	12
19...	0850	21	7.5	5.0	220	88	.10	--	32	30	13
27...	1420	21	7.7	--	220	87	.10	--	29	27	12
October											
06...	1410	21	6.9	8.0	230	89	.10	--	30	29	13
22...	1020	18	6.7	2.5	190	77	.10	--	29	30	12

Table 17.--*Hydrologic data for station 391322106212400, Arkansas River above California Gulch, at Malta*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, dissolved (mg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)
August											
02...	5.6	1.3	1.4	15	<0.3	0.57	5.4	0.43	--	50	44
16...	8.2	--	1.6	--	--	--	5.5	--	--	--	60
16...	8.3	1.8	1.6	27	<.3	.67	5.8	.53	--	60	60
25...	9.8	--	1.9	33	<.3	.73	6.4	.52	--	--	71
September											
01...	11	2.1	2.1	37	<.3	.64	6.8	.36	--	80	78
06...	--	1.9	--	39	<.3	.79	--	.35	--	70	--
11...	11	--	1.9	--	--	--	6.5	--	0.9	--	73
11...	--	1.9	--	38	<.3	.67	--	.21	.9	70	--
11...	11	--	1.9	--	--	--	6.7	--	--	--	74
13...	12	2.1	2.4	36	<.3	.56	7.4	.36	--	80	79
19...	12	2.2	2.2	43	<.3	.76	6.9	.34	--	90	80
27...	12	2.0	2.1	44	<.3	.75	6.5	.25	--	80	72
October											
06...	12	2.0	2.2	46	<.3	.80	7.2	.62	--	80	77
22...	13	2.1	2.4	49	<.3	.89	7.3	--	--	80	75

Date	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
August											
02...	<0.5	0.5	<2	<2	<7	7.0	<6	<6	<7	<7	<1
16...	--	<.5	--	3	--	<7	--	<6	--	<7	--
16...	<.5	<.5	3	<2	--	<7	<6	9	<7	<7	1
25...	--	<.5	--	<2	--	--	--	<6	--	<7	--
September											
01...	<.5	<.5	<2	6	<7	<7	<6	<6	<7	<7	<1
06...	<.5	--	4	--	--	--	<6	--	<7	--	10
11...	--	<.5	--	<2	--	<7	--	8	--	<7	--
11...	<.5	<.5	<2	<2	--	10	<6	--	<7	<7	3
11...	--	<.5	--	<2	--	<7	--	<6	--	<7	--
13...	<.5	<.5	8	8	<7	<7	<6	<6	<7	<7	4
19...	<.5	<.5	<2	<2	--	--	13	<6	<7	<7	1
27...	<.5	<.5	<2	2	--	--	<6	<6	<7	<7	3
October											
06...	<.5	.9	4	10	--	<7	<6	<6	<7	<7	2
22...	.7	<.5	<2	<2	9	<7	9	--	<7	<7	3

Table 17.--*Hydrologic data for station 391322106212400, Arkansas River above California Gulch, at Malta*--Continued

Date	Copper, dissolved (µg/L)	Iron, total recoverable solved (µg/L)	Iron, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued										
August										
02...	2	300	130	--	--	<50	--	--	40	50
16...	<1	--	9	30	--	<50	--	--	--	40
16...	2	190	70	30	<50	<50	--	<5	60	50
25...	2	--	50	--	--	<50	--	<5	--	120
September										
01...	--	160	40	--	--	<50	<5	--	60	120
06...	--	110	--	--	<50	--	<5	--	80	--
11...	3	--	<5	--	--	<50	--	80	--	50
11...	9	130	<5	--	<50	<50	7	9	60	--
11...	2	--	90	--	--	--	--	8	--	50
13...	3	160	40	--	--	--	<5	--	60	60
19...	--	200	30	--	--	--	<5	--	80	80
27...	1	150	20	--	--	--	<5	<5	60	60
October										
06...	3	140	30	--	<50	<50	--	--	70	80
22...	3	150	40	--	--	--	<5	<5	80	80

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
August										
02...	<50	<50	--	<20	50	50	<5	<5	80	100
16...	--	<50	--	<20	--	60	--	<5	--	70
16...	<50	<50	<20	20	70	60	<5	<5	110	80
25...	--	<50	--	--	--	70	--	<5	--	220
September										
01...	<50	<50	--	<20	80	80	<5	<5	150	250
06...	<50	--	<20	--	70	--	<5	--	180	--
11...	--	<50	--	<20	--	70	--	<5	--	110
11...	<50	<50	<20	20	70	3	<5	<5	130	--
11...	--	<50	--	--	--	70	--	<5	--	110
13...	<50	<50	<20	<20	80	80	<5	<5	120	350
19...	<50	<50	--	--	90	80	<5	<5	200	350
27...	<50	<50	--	<20	80	70	<5	<5	130	260
October										
06...	<50	<50	--	--	80	80	<5	<5	170	150
22...	<50	<50	<20	<20	80	80	<5	<5	230	370

Table 18.--*Hydrologic data for station 391339106200200, Public Treatment Works Discharge near Stringtown*

Date	Time	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium total recoverable (mg/L)	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)
			CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988								
July 20...	1350	8.9	19.0	410	110	0.10	28	28	12	12	35

Date	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic total (mg/L)	Carbon, organic, dissolved (mg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)
July 20...	35	61	21	5.4	7.3	10	8.5	30	21	<0.5	<0.5

Date	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)
July 20...	150	160	20	10	<6	<6	<7	<7	5	4

Date	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
July 20...	70	7	20	140	140	150	<5	<5	80	60

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
July 20...	<50	<50	<20	<20	60	60	<5	<5	170	40

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins $/m^2/s$)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986												
June												
04...	1025	3.0	4.6	8.5	1,400	--	0.01	--	--	110	--	55
04...	1155	3.0	4.6	8.5	1,400	--	.01	--	--	110	--	56
July												
08...	1250	1.9	3.8	15.0	1,500	--	.10	--	140	140	74	74
August												
06...	1420	1.4	5.0	18.0	1,200	2	.10	350	--	130	--	63
September												
05...	1040	1.1	4.5	13.0	1,200	1	.10	--	--	120	--	70
17...	1425	1.3	5.4	14.0	--	--	.01	580	--	83	--	49
17...	1430	1.3	5.4	14.0	--	--	.10	580	97	54	58	58
19...	1425	--	--	--	--	--	.01	--	--	57	--	33
19...	1435	--	--	--	--	--	.45	--	--	82	--	47
October												
15...	1640	1.2	5.0	10.0	1,200	--	.10	490	--	120	--	71
15...	1645	--	--	--	--	--	.10	--	120	--	71	--
November												
19...	0800	1.0	4.5	24.0	1,200	--	.10	--	--	120	--	71
19...	0805	--	--	--	--	--	.10	--	120	--	80	--
December												
10...	0910	--	3.5	0.0	2,000	--	.10	--	--	210	--	150
10...	0915	--	--	--	--	--	.10	--	210	--	150	--

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
June											
04...	--	4.1	710	--	2.4	25	1.3	--	--	6,300	--
04...	--	4.4	720	--	1.5	25	--	--	--	6,000	--
July											
08...	4.7	4.7	880	--	2.0	22	--	0.9	5,400	5,400	40
August											
06...	--	4.2	770	--	1.7	17	1.2	1.0	--	570	--
September											
05...	--	4.4	--	--	--	16	--	.6	--	1,200	--
17...	--	3.0	--	--	--	11	--	--	--	1,500	--
17...	3.7	--	--	--	--	--	--	--	2,100	--	50
19...	--	1.8	--	--	--	10	--	--	--	--	--
19...	--	2.7	--	--	--	13	--	--	--	--	--
October											
15...	--	4.2	--	--	--	15	--	1.1	--	1,500	--
15...	4.3	--	--	--	--	--	--	--	3,400	--	50
November											
19...	--	3.8	800	2.0	2.8	8.5	1.6	1.1	--	1,500	--
19...	4.8	--	--	--	--	--	--	--	1,800	--	50
December											
10...	--	8.2	1,600	<.3	3.8	23	1.2	2.3	--	7,600	--
10...	8.4	--	--	--	--	--	--	--	--	7300	--

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986--Continued											
June											
04...	30	--	3	--	<2	--	270	--	<6	--	<7
04...	31	--	3	--	<2	--	270	--	<6	--	<7
July											
08...	41	3.0	3	<2	<2	320	320	<6	<6	<7	<7
August											
06...	44	--	.6	--	<2	--	260	--	<6	--	9
September											
05...	52	--	1	--	<30	--	250	--	<6	--	<7
17...	39	--	<.5	--	<2	--	220	--	<6	--	40
17...	27	1.0	--	<2	--	270	--	<6	<6	120	--
19...	27	--	.5	--	20	--	150	--	<6	--	30
19...	37	--	.7	--	10	--	220	--	<6	--	50
October											
15...	48	--	2	--	<2	--	220	--	<6	--	30
15...	--	3.0	--	<2	--	220	--	<6	--	<7	--
November											
19...	260	--	2	--	<2	--	190	--	<6	--	40
19...	--	2.0	--	<2	--	250	--	<6	--	10	--
December											
10...	29	--	2	--	<2	--	200	--	<6	--	80
10...	--	2.0	--	<2	--	190	--	<6	--	40	--

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
June											
04...	--	670	--	12,000	--	--	--	330	--	20	--
04...	--	660	--	12,000	--	--	--	340	--	20	--
July											
08...	3,100	3,100	9,900	9,900	--	--	230	230	20	20	34,000
August											
06...	--	1,500	--	5,700	--	--	--	<50	--	20	--
September											
05...	--	1,600	--	13,000	--	--	--	<50	--	20	--
17...	--	910	--	3,000	--	320	--	120	--	30	--
17...	1,500	--	19,000	3,600	--	320	260	--	40	--	25,000
19...	--	620	--	2,000	--	--	--	<50	--	10	--
19...	--	900	--	2,900	--	--	--	<50	--	15	--
October											
15...	--	920	--	3,400	2,400	160	--	<50	--	20	--
15...	1,300	--	24,000	--	--	--	150	--	20	--	35,000
November											
19...	--	900	--	40	--	--	--	<50	--	<5	--
19...	1,000	--	10,000	--	--	--	350	--	60	--	36,000
December											
10...	--	660	--	19,000	--	--	--	340	--	40	--
10...	600	--	32,000	--	--	--	380	--	40	--	91,000

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986--Continued											
June											
04...	23,000	--	<50	--	--	--	190	--	6	--	60
04...	23,000	--	<50	--	--	--	200	--	6	--	60
July											
08...	34,000	<50	<50	--	--	230	230	6	6	80	80
August											
06...	27,000	--	<50	--	--	--	210	--	6	--	66,000
September											
05...	31,000	--	<50	--	30	--	200	--	6	--	68,000
17...	20,000	--	<50	--	35	--	150	--	<5	--	49,000
17...	17,000	<50	850	50	--	170	90	<5	36	59,000	--
19...	15,000	--	<50	--	30	--	100	--	<5	--	34,000
19...	21,000	--	<50	--	40	--	150	--	<5	--	48,000
October											
15...	35,000	--	<50	--	--	--	200	--	6	--	63,00
15...	--	<50	--	--	--	200	--	6	--	6,300	--
November											
19...	33,000	--	<50	--	100	--	200	--	8	--	58,000
19...	--	<50	--	--	--	200	--	<5	--	64,000	--
December											
10...	91,000	--	<50	--	--	--	320	--	6	--	92,000
10...	--	<50	--	--	--	320	--	6	--	90,000	--

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Sediment, suspended (mg/L)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987												
January												
22...	1130	--	5.8	0.0	930	4	0.10	--	--	110	110	72
22...	1135	--	--	--	--	--	.45	--	--	--	95	--
March												
04...	1120	--	5.0	1.0	920	0	.10	--	--	110	110	62
04...	1125	--	--	--	--	--	.45	--	--	--	48	--
April												
27...	1040	1.8	3.2	10.0	--	--	.10	--	--	120	140	130
May												
19...	1025	3.5	3.9	10.0	790	--	.10	--	--	100	110	57
27...	0945	3.2	4.7	9.0	--	--	.10	470	--	140	--	75
June												
10...	0815	2.4	4.4	8.0	1,400	--	.10	910	--	140	130	70
16...	1030	--	--	--	--	--	.10	--	--	--	--	--
24...	1115	1.9	4.1	14.0	1,400	--	.10	--	--	150	140	70
July												
16...	1030	1.6	5.3	15.0	1,100	5	.10	1,500	93	160	160	74
29...	1045	--	--	--	--	--	.10	--	--	160	160	80
29...	1105	--	5.1	18.0	1,200	--	.01	1,500	--	--	160	--
29...	1110	--	5.1	18.0	1,200	--	.10	1,500	--	--	--	--
29...	1115	--	--	--	--	--	.10	--	--	--	160	--
29...	1120	--	--	--	--	--	.10	--	--	160	--	80
29...	1210	--	--	--	--	--	.01	--	--	--	160	--
29...	1215	--	--	--	--	--	.10	--	--	160	--	80
29...	1230	--	--	--	--	--	.01	--	--	--	160	--
29...	1235	--	--	--	--	--	.10	--	--	160	--	81
August												
19...	0745	--	--	--	--	--	.10	--	--	140	140	75
October												
27...	1035	1.3	6.3	8.0	1,200	--	.10	900	--	140	130	74

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued												
January												
22...	62	4.1	3.4	820	--	--	9.5	--	1.2	--	--	40
22...	24	--	--	--	--	--	--	--	--	--	17,000	--
March												
04...	63	3.4	3.6	740	1.8	3.7	9.7	1.6	1.2	6,000	970	70
04...	61	--	3.7	--	--	--	8.6	--	--	--	860	--
April												
27...	170	--	5.5	590	--	--	17	--	.1	4,300	--	70
May												
19...	76	3.6	2.6	710	--	--	--	3.8	.1	5,700	1,000	30
27...	--	3.9	--	--	--	--	--	--	4.5	2,100	--	80
June												
10...	70	3.3	4.9	--	.40	3.0	14	1.1	.9	4,200	5,400	--
16...	--	--	--	280	2.0	3.2	--	1.9	--	--	--	--
24...	95	4.6	4.5	950	.40	2.5	18	1.2	.4	4,400	4,400	30
July												
16...	72	4.9	5.0	920	<.3	2.4	18	1.2	.4	2,900	530	40
29...	80	5.2	5.2	--	--	--	19	--	--	3,100	800	40
29...	79	--	5.2	970	<.3	2.8	18	1.2	2.3	--	580	--
29...	--	--	--	1,400	--	--	--	--	2.3	--	--	--
29...	80	--	5.2	--	--	--	19	--	--	--	800	--
29...	--	5.2	--	--	--	--	--	--	--	3,100	--	40
29...	79	--	4.4	--	--	--	8.0	--	--	--	--	--
29...	--	4.7	--	980	--	--	--	--	--	1,100	--	1,300
29...	78	--	4.5	--	--	--	4.3	--	--	--	--	--
29...	--	4.2	--	1,000	--	--	--	--	--	520	--	40
August												
19...	70	3.7	4.2	--	--	--	5.0	--	--	--	<40	50
October												
27...	66	4.6	4.1	240	.58	1.9	8.2	2.0	0.1	--	--	20

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
January											
22...	51	<0.5	<0.5	<2	<2	170	130	<6	<6	20	20
22...	54	--	15	--	40	--	230	--	820	--	<7
March											
04...	51	5.6	9	60	60	160	150	190	170	190	110
04...	26	--	--	--	70	--	95	--	330	--	<7
April											
27...	38	16	5	60	60	100	200	310	50	330	430
May											
19...	22	<.5	2	50	7	270	120	170	<6	180	120
27...	--	1.3	--	20	--	360	--	<6	--	320	--
June											
10...	31	2.9	3	100	<2	300	300	19	--	170	90
16...	--	--	--	--	--	--	--	--	--	--	--
24...	36	3.0	3	<2	<2	290	280	<6	<6	9	--
July											
16...	40	1.0	.7	<2	<2	250	260	10	9	<7	<7
29...	43	1.0	1	<2	<2	250	250	<6	<6	60	60
29...	41	--	1	--	<2	--	240	--	<6	--	60
29...	--	--	--	--	--	--	--	--	--	--	--
29...	43	--	1	--	<2	--	250	--	<6	--	60
29...	--	1.0	--	<2	--	250	--	<6	--	60	--
29...	630	--	<.5	--	40	--	280	--	20	--	120
29...	--	<.5	--	230	--	290	--	34	--	190	--
29...	760	--	<.5	--	120	--	280	--	50	--	110
29...	--	2.7	--	<2	--	300	--	--	--	220	--
August											
19...	47	4.5	.7	40	<2	240	220	<6	<6	140	70
October											
27...	38	23	10	<2	--	180	170	<6	30	160	80

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
January											
22...	100	50	520	280	--	--	--	60	100	65	31,000
22...	--	240	--	3,000	--	--	--	--	--	--	--
March											
04...	760	200	47,000	17,000	--	--	560	<50	<5	7	38,000
04...	--	210	--	17,000	--	--	--	<50	--	<5	--
April											
27...	800	810	120,000	110,000	--	--	--	220	--	6	90,000
May											
19...	590	670	21,000	13,000	--	--	--	200	--	1,200	23,000
27...	890	--	58,000	--	--	--	2,400	--	10	--	31,000
June											
10...	2,300	2,200	31,000	22,000	--	--	60	370	<5	60	34,000
16...	--	--	--	--	--	--	--	--	--	--	--
24...	2,900	2,300	29,000	51,000	9,300	22,000	180	200	30	12	38,000
July											
16...	1,900	1,400	48,000	25,000	970	5,200	140	<50	10	30	35,000
29...	1,500	940	37,000	17,000	--	--	290	70	30	30	41,000
29...	--	950	--	15,000	--	--	--	<50	--	30	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	940	--	17,000	--	--	--	70	--	30	--
29...	1,500	--	37,000	--	--	--	290	--	30	--	41,000
29...	--	1,000	--	15,000	--	--	--	<50	--	<5	--
29...	1,400	--	38,000	--	--	--	360	--	<5	--	42,000
29...	--	980	--	14,000	--	--	--	120	--	<5	--
29...	1,400	--	36,000	--	--	--	400	--	<5	--	41,000
August											
19...	1,200	200	41,000	13,000	--	--	10,000	5,000	<5	7	36,000
October											
27...	440	50	30,000	9,500	7,600	8,700	230	<50	70	35	37,000

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued						
January											
22...	21,000	1,400	<50	--	40	190	180	37	<5	56,000	39,000
22...	25,000	--	310	--	150	--	150	--	<5	--	46,000
March											
04...	38,000	<50	240	120	60	170	170	46	7	55,000	53,000
04...	37,000	--	460	--	50	--	160	--	25	--	51,000
April											
27...	98,000	660	<50	--	70	210	250	<5	7	67,000	75,000
May											
19...	24,000	<50	<50	130	--	190	200	<5	<5	56,000	93,000
27...	--	<50	--	50	--	240	--	9	--	68,000	--
June											
10...	32,000	<50	62	80	<20	240	230	17	24	70,000	69,000
16...	--	--	--	--	--	--	--	--	--	--	--
24...	51,000	<50	<50	--	77	250	240	6	6	76,000	71,000
July											
16...	35,000	<50	<50	50	60	260	260	6	6	70,000	71,000
29...	41,000	<50	<50	--	--	270	270	6	6	69,000	69,000
29...	41,000	--	<50	--	--	--	270	--	6	--	69,000
29...	--	--	--	--	--	--	--	--	--	--	--
29...	41,000	--	<50	--	--	--	270	--	6	--	69,000
29...	--	<50	--	--	--	270	--	6	--	69,000	--
29...	41,000	--	<50	--	80	--	270	--	75	--	71,000
29...	--	<50	--	160	--	270	--	94	--	73,000	--
29...	41,000	--	170	--	120	--	260	--	73	--	70,000
29...	--	160	--	130	--	240	--	75	--	71,000	--
August											
19...	35,000	100	<50	<20	23	220	220	<5	<5	65,000	63,000
October											
27...	35,000	<50	<50	<20	25	220	220	<5	<5	62,000	56,000

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, recoverable (mg/L)	Magnesium, dissolved (mg/L)	Sodium, recoverable (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued												
December 21...	0945	1.2	6.3	2.0	1,100	11	0.10	130	120	71	61	6.8

Date	Sodium, dissolved (mg/L)	Silica, dissolved (mg/L)	Carbon, organic, total (mg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)
December 21...	5.1	3.2	0.8	40	26	<0.5	<0.5	50	40	90	70	<6

Date	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total, recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
December 21...	<6	80	20	350	<1	43,000	11,000	11,000	11,000	210	90	31,000

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
December 21...	29,000	<50	<50	<20	<20	210	200	<5	<5	51,000	45,000

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Sediment, suspended (mg/L)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988												
January												
27...	0850	1.2	7.2	2.0	760	35	0.10	36.0	--	89	89	47
February												
29...	0850	1.2	6.4	0.0	940	18	.10	120	--	110	120	64
April												
06...	1515	.80	6.2	1.0	850	10	.10	--	688	120	56	54
May												
18...	0822	1.7	6.7	6.5	900	28	.10	620	--	94	92	54
24...	0845	1.3	5.0	8.0	1,600	1	.10	--	--	170	170	84
31...	1725	1.3	6.7	12.0	1,200	4	.01	1,300	--	--	130	--
31...	1730	1.3	6.7	12.0	1,200	4	.10	1,300	--	130	130	70
31...	1735	1.3	6.7	12.0	1,200	4	.45	1,300	--	--	130	--
June												
03...	1100	2.5	5.0	17.0	--	1	.10	--	--	130	140	71
07...	0950	1.6	6.0	13.0	--	--	.10	--	--	160	160	72
08...	0920	1.6	5.0	12.0	1,600	0	.10	--	--	170	160	71
12...	0830	2.1	6.3	9.0	930	8	.10	--	--	91	94	46
15...	1430	1.5	5.3	18.0	1,500	--	.10	--	--	160	170	71
16...	0910	1.7	5.6	12.0	1,200	0	.10	1,200	--	160	160	71
19...	1420	1.5	4.9	17.0	1,600	--	.10	--	--	180	180	75
22...	1550	1.8	3.7	15.0	1,900	--	.10	--	--	--	150	--
22...	1555	--	--	--	--	--	.45	--	--	--	160	--
26...	1450	1.7	3.9	18.0	1,500	--	.10	--	--	120	120	87
29...	1720	1.4	4.8	14.0	1,600	--	.10	140	--	160	160	82

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
January												
27...	48	3.1	3.4	620	<0.3	2.0	5.5	2.3	0.3	--	--	--
February												
29...	68	4.5	3.5	760	--	1.7	.66	--	1.7	--	440	--
April												
06...	21	1.8	2.4	320	--	3.6	--	--	9.3	--	11,000	--
May												
18...	54	3.1	3.1	520	--	2.8	10	1.3	2.4	--	1,000	--
24...	83	4.3	4.3	1,100	.61	3.9	16	2.2	--	--	1,300	--
31...	67	--	4.1	--	--	--	15	--	.7	--	--	--
31...	71	4.4	4.2	740	--	3.1	15	2.1	.7	--	--	--
31...	68	--	4.2	730	--	--	15	--	.7	--	--	--
June												
03...	71	4.0	4.0	750	--	--	15	--	--	--	1,000	--
07...	72	4.0	4.0	980	.70	3.4	20	1.8	--	--	1,800	--
08...	71	3.9	3.9	920	--	--	20	--	1.5	--	2,600	--
12...	48	2.8	2.8	520	.82	3.4	13	1.6	--	--	770	--
15...	71	3.8	4.1	930	--	1.9	15	1.2	--	--	--	--
16...	72	4.0	4.1	900	--	4.2	17	2.3	1.2	--	510	--
19...	74	3.9	3.9	950	--	3.9	15	2.2	--	--	--	--
22...	120	--	4.9	1,300	--	--	20	--	--	--	--	960
22...	120	--	5.6	--	--	--	29	--	--	--	--	6,100
26...	86	4.2	4.2	950	<0.3	3.6	19	2.7	--	--	4,000	2,000
29...	82	4.4	4.5	890	--	2.7	20	1.5	2.4	4.3	2,900	--

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued												
January												
27...	50	49	4.1	1	40	40	130	120	230	<6	80	20
February												
29...	60	43	.5	<.5	70	20	110	110	<6	<6	130	60
April												
06...	300	63	<.5	<.5	80	<2	190	73	<6	<6	110	10
May												
18...	50	46	<.5	<.5	40	30	80	60	<6	20	100	50
24...	40	47	2.0	<.5	30	40	180	170	22	<6	310	180
31...	--	51	--	9	--	70	--	170	--	<6	--	50
31...	50	36	5.0	<.5	90	40	180	210	17	20	100	130
31...	--	50	--	5	--	100	--	180	--	<6	--	30
June												
03...	60	64	6.0	3	60	20	320	250	8	20	120	50
07...	60	57	5.0	2	50	30	260	300	<6	<6	150	120
08...	40	45	<.5	5	30	4	350	240	<6	10	160	150
12...	60	62	<.5	1	10	60	60	180	<6	<6	100	40
15...	50	54	1.0	<.5	40	2	240	80	8	<6	240	100
16...	40	38	<.5	<.5	<2	<2	200	160	<6	<6	200	110
19...	50	49	<.5	<.5	5	<2	170	170	<6	20	210	110
22...	--	96	--	4	--	70	--	380	--	<6	--	310
22...	--	77	--	8	--	150	--	550	--	<6	--	470
26...	70	45	4.0	16	20	2	240	260	77	20	290	170
29...	60	41	.5	<.5	40	30	390	350	17	<6	170	110

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
January											
27...	320	<1	15,000	41	--	--	190	260	<5	<5	18,000
February											
29...	240	<1	26,000	4,700	4,100	4,200	210	--	40	<5	28,000
April											
06...	1,100	4	61,000	2,100	2,800	2,900	--	100	<5	<5	25,000
May											
18...	330	20	16,000	1,800	100	1,600	420	--	<5	<5	23,000
24...	670	390	56,000	33,000	--	28,000	--	--	50	40	44,000
31...	--	20	--	2,000	8,500	7,800	--	--	--	10	--
31...	310	50	16,000	2,000	5,600	23,000	130	--	7	<5	27,000
31...	--	20	--	1,500	8,500	7,800	--	--	--	10	--
June											
03...	570	30	29,000	2,400	--	--	<50	--	<5	10	28,000
07...	740	480	39,000	25,000	--	--	360	--	20	<5	36,000
08...	850	610	41,000	26,000	19,000	23,000	430	360	30	10	36,000
12...	450	50	16,000	1,800	--	--	140	290	30	8	18,000
15...	590	130	42,000	18,000	--	--	--	--	20	30	33,000
16...	830	210	42,000	17,000	11,000	17,000	600	--	20	<5	33,000
19...	1,300	610	56,000	26,000	--	--	--	--	50	40	37,000
22...	--	2,800	--	69,000	--	--	--	1,700	--	20	--
22...	--	3,400	--	130,000	--	--	--	5,200	--	50	--
26...	3,100	3,000	69,000	32,000	--	--	240	--	30	20	44,000
29...	1,800	1,400	38,000	13,000	8,200	13,000	1,700	750	10	10	42,000

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
January											
27...	18,000	140	<50	200	300	160	150	17	<5	40,000	37,000
February											
29...	30,000	<50	<50	<20	<20	200	210	<5	<5	45,000	46,000
April											
06...	10,000	<50	<50	<20	<20	230	130	<5	<5	35,000	11,000
May											
18...	22,000	<50	<50	<20	40	160	150	20	11	38,000	34,000
24...	43,000	<50	<50	50	<20	290	290	17	<5	67,000	66,000
31...	26,000	--	260	--	50	--	230	--	11	--	55,000
31...	27,000	210	<50	150	90	250	240	35	26	60,000	58,000
31...	26,000	--	270	--	30	--	230	--	<5	--	55,000
June											
03...	29,000	<50	<50	30	<20	230	230	<5	<5	65,000	63,000
07...	35,000	<50	240	30	30	280	280	<5	<5	69,000	67,000
08...	35,000	230	57	<20	120	290	290	<5	<5	66,000	66,000
12...	18,000	<50	160	<20	150	150	160	<5	<5	42,000	41,000
15...	33,000	<50	64	100	<20	280	290	<5	<5	60,000	59,000
16...	33,000	450	--	140	60	280	280	<5	<5	63,000	62,000
19...	36,000	380	310	20	50	310	310	<5	<5	63,000	62,000
22...	63,000	--	65	--	100	--	260	--	7	--	87,000
22...	68,000	--	500	--	<20	--	280	--	37	--	92,000
26...	43,000	270	90	160	40	210	200	5	<5	68,000	67,000
29...	42,000	<50	<50	60	50	260	260	<5	6	67,000	67,000

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)
July												
03...	1515	1.7	5.8	16.0	1,200	--	0.10	130	150	63	69	3.5
06...	1430	1.2	4.9	22.0	1,200	--	.10	130	130	67	67	3.9
10...	1700	1.2	4.9	16.0	1,300	--	.10	130	130	68	67	3.9
13...	1520	1.2	4.9	24.0	1,300	--	.10	130	130	67	66	3.9
17...	1555	1.1	4.8	19.0	1,300	0	.10	140	130	68	66	4.0
19...	1440	1.1	4.8	23.0	1,300	0	.10	130	130	65	66	4.0
20...	1045	--	5.8	17.0	1,400	--	.01	--	140	--	67	--
20...	1050	--	5.8	17.0	1,400	--	.10	150	150	70	70	4.5
20...	1055	--	5.8	17.0	1,400	--	.45	--	140	--	67	--
20...	1355	--	7.0	21.0	800	29	.10	77	--	35	--	23
24...	1310	1.1	5.5	22.0	1,200	--	.10	130	150	67	73	4.1
27...	1435	--	--	--	--	--	.10	--	--	69	--	2.4
27...	1505	1.0	4.9	21.0	1,200	--	.10	140	140	67	67	4.1
31...	1430	1.0	4.9	22.0	1,100	4	.10	140	130	67	64	4.1
August												
04...	1705	1.1	4.9	20.0	1,300	3	.10	--	140	--	67	--
07...	1515	1.2	4.1	18.0	1,300	--	.10	130	140	65	66	3.8
10...	1035	1.1	6.3	16.0	1,200	4	.10	130	120	64	61	3.9
14...	1450	1.0	6.0	25.0	1,200	1	.10	130	120	63	62	3.8
28...	1420	1.4	4.7	21.0	1,200	--	.10	110	20	60	62	3.7

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
July											
03...	3.9	750	0.69	2.5	17	1.8	--	--	1,600	--	40
06...	4.0	700	--	1.7	16	2.1	--	--	1,700	--	40
10...	3.9	750	--	2.1	16	1.8	--	--	3,000	--	40
13...	3.9	740	--	2.2	16	2.1	--	--	2,200	--	40
17...	4.2	730	--	1.5	16	--	--	--	1,700	--	40
19...	4.1	750	.36	3.8	15	2.8	--	--	1,100	--	40
20...	4.1	--	--	--	16	--	1.0	1.2	--	--	--
20...	4.5	850	<.3	2.0	17	1.5	1.0	1.2	2,300	170	40
20...	4.1	--	--	--	16	--	1.0	1.2	--	--	--
20...	--	330	--	13	--	--	--	4.3	400	--	30
24...	4.4	790	1.1	2.5	17	2.7	--	--	1,200	--	40
27...	--	--	--	--	--	--	--	--	4,000	--	20
27...	5.2	810	--	4.0	15	2.8	--	--	1,300	--	50
31...	4.0	420	.70	2.4	14	3.0	--	--	430	--	50
August											
04...	3.9	670	<.3	3.1	15	2.8	--	--	--	--	--
07...	3.9	810	.63	3.1	14	2.8	--	--	--	--	40
10...	3.7	700	.68	1.8	13	2.4	--	--	--	--	50
14...	3.7	640	--	.40	13	1.9	--	--	--	--	40
28...	3.8	690	--	3.7	14	2.4	--	--	610	--	50

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
July											
03...	41	1.5	4	30	<2	290	240	7	10	140	100
06...	41	.5	<.5	20	20	340	300	<6	<6	140	50
10...	37	<.5	<.5	40	20	320	310	<6	8	140	50
13...	41	<.5	<.5	30	10	330	350	<6	9	150	50
17...	39	<.5	<.5	40	20	360	290	<6	<6	160	70
19...	42	<.5	<.5	40	20	320	320	16	<6	140	60
20...	35	--	<.5	--	30	--	280	--	<6	--	90
20...	39	5.0	.8	<2	<2	170	270	8	<6	80	40
20...	41	--	<.5	--	30	--	310	--	10	--	90
20...	--	<.5	--	110	--	170	--	13	--	90	--
24...	46	<.5	1	40	<2	340	260	<6	9	160	60
27...	--	5.5	--	<2	--	100	--	<6	--	50	--
27...	45	3.5	15	60	60	300	290	<6	8	150	30
31...	46	7.5	3	30	30	220	230	<6	20	170	40
August											
04...	45	--	6	--	30	--	270	--	10	--	60
07...	44	<.5	.5	50	70	220	240	<6	<6	140	70
10...	44	1.2	<.5	90	40	220	210	<6	<6	100	40
14...	45	1.0	<.5	70	40	230	210	<6	<6	130	10
28...	48	2.8	2	50	30	210	210	43	40	150	10

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
					CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued						
July											
03...	1,700	1,100	33,000	13,000	--	--	1,200	<50	10	10	32,000
06...	2,400	970	31,000	2,100	--	--	1,200	500	10	10	30,000
10...	2,600	640	35,000	3,000	--	--	1,400	760	<5	6	30,000
13...	2,500	880	32,000	3,000	--	--	910	620	7	10	31,000
17...	2,500	780	39,000	5,600	--	4,900	1,000	880	10	6	32,000
19...	2,300	540	31,000	2,000	--	--	710	650	7	10	29,000
20...	--	640	--	10,000	9,100	10,000	--	630	--	20	--
20...	1,100	680	24,000	10,000	10,000	11,000	490	330	20	15	36,000
20...	--	670	--	10,000	9,100	10,000	--	640	--	20	--
20...	900	--	16,000	--	--	4,800	740	--	5	--	13,000
24...	2,100	690	38,000	4,700	--	--	810	<50	<5	6	31,000
27...	290	--	8,500	--	--	--	--	--	--	--	8,300
27...	2,100	510	38,000	2,500	--	--	430	--	20	20	31,000
31...	1,800	250	33,000	930	--	--	590	90	20	10	30,000
August											
04...	--	380	--	4,800	--	--	--	--	--	<5	--
07...	1,400	260	37,000	4,700	--	--	130	60	20	20	32,000
10...	1,300	70	31,000	270	--	--	110	130	30	20	29,000
14...	1,300	90	32,000	240	--	--	280	--	30	20	29,000
28...	1,400	270	36,000	2,100	--	--	130	60	10	10	28,000

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
July											
03...	37,000	<50	<50	20	50	230	250	9	<5	51,000	57,000
06...	30,000	<50	<50	<20	<20	220	220	6	<5	60,000	58,000
10...	30,000	<50	<50	30	50	230	230	10	7	61,000	59,000
13...	31,000	<50	<50	<20	30	230	230	<5	<5	61,000	59,000
17...	31,000	<50	<50	<20	20	240	240	<5	12	62,000	59,000
19...	30,000	<50	<50	50	20	230	230	7	<5	59,000	59,000
20...	33,000	--	<50	--	20	--	230	--	<5	--	58,000
20...	34,000	<50	<50	20	50	250	250	9	5	59,000	58,000
20...	33,000	--	<50	--	50	--	230	--	<5	--	58,000
20...	--	<50	--	<20	--	140	--	<5	--	24,000	--
24...	35,000	<50	51	<20	20	240	260	<5	10	61,000	67,000
27...	--	<50	--	<20	--	40	--	6	--	14,000	--
27...	31,000	<50	--	20	<20	230	240	20	28	63,000	60,000
31...	29,000	51	<50	70	--	240	220	10	<5	61,000	55,000
August											
04...	33,000	--	190	--	70	--	230	--	<5	--	58,000
07...	32,000	80	73	50	50	220	230	9	<5	58,000	56,000
10...	27,000	<50	71	50	50	220	210	20	8	58,000	52,000
14...	28,000	130	<50	70	60	210	210	15	<5	56,000	52,000
28...	29,000	<50	<50	160	90	200	200	7	<5	55,000	55,000

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
				CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued							
September											
01...	1525	1.3	5.9	15.0	1,200	--	0.10	120	120	66	61
04...	1440	1.3	5.9	18.0	1,200	--	.10	110	110	60	61
08...	0820	1.5	4.9	5.5	1,200	1	.10	--	110	--	58
11...	0845	2.0	6.3	7.5	--	--	.10	--	110	--	57
15...	0817	1.6	5.9	5.0	1,200	--	.10	110	110	58	58
18...	1135	1.5	5.8	14.0	1,100	2	.10	120	120	61	64
22...	0840	1.8	6.5	5.5	830	23	.10	89	93	46	47
27...	1305	2.2	6.5	14.0	830	21	.10	--	92	--	47
30...	0925	1.0	7.3	3.5	1,200	--	.10	140	140	71	71
October											
03...	1500	1.2	4.5	13.0	1,200	--	.10	130	130	67	68
07...	0830	1.6	6.2	5.5	1,000	2	.10	110	110	60	60
11...	1410	1.7	6.5	17.0	900	12	.10	98	98	52	51
14...	0745	1.7	6.3	4.0	1,100	--	.10	120	120	59	58
18...	1405	1.4	6.5	11.0	940	14	.10	110	100	55	51
21...	1115	1.6	5.6	8.5	1,500	--	.10	140	140	68	68
21...	1200	--	--	--	--	--	.10	--	--	--	--
25...	1335	1.6	5.6	9.5	1,400	--	.10	130	130	64	65
28...	1200	1.7	4.2	7.5	1,400	--	.10	130	130	63	63
29...	1200	--	--	--	--	--	.10	--	--	--	--

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
September										
01...	3.9	3.7	740	0.75	2.3	13	2.3	130	70	41
04...	3.6	3.7	670	--	3.5	13	2.4	330	50	46
08...	--	3.6	700	.93	1.9	12	2.0	--	--	40
11...	--	3.4	610	--	3.5	12	4.2	--	--	50
15...	3.5	3.4	630	--	3.0	11	4.1	510	50	48
18...	3.7	3.9	680	.74	3.3	13	2.5	--	60	52
22...	2.7	2.7	460	1.8	2.5	9.7	2.0	--	60	58
27...	--	3.3	460	--	2.9	13	2.8	100	--	66
30...	4.1	4.5	740	--	2.7	14	3.3	--	50	64
October										
03...	3.9	3.9	740	1.7	3.4	14	3.3	--	60	56
07...	3.6	3.5	610	1.4	3.3	13	3.1	--	60	60
11...	3.1	3.1	510	--	2.9	10	2.8	--	70	61
14...	3.3	3.3	640	--	3.1	12	3.0	--	50	52
18...	3.1	2.9	530	1.8	3.0	9.7	2.6	--	60	56
21...	3.9	3.9	790	--	3.8	14	2.1	130	70	51
21...	--	--	710	--	3.2	--	2.0	--	--	--
25...	3.8	3.9	740	--	3.6	13	2.1	--	50	41
28...	3.5	3.5	--	--	--	12	--	--	50	42
29...	--	--	790	.67	2.5	--	2.1	--	--	--

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued										
September										
01...	4.5	4	50	30	210	210	<6	10	200	30
04...	4.9	<.5	50	20	220	180	20	60	120	50
08...	--	5	--	7	--	200	--	<6	--	30
11...	--	4	--	20	--	150	--	<6	--	70
15...	1.7	6	40	10	200	160	<6	<6	140	60
18...	3.5	4	20	20	200	180	<6	<6	150	60
22...	1.0	6	20	20	100	90	<6	<6	100	50
27...	.9	3	--	20	40	140	<6	<6	20	20
30...	8.0	4	30	60	190	190	<6	<6	190	110
October										
03...	4.0	3	50	40	170	230	<6	<6	150	60
07...	3.8	6	50	40	160	210	<6	<6	160	30
11...	5.5	3	20	30	150	130	<6	6	140	30
14...	2.5	<.5	50	30	170	160	47	20	130	90
18...	2.0	2	30	20	120	60	40	40	110	40
21...	0.5	3	60	50	210	220	<6	<6	230	140
21...	--	--	--	--	--	--	--	--	--	--
25...	2.0	3	50	10	250	220	<6	30	150	90
28...	5.5	4	30	40	220	210	<6	<6	170	150
29...	--	--	--	--	--	--	--	--	--	--

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
September										
01...	1,300	190	36,000	4,600	860	--	10	--	32,000	30,000
04...	1,200	160	29,000	1,400	250	--	--	--	28,000	28,000
08...	--	70	--	2,600	--	130	--	<5	--	26,000
11...	--	90	--	9,800	--	380	--	20	--	28,000
15...	940	130	33,000	2,600	420	250	7	20	28,000	28,000
18...	970	80	29,000	1,600	660	310	10	10	27,000	28,000
22...	610	20	21,000	540	510	510	8	9	21,000	21,000
27...	100	20	3,200	130	170	--	<5	10	3,300	17,000
30...	830	100	37,000	10,000	970	--	20	20	37,000	38,000
October										
03...	620	110	28,000	6,500	650	--	10	<5	34,000	35,000
07...	870	70	31,000	3,500	960	120	20	--	27,000	27,000
11...	760	20	27,000	--	780	<50	10	9	23,000	23,000
14...	520	40	36,000	14,000	300	--	--	--	32,000	32,000
18...	350	10	23,000	1,400	210	<50	--	--	29,000	27,000
21...	600	110	48,000	22,000	610	250	20	20	39,000	39,000
21...	--	--	--	--	--	--	--	--	--	--
25...	600	60	36,000	12,000	340	--	20	20	34,000	34,000
28...	430	50	41,000	19,000	450	230	10	10	36,000	37,000
29...	--	--	--	--	--	--	--	--	--	--

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued										
September										
01...	<50	<50	40	40	220	200	22	<5	59,000	53,000
04...	<50	<50	160	120	190	190	14	9	55,000	53,000
08...	--	<50	--	20	--	190	--	<5	--	51,000
11...	--	<50	--	<20	--	200	--	8	--	50,000
15...	<50	--	120	50	190	200	<5	<5	52,000	51,000
18...	<50	<50	50	60	210	220	17	<5	56,000	56,000
22...	53	60	30	<20	150	160	<5	15	37,000	35,000
27...	<50	<50	<20	40	30	160	<5	<5	--	38,000
30...	190	<50	100	90	240	240	8	<5	60,000	57,000
October										
03...	160	<50	90	80	230	220	10	<5	57,000	56,000
07...	<50	<50	30	80	210	200	13	<5	54,000	51,000
11...	120	<50	40	40	180	170	15	<5	44,000	37,000
14...	<50	72	50	40	210	210	8	12	48,000	45,000
18...	<50	55	30	80	190	170	<5	<5	38,000	32,000
21...	<50	<50	50	50	250	250	22	15	56,000	55,000
21...	--	--	--	--	--	--	--	--	--	--
25...	<50	<50	90	110	230	230	16	10	53,000	52,000
28...	61	<50	70	120	230	230	6	<5	48,000	47,000
29...	--	--	--	--	--	--	--	--	--	--

Date	Time	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Filter pore size (µm)	Sediment, suspended (mg/L)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989											
January											
01...	0745	--	--	--	0.10	--	--	--	--	--	--
01...	1030	--	--	--	.10	--	--	--	--	--	--
May											
30...	1400	--	--	--	.01	--	190	160	110	95	6.1
30...	1405	--	--	--	.45	--	--	240	--	140	--
30...	1415	--	--	--	.01	--	--	190	--	110	--
30...	1416	--	--	--	.01	--	--	170	--	100	--
30...	1418	--	--	--	.01	--	--	190	--	110	--
30...	1421	--	--	--	.01	--	--	180	--	110	--
30...	1424	--	--	--	.01	--	--	190	--	110	--
30...	1426	--	--	--	.10	--	--	--	--	--	--
30...	1427	--	--	--	.01	--	--	170	--	100	--
30...	1430	--	--	--	.01	--	--	200	--	110	--
30...	1435	--	--	--	.01	--	--	210	--	120	--
30...	1438	--	--	--	.10	--	--	--	--	--	--
30...	1445	4.3	18.0	1,800	.10	51	--	190	--	110	--
30...	1500	--	--	--	.10	--	--	--	--	--	--
31...	1433	--	--	--	.01	--	--	200	--	110	--
31...	1440	--	--	--	.01	--	--	200	--	110	--

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
January											
01...	--	800	<0.3	1.9	--	1.1	--	--	--	--	--
01...	--	920	<.3	2.4	--	1.2	--	--	--	--	--
May											
30...	5.4	1,200	<.3	1.1	18	1.6	--	780	--	30	30
30...	7.8	--	--	--	27	--	--	--	640	--	45
30...	6.4	1,200	--	1.0	21	1.7	--	--	--	--	34
30...	5.6	1,200	1.0	.39	20	1.6	--	--	--	--	34
30...	6.3	1,200	<.3	1.1	21	1.6	--	--	--	--	34
30...	5.9	1,200	.90	.60	20	1.7	--	--	--	--	30
30...	6.2	1,200	<.3	1.1	22	1.6	--	--	<40	--	34
30...	--	1,200	<.3	1.1	--	1.6	--	--	--	--	--
30...	5.9	1,200	<.3	1.1	19	1.6	--	--	--	--	30
30...	6.3	1,200	<.3	1.1	22	1.6	--	--	--	--	34
30...	6.6	--	--	--	23	--	--	--	--	--	31
30...	--	1,200	<.3	1.1	--	1.6	--	--	--	--	--
30...	6.5	1,200	<.3	1.1	21	1.6	0.8	--	--	--	31
30...	--	1,200	<.3	1.1	--	1.6	--	--	--	--	--
31...	6.5	--	--	--	22	--	--	--	130	--	26
31...	6.5	--	--	--	22	--	--	--	840	--	21

Date	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)
January											
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
May											
30...	1.7	<0.5	10	<9	500	400	<6	30	120	50	900
30...	--	14	--	20	--	690	--	<6	--	100	--
30...	--	<.5	--	10	--	460	--	40	--	70	--
30...	--	<.5	--	10	--	410	--	30	--	60	--
30...	--	<.5	--	9	--	470	--	<6	--	70	--
30...	--	<.5	--	20	--	450	--	40	--	70	--
30...	--	1	--	20	--	500	--	<6	--	50	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	<.5	--	10	--	430	--	60	--	70	--
30...	--	<.5	--	5	--	470	--	30	--	80	--
30...	--	<.5	--	<2	--	510	--	8	--	80	--
30...	--	--	--	--	--	--	--	--	--	--	--
30...	--	2	--	<2	--	420	--	<6	--	40	--
30...	--	--	--	--	--	--	--	--	--	--	--
31...	--	<.5	--	30	--	680	--	30	--	60	--
31...	--	7	--	30	--	620	--	<6	--	70	--

Table 19.--*Hydrologic data for station 391420106180400, California Gulch at State Highway Department, at Leadville*--Continued

Date	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued										
January										
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
May										
30...	580	15,000	3,700	--	310	<50	<5	55	32,000	26,000
30...	940	--	5,600	--	--	290	--	30	--	41,000
30...	650	--	4,300	--	--	<50	--	60	--	30,000
30...	600	--	4,000	--	--	60	--	40	--	28,000
30...	650	--	4,300	--	--	70	--	40	--	31,000
30...	620	--	4,100	--	--	<50	--	50	--	29,000
30...	700	--	4,500	--	--	140	--	--	--	32,000
30...	--	--	--	--	--	--	--	--	--	--
30...	590	--	3,900	--	--	140	--	60	--	28,000
30...	700	--	4,500	--	--	90	--	30	--	32,000
30...	750	--	4,400	--	--	<50	--	30	--	33,000
30...	--	--	--	--	--	--	--	--	--	--
30...	660	--	4,300	1,800	--	90	--	30	--	31,000
30...	--	--	--	--	--	--	--	--	--	--
31...	730	--	4,700	--	--	<50	--	50	--	34,000
31...	720	--	4,700	--	--	<50	--	70	--	34,000

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
January										
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
May										
30...	<50	<50	60	<75	350	270	<5	7	100,000	87,000
30...	--	110	--	20	--	420	--	50	--	140,000
30...	--	<50	--	80	--	320	--	20	--	100,000
30...	--	<50	--	40	--	300	--	12	--	93,000
30...	--	<50	--	--	--	330	--	<5	--	100,000
30...	--	<50	--	70	--	300	--	15	--	97,000
30...	--	<50	--	30	--	350	--	<5	--	100,000
30...	--	--	--	--	--	--	--	--	--	--
30...	--	<50	--	120	--	290	--	22	--	94,000
30...	--	200	--	70	--	340	--	<5	--	110,000
30...	--	<50	--	50	--	350	--	10	--	110,000
30...	--	--	--	--	--	--	--	--	--	--
30...	--	<50	--	50	--	340	--	6	--	88,000
30...	--	--	--	--	--	--	--	--	--	--
31...	--	290	--	140	--	360	--	23	--	110,000
31...	--	720	--	100	--	350	--	12	--	110,000

Table 20.--*Hydrologic data for station 391432106173400, Star Ditch near mouth, at Leadville*

Date	Time	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Chloride, dissolved (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987										
August 19...	0730	0.10	26	26	17	16	0.7	0.73	33	1.0

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
August 19...	50	41	<0.5	<0.5	<2	<2	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)
August 19...	9	<1	1,900	30	<50	<5	<5	130	110	<50

Date	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
August 19...	<50	<20	<20	50	50	<5	<5	210	90

Table 20.--*Hydrologic data for station 391432106173400, Star Ditch near mouth, at Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alka-, linity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988											
April											
06...	1230	--	--	--	--	--	0.10	61	--	17	--
06...	1415	--	--	--	--	--	.10	61	--	21	--
07...	1230	1.2	6.9	7.0	460	17	.10	60	49	20	13
07...	1415	--	--	--	--	--	.10	--	33	--	7.1

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)
April											
06...	2.1	--	--	--	--	--	--	--	2,000	200	--
06...	4.4	--	--	--	--	--	--	--	6,100	300	--
07...	2.9	3.2	140	<0.3	3.3	1.3	1.2	21	3,100	200	40
07...	--	5.1	92	<.3	8.7	.22	1.0	--	--	--	31

Date	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)
April											
06...	<0.5	--	30	--	70	--	<6	--	<7	--	500
06...	<.5	--	40	--	120	--	<6	--	<7	--	900
07...	<.5	<0.5	80	60	100	50	<6	<6	40	<7	580
07...	--	<.5	--	40	--	30	--	<6	--	<7	--

Date	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
April										
06...	--	16,000	--	--	--	3,000	<5	--	4,900	--
06...	--	28,000	--	--	--	8,400	<5	--	9,400	--
07...	<1	16,000	170	<5	8	3,400	20	15	4,800	1,600
07...	<1	--	40	--	--	--	--	20	--	590

Date	Molybdenum, total recoverable (ug/L)	Molybdenum, dissolved (ug/L)	Nickel, total recoverable (ug/L)	Nickel, dissolved (ug/L)	Strontium, total recoverable (ug/L)	Strontium, dissolved (ug/L)	Vanadium, total (ug/L)	Vanadium, dissolved (ug/L)	Zinc, total recoverable (ug/L)	Zinc, dissolved (ug/L)
April										
06...	<50	--	<20	--	140	--	<5	--	13,000	--
06...	<50	--	<20	--	140	--	<5	--	21,000	--
07...	<50	<50	<20	<20	140	120	<5	<5	13,000	4,200
07...	--	<50	--	<20	--	90	--	<5	--	1,700

Table 21.--*Hydrologic data for station 391626106180000, Evans Gulch near mouth, at Leadville*

Date	Time	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Calcium, total recoverable (mg/L)	Magnesium, total recoverable (mg/L)	Sodium, total recoverable (mg/L)	Sulfate, dissolved (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989									
June 06...	1255	7.7	9.0	100	71	18	8.8	0.5	16

Date	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Barium, total recoverable (µg/L)	Beryllium, total recoverable (µg/L)	Boron, total recoverable (µg/L)	Chromium, total recoverable (µg/L)	Cobalt, total recoverable (µg/L)
June 06...	<0.3	0.65	0.36	60	<0.5	<2	14	<7

Date	Iron, total recoverable (µg/L)	Lithium, total recoverable (µg/L)	Manganese, total recoverable (µg/L)	Molybdenum, total recoverable (µg/L)	Nickel, total recoverable (µg/L)	Strontium, total recoverable (µg/L)	Vanadium, total (µg/L)	Zinc, total recoverable (µg/L)
June 06...	9	<5	1	<50	40	30	<5	110

Table 22.--*Hydrologic data for station 391700106175600, East Fork Arkansas River at Highway 24, at Leadville*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, dissolved (mg/L)	Magnesium, dissolved (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April 29...	1250	22	8.1	10.0	330	94	0.45	39	16	4.9	75

Date	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, dissolved (µg/L)	Barium, dissolved (µg/L)	Beryllium, dissolved (µg/L)	Boron, dissolved (µg/L)	Cadmium, dissolved (µg/L)	Chromium, dissolved (µg/L)
April 29...	0.60	1.1	6.8	0.75	0.6	<40	91	0.5	<2	<7	<6

Date	Cobalt, dissolved (µg/L)	Copper, dissolved (µg/L)	Iron, dissolved (µg/L)	Lead, dissolved (µg/L)	Lithium, dissolved (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, dissolved (µg/L)	Strontium, dissolved (µg/L)	Vanadium, dissolved (µg/L)	Zinc, dissolved (µg/L)
April 29...	<7	10	50	<50	5	250	<50	100	6	440

Table 22.--*Hydrologic data for station 391700106175600, East Fork Arkansas River at Highway 24, at Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987											
April											
28...	0735	34	7.6	2.0	180	67	0.10	--	28	29	12
May											
20...	1230	130	7.2	6.5	100	41	.10	--	16	16	6.4
28...	1820	76	7.2	9.5	200	83	.10	200	20	20	8.0
June											
09...	1800	160	7.8	9.0	120	36	.10	--	--	14	--
24...	0930	90	7.2	6.0	150	42	.10	800	16	17	6.5
July											
16...	1045	44	7.4	10.0	170	64	.10	1,700	25	25	8.6
August											
18...	1345	30	8.2	13.0	230	68	.10	1,700	31	31	18

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
April											
28...	9.9	1.2	1.1	46	<0.3	0.79	0.90	--	2.7	--	80
May											
20...	6.2	1.1	1.1	20	<.3	.46	--	0.45	2.6	--	50
28...	8.2	1.3	1.3	21	--	.50	8.6	--	2.4	570	60
June											
09...	5.6	--	.90	16	<.3	.40	4.3	.44	--	<40	--
24...	6.6	.9	.98	20	<.3	<.3	3.0	.44	1.2	<40	50
July											
16...	8.8	1.0	1.1	30	<.3	<.3	--	.37	1.2	--	70
August											
18...	18	1.5	1.6	41	--	.40	--	.46	.7	--	80

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
April											
28...	79	1.1	2	10	10	<7	--	30	50	8	<7
May											
20...	48	<.5	<.5	30	10	--	<7	36	<6	<7	<7
28...	65	.7	<.5	<2	3	<7	7.0	<6	<6	<7	<7
June											
09...	42	--	.5	--	<2	--	<7	--	<6	--	<7
24...	43	.8	<.5	8	<2	<7	<7	17	<6	10	<7
July											
16...	65	<.5	.5	<2	<2	20	30	<6	<6	<7	<7
August											
18...	84	<.5	<.5	<2	3	<7	--	<6	<6	<7	<7

Table 22.--*Hydrologic data for station 391700106175600, East Fork Arkansas River at Highway 24, at Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
April											
28...	10	10	380	70	--	--	<50	--	--	--	180
May											
20...	--	--	220	130	--	--	--	<50	<5	20	120
28...	5	9	250	510	70	340	<50	<50	20	--	150
June											
09...	--	10	--	40	20	220	--	<50	--	<5	--
24...	6	7	170	18	20	80	<50	<50	<5	<5	90
July											
16...	<1	4	170	130	--	550	300	270	<5	<5	120
August											
18...	<1	<1	230	20	--	--	--	--	<5	<5	160

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April											
28...	170	53	56	70	--	80	80	<5	5	310	270
May											
20...	100	<50	<50	<20	--	50	50	<5	<5	230	210
28...	180	<50	<50	<20	<20	70	70	<5	<5	310	--
June											
09...	60	--	<50	--	--	--	50	--	6	--	110
24...	85	<50	<50	60	30	50	50	<5	<5	200	190
July											
16...	340	<50	<50	<20	<20	70	70	18	18	210	--
August											
18...	150	<50	<50	<20	<20	80	80	<5	<5	380	320

Table 22.--*Hydrologic data for station 391700106175600, East Fork Arkansas River at Highway 24, at Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988												
April												
06...	1045	12	7.2	4.0	630	110	0.10	1,400	50	51	24	24
May												
24...	1100	46	7.8	7.0	230	66	.10	--	25	25	9.8	9.6
June												
01...	0830	94	8.0	2.0	170	50	.10	700	18	18	7.0	6.8
08...	1200	170	7.3	9.5	120	37	.10	1,900	13	13	4.9	4.8
30...	1445	110	8.1	13.0	170	66	.10	1,800	16	16	6.0	6.1
July												
22...	1310	35	8.1	14.0	220	84	.10	1,700	27	27	11	11
August												
17...	1358	36	8.2	10.0	180	72	.10	170	24	25	9.4	9.4
September												
14...	1645	20	8.3	7.5	280	89	.10	--	31	32	13	13
October												
20...	1010	16	7.9	2.0	290	99	.10	960	35	36	15	15

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)
April											
06...	2.3	2.4	120	<0.3	0.92	2.1	1.0	1.6	--	--	100
May											
24...	1.7	1.8	37	.35	.56	5.6	.52	2.1	--	--	70
June											
01...	1.2	1.2	24	<.3	.58	5.0	.45	3.0	--	--	60
08...	.8	.88	14	<.3	<.3	4.3	.36	3.3	--	60	40
30...	1.0	1.0	15	<.3	.59	4.6	.64	--	--	40	50
July											
22...	1.4	1.5	32	<.3	.46	5.4	--	1.6	1.9	--	70
August											
17...	1.5	1.5	31	.32	1.2	5.4	.47	1.6	.9	--	70
September											
14...	1.8	1.8	47	<.3	.54	6.2	.45	.9	.9	--	100
October											
20...	1.8	1.9	73	<.3	.72	6.5	.66	--	--	--	80

Table 22.--*Hydrologic data for station 391700106175600, East Fork Arkansas River at Highway 24, at Leadville*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
April											
06...	100	<0.5	<0.5	3	7	--	--	<6	<6	<7	<7
May											
24...	63	<.5	<.5	6	5	<7	<7	<6	<6	<7	<7
June											
01...	47	.9	<.5	7	10	<7	7.0	<6	<6	<7	<7
08...	37	<.5	<.5	<2	<2	--	<7	<6	<6	<7	<7
30...	49	<.5	.7	<2	<2	7	--	<6	<6	<7	<7
July											
22...	71	<.5	<.5	<2	<2	9	10	<6	<6	<7	<7
August											
17...	70	<.5	<.5	10	6	7	<7	<6	<6	<7	<7
September											
14...	94	<.5	1	30	20	<7	8.0	<6	<6	<7	<7
October											
20...	86	.7	<.5	4	<2	10	<7	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
April											
06...	<1	<1	340	20	<5	6	--	--	<5	7	430
May											
24...	1	2	250	95	20	50	--	--	<5	<5	220
June											
01...	2	3	440	40	--	40	<50	<50	<5	<5	150
08...	3	2	500	30	--	60	--	<50	<5	<5	100
30...	4	2	370	50	--	--	80	<50	<5	<5	80
July											
22...	2	2	250	40	10	70	<50	<50	<5	<5	150
August											
17...	<1	<1	280	50	--	30	<50	--	5	<5	120
September											
14...	2	--	220	10	--	--	--	<50	<5	<5	150
October											
20...	--	--	220	60	--	60	--	<50	<5	<5	230

Table 22.--*Hydrologic data for station 391700106175600, East Fork Arkansas River at Highway 24, at Leadville*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
April											
06...	430	<50	<50	<20	<20	90	100	<5	<5	950	890
May											
24...	220	<50	<50	<20	<20	80	80	<5	<5	490	430
June											
01...	130	<50	61	<20	<20	60	60	<5	<5	300	270
08...	70	<50	<50	<20	<20	50	50	<5	<5	140	100
30...	60	<50	<50	--	<20	60	60	<5	<5	100	180
July											
22...	140	<50	<50	<20	<20	80	80	<5	<5	250	210
August											
17...	110	<50	<50	<20	<20	70	70	<5	<5	190	170
September											
14...	140	<50	<50	--	<20	80	80	<5	<5	270	220
October											
20...	230	60	<50	<20	<20	80	80	<5	<5	500	480

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989											
May											
02...	1640	24	8.0	9.5	280	82	0.01	320	--	34	--
02...	1645	24	8.0	9.5	280	82	.10	320	35	33	14
15...	1040	51	7.6	4.0	220	67	.10	--	26	26	9.9
June											
15...	0840	100	7.8	0.0	140	48	.10	--	15	16	6.0
22...	0850	95	7.6	5.0	150	54	.10	--	16	16	6.5
28...	0830	82	7.7	6.0	160	52	.10	--	17	17	6.9
July											
06...	0805	73	7.6	8.0	150	53	.10	--	17	17	6.6
13...	0925	91	7.4	8.0	140	53	.10	--	16	17	6.4
20...	0815	47	7.8	8.0	180	68	.10	--	24	23	9.2
27...	0805	61	7.6	7.0	170	60	.10	--	20	21	7.8
August											
01...	0900	66	7.8	9.0	170	61	.10	--	20	20	7.5
24...	0820	31	7.6	6.5	230	85	.10	--	--	29	--
31...	0930	26	7.8	7.0	230	88	.10	--	30	31	13
September											
08...	0950	23	7.6	6.0	250	93	.10	--	32	36	14
15...	0815	16	7.7	3.5	230	92	.10	--	32	37	14
20...	1450	26	7.0	11.0	240	79	.10	--	31	31	13
27...	1620	22	7.8	--	260	93	.10	--	33	34	14
October											
06...	0930	20	7.2	--	270	100	.10	--	--	38	--
18...	1255	21	7.0	4.5	310	95	.10	--	37	37	16

Table 22.--*Hydrologic data for station 391700106175600, East Fork Arkansas River at Highway 24, at Leadville*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
May											
02...	14	--	2.0	--	--	--	6.0	--	--	87	--
02...	13	2.1	1.9	58	<0.3	0.99	5.9	0.78	90	85	1.1
15...	10	1.7	1.7	43	<.3	.88	5.8	.80	60	64	<.5
June											
15...	6.4	1.0	1.1	19	<.3	.55	4.5	.61	40	46	<.5
22...	6.5	1	1.0	18	<.3	.55	4.3	.68	50	47	<.5
28...	6.8	1.0	1.1	20	--	<.3	4.3	--	50	52	<.5
July											
06...	6.7	1	1.0	22	<.3	.55	4.2	.43	50	50	<.5
13...	6.6	1.0	1.0	22	<.3	.53	4.2	.41	50	49	<.5
20...	9.1	1.3	1.3	29	<.3	.59	5.0	.63	70	65	<.5
27...	8.1	1.2	1.3	26	<.3	.61	4.9	.74	60	62	<.5
August											
01...	7.8	1.1	1.2	23	<.3	.61	4.8	.56	60	58	<.5
24...	12	--	1.6	38	<.3	.62	6.1	.52	--	81	--
31...	12	1.7	1.8	45	<.3	.73	6.2	.50	80	85	<.5
September											
08...	15	1.8	1.9	51	<.3	.76	6.8	.45	90	94	<.5
15...	15	1.7	2.0	49	<.3	.47	6.9	.50	90	99	<.5
20...	13	1.7	1.7	49	<.3	.76	6.0	.20	80	83	<.5
27...	14	1.8	1.9	58	<.3	.76	6.4	.27	90	86	<.5
October											
06...	16	3.9	2.0	63	<.3	.79	6.8	1.1	--	90	<.5
18...	16	2.0	1.9	69	<.3	1.3	6.6	--	90	86	1.6

Date	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)
May											
02...	2	--	<2	--	<7	--	<6	--	<7	--	6
02...	.8	<2	<2	--	<7	<6	<6	<7	8	3	5
15...	.5	9	<2	8	<7	<6	<6	<7	<7	10	13
June											
15...	.7	<2	9	--	<7	6	<6	<7	<7	3	4
22...	<.5	6	6	--	--	<6	<6	<7	<7	2	--
28...	<.5	2	3	<7	<7	<6	<6	<7	<7	--	--
July											
06...	<.5	<2	<2	--	--	<6	<6	<7	<7	20	7
13...	<.5	<2	<2	--	<7	12	<6	<7	7	40	1
20...	<.5	<2	<2	--	<7	8	<6	<7	<7	--	<1
27...	<.5	3	<2	--	<7	<6	<6	<7	<7	--	--
August											
01...	.6	<2	4	<7	<7	<6	<6	<7	<7	2	2
24...	<.5	--	<2	--	--	--	10	--	<7	--	1
31...	1	<2	10	<7	<7	8	<6	<7	<7	3	<1
September											
08...	<.5	<2	<2	--	<7	10	<6	<7	<7	2	--
15...	<.5	8	7	<7	<7	12	<6	<7	<7	5	4
20...	<.5	2	<2	--	<7	<6	<6	<7	<7	2	--
27...	.5	<2	5	--	<7	<6	<6	<7	<7	4	2
October											
06...	<.5	10	<2	<7	<7	<6	<6	9	<7	2	2
18...	<.5	3	<2	10	<7	<6	7	<7	<7	5	4

Table 22.--*Hydrologic data for station 391700106175600, East Fork Arkansas River at Highway 24, at Leadville*--Continued

Date	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued										
May										
02...	--	9	230	250	--	--	--	30	--	320
02...	210	30	230	250	--	--	<5	10	320	310
15...	170	60	--	--	<50	<50	<5	<5	280	280
June										
15...	110	45	--	--	--	<50	<5	<5	70	70
22...	150	40	--	--	<50	--	<5	<5	70	70
28...	130	50	--	--	<50	<50	<5	5	70	70
July										
06...	140	50	--	--	<50	--	6	<5	70	70
13...	190	60	--	--	<50	--	<5	<5	70	60
20...	150	40	--	--	--	<50	9	<5	100	100
27...	160	70	--	--	<50	<50	--	<5	70	80
August										
01...	160	60	--	--	--	<50	--	--	70	70
24...	--	30	--	--	--	--	--	8	--	110
31...	210	30	--	--	<50	<50	<5	--	120	120
September										
08...	230	40	--	--	<50	--	6	<5	150	150
15...	200	30	--	--	--	--	<5	--	150	150
20...	240	40	--	--	--	<50	--	<5	120	120
27...	240	50	--	--	<50	<50	<5	--	140	140
October										
06...	210	120	--	--	70	<50	7	<5	180	180
18...	210	20	--	--	<50	--	--	<5	190	190

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
May										
02...	--	<50	--	<20	--	90	--	<5	--	500
02...	<50	<50	--	<20	100	90	<5	<5	560	490
15...	<50	<50	<20	<20	80	80	<5	<5	670	630
June										
15...	<50	<50	<20	<20	50	50	<5	<5	160	160
22...	<50	<50	<20	--	50	50	<5	<5	160	150
28...	<50	<50	<20	<20	60	60	<5	<5	170	150
July										
06...	<50	<50	20	<20	50	60	<5	<5	160	150
13...	<50	<50	30	<20	50	50	<5	<5	130	120
20...	<50	<50	20	--	70	70	<5	<5	210	200
27...	<50	<50	--	<20	60	70	<5	<5	160	170
August										
01...	63	<50	<20	<20	60	60	<5	<5	150	120
24...	--	<50	--	20	--	80	--	<5	--	230
31...	<50	<50	<20	<20	80	80	<5	<5	220	180
September										
08...	<50	<50	<20	--	80	90	<5	<5	400	400
15...	<50	<50	20	<20	80	90	<5	<5	380	390
20...	<50	<50	--	<20	80	80	<5	<5	250	210
27...	<50	<50	<20	--	80	90	<5	<5	340	290
October										
06...	<50	<50	--	--	--	90	<5	<5	--	470
18...	<50	<50	<20	<20	90	80	<5	<5	460	420

Table 23.--*Hydrologic data for station 391709106164600, East Fork Arkansas River at Highway 91, near Leadville*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, dissolved (mg/L)	Magnesium, dissolved (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April											
29...	0805	19	7.8	--	--	79	0.45	26	10	2.4	20
June											
02...	1150	--	--	--	--	--	.45	20	7.0	1.5	19
July											
07...	1130	--	--	--	--	--	.10	--	--	--	16
07...	1135	--	--	--	--	--	.45	15	6.0	1.0	--
September											
03...	1100	28	8.4	7.5	170	71	.10	22	8.5	1.7	12

Date	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, dissolved (µg/L)	Barium, dissolved (µg/L)	Beryllium, dissolved (µg/L)	Boron, dissolved (µg/L)	Cadmium, dissolved (µg/L)	Chromium, dissolved (µg/L)
April											
29...	0.70	0.90	5.8	0.75	2.1	<40	85	0.5	<2	<7	<6
June											
02...	--	<.3	--	--	--	--	<2	<.5	<2	<7	<6
July											
07...	--	<.3	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	<2	<.5	<2	<7	<6
September											
03...	.40	.40	5.5	.49	3.9	<40	82	0.5	<2	<7	<6

Date	Cobalt, dissolved (µg/L)	Copper, dissolved (µg/L)	Iron, dissolved (µg/L)	Lead, dissolved (µg/L)	Lithium, dissolved (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, dissolved (mg/L)	Strontium, dissolved (µg/L)	Vanadium, dissolved (µg/L)	Zinc, dissolved (µg/L)
April										
29...	<7	10	60	<50	<5	70	<50	90	6	40
June										
02...	<7	10	400	<50	--	120	<50	--	<5	260
July										
07...	--	--	--	--	--	--	--	--	--	--
07...	<7	10	310	<50	--	80	<50	--	<5	130
September										
03...	<7	10	60	<50	6	30	<50	80	6	<10

Table 23.--*Hydrologic data for station 391709106164600, East Fork Arkansas River at Highway 91, near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987											
April											
28...	0832	30	7.0	7.0	130	54	0.10	21	20	8.6	8.5
May											
20...	1445	120	7.4	8.0	81	38	.10	13	14	5.0	5.5
29...	0955	64	7.3	3.0	140	51	.10	16	16	6.2	6.1
June											
10...	1200	140	6.5	7.0	120	37	.10	14	14	5.3	5.5
24...	0800	88	7.8	5.0	110	43	.10	12	--	5.1	--
July											
16...	1300	33	7.8	11.0	120	76	.10	18	20	6.4	6.4
August											
18...	1100	21	7.0	8.5	160	66	.10	21	21	7.1	7.1

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
April											
28...	0.8	0.91	20	<0.3	0.61	1.1	--	2.8	600	--	70
May											
20...	.9	.98	9.9	--	<.3	1.5	0.39	3.8	--	--	50
29...	1.2	1.2	10	--	.40	3.2	--	2.4	--	--	50
June											
10...	1.4	1.3	11	.52	.63	2.0	.95	2.1	90	--	40
24...	.8	--	7.3	--	<.3	--	.45	1.0	--	--	40
July											
16...	1	1.4	12	--	.40	6.4	--	.7	--	--	60
August											
18...	--	1.6	11	--	<.3	1.9	--	.5	--	90	80

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
April											
28...	70	1.8	2	10	10	<7	<7	34	40	<7	<7
May											
20...	41	<.5	<.5	20	40	<7	--	18	<6	<7	<7
29...	49	<.5	<.5	<2	<2	--	--	<6	<6	<7	<7
June											
10...	40	<.5	<.5	<2	<2	<7	<7	<6	<6	<7	<7
24...	--	<.5	--	5	--	<7	--	<6	--	<7	--
July											
16...	65	<.5	.8	<2	<2	<7	<7	<6	<6	<7	8
August											
18...	14	<.5	<.5	<2	<2	20	--	<6	<6	<7	<7

Table 23.--*Hydrologic data for station 391709106164600, East Fork Arkansas River at Highway 91, near Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
April											
28...	10	10	290	20	--	--	--	--	--	--	60
May											
20...	--	--	240	80	--	--	--	--	--	20	40
29...	2	3	230	130	--	--	<50	<50	20	10	30
June											
10...	<1	<1	90	--	--	--	<50	--	20	6	110
24...	4	--	210	--	--	--	<50	--	<5	--	25
July											
16...	<1	4	120	50	--	--	<50	<50	<5	--	20
August											
18...	4	1	130	--	30	530	--	<50	<5	<5	20

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April											
28...	50	81	<50	<20	40	70	70	<5	<5	<10	10
May											
20...	80	<50	<50	<20	--	50	50	<5	<5	30	--
29...	30	<50	<50	<20	--	60	60	<5	<5	20	60
June											
10...	--	<50	<50	<20	<20	50	50	<5	<5	210	--
24...	--	<50	--	20	--	50	--	<5	--	60	--
July											
16...	30	<50	<50	<20	<20	60	70	17	<5	10	10
August											
18...	20	<50	<50	<20	<20	70	30	18	<5	10	20

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988												
April												
06...	0900	--	8.0	1.0	300	100	0.10	--	26	27	13	14
May												
19...	1155	85	7.7	3.5	130	44	.10	300	15	15	5.5	5.2
24...	1230	45	7.9	8.0	180	62	.10	--	19	19	7.1	7.1
June												
01...	1025	85	8.1	3.0	130	47	.10	1,900	14	14	5.1	5.3
08...	1340	180	7.3	9.0	100	36	.10	2,000	10	10	4.0	3.8
30...	1645	120	8.1	14.0	120	47	.10	1,100	14	14	5.1	5.1
July												
22...	1420	32	8.1	15.0	170	66	.10	1,900	19	19	7.0	7.1
August												
17...	1225	30	8.3	9.0	140	63	.10	320	18	18	6.7	6.6
September												
14...	1500	18	8.3	5.5	180	81	.10	--	22	22	8.4	8.4
October												
20...	0830	11	8.1	0.0	180	88	.10	75.0	24	24	9.5	9.6

Table 23.--*Hydrologic data for station 391709106164600, East Fork Arkansas River at Highway 91, near Leadville*--Continued

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued												
April												
06...	1.5	1.6	15	<0.3	0.46	1.6	--	1.6	--	--	--	100
May												
19...	1.3	1.3	15	.34	.55	4.8	0.54	--	--	510	--	60
24...	1.6	1.6	18	.31	.52	5.5	.80	2.2	--	--	--	70
June												
01...	1.1	1.1	11	<.3	--	5.4	--	2.9	--	40	50	50
08...	.8	.78	7.6	<.3	.41	4.1	.36	3.4	--	180	--	40
30...	.9	.95	9.6	<.3	.41	4.4	.50	--	--	100	--	50
July												
22...	1.2	1.2	12	<.3	.48	4.8	.41	1.3	1.5	--	--	70
August												
17...	1.2	1.2	12	.32	.87	4.7	.50	1.2	.9	--	--	60
September												
14...	1.4	1.4	13	.41	.36	5.3	.24	.7	.9	--	--	90
October												
20...	1.4	1.5	12	<.3	.41	5.7	.50	--	--	--	--	90

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
April											
06...	110	0.5	<0.5	30	2	<7	--	<6	<6	<7	<7
May											
19...	50	<.5	.7	10	10	--	<7	<6	<6	<7	<7
24...	66	<.5	.9	20	10	--	--	<6	<6	<7	<7
June											
01...	52	<.5	<.5	7	6	--	--	<6	<6	<7	<7
08...	36	.5	<.5	<2	<2	7	<7	<6	<6	<7	<7
30...	46	.6	.8	<2	<2	--	--	<6	<6	7	<7
July											
22...	66	<.5	<.5	<2	4	8	10	<6	<6	<7	<7
August											
17...	63	.5	.6	7	4	<7	<7	<6	<6	<7	<7
September											
14...	87	1.0	1	20	20	--	<7	<6	<6	<7	<7
October											
20...	93	<.5	<.5	2	3	--	--	<6	<6	<7	<7

Table 23.--*Hydrologic data for station 391709106164600, East Fork Arkansas River at Highway 91, near Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lesd, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
July											
21...	4	4	170	8	10	60	<50	<50	5	7	80
April											
06...	10	<1	140	20	<5	<5	<50	--	<5	<5	20
May											
19...	4	4	920	60	20	50	--	--	<5	<5	100
24...	3	<1	330	80	20	80	<50	--	<5	<5	50
June											
01...	2	<1	440	290	40	40	--	<50	<5	<5	50
08...	5	2	430	40	--	80	<50	<50	<5	<5	50
30...	3	2	350	110	--	--	<50	--	<5	<5	40
July											
22...	2	4	170	40	--	50	<50	60	<5	<5	30
August											
17...	<1	<1	190	60	--	30	60	<50	<5	6	20
September											
14...	2	1	110	40	--	20	--	<50	<5	<5	20
October											
20...	2	3	150	30	--	--	--	--	--	--	30

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
April											
06...	50	<50	<50	20	<20	80	80	<5	<5	--	70
May											
19...	40	<50	<50	<20	<20	70	70	<5	<5	90	70
24...	30	<50	<50	<20	<20	80	80	<5	<5	90	60
June											
01...	40	<50	<50	<20	<20	60	60	<5	<5	30	35
08...	10	<50	<50	<20	<20	50	40	<5	<5	40	20
30...	20	<50	<50	<20	<20	60	60	<5	<5	30	30
July											
22...	20	<50	<50	<20	<20	70	70	<5	<5	<10	40
August											
17...	20	<50	<50	<20	<20	70	70	<5	<5	<10	<10
September											
14...	20	<50	<50	--	<20	80	80	<5	<5	<10	20
October											
20...	30	<50	<50	--	<20	80	80	<5	<5	<10	20

Table 23.--*Hydrologic data for station 391709106164600, East Fork Arkansas River at Highway 91, near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989												
March												
30...	0820	--	7.7	1.0	220	83	0.01	--	--	27	--	11
30...	0825	--	7.7	1.0	220	83	.10	--	25	26	10	11
May												
11...	0940	47	7.8	4.0	150	51	.10	--	18	18	6.3	6.4
15...	1015	35	7.7	3.0	160	61	.10	--	19	19	6.9	7.0
17...	1005	42	8.4	3.0	170	61	.01	340	--	19	--	7.1
17...	1010	42	8.4	3.0	170	61	.10	340	19	20	7.2	7.3
22...	1320	92	7.6	9.0	140	44	.01	1,800	--	14	--	5.0
22...	1325	92	7.6	9.0	140	44	.10	1,800	14	13	5.2	5.0
22...	1330	--	--	--	--	--	.45	--	--	14	--	5.0
June												
06...	1420	100	8.1	9.0	140	49	.01	2,200	--	14	--	5.3
06...	1425	100	8.1	9.0	140	49	.10	2,200	14	14	5.3	5.3
09...	1255	94	7.4	4.0	120	50	.10	--	14	13	5.2	5.0
15...	0820	94	7.7	0.0	120	46	.10	--	12	13	4.7	4.9
22...	0825	83	7.6	4.0	120	48	.10	--	13	13	5.2	5.2
28...	0815	67	7.6	5.0	120	47	.10	--	14	14	5.3	5.4
29...	1325	75	7.9	10.0	120	47	.01	--	--	14	--	5.5
29...	1330	75	7.9	10.0	120	47	.10	--	14	15	5.5	5.9
July												
06...	0740	59	7.6	7.0	120	46	.10	--	13	13	5.1	5.0
13...	0905	73	7.6	7.0	110	47	.10	--	13	13	4.9	4.9
18...	1545	44	7.5	15.0	--	58	.01	1,500	--	18	--	7.0
18...	1550	44	7.5	15.0	--	58	.10	1,500	16	16	6.2	6.1
20...	0745	28	7.9	7.0	140	59	.10	--	17	17	6.5	6.6
27...	0740	40	7.7	6.5	130	53	.10	--	16	17	5.9	6.4

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
March											
30...	--	2.0	--	--	--	5.8	--	--	--	--	--
30...	1.6	1.7	15	<0.3	0.65	5.6	0.76	--	--	--	100
May											
11...	1.6	1.6	19	.37	.88	5.0	.78	--	--	--	60
15...	1.4	1.5	17	<.3	.73	5.2	.65	--	--	--	60
17...	--	1.4	--	--	--	5.0	--	--	--	--	--
17...	1.4	1.5	17	<.3	.80	5.2	.78	--	--	--	60
22...	--	1.1	--	--	--	4.5	--	--	17	--	--
22...	1.1	1.1	12	<.3	.55	4.5	.83	--	17	170	50
22...	--	1.1	--	--	--	4.7	--	--	--	--	--
June											
06...	--	.96	--	--	--	4.3	--	2.7	1.9	--	--
06...	1	1.0	12	<.3	.53	4.4	.38	2.7	1.9	--	50
09...	1	1.0	12	<.3	.55	4.1	.49	--	--	<40	40
15...	.9	.97	11	<.3	.52	3.9	.63	--	--	--	40
22...	.9	.91	10	<.3	.43	4.0	.65	--	--	--	50
28...	.9	.97	7.4	<.3	<.3	4.0	.31	--	--	--	50
29...	--	.94	--	--	--	4.1	--	2.5	1.3	--	--
29...	.9	1.0	11	<.3	.43	3.9	.33	2.5	1.3	--	50
July											
06...	.9	.91	10	<.3	.41	3.8	.28	--	--	--	50
13...	.8	.90	13	<.3	.48	3.8	.42	--	--	--	40
18...	--	1.2	--	--	--	4.8	--	1.0	.9	--	--
18...	1.0	1.1	15	<.3	.60	4.3	.42	1.0	.9	--	60
20...	1.0	1.1	12	<.3	.54	4.4	.59	--	--	--	60
27...	1.0	1.1	12	<.3	.49	4.6	.71	--	--	--	50

Table 23.--*Hydrologic data for station 391709106164600, East Fork Arkansas River at Highway 91, near Leadville*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
					CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued						
March											
30...	100	--	0.5	--	8	--	<7	--	<6	--	<7
30...	100	<0.5	<.5	6	10	<7	--	<6	<6	<7	<7
May											
11...	55	.7	<.5	<2	4	<7	<7	<6	<6	<7	<7
15...	59	.8	<.5	10	4	<7	<7	<6	<6	<7	<7
17...	61	--	1	--	<2	--	<7	--	<6	--	<7
17...	65	<.5	.6	3	<2	--	<7	<6	<6	<7	<7
22...	45	--	<.5	--	5	--	--	--	<6	--	<7
22...	45	<.5	<.5	<2	<2	--	<7	<6	<6	<7	<7
22...	46	--	<.5	--	2	--	--	--	<6	--	<7
June											
06...	45	--	1	--	<2	--	7.0	--	<6	--	<7
06...	46	1.7	.5	6	<2	<7	<7	<6	<6	<7	<7
09...	40	<.5	<.5	<2	<2	--	<7	9	10	<7	<7
15...	40	<.5	<.5	9	<2	--	--	14	<6	<7	<7
22...	43	<.5	<.5	8	5	--	--	<6	<6	<7	<7
28...	46	<.5	<.5	6	3	<7	--	<6	<6	<7	<7
29...	48	--	1	--	<2	--	<7	--	<6	--	<7
29...	46	<.5	<.5	6	<2	9	<7	<6	9	<7	<7
July											
06...	45	<.5	1	7	7	--	<7	<6	10	<7	<7
13...	44	<.5	<.5	<2	<2	<7	--	<6	<6	8	<7
18...	58	--	.5	--	3	--	--	--	<6	--	<7
18...	57	<.5	1	2	2	<7	<7	<6	<6	<7	<7
20...	58	<.5	<.5	<2	2	--	<7	<6	<6	<7	<7
27...	58	.7	<.5	10	<2	<7	<7	10	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
March											
30...	--	10	--	30	--	20	--	<50	--	60	--
30...	6	10	370	30	--	20	<50	<50	<5	<5	60
May											
11...	5	10	220	60	--	--	<50	--	--	--	40
15...	20	7	150	60	--	--	60	<50	<5	<5	30
17...	--	20	--	20	20	40	--	<50	--	30	--
17...	20	6	130	70	20	40	<50	<50	--	<5	30
22...	--	8	--	30	40	40	--	--	--	--	--
22...	9	8	540	55	40	40	--	<50	<5	<5	70
22...	--	10	--	70	--	--	--	<50	--	--	--
June											
06...	--	6	--	20	--	20	--	<50	--	50	--
06...	10	7	210	50	--	20	<50	--	--	<5	20
09...	--	--	110	50	--	--	--	--	8	10	20
15...	4	1	100	40	--	--	--	--	<5	<5	10
22...	3	2	100	40	--	--	<50	<50	--	5	20
28...	1	--	90	40	--	--	<50	<50	<5	<5	20
29...	--	5	--	10	--	--	--	<50	--	--	--
29...	6	2	200	50	--	--	100	<50	--	6	30
July											
06...	10	20	90	40	--	--	--	<50	<5	8	20
13...	--	--	130	40	--	--	--	--	<5	5	20
18...	--	1	--	10	--	--	--	60	--	60	--
18...	2	2	130	50	--	--	<50	70	--	--	20
20...	--	2	100	30	--	--	<50	<50	--	<5	20
27...	4	--	110	50	--	--	<50	<50	--	--	20

Table 23.--*Hydrologic data for station 391709106164600, East Fork Arkansas River at Highway 91, near Leadville*--Continued

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
March											
30...	210	--	<50	--	--	--	80	--	<5	--	240
30...	70	<50	<50	<20	<20	70	80	<5	<5	60	60
May											
11...	50	<50	<50	<20	<20	80	70	<5	<5	40	110
15...	40	<50	<50	<20	--	70	70	<5	<5	90	80
17...	20	--	<50	--	<20	--	70	--	<5	--	30
17...	20	<50	<50	<20	20	80	80	<5	<5	30	40
22...	30	--	<50	--	<20	--	60	--	<5	--	40
22...	30	<50	<50	<20	<20	60	55	<5	<5	80	50
22...	30	--	<50	--	<20	--	60	--	<5	--	50
June											
06...	10	--	<50	--	<20	--	50	--	5	--	30
06...	20	<50	<50	<20	<20	50	50	<5	<5	30	30
09...	10	<50	<50	<20	<20	50	50	<5	<5	<10	<10
15...	10	<50	50	<20	--	50	50	<5	<5	10	10
22...	10	<50	<50	<20	<20	50	50	<5	<5	10	10
28...	10	<50	<50	<20	--	50	50	<5	<5	<10	20
29...	20	--	<50	--	--	--	60	--	<5	--	50
29...	35	<50	<50	<20	<20	60	50	7	<5	40	75
July											
06...	10	<50	<50	<20	30	50	50	<5	<5	20	10
13...	20	<50	<50	--	<20	50	50	<5	<5	<10	<10
18...	20	--	<50	--	<20	--	70	--	<5	--	30
18...	20	<50	<50	<20	<20	60	60	<5	<5	10	20
20...	20	<50	<50	<20	--	60	60	<5	<5	<10	<10
27...	20	<50	<50	30	20	60	70	<5	<5	30	20

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
August											
01...	0830	47	7.8	8.0	130	53	0.10	--	16	16	6.0
17...	1355	17	7.0	10.0	150	74	.01	230	--	18	--
17...	1400	17	7.0	10.0	150	74	.10	230	18	19	7.2
24...	0800	17	7.6	6.0	170	75	.10	--	22	22	8.4
31...	0900	15	7.7	5.5	160	78	.10	--	22	22	8.7
September											
08...	0930	13	7.5	5.0	170	79	.10	--	22	23	8.9
15...	0750	13	7.7	3.0	160	86	.10	--	26	26	10
20...	1430	13	7.1	9.5	170	73	.10	--	22	23	8.9
27...	1600	11	8.1	--	180	91	.10	--	21	23	8.5
October											
06...	0915	11	7.0	--	180	88	.10	--	21	23	8.9
18...	1230	11	6.9	3.0	180	83	.10	--	23	24	9.3

Table 23.--*Hydrologic data for station 391709106164600, East Fork Arkansas River at Highway 91, near Leadville*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Carbon, organic, dissolved (mg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
August											
01...	5.8	1	1.0	11	<0.3	0.50	4.2	0.86	--	--	50
17...	7.1	--	1.1	--	--	--	4.5	--	1.0	1.3	--
17...	7.4	1.2	1.2	14	<.3	.53	4.7	.50	1.0	1.3	60
24...	8.6	1.3	1.5	12	<.3	.52	5.3	.51	--	--	80
31...	8.6	1.3	1.4	14	<.3	.54	5.3	.45	--	--	80
September											
08...	8.9	1.3	1.4	14	<.3	.60	5.4	.43	--	--	80
15...	11	1.5	1.6	15	<.3	.33	5.9	.46	--	--	90
20...	9.1	1.4	1.4	15	<.3	.65	5.5	.26	--	--	80
27...	9.3	1.3	1.5	14	<.3	.58	5.6	.32	--	--	70
October											
06...	9.2	1.3	1.4	14	<.3	.59	5.5	.29	--	--	80
18...	9.6	1.4	1.5	14	<.3	.64	5.6	--	--	--	80

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
August											
01...	51	0.5	0.6	6	<2	--	<7	<6	<6	<7	<7
17...	64	--	<.5	--	3	--	--	--	<6	--	<7
17...	66	.6	.7	5	<2	<7	--	13	<6	<7	<7
24...	75	.6	<.5	8	<2	--	--	<6	10	<7	<7
31...	77	.6	<.5	20	<2	<7	<7	9	<6	<7	<7
September											
08...	79	<.5	.6	3	--	--	<7	<6	<6	<7	<7
15...	90	<.5	<.5	7	8	<7	<7	<6	<6	<7	<7
20...	82	1.1	.5	<2	4	<7	--	<6	<6	<7	<7
27...	83	<.5	<.5	<2	3	--	--	<6	<6	<7	<7
October											
06...	80	<.5	<.5	<2	<2	--	<7	<6	<6	<7	<7
18...	82	.8	<.5	<2	<2	10	<7	8	20	<7	<7

Table 23.--*Hydrologic data for station 391709106164600, East Fork Arkansas River at Highway 91, near Leadville*--Continued

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1989 THROUGH DECEMBER 1989--Continued											
August											
01...	3	1	130	50	--	--	<50	<50	--	--	20
17...	--	2	--	7	40	100	--	<50	--	40	--
17...	3	1	120	50	40	100	<50	60	<5	<5	20
24...	1	2	170	50	--	--	--	--	--	6	20
31...	4	2	120	30	--	--	<50	--	--	<5	30
September											
08...	6	3	130	50	--	--	<50	60	<5	--	20
15...	3	4	120	40	--	--	--	<50	--	<5	20
20...	--	2	140	70	--	--	<50	<50	6	<5	20
27...	--	<1	140	40	--	--	--	--	10	--	20
October											
06...	2	3	140	70	--	--	<50	<50	<5	<5	20
18...	3	2	160	40	--	--	--	--	<5	6	30

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
August											
01...	20	<50	<50	<20	--	60	60	<5	<5	20	<10
17...	20	--	<50	--	<20	--	70	--	<5	--	20
17...	20	51	<50	30	<20	70	70	<5	<5	10	20
24...	20	<50	<50	<20	<20	80	80	<5	<5	20	20
31...	20	<50	<50	<20	--	80	80	<5	<5	10	<10
September											
08...	20	<50	<50	20	<20	80	80	<5	<5	10	40
15...	30	<50	<50	<20	20	90	90	<5	<5	20	40
20...	20	<50	<50	<20	<20	80	80	<5	<5	10	30
27...	20	<50	<50	--	--	70	80	<5	<5	20	40
October											
06...	30	<50	<50	20	--	70	80	<5	<5	<10	40
18...	30	<50	<50	--	--	70	80	<5	<5	20	40

Table 24.--*Hydrologic data for station 391713106205000, Tennessee Creek below Saint Kevin Gulch, near Leadville*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, dissolved (mg/L)	Magnesium, dissolved (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April 29...	1005	84	7.0	1.5	59	14	0.45	5.2	1.7	1.7	13

Date	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, dissolved (µg/L)	Barium, dissolved (µg/L)	Beryllium, dissolved (µg/L)	Boron, dissolved (µg/L)	Cadmium, dissolved (µg/L)	Chromium, dissolved (µg/L)
April 29...	<0.3	0.80	8.7	0.44	5.6	70	16	5	<2	<7	<6

Date	Cobalt, dissolved (µg/L)	Copper, dissolved (µg/L)	Iron, dissolved (µg/L)	Lead, dissolved (µg/L)	Lithium, dissolved (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, dissolved (µg/L)	Strontium, dissolved (µg/L)	Vanadium, dissolved (µg/L)	Zinc, dissolved (µg/L)
April 29...	<7	10	400	<50	<5	170	<50	30	6	250

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration, (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987												
June 02...	1000	90	7.1	6.0	40	11	0.10	--	3.3	3.2	1.1	1.0
09...	1245	130	6.2	8.0	34	9	.10	380	3.1	2.9	.93	.92
23...	1345	50	6.7	13.0	47	13	.10	--	4.2	4.0	1.4	1.2
July 15...	1300	16	6.7	19.0	59	18	.10	320	6.0	5.9	2.0	2.0
August 19...	1100	4.7	7.3	12.0	67	25	.10	1,600	7.3	7.4	3.2	3.3

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
June 02...	1.1	1.0	4.2	0.44	0.60	5.8	0.66	5.0	790	320	10
09...	.9	1.0	4.9	--	<.3	--	<.20	4.3	--	--	9
23...	1.1	1.2	4.5	.46	.63	6.2	.53	2.4	480	370	10
July 15...	1.6	1.6	--	--	--	--	--	0.7	60	--	200
August 19...	2.0	2.1	--	--	--	--	--	2.2	80	90	20

Table 24.--*Hydrologic data for station 391713106205000, Tennessee Creek below Saint Kevin Gulch, near Leadville*--Continued

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987--Continued											
June											
02...	9	<0.5	<0.5	5	5	<7	<7	17	<6	<7	<7
09...	9	<.5	<.5	<2	4	--	<7	<6	<6	<7	9
23...	10	<.5	<.5	<2	5	--	<7	<6	<6	<7	<7
July											
15...	220	<.5	<.5	10	20	<7	<7	10	<6	<7	<7
August											
19...	22	.5	<.5	<2	<2	<7	<7	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
June											
02...	3	3	160	60	--	--	--	<50	--	--	50
09...	3	2	260	120	90	100	--	60	10	10	30
23...	1	3	300	40	70	2,000	--	<50	<5	--	70
July											
15...	7	3	330	150	--	120	<50	<50	<5	<5	40
August											
19...	<1	2	590	250	170	3,800	--	--	<5	<5	50

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
June											
02...	50	<50	<50	<20	--	20	20	<5	<5	100	120
09...	30	<50	<50	<20	--	20	20	<5	<5	50	50
23...	50	<50	<50	--	20	30	20	<5	<5	270	80
July											
15...	50	<50	<50	20	<20	40	40	16	16	50	60
August											
19...	50	<50	<50	<20	<20	40	40	<5	<5	60	90

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988											
May											
18...	1445	100	7.0	9.5	46	9	0.10	560	3.9	3.8	1.1
23...	1245	43	6.4	8.5	59	11	.10	--	5.1	4.9	1.6
31...	1245	84	5.9	7.5	47	10	.10	1,200	3.8	3.7	1.2
June											
07...	1045	140	6.7	6.0	37	9	.10	1,600	2.9	3.1	.91
17...	0950	86	7.2	8.0	41	12	.10	1,500	3.5	3.4	1.0
30...	0940	64	6.9	11.0	44	7	.10	1,500	4.2	4.1	1.2

Table 24.--*Hydrologic data for station 391713106205000, Tennessee Creek below Saint Kevin Gulch, near Leadville*--Continued

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
May											
18...	1.1	1.2	1.2	8.1	--	1.1	5.6	6.1	180	100	20
23...	1.5	1.5	1.5	12	--	--	7.4	4.1	210	120	20
31...	1.2	1.1	1.1	7.1	--	<.3	5.6	5.1	180	120	30
June											
07...	.94	.8	1.0	5.1	--	.51	4.6	5.2	190	120	10
17...	1.0	.9	.95	5.7	<0.3	.42	4.5	3.9	<40	40	10
30...	1.2	1.1	1.1	5.9	--	.90	5.0	3.7	50	<40	10

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
May											
18...	14	0.7	<0.5	10	10	--	--	<6	<6	<7	<7
23...	14	.9	.5	2	7	--	<7	<6	<6	<7	<7
31...	27	.5	.5	20	20	<7	<7	<6	<6	<7	<7
June											
07...	10	.7	<.5	<2	3	<7	--	<6	<6	<7	<7
17...	9	<.5	.6	<2	7	--	<7	<6	10	<7	<7
30...	10	.8	<.5	5	<2	--	<7	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
May											
18...	2	4	340	100	70	80	--	--	<5	<5	140
23...	6	5	310	180	80	140	--	--	<5	<5	200
31...	5	6	330	100	50	90	--	<50	<5	<5	140
June											
07...	<1	3	300	170	70	130	<50	--	<5	<5	50
17...	1	1	170	80	60	110	--	<50	<5	--	40
30...	3	6	270	80	--	--	--	<50	<5	<5	50

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
May											
18...	130	<50	<50	<20	<20	20	20	<5	<5	410	430
23...	190	<50	<50	<20	<20	30	30	<5	<5	590	580
31...	130	<50	<50	<20	<20	20	20	<5	<5	380	390
June											
07...	70	<50	<50	<20	<20	20	20	<5	<5	100	180
17...	30	<50	<50	<20	20	20	20	<5	<5	80	70
30...	40	<50	<50	<20	--	20	20	<5	<5	60	70

Table 25.--*Hydrologic data for station 391717106205500, Tennessee Creek above Saint Kevin Gulch, near Leadville*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, dissolved (mg/L)	Magnesium, dissolved (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
April 29...	0905	45	7.1	4.0	57	14	0.45	4.8	1.6	1.8	8.4

Date	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, dissolved (µg/L)	Barium, dissolved (µg/L)	Beryllium, dissolved (µg/L)	Boron, dissolved (µg/L)	Cadmium, dissolved (µg/L)	Chromium, dissolved (µg/L)
April 29...	<0.3	0.70	8.8	0.44	0.1	70	15	0.5	<2	<7	<6

Date	Cobalt, dissolved (µg/L)	Copper, dissolved (µg/L)	Iron, dissolved (µg/L)	Lead, dissolved (µg/L)	Lithium, dissolved (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, dissolved (µg/L)	Strontium, dissolved (µg/L)	Vanadium, dissolved (µg/L)	Zinc, dissolved (µg/L)
April 29...	<7	10	230	<50	<5	20	<50	30	6	40

Table 25.--*Hydrologic data for station 391717106205500, Tennessee Creek above Saint Kevin Gulch, near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987												
June												
02...	1100	86	7.2	7.0	38	11	0.10	--	3.3	3.2	1.1	1.0
09...	1400	130	6.7	9.5	30	9	.10	--	2.9	3.3	.90	1.0
23...	1345	49	6.7	13.0	43	14	.10	--	3.8	--	1.2	--
August												
19...	1115	4.7	7.4	11.0	64	26	.10	1,600	7.1	7.2	3.2	1.9

Date	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)
June											
02...	1.1	0.97	4.0	0.43	0.66	7.1	0.75	5.6	1,000	780	10
09...	.9	.90	4.4	.47	.69	--	.60	4.5	--	40	10
23...	1.1	--	--	--	--	--	--	2.4	500	--	10
August											
19...	1.9	1.8	3.2	--	.35	--	--	2.0	140	--	30

Date	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)
June											
02...	9	<0.5	<0.5	2	7	<7	<7	<6	10	<7	<7
09...	8	.6	.6	<2	20	<7	7.0	<6	20	<7	<7
23...	--	<.5	--	3	--	--	--	<6	--	<7	--
August											
19...	21	<.5	<.5	5	<2	--	30	<6	<6	<7	<7

Date	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
June											
02...	2	3	300	60	--	--	<50	60	--	--	20
09...	3	<1	280	60	--	--	<50	70	6	<5	10
23...	3	--	100	--	--	--	<50	--	<5	--	15
August											
19...	3	<1	700	180	30	120	--	280	<5	<5	40

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
June											
02...	10	<50	<50	--	<20	20	20	<5	<5	20	30
09...	7	<50	<50	<20	<20	20	20	<5	<5	10	10
23...	--	<50	--	20	--	20	--	<5	--	40	--
August											
19...	30	<50	<50	<20	<20	40	40	<5	13	50	20

Table 25.--*Hydrologic data for station 391717106205500, Tennessee Creek above Saint Kevin Gulch, near Leadville*--Continued

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988											
May											
18...	1500	92	7.0	8.5	36	10	0.10	--	3.2	3.2	1.0
23...	1300	38	7.1	8.5	46	10	.10	--	--	4.1	--
31...	1235	75	5.6	7.0	40	13	.10	1,300	3.3	3.3	1.0
June											
07...	1145	130	6.7	9.0	32	9	.10	1,600	2.8	2.8	.87
17...	0940	83	7.0	8.0	38	11	.10	950	3.3	3.2	.97
30...	0930	62	7.0	9.5	40	9	.14	1,500	3.9	3.9	1.1

Date	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)
May											
18...	0.99	1.0	1.1	5.0	0.94	5.2	5.7	220	90	10	13
23...	1.3	--	1.4	4.4	.84	7.0	4.1	--	100	--	12
31...	.99	1	1.1	5.0	.96	5.2	5.3	150	--	20	20
June											
07...	.85	.8	.85	5.0	.89	4.3	4.4	50	--	9	9
17...	.94	.9	.87	4.6	.76	4.2	3.4	--	<40	9	9
30...	1.1	1.0	1.0	4.7	.59	4.8	3.6	70	<40	10	11

Date	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)
May											
18...	0.5	0.8	10	10	<7	--	<6	<6	<7	<7	2
23...	--	.7	--	8	--	--	--	<6	--	<7	--
31...	.9	<.5	20	10	<7	--	<6	<6	<7	<7	1
June											
07...	<.5	<.5	<2	<2	--	<7	<6	<6	<7	<7	<1
17...	<.5	<.5	<2	8	--	--	<6	<6	<7	<7	<1
30...	.9	<.5	<2	<2	--	--	<6	<6	<7	<7	2

Table 25.--*Hydrologic data for station 391717106205500, Tennessee Creek above Saint Kevin Gulch, near Leadville*--Continued

Date	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferrous, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
CALENDAR YEAR JANUARY 1988 THROUGH DECEMBER 1988--Continued											
May											
18...	1	320	110	50	150	<50	<50	<5	<5	20	9
23...	2	--	240	80	110	--	<50	--	<5	--	20
31...	<1	290	100	--	--	<50	<50	<5	<5	10	10
June											
07...	<1	250	110	60	110	--	<50	<5	<5	10	10
17...	1	160	90	80	--	--	--	<5	<5	10	9
30...	2	250	100	--	--	<50	<50	<5	<5	20	20

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
May										
18...	<50	<50	<20	<20	20	20	<5	<5	20	30
23...	--	<50	--	<20	--	20	--	<5	--	30
31...	<50	<50	<20	<20	20	20	<5	<5	20	15
June										
07...	<50	<50	<20	<20	20	20	<5	<5	10	30
17...	<50	<50	<20	<20	20	20	<5	<5	<10	<10
30...	<50	<50	<20	<20	20	--	<5	<5	10	20

Table 26.--*Hydrologic data for station 391901106202200, Longs Gulch at mouth, near Leadville*

Date	Time	Discharge, inst. (ft^3/s)	pH (standard units)	Temperature, water (oC)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO^3$)	Filter pore size (µm)	PAR (µ-Eins/m^2/s)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)
				CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987						
August 19...	1615	0.60	6.6	17.0	36	10	0.10	1,100	3.1	3.0

Date	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, total recoverable (µg/L)	Aluminum, dissolved (µg/L)
August 19...	1.4	1.3	1.1	1.2	<2.0	<0.3	<0.04	3.5	330	130

Date	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)	Cobalt, total recoverable (µg/L)
August 19...	10	8	<0.5	<0.5	<2	<2	<7	<6	<6	<7

Date	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Iron, ferric plus ferrous, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)	Manganese, dissolved (µg/L)
August 19...	<7	6	3	960	120	60	5	<5	30	6

Date	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
August 19...	<50	<50	20	<20	10	10	<5	<5	10	<10

Table 27.--*Hydrologic data for station 391937106200300, Tennessee Creek at Highway 24, near Leadville*

Date	Time	pH (standard units)	Temperature, water (°C)	Specific conductance (µS/cm)	Alkalinity, Gran titration (mg/L as $CaCO_3$)	Filter pore size (µm)	Calcium, dissolved (mg/L)	Magnesium, dissolved (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Fluoride, dissolved (mg/L)
CALENDAR YEAR JANUARY 1986 THROUGH DECEMBER 1986											
September											
05...	1240	6.4	11.0	44	17	0.10	4.2	1.2	1.3	2.1	<0.3
05...	1245	--	--	--	--	.45	6.8	2.4	--	--	--

Date	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)	Nitrogen, nitrate, dissolved (mg/L)	Carbon, organic, total (mg/L)	Aluminum, dissolved (µg/L)	Barium, dissolved (µg/L)	Beryllium, dissolved (µg/L)	Boron, dissolved (µg/L)	Cadmium, dissolved (µg/L)	Chromium, dissolved (µg/L)
September										
05...	<0.3	4.9	<0.20	2.0	<40	15	5	<2	<7	<6
05...	--	--	--	--	--	<2	<0.5	<2	--	<6

Date	Cobalt, dissolved (µg/L)	Copper, dissolved (µg/L)	Iron, dissolved (µg/L)	Lead, dissolved (µg/L)	Lithium, dissolved (µg/L)	Manganese, dissolved (µg/L)	Molybdenum, dissolved (µg/L)	Strontium, dissolved (µg/L)	Vanadium, dissolved (µg/L)	Zinc, dissolved (µg/L)
September										
05...	<7	10	150	<50	<5	10	<50	30	6	50
05...	<7	3	160	--	--	10	<50	--	<5	--

Table 27.--*Hydrologic data for station 391937106200300, Tennessee Creek at Highway 24, near Leadville*--Continued

Date	Time	Filter pore size (µm)	Calcium, total recoverable (mg/L)	Calcium, dissolved (mg/L)	Magnesium, total recoverable (mg/L)	Magnesium, dissolved (mg/L)	Sodium, total recoverable (mg/L)	Sodium, dissolved (mg/L)	Sulfate, dissolved (mg/L)	Chloride, dissolved (mg/L)	Silica, dissolved (mg/L)
CALENDAR YEAR JANUARY 1987 THROUGH DECEMBER 1987											
August 19...	1440	0.10	5.6	9.3	1.4	2.9	1.1	3.6	2.5	0.51	3.1

Date	Aluminum, total recoverable (µg/L)	Barium, total recoverable (µg/L)	Barium, dissolved (µg/L)	Beryllium, total recoverable (µg/L)	Beryllium, dissolved (µg/L)	Boron, total recoverable (µg/L)	Boron, dissolved (µg/L)	Cadmium, total recoverable (µg/L)	Cadmium, dissolved (µg/L)	Chromium, total recoverable (µg/L)	Chromium, dissolved (µg/L)
August 19...	110	20	21	<0.5	<0.5	<2	20	30	<7	<6	20

Date	Cobalt, total recoverable (µg/L)	Cobalt, dissolved (µg/L)	Copper, total recoverable (µg/L)	Copper, dissolved (µg/L)	Iron, total recoverable (µg/L)	Iron, dissolved (µg/L)	Lead, total recoverable (µg/L)	Lead, dissolved (µg/L)	Lithium, total recoverable (µg/L)	Lithium, dissolved (µg/L)	Manganese, total recoverable (µg/L)
August 19...	<7	<7	<1	3	550	180	280	<50	<5	<5	20

Date	Manganese, dissolved (µg/L)	Molybdenum, total recoverable (µg/L)	Molybdenum, dissolved (µg/L)	Nickel, total recoverable (µg/L)	Nickel, dissolved (µg/L)	Strontium, total recoverable (µg/L)	Strontium, dissolved (µg/L)	Vanadium, total (µg/L)	Vanadium, dissolved (µg/L)	Zinc, total recoverable (µg/L)	Zinc, dissolved (µg/L)
August 19...	40	<50	<50	<20	40	40	40	12	5	10	10

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