

Water Resources Data Colorado Water Year 1998

Volume 1. Missouri River Basin, Arkansas River Basin,
and Rio Grande Basin

By R.M. Crowfoot, N.L. Bruce, J.W. Unruh, J.T. Steinheimer, G.F. Ritz,
M.E. Smith, R.D. Steger, and G.B. O'Neill

Water-Data Report CO-98-1

Prepared in cooperation with the State of Colorado
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

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1999

CALENDAR FOR WATER YEAR 1998

1997

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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1998

JANUARY							FEBRUARY							MARCH						
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11	12	13	14	15	16	17	15	16	17	18	19	20	21	15	16	17	18	19	20	21
18	19	20	21	22	23	24	22	23	24	25	26	27	28	22	23	24	25	26	27	28
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PREFACE

This volume of the annual hydrologic data report of Colorado is one of a series of annual reports that document hydrologic data gathered from the U. S. Geological Survey's surface- and ground-water data-collection networks in each state, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Colorado are contained in two volumes:

- Volume 1. Missouri River, Arkansas River, and Rio Grande
basins in Colorado,
- Volume 2. Colorado River basin.

This report is the culmination of a concerted effort by dedicated personnel of the U. S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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This report was prepared in cooperation with the State of Colorado and with other agencies under the general supervision of W. F. Horak, District Chief, Colorado.

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13. ABSTRACT <i>(Maximum 200 words)</i> Water-resources data for Colorado for the 1998 water year consist of records of stage, discharge, and water quality of streams; stage, contents, and water-quality of lakes and reservoirs; and water levels and water quality of wells and springs. This report (Volumes 1 and 2) contains discharge records for 316 gaging stations, stage and contents of 26 lakes and reservoirs, discharge measurements for 1 partial-record low-flow station and 1 miscellaneous site, peak flow information for 29 crest-stage partial-record stations; water-quality for 118 gaging stations and for 8 lakes and reservoirs, supplemental water-quality for 192 gaged sites; water-quality for 72 miscellaneous sites and 14 observation wells; water levels for 3 observation wells, and meteorological data for 25 sites. Seven pertinent stations operated by bordering states also are included in this report. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of W.F. Horak, District Chief. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies.
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(Letter after station name designates type and frequency of published data. Daily tables: (D) discharge, (C) specific conductance, (S) sediment, (T) temperature, (E) elevation or contents, (O) dissolved oxygen, (P) pH, (R) precipitation.

Periodic tables: (c) chemical, (b) biological, (e) elevation or contents, (m) microbiological, (s) sediment, (t) temperature.)

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VOLUME 1: MISSOURI RIVER, ARKANSAS RIVER, AND RIO GRANDE BASINS

By R.M. Crowfoot, N.L. Bruce, J.W. Unruh, J.T. Steinheimer, G.F. Ritz, M.E. Smith, R.D. Steger, and G.B. O'Neill

INTRODUCTION

The Water-Resources Division of the U.S. Geological Survey, in cooperation with State agencies, obtains a large amount of data pertaining to the water resources of Colorado each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in the report series entitled "Water Resources Data - Colorado".

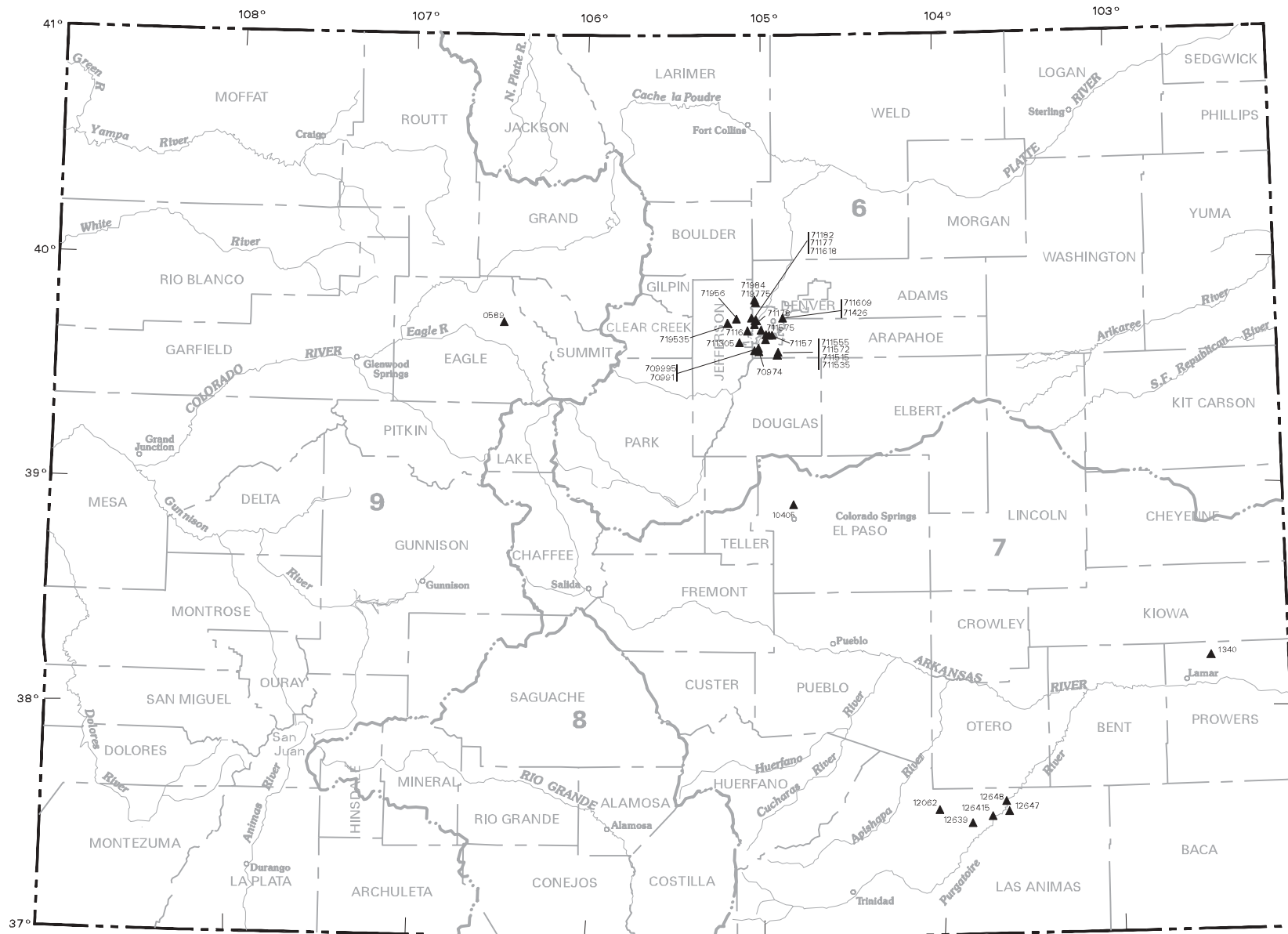
This report (Volume 1 of two volumes) includes records on both surface and ground water in the State, east of the Continental Divide. Specifically, it contains: (1) discharge records for 147 surface-water stations, peak discharges for 28 partial-record surface-water stations and discharge measurements only for 1 miscellaneous site; (2) stage and contents for 12 lakes and reservoirs; (3) water-quality data for 50 surface-water stations, 4 reservoirs, 14 wells, and miscellaneous surface-water-quality data for 83 gaged sites and 8 miscellaneous sites; and (4) ground-water level records for 1 site, and meteorological data for 15 sites. Locations of lake and surface-water stations and surface-water-quality stations are shown in figure 1, locations of crest-stage partial-record stations are shown in figure 2. Four pertinent stations operated by bordering States also are included in this report. The data in this report represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Colorado.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Colorado were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-water Supply of the United States," Parts 6B, 7, 8, and 9. For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States." Data on ground-water levels for the 1935 through 1955 water years were published annually under the title "Water Levels and Artesian Pressures in Observation Wells in the United States." For the 1956 through 1974 water years the data were published in four 5-year reports under the title "Ground-Water Levels in the United States." Water-supply papers may be purchased from the, U.S. Geological Survey, Books and Open-File Reports, Federal Center, Building 810, Box 25425, Denver, CO 80225.

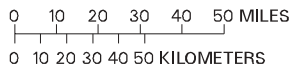
For water years 1961 through 1970, surface-water data were released by the Survey in annual reports on a State-boundary basis. Surface-water-quality records for water years 1964 through 1970 were similarly released either in separate reports or in conjunction with surface-water records.

Beginning with the 1971 water year, water data on surface-water, water quality, and ground-water are published in official Survey reports on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report CO-98-1." These water-data reports are for sale, in paper copy or in micro-fiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (303) 236-4882.



Base from U.S. Geological Survey
 1:100,000 Digital Line Graphs
 Lambert projection
 Standard Parallels 33° and 45°, central meridian -105° 30"



▲ PARTIAL RECORD STATION

Figure 2.--Map showing locations of crest-stage partial-record stations in Colorado.

COOPERATION

The U.S. Geological Survey and organizations in the State of Colorado have had cooperative agreements for the systematic collection of surface-water records since 1895 and for water-quality records since 1941. Organizations that supported data-collection activities through cooperative agreements with the Survey during the 1998 water year are:

Arapahoe County, Water and Wastewater Authority.
 Arkansas River Compact Administration.
 Centennial Water and Sanitation District.
 Cherokee Metropolitan District.
 City and County of Denver, Board of Water Commissioners.
 City of Aurora.
 City of Black Hawk.
 City of Boulder.
 City of Broomfield.
 City of Colorado Springs.
 City of Englewood.
 City of Fort Collins.
 City of Glendale.
 City of Golden.
 City of Gunnison.
 City of Idaho Springs.
 City of Lakewood.
 City of Longmont.
 City of Louisville.
 City of Loveland.
 City of Pueblo.
 City of Westminster.
 Clear Creek Board of County Commissioners.
 Colorado City Metropolitan District.
 Colorado Department of Public Health and Environment.
 Colorado Department of Transportation.
 Colorado Division of Parks and Outdoor Recreation.
 Colorado Division of Water Resources.
 Colorado Division of Wildlife.
 Colorado River Water Conservation District.
 Colorado Springs Department of Public Utilities.
 Crested Butte South Metropolitan District.
 Delta County Board of County Commissioners.
 Dolores Water Conservancy District.
 Eagle County Board of Commissioners.
 Eagle River Water and Sanitation District.
 East Grand County Water-Quality Board.
 Evergreen Metropolitan District.
 Fountain Valley Authority.
 Gilpin County.
 Gunnison County.
 La Plata County.
 Lower Fountain Water-Quality Management Association.
 Meeker Sanitation District.
 Metro Wastewater Reclamation District.
 Moffat County.
 Mount Crested Butte Water and Sanitation District.
 Northern Colorado Water Conservancy District.
 Northwest Colorado Council of Governments.
 Park County.
 Pueblo Board of Water Works.
 Pueblo West Metro Water District.
 Rio Blanco County Board of County Commissioners.
 Rio Grande Water Conservation District.
 Southeastern Colorado Water Conservancy District.
 Southern Ute Indian Tribe.
 Southwestern Colorado Water Conservation District.
 St. Charles Mesa Water District.
 Summit County.
 Teller - Park Soil Conservation District.
 Town of Basalt.
 Town of Breckenridge.
 Town of Crested Butte.
 Town of Empire.
 Town of Hotchkiss.
 Town of Meeker.
 Town of Rangely.
 Town of Vail.
 Trinchera Water Conservancy District.
 Upper Arkansas River Water Conservancy District.
 Upper Eagle Regional Water Authority.
 Upper Gunnison River Water Conservancy District.
 Upper South Platte Water Conservancy District.
 Upper Yampa Water Conservancy District.
 Urban Drainage and Flood Control District.
 Yellowjacket Water Conservancy District.

Financial assistance was also provided by the U.S. Army, Corps of Engineers; U.S. Army; Bureau of Land Management; Bureau of Reclamation; National Park Service; U.S. Fish and Wildlife Service; U.S. Forest Service; and U.S. Environmental Protection Agency. Organizations that supplied data are acknowledged in station descriptions.

OVERVIEW OF HYDROLOGIC CONDITIONS
[East of the Continental Divide]

Prepared by G.F. Ritz and M.E. Smith

Precipitation

Precipitation data for water year 1998 were obtained from published reports of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Climatic Data Center, for the four National Weather Service divisions in Colorado that are east of the Continental Divide (table 1). Precipitation and departures-from-normal precipitation (1961-90) are listed for the first 6 months (October-March) of the water year when precipitation is predominately snow and for the remaining 6 months (April-September) when precipitation is predominately rain. Also listed are the precipitation and departures-from-normal precipitation for the entire water year.

For October-March, precipitation was 14 percent greater than normal in the Rio Grande Drainage Basin, 38 percent greater than normal in the Kansas Drainage Basin, 38 percent greater than normal in the Platte Drainage Basin, and 67 percent greater than normal in the Arkansas Drainage Basin. For April-September, precipitation was 11 percent less than normal in the Rio Grande Drainage Basin. Precipitation was 2 percent greater than normal in the Kansas Drainage Basin, 9 percent greater than normal in the Arkansas Drainage Basin, and 10 percent greater than normal in the Platte Drainage Basin.

Graphs of monthly precipitation for the water year and for normal monthly precipitation, at selected weather stations, are shown in figure 3. Monthly precipitation data for water year 1998 were supplemented with ancillary information obtained from the Colorado State University, Department of Atmospheric Science, Colorado Climate Center, in Fort Collins.

Table 1. Precipitation during water year 1998 and departures-from-normal precipitation (1961-90), in inches

National Weather Service division	October-March		April-September		Water year 1998	
	Precipitation	Departure from normal	Precipitation	Departure from normal	Precipitation	Departure from normal
Arkansas Drainage Basin	6.74	2.70	11.48	0.91	18.22	3.61
Kansas Drainage Basin	4.62	1.26	13.54	0.29	18.16	1.55
Platte Drainage Basin	6.19	1.69	12.36	1.09	18.55	2.78
Rio Grande Drainage Basin	6.15	0.75	6.94	-0.82	13.09	-0.07

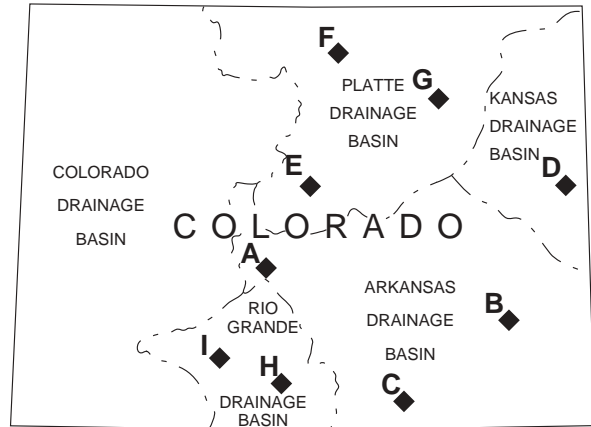
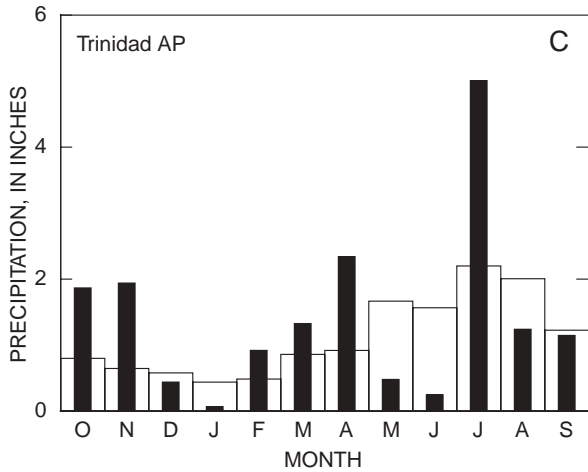
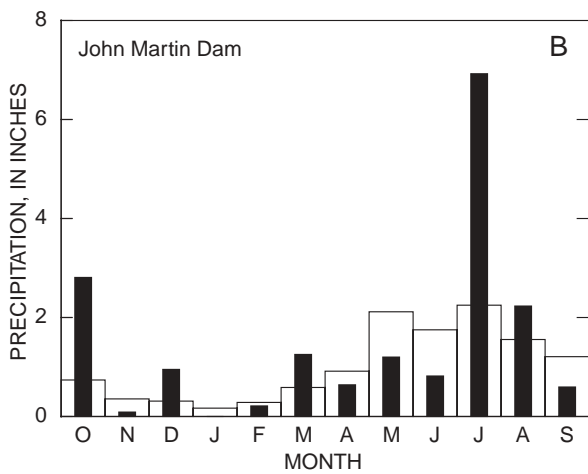
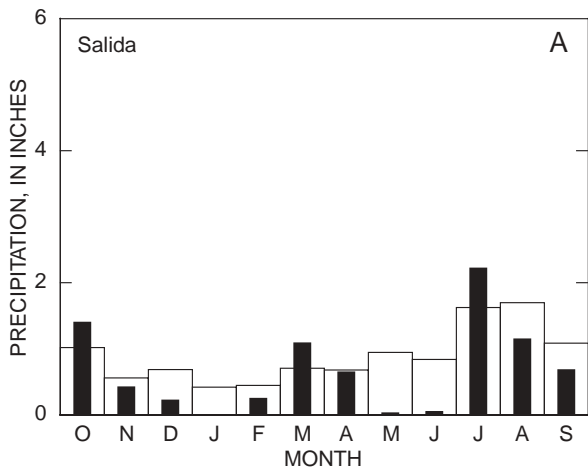
Streamflow

Monthly mean discharges during water year 1998 at selected streamflow-gaging stations are compared to long-term (reference period through previous water year) mean monthly discharges in figure 4. Individual graphs show the varied streamflow east of the Continental Divide. Streamflows during water year 1998, with a few exceptions, were not unusually higher or lower than long-term mean streamflows. The long-term mean monthly discharges used for gaging station 06706000, North Fork South Platte River below Geneva Creek, at Grant (fig. 4, site B), do not include records prior to water year 1964 (the year that imported water from the Colorado River Basin began flowing past the gaging station). Gaging station 07094500, Arkansas River at Parkdale (fig. 4, site D), was converted to seasonal operation in April 1995; the comparison period is April-September.

In the Platte River Basin, the graphs for gaging stations 06701500, South Platte River below Cheesman Lake (fig. 4, site A), and 06706000, North Fork South Platte River below Geneva Creek, at Grant (fig. 4, site B), had general temporal trends similar to the trends of the long-term mean monthly discharges. The graph for gaging station 06758500, South Platte River near Weldona (fig. 4, site C), indicates that water year 1998 monthly mean discharges generally did not follow the trend of long-term mean monthly discharges. Local water-management practices, which consisted mostly of storage, release, or diversion of water as determined by daily and seasonal irrigation and municipal needs, affected the trends in the three discharge graphs. The water year 1998 mean discharge at gaging station 06701500, South Platte River below Cheesman Lake, was 44 percent greater than the long-term mean; the September 1998 monthly mean discharge at this site was notably greater (159 percent) than the long-term mean for September. The water year 1998 mean discharge at gaging station 06706000, North Fork South Platte River below Geneva Creek, at Grant, was 22 percent less than the long-term mean. The water year 1998 mean discharge at gaging station 06758500, South Platte River near Weldona, was 44 percent greater than the long-term mean; however, the June 1998 monthly mean discharge at this site was notably less (54 percent) than the long-term mean for June.

In the Arkansas River Basin, the graph for gaging station 07094500, Arkansas River at Parkdale (fig. 4, site D), had a general temporal trend similar to that of the long-term mean monthly discharges. The graphs for gaging stations 07126300, Purgatoire River near Thatcher (fig. 4, site E), and 07133000, Arkansas River at Lamar (fig. 4, site F), indicate that water year 1998 monthly mean discharges generally did not follow the trend of long-term mean monthly discharges. Local water-management practices, which consisted mostly of storage, release, or diversion of water as determined by daily and seasonal irrigation and municipal needs, affected the trends in the three discharge graphs. The April through September 1998 mean discharge at gaging station 07094500, Arkansas River at Parkdale, was 20 percent less than the long-term mean. The water year 1998 mean discharge at gaging station 07126300, Purgatoire River near Thatcher, was 30 percent greater than the long-term mean. The water year 1998 mean discharge at gaging station 07133000, Arkansas River at Lamar, was 195 percent greater than the long-term mean.

In the Rio Grande Basin, the graph for gaging station 08217500, Rio Grande at Wagon Wheel Gap (fig. 4, site G), had a general temporal trend similar to that of the long-term mean monthly discharges. The graph for gaging station 08251500, Rio Grande near Lobatos (fig. 4, site H), indicates that 1998 monthly mean discharges generally did not follow the trend of long-term mean monthly discharges. Local water-management practices, which consisted mostly of storage, release, or diversion of water as determined by daily and seasonal irrigation and municipal needs, affected the trends in the two discharge graphs. The water year 1998 mean discharge at gaging station 08217500, Rio Grande at Wagon Wheel Gap, was 6 percent greater than the long-term mean. The water year 1998 mean discharge at gaging station 08251500, Rio Grande near Lobatos, was 16 percent less than the long-term mean; the April-September 1998 monthly mean discharge at this site was notably less (61 percent) than the long-term mean for the same period.



- EXPLANATION**
- Normal monthly precipitation for reference period
 - Monthly precipitation for water year 1998
 - H Weather station—Letter refers to accompanying graph and map

Figure 3.--Comparison of monthly precipitation for water year 1998 to normal monthly precipitation for the reference period 1961–90.

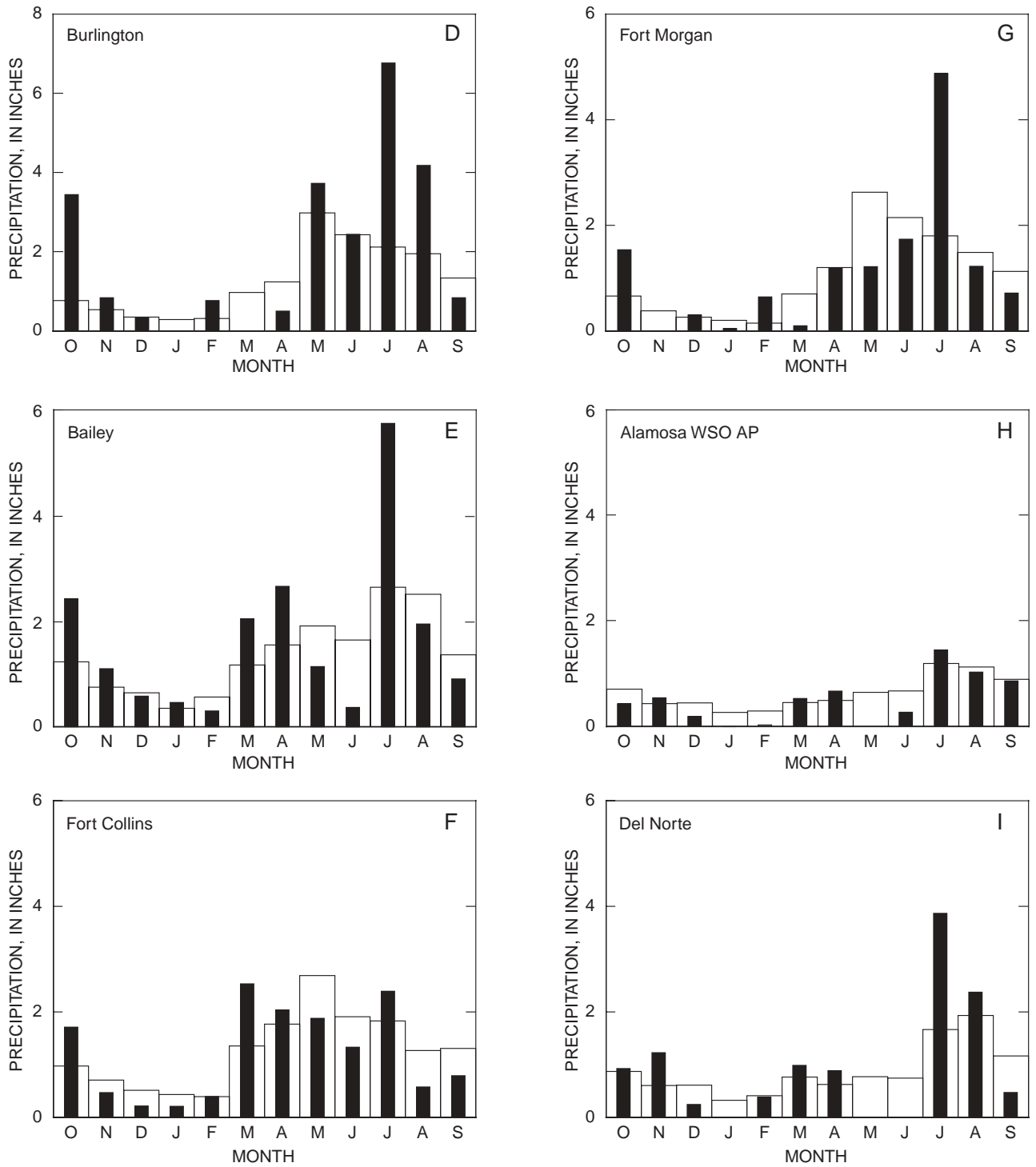
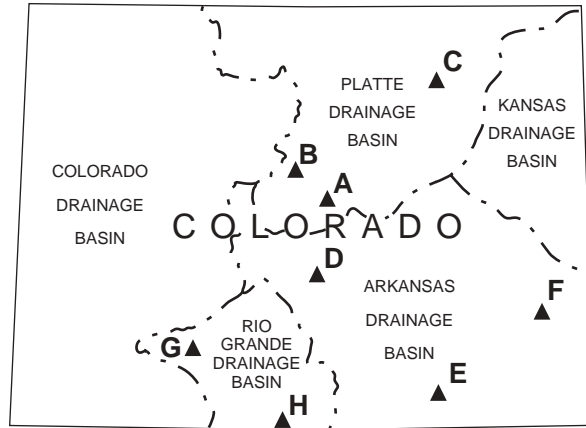
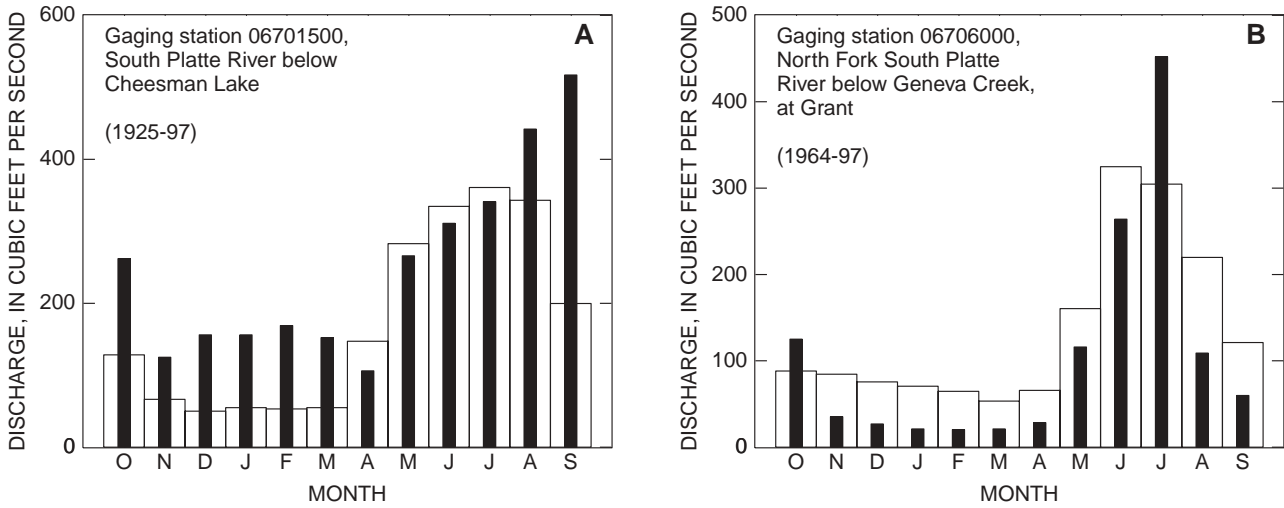


Figure 3.--Comparison of monthly precipitation for water year 1998 to normal monthly precipitation for the reference period 1961-90--Continued.



EXPLANATION

□ Mean monthly discharge for reference period

■ Monthly mean discharge for water year 1998

▲^H Gaging station—Letter refers to accompanying graph and map

(1925-97) Reference period

Figure 4.--Comparison of monthly mean discharges for water year 1998 to mean monthly discharges for the reference periods indicated on the individual graphs.

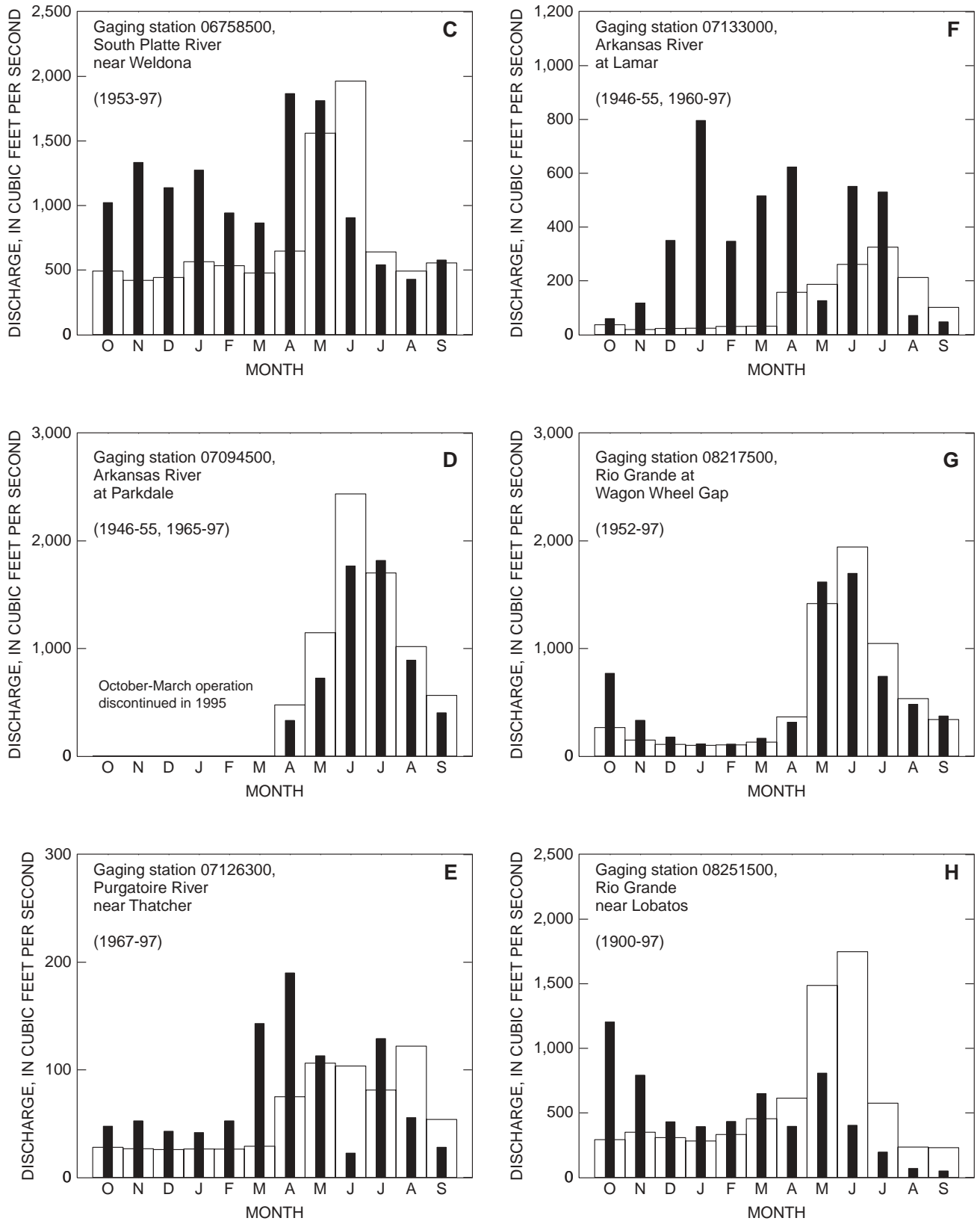


Figure 4.--Comparison of monthly mean discharges for water year 1998 to mean monthly discharges for the reference periods indicated on the individual graphs--Continued.

Peak discharges during water year 1998 and for the period of record (through previous water year) for selected streamflow-gaging stations are listed in table 2. No new discharge extremes occurred during this water year at these gaging stations. The water year 1998 peak discharge at gaging station 06706000, North Fork South Platte River below Geneva Creek, at Grant, was greater than the 75th percentile. The water year 1998 peak discharges at gaging stations 07109500, Arkansas River near Avondale; 07126300, Purgatoire River near Thatcher; 07128500, Purgatoire River near Las Animas; and 08246500, Conejos River near Mogote, were less than the 25th percentile. Water year 1998 peak discharges at the other gaging stations listed in table 2 were within the middle 50 percent of the long-term discharge distributions.

Table 2. Peak discharges for water year 1998 and for the period of record at selected gaging stations

[mi², square miles; ft³/s, cubic feet per second; WY, water year]

Gaging-station identification		Drainage area (mi ²)	Period of record (water years)	Water year 1998		Period of record		Remarks on WY 1998 peak discharge
Station number	Station name			Date	Peak discharge (ft ³ /s)	Date	Peak discharge (ft ³ /s)	
06620000	North Platte River near Northgate	1,431	1904, 1915-97	6/18	2,150	6/11/23	6,720	Greater than 25th percentile
06696000	South Platte River near Lake George	963	1930-97	9/3	387	4/28/70	3,000	Less than median
06701500	South Platte River below Cheesman Lake	1,752	1926-97	9/11	784	4/29/70	4,640	Less than median
06706000	North Fork South Platte River below Geneva Creek, at Grant	127	1964-97	7/1	740	6/18/95	1,160	Greater than 75th percentile
06752500	Cache la Poudre River near Greeley	1,877	1903, 1916-17, 1919, 1924-97	6/12	805	6/14/83	6,360	Greater than 25th percentile
06758500	South Platte River near Weldona	13,245	1953-97	5/8	4,050	5/8/73	26,800	Greater than median
07094500	Arkansas River at Parkdale	2,548	1946-55, 1965-97	7/1	3,170	6/18/95	6,830	Greater than 25th percentile
07106500	Fountain Creek at Pueblo	926	1921-22, 1924-25, 1935, 1941-65, 1971-97	7/31	3,100	6/17/65	47,000	Greater than 25th percentile
07109500	Arkansas River near Avondale	6,327	1939-51, 1965-97	6/6	3,990	6/18/65	50,000	Less than 25th percentile
07124000	Arkansas River at Las Animas	14,417	1939-97	10/28	3,980	5/20/55	44,000	Less than median
07126300	Purgatoire River near Thatcher	1,791	1965-97	7/26	2,580	6/18/65	47,700	Less than 25th percentile
07128500	Purgatoire River near Las Animas	3,318	1922-31, 1949-97	7/8	2,010	5/20/55	70,000	Less than 25th percentile
07133000	Arkansas River at Lamar	19,780	1913, 1915, 1919-55, 1960-97	7/31	3,230	6/5/21	130,000	Greater than median
08220000	Rio Grande near Del Norte	1,320	1890-1997	5/22	4,760	10/5/11	18,000	Less than median
08240000	Rio Grande above mouth of Trinchera Creek, near Lasauses	5,740	1936-62, 1964-80, 1982-97	10/15	1,890	6/21/49	5,470	Less than 75th percentile
08246500	Conejos River near Mogote	282	1903-05, 1912-97	5/30	1,750	10/5/11	9,000	Less than 25th percentile
08251500	Rio Grande near Lobatos	7,700	1900-97	10/15	2,100	6/8/05	13,200	Less than median

¹Period since imported water began flowing past this gaging station.

Chemical Quality of Streamflow

To determine if substantial changes occurred during water year 1998 in the chemical quality of streamflow, an analysis was made of specific conductance, which was measured at gaging stations on six selected streams. Specific conductance can be used to estimate the dissolved-solids concentration in water because specific conductance is directly proportional to the concentrations of ions in water. Each selected gaging station is the most downstream gaging station on that stream or is representative of a substantial part of the drainage area of that stream. For each selected gaging station, the distribution of specific conductance during water year 1998 is compared to the distribution of specific conductance for the reference period in figure 5.

The Wilcoxon-Mann-Whitney rank sum test was used to determine if there were significant differences between values of specific conductance for water year 1998 and values for the reference period (Ott, 1993). This test is a nonparametric counterpart to the common t-test and does not require the data to have a normal distribution.

The Wilcoxon-Mann-Whitney rank sum test was applied to the hypothesis that the mean specific conductance for water year 1998 was equal to the mean for the reference period. The procedure for testing the hypothesis involves computing a test statistic from the ranks of the data by using a pooled standard deviation and comparing the test statistics to a value obtained from a table of "Student's" t values (Box and others, 1978). The table value is $(1 - \alpha/2)$, where alpha (the level of significance) equals 0.05, at the appropriate degrees of freedom for the number of samples. If the absolute value of the computed test statistic (t_R) is greater than the tabular t value (t_{tab}), the hypothesis is rejected. A rejection of the hypothesis is statistical evidence that the two means are different. The Wilcoxon-Mann-Whitney rank sum test results were evaluated at the 95-percent confidence level.

Results of the Wilcoxon-Mann-Whitney rank sum tests for the six gaging stations are listed in table 3. For three of the six gaging stations, 07094500, Arkansas River at Parkdale; 07128500, Purgatoire River near Las Animas; and 08217500, Rio Grande at Wagon Wheel Gap, the tests indicate that the mean specific conductance for water year 1998 and the mean specific conductance for the reference period are not statistically different at the specified level. For gaging stations 06741510, Big Thompson River at Loveland; 06752280, Cache la Poudre River above Box Elder Creek, near Timnath; and 07133000, Arkansas River at Lamar, the mean specific conductance for water year 1998 is statistically different from the mean for the reference period. Annual mean discharge for water year 1998 represented 155, 142, and 307 percent, respectively, of the mean annual flow for the reference period at the three sites. Discharge and specific conductance are inversely related at these sites; therefore, mean specific conductance for water year 1998 would be expected to be lower than the mean specific conductance for the reference period.

Table 3. Results of Wilcoxon-Mann-Whitney rank sum tests comparing mean specific conductance of discharge for water year 1998 with mean for the reference period at selected gaging stations

[Specific conductance, in microsiemens per centimeter at 25 degrees Celsius;
 t_R , calculated test statistic; t_{tab} , t-values from standard table; A, accepted, R, rejected]

Gaging-station identification		Specific conductance						Wilcoxon-Mann-Whitney rank sum test			
		Water year 1998			Reference period			Period used (water years)	t_R	t_{tab}	Hypothesis
Station number	Station name	Number of values	Mean	Standard deviation	Number of values	Mean	Standard deviation				
06741510	Big Thompson River at Loveland	13	344	261	121	1,044	530	1988-97	-4.17	1.98	R
06752280	Cache la Poudre River above Box Elder Creek, near Timnath	14	365	292	110	1,467	765	1988-97	-4.32	1.98	R
07094500	Arkansas River at Parkdale	8	237	82	127	235	69	1988-97	-0.20	1.98	A
07128500	Purgatoire River near Las Animas	16	2,677	1,083	181	3,034	1,048	1988-97	-1.35	1.98	A
07133000	Arkansas River at Lamar	16	2,556	739	129	3,415	881	1988-97	-3.72	1.98	R
08217500	Rio Grande at Wagon Wheel Gap	12	80	21	91	90	23	1988-97	0.12	1.99	A

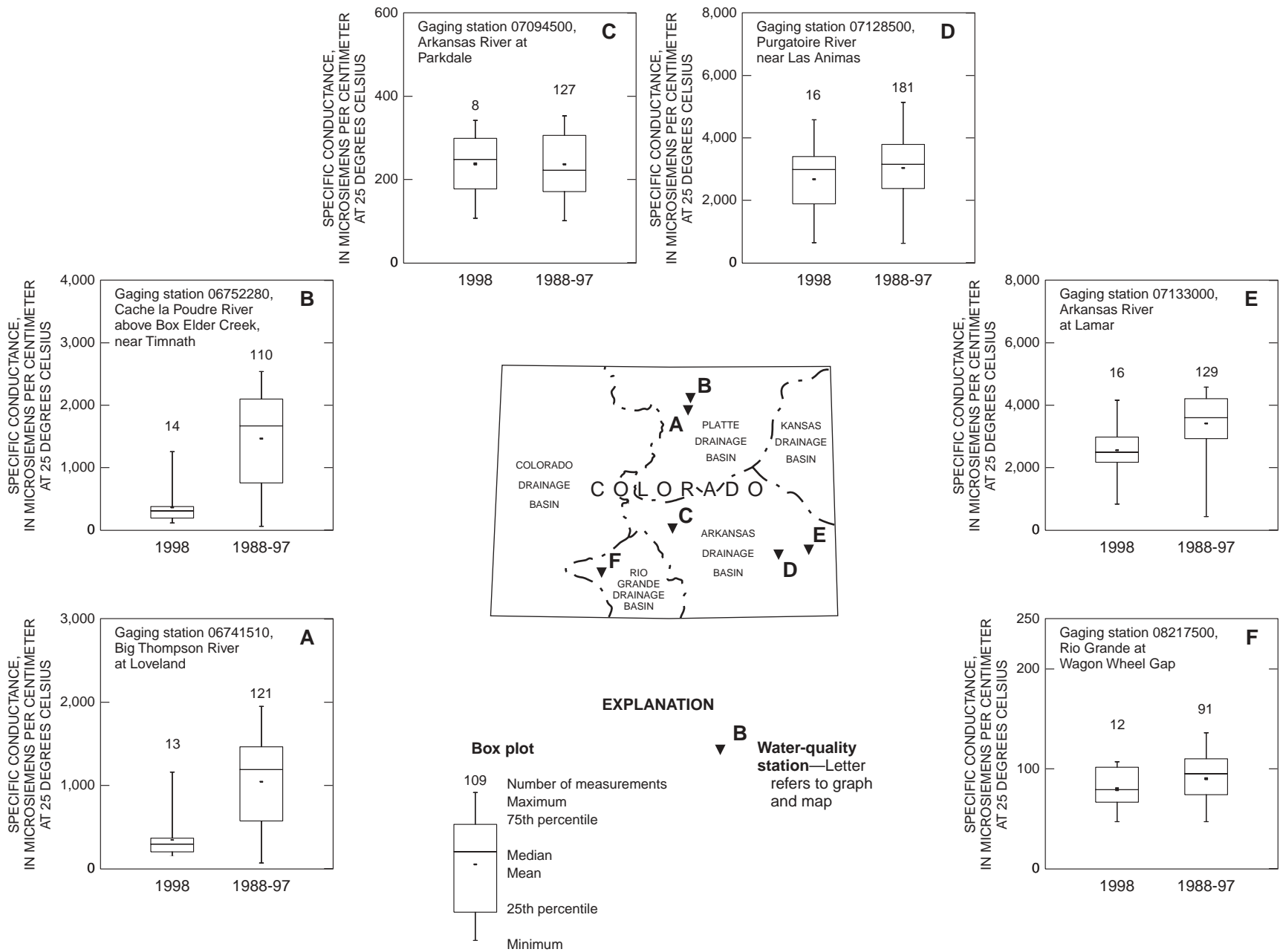


Figure 5.--Comparison of range and distribution of specific conductance measured during water year 1998 to long-term values.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins--the Mississippi, Columbia, Colorado, and Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to accomplish the following objectives: (1) Provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation chemistry monitoring sites. (2) Provide the mechanism to evaluate the effectiveness of the significant reduction in SO₂ emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred. (3) Provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO₂ and NO_x scheduled to begin in 2000.

Data from the network, as well as information about individual sites, are available through the World Wide Web at:

<http://nadp.nrel.colostate.edu/NADP>

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 53 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and Federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key Federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies.

Additional information about the NAWQA Program is available through the World Wide Web at:

http://wwwrvares.er.usgs.gov/nawqa/nawqa_home.html

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1998 water year that began on October 1, 1997, and ended September 30, 1998. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, ground-water level data, and water-quality data for surface and ground water. The locations of the stations where the surface-water data were collected are shown in figures 1 and 2. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Colorado, for surface-water stations where only infrequent measurements are made.

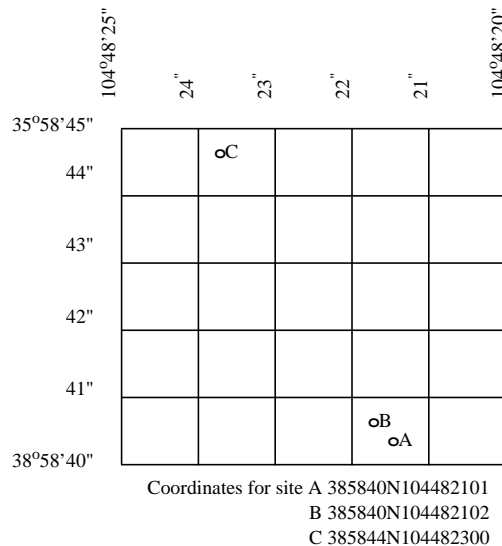
Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 06614800, which appears just to the left of the station name, includes the two-digit Part number "06" plus the six-digit downstream-order number "614800." The Part number designates the major river basin; for example, Part "06" is the Missouri River basin.

Latitude-Longitude System

The identification numbers for wells, springs, and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote the degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a pure number, and may have no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure below).



System for numbering wells, springs, and miscellaneous sites.

The local well number locates a well within a 10-acre tract using the U. S. Bureau of Land Management system of land subdivision. The components of the local well number proceed from the largest to the smallest land subdivisions. This is in contrast to the legal description, which proceeds from the smallest to the largest land subdivision. The largest subdivision is the survey. Colorado is governed by three surveys: The Sixth Principal Meridian Survey (S), the New Mexico Survey (N), and the Ute Survey (U). Costilla County was not included in any of the above official surveys. This report follows the convention of the Costilla County Assessor in which the northern part of the county is governed by the Sixth Principal Meridian Survey and the southern part of the county is governed by a local system called the Costilla Survey (C). The first letter of the well location designates the survey.

A survey is subdivided into four quadrants formed by the intersection of the baseline and the principal meridian. The second letter of the well location designates the quadrant: A indicates the northeast quadrant, B the northwest, C the southwest, and D the southeast. A quadrant is subdivided in the north-south direction every 6 mi by townships and is divided in the east-west direction every 6 mi by ranges. The first number of the well location designates the township and the second number designates the range.

The 36-mi² area described by the township and range designation is subdivided into 1-mi² areas called sections. The sections are numbered sequentially. The third number of the well location designates the section. The section, which contains 640 acres, is subdivided into quarter sections. The 160-acre area is designated by the first letter following the section: A indicates the northeast quarter, B the northwest, C the southwest, and D the southeast. The quarter section is subdivided into quarter-quarter sections. The 40-acre area is

designated in the same manner by the second letter following the section. The 10-acre area is designated in the same manner by the third letter following the section. If more than one well is located within the 10-acre tract, the wells are numbered sequentially in the order in which they were originally inventoried. If this number is necessary, it will follow the three-letter designation.

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles. Records of miscellaneous discharge measurements or of measurements from special studies may be considered as partial records, but they are presented separately in this report. Location of all complete-record stations for which data are given in this report are shown in figure 1.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage, with digital recorders that punch stage values on paper tapes at selected time intervals, with electronic recorders that store stage values on computer chips at selected time intervals, or with satellite data-collection platforms that transmit near real-time data at selected time intervals to office computers. Measurements of discharge are made with current meters using methods adapted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow over dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves, or tables defining the relationship of stage and content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections. "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1992 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consist of four parts, the manuscript or station description and the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flow as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gaging station with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not, and whose location was such that flow at it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Because of new information, published records occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to sea level (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a REMARKS paragraph is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District office (address given on the back of the title page of this report) to determine if the published records were ever revised after the station was discontinued. Of course, if the data for a discontinued station were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

Headings for AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, AND EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges in the EXTREMES FOR CURRENT YEAR paragraph, is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph, as appropriate. No changes have been made to the data presentations of lake contents.

Data table of daily mean values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second during the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

If applicable, data collected at partial-record stations follow the information for continuous-record sites. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS _____ - _____, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS _____ - _____," will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (see line headings below), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ. The REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile area drained, assuming the runoff is distributed uniformly in time and area.

Inches (INCHES) indicates the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge that has been exceeded 90 percent of the time for the designated period.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated," or by listing the dates of estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true value; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for daily values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

The National Water Data Exchange (NAWDEx), U.S. Geological Survey, Reston, VA 22092, maintains an index of records of discharge collected by other agencies but not published by the Geological Survey. Information on records at specific sites can be obtained from that office upon request.

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables are on file in the Colorado District office. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District office.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

In March 1989 the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and 1989. Sulfate values in this report have not been corrected for this bias.

On October 1, 1995, the Colorado District adopted a new sampling and quality-assurance protocol for sampling of surface waters (Horowitz and others, 1994). This protocol was adopted as standard operating procedure for the collection and processing of all trace-element, major-ion, nutrient, and radiochemical species in filtered, surface-water samples.

Accuracy of the Records

Accuracy of water-quality monitor records are based on: (1) The completeness of the record, (2) frequency of calibration checks, (3) the length of time and frequency that data exceed allowable error limits, (4) the magnitude of errors, and (5) confidence in the resultant shifts applied. Listed below are the limits of allowable error.

*	Temperature:	± 0.3 degree C.
*	Specific Conductance:	$\pm 5 \mu\text{S}/\text{cm}$ or $\pm 5\%$ whichever is greater
*	pH:	± 0.2 pH units
*	Dissolved Oxygen:	$\pm 0.3 \text{ mg}/\text{L}$ or $\pm 5\%$ whichever is greater.

A record is rated excellent if the allowable error limits are never exceeded, good if limits are occasionally exceeded and shifts are no greater than two times the limit, fair if limits are regularly exceeded and shifts are no greater than three times the limit, and poor for all others.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched or recorded at short intervals on a paper tape, magnetic tape, computer chip, or some other medium. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 1.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

Onsite Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed on pages 30 and 31 of this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey District office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors which must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the U.S.G.S. District Office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are recorded to the nearest 0.1 degree Celsius. Water temperatures measured at the time of water-discharge measurements are published in this report as supplemental water-quality for gaging stations.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally, all other samples are analyzed in the Geological Survey laboratories in Arvada, CO. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratories are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Historical and current-year dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter. If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter and could reflect contamination introduced during some phase of the procedure.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remarks codes may appear with the water-quality data in this report:

PRINTED OUTPUT REMARK

- e Estimated value
- > Actual value is known to be greater than the value shown
- < Actual value is known to be less than the value shown
- K Based on non-ideal colony count
- M Presence of material verified but not quantified

Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that for most sampling sites they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed at the end of the introductory text. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by County, and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed at :

http://water.usgs.gov	National home page
http://webservice.cr.usgs.gov	Colorado home page

Some water-quality, ground-water, and meteorological data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3.5 inch floppy diskette. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices (See address on the back of the title page).

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Alkalinity represents the capacity of solutes in an aqueous sample to neutralize acid. Total alkalinity titrations are performed in the field (FIELD) environment on an aqueous sample, filtered through a 0.45 micrometer filter (DIS), to an inflection point near pH = 4.5, using the iterative-titration (IT) method. Alkalinity titrations in the laboratory (LAB) are performed on unfiltered samples using the fixed-endpoint (FEP) method to pH = 4.5. On occasion, for chemical or hydrologic considerations, alkalinity titrations are performed in the field environment on unfiltered, whole-water (WWR) samples and noted. Column headings in this publication containing total alkalinity results will display the location: FIELD or LAB; titration method: IT or FEP; and type of aqueous sample: DIS or WWR.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Escherichia coli (E. coli) also are present in the digestive tract of warm-blooded animals. In the laboratory, E. coli is defined as all organisms that produce orange/yellow colonies when incubated for two hours at $35^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ and transferred to $44.5^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ for 22-24 hours on mTEC agar (nutrient medium for E. coli growth), and stained with phenol red solution. Their concentrations are expressed as number of colonies per 100 mL of sample.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C . In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at $44.5^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organism which produce red or pink colonies with 48 hours at $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash, and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and the ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at a gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic foot per second (ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic feet per second per square mile (ft³/s)/mi² is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific time.

Instantaneous discharge is the discharge at a particular instant of time.

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1 - March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

Dissolved refers to that material in a representative water sample which passes through a 0.45 μ m membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage" although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCO_3).

Hydrologic Benchmark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Land-surface datum (Lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram ($\mu\text{g/g}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L , $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L , mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins--the Mississippi, Columbia, Colorado, and Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to accomplish the following objectives: (1) Provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation chemistry monitoring sites. (2) Provide the mechanism to evaluate the effectiveness of the significant reduction in SO_2 emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred. (3) Provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO_2 and NO_x scheduled to begin in 2000.

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, to uniquely identify a specific constituent. The codes used are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter or particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Unit Subcommittee on Sediment Terminology. The classification is as follows:

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	.004 - .062	Sedimentation
Sand.....	.062 - 2.0	Sedimentation or sieve
Gravel.....	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population in terms of types, numbers, mass, or volume.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is a community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton is dominated by small crustaceans and rotifers.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time $\text{mg C}/(\text{m}^2 \times \text{time})$ for periphyton and macrophytes and $\text{mg C}/(\text{m}^3 \times \text{time})$ for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time $\text{mg O}/(\text{m}^2 \times \text{time})$ for periphyton and macrophytes and $\text{mg O}/(\text{m}^3 \times \text{time})$ for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

Runoff in inches (IN., in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sea Level In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--A geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft³/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

7-day 10-year low flow (7 Q₁₀) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and the volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglas strips for periphyton.

Surface area of a lake is that area outlined on the latest USGS topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimeted. All areas shown are those for the stage when the planimeted map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 µm membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituents.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 µm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchial scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata, is the following:

Kingdom.....	Animal
Phylum.....	Arthropoda
Class.....	Insecta
Order.....	Ephemeroptera
Family.....	Ephemeridae
Genus.....	<u>Hexagenia</u>
Species.....	<u>Hexagenia limbata</u>

Thermograph is an instrument that continuously records variation of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses, because different digestion procedures are likely to produce different analytical results.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1980, is called the "1980 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

WATER RESOURCES DATA - COLORADO, 1998
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WATER RESOURCES DATA - COLORADO, 1998
DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE ONLY STATIONS

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Colorado have been discontinued or converted to partial-record stations. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. [--, data unavailable]

Station name	Station number	Drainage area (sq mi)	Period of record (water years)
Colorado Creek near Spicer, CO	06611000	25.8	1950-55
Grizzly Creek near Spicer, CO	06611100	118	1976-80
Buffalo Creek near Hebron, CO	06611200	56.3	1976-80
Grizzly Creek near Hebron, CO	06611300	223	1976-80
Grizzly Creek near Walden, CO	06611500	258	1904-05, 1923, 1926-47
Little Grizzly Creek near Coalmont, CO	06611700	10.1	1967-73
Little Grizzly Creek above Coalmont, CO	06611800	35.4	1976-80
Little Grizzly Creek above Hebron, CO	06611900	52.2	1976-80
Little Grizzly Creek near Hebron, CO	06612000	98.6	1904-05, 1931-45
Roaring Fork near Walden, CO	06612500	79.1	1904-05, 1923-47
North Platte River near Walden, CO	06613000	469	1904-05, 1923-47
North Fork North Platte River near Walden, CO	06614000	160	1923-28, 1936-45
South Fork Michigan River near Gould, CO	06615000	11.4	1950-58
Michigan River near Lindland, CO	06615500	60.9	1931-41
North Fork Michigan River near Gould, CO	06616000	20.5	1950-82
Michigan River at Walden, CO	06617100	182	1904-05, 1923-47
Illinois Creek near Rand, CO	06617500	70.6	1931-40
Willow Creek near Rand, CO	06618000	55.9	1931-40
Illinois Creek at Walden, CO	06618500	259	1923-47
Michigan River near Cowdrey, CO	06619000	478	1904-05, 1937-47
Canadian River near Lindland, CO	06619400	44.0	1978-83
Bush Draw near Walden, CO	06619415	4.10	1980-83
Williams Draw near Walden, CO	06619420	3.95	1979-83
Canadian River near Brownlee, CO	06619450	158	1978-83
Canadian River at Cowdrey, CO	06619500	181	1904-05, 1929-31, 1937-47
Laramie River near Glendevey, CO	06657500	101	1904-05, 1910-82
Middle Fork South Platte River above Fairplay, CO	06693980	62.2	1978-80
Middle Fork South Platte River near Hartsel, CO	06694100	250	1978-80
South Fork South Platte River above Fairplay, CO	06694400	50.3	1978-80
Fourmile Creek near Fairplay, CO	06694700	12.0	1978-80
South Platte River at Lake George, CO	06696200	1,084	1910-11, 1929
Tarryall Creek at Upper Station near Como, CO	06696980	23.7	1978-86
French Creek near Jefferson, CO	06697200	4.63	1986-90
Michigan Creek above Jefferson, CO	06697450	23.1	1978-86
Jefferson Creek near Jefferson, CO	06698000	11.8	1910-12, 1978-86
Tarryall Creek near Jefferson, CO	06698500	183	1910-11, 1912-17 1977-81
Rock Creek near Jefferson, CO	06699000	45.5	1986-90
Tarryall Creek below Rock Creek, near Jefferson, CO	06699005	230	1983-97
Tarryall Creek near Lake George, CO	06699500	236	1910-12, 1925-55
South Platte River above Cheesman Lake, CO	06700000	1,628	1899-1901, 1924-43
Goose Creek above Cheesman Lake, CO	06700500	86.6	1899, 1924-82
South Platte River above North Fork at South Platte, CO	06702000	2,098	1905-12
North Fork South Platte River at Grant, CO	06702500	49.0	1910-17
Duck Creek near Grant, CO	06704500	7.78	1995-97
Geneva Creek at Grant, CO	06705500	74.6	1908-18 1995-97
North Fork South Platte River at Pine, CO	06706500	374	1942-46
North Fork South Platte River at South Platte, CO	06707000	479	1909-10, 1913-82
South Platte River at South Platte, CO	06707500	2,579	1887-92, 1895-97, 1898-1982

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE ONLY STATIONS (Continued)

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Colorado have been discontinued or converted to partial-record stations. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. [--, data unavailable]

Station name	Station number	Drainage area (sq mi)	Period of record (water years)
South Platte River at Waterton, CO	06708000	2,621	1926-80
East Plum Creek at Castle Rock, CO	06708750	102	1985-89
Plum Creek near Louviers, CO	06709500	302	1947-90
South Platte River at Littleton, CO	06710000	3,069	1941-86
South Platte River at Union Avenue, at Englewood, CO	06710245	3,043	1989-95
Turkey Creek above Bear Creek Lake, near Morrison, CO	06711040	50.6	1986-89
Little Dry Creek at Greenwood Village, CO	06711545	14.4	1994-97
South Platte River at Florida Avenue, at Denver, CO	06711590	--	1981-82
Cherry Creek near Melvin, CO	06712500	360	1939-69
South Platte River at 50th Avenue at Denver, CO	06714130	3,810	1980-81
Senac Creek at North Border Sludge Area, near Aurora, CO	06714220	7.81	1989-93
South Clear Creek above Lower Cabin Creek Reservoir, near Georgetown, CO	06714400	--	1996-97
South Clear Creek above Leavenworth Creek, near Georgetown, CO	06714600	16.0	1995-97
West Fork Clear Creek above Empire, CO	06715500	40.5	1942-46
West Fork Clear Creek near Empire, CO	06716000	58.2	1929-31
Clear Creek below Idaho Springs, CO	06718000	259	1951-55
North Clear Creek near Blackhawk, CO	06718500	52.2	1951-55
Clear Creek at Forks Creek, CO	06719000	339	1899-1912
Clear Creek near Golden, CO	06719500	399	1908-09, 1911-74
Clear Creek at Tabor Street, at Lakewood, CO	06719526	427	1981-83
Ralston Creek near Plainview, CO	06719725	36.9	1983-84
Schwartzwalder Mine Effluent near Plainview, CO	06719730	--	1983-84
Ralston Creek below Schwartzwalder Mine near Plainview, CO	06719735	38.9	1983-84
Ralston Creek above Ralston Reservoir near Golden, CO	06719740	42.7	1983-84
Clear Creek at Mouth near Derby, CO	06720000	575	1914, 1927-82
Grange Hall Creek at Grant Park at Northglenn, CO	06720330	--	1978-79
Grange Hall Creek at Northglenn, CO	06720415	3.08	1978-81
Grange Hall Creek below Northglenn, CO	06720417	--	1981-82
First Creek below Buckley Road, near Rocky Mountain Arsenal, CO	06720460	26.4	1992-94
First Creek at Highway 2, near Rocky Mountain Arsenal, CO	06720490	39.0	1992-94
Woman Creek near Plainview, CO	06720690	--	1973-74
South Platte River at Fort Lupton, CO	06721000	5,010	1906, 1929-57
North Saint Vrain Creek near Allens Park, CO	06721500	32.6	1926-30, 1987-97
North Saint Vrain Creek at Longmont Dam near Lyons, CO	06722000	106	1925-53
South Saint Vrain Creek near Ward, CO	06722500	14.4	1925-27, 1928-31 1954-73
Middle Saint Vrain Creek near Raymond, CO	06722900	16.8	1956-58
Middle Saint Vrain Creek near Allens Park, CO	06723000	28.0	1925-30, ^a
South Saint Vrain Creek above Lyons, CO	06723400	81.4	1971-80
Lefthand Creek near Boulder, CO	06724500	52.0	1929-31, 1947-53, 1976-80
Lefthand Creek at Mouth at Longmont, CO	06725000	72.0	1927-42, 1953-55, 1976-79
Saint Vrain Creek near Longmont, CO	06725100	370	1964-68
North Boulder Creek at Silver Lake, CO	06726000	8.70	1913-32
North Boulder Creek near Nederland, CO	06726500	30.4	1929-31
Bummers Gulch near El Vado, CO	06726900	3.87	1983-95
Fourmile Creek at Orodell, CO	06727500	24.1	1947-53, 1983-95
South Boulder Creek near Rollinsville, CO	06729000	42.7	1910-18, 1945-49
South Boulder Creek at Pinecliff, CO	06729300	72.7	1979-80
Coal Creek near Plainview, CO	06730300	15.1	1959-82
Boulder Creek at Mouth near Longmont, CO	06730500	439	1927-49, 1951-55 1978-90
Boulder Brook near Estes Park, CO	06731800	3.83	1968-70
Glacier Creek near Estes Park, CO	06732000	20.8	1941-57, 1968-70
Beaver Brook near Estes Park, CO	06732300	1.49	1968-70
Fall River at Estes Park, CO	06732500	39.8	1945-53, ^a
Fish Creek near Estes Park, CO	06734500	15.8	1947-55

WATER RESOURCES DATA - COLORADO, 1998
DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE ONLY STATIONS (Continued)

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Colorado have been discontinued or converted to partial-record stations. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. [--, data unavailable]

Station name	Station number	Drainage area (sq mi)	Period of record (water years)
North Fork Big Thompson River at Drake, CO	06736000	85.1	1947-55
Big Thompson River below Power House near Drake, CO	06736500	278	1917-55
Dry Creek near Pinewood, CO	06740000	7.11	1950-52
Cottonwood Creek near Pinewood, CO	06741000	14.7	1947-53
Big Thompson River near Loveland, CO	06741500	505	1947-55
Little Thompson River near Berthoud, CO	06742000	100	1929-30, 1947-61
Little Thompson River at Milliken, CO	06743500	199	1951-55
Big Thompson River at Mouth near La Salle, CO	06744000	830	1914-15, 1927-82
Cache La Poudre River above Chambers Lake Outlet, CO	06745000	89.7	1929-31
Joe Wright Creek near Cameron Pass, CO	06746100	5.05	1974-78
Cache La Poudre River near Rustic, CO	06747500	198	1956-68
Cache La Poudre River near Log Cabin, CO	06748000	234	1909-11, 1929-31
Fall Creek near Rustic, CO	06748200	3.59	1960-73
South Fork Cache La Poudre near Eggers, CO	06748500	70.6	1929-31
Little Beaver Creek near Idylwilde, CO	06748510	0.88	1960-73
Little Beaver Creek near Rustic, CO	06748530	12.3	1960-73
South Fork Cache La Poudre River near Rustic, CO	06748600	92.4	1956-79
Cache La Poudre River below Elkhorn, CO	06749000	409	1946-59
North Fork Cache La Poudre River near Livermore, CO	06751500	567	1947-65
Lonetree Creek at Carr, CO	06753400	167	1993-95
Lonetree Creek near Nunn, CO	06753500	199	1951-57
Lonetree Creek near Greeley	06753990	567	1993-95
Crow Creek near Barnsville, CO	06756500	1,324	1951-57
South Platte River at Masters, CO	06756995	12,175	1976-88
South Platte River at Sublette, CO	06757000	12,170	1926-42, 1943-55
Kiowa Creek at K-79 Reservoir near Eastonville, CO	06757600	3.20	1955-65
Kiowa Creek at Elbert, CO	06758000	28.6	1955-65
West Kiowa Creek at Elbert, CO	06758100	35.9	1962-65
Kiowa Creek at Kiowa, CO	06758200	111	1955-65
Kiowa Creek at Bennett, CO	06758300	236	1960-65
Bijou Creek near Wiggins, CO	06759000	1,314	1950-56
Bijou Creek near Fort Morgan, CO	06759100	1,500	1976-87
South Platte River at Fort Morgan, CO	06759500	14,810	1943-58
South Platte River at Balzac, CO	06760000	16,852	1916-80
South Platte River near Crook, CO	06760500	19,238	1953-58
North Fork Republican River near Wray, CO	06822000	1,019	1937-46, 1951-57, 1962-64
South Fork Republican River near Idalia, CO	06825000	1,300	1950-71, 1972-81
Landsman Creek near Hale, CO	06825500	268	1950-76, 1977-81
Bonny Reservoir near Hale, CO	06826000	1,820	1950-95
South Fork Republican River near Hale, CO	06826500	1,825	1946-48, 1951-86
Leadville Mine Drainage Tunnel at Leadville, CO	07079200	--	1990-93
East Fork Arkansas River near Leadville, CO	07079500	50.0	1890-1903, 1910-24
Saint Kevin Gulch above Temple Gulch, near Leadville, CO	07080980	1.84	1993-96
Tennessee Creek near Leadville, CO	07081000	48.0	1890-1903, 1910-1924
California Gulch at Malta, CO	07081800	8.13	1991-92
Lake Fork above Sugar Loaf Reservoir, CO	07082000	23.9	1946-67
Halfmoon Creek near Leadville, CO	07083500	25.2	1911-14
Arkansas River near Malta, CO	07083700	228	1964-67, 1976-84
Arkansas River below Empire Gulch, near Malta, CO	07083710	237	1990-93
Arkansas River at Buena Vista, CO	07087200	611	1964-80, 1986-93
Cottonwood Creek below Hot Springs near Buena Vista, CO	07089000	65.0	1910-23, 1949-86
Chalk Creek Upper Station near Saint Elmo, CO	07090000	48.0	1913-19
Chalk Creek near Saint Elmo, CO	07090500	83.0	1910-16

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE ONLY STATIONS (Continued)

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Colorado have been discontinued or converted to partial-record stations. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. [--, data unavailable]

Station name	Station number	Drainage area (sq mi)	Period of record (water years)
Chalk Creek near Nathrop, CO	07091000	97.0	1910, 1949-56, ^a
Arkansas River at Salida, CO	07091500	1,218	1895-97, 1901-03, 1909-80
South Arkansas River at Poncha, CO	07092000	140	1910-18
Poncha Creek at Poncha, CO	07093000	56.0	1910-18
South Arkansas River near Salida, CO	07093500	208	1922-23, 1929-40
South Colony Creek near Westcliffe, CO	07094600	6.03	1974-78
Middle Taylor Creek near Westcliffe, CO	07094900	3.19	1974-78, 1984-85
Fourmile Creek near Canon City, CO	07096500	434	1910-11, 1949-53, 1971-97
Beaver Creek near Portland, CO	07099100	214	1971-81
Arkansas River near Portland, CO	07099200	4,280	1964-79
Little Turkey Creek near Fountain, CO	07099220	9.59	1978-88
Arkansas River near Pueblo, CO	07099500	4,686	1885-87, 1889, 1894-1975
Monument Creek at Palmer Lake, CO	07103747	25.9	1977-90
Monument Creek at Monument, CO	07103750	28.5	1976-77
West Monument Creek near Pikeview, CO	07103900	15.4	1957-70
Kettle Creek near Black Forest, CO	07103950	9.01	1976-86
Templeton Gap Floodway at Colorado Springs, CO	07104500	8.73	1951-81
B Ditch Drain near Security, CO	07105780	--	1981-88
Clover Ditch near Widefield, CO	07105820	--	1981-88
Little Fountain Creek above Keaton Reservoir, CO	07105920	11.0	1978-88, 1995-98
Womack Ditch near Fort Carson, CO	07105924	--	1978-91
Little Fountain Creek near Fort Carson, CO	07105928	11.8	1978-89, 1995-98
Little Fountain Creek near Fountain, CO	07105940	26.9	1978-88
Rock Creek near Fort Carson, CO	07105950	7.79	1978-98
Rock Creek near Fountain, CO	07105960	16.9	1978-88
Saint Charles River at San Isabel, CO	07107000	16.0	1936-41
Saint Charles River at Burnt Mill, CO	07107500	166	1923-34
Greenhorn Creek near Rye, CO	07107900	9.56	1974-79
Greenhorn Creek near Colorado City, CO	07108050	29.6	1974-79
Saint Charles River near Pueblo, CO	07108500	467	1941-53, 1955
Saint Charles River near Vineland, CO	07108800	473	1968-74
Saint Charles River at Mouth near Pueblo, CO	07109000	475	1922-25
Sixmile Creek near Avondale, CO	07110000	45.0	1922-24, 1941-46
Chico Creek near North Avondale, CO	07110500	864	1941-46
Huerfano River at Malachite, CO	07111500	107	1923-25
Huerfano River near Badito, CO	07112000	499	1941-46
Huerfano River at Badito, CO	07112500	532	1912, 1923-25, 1938-41, 1946-54
Huerfano River at Huerfano, CO	07113000	717	1923-28
Huerfano River near Mustang, CO	07113500	803	1942-47
Cucharas River at Boyd Ranch near La Veta, CO	07114000	56.0	1934-82
Cucharas River near La Veta, CO	07114500	75.0	1923-34
Huerfano River below Huerfano Valley Dam near Undercliffe, CO	07116000	1,673	1939-67
Arkansas River at Nepesta, CO	07117500	9,460	1898-1902, 1904-06, 1936
Chicosa Creek near Fowler, CO	07117600	109	1968-74
Apishapa River near Aguilar, CO	07118000	126	1939-50
Apishapa River at Aguilar, CO	07118500	149	1938-39, 1978-81
Apishapa River near White Rock, CO	07119000	737	1942-47
Big Arroyo near Thatcher, CO	07120620	15.5	1983-90 ^a

WATER RESOURCES DATA - COLORADO, 1998
DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE ONLY STATIONS (Continued)

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Colorado have been discontinued or converted to partial-record stations. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. [--, data unavailable]

Station name	Station number	Drainage area (sq mi)	Period of record (water years)
Timpas Creek near Rocky Ford, CO	07121000	451	1922-27, 1940-50
Fort Lyon Canal near Casa, CO	07122060	--	1988-90
Fort Lyon Canal near Cornelia, CO	07122105	--	1988-90
Fort Lyon Canal near Hasty, CO	07122200	--	1968-75 1988-90
Fort Lyon Canal near Big Bend, CO	07122350	--	1988-90
Crooked Arroyo near Swink, CO	07122400	108	1968-93
Crooked Arroyo near La Junta, CO	07122500	--	1922-25
Horse Creek near Sugar City, CO	07123500	1,080	1940-47
Horse Creek near Las Animas, CO	07123675	1,403	1979-93
Middle Fork Purgatoire River at Stonewall, CO	07124050	57.1	1978-81
Molino Canyon near Weston, CO	07124100	4.23	1978-81
Sarcillo Canyon near Segundo, CO	07124120	35.3	1978-81
Mulligan Canyon near Boncarbo, CO	07124210	4.53	1978-81
Reilly Canyon at Cokedale, CO	07124220	35.1	1978-81
Long Canyon Creek near Madrid, CO	07124300	100	1972-89
Carpitos Canyon near Jansen, CO	07124350	4.57	1978-81
Purgatoire River at Trinidad, CO	07124500	795	1895-99, 1905-12, 1915-60, 1961-82
Purgatoire River near Hoehne, CO	07125000	857	1954-68
Frijole Creek near Alfalfa, CO	07125100	80.0	1957-68
San Francisco Creek near Alfalfa, CO	07125500	160	1954-68
Purgatoire River near Alfalfa, CO	07126000	1,320	1905-07, 1924-28, 1951-68
Van Bremer Arroyo near Thatcher, CO	07126130	80.6	1983-85
Burke Arroyo Tributary near Thatcher, CO	07126320	4.66	1983-87
Lockwood Canyon Creek near Thatcher, CO	07126390	41.4	1983-92 ^a
Red Rock Canyon Creek at Mouth, near Thatcher, CO	07126415	48.8	1983-90 ^a
Chacuaco Creek at Mouth, near Timpas, CO	07126470	424	1983-92 ^a
Bent Canyon Creek at Mouth near Timpas, CO	07126480	56.2	1983-90 ^a
Purgatoire River at Highland Dam near Las Animas, CO	07128000	3,376	1898, 1931-55
Rule Creek near Caddoa, CO	07129500	435	1941-46
Caddoa Creek at Caddoa, CO	07131000	131	1941-46
Willow Creek near Lamar, CO	07133050	42.0	1974-77
Big Sandy Creek above Amity Canal near Korman, CO	07134000	3,396	1941-46
Arkansas River at Holly, CO	07135500	25,073	1894, 1901-02, 1907-53
Wild Horse Creek at Holly, CO	07136000	270	1922-35, 1938-50
Holly Drain near Holly, CO	07136500	--	1924-50
Willow Creek at Creede, CO	08216500	51.7	1951-82
Rio Grande at Wason below Creede, CO	08217000	705	1907-54
Goose Creek near Wagonwheel Gap, CO	08218000	53.6	1924-26, 1939-52
Goose Creek at Wagonwheel Gap, CO	08218500	90.0	1954-91
Pinos Creek near Del Norte, CO	08220500	53.0	1919-24, 1936-82
San Francisco Creek at upper station near Del Norte, CO	08220900	11.8	1967-69
Rio Grande near Monte Vista, CO	08221500	1,590	1926-80
Rock Creek near Monte Vista, CO	08223500	32.9	1935-55, 1966-70
San Luis Creek near Poncha Pass, CO	08224110	6.57	1979-85
San Luis Creek above Villa Grove, CO	08224113	11.2	1979-85
Raspberry Creek near Villa Grove, CO	08224200	1.78	1967-70
Kerber Creek at Ashley Ranch near Villa Grove, CO	08224500	38.0	1923-26, 1936-82
Noland Gulch Tributary Reservoir Inflow, near Villa Grove, CO	08226600	0.08	1979-89
Cotton Creek near Mineral Hot Springs, CO	08226700	13.6	1967-70
Anaconda Reservoir near Villa Grove, CO	08227300	0.17	1979-85
Tracy Pit Reservoir Inflow near Saguache, CO	08227400	0.05	1979-89
North Crestone Creek near Crestone, CO	08227500	10.7	1936-82
Cottonwood Creek near Crestone, CO	08229500	6.77	1936, 1967-70
Carnero Creek near La Garita, CO	08230500	117	1919-82

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE ONLY STATIONS (Continued)

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Colorado have been discontinued or converted to partial-record stations. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. [--, data unavailable]

Station name	Station number	Drainage area (sq mi)	Period of record (water years)
La Garita Creek near La Garita, CO	08231000	61.0	1919-82
Mosca Creek near Mosca, CO	08234200	3.67	1967-70
Alamosa Creek above Terrace Reservoir, CO	08236000	107	1911-12, 1914-27 1934-82
Alamosa Creek below Terrace Reservoir, CO	08236500	116	1909-55
La Jara Creek at Gallegos Ranch near Capulin, CO	08238000	98.0	1916-17, 1919-23, 1936-82
Yellow Warbler Reservoir Inflow near Antonito, CO	08238350	0.18	1979-89
Turkey Reservoir Inflow near Conejos, CO	08238380	0.24	1979-89
Bobolink Reservoir near Conejos, CO	08238400	0.23	1979-89
Trinchera Creek above Turners Ranch near Fort Garland, CO	08240500	45.0	1923-82
Trinchera Creek above Mountain Home Reservoir near Fort Garland, CO	08241000	61.0	1923-55
Sangre De Cristo Creek near Fort Garland, CO	08241500	190	1916, 1923-30, 1931-82
Ute Creek near Fort Garland, CO	08242500	32.0	1916, 1923-82
Trinchera Creek below Smith Reservoir near Blanca, CO	08243500	396	1928-82
Conejos River at Platoro, CO	08245500	44.4	1936-53
Conejos River at Counsellors Cabin near Mogote, CO	08246000	211	1943-47
San Antonio River at mouth near Manassa, CO	08248500	348	1923-82
Culebra Creek near Chama, CO	08249400	72.4	1967-70
Culebra Creek at San Luis, CO	08250000	220	1927-82
Culebra Creek below San Luis, CO	08250500	255	1938-55
Rio Grande at CO-NM State Line	08252000	--	1953-82

a-Converted to a crest-stage partial-record station.

WATER RESOURCES DATA - COLORADO, 1998
DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following stations were discontinued as continuous-record surface-water-quality stations. Daily records of temperature, specific conductance, pH, dissolved oxygen or sediment were collected and published for the period of record shown for each station. [--, data unavailable]

Station name	Station number	Drainage area (sq mi)	Type of record	Period of record (water years)
Canadian River near Lindland, CO	06619400	44.0	Temp., S.C., Sed.	1978-83
Canadian River near Brownlee, CO	06619450	158	Temp., S.C., Sed.	1978-83
Duck Creek near Grant, CO	06704500	7.78	Temp., S.C.	1995-97
Geneva Creek at Grant, CO	06705500	74.6	Temp., S.C.	1995-97
South Platte River at Littleton, CO	06710000	3,069	Temp. S.C.	1970-86 1984-86
South Platte River at 64th Ave. at Commerce City, CO	06714215	3,884	Temp., pH, D.O.	1987
South Clear Creek above Lower Cabin Creek Reservoir near Georgetown, CO	06714400	--	Temp., S.C.	1995-97
South Clear Creek above Leavenworth Creek near Georgetown, CO	06714600	16.0	Temp., S.C.	1995-97
Leavenworth Creek at mouth, near Georgetown, CO	06714800	12.0	Temp., S.C.	1995-97
Clear Creek at Golden, CO	06719505	400	pH, D.O., Sed. Temp., S.C.	1981 1981-95
Ralston Creek near Plainview, CO	06719725	36.9	Temp., S.C., pH, D.O.	1983-84
Schwartzwalder Mine Effluent near Plainview, CO	06719730	--	Temp., S.C., pH, D.O.	1983-84
Ralston Creek below Schwartzwalder Mine, CO	06719735	38.9	Temp., S.C., pH, D.O.	1983-84
Ralston Creek above Ralston Res. near Plainview, CO	06719740	42.7	Temp., S.C., pH, D.O.	1983-84
Cache La Poudre River near Greeley, CO	06752500	1,877	Temp., S.C., pH, D.O.	1975
South Platte River near Kersey, CO	06754000	8,598	Temp.	1950-53
Kiowa Creek at Elbert, CO	06758000	28.6	Sed.	1957-68, 1960-62, 1964-65
West Kiowa Creek at Elbert, CO	06758100	35.9	Sed.	1962-65
Kiowa Creek at Kiowa, CO	06758200	111	Sed.	1956-65
South Platte River at Julesburg, CO (Chan. 2)	06763990	--	Temp. S.C.	1967-73 1971-73
North Fork Republican River near Wray, CO	06822000	1,019	Temp., Sed.	1962-63
East Fork Arkansas River at Highway 24 near Leadville, CO	07079300	49.9	Temp., S.C., pH	1990-96
Arkansas River near Leadville, CO	07081200	98.8	Temp., S.C., pH	1990-96
California Gulch at Malta, CO	07081800	8.13	Temp., S.C., pH	1991-92
Halfmoon Creek near Malta, CO	07083000	23.6	Temp.	1967-82
Arkansas River below Empire Gulch, near Malta, CO	07083710	237	Temp., S.C., pH	1990-93
Arkansas River at Buena Vista, CO	07087200	611	Temp., S.C.	1986-93
Arkansas River near Nathrop, CO	07091200	1,060	Temp., S.C., pH	1989-93
Arkansas River at Parkdale, CO	07094500	2,548	Temp., S.C.	1986-93
Monument Creek at Pikeview, CO	07104000	204	Sed.	1995-97
Fountain Creek below Janitell Road below Colorado Springs, CO	07105530	413	Temp., S.C., pH, D.O.	1991-98
Fountain Creek at Security, CO	07105800	495	Temp., S.C., pH, D.O.	1991-98
Fountain Creek near Pinon, CO	07106300	849	Temp., S.C.	1976-79
Apishapa River at Aguilar, CO	07118500	149	Sed.	1979-81
Apishapa River near Fowler, CO	07119500	1,125	Temp., S.C.	1966-68
Big Arroyo near Thatcher, CO	07120620	15.5	Temp., S.C., Sed.	1983-90 ^a
Arkansas River near La Junta, CO	07122000	--	Temp., S.C.	1966-68
Horse Creek near Las Animas, CO	07123675	1,403	Temp., S.C.	1987-93
Middle Fork Purgatoire River at Stonewall, CO	07124050	52.1	Temp., S.C. Sed.	1978-81 1979-81
Molino Canyon near Weston, CO	07124100	4.23	Sed.	1979-81
Sarcillo Canyon near Segundo, CO	07124120	35.3	Sed.	1980-81
Purgatoire River at Madrid, CO	07124200	550	Temp., S.C. Sed.	1979-81 1978-81
Mulligan Canyon near Boncarbo, CO	07124210	4.53	Sed.	1979-81
Reilly Canyon at Cokedale, CO	07124220	35.1	Sed.	1979-81
Carpitos Canyon near Jansen, CO	07124350	100	Sed.	1979-81
Purgatoire River below Trinidad Lake, CO	07124410	672	Sed.	1977-82
Luning Arroyo Tributary near Model, CO	07126110	--	Temp., S.C.	1984
Van Bremer Arroyo near Thatcher, CO	07126130	80.6	Temp., S.C.	1985
Van Bremer Arroyo near Tyrone, CO	07126140	132	Temp., S.C.	1985-98
Van Bremer Arroyo near Model, CO	07126200	175	Temp., S.C.	1983-98
Purgatoire River near Thatcher, CO	07126300	1,791	Sed. Temp., S.C.	1983-92 1983-98
Burke Arroyo Tributary near Thatcher, CO	07126320	4.66	Temp., S.C. Sed.	1983-86 1984-86
Taylor Arroyo below Rock Crossing near Thatcher, CO	07126325	48.4	Temp., S.C.	1983-98
Lockwood Canyon Creek near Thatcher, CO	07126390	41.4	Temp., S.C., Sed.	1989-92
Red Rock Canyon Creek at Mouth, near Thatcher, CO	07126415	48.8	Temp., S.C.	1983-90 ^a
Chacuaco Creek at Mouth near Timpas, CO	07126470	424	Temp., S.C., Sed.	1983-92

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following stations were discontinued as continuous-record surface-water-quality stations. Daily records of temperature, specific conductance, pH, dissolved oxygen or sediment were collected and published for the period of record shown for each station. [--, data unavailable]

Station name	Station number	Drainage area (sq mi)	Type of record	Period of record (water years)
Bent Canyon Creek at Mouth near Timpas, CO	07126480	56.2	Temp., S.C.	1983-90 ^a
Purgatoire River at Rock Crossing near Timpas, CO	07126485	2,635	Temp., S.C., Sed.	1983-92
Purgatoire River at Highland Dam near Las Animas, CO	07128000	3,376	S.C.	1967-68
Purgatoire River near Las Animas, CO	07128500	3,318	Temp., S.C.	1986-96
Willow Creek at Creede, CO	08216500	35.3	Temp., S.C.	1976-77
Rio Grande at Wagonwheel Gap, CO	08217500	780	Temp., S.C.	1976-77
San Luis Creek near Poncha Pass, CO	08224110	6.57	Sed.	1981-83
San Luis Creek above Villa Grove, CO	08224113	11.2	Sed.	1981-83
Alamosa River above Wightman Fork near Jasper, CO	08235250	37.8	Temp., S.C., pH	1995-97
Wightman Fork below Cropsey Creek at Summitville, CO	08235270	4.44	Temp., S.C., pH	1995-97
Wightman Fork at mouth near Jasper, CO	08235290	16.1	Temp., S.C., pH	1995-97
Alamosa River below Castleman Gulch near Jasper, CO	08235700	76.3	Temp., S.C., pH	1995-97
Alamosa River above Terrace Reservoir, CO	08236000	106	Temp., S.C., pH	1994-97
Alamosa River below Terrace Reservoir, CO	08236500	116	Temp., S.C., pH	1995-97
Rio Grande above Culebra Creek near Lobatos, CO	08249200	--	Temp., S.C.	1964-66

Type of record: Temp. (temperature), S.C. (specific conductance), pH (pH), D.O. (dissolved oxygen), Sed. (sediment).
a-Converted to a crest-stage partial-record station.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Branch of Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

- 1-D1. *Water temperature—influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J.F. Ficke, and G. F. Smoot: USGS–TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS–TWRI Book 1, Chapter D2. 1976. 24 pages.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

- 2-D1. *Application of surface geophysics to ground-water investigations*, by A.A. R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS–TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS–TWRI Book 2, Chapter D2. 1988. 86 pages.

Section E. Subsurface Geophysical Methods

- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS–TWRI Book 2, Chapter E1. 1971. 126 pages.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS–TWRI Book 2, Chapter E2. 1990. 150 pages.

Section F. Drilling and Sampling Methods

- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS–TWRI Book 2, Chapter F1. 1989. 97 pages.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

- 3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS–TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS–TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS–TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS–TWRI Book 3, Chapter A6. 1968. 13 pages.

- 3-A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI Book 3, Chapter A9. 1989. 27 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS–TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS–TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI Book 3, Chapter A12. 1986. 34 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI Book 3, Chapter A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS–TWRI Book 3, Chapter A15. 1984. 48 pages.
- 3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI Book 3, Chapter A16. 1985. 52 pages.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS–TWRI Book 3, Chapter A17. 1985. 38 pages.
- 3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI Book 3, Chapter A18. 1989. 52 pages.
- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI Book 3, Chapter A19. 1990. 31 pages.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI Book 3, Chapter A20. 1993. 38 pages.
- 3-A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS–TWRI Book 3, Chapter A21. 1995. 56 pages.

Section B. Ground-Water Techniques

- 3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS–TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G.D. Bennett: USGS–TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS–TWRI Book 3, Chapter B3. 1980. 106 pages.
- 3-B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS–TWRI Book 3, Chapter B4. 1990. 232 pages.
- 3-B4. *Supplement 1. Regression modeling of ground-water flow --Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS–TWRI Book 3, Chapter B4. 1993. 8 pages.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI Book 3, Chapter B5. 1987. 15 pages.
- 3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI Book 3, Chapter B6. 1987. 28 pages.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS–TWRI Book 3, Chapter B7. 1992. 190 pages.

Section C. Sedimentation and Erosion Techniques

- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS–TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H.P. Guy and V.W. Norman: USGS–TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS–TWRI Book 3, Chapter C3. 1972. 66 pages.

Book 4. Hydrologic Analysis and Interpretation**Section A. Statistical Analysis**

- 4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS–TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H.C. Riggs: USGS–TWRI Book 4, Chapter A2. 1968. 15 pages.

Section B. Surface Water

- 4-B1. *Low-flow investigations*, by H.C. Riggs: USGS–TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS–TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS–TWRI Book 4, Chapter B3. 1973. 15 pages.

Section D. Interrelated Phases of the Hydrologic Cycle

- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS–TWRI Book 4, Chapter D1. 1970. 17 pages.

Book 5. Laboratory Analysis**Section A. Water Analysis**

- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI Book 5, Chapter A1. 1989. 545 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI Book 5, Chapter A3. 1987. 80 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS–TWRI Book 5, Chapter A4. 1989. 363 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS–TWRI Book 5, Chapter A6. 1982. 181 pages.

Section C. Sediment Analysis

- 5-C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS–TWRI Book 5, Chapter C1. 1969. 58 pages.

Book 6. Modeling Techniques**Section A. Ground Water**

- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS–TWRI Book 6, Chapter A1. 1988. 586 pages.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS–TWRI Book 6, Chapter A2. 1991. 68 pages.
- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS–TWRI Book 6, Chapter A3. 1993. 136 pages.

- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS–TWRI Book 6, Chapter A4. 1992. 108 pages.
- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS–TWRI Book 6, Chapter A5, 1993. 243 pages.
- 6-A6. A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction, by Eric D. Swain and Eliezer J. Wexler. 1996. 125 pages.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI Book 7, Chapter C3. 1981. 110 pages.

Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

- 8-A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS–TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI Book 8, Chapter A2. 1983. 57 pages.

Section B. Instruments for Measurement of Discharge

- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS–TWRI Book 8, Chapter B2. 1968. 15 pages.

Book 9. Handbooks for Water-Resources Investigations

Section A. National Field Manual for the Collection of Water-Quality Data

- 9-A6. *National Field Manual for the Collection of Water-Quality Data: Field Measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI Book 9, Chapter A6. 1998. Variously paginated.
- 9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators*, by D.N. Myers and F.D. Wilde: USGS–TWRI Book 9, Chapter A7. 1997. 49 pages.
- 9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI Book 9, Chapter A8. 1998. 48 pages.
- 9-A9. *National Field Manual for the Collection of Water-Quality Data: Safety in Field Activities*, by S.L. Lane and R.G. Fay: USGS–TWRI Book 9, Chapter A9. 1998. 60 pages.

HYDROLOGIC-DATA STATION RECORDS
PLATTE RIVER BASIN

06614800 MICHIGAN RIVER NEAR CAMERON PASS, CO

LOCATION.--Lat 40°29'46", long 105°51'52", in S½ sec.12, T.6 N., R.76 W. (unsurveyed), Jackson County, Hydrologic Unit 10180001, on right bank 500 ft upstream from Michigan ditch, 2.2 mi southeast of Cameron Pass, 8 mi east of Gould, and 27 mi southeast of Walden.

DRAINAGE AREA.--1.53 mi².

PERIOD OF RECORD.--October 1973 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 10,390 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	1.1	e.50	e.40	e.40	.46	.32	.65	15	19	4.8	2.2
2	3.9	1.1	e.50	e.40	e.40	.44	.32	.67	17	18	4.5	1.9
3	4.2	1.1	e.50	e.40	e.40	.40	.32	1.0	18	16	4.8	1.8
4	3.6	.99	e.50	e.40	e.40	.40	.33	1.4	14	15	5.6	1.6
5	3.2	.94	e.50	e.40	e.40	.40	.34	1.3	10	14	5.2	1.5
6	3.0	.91	e.50	e.40	e.40	.40	.34	1.0	8.4	14	4.7	1.5
7	2.8	.89	e.50	e.40	e.40	.40	.34	.91	7.6	12	4.3	1.4
8	2.8	.89	e.50	e.40	e.40	.40	.34	.85	7.2	11	4.0	1.4
9	2.7	.89	e.50	e.40	e.40	.40	.34	.85	6.9	11	4.2	1.5
10	2.6	.86	e.50	e.40	e.40	.40	.34	1.1	6.7	12	4.2	1.4
11	2.3	.86	e.49	e.40	e.40	.40	.35	1.1	6.3	11	3.8	1.4
12	2.0	.87	e.47	e.40	e.40	.38	.37	1.0	6.6	10	3.5	1.5
13	2.2	.85	e.47	e.40	e.40	.37	.37	1.6	7.4	9.5	3.2	1.6
14	2.9	.89	e.46	e.40	e.40	.37	.37	2.0	7.0	8.5	2.9	1.5
15	2.4	.87	e.45	e.40	e.40	.37	.37	1.5	7.2	7.7	2.8	1.4
16	2.2	.85	e.44	e.40	e.40	.37	.37	1.5	7.0	7.2	2.6	1.4
17	2.1	.78	e.43	e.40	e.40	.37	.37	2.2	7.1	6.9	2.6	1.4
18	2.0	.68	e.43	e.40	e.40	.35	.37	3.0	6.1	6.7	2.8	1.3
19	1.9	.66	e.42	e.40	e.40	.34	.37	3.7	7.7	6.4	2.8	1.2
20	1.8	.64	e.41	e.40	e.40	.34	.37	5.0	9.3	6.0	2.6	1.2
21	1.7	.62	e.41	e.40	e.40	.34	.38	5.8	11	5.7	3.8	1.2
22	1.6	.59	e.40	e.40	e.40	.34	.41	4.9	13	5.9	3.9	1.2
23	1.5	.55	e.40	e.40	e.40	.34	.51	4.2	16	5.5	3.2	1.4
24	1.6	e.54	e.40	e.40	e.43	.33	.63	4.1	16	5.8	2.8	1.2
25	1.6	e.52	e.40	e.40	.45	.34	.61	5.3	17	6.3	2.6	1.1
26	1.5	e.51	e.40	e.40	.47	.33	.56	6.7	19	5.4	2.3	1.1
27	1.0	e.50	e.40	e.40	.48	.32	.52	10	22	4.8	2.6	1.0
28	1.0	e.50	e.40	e.40	.48	.32	.53	12	22	4.6	2.2	1.0
29	1.2	e.50	e.40	e.40	---	.32	.60	13	21	5.0	2.1	1.0
30	1.1	e.50	e.40	e.40	---	.32	.65	14	20	5.0	1.9	1.0
31	1.1	---	e.40	e.40	---	.32	---	14	---	4.5	2.2	---
TOTAL	69.7	22.95	13.88	12.40	11.51	11.38	12.41	126.33	359.5	280.4	105.5	41.3
MEAN	2.25	.77	.45	.40	.41	.37	.41	4.08	12.0	9.05	3.40	1.38
MAX	4.2	1.1	.50	.40	.48	.46	.65	14	22	19	5.6	2.2
MIN	1.0	.50	.40	.40	.40	.32	.32	.65	6.1	4.5	1.9	1.0
AC-FT	138	46	28	25	23	23	25	251	713	556	209	82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1998, BY WATER YEAR (WY)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	.91	.56	.43	.36	.32	.33	.41	3.79	16.7	9.41	2.88	1.45													
MAX (WY)	2.25	1.11	.88	.57	.55	.86	.80	9.50	27.1	24.8	6.83	4.82													
MIN (WY)	.32	.20	.25	.17	.16	.17	.22	.70	10.9	2.06	1.20	.49													
	1980	1979	1979	1991	1977	1974	1982	1995	1992	1994	1988	1988													

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1974 - 1998

ANNUAL TOTAL	1522.95	1067.26	
ANNUAL MEAN	4.17	2.92	3.13
HIGHEST ANNUAL MEAN			4.61
LOWEST ANNUAL MEAN			1.97
HIGHEST DAILY MEAN	42	Jun 20	a22
LOWEST DAILY MEAN	e.32	Mar 12	b.32
ANNUAL SEVEN-DAY MINIMUM	.33	Mar 6	.32
INSTANTANEOUS PEAK FLOW			31
INSTANTANEOUS PEAK STAGE			3.43
ANNUAL RUNOFF (AC-FT)	3020	2120	2270
10 PERCENT EXCEEDS	12	8.0	10
50 PERCENT EXCEEDS	.89	.99	.60
90 PERCENT EXCEEDS	.35	.37	.25

e-Estimated.
 a-Also occurred Jun 28.
 b-Also occurred Mar 28-Apr 3.
 c-From rating curve extended above 82 ft³/s.
 d-Also occurred Jul 13, 1995.
 f-Maximum gage height, 3.70 ft, Jun 20, 1997.

06696000 SOUTH PLATTE RIVER NEAR LAKE GEORGE, CO

LOCATION.--Lat 38°54'19", long 105°28'22", in SW¹/₄sec.20, T.13 S., R.72 W., Park County, Hydrologic Unit 10190001, on left bank 700 ft downstream from Elevenmile Canyon Reservoir and 8.2 mi southwest of town of Lake George.

DRAINAGE AREA.--963 mi².

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry, and Parshall flume. Elevation of gage is 8,458 ft above sea level, from topographic map. Prior to Oct. 26, 1940, at site 1 mi downstream at datum 8,423.95 ft, above sea level, adjustment of 1912.

REMARKS.--Records good except for estimated daily discharges, which are fair. Natural flow of stream affected by transmountain diversions through East and West Hoosier ditches at Hoosier Pass prior to 1941, storage in Elevenmile Canyon Reservoir (see elsewhere in this report) and Antero Reservoir, capacity, 22,300 acre-ft, diversions for irrigation, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	61	87	94	71	69	98	61	37	43	128	289
2	101	61	90	94	70	68	99	58	35	45	119	294
3	99	61	93	92	71	69	97	58	31	57	108	347
4	111	61	e94	92	74	72	98	56	31	72	104	351
5	113	62	e94	92	77	74	99	56	30	89	96	330
6	119	62	e95	92	80	78	99	54	32	108	87	305
7	155	44	e95	89	82	80	101	53	34	117	79	289
8	175	30	e96	86	83	83	104	51	34	128	72	311
9	164	30	e97	83	84	85	104	53	32	147	70	324
10	161	30	98	82	83	86	103	52	31	184	76	324
11	162	30	99	80	81	87	102	52	31	222	81	323
12	170	31	101	78	79	94	99	48	31	245	81	323
13	180	33	101	76	78	88	96	47	34	253	82	323
14	210	35	101	75	77	88	93	46	35	258	96	324
15	240	40	100	74	76	89	94	46	37	240	110	324
16	257	43	100	74	76	90	100	51	40	227	122	323
17	258	47	100	73	76	92	95	41	44	206	133	323
18	243	52	100	73	78	100	92	39	44	188	144	290
19	232	57	100	72	78	106	85	39	42	179	154	236
20	225	58	100	72	77	104	80	38	40	176	157	217
21	205	53	100	71	76	102	78	39	39	182	161	217
22	192	51	99	70	75	101	76	36	40	197	163	193
23	192	56	99	70	74	107	73	37	41	218	164	108
24	192	52	97	69	73	124	71	37	46	228	168	89
25	169	53	97	69	74	131	68	37	47	213	177	89
26	125	58	96	69	71	130	68	38	50	197	182	89
27	76	63	95	69	70	124	66	39	48	170	187	89
28	60	78	92	68	69	117	65	38	46	150	209	89
29	60	82	77	68	---	112	64	38	45	144	239	89
30	60	84	91	68	---	105	62	39	42	132	228	89
31	61	---	95	71	---	103	---	35	---	138	265	---
TOTAL	4867	1558	2979	2405	2133	2958	2629	1412	1149	5153	4242	7311
MEAN	157	51.9	96.1	77.6	76.2	95.4	87.6	45.5	38.3	166	137	244
MAX	258	84	101	94	84	131	104	61	50	258	265	351
MIN	60	30	77	68	69	68	62	35	30	43	70	89
AC-FT	9650	3090	5910	4770	4230	5870	5210	2800	2280	10220	8410	14500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1998, BY WATER YEAR (WY)

	MEAN	58.1	43.2	30.5	28.1	29.0	42.7	94.4	95.3	147	190	156	80.2
MAX	221	166	113	133	117	201	436	775	614	786	459	288	
(WY)	1931	1955	1997	1990	1990	1986	1970	1970	1949	1995	1984	1930	
MIN	2.12	2.26	2.20	1.50	1.00	3.00	7.08	4.77	7.78	16.9	14.8	4.73	
(WY)	1941	1940	1940	1933	1933	1933	1939	1961	1961	1940	1940	1953	

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1930 - 1998
ANNUAL TOTAL	51855	38796	
ANNUAL MEAN	142	106	83.8
HIGHEST ANNUAL MEAN			218 1970
LOWEST ANNUAL MEAN			14.1 1940
HIGHEST DAILY MEAN	391 Jun 29	351 Sep 4	2820 Apr 28 1970
LOWEST DAILY MEAN	a30 Nov 8	b30 Nov 8	c.00 Nov 5 1935
ANNUAL SEVEN-DAY MINIMUM	31 Nov 8	31 Nov 8	1.0 Feb 1 1933
INSTANTANEOUS PEAK FLOW		387 Sep 3	3000 Apr 28 1970
INSTANTANEOUS PEAK STAGE		3.26 Sep 3	8.34 Apr 28 1970
ANNUAL RUNOFF (AC-FT)	102900	76950	60690
10 PERCENT EXCEEDS	272	217	211
50 PERCENT EXCEEDS	104	87	46
90 PERCENT EXCEEDS	68	39	8.5

e-Estimated.
a-Also occurred Nov 9-11.
b-Also occurred Nov 9-11, and Jun 5.
c-No flow at times in Jan 1930, Feb 1931, and Nov 1935.

PLATTE RIVER BASIN

06697100 TARRYALL CREEK BELOW PARK GULCH NEAR COMO, CO

LOCATION.--Lat 39°16'54", long 105°47'13", in NW¼SW¼ sec.9, T.9 S., R.75 W., Park County, Hydrologic Unit 10190001, on left bank 300 ft downstream from confluence with Park Gulch, and 6.5 mi southeast of Como.

DRAINAGE AREA.--76.1 mi², of which 3.2 mi² is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1997 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 9,260 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by minor transmountain diversion from Colorado River basin through Boreas Pass ditch, diversions for irrigation, and return flow from irrigated areas.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	e9.2	e6.6	e4.0	e3.5	e3.2	13	13	24	24	40	30
2	11	e9.2	e6.4	e4.0	e3.5	e3.0	8.9	14	26	24	40	23
3	11	e9.2	e6.2	e4.0	e3.5	e3.2	14	15	27	24	32	18
4	10	e9.0	e6.2	e4.0	e3.5	e3.0	9.7	17	29	27	31	16
5	9.9	e8.8	e6.0	e4.0	e3.5	e2.9	9.3	19	26	26	33	15
6	9.8	e8.8	e5.8	e4.0	e3.5	e2.8	7.7	19	20	24	28	14
7	9.6	e8.6	e5.8	e4.0	e3.5	e2.8	9.5	19	18	27	22	13
8	10	e8.6	e5.8	e4.0	e3.5	e2.7	7.6	19	18	28	20	13
9	9.6	e8.6	e5.6	e4.0	e3.5	e2.5	6.7	22	18	29	21	12
10	9.4	e8.6	e5.6	e4.0	e3.5	e2.7	7.3	23	18	58	29	12
11	9.9	e8.4	e5.4	e3.9	e3.3	e2.7	8.8	23	20	46	26	12
12	10	e8.3	e5.4	e3.8	e3.3	e2.7	10	23	19	23	23	12
13	9.7	e8.2	e5.2	e3.7	e3.3	e2.7	8.7	22	16	17	23	14
14	11	e8.2	e5.2	e3.6	e3.3	e2.7	8.7	24	15	13	28	13
15	11	e8.2	e5.0	e3.5	e3.3	e2.8	6.5	23	19	9.1	25	12
16	9.8	e8.0	e5.0	e3.4	e3.3	e3.0	7.3	22	26	6.9	23	22
17	9.4	e8.0	e5.0	e3.3	e3.3	e3.2	8.0	19	24	6.1	26	17
18	8.8	e8.0	e5.0	e3.3	e3.3	e3.5	7.6	19	22	8.8	21	13
19	8.4	e8.0	e4.8	e3.3	e3.3	e3.9	6.6	21	22	10	20	12
20	8.9	e7.7	e4.6	e3.3	e3.3	e4.5	6.8	24	22	11	23	11
21	11	e7.5	e4.5	e3.3	e3.3	e6.2	6.7	29	23	12	21	11
22	10	e7.3	e4.3	e3.1	e3.3	e8.0	7.4	27	27	28	18	10
23	9.5	e7.3	e4.2	e3.1	e3.5	e10	10	24	24	43	16	10
24	e9.5	e7.3	e4.2	e3.1	e3.7	e13	13	22	19	45	15	10
25	e9.5	e7.3	e4.0	e3.1	e3.7	e16	14	23	21	41	19	9.0
26	e9.5	e7.2	e4.0	e3.0	e3.5	e18	14	21	21	42	19	8.7
27	e9.5	e7.0	e4.0	e3.0	e3.1	16	12	14	20	34	16	8.9
28	e9.5	e7.0	e4.0	e3.1	e3.3	14	12	11	20	34	15	9.0
29	e9.5	e7.0	e4.0	e3.3	---	11	11	20	20	47	14	9.3
30	e9.5	e6.8	e4.0	e3.3	---	10	12	23	20	34	13	11
31	e9.5	---	e4.0	e3.4	---	12	---	23	---	35	13	---
TOTAL	304.7	241.3	155.8	109.9	95.4	194.7	284.8	637	644	836.9	713	400.9
MEAN	9.83	8.04	5.03	3.55	3.41	6.28	9.49	20.5	21.5	27.0	23.0	13.4
MAX	11	9.2	6.6	4.0	3.7	18	14	29	29	58	40	30
MIN	8.4	6.8	4.0	3.0	3.1	2.5	6.5	11	15	6.1	13	8.7
AC-FT	604	479	309	218	189	386	565	1260	1280	1660	1410	795

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1998, BY WATER YEAR (WY)

	1997	1998	1998	1998	1998	1998	1998	1998	1997	1998	1998	1998
MEAN	9.83	8.04	5.03	3.55	3.41	6.28	9.49	20.5	61.8	29.6	26.9	16.8
MAX	9.83	8.04	5.03	3.55	3.41	6.28	9.49	20.5	102	32.3	30.9	20.2
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1997	1997	1997	1997
MIN	9.83	8.04	5.03	3.55	3.41	6.28	9.49	20.5	21.5	27.0	23.0	13.4
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998

SUMMARY STATISTICS

FOR 1998 WATER YEAR

WATER YEARS 1997 - 1998

ANNUAL TOTAL	4618.4		
ANNUAL MEAN	12.7	12.7	
HIGHEST ANNUAL MEAN		12.7	1998
LOWEST ANNUAL MEAN		12.7	1998
HIGHEST DAILY MEAN	58	Jul 10	163 Jun 9 1997
LOWEST DAILY MEAN	e2.5	Mar 9	e2.5 Mar 9 1998
ANNUAL SEVEN-DAY MINIMUM	2.7	Mar 8	2.7 Mar 8 1998
INSTANTANEOUS PEAK FLOW	89	Jul 10	173 Jun 9 1997
INSTANTANEOUS PEAK STAGE	5.06	Jul 10	5.91 Jun 9 1997
ANNUAL RUNOFF (AC-FT)	9160		9170
10 PERCENT EXCEEDS	25		43
50 PERCENT EXCEEDS	9.5		15
90 PERCENT EXCEEDS	3.3		3.5

e-Estimated.

06697100 TARRYALL CREEK BELOW PARK GULCH NEAR COMO, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)
OCT 30...	1300	16	208	8.2	0.5	9.6	94	29	5.4	3.5	0.2
NOV 26...	0910	7.2	224	8.1	0.0	9.2	110	33	6.3	4.4	0.2
DEC 18...	0840	5.2	230	7.7	0.0	9.0	110	32	5.9	3.6	0.2
JAN 22...	1000	3.1	221	7.8	0.0	9.0	110	33	5.9	3.4	0.1
FEB 10...	1130	3.5	227	7.8	0.0	8.5	99	31	5.4	3.3	0.1
MAR 16...	0920	3.0	232	8.0	0.0	8.4	100	30	6.6	3.9	0.2
APR 10...	1210	6.4	336	8.3	3.6	9.8	140	39	10	12	0.5
MAY 13...	1000	22	206	8.2	7.5	--	94	28	5.5	4.1	0.2
JUN 10...	1045	19	231	8.2	7.4	8.4	110	35	5.8	3.5	0.1
JUL 20...	1320	12	201	8.5	18.0	7.5	95	30	5.1	3.0	0.1
AUG 06...	1030	28	222	8.2	15.5	7.9	100	32	5.6	3.7	0.2
SEP 08...	1410	12	205	8.5	17.4	7.4	96	30	5.1	3.0	0.1

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR- ^a BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- ^b BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- ^c LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT 30...	0.8	109	--	89	16	0.6	<0.1	8.1	126	117
NOV 26...	0.9	126	--	103	18	0.5	<0.1	8.6	129	134
DEC 18...	0.8	107	--	88	17	0.6	<0.1	8.2	132	121
JAN 22...	0.8	109	--	89	16	0.5	<0.1	8.3	126	122
FEB 10...	0.8	122	--	100	16	0.3	<0.1	8.2	123	125
MAR 16...	3.9	106	--	87	21	2.0	<0.1	7.7	153	128
APR 10...	1.2	144	--	118	45	1.7	0.2	8.1	202	189
MAY 13...	0.8	85	--	70	18	0.5	<0.1	7.5	123	107
JUN 10...	1.0	122	--	100	15	0.3	0.1	10	148	132
JUL 20...	0.8	98	2	84	11	0.2	<0.1	8.5	129	109
AUG 06...	0.4	122	--	100	13	0.2	0.1	8.7	132	124
SEP 08...	0.8	101	4	89	12	0.3	<0.1	7.8	131	113

a-Field dissolved bicarbonate, determined by incremental titration method.
 b-Field dissolved carbonate, determined by incremental titration method.
 c-Field total dissolved alkalinity, determined by incremental titration method.

PLATTE RIVER BASIN

06697100 TARRYALL CREEK BELOW PARK GULCH NEAR COMO, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT 30...	0.17	5.48	<0.01	0.12	<0.02	0.2	<0.1	0.04	0.02	<0.01
NOV 26...	0.18	2.51	<0.01	<0.05	<0.02	<0.1	<0.1	0.01	<0.01	0.01
DEC 18...	0.18	1.85	<0.01	<0.05	<0.02	0.2	<0.1	0.03	<0.01	0.01
JAN 22...	0.17	0.85	0.01	0.05	<0.02	<0.1	<0.1	<0.01	0.01	<0.01
FEB 10...	0.17	0.80	<0.01	<0.05	<0.02	<0.1	<0.1	<0.01	<0.01	0.02
MAR 16...	0.21	1.03	<0.01	0.25	0.13	0.5	0.5	0.02	0.01	0.01
APR 10...	0.27	3.50	<0.01	<0.05	0.03	0.2	0.1	0.03	<0.01	0.02
MAY 13...	0.17	7.31	<0.01	<0.05	0.03	0.2	<0.1	<0.01	<0.01	<0.01
JUN 10...	0.20	7.35	0.01	<0.05	0.06	0.3	0.3	0.02	<0.01	<0.01
JUL 20...	0.18	4.01	<0.01	<0.05	0.03	0.2	0.1	<0.01	<0.01	0.01
AUG 06...	0.18	10.1	<0.01	<0.05	0.04	0.2	0.2	<0.01	<0.01	0.01
SEP 08...	0.18	4.39	<0.01	<0.05	<0.02	0.1	<0.1	<0.01	0.02	<0.01

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
OCT 30...	7	<1	<1	71	<1	<1	2	<1	<1	170
NOV 26...	4	<1	<1	78	<1	<1	1	<1	<1	130
DEC 18...	<1	<1	<1	80	<1	<1	<1	<1	<1	17
JAN 22...	3	<1	<1	84	<1	<1	2	<1	<1	73
FEB 10...	3	<1	<1	81	<1	<1	1	<1	<1	69
MAR 16...	2	<1	<1	77	<1	<1	1	<1	1	69
APR 10...	4	<1	<1	68	<1	<1	2	<1	<1	65
MAY 13...	2	<1	<1	68	<1	<1	<1	<1	<1	97
JUN 10...	4	<1	<1	63	<1	<1	1	<1	1	82
JUL 20...	5	<1	<1	71	<1	<1	1	<1	<1	110
AUG 06...	5	<1	<1	73	<1	<1	<1	<1	<1	95
SEP 08...	4	<1	<1	78	<1	<1	3	<1	<1	96

06697100 TARRYALL CREEK BELOW PARK GULCH NEAR COMO, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
OCT 30...	<1	14	<1	<1	<1	<1	<1	<1	--	--
NOV 26...	<1	12	<1	<1	<1	<1	<1	<1	2	1.3
DEC 18...	<1	14	1	<1	<1	<1	<1	<1	1.4	1.1
JAN 22...	<1	9	<1	<1	<1	<1	<1	<1	1.4	.8
FEB 10...	<1	10	<1	<1	<1	<1	<1	<1	1.4	1.1
MAR 16...	<1	58	1	<1	<1	<1	1	<1	9.2	8.0
APR 10...	<1	24	1	<1	<1	<1	<1	2	3.4	2.7
MAY 13...	<1	10	1	<1	<1	<1	<1	<1	5.2	2.3
JUN 10...	<1	9	1	<1	<1	<1	<1	3	5.6	4.6
JUL 20...	<1	9	1	<1	<1	<1	<1	<1	3.3	2.2
AUG 06...	<1	9	<1	<1	<1	<1	<1	<1	3.6	2.7
SEP 08...	<1	7	1	<1	<1	<1	<1	<1	2.1	1.8

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 30...	1300	16	36	1.6	86
NOV 26...	0910	7.2	7	.14	82
DEC 18...	0840	5.2	3	.04	83
FEB 10...	1130	2.4	4	.03	86
MAR 16...	0920	2.5	5	.03	91
APR 10...	1210	6.4	6	.10	84
MAY 13...	1000	22	34	2.0	89
JUN 10...	1045	20	16	.79	89
JUL 20...	1320	12	9	.28	84
AUG 06...	1030	28	14	1.1	85
SEP 08...	1410	12	4	.13	79

RESERVOIRS IN SOUTH PLATTE RIVER BASIN

06695500 ELEVENMILE CANYON RESERVOIR.--Lat 38°54'19", long 105°28'30", in N¹/₂SW¹/₄ sec.20, T.13 S., R.72 W., Park County, Hydrologic Unit 10190001, at north end of dam on South Platte River, 8 mi southwest of Lake George. DRAINAGE AREA, 963 mi². PERIOD OF RECORD, October 1932 to current year. Prior to September 1938, published in WSP 1310. REVISED RECORDS, WSP 1730: Drainage area. GAGE, nonrecording gage read once daily. Datum of gage is 8,597.00 ft above sea level, (levels by Denver Board of Water Commissioners); gage readings published are to datum.

Reservoir is formed by concrete arch dam; storage began in October 1932; dam completed in November 1932. Spillway built 5.00 ft higher, Aug. 1, 1957. Capacity, 97,780 acre-ft, between elevations 8,488.25 ft, invert of outlet pipe, and 8,597.00 ft, crest of spillway. Dead storage is negligible. Figures given represent total contents. Water is for municipal use by city of Denver. Records provided by Denver Board of Water Commissioners.

EXTREMES FOR PERIOD OF RECORD: Maximum contents observed, 111,200 acre-ft, Apr. 28, 1970, elevation, 8,600.82 ft; no contents at times in 1935.

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 101,600 acre-ft, July 13, elevation, 8,598.11 ft; minimum observed, 91,650 acre-ft, Sept. 25-29, elevation, 8,595.15 ft.

06701000 CHEESMAN LAKE.--Lat 39°12'26", long 105°16'18", in NW¹/₄SW¹/₄ sec.6, T.10 S., R.70 W., Douglas County, Hydrologic Unit 10190002, at dam on South Platte River, 4.1 mi southwest of Deckers. DRAINAGE AREA, 1,752 mi². PERIOD OF RECORD, September 1900 to December 1901, September 1902 to current year. Prior to October 1938, published in WSP 1310. Published as Lake Cheesman prior to 1947. REVISED RECORDS, WSP 1730: Drainage area. GAGE, nonrecording gage read once daily. Datum of gage is 6,834.91 ft above sea level, (levels by Denver Board of Water Commissioners); gage readings published are to datum.

Reservoir is formed by masonry dam. Storage began September 1900. Dam completed about October 1902. Capacity, 79,060 acre-ft at gage height 212 ft, spillway crest, above sill of lowest gate. No dead storage. Figures given represent total contents. Water is for municipal use by city of Denver. Records provided by Denver Board of Water Commissioners.

EXTREMES FOR PERIOD OF RECORD: Maximum contents observed, 81,360 acre-ft, Apr. 29, 1970, gage height, 214.60 ft, minimum observed since appreciable storage was attained, 3,650 acre-ft, Apr. 20, 1933, gage height, 55.02 ft.

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 79,540 acre-ft, June 6, gage height, 212.54 ft; minimum observed, 63,140 acre-ft, Sept. 30, gage height, 192.51 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation a (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)
06695500 ELEVENMILE CANYON RESERVOIR				06701000 CHEESMAN LAKE		
Sept. 30.....	8,597.67	100,100	-	210.61	77,860	-
Oct. 31.....	8,596.73	96,860	-3,240	207.50	75,190	-2,670
Nov. 30.....	8,597.55	99,660	+2,800	205.89	73,840	-1,350
Dec. 31.....	8,597.60	99,830	+170	203.93	72,200	-1,640
CAL YR 1997....	-	-	-270	-	-	+5,690
Jan. 31.....	8,597.49	99,450	-380	199.97	68,980	-3,220
Feb. 28.....	8,597.48	99,420	-30	195.38	65,350	-3,630
Mar. 31.....	8,597.61	99,860	+440	197.08	66,680	+1,330
Apr. 30.....	8,597.48	99,420	-440	206.11	74,020	+7,340
May 31.....	8,597.35	98,970	-450	212.50	79,500	+5,480
June 30.....	8,597.35	98,970	0	210.08	77,400	-2,100
July 31.....	8,597.72	100,200	+1,230	212.19	79,230	+1,830
Aug. 31.....	8,597.87	100,800	+600	204.15	72,390	-6,840
Sept. 30.....	8,595.18	91,740	-9,060	192.51	63,140	-9,250
WTR YR 1998....	-	-	-8,360	-	-	-14,720

a-Above sea level.

06701500 SOUTH PLATTE RIVER BELOW CHEESMAN LAKE, CO

LOCATION.--Lat 39°12'33", long 105°16'02", in SE¼NW¼ sec.6, T.10 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank 1,400 ft downstream from toe of Cheesman Dam, and 3.8 mi southwest of Deckers.

DRAINAGE AREA.--1,752 mi².

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1949. WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry, and Parshall flume. Datum of gage is 6,609.29 ft above sea level. Prior to May 14, 1956, at site 370 ft upstream at datum 0.50 ft higher.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by minor transmountain diversion from Colorado River basin through Boreas Pass ditch, Elevenmile Canyon Reservoir and Cheesman Lake (see elsewhere in this report), diversions for irrigation of about 40,000 acres, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	327	96	203	134	156	150	63	101	381	322	459	656
2	386	96	203	135	156	150	63	101	374	209	470	464
3	461	58	203	136	156	150	63	101	365	148	448	407
4	498	50	203	136	168	150	63	101	360	134	429	507
5	500	49	203	136	175	160	63	101	379	134	409	651
6	499	73	203	136	176	171	101	101	394	134	376	702
7	457	86	202	136	177	170	151	101	386	134	347	638
8	389	86	202	136	176	170	184	129	356	135	341	605
9	300	86	202	161	177	182	207	202	334	136	314	504
10	272	85	184	179	177	189	189	252	308	277	265	481
11	254	85	152	179	177	189	179	282	292	471	247	626
12	242	101	134	179	177	189	179	302	280	520	288	737
13	230	113	134	179	177	189	163	302	270	484	353	737
14	223	113	134	179	177	189	136	333	259	452	408	649
15	212	113	134	178	177	189	112	336	294	431	409	491
16	212	113	134	154	177	189	93	297	277	405	385	429
17	212	133	134	130	177	189	84	297	270	389	385	432
18	212	144	134	130	177	189	84	266	319	354	385	503
19	212	152	134	130	177	189	84	248	333	346	385	551
20	212	155	134	130	177	189	84	250	327	389	385	550
21	212	154	134	131	178	189	84	268	325	420	384	506
22	212	154	134	160	180	189	85	303	324	420	382	409
23	197	154	134	179	160	156	83	343	324	307	394	369
24	187	154	134	179	150	115	83	372	322	235	460	368
25	189	154	134	179	150	101	83	385	264	338	503	367
26	188	182	134	179	150	97	65	385	209	500	572	366
27	154	203	134	179	150	80	63	410	182	515	620	365
28	131	203	134	179	150	63	91	409	166	458	683	442
29	132	203	134	165	---	63	99	397	276	449	743	494
30	108	203	134	156	---	63	100	387	377	461	741	494
31	95	---	134	156	---	63	---	386	---	455	741	---
TOTAL	8115	3751	4840	4835	4732	4711	3181	8248	9327	10562	13711	15500
MEAN	262	125	156	156	169	152	106	266	311	341	442	517
MAX	500	203	203	179	180	189	207	410	394	520	743	737
MIN	95	49	134	130	150	63	63	101	166	134	247	365
AC-FT	16100	7440	9600	9590	9390	9340	6310	16360	18500	20950	27200	30740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1998, BY WATER YEAR (WY)

MEAN	130	67.2	51.5	56.3	54.8	56.3	147	283	334	360	344	204
MAX	380	266	184	156	169	208	932	1716	1088	1451	984	517
(WY)	1985	1985	1996	1998	1998	1986	1942	1970	1995	1995	1984	1998
MIN	12.9	6.33	5.26	5.26	2.76	3.11	2.00	11.0	38.5	53.5	66.7	33.5
(WY)	1965	1960	1926	1926	1957	1957	1957	1938	1989	1967	1978	1978

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1925 - 1998

ANNUAL TOTAL	85963	91513	
ANNUAL MEAN	236	251	175
HIGHEST ANNUAL MEAN			450
LOWEST ANNUAL MEAN			60.1
HIGHEST DAILY MEAN	632	Jun 29	743
LOWEST DAILY MEAN	49	Nov 5	49
ANNUAL SEVEN-DAY MINIMUM	70	Nov 3	63
INSTANTANEOUS PEAK FLOW			784
INSTANTANEOUS PEAK STAGE			3.37
ANNUAL RUNOFF (AC-FT)	170500	181500	126600
10 PERCENT EXCEEDS	420	462	432
50 PERCENT EXCEEDS	203	189	97
90 PERCENT EXCEEDS	107	98	18

a-Also occurred Apr 9-14, 1957.

PLATTE RIVER BASIN

392144105132401 SPRING CREEK RAIN GAGE AT LONG SCRAGGY RANCH , CO

PRECIPITATION RECORDS

LOCATION.--Lat 39°21'44", long 105°13'24", in SW¹/₄SE¹/₄ sec.9, T.8 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank of Spring Creek along road to Long Scraggy Ranch, 0.2 mi from Spring Creek Road, and 3.0 mi southeast of the community of Buffalo Creek.

PERIOD OF RECORD.--April 1997 to current year (seasonal records only).

GAGE.--Tipping-bucket rain gage, with wind shields, with satellite telemetry. Elevation of gage is 7,280 ft above sea level, from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall during period of seasonal operation, 1.60 inches, June 6, 1997.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall during period of seasonal operation, 1.55 inches, July 31.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.00	.13	.00	.01	.19	.19
2	---	---	---	---	---	---	.00	.00	.00	.03	.01	.01
3	---	---	---	---	---	---	.46	.00	.00	.00	.01	.00
4	---	---	---	---	---	---	.00	.00	.06	.00	.66	.00
5	---	---	---	---	---	---	.00	.37	.20	.00	.01	.00
6	---	---	---	---	---	---	.01	.56	.00	.00	.00	.00
7	---	---	---	---	---	---	.18	.03	.00	.00	.00	.00
8	---	---	---	---	---	---	.27	.22	.36	.66	.00	.00
9	---	---	---	---	---	---	.09	.01	.01	1.05	.42	.00
10	---	---	---	---	---	---	.00	.00	.00	.11	.00	.00
11	---	---	---	---	---	---	.00	.00	.05	.01	.01	.00
12	---	---	---	---	---	---	.00	.00	.00	.00	.00	.44
13	---	---	---	---	---	---	.00	.00	.01	.01	.00	.05
14	---	---	---	---	---	---	.05	.00	.28	.00	.00	.01
15	---	---	---	---	---	---	.11	.00	.00	.00	.00	.00
16	---	---	---	---	---	---	.02	.00	.00	.00	.01	.00
17	---	---	---	---	---	---	.35	.00	.01	.00	.06	.00
18	---	---	---	---	---	---	.25	.00	.00	.00	.07	.00
19	---	---	---	---	---	---	.00	.00	.00	.00	.01	.01
20	---	---	---	---	---	---	.26	.00	.01	.00	.07	.00
21	---	---	---	---	---	---	.05	.00	.06	.29	.00	.02
22	---	---	---	---	---	---	.00	.00	.00	.48	.00	.00
23	---	---	---	---	---	---	.00	.00	.00	.02	.00	.02
24	---	---	---	---	---	---	.00	.20	.00	.23	.22	.01
25	---	---	---	---	---	---	.07	.46	.00	.20	.15	.00
26	---	---	---	---	---	---	.39	.00	.00	.03	.01	.00
27	---	---	---	---	---	---	.10	.00	.00	.00	.00	.00
28	---	---	---	---	---	---	.01	.00	.00	.14	.00	.00
29	---	---	---	---	---	---	.00	.00	.00	.81	.00	.00
30	---	---	---	---	---	---	.00	.00	.02	.84	.00	.00
31	---	---	---	---	---	---	---	.00	---	1.55	.43	---
TOTAL	---	---	---	---	---	---	2.67	1.98	1.07	6.47	2.34	0.76

06701970 SPRING CREEK ABOVE MOUTH NEAR SOUTH PLATTE, CO

LOCATION.--Lat 39°23'37", long 105°11'01", in SE¼SE¼ sec.35, T.7 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on right bank 0.9 mi upstream from mouth and 1.3 mi southwest of the community of South Platte.

DRAINAGE AREA.--9.79 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1997 to current year (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,320 ft above sea level, from topographic map.

REMARKS.--Records poor. No diversion or regulation upstream from station. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data for Gaging Stations" section of this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 6,380 ft³/s, Aug. 31, 1997, gage height, 13.45 ft, from slope-area measurement of peak flow; minimum daily, 0.64 ft³/s, Oct. 30, 1997.

EXTREMES FOR WATER YEAR 1997.--Maximum discharge during period of seasonal operation, 6,380 ft³/s, Aug. 31, gage height, 13.45 ft, from slope-area measurement of peak flow; minimum daily, 0.81 ft³/s, July 26.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,040 ft³/s, July 9, gage height, 8.75 ft, from slope area; minimum daily, 0.64 ft³/s, Oct. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	1.5	1.1	1.2	1.7	e140
2	---	---	---	---	---	---	---	1.5	1.1	1.2	1.7	e6.0
3	---	---	---	---	---	---	---	1.4	1.2	1.2	1.6	e6.0
4	---	---	---	---	---	---	---	1.4	1.1	1.2	1.6	6.7
5	---	---	---	---	---	---	---	1.4	1.1	1.2	1.9	10
6	---	---	---	---	---	---	---	1.2	1.2	e1.2	1.9	9.7
7	---	---	---	---	---	---	---	.98	1.5	1.1	1.9	14
8	---	---	---	---	---	---	---	.96	1.4	1.2	1.3	11
9	---	---	---	---	---	---	---	1.1	1.5	1.2	e3.0	10
10	---	---	---	---	---	---	---	1.1	1.5	1.2	2.0	9.0
11	---	---	---	---	---	---	---	1.2	1.4	1.2	2.6	8.1
12	---	---	---	---	---	---	---	.98	1.7	1.3	2.7	6.6
13	---	---	---	---	---	---	---	1.0	1.7	1.2	2.4	7.7
14	---	---	---	---	---	---	---	1.1	1.8	1.1	2.3	5.7
15	---	---	---	---	---	---	---	1.1	1.8	.97	1.9	6.4
16	---	---	---	---	---	---	---	1.0	1.8	1.1	1.9	6.7
17	---	---	---	---	---	---	---	.98	1.7	e1.1	2.2	e6.5
18	---	---	---	---	---	---	---	1.0	1.8	e1.1	2.3	e6.5
19	---	---	---	---	---	---	---	1.0	1.6	e1.1	2.2	6.5
20	---	---	---	---	---	---	---	1.0	1.4	e1.1	2.2	4.3
21	---	---	---	---	---	---	---	1.0	3.2	e1.1	2.0	3.6
22	---	---	---	---	---	---	---	.92	e1.8	e1.8	2.1	4.7
23	---	---	---	---	---	---	e.97	1.0	e1.8	e3.0	2.1	6.2
24	---	---	---	---	---	---	1.1	.97	e1.4	.82	2.1	5.0
25	---	---	---	---	---	---	1.2	.98	e1.2	.85	2.3	2.9
26	---	---	---	---	---	---	1.3	.98	e1.2	.81	9.0	1.5
27	---	---	---	---	---	---	1.3	1.0	e1.2	.83	3.2	1.4
28	---	---	---	---	---	---	1.4	1.1	e1.2	2.0	3.5	1.6
29	---	---	---	---	---	---	1.5	1.1	e1.2	e4.0	3.2	1.3
30	---	---	---	---	---	---	1.5	1.2	e1.2	1.4	3.0	1.3
31	---	---	---	---	---	---	---	1.1	---	4.9	e750	---
TOTAL	---	---	---	---	---	---	---	34.25	44.8	44.68	823.8	316.9
MEAN	---	---	---	---	---	---	---	1.10	1.49	1.44	26.6	10.6
MAX	---	---	---	---	---	---	---	1.5	3.2	4.9	750	140
MIN	---	---	---	---	---	---	---	.92	1.1	.81	1.3	1.3
AC-FT	---	---	---	---	---	---	---	68	89	89	1630	629

e-Estimated.

PLATTE RIVER BASIN

06701970 SPRING CREEK ABOVE MOUTH NEAR SOUTH PLATTE, CO

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	---	---	---	---	---	6.4	4.8	4.0	2.2	e5.0	e2.4
2	1.4	---	---	---	---	---	6.2	5.5	3.7	2.2	e4.3	e2.1
3	1.4	---	---	---	---	---	6.5	5.9	3.5	2.2	e3.7	e2.0
4	1.4	---	---	---	---	---	6.3	5.5	3.5	2.2	e3.3	e2.0
5	1.3	---	---	---	---	---	5.7	5.6	3.6	2.2	e3.0	e2.0
6	1.3	---	---	---	---	---	6.1	5.3	3.4	2.2	e2.6	e2.0
7	1.3	---	---	---	---	---	6.3	5.9	3.3	2.1	e2.5	e2.0
8	1.3	---	---	---	---	---	6.1	5.7	3.0	2.1	e2.5	e2.0
9	1.1	---	---	---	---	---	5.3	5.6	2.7	e135	e2.5	e2.0
10	.95	---	---	---	---	---	5.4	5.3	2.8	e5.0	e2.5	e2.0
11	.97	---	---	---	---	---	5.0	4.9	2.6	e4.2	e2.5	e2.0
12	1.0	---	---	---	---	---	4.9	4.7	2.5	e3.6	e2.5	e2.0
13	1.0	---	---	---	---	---	4.7	4.5	2.4	e3.3	e2.5	e2.0
14	1.0	---	---	---	---	---	5.6	4.4	2.6	e3.0	e2.5	e2.0
15	.99	---	---	---	---	---	4.6	4.3	3.3	2.7	e2.5	e2.0
16	1.0	---	---	---	---	---	5.1	4.3	3.7	2.8	e2.5	e2.0
17	.98	---	---	---	---	---	5.3	4.5	3.4	3.7	e3.0	e2.0
18	.96	---	---	---	---	---	5.5	4.8	3.3	3.1	3.4	e2.0
19	.99	---	---	---	---	---	5.7	4.8	3.4	3.0	3.4	e2.0
20	.95	---	---	---	---	---	7.2	4.2	3.2	3.5	3.2	e2.0
21	.96	---	---	---	---	---	6.5	4.2	2.7	3.8	3.1	e2.0
22	.96	---	---	---	---	---	6.0	4.2	2.7	3.5	3.2	e2.0
23	.94	---	---	---	---	---	6.0	4.2	2.8	3.4	2.6	e2.0
24	.99	---	---	---	---	2.4	5.9	4.3	2.8	3.4	2.8	e2.0
25	1.1	---	---	---	---	4.8	5.8	4.3	2.7	3.3	2.7	e2.0
26	.83	---	---	---	---	6.6	6.4	4.3	2.3	3.2	e2.3	e2.0
27	.65	---	---	---	---	8.5	6.1	4.3	2.3	3.1	e2.3	e2.0
28	.70	---	---	---	---	6.8	5.5	4.2	2.2	3.3	e2.2	e2.0
29	.66	---	---	---	---	6.2	5.1	4.2	2.1	3.6	e2.1	e2.0
30	.64	---	---	---	---	6.1	5.0	4.2	2.2	4.0	e2.1	e2.0
31	1.4	---	---	---	---	5.8	---	4.3	---	e80	e2.2	---
TOTAL	32.52	---	---	---	---	---	172.2	147.2	88.7	304.9	87.5	60.5
MEAN	1.05	---	---	---	---	---	5.74	4.75	2.96	9.84	2.82	2.02
MAX	1.4	---	---	---	---	---	7.2	5.9	4.0	135	5.0	2.4
MIN	.64	---	---	---	---	---	4.6	4.2	2.1	2.1	2.1	2.0
AC-FT	65	---	---	---	---	---	342	292	176	605	174	120

e-Estimated.

06701970 SPRING CREEK ABOVE MOUTH NEAR SOUTH PLATTE, CO--Continued

PRECIPITATION RECORDS

PERIOD OF RECORD.--April 1997 to current year (seasonal records only).

GAGE.--Tipping-bucket rain gage (no wind shields used) with satellite telemetry. Elevation of gage is 6,320 ft above sea level, from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall during period of seasonal operation, 1.89 inches, Aug. 31, 1997.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall during period of seasonal operation, 0.73 inches, July 31.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	.00	.00	.00	.20	.26
2	---	---	---	---	---	---	---	.00	.00	.00	.08	.00
3	---	---	---	---	---	---	---	.00	.00	.00	.06	.00
4	---	---	---	---	---	---	---	.00	.05	.05	.41	.00
5	---	---	---	---	---	---	---	.29	.07	.00	.00	.00
6	---	---	---	---	---	---	---	.17	.00	.04	.00	.00
7	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
8	---	---	---	---	---	---	---	.13	.12	.40	.00	.00
9	---	---	---	---	---	---	---	.00	.00	.23	.29	.00
10	---	---	---	---	---	---	---	.00	.00	.13	.00	.00
11	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
12	---	---	---	---	---	---	---	.00	.00	.00	.00	.19
13	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
14	---	---	---	---	---	---	---	.00	.34	.00	.00	.00
15	---	---	---	---	---	---	---	.00	.00	.05	.00	.00
16	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
17	---	---	---	---	---	---	.01	.00	.01	.00	.04	.00
18	---	---	---	---	---	---	.46	.00	.00	.00	.03	.00
19	---	---	---	---	---	---	.04	.00	.00	.00	.00	.00
20	---	---	---	---	---	---	.05	.00	.04	.00	.00	.01
21	---	---	---	---	---	---	.00	.00	.04	.14	.01	.01
22	---	---	---	---	---	---	.00	.00	.00	.21	.00	.00
23	---	---	---	---	---	---	.00	.00	.00	.06	.00	.02
24	---	---	---	---	---	---	.00	.13	.00	.21	.08	.00
25	---	---	---	---	---	---	.08	.12	.00	.31	.12	.00
26	---	---	---	---	---	---	.20	.00	.00	.01	.00	.00
27	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
28	---	---	---	---	---	---	.00	.00	.00	.31	.00	.00
29	---	---	---	---	---	---	.00	.00	.00	.11	.00	.02
30	---	---	---	---	---	---	.00	.00	.02	.24	.00	.00
31	---	---	---	---	---	---	---	.00	---	.73	.18	---
TOTAL	---	---	---	---	---	---	---	0.84	0.69	3.23	1.50	0.51

392133105184401 BUFFALO CREEK RAIN GAGE AT MORRISON CREEK , CO**PRECIPITATION RECORDS**

LOCATION.--Lat 39°21'33", long 105°18'44", in SW¹/₄SW¹/₄ sec.11, T.8 S., R.71 W., Jefferson County, Hydrologic Unit 10190002, on left bank of Buffalo Creek near confluence with Morrison Creek, and 3.0 mi southwest of the community of Buffalo Creek.

PERIOD OF RECORD.--April 1997 to current year (seasonal records only).

GAGE.--Tipping-bucket rain gage, (with wind shields), with satellite telemetry. Elevation of gage is 7,120 ft above sea level, from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall during period of seasonal operation, 1.67 inches, June 6, 1997.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall during period of seasonal operation, 1.01 inches, July 25.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	.00	.00	.00	.11	.04
2	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
3	---	---	---	---	---	---	---	.00	.00	.07	.03	.00
4	---	---	---	---	---	---	---	.14	.09	.07	.13	.00
5	---	---	---	---	---	---	---	.22	.11	.00	.00	.00
6	---	---	---	---	---	---	---	.14	.00	.00	.00	.00
7	---	---	---	---	---	---	---	.02	.00	.09	.00	.00
8	---	---	---	---	---	---	---	.22	.07	.22	.00	.00
9	---	---	---	---	---	---	---	.00	.00	.05	.01	.00
10	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
11	---	---	---	---	---	---	---	.00	.00	.03	.01	.00
12	---	---	---	---	---	---	---	.00	.00	.00	.00	.03
13	---	---	---	---	---	---	---	.00	.00	.00	.00	.04
14	---	---	---	---	---	---	---	.00	.11	.00	.00	.00
15	---	---	---	---	---	---	---	.00	.00	.00	.07	.00
16	---	---	---	---	---	---	---	.00	.00	.00	.01	.00
17	---	---	---	---	---	---	---	.00	.00	.00	.11	.00
18	---	---	---	---	---	---	---	.00	.00	.00	.01	.00
19	---	---	---	---	---	---	---	.00	.00	.00	.04	.00
20	---	---	---	---	---	---	---	.00	.00	.00	.12	.00
21	---	---	---	---	---	---	---	.00	.10	.00	.00	.00
22	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
23	---	---	---	---	---	---	---	.00	.00	.00	.03	.06
24	---	---	---	---	---	---	.00	.00	.00	.25	.05	.02
25	---	---	---	---	---	---	.12	.24	.00	1.01	.10	.00
26	---	---	---	---	---	---	.23	.00	.00	.00	.01	.00
27	---	---	---	---	---	---	.06	.00	.00	.02	.00	.00
28	---	---	---	---	---	---	.00	.00	.00	.13	.00	.00
29	---	---	---	---	---	---	.00	.00	.00	.26	.00	.01
30	---	---	---	---	---	---	.00	.00	.07	.39	.00	.00
31	---	---	---	---	---	---	---	.00	---	.24	.44	---
TOTAL	---	---	---	---	---	---	---	0.98	0.55	2.83	1.28	0.20

06706800 BUFFALO CREEK AT MOUTH AT BUFFALO CREEK, CO

LOCATION.--Lat 39°23'27", long 105°16'15", in SE¼SW¼ sec.31, T.7 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank 0.2 mi downstream from State Highway 67, 0.5 mi upstream from mouth, and in the community of Buffalo Creek.

DRAINAGE AREA.--51.4 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1997 to current year (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,300 ft above sea level, from topographic map.

REMARKS.--Records poor. Flow is slightly regulated by Wellington Lake 7.2 mi upstream. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 3,400 ft³/s, gage height, 10.80 ft, July 31, 1998, from high water marks; minimum daily, 6.6 ft³/s, Apr. 7, 1998.

EXTREMES FOR WATER YEAR 1997.--Maximum discharge during period of seasonal operation, 1,080 ft³/s, gage height, 8.40 ft, July 29, from slope-area measurement of peak flow; minimum daily, 7.6 ft³/s, Sept. 25.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 3,400 ft³/s, gage height, 10.80 ft, July 31, from high water marks; minimum daily, 6.6 ft³/s, Apr. 7.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	e20	25	14	e20	e30
2	---	---	---	---	---	---	---	e20	e25	14	e20	e25
3	---	---	---	---	---	---	---	e20	e28	13	e18	e25
4	---	---	---	---	---	---	---	e20	e25	13	e18	25
5	---	---	---	---	---	---	---	e20	e27	14	e18	36
6	---	---	---	---	---	---	---	e20	e50	12	e16	34
7	---	---	---	---	---	---	---	e20	26	11	e16	24
8	---	---	---	---	---	---	---	e20	26	13	e16	20
9	---	---	---	---	---	---	---	e20	24	12	e15	e19
10	---	---	---	---	---	---	---	e20	27	12	e15	e18
11	---	---	---	---	---	---	---	e20	30	11	e14	e17
12	---	---	---	---	---	---	---	e20	24	10	e14	e16
13	---	---	---	---	---	---	---	e20	e29	11	e14	e15
14	---	---	---	---	---	---	---	e18	e30	9.8	e14	e14
15	---	---	---	---	---	---	---	e17	e30	9.3	e16	e13
16	---	---	---	---	---	---	---	20	e29	10	19	e12
17	---	---	---	---	---	---	---	19	e27	12	19	e11
18	---	---	---	---	---	---	---	16	21	12	16	e10
19	---	---	---	---	---	---	---	16	24	15	15	e12
20	---	---	---	---	---	---	---	e19	e20	14	14	e11
21	---	---	---	---	---	---	---	e25	17	14	13	e11
22	---	---	---	---	---	---	---	e22	16	13	13	e10
23	---	---	---	---	---	---	---	e20	15	13	14	e9.0
24	---	---	---	---	---	---	---	e20	15	13	15	e8.0
25	---	---	---	---	---	---	---	e20	13	11	17	e7.6
26	---	---	---	---	---	---	---	e20	13	9.9	e22	e8.3
27	---	---	---	---	---	---	---	e20	12	12	21	e7.9
28	---	---	---	---	---	---	---	e20	15	23	16	e9.5
29	---	---	---	---	---	---	---	24	13	e230	19	e10
30	---	---	---	---	---	---	---	24	e17	e25	e20	e11
31	---	---	---	---	---	---	---	24	24	e40	e25	---
TOTAL	---	---	---	---	---	---	---	624	693	646.0	522	479.3
MEAN	---	---	---	---	---	---	---	20.1	23.1	20.8	16.8	16.0
MAX	---	---	---	---	---	---	---	25	50	230	25	36
MIN	---	---	---	---	---	---	---	16	12	9.3	13	7.6
AC-FT	---	---	---	---	---	---	---	1240	1370	1280	1040	951

e-Estimated.

06706800 BUFFALO CREEK AT MOUTH AT BUFFALO CREEK, CO--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	9.9	47	e54	e30	e100	22
2	---	---	---	---	---	---	9.8	49	e54	e30	e75	20
3	---	---	---	---	---	---	10	47	e52	e29	e60	18
4	---	---	---	---	---	---	9.2	47	e50	e29	49	17
5	---	---	---	---	---	---	8.9	60	e49	e29	37	13
6	---	---	---	---	---	---	6.8	67	e47	e28	25	11
7	---	---	---	---	---	---	6.6	64	e45	e28	17	10
8	---	---	---	---	---	---	7.8	53	e43	e28	22	10
9	---	---	---	---	---	---	8.9	52	e41	e28	25	9.6
10	---	---	---	---	---	---	9.3	61	e40	e28	23	9.0
11	---	---	---	---	---	---	9.3	55	e38	e27	20	8.7
12	---	---	---	---	---	---	11	54	e37	e27	18	8.9
13	---	---	---	---	---	---	11	60	e36	e27	14	9.0
14	---	---	---	---	---	---	11	64	e35	e27	13	8.7
15	---	---	---	---	---	---	12	60	e35	e27	12	8.3
16	---	---	---	---	---	---	14	63	e34	e27	11	8.2
17	---	---	---	---	---	---	15	63	e34	e26	11	8.2
18	---	---	---	---	---	---	15	65	e33	e26	11	9.1
19	---	---	---	---	---	---	14	68	e33	e25	13	8.7
20	---	---	---	---	---	---	14	68	e33	e25	14	8.6
21	---	---	---	---	---	---	13	69	e33	e25	14	8.7
22	---	---	---	---	---	---	14	67	e33	e24	14	8.9
23	---	---	---	---	---	---	16	e66	e32	e24	14	10
24	---	---	---	---	---	---	18	e64	e32	e24	15	9.7
25	---	---	---	---	---	---	25	e62	e32	18	19	9.6
26	---	---	---	---	---	---	35	e61	e31	23	21	9.8
27	---	---	---	---	---	---	46	e60	e31	19	21	9.2
28	---	---	---	---	---	---	47	e58	e31	18	22	9.2
29	---	---	---	---	---	---	46	e57	e31	22	19	10
30	---	---	---	---	---	---	47	e56	e30	22	18	11
31	---	---	---	---	---	---	---	e55	---	e300	17	---
TOTAL	---	---	---	---	---	---	520.5	1842	1139	1070	764	322.1
MEAN	---	---	---	---	---	---	17.4	59.4	38.0	34.5	24.6	10.7
MAX	---	---	---	---	---	---	47	69	54	300	100	22
MIN	---	---	---	---	---	---	6.6	47	30	18	11	8.2
AC-FT	---	---	---	---	---	---	1030	3650	2260	2120	1520	639

e-Estimated.

PLATTE RIVER BASIN

06706800 BUFFALO CREEK RAIN GAGE AT MOUTH AT BUFFALO CREEK , CO--Continued

PRECIPITATION RECORDS

PERIOD OF RECORD.--June 1997 to current year (seasonal records only).

GAGE.--Tipping-bucket rain gage (no wind shields used) with satellite telemetry. Elevation of gage is 6,630 ft above sea level, from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall during period of seasonal operation, 1.41 inches, July 31, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall during period of seasonal operation, 1.41 inches, July 31.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.00	.00	.00	.00	.18	.24
2	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
3	---	---	---	---	---	---	.42	.00	.00	.00	.00	.00
4	---	---	---	---	---	---	.00	.00	.00	.00	.34	.00
5	---	---	---	---	---	---	.00	.25	.00	.00	.00	.00
6	---	---	---	---	---	---	.00	.27	.00	.00	.00	.00
7	---	---	---	---	---	---	.26	.00	.00	.00	.00	.32
8	---	---	---	---	---	---	.17	.36	.00	.34	.00	.00
9	---	---	---	---	---	---	.00	.00	.00	.22	.00	.00
10	---	---	---	---	---	---	.00	.00	.00	.96	.00	.00
11	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
12	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
13	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
14	---	---	---	---	---	---	.00	.00	.18	.00	.00	.00
15	---	---	---	---	---	---	.25	.00	.00	.00	.00	.00
16	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
17	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
18	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
19	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
20	---	---	---	---	---	---	.39	.00	.00	.00	.18	.00
21	---	---	---	---	---	---	.00	.00	.19	.00	.00	.00
22	---	---	---	---	---	---	.00	.00	.00	.44	.00	.00
23	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
24	---	---	---	---	---	---	.00	.00	.00	.34	.20	.00
25	---	---	---	---	---	---	.20	.23	.00	.84	.16	.00
26	---	---	---	---	---	---	.32	.00	.00	.00	.00	.00
27	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
28	---	---	---	---	---	---	.00	.00	.00	.17	.00	.00
29	---	---	---	---	---	---	.00	.00	.00	.41	.00	.00
30	---	---	---	---	---	---	.00	.00	.00	.49	.00	.00
31	---	---	---	---	---	---	---	.00	---	1.41	.16	---
TOTAL	---	---	---	---	---	---	2.01	1.11	0.37	5.62	1.22	0.56

06709530 PLUM CREEK AT TITAN ROAD NEAR LOUVIERS, CO

LOCATION.--Lat 39°30'27", long 105°01'26", on line between sec.20 and sec.29, T.6 S., R.68 W., Douglas County, Hydrologic Unit 10190002, on left bank, on downstream side of bridge on Titan Road, 2.4 mi north of Louviers.

DRAINAGE AREA.--315 mi².

PERIOD OF RECORD.--May 1984 to current year.

REVISED RECORDS.--WDR CO-86-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,520 ft above sea level, from topographic map. Prior to July 10, 1996, at same site, but different datum.

REMARKS.--Records poor. Diversions upstream from station for irrigation. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	29	37	e42	e31	21	54	346	37	12	272	11
2	4.9	28	36	e43	e31	16	65	303	46	9.1	264	12
3	4.1	31	e35	e32	e32	30	66	344	48	8.2	201	9.6
4	3.8	26	e35	e35	e30	22	66	383	47	7.1	203	7.0
5	3.2	29	e35	e34	e32	23	117	562	81	21	191	4.8
6	2.6	39	e36	e33	31	18	106	887	59	18	83	4.3
7	2.4	43	e39	e34	33	29	93	170	51	18	34	7.1
8	.46	53	e40	e34	31	27	89	119	62	10	21	6.6
9	.22	44	e34	e29	36	36	94	145	62	115	24	3.1
10	.16	35	e33	e29	33	37	86	172	76	232	38	e2.5
11	.14	47	e33	e33	26	23	80	230	96	42	29	e2.5
12	11	36	e35	e32	24	20	97	242	36	9.3	29	e5.0
13	17	21	e36	e32	37	25	131	278	90	3.8	23	e5.2
14	14	e21	e38	e32	28	44	165	335	134	.31	17	e5.4
15	15	e20	e39	e33	24	30	211	373	158	.13	19	e5.0
16	16	e23	e40	e31	32	31	282	349	86	1.9	16	e4.6
17	19	e27	e40	e32	30	22	237	417	51	.26	16	e3.8
18	20	33	e38	e31	43	44	239	413	42	.00	13	e3.1
19	23	41	e34	e31	38	48	219	410	50	.00	15	e2.1
20	29	40	e36	e31	24	36	218	373	58	.00	33	e2.0
21	29	21	e39	e28	24	46	181	370	53	.00	44	e2.5
22	32	19	e39	e28	25	55	230	487	40	.00	85	e5.0
23	35	19	e39	e28	31	47	149	403	27	.00	39	e3.5
24	43	27	e33	e30	27	49	163	377	21	.06	31	e2.6
25	31	19	e34	e30	37	43	201	435	13	39	34	e2.3
26	66	23	e35	e31	20	41	291	472	10	28	31	e2.1
27	47	24	e36	e33	30	66	399	360	9.5	4.8	29	e2.0
28	60	30	e35	e33	30	59	405	221	6.0	2.5	22	e2.4
29	59	30	e38	e33	---	62	391	95	4.2	11	18	e2.0
30	60	36	e38	e31	---	75	392	76	6.6	281	16	e2.4
31	43	---	e40	e28	---	47	---	53	---	249	9.8	---
TOTAL	695.98	914	1135	996	850	1172	5517	10200	1560.3	1123.46	1899.8	133.5
MEAN	22.5	30.5	36.6	32.1	30.4	37.8	184	329	52.0	36.2	61.3	4.45
MAX	66	53	40	43	43	75	405	887	158	281	272	12
MIN	.14	19	33	28	20	16	54	53	4.2	.00	9.8	2.0
AC-FT	1380	1810	2250	1980	1690	2320	10940	20230	3090	2230	3770	265

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1998, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	12.8	17.4	14.9	14.0	17.0	27.6	69.2	164	48.5	17.0	15.9	5.85			
MAX	71.8	75.9	44.3	32.1	42.7	62.1	184	779	135	66.5	63.4	31.1			
(WY)	1985	1985	1985	1998	1988	1988	1998	1984	1984	1995	1984	1984			
MIN	.000	2.15	4.40	4.86	5.14	6.55	18.9	10.4	5.89	.002	.000	.000			
(WY)	1995	1995	1996	1991	1990	1995	1996	1989	1990	1993	1993	1990			

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1984 - 1998
ANNUAL TOTAL	7893.56	26197.04	
ANNUAL MEAN	21.6	71.8	30.7
HIGHEST ANNUAL MEAN			71.8
LOWEST ANNUAL MEAN			7.84
HIGHEST DAILY MEAN	e80	May 5	887
LOWEST DAILY MEAN	a.00	Jul 4	b.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 10	.01
INSTANTANEOUS PEAK FLOW			d2060
INSTANTANEOUS PEAK STAGE			7.46
ANNUAL RUNOFF (AC-FT)	15660	51960	22210
10 PERCENT EXCEEDS	47	230	70
50 PERCENT EXCEEDS	17	33	14
90 PERCENT EXCEEDS	.41	3.8	.00

e-Estimated.

a-No flow many days.

b-Also occurred July 19-23.

c-No flow many days, most years.

d-From rating curve extended above 450 ft³/s.

06709600 CHATFIELD LAKE NEAR LITTLETON, CO

LOCATION.--Lat 39°33'26", long 105°03'27", in NW¹/₄SE¹/₄ sec.1, T.6 S., R.69 W., Jefferson County, Hydrologic Unit 10190002, near left end of dam on South Platte River at mouth of Plum Creek and 4.7 mi southwest of courthouse in Littleton.

DRAINAGE AREA.--3,018 mi².

PERIOD OF RECORD.--Contents, May 1975 to current year. Water-quality data available, October 1976 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 5,500.00 ft above sea level, (levels by U.S. Army, Corps of Engineers); gage readings have been reduced to elevations above sea level.

REMARKS.--Reservoir is formed by earthfill dam. Storage began May 29, 1975. Capacity, 235,000 acre-ft at elevation 5,500 ft, crest of spillway. No dead storage. Figures given represent total contents. Reservoir is for flood control and recreation.

COOPERATION.--Records provided by U.S. Army, Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 54,690 acre-ft, May 26, 1980, elevation, 5,447.58 ft; minimum since first filling in June 1979; 16,650 acre-ft, Dec. 18, 1995, elevation 5,423.63 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 28,120 acre-ft, June 7, elevation, 5,432.74 ft; minimum, 18,910 acre-ft, Sept 8, elevation, 5,425.67 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	5,432.00	27,040	-
Oct. 31	5,432.01	27,060	+20
Nov. 30	5,432.05	27,120	+60
Dec. 31	5,431.98	27,020	-100
CAL YR 1997	-	-	+3,130
Jan. 31	5,431.99	27,030	+10
Feb. 28	5,432.02	27,080	+50
Mar. 31	5,431.89	26,890	-190
Apr. 30	5,432.31	27,490	+600
May 31	5,431.99	27,030	-460
June 30	5,429.82	24,050	-2,980
July 31	5,432.20	27,340	+3,290
Aug. 31	5,427.10	20,600	-6,740
Sept. 30	5,425.91	19,180	-1,420
WTR YR 1998	-	-	-7,860

06710247 SOUTH PLATTE RIVER BELOW UNION AVENUE, AT ENGLEWOOD, CO

LOCATION.--Lat 39°37'57", long 105°00'52", in SW¼NW¼ sec.9, T.5 S., R.68 W., Arapahoe County, Hydrologic Unit 10190002, on right bank 100 ft downstream from Englewood Water Treatment Plant, 200 ft downstream from Union Avenue bridge in Englewood, and 7.7 mi downstream from Chatfield Dam.

DRAINAGE AREA.--3,043 mi².

PERIOD OF RECORD.--February 1996 to current year.

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Elevation of gage is 5,290 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Chatfield Reservoir (station 06709600) 7.7 mi upstream. Diversions for municipal use by City of Englewood 100 ft upstream from gage. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	98	152	65	73	71	234	846	571	145	796	112
2	63	91	142	67	70	67	246	814	464	222	1080	320
3	64	81	124	71	70	64	295	815	369	244	1230	506
4	60	84	104	70	69	69	261	819	496	279	1080	302
5	60	79	60	68	65	64	242	840	646	329	850	127
6	60	63	60	81	74	66	258	979	225	520	724	204
7	64	63	57	91	68	76	252	1590	490	599	531	188
8	95	59	54	84	72	74	267	1730	856	521	289	129
9	111	76	62	63	67	70	275	1510	868	474	106	30
10	51	69	65	63	69	70	255	1420	636	585	166	31
11	65	80	67	64	69	69	187	1420	320	827	388	31
12	94	85	66	66	65	57	182	1410	143	943	338	38
13	75	79	66	70	65	58	189	1340	292	e844	344	48
14	65	79	69	76	61	58	242	1310	489	e621	e567	52
15	70	75	67	84	57	58	315	1300	345	e418	e610	91
16	72	76	69	84	67	58	422	1310	179	648	e400	27
17	64	72	77	85	59	62	467	1290	301	490	e356	27
18	44	49	76	84	61	141	483	1070	273	176	e354	48
19	43	45	78	85	67	255	392	764	293	112	374	64
20	44	52	77	84	63	223	407	567	178	111	337	69
21	42	52	81	84	63	127	449	e376	181	e136	317	72
22	43	60	74	86	64	136	433	336	297	354	386	75
23	42	70	76	66	e64	121	423	370	341	686	461	78
24	80	75	77	69	e72	105	435	342	253	695	417	49
25	66	85	68	66	64	75	387	441	197	754	350	29
26	68	102	65	69	72	89	654	603	116	623	347	23
27	165	110	70	67	66	162	727	699	189	499	337	25
28	246	181	68	65	70	211	803	699	164	582	309	24
29	205	158	67	67	---	213	932	659	110	620	247	26
30	143	157	65	67	---	238	971	608	114	584	169	34
31	110	---	66	72	---	255	---	608	---	562	114	---
TOTAL	2538	2505	2369	2283	1866	3462	12085	28885	10396	15203	14374	2879
MEAN	81.9	83.5	76.4	73.6	66.6	112	403	932	347	490	464	96.0
MAX	246	181	152	91	74	255	971	1730	868	943	1230	506
MIN	42	45	54	63	57	57	182	336	110	111	106	23
AC-FT	5030	4970	4700	4530	3700	6870	23970	57290	20620	30160	28510	5710

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1998, BY WATER YEAR (WY)

MEAN	56.2	70.3	50.0	43.2	56.4	62.2	199	428	356	338	312	85.7
MAX	81.9	83.5	76.4	73.6	66.6	112	403	932	516	490	464	96.0
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1997	1998	1998	1998
MIN	30.5	57.0	23.5	12.7	46.1	27.1	89.8	158	205	213	107	80.5
(WY)	1997	1997	1997	1997	1997	1996	1997	1996	1996	1996	1996	1997

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1996 - 1998

ANNUAL TOTAL	58117.1	98845	
ANNUAL MEAN	159	271	210
HIGHEST ANNUAL MEAN			271
LOWEST ANNUAL MEAN			148
HIGHEST DAILY MEAN	824	Jun 15	1730
LOWEST DAILY MEAN	6.8	Jan 11	23
ANNUAL SEVEN-DAY MINIMUM	11	Jan 11	30
INSTANTANEOUS PEAK FLOW			1870
INSTANTANEOUS PEAK STAGE			13.73
ANNUAL RUNOFF (AC-FT)	115300	196100	151800
10 PERCENT EXCEEDS	480	699	515
50 PERCENT EXCEEDS	76	110	84
90 PERCENT EXCEEDS	16	59	16

e--Estimated.

06710385 BEAR CREEK ABOVE EVERGREEN, CO

LOCATION.--Lat 39°37'58", long 105°19'59", in SE¼NE¼ sec.9, T.5 S., R.71 W., Jefferson County, Hydrologic Unit 10190002, on right bank 0.6 mi upstream from Evergreen Lake dam at Evergreen.

DRAINAGE AREA.--104 mi².

PERIOD OF RECORD.--August 1984 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage 7,076 ft above sea level, from topographic map. Prior to May 1, 1986, at site 200 ft downstream at present datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by small diversions for irrigation. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e35	34	e27	e22	e18	e17	e35	177	200	84	112	77
2	e36	30	e27	e22	e17	e17	e38	178	200	80	112	72
3	e36	31	e26	e23	e18	e18	e40	192	203	78	110	64
4	e36	31	e23	e21	e18	e17	e44	218	197	84	143	59
5	e36	31	e22	e21	e17	e17	e46	270	187	94	153	56
6	e37	30	e23	e22	e18	e16	e47	281	173	81	128	54
7	38	31	e24	e20	e18	e18	e45	285	161	82	120	51
8	36	30	e25	e19	e18	e19	e47	275	156	76	117	50
9	35	30	e25	e18	e18	e18	e47	264	151	102	120	54
10	36	25	e24	e18	e17	e16	e46	264	146	115	126	48
11	36	e28	e23	e19	e16	e17	e50	268	151	103	137	46
12	38	e30	e23	e19	e17	e17	e54	262	137	84	121	56
13	32	e33	e24	e19	e18	e18	e56	258	134	76	112	63
14	36	e32	e25	e19	e19	e19	e58	270	128	72	109	50
15	36	e32	e26	e20	e18	e20	e58	249	122	68	109	47
16	34	e31	e25	e20	e18	e21	e59	233	118	65	104	45
17	33	e31	e26	e20	e17	e22	e64	229	117	61	103	47
18	33	e30	e26	e20	e19	e23	e64	233	109	58	113	43
19	32	e30	e25	e20	e18	e19	e62	241	104	55	122	41
20	32	e31	e23	e19	e17	e24	e66	254	106	54	104	40
21	33	e30	e22	e18	e17	e25	e74	265	108	52	100	41
22	32	e28	e23	e20	e17	e30	e99	268	107	61	95	44
23	31	e27	e23	e21	e18	e35	e122	266	103	104	88	39
24	32	e28	e23	e19	e18	e44	e132	237	98	86	91	42
25	e33	e27	e24	e19	e19	e50	e140	220	91	100	90	37
26	e34	e27	e23	e19	e15	e47	e170	209	88	151	85	35
27	e32	e28	e21	e19	e16	e45	e162	207	85	100	79	34
28	e41	e29	e23	e19	e16	e43	173	208	84	100	75	34
29	e38	e26	e23	e18	---	e41	172	202	83	106	72	33
30	35	e26	e23	e18	---	e38	173	203	82	101	69	35
31	37	---	e22	e18	---	e37	---	198	---	109	66	---
TOTAL	1081	887	742	609	490	808	2443	7384	3929	2642	3285	1437
MEAN	34.9	29.6	23.9	19.6	17.5	26.1	81.4	238	131	85.2	106	47.9
MAX	41	34	27	23	19	50	173	285	203	151	153	77
MIN	31	25	21	18	15	16	35	177	82	52	66	33
AC-FT	2140	1760	1470	1210	972	1600	4850	14650	7790	5240	6520	2850

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1998, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	29.4	24.4	17.2	14.1	13.0	16.5	38.7	99.5	109	62.1	51.5	34.8		
MAX	85.1	56.2	32.8	19.6	18.2	26.7	89.7	238	280	134	106	54.2		
(WY)	1985	1985	1985	1988	1996	1992	1987	1998	1995	1995	1998	1997		
MIN	16.0	9.65	8.67	9.00	8.68	9.57	13.9	44.1	46.7	27.5	20.1	17.2		
(WY)	1995	1993	1995	1995	1994	1995	1991	1993	1994	1994	1994	1994		

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1985 - 1998

ANNUAL TOTAL	18810.2	25737	
ANNUAL MEAN	51.5	70.5	42.6
HIGHEST ANNUAL MEAN			70.5
LOWEST ANNUAL MEAN			22.5
HIGHEST DAILY MEAN	295	Jun 7	421
LOWEST DAILY MEAN	e8.0	Jan 12	7.8
ANNUAL SEVEN-DAY MINIMUM	9.6	Feb 7	8.0
INSTANTANEOUS PEAK FLOW			573
INSTANTANEOUS PEAK STAGE		a3.98	5.39
ANNUAL RUNOFF (AC-FT)	37310	51050	30880
10 PERCENT EXCEEDS	102	175	92
50 PERCENT EXCEEDS	35	38	26
90 PERCENT EXCEEDS	11	18	11

e-Estimated.

a-Maximum gage height, 4.15 ft, Oct 26, backwater from ice.

06710500 BEAR CREEK AT MORRISON, CO

LOCATION.--Lat 39°39'11", long 105°11'43", in SE¹/₄SW¹/₄ sec.35, T.4 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank at Morrison, 180 ft upstream from bridge on State Highway 8, and 0.2 mi upstream from Mount Vernon Creek.

DRAINAGE AREA.--164 mi².

PERIOD OF RECORD.--September 1887 to September 1891, May 1895 to December 1901, February 1902 (gage heights only), October 1919 to current year. No winter records for water years 1888-90, 1896, 1898, 1900. Monthly discharge only for some periods, published in WSP 1310. Published as "near Morrison" 1900-1902, as "at Starbuck" 1919-28, and as "at Idledale" 1929-34. Water-quality data available, October 1976 to September 1981.

REVISED RECORDS.--WSP 976: 1942. WSP 1310: 1888, 1890-91, 1898, 1935(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,780.43 ft above sea level. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1934. Oct. 1, 1934 to Oct. 10, 1961, water-stage recorder at site 80 ft downstream at present datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Small diversions for irrigation of about 1,000 acres upstream from station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	45	29	23	20	e18	67	327	188	91	119	76
2	37	36	29	24	e18	e18	70	317	187	85	117	74
3	36	37	22	24	20	e18	73	334	207	79	109	64
4	35	39	21	22	20	e18	93	353	219	82	142	59
5	33	37	e22	e20	21	18	106	411	218	92	152	54
6	33	37	e23	e23	e19	e15	103	406	194	78	123	53
7	33	37	e25	e20	20	18	93	455	177	81	118	52
8	33	36	e28	e28	20	e20	98	426	175	79	114	51
9	32	36	31	e31	20	e17	93	374	169	101	113	53
10	33	29	26	e30	e16	e16	94	348	160	114	115	50
11	33	31	22	e28	e16	e18	98	384	175	101	128	49
12	37	28	e22	e27	e17	e20	107	353	155	84	121	59
13	33	33	e25	25	e19	e24	106	322	146	74	113	74
14	36	28	e27	22	21	27	107	345	135	71	110	56
15	36	14	e30	21	20	27	109	329	136	66	112	51
16	34	e14	29	22	20	29	100	300	135	62	107	48
17	33	e40	28	22	18	29	99	279	133	56	104	49
18	32	e38	26	23	22	27	108	278	122	51	108	46
19	31	36	26	22	e18	19	106	284	116	48	122	44
20	33	35	e23	21	e16	30	120	300	112	47	106	42
21	35	31	e21	e17	e19	32	133	314	113	44	102	45
22	33	27	22	e20	e20	37	180	316	113	53	97	50
23	32	25	e22	e24	21	53	214	320	110	99	88	44
24	37	28	e23	20	22	75	256	268	104	80	90	47
25	26	27	e22	21	23	88	295	238	99	91	96	43
26	e17	28	e20	21	e11	84	341	215	97	138	87	39
27	e43	30	e20	20	e16	91	311	206	90	90	79	38
28	50	32	e22	21	e17	87	359	201	88	85	73	36
29	45	26	e23	20	---	80	349	200	87	92	68	37
30	44	26	23	21	---	73	327	197	89	97	66	38
31	49	---	22	21	---	70	---	194	---	117	64	---
TOTAL	1091	946	754	704	530	1196	4715	9594	4249	2528	3263	1521
MEAN	35.2	31.5	24.3	22.7	18.9	38.6	157	309	142	81.5	105	50.7
MAX	50	45	31	31	23	91	359	455	219	138	152	76
MIN	17	14	20	17	11	15	67	194	87	44	64	36
AC-FT	2160	1880	1500	1400	1050	2370	9350	19030	8430	5010	6470	3020

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1900 - 1998, BY WATER YEAR (WY)

	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	31.2	23.7	17.1	13.9	14.4	20.4	54.1	149	139	72.9	64.4	44.0																																																																																							
MAX	115	86.7	57.0	34.0	36.0	48.3	296	525	551	249	307	371																																																																																							
(WY)	1985	1924	1924	1924	1924	1960	1942	1973	1949	1949	1923	1938																																																																																							
MIN	9.52	9.59	7.31	5.19	4.00	4.00	13.1	12.4	11.5	5.72	6.58	5.41																																																																																							
(WY)	1935	1957	1940	1950	1933	1933	1982	1963	1954	1963	1978	1978																																																																																							

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1900 - 1998	
ANNUAL TOTAL	22291		31091			
ANNUAL MEAN	61.1		85.2		53.2	
HIGHEST ANNUAL MEAN					125	
LOWEST ANNUAL MEAN					14.6	
HIGHEST DAILY MEAN	350		Jun 11		1410	
LOWEST DAILY MEAN	e,a11		Feb 23		b.80	
ANNUAL SEVEN-DAY MINIMUM	11		Feb 23		3.0	
INSTANTANEOUS PEAK FLOW			833		e8600	
INSTANTANEOUS PEAK STAGE			6.40		May 7	
ANNUAL RUNOFF (AC-FT)	44210		61670		38530	
10 PERCENT EXCEEDS	131		210		120	
50 PERCENT EXCEEDS	37		46		26	
90 PERCENT EXCEEDS	12		20		11	

e-Estimated.

a-Also occurred Feb 23 to Mar 7.

b-Result of freezeup.

06710605 BEAR CREEK ABOVE BEAR CREEK LAKE NEAR MORRISON, CO

LOCATION.--Lat 39°39'08", long 105°10'23", in NW¼NE¼ sec.1, T.5 S. R.70 W., Jefferson County, Hydrologic Unit 10190002, on right bank, 0.9 mi downstream from Strain Gulch, 1.0 mi east of Morrison, and 1.1 mi downstream from Mt. Vernon Creek.

DRAINAGE AREA.--176 mi².

PERIOD OF RECORD.--May 1986 to current year.

GAGE.--Water-stage recorder. Elevation of gage 5,645 ft above sea level, from topographic map. Prior to Apr. 21, 1989, at datum 3.37 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by diversions to Harriman Canal, and Ward Canal, 0.7 mi upstream from gage. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	61	41	33	25	24	64	381	203	75	121	e60
2	39	49	41	34	24	24	69	349	201	72	117	e56
3	39	49	38	35	26	26	73	364	207	66	103	e52
4	38	52	36	33	27	25	94	439	210	67	155	e48
5	e38	49	28	31	27	24	105	616	209	80	167	e46
6	e37	49	e29	34	26	22	107	593	195	70	127	e44
7	e37	49	e30	29	27	27	95	643	179	72	117	e41
8	e35	47	e33	41	26	28	103	572	169	67	114	e39
9	e35	49	e32	44	26	24	98	531	164	85	117	e40
10	e36	40	e31	43	23	22	97	484	151	104	123	e37
11	e36	42	e29	41	20	24	104	475	157	90	129	e35
12	e32	41	e29	41	22	26	118	467	141	72	103	46
13	e32	44	e32	38	26	30	120	433	134	64	89	62
14	e33	50	e34	31	28	33	126	452	128	59	82	45
15	e30	50	e37	30	26	33	132	418	124	56	91	40
16	e30	49	e36	31	26	37	133	366	117	54	93	38
17	e30	50	e37	31	25	37	132	339	116	53	94	38
18	27	47	e37	31	28	39	152	330	108	50	95	34
19	26	44	36	31	25	26	144	330	101	48	110	32
20	26	48	34	29	23	43	166	343	100	47	93	30
21	27	42	33	24	26	45	184	357	101	46	91	34
22	26	38	34	29	26	51	252	366	102	50	86	e35
23	25	35	35	36	27	72	293	376	96	90	79	e32
24	31	39	33	29	28	95	339	279	90	71	79	e33
25	44	37	35	28	30	107	345	253	84	86	85	e32
26	41	38	34	28	18	97	442	223	81	161	76	e31
27	79	41	31	28	20	93	409	217	77	92	70	e31
28	71	44	34	28	22	91	433	216	76	83	66	e31
29	62	37	34	26	---	82	408	209	73	94	62	e30
30	59	37	34	27	---	76	383	211	73	97	e58	e31
31	64	---	32	27	---	73	---	208	---	117	e56	---
TOTAL	1204	1347	1049	1001	703	1456	5720	11840	3967	2338	3048	1183
MEAN	38.8	44.9	33.8	32.3	25.1	47.0	191	382	132	75.4	98.3	39.4
MAX	79	61	41	44	30	107	442	643	210	161	167	62
MIN	25	35	28	24	18	22	64	208	73	46	56	30
AC-FT	2390	2670	2080	1990	1390	2890	11350	23480	7870	4640	6050	2350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1998, BY WATER YEAR (WY)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	15.4	17.4	18.6	16.3	15.6	21.4	56.3	132	123	46.9	34.1	21.2	
MAX	38.8	44.9	33.8	32.3	25.1	47.0	191	382	512	216	98.3	58.7	
(WY)	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988
MIN	4.34	.38	9.50	1.69	.23	1.26	2.83	6.95	14.9	5.23	2.80	4.17	
(WY)	1990	1990	1995	1995	1995	1995	1989	1989	1989	1989	1989	1989	1989

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1986 - 1998

ANNUAL TOTAL	21796.17	34856	
ANNUAL MEAN	59.7	95.5	44.2
HIGHEST ANNUAL MEAN			96.1
LOWEST ANNUAL MEAN			10.4
HIGHEST DAILY MEAN	437	Jun 7	684
LOWEST DAILY MEAN	.87	Apr 2	18
ANNUAL SEVEN-DAY MINIMUM	2.4	Mar 28	23
INSTANTANEOUS PEAK FLOW			834
INSTANTANEOUS PEAK STAGE		6.21	May 7
ANNUAL RUNOFF (AC-FT)	43230	69140	31990
10 PERCENT EXCEEDS	129	216	94
50 PERCENT EXCEEDS	40	48	20
90 PERCENT EXCEEDS	11	26	3.9

e-Estimated.

06710995 TURKEY CREEK AT MOUTH OF CANYON NEAR MORRISON, CO

LOCATION.--Lat 39°37'13", long 105°11'41", in NE¹/₄NW¹/₄ sec.14, T.5 S., R.70 W. , Jefferson County, Hydrologic Unit 10190002, on left bank 0.45 mi above county road 48, and 2.7 mi south of Morrison.

DRAINAGE AREA.--47.4 mi².

PERIOD OF RECORD.--April to September 1998.

GAGE.--Water-stage recorder. Elevation of gage is 6,040 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Natural flow of stream affected by several diversions for irrigation, upstream of station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period April to September, 211 ft³/s, Apr. 22, at 1845, gage height 5.77 ft; minimum daily, 0.01 ft³/s (estimated), July 21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	70	128	26	e2.0	6.4	3.0
2	---	---	---	---	---	---	52	123	23	e1.8	5.9	3.0
3	---	---	---	---	---	---	60	130	22	e1.8	5.3	1.8
4	---	---	---	---	---	---	76	114	23	e1.5	10	1.2
5	---	---	---	---	---	---	80	124	26	e1.3	15	.88
6	---	---	---	---	---	---	76	115	23	e1.1	9.0	.62
7	---	---	---	---	---	---	71	72	19	e1.0	6.7	.58
8	---	---	---	---	---	---	73	124	20	e1.5	5.6	.56
9	---	---	---	---	---	---	69	127	19	e.90	6.5	.52
10	---	---	---	---	---	---	66	109	16	e1.5	3.8	.43
11	---	---	---	---	---	---	71	107	15	e1.0	4.2	.38
12	---	---	---	---	---	---	81	101	15	e.85	5.0	.41
13	---	---	---	---	---	---	81	94	14	e.76	4.3	.66
14	---	---	---	---	---	---	81	90	14	e.70	3.9	.29
15	---	---	---	---	---	---	86	86	14	e.60	5.2	.06
16	---	---	---	---	---	---	86	86	e12	e.54	4.0	.05
17	---	---	---	---	---	---	89	77	e11	.48	4.7	.05
18	---	---	---	---	---	---	93	72	e9.0	.36	5.9	.04
19	---	---	---	---	---	---	96	69	e8.0	e.18	3.9	.04
20	---	---	---	---	---	---	108	65	e7.0	e.04	3.6	.05
21	---	---	---	---	---	---	127	56	e7.0	e.01	4.6	.07
22	---	---	---	---	---	---	155	54	e6.0	e.03	3.8	.07
23	---	---	---	---	---	---	159	62	e5.4	e.06	2.9	.06
24	---	---	---	---	---	---	162	51	e4.8	e.11	2.8	.06
25	---	---	---	---	---	---	152	50	e4.2	2.7	3.6	.05
26	---	---	---	---	---	---	150	45	e3.7	4.5	3.3	.05
27	---	---	---	---	---	---	152	40	e3.3	2.5	2.5	.05
28	---	---	---	---	---	---	149	36	e2.9	1.8	2.0	.05
29	---	---	---	---	---	---	139	34	e2.6	2.5	1.7	.05
30	---	---	---	---	---	---	130	26	e2.3	8.2	1.3	.06
31	---	---	---	---	---	---	---	26	---	13	1.1	---
TOTAL	---	---	---	---	---	---	3040	2493	378.2	55.32	148.5	15.19
MEAN	---	---	---	---	---	---	101	80.4	12.6	1.78	4.79	.51
MAX	---	---	---	---	---	---	162	130	26	13	15	3.0
MIN	---	---	---	---	---	---	52	26	2.3	.01	1.1	.04
AC-FT	---	---	---	---	---	---	6030	4940	750	110	295	30

e-Estimated.

06711500 BEAR CREEK AT MOUTH, AT SHERIDAN, CO

LOCATION.--Lat 39°39'08", long 105°01'57", in NW¹/₄NW¹/₄ sec.5, T.5 S., R.68 W., Arapahoe County, Hydrologic Unit 10190002, on left bank just downstream from bridge on road to Fort Logan Mental Health Center, at Highway Department maintenance building at northwest city limits of Sheridan, 1.3 mi upstream from mouth, and 2.1 mi west of city hall in Englewood.

DRAINAGE AREA.--260 mi².

PERIOD OF RECORD.--April to November 1914, March 1927 to current year. Monthly discharge only prior to October 1933, published in WSP 1310. Published as "at Sheridan Junction" 1934-41.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,295 ft above sea level, from topographic map. See WSP 1710 or 1730 for history of changes prior to Oct. 9, 1953. Oct. 9, 1953 to Aug. 6, 1969, water-stage recorder at present site at datum 1.0 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Bear Creek Lake since July 1979. Storage and diversions upstream from station for irrigation of about 12,000 acres.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	75	49	33	33	22	135	570	260	83	163	103
2	40	63	52	33	31	22	153	459	252	79	165	88
3	40	55	52	33	31	27	153	463	256	73	145	72
4	40	58	46	33	34	28	178	510	260	72	178	61
5	37	59	45	31	35	27	202	572	268	80	212	55
6	36	57	41	35	35	26	205	614	252	80	171	52
7	34	56	41	39	34	29	187	659	227	82	148	50
8	33	56	49	38	35	25	193	659	209	77	137	49
9	31	64	51	38	35	23	177	684	209	100	131	47
10	31	60	49	40	34	24	165	657	188	123	147	48
11	32	51	45	35	30	24	175	671	188	115	148	45
12	47	53	43	34	29	24	196	667	175	92	129	44
13	42	53	39	35	31	29	202	643	163	78	107	63
14	36	55	41	35	36	32	196	629	170	68	97	57
15	37	45	46	33	36	34	225	613	177	63	100	50
16	35	39	44	32	37	35	224	528	153	60	108	48
17	36	38	43	31	35	38	228	431	142	57	114	46
18	32	53	43	31	36	56	296	411	133	50	116	44
19	31	52	41	30	35	50	239	410	120	47	130	39
20	30	54	41	28	32	46	273	412	116	46	133	36
21	31	53	40	26	33	50	256	412	123	45	109	42
22	32	50	39	28	36	52	334	416	124	71	104	55
23	33	45	39	30	36	62	445	484	113	99	94	49
24	45	46	37	32	35	93	517	397	103	104	89	44
25	47	46	36	33	35	137	514	368	95	176	106	42
26	42	47	35	31	30	156	612	328	89	191	107	36
27	70	51	37	31	22	165	549	307	84	134	120	35
28	83	65	37	32	22	157	540	291	81	109	117	35
29	77	53	35	32	---	152	567	282	79	113	111	32
30	75	48	34	32	---	144	590	271	77	164	105	34
31	75	---	34	34	---	121	---	262	---	153	101	---
TOTAL	1332	1600	1304	1018	923	1910	8926	15080	4886	2884	3942	1501
MEAN	43.0	53.3	42.1	32.8	33.0	61.6	298	486	163	93.0	127	50.0
MAX	83	75	52	40	37	165	612	684	268	191	212	103
MIN	30	38	34	26	22	22	135	262	77	45	89	32
AC-FT	2640	3170	2590	2020	1830	3790	17700	29910	9690	5720	7820	2980

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1998, BY WATER YEAR (WY)

	MEAN	23.5	23.6	21.7	19.8	19.3	22.6	54.6	154	106	37.6	38.4	25.1
MAX (WY)	1985	1985	1985	1970	1942	1960	1942	1973	1949	1983	1984	1938	
MIN (WY)	1.52	3.53	8.21	3.85	5.09	5.35	3.33	1.16	1.67	1.77	3.05	1.82	1956
	1955	1955	1951	1945	1945	1935	1935	1963	1966	1963	1954	1956	

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1927 - 1998

ANNUAL TOTAL		27157.1		45306									
ANNUAL MEAN		74.4		124						46.0			
HIGHEST ANNUAL MEAN										157			1983
LOWEST ANNUAL MEAN										6.53			1954
HIGHEST DAILY MEAN				569	Jun 8		684	May 9		4020		May 7	1969
LOWEST DAILY MEAN				a8.1	Mar 29		b22	Feb 27		.00		Jul 13	1954
ANNUAL SEVEN-DAY MINIMUM				8.9	Mar 28		24	Feb 27		.33		May 23	1963
INSTANTANEOUS PEAK FLOW							1320	Jul 25		c8150		May 7	1969
INSTANTANEOUS PEAK STAGE							5.73	Jul 25		10.50		May 7	1969
ANNUAL RUNOFF (AC-FT)			53870				89860			33300			
10 PERCENT EXCEEDS			158				300			98			
50 PERCENT EXCEEDS			46				55			17			
90 PERCENT EXCEEDS			20				32			6.0			

a-Also occurred Apr 1.

b-Also occurred Feb 28 to Mar 2.

c-Present datum, from floodmarks, from rating curve extended above 3400 ft³/s.

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO

LOCATION.--Lat 39°39'54", long 105°00'13", in NW¼NE¼ sec.33, T.4 S., R.68 W., Arapahoe County, Hydrologic Unit 10190002, on right bank, 0.3 mi downstream from Dartmouth Ave bridge at Englewood, and 1.4 mi downstream from Bear Creek.

DRAINAGE AREA.--3,387 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1983 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,250 ft above sea level, from topographic map.

REMARKS.--Records poor. Natural flow of stream affected by transmountain diversions, storage and flood control reservoirs, power developments, diversions for irrigation and municipal use, and return flow from irrigated areas. Flow regulated by Chatfield Dam since May 29, 1975 (station 06709600), and Bear Creek Dam since July 1979.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	204	208	122	125	112	386	1430	799	222	884	e350
2	118	178	209	127	120	111	435	1340	647	297	1120	e550
3	119	161	195	130	120	111	508	1330	536	316	1240	e700
4	115	167	173	129	120	115	468	1390	646	351	1190	e400
5	112	165	119	124	117	111	461	1550	850	404	1000	194
6	113	148	112	141	126	111	491	1600	429	541	835	273
7	115	145	117	147	118	129	475	2320	614	637	633	259
8	145	141	121	137	123	122	483	2250	954	572	419	204
9	172	171	133	115	117	114	479	2080	1000	560	255	101
10	99	159	137	126	118	114	430	1870	777	735	300	95
11	113	157	133	114	112	114	379	1880	496	956	500	92
12	210	165	131	121	107	99	398	1880	329	1040	453	102
13	158	159	121	123	108	102	406	1770	436	826	418	144
14	122	158	133	128	109	106	450	1730	616	570	597	126
15	128	141	138	134	105	104	575	1710	529	366	687	166
16	126	132	138	135	124	111	673	1650	314	607	570	95
17	119	136	142	135	112	122	699	1550	425	501	561	89
18	91	122	142	137	111	237	909	1360	400	236	563	105
19	88	120	139	137	119	353	677	1070	404	177	692	119
20	91	125	140	136	113	306	686	899	318	176	625	127
21	88	123	138	131	112	202	718	767	313	189	597	133
22	88	125	134	129	115	206	774	760	382	403	737	153
23	89	135	136	112	116	203	860	791	396	807	802	149
24	166	138	137	115	123	215	952	689	323	727	e600	114
25	142	152	128	116	116	231	948	773	284	1230	e590	93
26	154	164	121	117	119	260	1480	910	200	1020	e570	80
27	304	179	126	114	109	333	1320	938	277	611	e530	80
28	406	290	122	114	112	382	1380	912	257	617	e450	79
29	334	231	126	116	---	379	1530	878	201	662	e350	79
30	258	214	126	114	---	403	1610	827	199	737	e250	84
31	225	---	122	125	---	391	---	823	---	705	e200	---
TOTAL	4728	4805	4297	3901	3246	6009	22040	41727	14351	17798	19218	5335
MEAN	153	160	139	126	116	194	735	1346	478	574	620	178
MAX	406	290	209	147	126	403	1610	2320	1000	1230	1240	700
MIN	88	120	112	112	105	99	379	689	199	176	200	79
AC-FT	9380	9530	8520	7740	6440	11920	43720	82770	28470	35300	38120	10580

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1998, BY WATER YEAR (WY)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	159	173	100	82.6	88.1	138	397	898	763	576	437	166				
MAX	1050	733	268	216	166	261	1074	2576	2479	2337	1574	724				
(WY)	1985	1985	1985	1985	1985	1983	1984	1987	1995	1995	1984	1984				
MIN	44.8	39.3	48.9	45.4	35.5	51.7	123	209	243	79.0	98.8	43.7				
(WY)	1993	1990	1995	1991	1991	1991	1991	1989	1990	1994	1994	1992				

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1983 - 1998

ANNUAL TOTAL	98365	147455														
ANNUAL MEAN	269	404														
HIGHEST ANNUAL MEAN										305						
LOWEST ANNUAL MEAN										692						1984
HIGHEST DAILY MEAN	1280	Jun 15	2320	May 7	4010	Jun 28	1995			124						1993
LOWEST DAILY MEAN	a44	Jan 25	b79	Sep 28	c20	Sep 13	1994			24						
ANNUAL SEVEN-DAY MINIMUM	49	Feb 4	87	Sep 24	24	Sep 13	1994			d9710						
INSTANTANEOUS PEAK FLOW			5550	Jul 25	7.21	Jun 4	1995			5.88						
INSTANTANEOUS PEAK STAGE				Jul 25		Jun 4	1995									
ANNUAL RUNOFF (AC-FT)	195100	292500	221000													
10 PERCENT EXCEEDS	685	942	796													
50 PERCENT EXCEEDS	141	199	143													
90 PERCENT EXCEEDS	61	112	50													

e-Estimated.

a-Also occurred Feb 9.

b-Also occurred Sep 29.

c-Also occurred Sep 18, 1994.

d-From rating curve extended above 3800 ft³/s.

**06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--March 1985 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1985 to current year.

pH: March 1985 to current year.

WATER TEMPERATURE: March 1985 to current year.

DISSOLVED OXYGEN: March 1985 to current year.

INSTRUMENTATION.--Water-quality monitor since March 1985.

REMARKS.--Water temperature and specific conductance records are fair. pH record is good. Dissolved oxygen record is poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1140 microsiemens, Feb. 7 and Apr. 11, 1997; minimum, 213 microsiemens, June 7, 1997.

pH: Maximum, 10.4 units, Aug. 27, 1997; minimum, 6.4 units, Oct. 18, 1989.

WATER TEMPERATURE: Maximum, 29.0°C, Aug. 17, 1986, July 30, 1987; minimum, 0.0°C, freezing point on many days during winter months.

DISSOLVED OXYGEN: Maximum, 19.0 mg/L, Feb. 7 and 9, 1995; minimum, 3.4 mg/L, Jul. 31, 1987.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum 993 microsiemens, Nov. 12; minimum, 224 microsiemens June 6.

pH: Maximum 9.5 units Mar. 15; minimum, 6.5 units, Oct. 8, 11-12.

WATER TEMPERATURE: Maximum, 26.6°C, July 20; minimum, 0.0°C, several days in winter.

DISSOLVED OXYGEN: Maximum 15.6 mg/L, Feb. 20; minimum, 5.7 mg/L, Oct. 3.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	583	534	550	586	511	536	528	498	515	687	600	641
2	566	529	549	584	553	566	623	506	540	677	592	636
3	578	524	542	598	575	583	888	542	687	647	581	620
4	572	521	549	599	537	577	774	569	635	632	573	602
5	664	520	543	582	546	566	728	628	668	640	574	605
6	664	472	536	591	568	579	724	636	675	906	588	713
7	705	530	565	600	560	578	689	625	658	779	607	667
8	558	480	514	590	553	571	671	615	637	659	568	604
9	603	424	466	652	553	592	763	626	687	673	591	623
10	721	501	575	801	572	664	745	606	668	666	597	632
11	611	512	549	699	585	628	794	613	686	681	607	642
12	662	399	485	993	553	736	801	503	662	693	611	644
13	521	461	498	866	581	665	810	620	722	648	590	614
14	636	515	546	723	577	644	804	677	727	663	584	621
15	633	507	550	684	612	644	771	663	706	644	579	604
16	629	531	559	667	609	631	765	603	668	660	571	613
17	581	541	560	648	584	620	641	570	600	637	576	602
18	670	581	645	651	623	636	646	571	609	662	557	612
19	683	650	670	656	637	647	640	563	596	639	491	580
20	711	658	692	657	619	639	630	575	596	611	519	563
21	704	687	697	637	615	629	624	568	592	611	539	574
22	703	688	698	640	568	616	641	563	593	630	532	572
23	707	482	695	596	570	584	621	567	589	657	577	611
24	722	472	601	604	551	581	631	558	596	646	573	609
25	632	501	547	563	533	550	802	587	654	653	575	615
26	861	632	704	559	524	544	765	624	678	632	567	599
27	742	478	666	646	511	539	751	619	670	647	561	604
28	534	358	465	680	546	613	712	614	659	652	571	610
29	582	448	488	563	489	528	730	628	670	660	565	610
30	612	487	519	573	475	517	734	607	666	639	553	597
31	616	515	566	---	---	---	659	602	629	669	597	628
MONTH	861	358	574	993	475	600	888	498	643	906	491	615

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.4	7.3	8.0	8.6	7.9	8.2	7.7	7.4	7.5	8.2	7.6	7.9
2	8.6	7.4	8.0	8.8	8.0	8.3	7.4	7.3	7.4	8.2	7.5	7.8
3	8.5	7.6	8.0	8.2	7.0	7.8	7.4	7.2	7.3	7.9	7.5	7.7
4	8.7	7.6	8.0	8.1	7.0	7.4	7.5	7.3	7.4	8.2	7.5	7.8
5	8.6	7.5	8.0	8.3	7.0	7.6	7.4	7.1	7.3	8.1	7.5	7.8
6	8.2	7.3	7.7	8.5	7.1	7.7	7.2	6.9	7.0	8.0	7.5	7.7
7	8.0	6.8	7.4	8.6	7.3	7.8	7.1	6.9	7.0	8.1	7.5	7.8
8	8.1	6.5	7.2	8.7	7.4	8.0	7.9	7.0	7.3	8.3	7.5	7.8
9	7.8	6.6	7.0	8.5	7.0	7.8	8.0	7.3	7.7	8.1	7.5	7.8
10	7.7	6.6	7.0	8.8	7.5	8.1	8.2	7.7	7.9	8.1	7.5	7.8
11	7.8	6.5	7.1	8.6	7.8	8.1	8.1	7.7	7.9	8.2	7.6	7.9
12	7.5	6.5	6.9	8.8	7.7	8.1	8.2	7.4	7.9	8.3	7.6	7.9
13	8.0	6.7	7.3	8.9	7.6	8.2	8.3	7.6	8.0	8.4	7.5	7.9
14	8.1	6.9	7.4	8.7	7.7	8.1	8.4	7.8	8.1	8.6	7.6	8.1
15	8.2	7.0	7.5	8.7	7.6	8.1	8.2	7.4	7.9	8.8	7.6	8.2
16	8.3	7.0	7.6	8.5	7.5	8.0	7.9	7.3	7.6	8.8	7.5	8.2
17	8.4	7.3	7.8	8.6	7.5	8.0	8.2	7.4	7.7	8.9	7.8	8.3
18	8.3	7.4	7.9	8.5	7.3	7.9	8.2	7.3	7.7	9.0	7.8	8.3
19	8.7	7.6	8.0	8.3	7.4	7.8	7.8	7.4	7.6	8.9	7.8	8.4
20	8.6	7.8	8.0	8.5	7.4	7.9	8.2	7.4	7.7	8.7	7.8	8.3
21	8.2	7.5	7.9	8.5	7.5	7.9	8.2	7.5	7.8	8.5	7.5	8.0
22	8.2	7.5	7.9	8.7	7.5	8.1	8.1	7.5	7.7	8.5	7.5	7.9
23	8.1	7.6	7.9	8.3	7.5	7.8	8.0	7.5	7.7	8.4	7.5	7.9
24	7.8	7.4	7.6	8.4	7.5	7.8	8.1	7.5	7.8	8.3	7.5	7.9
25	7.8	7.5	7.6	8.3	7.5	7.7	8.0	7.5	7.8	8.4	7.5	8.0
26	7.7	7.3	7.6	8.0	7.5	7.6	8.0	7.6	7.8	8.5	7.5	8.0
27	8.4	7.4	7.7	7.9	7.4	7.6	8.2	7.5	7.8	8.6	7.5	8.0
28	8.5	8.1	8.3	7.5	7.2	7.4	8.0	7.4	7.8	8.5	7.5	8.0
29	8.5	8.1	8.2	7.5	7.2	7.3	8.0	7.6	7.8	8.4	7.5	7.9
30	8.5	7.9	8.2	7.7	7.4	7.5	8.1	7.5	7.7	8.7	7.5	8.1
31	8.5	8.1	8.2	---	---	---	8.2	7.5	7.8	8.4	7.5	7.9
MONTH	8.7	6.5	7.7	8.9	7.0	7.9	8.4	6.9	7.7	9.0	7.5	8.0

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.7	7.5	8.0	9.0	8.0	8.5	9.3	8.0	8.5	8.2	8.0	8.1
2	8.5	7.5	8.0	8.9	8.1	8.5	8.5	8.0	8.2	8.4	8.0	8.2
3	---	7.5	---	9.1	7.9	8.5	9.0	8.0	8.3	8.4	8.0	8.2
4	8.7	7.5	8.1	9.2	7.9	8.6	9.1	8.0	8.4	8.4	8.0	8.1
5	8.3	7.5	7.9	9.2	7.9	8.6	9.1	7.9	8.4	8.3	8.0	8.1
6	8.7	7.6	8.1	9.2	8.0	8.6	9.0	7.9	8.3	8.4	8.0	8.1
7	8.5	7.6	8.0	8.8	8.0	8.5	8.9	7.8	8.3	8.2	8.0	8.0
8	8.7	7.6	8.1	9.0	8.1	8.6	---	---	---	8.1	8.0	8.0
9	8.5	7.5	8.1	9.1	8.1	8.6	9.1	8.0	8.4	8.2	8.0	8.1
10	8.8	7.6	8.2	---	8.1	---	9.0	7.9	8.4	8.2	8.1	8.1
11	8.4	7.6	8.0	9.3	8.3	8.8	9.0	7.8	8.3	8.2	8.1	8.1
12	8.5	7.7	8.1	9.2	8.2	8.7	9.1	7.8	8.3	8.2	8.0	8.1
13	8.6	7.7	8.1	9.4	8.3	8.8	8.9	7.7	8.2	8.3	8.0	8.1
14	8.6	7.6	8.1	9.4	8.2	8.9	8.9	7.8	8.2	8.2	8.1	8.1
15	8.5	7.6	8.1	9.5	8.3	8.9	8.6	7.9	8.2	8.3	8.1	8.2
16	8.4	7.6	8.0	9.2	8.3	8.8	8.3	7.9	8.1	8.3	8.1	8.2
17	8.5	7.6	8.0	9.1	7.8	8.5	8.6	8.0	8.2	8.4	8.1	8.2
18	8.5	7.6	8.0	8.6	7.8	8.0	8.3	8.0	8.1	8.3	8.1	8.2
19	8.6	7.7	8.1	8.6	8.0	8.2	8.3	7.8	8.0	8.3	7.7	8.0
20	8.5	7.7	8.1	9.1	8.0	8.5	8.6	7.6	8.1	8.0	7.7	7.8
21	8.5	7.7	8.1	9.2	8.0	8.5	8.7	7.7	8.3	8.1	7.7	7.9
22	8.9	7.7	8.2	9.3	8.0	8.6	8.5	8.0	8.3	8.1	7.7	7.9
23	---	7.7	---	9.3	8.0	8.6	8.4	7.9	8.1	8.3	7.7	7.9
24	9.1	---	---	9.3	8.0	8.6	8.5	7.8	8.2	8.2	7.7	7.9
25	9.1	7.8	8.5	9.1	8.0	8.6	8.5	7.9	8.2	8.4	7.7	7.9
26	9.2	7.9	8.6	9.1	8.0	8.6	8.3	7.9	8.2	8.4	7.7	7.9
27	9.1	8.0	8.6	9.2	8.0	8.5	8.3	8.0	8.1	8.4	7.7	8.0
28	9.1	8.0	8.6	9.2	8.0	8.5	8.2	8.0	8.1	8.4	7.7	7.9
29	---	---	---	9.3	8.0	8.5	8.2	8.0	8.1	8.4	7.7	8.0
30	---	---	---	9.0	8.0	8.4	8.2	8.0	8.1	8.4	7.6	8.0
31	---	---	---	9.3	8.0	8.5	---	---	---	8.5	7.6	8.0
MONTH	---	---	---	---	7.8	---	---	---	---	8.5	7.6	8.0

PLATTE RIVER BASIN

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.5	7.6	8.0	8.8	7.6	8.1	8.5	7.8	8.0	---	7.6	---
2	8.5	7.6	8.0	8.9	7.7	8.3	8.3	7.8	7.9	---	---	---
3	8.0	7.6	7.7	8.7	7.8	8.1	8.0	7.8	7.9	---	---	---
4	8.0	7.6	7.8	8.8	7.9	8.2	8.0	7.9	8.0	8.8	7.7	8.2
5	7.9	7.6	7.7	8.9	7.9	8.3	8.0	7.8	7.9	8.9	7.6	8.0
6	8.3	7.5	7.8	8.4	8.0	8.2	8.0	7.8	7.9	8.9	7.7	8.2
7	8.3	7.6	7.8	8.5	7.9	8.2	8.1	7.8	7.9	8.9	7.7	8.2
8	8.1	7.6	7.8	8.5	7.9	8.1	---	---	---	8.9	7.7	8.1
9	8.2	7.6	7.8	8.4	7.8	8.1	---	---	---	8.1	7.6	7.8
10	8.2	7.6	7.8	8.6	7.9	8.2	---	---	---	8.3	7.7	7.9
11	8.2	7.5	7.8	8.6	7.9	8.2	8.4	7.8	8.0	8.4	7.7	8.0
12	---	---	---	8.4	7.9	8.1	8.6	7.8	8.1	8.3	7.8	8.0
13	8.5	---	---	8.5	7.9	8.2	8.7	7.7	8.1	8.4	7.7	8.0
14	8.4	7.6	7.8	8.3	7.7	8.1	8.6	7.8	8.0	8.8	7.7	8.2
15	8.1	7.6	7.8	8.5	7.7	7.9	8.6	7.8	8.0	9.0	7.9	8.4
16	8.7	---	---	8.4	7.8	8.0	8.5	7.7	8.0	8.7	7.8	8.1
17	8.7	7.8	8.1	8.5	7.8	8.1	8.8	7.7	8.1	8.8	7.9	8.2
18	9.0	7.7	8.3	8.7	7.7	8.1	8.9	7.7	8.2	8.9	7.9	8.4
19	9.1	7.7	8.3	8.7	7.6	8.1	8.8	7.7	8.1	9.0	7.8	8.4
20	9.0	7.7	8.3	8.9	7.6	8.2	8.9	7.7	8.2	9.0	7.7	8.4
21	8.8	7.8	8.2	9.0	7.8	8.3	9.0	7.7	8.2	8.4	7.7	7.9
22	9.0	7.8	8.3	8.8	7.8	8.1	9.1	7.7	8.2	8.9	7.8	8.3
23	9.0	7.6	8.3	8.4	7.9	8.0	9.0	7.7	8.2	9.0	7.8	8.3
24	9.1	7.6	8.3	8.7	7.9	8.2	8.9	7.7	8.1	8.7	7.7	8.2
25	9.1	7.7	8.3	8.7	7.9	8.1	8.8	7.7	8.1	8.7	7.6	8.1
26	8.9	7.5	8.1	8.2	7.9	8.0	9.0	7.7	8.2	8.4	7.7	8.0
27	9.0	7.6	8.2	8.6	7.9	8.2	8.9	7.7	8.2	8.4	7.7	8.1
28	8.9	7.5	8.2	8.4	7.9	8.1	9.0	7.7	8.2	8.4	7.7	8.0
29	8.9	7.5	8.1	8.5	7.8	8.1	9.0	7.6	8.2	8.5	7.7	8.0
30	8.9	7.5	8.1	8.4	7.8	8.0	9.0	7.6	8.2	8.5	7.7	8.1
31	---	---	---	8.5	7.8	8.1	8.9	7.6	8.1	---	---	---
MONTH	---	---	---	9.0	7.6	8.1	---	---	---	---	---	---

TEMPERATURE, WATER (DEG. C) WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	19.2	14.0	16.8	9.1	5.9	7.4	5.4	3.2	4.3	5.3	2.5	4.0
2	19.2	14.5	17.2	9.0	5.5	7.2	4.3	2.5	3.5	5.3	2.7	4.1
3	19.2	15.0	17.2	9.4	5.0	7.3	4.5	1.8	3.0	4.2	2.7	3.1
4	18.4	13.5	16.3	10.0	6.5	8.3	3.7	1.0	2.4	5.0	2.1	3.6
5	17.8	13.0	15.7	9.5	5.6	7.7	2.8	0.1	1.7	4.7	1.7	3.4
6	16.9	12.9	15.1	9.9	5.7	7.9	2.9	0.0	1.5	4.1	1.6	2.9
7	15.9	12.4	14.5	10.3	6.2	8.3	3.6	1.0	2.3	3.0	0.0	1.4
8	15.6	13.4	14.4	8.9	6.5	7.8	4.6	1.4	3.1	3.5	0.1	1.8
9	16.3	11.0	13.6	7.2	4.7	5.9	4.1	2.6	3.6	2.0	0.1	0.8
10	15.0	11.5	13.4	6.6	4.1	5.3	2.7	1.3	2.1	0.6	0.0	0.3
11	16.7	13.0	14.6	5.4	4.1	4.7	2.6	0.4	1.5	3.4	0.5	1.9
12	14.1	9.5	11.0	6.2	2.9	4.5	1.7	0.0	0.8	2.9	1.1	2.0
13	12.4	7.7	10.2	6.3	3.0	4.6	3.1	0.0	1.5	3.7	1.1	2.4
14	14.0	8.8	11.5	4.4	1.9	3.2	4.2	0.8	2.5	4.1	1.1	2.7
15	13.9	9.9	12.1	3.9	0.5	2.4	4.5	1.3	2.9	4.5	0.8	2.7
16	14.1	9.6	12.1	4.8	0.7	2.8	4.1	1.4	2.8	3.5	1.4	2.6
17	14.6	9.9	12.5	5.3	1.7	3.6	4.1	1.7	3.0	4.5	1.4	2.9
18	14.8	10.3	12.6	5.8	2.8	4.4	4.1	1.5	2.9	5.0	1.9	3.5
19	13.7	10.6	12.1	6.2	2.7	4.6	3.0	1.4	2.0	4.8	1.5	3.2
20	12.5	10.7	11.7	6.5	3.7	5.2	3.8	1.4	2.6	4.5	2.0	3.4
21	13.7	10.5	11.9	5.4	3.0	4.3	3.0	0.4	1.9	3.3	0.7	2.1
22	13.1	9.2	11.3	5.4	2.8	4.2	3.7	1.8	2.6	2.2	0.2	1.4
23	12.6	8.9	11.0	4.0	2.0	3.1	3.2	0.4	1.9	4.0	0.9	2.5
24	11.2	2.0	7.8	6.4	2.3	4.4	2.2	1.0	1.6	3.6	1.6	2.6
25	2.4	0.0	1.3	6.8	3.0	5.0	2.9	0.7	1.7	5.1	2.2	3.6
26	---	1.9	---	5.3	3.3	4.5	3.1	0.3	1.6	5.3	1.1	3.3
27	7.6	3.1	4.7	5.6	3.7	4.7	2.4	0.1	1.2	5.8	2.0	4.0
28	9.1	3.9	6.6	4.7	3.4	4.0	2.9	0.0	1.4	5.4	2.1	3.8
29	10.1	5.8	7.6	5.8	2.5	4.1	4.8	1.5	3.1	5.6	1.7	3.9
30	9.9	6.7	8.1	5.3	2.3	3.8	3.6	2.1	2.9	5.6	2.2	4.1
31	10.2	6.9	8.3	---	---	---	4.6	1.0	2.8	4.7	3.2	3.8
MONTH	---	0.0	---	10.3	0.5	5.2	5.4	0.0	2.3	5.8	0.0	2.8

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued

TEMPERATURE, WATER (DEG. C) WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	5.7	1.9	3.9	6.3	0.8	3.4	12.8	5.9	8.7	12.6	9.8	10.9
2	4.3	1.7	3.3	7.1	---	---	8.0	3.7	5.7	13.8	10.1	11.4
3	5.4	2.0	3.8	8.6	3.0	5.9	11.0	4.2	7.4	14.2	10.6	11.8
4	5.5	2.7	4.3	6.9	3.4	5.3	11.5	5.9	8.6	14.3	10.6	12.0
5	4.8	3.9	4.4	8.2	3.3	5.7	11.7	6.2	8.6	14.3	10.9	12.1
6	6.6	2.5	4.6	7.9	3.1	5.4	9.5	6.9	7.9	13.7	10.9	11.9
7	5.5	2.5	4.2	5.0	1.7	2.8	9.9	6.3	7.9	14.0	10.9	12.1
8	6.0	2.4	4.4	6.3	0.2	3.2	10.4	---	---	13.8	11.0	12.1
9	5.4	3.6	4.6	---	2.2	---	12.2	6.2	8.6	13.9	10.6	11.9
10	6.3	2.9	4.6	---	2.0	---	12.9	6.2	9.1	14.2	11.1	12.4
11	5.6	1.3	3.7	---	2.0	---	13.8	6.8	9.8	13.8	11.4	12.4
12	5.8	1.1	3.7	---	2.6	---	---	---	---	14.1	11.1	12.3
13	6.7	1.9	4.5	---	4.5	---	---	---	---	15.1	11.7	13.2
14	7.6	3.7	5.8	---	5.2	---	---	---	---	14.2	12.2	13.0
15	6.3	3.6	5.2	---	6.0	---	---	---	---	15.1	12.0	13.1
16	5.3	4.3	4.8	---	6.6	---	---	---	---	15.5	12.0	13.4
17	7.0	3.7	5.4	---	6.5	---	---	---	---	16.4	12.7	14.1
18	6.8	4.4	5.7	---	2.0	---	---	---	---	15.9	13.0	14.3
19	7.2	2.8	5.2	---	2.2	---	---	---	---	15.8	12.8	14.0
20	6.4	2.2	4.6	---	3.0	---	---	---	---	16.2	12.7	14.1
21	7.3	2.6	5.2	---	3.7	---	---	---	---	16.3	12.7	14.2
22	8.9	3.6	6.3	---	5.1	---	---	---	---	15.8	12.5	14.0
23	8.5	4.6	6.9	11.8	6.8	9.4	---	---	---	16.8	12.4	14.2
24	9.1	---	---	13.6	6.1	9.5	---	---	---	15.9	12.3	13.9
25	7.2	3.8	5.7	12.5	6.9	9.4	---	---	---	17.4	12.0	14.1
26	6.3	1.8	4.0	12.0	7.0	9.4	---	---	---	17.6	13.3	15.0
27	4.9	1.6	3.4	12.5	7.8	9.8	12.4	---	---	18.5	13.7	15.7
28	6.3	0.9	3.4	12.4	7.3	9.3	12.6	9.2	10.4	18.4	14.2	15.8
29	---	---	---	11.9	7.4	9.2	12.7	9.1	10.6	18.5	14.3	16.0
30	---	---	---	8.9	5.9	7.2	13.2	9.9	11.1	18.4	14.5	16.1
31	---	---	---	12.0	5.2	8.0	---	---	---	18.9	14.4	16.2
MONTH	9.1	---	---	---	---	---	---	---	---	18.9	9.8	13.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	19.5	14.7	16.8	24.7	18.6	21.4	22.2	19.0	19.9	---	18.1	---
2	20.1	14.8	17.0	25.3	17.6	21.1	21.6	18.5	19.8	---	---	---
3	15.4	13.8	14.8	23.2	17.9	20.3	21.4	18.9	19.7	---	---	---
4	15.1	13.5	14.2	23.8	18.1	20.4	20.4	18.4	19.2	24.1	---	---
5	13.9	11.7	13.2	25.4	18.4	21.1	21.5	18.0	19.4	24.5	17.5	20.7
6	17.1	10.8	13.5	20.5	19.0	19.8	22.5	18.3	19.9	24.1	17.9	20.7
7	18.0	12.5	14.8	23.0	18.8	20.5	23.0	18.1	20.0	24.0	17.9	20.7
8	17.3	13.8	15.0	23.2	19.1	20.8	---	18.1	---	24.1	18.1	20.9
9	18.1	13.8	15.5	23.0	19.3	20.7	---	---	---	22.7	17.9	20.2
10	18.0	14.0	15.7	23.1	18.9	20.6	---	---	---	22.8	17.1	19.9
11	19.4	13.4	15.7	23.3	19.2	20.7	22.2	18.0	19.6	22.6	17.5	20.2
12	---	10.2	---	22.9	19.1	20.7	22.9	17.6	---	22.2	18.4	20.1
13	---	12.6	---	23.8	19.2	21.0	23.5	---	---	21.1	17.0	19.1
14	18.0	14.5	15.8	23.8	19.0	21.0	22.4	18.0	19.7	20.5	16.6	18.6
15	---	13.6	---	24.0	18.1	20.6	22.9	18.4	20.1	22.8	17.0	19.7
16	19.0	10.7	15.0	23.9	18.8	20.9	21.7	18.3	19.6	21.5	16.7	19.1
17	17.9	14.2	15.6	25.5	19.2	21.9	23.5	18.2	20.2	21.5	16.3	18.9
18	20.5	13.7	16.6	26.4	18.5	22.3	23.7	18.2	20.5	22.3	16.4	19.5
19	21.8	14.3	17.6	26.0	19.4	22.6	22.7	18.7	20.4	21.1	17.1	19.2
20	21.2	14.9	17.7	26.6	19.3	22.8	22.8	18.4	20.2	20.9	16.6	18.7
21	19.8	15.2	17.2	24.7	19.6	22.3	23.5	18.4	20.4	18.9	14.8	16.2
22	22.1	15.7	18.4	22.3	19.1	20.5	24.1	18.4	20.7	19.3	14.5	16.7
23	22.5	16.4	18.9	22.0	19.2	20.1	24.1	18.7	20.9	19.5	15.7	17.6
24	22.6	15.7	18.7	23.1	19.4	20.9	22.2	18.9	20.2	20.1	15.6	18.0
25	23.3	15.0	19.3	24.1	19.6	20.9	21.7	18.5	19.8	20.2	15.1	17.5
26	24.0	16.7	20.1	22.5	19.8	20.8	23.7	18.2	20.5	19.2	14.4	16.7
27	24.8	16.9	20.5	24.1	18.8	21.1	22.4	19.0	20.3	18.9	14.0	16.5
28	25.0	17.1	20.9	22.5	19.3	20.5	23.7	17.8	20.3	19.3	14.3	17.0
29	25.2	18.6	21.7	22.7	19.2	20.6	24.0	17.9	20.6	19.7	15.3	17.4
30	24.3	18.9	21.3	21.1	19.0	19.7	24.2	18.5	21.0	18.8	15.0	16.9
31	---	---	---	22.9	18.4	20.1	22.1	18.2	20.1	---	---	---
MONTH	---	10.2	---	26.6	17.6	20.9	---	---	---	---	---	---

PLATTE RIVER BASIN

06711565 SOUTH PLATTE RIVER AT ENGLEWOOD, CO--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	10.0	6.5	7.8	---	---	---	10.7	9.6	10.2	10.5	7.4	8.4
2	10.0	6.1	7.5	---	---	---	10.7	9.4	10.3	10.6	7.3	8.4
3	9.6	5.7	7.2	10.1	---	---	11.2	9.7	10.6	9.9	7.3	8.3
4	10.0	6.0	7.4	10.0	7.3	8.3	12.0	10.4	11.2	10.7	7.5	8.6
5	10.1	5.9	7.6	10.3	7.3	8.5	11.8	10.0	11.1	10.7	7.0	8.6
6	11.5	5.9	8.1	10.3	7.2	8.4	11.6	10.1	10.9	9.8	7.3	8.2
7	11.2	6.6	8.2	10.7	6.9	8.3	11.3	9.7	10.6	10.8	8.0	9.1
8	10.9	6.5	8.3	11.1	6.9	8.4	11.4	9.6	10.4	10.6	7.8	9.0
9	10.9	6.9	8.6	10.5	6.4	8.3	11.3	9.5	10.4	11.0	7.8	9.2
10	11.9	6.9	8.8	12.1	7.7	9.2	---	---	---	11.0	7.3	9.3
11	12.0	6.7	8.4	10.9	8.2	9.1	---	---	---	10.7	7.9	9.1
12	11.4	6.6	9.2	11.5	8.1	9.4	---	---	---	13.7	7.9	10.1
13	12.2	8.0	9.8	12.3	8.1	9.7	---	---	---	13.8	10.0	11.3
14	11.3	7.4	9.2	11.8	8.2	9.7	---	---	---	14.1	10.0	11.5
15	11.4	7.2	8.8	11.7	8.3	9.5	---	---	---	14.2	9.7	11.4
16	11.1	7.3	8.9	12.0	7.8	9.6	12.5	9.7	10.7	12.9	9.4	10.7
17	11.5	7.3	8.8	14.0	7.8	10.1	12.3	9.6	10.3	13.4	8.7	10.5
18	10.9	7.1	8.5	13.5	8.8	10.3	11.9	9.3	10.2	13.4	8.7	10.3
19	11.0	7.0	8.5	13.8	8.5	10.5	11.3	9.2	10.2	13.2	8.5	10.3
20	10.2	7.1	8.3	13.4	8.6	10.1	12.5	9.1	10.2	13.1	8.5	10.4
21	9.9	6.6	7.9	13.3	8.5	10.2	11.8	9.1	10.0	13.0	---	---
22	9.4	6.3	7.5	12.9	8.5	10.2	11.6	9.0	9.8	12.8	---	---
23	9.0	6.1	7.2	13.3	9.3	10.6	11.5	8.9	9.9	12.8	---	---
24	---	---	---	13.6	8.3	10.4	11.5	8.9	9.8	12.5	---	---
25	---	---	---	12.6	8.0	9.7	11.4	9.0	9.8	12.2	---	---
26	---	---	---	11.7	8.1	9.4	11.2	8.7	9.6	12.0	---	---
27	---	---	---	10.4	7.9	9.0	11.2	8.7	9.6	11.9	---	---
28	---	---	---	10.6	7.9	9.5	11.4	7.9	9.2	12.8	---	---
29	---	---	---	10.5	9.2	9.9	10.2	7.3	8.3	12.4	---	---
30	---	---	---	11.2	9.7	10.4	10.0	7.3	8.5	13.4	---	---
31	---	---	---	---	---	---	10.5	7.5	8.8	11.9	---	---
MONTH	---	---	---	---	---	---	---	---	---	14.2	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	13.2	---	---	---	---	---	12.1	9.0	10.3	9.3	8.9	9.1
2	13.8	---	---	---	---	---	11.0	9.1	10.1	9.3	8.8	9.1
3	---	---	---	---	---	---	11.4	9.3	10.4	9.3	8.9	9.1
4	14.2	---	---	---	---	---	11.6	9.2	10.3	9.2	8.9	9.1
5	12.4	---	---	---	---	---	11.6	9.5	10.3	9.2	9.0	9.1
6	13.8	---	---	---	---	---	11.8	9.5	10.2	9.3	8.9	9.1
7	13.6	---	---	---	---	---	11.7	9.8	10.4	9.2	8.4	8.9
8	14.3	---	---	---	---	---	11.6	9.6	10.5	9.2	8.4	8.8
9	13.7	---	---	---	---	---	11.9	9.6	10.5	9.4	8.3	8.9
10	14.1	---	---	---	---	---	12.6	9.5	10.8	9.3	8.4	8.8
11	14.4	---	---	---	---	---	12.1	8.8	10.3	9.2	8.3	8.7
12	14.2	---	---	---	---	---	11.7	8.8	10.2	9.3	8.1	8.7
13	14.3	---	---	---	---	---	---	---	---	9.1	7.7	8.5
14	14.3	---	---	---	---	---	---	---	---	9.0	7.9	8.4
15	15.0	---	---	---	---	---	---	---	---	9.1	8.1	8.5
16	12.9	---	---	---	---	---	---	---	---	9.2	8.1	8.6
17	14.6	---	---	---	---	---	---	---	---	9.0	7.9	8.4
18	14.4	---	---	---	---	---	---	---	---	9.0	8.0	8.4
19	15.1	---	---	---	---	---	---	---	---	9.0	7.5	8.3
20	15.6	---	---	---	---	---	---	---	---	8.7	7.6	8.1
21	14.9	---	---	13.6	8.7	10.5	---	---	---	8.6	7.4	8.1
22	14.9	---	---	12.6	8.2	10.0	---	---	---	8.7	7.5	8.2
23	---	---	---	13.5	7.9	10.1	---	---	---	8.5	7.4	8.0
24	---	---	---	13.3	8.4	10.3	---	---	---	8.6	7.3	8.1
25	---	---	---	12.4	8.6	10.0	---	---	---	8.5	7.2	7.9
26	---	---	---	12.3	8.5	9.9	---	---	---	8.2	7.4	7.9
27	---	---	---	11.4	8.5	9.6	9.5	9.1	9.3	8.4	7.4	8.0
28	---	---	---	11.5	8.9	9.8	9.5	9.0	9.3	8.3	7.4	8.0
29	---	---	---	11.5	8.8	9.8	9.5	8.8	9.2	8.2	7.3	7.9
30	---	---	---	11.5	9.1	10.1	9.3	8.8	9.1	8.1	7.5	7.9
31	---	---	---	12.3	9.3	10.5	---	---	---	8.4	7.6	8.1
MONTH	---	---	---	---	---	---	---	---	---	9.4	7.2	8.5

06712000 CHERRY CREEK NEAR FRANKTOWN, CO

LOCATION.--Lat 39°21'21", long 104°45'46", in NE¼ sec.15, T.8 S., R.66 W., Douglas County, Hydrologic Unit 10190003, on right bank 1.3 mi downstream from Castlewood Dam site (revised), 1.5 mi upstream from Russellville Gulch, and 2.5 mi south of Franktown.

DRAINAGE AREA.--169 mi².

PERIOD OF RECORD.--November 1939 to current year.

REVISED RECORDS.--WSP 1730: Drainage area. WDR CO-87-1: 1983-85 (P).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,150 ft above sea level, from topographic map. See WSP 1730 for history of changes prior to Oct. 1, 1953.

REMARKS.--Records fair, except for estimated discharges, which are poor. Many small diversions upstream from station for irrigation of about 800 acres. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 3, 1933, caused by Castlewood Dam failure, exceeded all other observed floods at this location.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	9.0	6.2	6.0	5.9	14	23	19	5.7	2.5	11	4.0
2	2.3	7.6	6.9	6.6	6.1	13	23	17	5.2	2.6	14	3.8
3	2.3	7.6	e5.9	6.9	6.0	10	32	14	4.9	2.5	15	3.5
4	2.3	8.7	e6.5	6.8	6.2	13	68	13	4.3	4.2	26	3.2
5	2.2	9.3	e6.5	8.5	6.6	14	37	14	4.9	4.0	25	3.0
6	2.2	12	5.7	6.8	6.7	14	32	8.9	5.5	5.0	18	2.8
7	2.2	5.6	5.5	e8.4	7.7	14	28	23	5.6	3.2	18	2.8
8	2.4	7.6	5.5	e7.2	8.2	e14	30	31	9.1	71	14	3.0
9	2.3	8.6	5.5	6.3	8.7	12	34	34	4.6	109	115	2.7
10	2.5	8.5	4.5	6.1	8.5	10	30	23	5.2	7.3	37	2.5
11	2.7	7.3	4.5	6.1	7.3	10	26	20	5.0	4.9	16	2.4
12	3.7	6.8	e4.4	6.1	8.8	11	22	17	4.5	3.9	11	2.6
13	3.9	6.2	4.2	5.8	7.8	25	18	14	4.2	3.5	8.8	2.9
14	3.5	5.6	4.5	5.7	9.6	45	16	14	4.3	3.0	8.0	2.9
15	3.5	e5.0	5.1	8.6	10	46	20	13	5.2	2.8	7.8	2.8
16	3.6	e5.0	4.8	6.5	10	48	26	12	5.1	2.8	7.5	2.7
17	3.6	4.5	5.1	6.1	9.9	39	26	12	5.1	3.2	6.9	2.8
18	3.6	4.4	6.0	6.1	10	36	34	11	4.6	2.8	6.5	2.7
19	3.5	4.6	5.2	6.3	9.7	25	51	11	4.2	2.4	6.2	2.6
20	3.5	5.0	5.1	6.3	8.6	26	47	9.7	3.9	2.3	7.0	2.6
21	3.5	5.1	5.2	e6.3	8.6	29	60	11	3.8	2.2	6.2	2.9
22	3.5	4.8	5.8	e6.3	10	61	44	9.7	4.0	2.7	5.5	3.1
23	3.6	4.7	5.6	e6.0	13	59	36	9.5	3.6	3.1	4.6	3.1
24	4.0	4.9	5.5	5.7	23	66	30	9.9	3.2	70	4.7	3.1
25	6.9	5.1	4.9	5.5	17	46	25	9.3	2.9	30	4.4	2.9
26	3.6	5.1	e5.0	6.6	10	43	43	10	2.7	14	4.4	2.7
27	5.8	5.9	e5.0	5.6	14	38	36	8.8	2.6	3.4	4.8	2.6
28	6.8	6.2	e5.0	5.8	13	33	31	7.9	2.6	37	4.5	2.6
29	7.2	6.2	5.4	5.6	---	29	26	7.3	2.5	65	4.4	2.5
30	8.0	5.8	5.4	5.9	---	25	22	6.6	2.5	15	4.1	2.5
31	11	---	5.4	5.9	---	24	---	6.2	---	12	3.9	---
TOTAL	122.0	192.7	165.8	198.4	270.9	892	976	426.8	131.5	497.3	430.2	86.3
MEAN	3.94	6.42	5.35	6.40	9.68	28.8	32.5	13.8	4.38	16.0	13.9	2.88
MAX	11	12	6.9	8.6	23	66	68	34	9.1	109	115	4.0
MIN	2.2	4.4	4.2	5.5	5.9	10	16	6.2	2.5	2.2	3.9	2.4
AC-FT	242	382	329	394	537	1770	1940	847	261	986	853	171

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1940	4.35	29.1	1985	.97	1953
1941	5.52	30.7	1985	1.32	1955
1942	5.03	25.2	1985	1.41	1964
1943	5.11	17.7	1985	1.57	1951
1944	8.55	29.3	1948	1.99	1956
1945	22.4	184	1960	2.36	1972
1946	19.6	138	1984	1.70	1963
1947	15.2	138	1973	1.43	1963
1948	8.43	42.6	1983	1.12	1954
1949	7.13	43.8	1957	.80	1981
1950	8.96	59.9	1945	.76	1962
1951	3.36	18.2	1984	.78	1950

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1940 - 1998
ANNUAL TOTAL	2823.7	4389.9	
ANNUAL MEAN	7.74	12.0	9.48
HIGHEST ANNUAL MEAN			31.9
LOWEST ANNUAL MEAN			2.89
HIGHEST DAILY MEAN	282	115	1400
LOWEST DAILY MEAN	a1.3	b2.2	c.20
ANNUAL SEVEN-DAY MINIMUM	1.3	2.3	.29
INSTANTANEOUS PEAK FLOW		1190	d9170
INSTANTANEOUS PEAK STAGE		6.65	f4.91
ANNUAL RUNOFF (AC-FT)	5600	8710	6870
10 PERCENT EXCEEDS	9.1	30	17
50 PERCENT EXCEEDS	5.7	6.2	4.4
90 PERCENT EXCEEDS	2.1	2.8	1.3

e-Estimated.

a-Also occurred Jul 16-21, 24, and 25.

b-Also occurred Oct 6, 7, and Jul 21.

c-Also occurred Sep 30 and Oct 1, 1950.

d-Site and datum then in use, by float measurement.

f-Maximum gage height, 7.43 ft, Aug 2, 1997, current site and datum.

393109104464500 CHERRY CREEK NEAR PARKER, CO

LOCATION.--Lat 39°31'09", long 104°46'45", in SE¼NW¼NE¼ sec.21, T.6 S., R.67 W., Douglas County, Hydrologic Unit 10190003, on right bank 200 ft upstream from Main Street, 1,100 ft downstream from mouth of Sulphur Gulch, and 0.8 mi west of City of Parker.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--October 1991 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,805 ft above sea level, from topographic map.

REMARKS.--Records fair, except for discharges above 60 ft³/s, and estimated discharges, which are poor. Several diversions upstream from station for irrigation. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	13	7.5	11	11	16	31	36	7.3	3.1	e41	e8.3
2	1.9	10	7.0	12	9.6	17	31	34	6.4	3.5	e38	8.1
3	1.9	9.6	6.4	11	10	18	36	31	5.4	3.7	e33	7.3
4	1.5	10	4.1	11	11	18	48	28	5.4	3.7	45	7.2
5	1.3	11	3.6	9.9	10	19	67	28	6.6	3.8	46	6.6
6	1.3	12	4.4	11	11	19	50	30	6.5	3.6	e36	6.5
7	1.5	11	5.9	6.1	12	19	45	43	6.1	3.6	e31	6.3
8	1.6	8.3	6.9	6.0	13	15	43	40	7.6	3.9	e25	6.1
9	1.5	9.3	6.7	7.2	13	16	47	57	8.5	57	e25	6.2
10	1.7	10	5.1	7.1	13	15	48	45	5.6	88	e50	6.0
11	1.8	9.6	4.2	10	12	15	42	39	4.8	19	e25	6.0
12	1.5	8.5	4.2	11	11	14	36	35	4.2	9.6	e23	5.9
13	1.3	7.6	4.9	9.9	12	16	31	28	4.6	6.0	e23	6.1
14	2.1	6.0	6.2	11	15	27	32	25	4.5	3.6	e23	6.0
15	2.2	4.0	6.9	9.6	15	40	33	23	6.1	2.6	24	6.0
16	2.1	4.4	6.4	11	16	46	37	22	7.2	1.9	e24	5.8
17	1.5	5.4	7.2	11	16	46	39	21	7.5	1.6	e23	6.0
18	2.3	5.5	8.3	11	16	43	49	20	6.1	1.5	e22	5.8
19	2.3	5.2	7.3	11	16	40	58	19	6.3	1.5	e22	5.8
20	2.4	5.6	7.4	12	15	32	71	18	5.7	1.4	31	5.9
21	2.5	5.2	6.2	8.9	15	36	69	17	5.8	1.3	e100	5.9
22	2.1	5.2	6.9	7.3	16	40	67	17	6.4	2.1	e36	e6.4
23	2.2	4.4	7.1	9.0	17	63	59	16	6.0	1.9	e22	6.7
24	2.7	5.2	8.4	9.3	20	66	50	16	4.8	1.7	e22	6.6
25	2.7	5.6	7.3	11	31	52	45	17	3.7	30	e18	6.6
26	2.6	5.4	6.7	9.1	25	51	57	17	3.6	26	e18	6.6
27	2.4	6.0	6.3	10	20	47	62	15	3.8	6.0	e20	6.4
28	2.4	6.0	5.6	10	17	44	52	12	4.1	35	e17	6.3
29	7.3	8.1	7.6	10	---	39	46	11	3.6	45	e16	6.0
30	8.2	5.9	9.5	11	---	36	40	8.7	3.6	e150	e13	5.5
31	12	---	8.9	11	---	33	---	7.7	---	e46	e10	---
TOTAL	82.7	223.0	201.1	306.4	418.6	998	1421	776.4	167.8	567.6	902	190.9
MEAN	2.67	7.43	6.49	9.88	14.9	32.2	47.4	25.0	5.59	18.3	29.1	6.36
MAX	12	13	9.5	12	31	66	71	57	8.5	150	100	8.3
MIN	1.3	4.0	3.6	6.0	9.6	14	31	7.7	3.6	1.3	10	5.5
AC-FT	164	442	399	608	830	1980	2820	1540	333	1130	1790	379

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998
MEAN	2.23	3.97	4.26	5.76	10.2	18.0	18.4
MAX	3.95	8.85	8.97	9.88	14.9	42.8	47.4
(WY)	1996	1996	1996	1998	1998	1992	1995
MIN	1.26	.79	.76	1.51	1.74	3.82	8.15
(WY)	1992	1995	1995	1995	1995	1995	1997

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1992 - 1998

ANNUAL TOTAL	2171.0	6255.5	
ANNUAL MEAN	5.95	17.1	8.42
HIGHEST ANNUAL MEAN			17.1
LOWEST ANNUAL MEAN			5.03
HIGHEST DAILY MEAN		Aug 7	229
LOWEST DAILY MEAN	97	Oct 5	c.43
ANNUAL SEVEN-DAY MINIMUM	1.5	Oct 4	.45
INSTANTANEOUS PEAK FLOW		d900	d900
INSTANTANEOUS PEAK STAGE		f9.65	f9.65
ANNUAL RUNOFF (AC-FT)	4310	12410	6100
10 PERCENT EXCEEDS	9.3	44	18
50 PERCENT EXCEEDS	4.4	10	4.4
90 PERCENT EXCEEDS	2.1	2.7	1.2

e-Estimated.

a-Also occurred Oct 6, 13.

b-Also occurred Oct 6, 13, and Jul 21.

c-Also occurred Aug 25, 1994.

d-From slope-area measurement of peak flow.

f-From floodmark.

06712990 CHERRY CREEK LAKE NEAR DENVER, CO

LOCATION.--Lat 39°39'03", long 104°51'13", in NW¼NE¼ sec.2, T.5 S., R.67 W., Arapahoe County, Hydrologic Unit 10190003, 0.2 mi from right end of dam, 0.8 mi southwest from intersection of Interstate Highway 225 and Parker Road, 1.6 mi northwest of intersection of Parker and Airline Roads, and 11.5 mi upstream from mouth.

DRAINAGE AREA.--385 mi².

PERIOD OF RECORD.--Contents, October 1960 to current year. Water-quality data available, October 1976 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 5,598.00 ft above sea level (levels by U.S. Army, Corps of Engineers); gage readings have been reduced to elevations above sea level.

REMARKS (REVISED)--Reservoir is formed by earthfill dam. Dam completed in June 1950; storage began May 15, 1957. Capacity, 122,842 acre-ft, at elevation 5,608.70 ft, crest of spillway. No dead storage. Figures given represent total contents. Reservoir is for flood control and recreation.

COOPERATION.--Records provided by U.S. Army, Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 31,120 acre-ft, June 3, 1973, elevation, 5,565.82 ft; minimum, 9,980 acre-ft, Nov. 23-24, 1978, elevation, 5,545.90 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,700 acre-ft, Aug. 5, elevation, 5,552.16 ft; minimum, 12,790 acre-ft, Nov. 17, Sept. 26-30, elevation, 5,549.98 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	5,550.30	13,060	-
Oct. 31	5,550.69	13,390	+330
Nov. 30	5,550.19	12,960	-430
Dec. 31	5,550.46	13,200	+240
CAL YR 1997	-	-	+380
Jan. 31	5,550.43	13,170	-30
Feb. 28	5,550.56	13,290	+120
Mar. 31	5,550.65	13,360	+70
Apr. 30	5,550.62	13,340	-20
May 31	5,550.31	13,070	-270
June 30	5,550.26	13,030	-40
July 31	5,552.00	14,540	+1,510
Aug. 31	5,550.33	13,090	-1,450
Sept. 30	5,549.98	12,790	-300
WTR YR 1998	-	-	-270

06713000 CHERRY CREEK BELOW CHERRY CREEK LAKE, CO

LOCATION.--Lat 39°39'10", long 104°51'40", in SW¹/₄SW¹/₄ sec.35, T.4 S., R.67 W., Denver County, Hydrologic Unit 10190003, on right bank 2,000 ft downstream from Cherry Creek Dam, 2.2 mi southeast of Sullivan, 9 mi southeast of Civic Center in Denver, and 11 mi upstream from mouth.

DRAINAGE AREA.--385 mi².

PERIOD OF RECORD.--June 1950 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,490.51 ft above sea level, (Corps of Engineers bench mark).

REMARKS.--No estimated daily discharges. Records fair except for discharges less than 1 ft³/s, which are poor. Flow regulated by Cherry Creek Lake (see elsewhere in this report). Diversions upstream from station for irrigation of about 1,800 acres. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood known, 34,000 ft³/s, Aug. 3, 1933, by slope-area measurement near present site (Castlewood Dam failure).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	34	12	19	22	32	40	85	12	.08	26	6.1
2	.00	33	12	19	22	32	40	85	7.7	.08	26	5.9
3	.00	34	12	19	22	32	63	86	7.7	.08	27	5.7
4	.00	34	12	19	22	32	86	56	4.6	.08	46	5.6
5	.00	34	12	19	22	32	86	30	.95	.05	65	6.2
6	.00	34	12	19	21	32	82	30	.88	.05	64	6.1
7	.00	33	12	19	22	32	84	32	.74	.10	64	5.3
8	.00	33	12	19	22	32	84	60	.66	.10	65	5.7
9	.00	33	11	19	23	32	84	87	.70	.42	43	12
10	.00	32	10	19	23	32	61	87	.73	1.1	72	10
11	.00	33	12	19	23	32	34	81	.66	.23	87	4.7
12	.00	33	12	19	23	32	34	85	.74	.18	89	.00
13	.00	33	12	19	23	32	35	83	.74	.17	89	.00
14	.00	33	13	19	23	32	35	83	.79	.13	88	.00
15	.00	33	13	19	23	32	35	48	.74	.09	90	.00
16	.00	34	13	19	23	32	35	19	.75	.08	89	.00
17	.00	26	13	19	24	32	39	19	.77	.08	88	.00
18	.00	11	13	19	24	33	44	19	.88	.08	52	.00
19	.00	12	13	19	26	35	44	19	.74	.12	20	.00
20	.00	12	13	19	27	52	66	19	.74	.18	19	.00
21	.00	12	13	21	28	87	84	12	.86	.18	18	.00
22	.00	12	13	25	28	88	82	17	.77	.18	18	.00
23	.00	12	16	25	28	86	84	17	.74	.19	18	.00
24	.00	12	19	25	28	86	84	17	.73	.18	18	.00
25	.00	11	19	25	28	66	85	17	.51	1.3	18	.00
26	.00	11	19	25	28	40	84	17	.63	.26	17	.00
27	.01	11	19	25	29	40	84	17	.61	12	17	.00
28	.00	11	19	25	32	40	83	17	.62	22	13	.00
29	.00	11	19	25	---	40	84	17	.53	24	9.0	.00
30	21	12	17	23	---	40	85	17	.12	26	6.8	.00
31	35	---	19	22	---	40	---	17	---	25	6.6	---
TOTAL	56.01	709	436	646	689	1317	1950	1295	50.33	114.77	1368.4	73.30
MEAN	1.81	23.6	14.1	20.8	24.6	42.5	65.0	41.8	1.68	3.70	44.1	2.44
MAX	35	34	19	25	32	88	86	87	12	26	90	12
MIN	.00	11	10	19	21	32	34	12	.12	.05	6.6	.00
AC-FT	111	1410	865	1280	1370	2610	3870	2570	100	228	2710	145

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1998, BY WATER YEAR (WY)

MEAN	1.48	2.01	2.74	2.40	7.14	12.7	17.1	10.9	9.28	4.81	11.4	2.72
MAX	29.6	38.5	39.1	42.4	60.3	108	166	104	243	71.3	218	54.2
(WY)	1985	1985	1985	1985	1984	1974	1984	1984	1973	1983	1965	1965
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1958	1958	1958	1958	1958	1958	1958	1958	1961	1964	1957	1957

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1950 - 1998
ANNUAL TOTAL	3207.00	8704.81	
ANNUAL MEAN	8.79	23.8	7.08
HIGHEST ANNUAL MEAN			38.8
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	112	May 14	721
LOWEST DAILY MEAN	a.00	Jan 1	b.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00
INSTANTANEOUS PEAK FLOW		190	1470
INSTANTANEOUS PEAK STAGE		4.67	6.56
ANNUAL RUNOFF (AC-FT)	6360	17270	5130
10 PERCENT EXCEEDS	33	76	10
50 PERCENT EXCEEDS	.00	19	.00
90 PERCENT EXCEEDS	.00	.00	.00

a-No flow many days.
b-No flow most of time since May 1957.

PLATTE RIVER BASIN

06713300 CHERRY CREEK AT GLENDALE, CO

LOCATION.--Lat 39°42'22", long 104°56'13", in SW¼NW¼ sec.18, T.4 S., R.67 W., Denver County, Hydrologic Unit 10190003, on left bank 900 ft upstream from Colorado Boulevard, on Cherry Creek South Drive and Ash Court, in the City of Glendale, and 6 mi downstream from Cherry Creek Reservoir.

DRAINAGE AREA.--404 mi².

PERIOD OF RECORD.--January 1985 to current year.

REVISED RECORDS.--WDR CO-96-1: 1995 (M).

GAGE.--Water-stage recorder with crest-stage gage. Elevation of gage is 5,320 ft above sea level, from topographic map.

REMARKS.--Records poor. Flow regulated by Cherry Creek Lake (see station 06712990). Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	51	22	23	24	30	60	94	32	e14	74	43
2	19	44	22	24	24	30	80	91	25	e12	55	26
3	20	43	23	24	25	30	162	90	21	e12	100	26
4	20	42	21	24	25	30	121	74	22	e12	98	25
5	20	41	20	24	25	29	108	82	51	e12	114	27
6	18	40	20	26	25	29	126	70	33	e12	83	26
7	17	39	20	24	25	35	125	193	24	e11	80	25
8	17	39	20	24	26	33	118	143	17	e11	82	25
9	18	46	23	25	26	32	112	162	22	73	61	26
10	20	42	20	25	27	33	95	99	14	127	85	24
11	19	38	20	25	27	34	58	94	13	46	98	23
12	81	41	21	24	28	35	55	101	12	e12	102	28
13	41	38	21	24	28	35	62	98	12	e11	100	24
14	23	37	22	24	28	35	66	86	36	e11	100	19
15	20	36	21	24	28	35	93	69	50	e11	155	18
16	22	35	20	24	32	37	87	29	25	e10	124	17
17	20	34	19	24	29	37	101	29	32	e10	103	17
18	19	25	19	24	28	78	190	30	15	e10	96	18
19	19	24	19	24	29	108	82	31	12	e10	95	17
20	20	24	18	24	30	78	77	35	12	e10	69	15
21	21	22	17	24	29	111	109	29	12	e10	35	15
22	22	22	17	27	29	108	99	41	12	40	34	17
23	23	21	17	26	29	105	96	43	e12	25	33	13
24	62	21	20	26	29	103	95	51	e12	36	35	11
25	33	21	21	26	29	90	101	44	e12	242	34	e10
26	62	21	21	26	29	52	244	38	e14	160	34	e10
27	97	26	21	25	29	57	108	38	e14	30	33	e10
28	77	49	20	25	29	56	93	36	e13	36	32	e10
29	53	29	23	25	---	57	96	34	e13	34	35	e10
30	53	24	20	25	---	61	94	33	e13	161	28	e10
31	62	---	22	25	---	68	---	33	---	86	24	---
TOTAL	1039	1015	630	764	771	1691	3113	2120	607	1297	2231	585
MEAN	33.5	33.8	20.3	24.6	27.5	54.5	104	68.4	20.2	41.8	72.0	19.5
MAX	97	51	23	27	32	111	244	193	51	242	155	43
MIN	17	21	17	23	24	29	55	29	12	10	24	10
AC-FT	2060	2010	1250	1520	1530	3350	6170	4210	1200	2570	4430	1160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1998, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	14.3	11.6	10.2	12.0	17.4	30.1	41.3	38.6	36.5	27.1	29.3	20.6		
MAX	38.0	33.8	29.8	45.7	53.2	75.2	104	88.5	85.3	55.9	72.0	43.0		
(WY)	1986	1998	1988	1985	1988	1985	1998	1995	1995	1995	1998	1995		
MIN	4.65	4.42	1.94	3.01	3.46	4.41	9.81	16.2	13.7	5.71	8.41	3.90		
(WY)	1995	1995	1995	1995	1990	1995	1991	1993	1990	1994	1986	1994		

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1985 - 1998
ANNUAL TOTAL	10315.0	15863	
ANNUAL MEAN	28.3	43.5	23.3
HIGHEST ANNUAL MEAN			43.5
LOWEST ANNUAL MEAN			10.9
HIGHEST DAILY MEAN	320	Jul 28	244
LOWEST DAILY MEAN	a2.8	Mar 30	e,b10
ANNUAL SEVEN-DAY MINIMUM	3.3	Mar 26	10
INSTANTANEOUS PEAK FLOW			1200
INSTANTANEOUS PEAK STAGE			7.37
ANNUAL RUNOFF (AC-FT)	20460	31460	16880
10 PERCENT EXCEEDS	53	98	60
50 PERCENT EXCEEDS	20	28	13
90 PERCENT EXCEEDS	4.6	13	4.1

e-Estimated.

a-Also occurred Mar 31 to Apr 1.

b-Also occurred Jul 17-21, and Sep 25-30.

c-Maximum gage height, 9.36 ft, Jul 28, 1997.

06714000 SOUTH PLATTE RIVER AT DENVER, CO

LOCATION.--Lat 39°45'35", long 105°00'10", in NW¼SE¼ sec.28, T.3 S., R.68 W., Denver County, Hydrologic Unit 10190003, on right bank 90 ft upstream from Nineteenth Street Bridge in Denver, and 0.4 mi downstream from Cherry Creek.

DRAINAGE AREA.--3,861 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to October 1889, June to October 1890, July 1895 to current year. Monthly discharge only for some periods, published in WSP 1310. Statistical summary computed for 1976 to current year.

REVISED RECORDS.--WSP 1310: 1934(M). WSP 1730: 1957(M). WDR CO-86-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,157.64 ft above sea level, adjustment of 1960. Prior to Aug. 12, 1909, nonrecording gages, and Aug. 12, 1909 to Aug. 28, 1931, water-stage recorder, at several sites within 0.5 mi of present site at various datums. Aug. 29, 1931 to June 28, 1965, water-stage recorder at site 70 ft downstream at datum 3.66 ft lower. June 29, 1965 to Mar. 18, 1966, water-stage recorder at site 70 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 79,000 acres and municipal use, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	342	292	193	200	188	495	1590	992	289	1040	377
2	193	290	295	195	194	189	668	1490	822	365	1260	468
3	191	267	292	198	188	187	833	1480	681	376	1460	626
4	187	260	257	198	188	189	641	1490	763	410	1420	475
5	184	254	194	190	185	183	596	1720	1120	449	1210	278
6	182	234	177	223	191	185	651	1750	579	576	998	360
7	177	228	181	218	189	236	666	2860	723	689	788	355
8	205	225	186	204	189	213	656	2700	1080	659	585	309
9	251	308	212	182	188	193	629	2450	1090	735	395	192
10	162	277	209	182	190	189	569	2140	887	878	633	178
11	171	249	201	183	183	189	470	2100	607	1070	681	173
12	464	269	187	188	181	177	485	2120	413	1130	639	172
13	273	248	192	189	180	175	495	2010	488	927	565	236
14	199	251	213	192	179	179	544	1940	820	675	727	203
15	198	229	218	199	176	178	761	1900	729	425	1070	239
16	192	217	207	202	222	184	837	1790	403	662	752	168
17	189	219	212	201	192	194	893	1690	527	597	725	155
18	154	189	213	203	184	464	1470	1510	471	326	615	172
19	148	187	207	204	193	628	881	1200	481	254	732	185
20	155	192	208	201	189	474	848	1020	386	255	685	185
21	146	190	207	197	188	371	909	863	365	255	509	268
22	145	190	200	200	191	356	942	936	468	573	529	245
23	148	203	204	187	191	350	1020	1120	499	951	579	218
24	397	203	213	188	200	351	1120	876	412	971	559	183
25	260	214	200	191	186	357	1150	953	376	2420	517	169
26	347	226	197	195	190	349	2210	1070	271	1430	516	143
27	621	275	199	195	183	434	1510	1170	346	755	521	143
28	673	495	193	194	190	473	1550	1150	329	736	509	138
29	510	335	199	193	---	476	1660	1100	264	786	462	143
30	433	302	188	189	---	539	1770	1040	260	1400	387	143
31	390	---	190	206	---	539	---	1020	---	918	366	---
TOTAL	8141	7568	6543	6080	5300	9389	27929	48248	17652	22942	22434	7299
MEAN	263	252	211	196	189	303	931	1556	588	740	724	243
MAX	673	495	295	223	222	628	2210	2860	1120	2420	1460	626
MIN	145	187	177	182	176	175	470	863	260	254	366	138
AC-FT	16150	15010	12980	12060	10510	18620	55400	95700	35010	45510	44500	14480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1998, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	202	197	142	126	143	197	447	941	834	598	494	237												
MAX	1184	809	366	282	273	420	1377	2970	2759	2546	1774	911												
(WY)	1985	1985	1985	1985	1984	1983	1984	1980	1983	1995	1984	1984												
MIN	66.8	94.4	84.1	64.9	80.7	94.9	99.1	218	164	139	177	76.5												
(WY)	1978	1976	1978	1979	1977	1978	1982	1978	1981	1994	1981	1977												

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1976 - 1998
ANNUAL TOTAL	124612	189525	
ANNUAL MEAN	341	519	a381
HIGHEST ANNUAL MEAN			961
LOWEST ANNUAL MEAN			138
HIGHEST DAILY MEAN	1690	2860	May 7
LOWEST DAILY MEAN	c77	138	Sep 28
ANNUAL SEVEN-DAY MINIMUM	81	152	Sep 24
INSTANTANEOUS PEAK FLOW		12600	Jul 25
INSTANTANEOUS PEAK STAGE		10.90	Jul 25
ANNUAL RUNOFF (AC-FT)	247200	375900	276100
10 PERCENT EXCEEDS	755	1120	777
50 PERCENT EXCEEDS	222	292	191
90 PERCENT EXCEEDS	93	183	86

a-Average discharge for 79 years (water years 1896-1974), 344 ft³/s; 249200 acre-ft/yr, prior to completion of Chatfield Dam.

b-Maximum daily discharge for period of record, 12000 ft³/s, Jun 17, 1965.

c-Also occurred Jan 14 and 17.

d-Minimum daily discharge for period of record, 8.8 ft³/s, Mar 25, 1951.

f-Maximum discharge and stage for period of record, 40300 ft³/s, Jun 17, 1965, gage height, 18.66 ft, from floodmarks, present datum, from rating curve extended above 2700 ft³/s, on basis of contracted-opening measurement of peak flow.

06714000 SOUTH PLATTE RIVER AT DENVER, CO--Continued
(National Water-Quality Assessment Program station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	pH FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
OCT 15...	1140	203	760	8.3	14.0	9.2	210	63	13	59
NOV 13...	1030	233	1020	7.5	6.0	10.5	250	72	16	95
DEC 09...	1200	200	1060	7.8	7.5	10.2	240	70	16	84
JAN 07...	1100	180	1070	8.3	2.0	11.3	230	66	16	90
FEB 03...	1200	177	859	8.3	6.1	11.8	240	70	16	75
MAR 03...	1105	174	863	8.3	8.5	11.6	250	74	17	75
APR 03...	1245	850	520	8.0	8.7	9.5	140	41	9.0	45
MAY 01...	1255	1500	431	8.1	12.6	9.0	130	39	8.5	30
JUN 03...	1115	711	372	8.1	14.1	8.6	110	31	7.0	27
JUL 09...	1440	606	415	7.9	22.4	7.3	120	36	7.6	31
AUG 05...	1055	1190	391	8.1	19.1	8.6	120	35	7.8	27
SEP 03...	1400	650	443	8.4	23.0	7.9	130	37	8.3	31

DATE	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	BICARBONATE WATER DIS-SOLVED (MG/L AS HCO3) (00453)	ALKALINITY TOTAL (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
OCT 15...	4.6	165	135	130	51	0.8	10	461	0.22	3.7
NOV 13...	4.9	181	148	160	120	0.7	10	612	0.11	3.7
DEC 09...	5.3	226	185	160	90	0.8	10	573	0.16	4.6
JAN 07...	4.8	173	142	140	100	0.8	8.4	559	0.17	4.2
FEB 03...	5.2	195	160	150	67	0.9	8.2	543	0.12	3.4
MAR 03...	5.3	179	147	150	64	0.8	7.9	534	0.17	4.4
APR 03...	3.1	94	77	76	49	0.5	6.5	308	<0.01	1.6
MAY 01...	3.0	96	79	59	31	0.7	11	258	0.02	1.2
JUN 03...	2.4	93	76	52	23	0.8	11	229	0.03	1.3
JUL 09...	4.1	96	79	66	24	0.8	9.4	260	0.09	2.3
AUG 05...	2.5	117	96	61	22	0.7	9.2	235	0.01	1.1
SEP 03...	3.2	100	86	67	28	0.9	8.7	273	0.04	2.3

a-Field dissolved bicarbonate, determined by incremental titration method.
 b-Field total dissolved alkalinity, determined by incremental titration method.

PLATTE RIVER BASIN

06714000 SOUTH PLATTE RIVER AT DENVER, CO--Continued
(National Water-Quality Assessment Program station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)
OCT 15...	0.63	1.4	1.1	0.49	0.38	0.31	23	68	4.0	0.9
NOV 13...	<0.02	0.8	0.5	0.40	0.30	0.31	27	69	4.3	<0.2
DEC 09...	0.29	1.0	0.7	0.69	0.52	0.50	35	93	4.6	0.2
JAN 07...	0.53	1.4	1.0	0.42	0.29	0.30	26	110	4.6	0.3
FEB 03...	0.20	1.1	0.7	0.40	0.34	0.29	55	110	4.4	0.7
MAR 03...	1.2	2.0	1.8	0.58	0.46	0.37	52	100	4.4	0.9
APR 03...	0.19	1.4	0.6	0.45	0.18	0.17	<10	32	4.8	3.9
MAY 01...	0.13	0.6	0.4	0.19	0.10	0.09	16	11	5.6	0.9
JUN 03...	0.06	0.4	0.3	0.15	0.16	0.13	24	18	4.3	0.3
JUL 09...	0.28	1.5	0.7	0.37	0.18	0.17	15	16	5.5	2.5
AUG 05...	0.04	0.4	0.3	0.14	0.09	0.10	12	<4	3.4	2.8
SEP 03...	<0.02	0.6	0.3	0.33	0.23	0.21	22	10	3.7	1.3

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	DIS- SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 15...	1140	203	14	7.7	84
NOV 13...	1030	233	20	13	98
DEC 09...	1200	200	14	7.6	99
JAN 07...	1100	180	18	8.7	96
FEB 03...	1200	177	11	5.3	96
MAR 03...	1105	174	10	4.7	97
APR 03...	1245	850	163	374	80
MAY 01...	1255	1500	104	421	46
JUN 03...	1115	711	15	29	90
JUL 09...	1440	606	118	193	93
AUG 05...	1055	1190	175	562	87
SEP 03...	1400	650	32	56	79

06714215 SOUTH PLATTE RIVER AT 64TH AVENUE AT COMMERCE CITY, CO

LOCATION.--Lat 39°48'44", long 104°57'28", in NW¹/₄NW¹/₄ sec.12, T.3 S., R.68 W., Adams County, Hydrologic Unit 10190003, on left bank 300 ft southeast of intersection of York Street and East 64th Avenue, and 1,900 ft upstream from mouth of Sand Creek at northwest corner of Metro Denver Sewage Disposal plant at Commerce City.

DRAINAGE AREA.--3,884 mi².

PERIOD OF RECORD.--January 1982 to current year.

REVISED RECORDS.--WDR CO-86-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry, and concrete control. Elevation of gage is 5,105 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by transmountain diversions, storage and flood-control reservoirs, power developments, diversions for irrigation and municipal use, and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	87	26	208	242	23	255	934	575	198	407	263
2	97	41	29	208	243	24	476	826	376	289	617	82
3	96	36	98	210	227	23	787	816	237	219	801	216
4	92	32	182	209	210	23	582	776	254	167	856	83
5	91	31	119	198	32	25	536	1210	550	199	608	14
6	88	31	95	251	28	25	581	1280	76	327	431	122
7	85	30	101	247	27	108	671	2240	151	438	229	179
8	101	29	109	229	26	138	641	1940	492	416	90	130
9	157	61	140	203	26	105	517	1900	510	472	79	25
10	68	35	140	199	28	81	460	1310	362	384	284	22
11	72	27	115	203	26	28	359	1250	138	693	200	77
12	388	33	78	216	25	23	368	1280	14	739	75	67
13	213	30	80	235	26	21	390	1190	21	579	133	160
14	119	29	108	236	27	24	448	1150	276	361	434	78
15	78	26	114	241	25	24	619	1130	320	83	630	10
16	13	24	97	244	27	25	704	1050	13	303	326	8.9
17	10	23	105	242	26	23	726	973	17	346	302	7.0
18	9.0	24	107	244	25	423	1270	848	11	234	395	9.9
19	13	24	100	248	25	724	743	608	9.7	149	462	9.6
20	108	23	98	252	24	580	616	459	19	140	560	11
21	179	23	93	239	24	469	638	317	123	138	305	79
22	179	22	88	234	25	451	599	549	316	441	307	36
23	185	22	223	224	26	440	648	996	245	638	365	6.7
24	484	21	238	220	27	433	716	740	60	498	351	9.0
25	340	23	225	227	24	452	699	740	95	1850	300	8.4
26	436	22	217	223	25	431	1560	828	94	1560	299	9.0
27	672	34	215	224	26	518	999	875	167	820	302	9.4
28	662	259	211	225	24	559	1020	822	165	777	289	9.6
29	448	76	219	226	---	556	1090	783	145	664	244	12
30	190	36	207	226	---	614	1140	667	171	824	161	9.1
31	128	---	203	242	---	435	---	651	---	505	124	---
TOTAL	5899.0	1214	4180	7033	1546	7828	20858	31138	6002.7	15451	10966	1762.6
MEAN	190	40.5	135	227	55.2	253	695	1004	200	498	354	58.8
MAX	672	259	238	252	243	724	1560	2240	575	1850	856	263
MIN	9.0	21	26	198	24	21	255	317	9.7	83	75	6.7
AC-FT	11700	2410	8290	13950	3070	15530	41370	61760	11910	30650	21750	3500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1998, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	117	101	66.1	93.7	74.0	125	331	765	557	490	393	135					
MAX	1286	927	199	235	325	305	1335	2675	2560	2130	1410	755					
(WY)	1985	1985	1986	1984	1984	1984	1984	1987	1995	1995	1984	1984					
MIN	10.0	9.00	8.79	11.2	8.58	6.81	21.0	33.2	47.3	42.5	125	20.1					
(WY)	1989	1989	1991	1995	1982	1995	1991	1997	1990	1994	1994	1992					

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1982 - 1998

ANNUAL TOTAL	64710.7	113878.3	
ANNUAL MEAN	177	312	281
HIGHEST ANNUAL MEAN			825
LOWEST ANNUAL MEAN			50.5
HIGHEST DAILY MEAN	1560	Aug 11	2240
LOWEST DAILY MEAN	3.7	Mar 28	6.7
ANNUAL SEVEN-DAY MINIMUM	6.1	Mar 26	9.2
INSTANTANEOUS PEAK FLOW			11800
INSTANTANEOUS PEAK STAGE			7.90
ANNUAL RUNOFF (AC-FT)	128400	225900	203700
10 PERCENT EXCEEDS	517	776	667
50 PERCENT EXCEEDS	96	208	75
90 PERCENT EXCEEDS	11	23	9.1

394839104570300 SAND CREEK AT MOUTH NEAR COMMERCE CITY, CO

LOCATION.--Lat 39°48'39", long 104°57'03", in SE¹/₄NW¹/₄NW¹/₄ sec.12, T.3 S., R.68 W., Adams County, Hydrologic Unit 10190003, on left bank 400 ft upstream from mouth (revised) and 0.1 mi downstream from confluence of Burlington Ditch and Sand Creek in northeast corner of Metro Wastewater Plant.

DRAINAGE AREA.--191 mi².

PERIOD OF RECORD.--January 1992 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,120 ft above sea level, from topographic map.

REMARKS.--Records poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	85	44	31	18	13	e35	e105	e55	e82	e86	98
2	128	66	42	33	22	15	e58	e86	e54	e50	e60	172
3	132	59	44	32	24	14	e43	e70	e51	e84	e50	75
4	130	53	38	30	19	18	e43	e76	e47	e76	e60	130
5	131	47	35	29	8.3	21	e40	e90	e80	e56	e95	160
6	129	44	31	33	23	17	e54	e66	e66	e60	e60	161
7	126	43	32	31	26	24	e37	e120	e54	e52	e57	159
8	125	39	33	25	21	26	e20	e74	e94	e44	e64	110
9	130	58	39	23	20	20	e19	e94	e85	e48	e98	57
10	127	58	38	24	19	18	e35	e56	e68	e62	e76	72
11	123	48	27	28	19	15	e100	e58	e54	e100	73	55
12	225	50	32	27	18	20	e50	e60	e43	e50	113	61
13	172	53	37	26	18	39	e17	e62	e45	e47	209	94
14	142	46	41	24	18	28	e18	e64	e66	e45	111	69
15	120	38	42	19	18	12	e25	e65	e40	e43	138	70
16	100	35	40	23	36	11	e29	e59	e36	e48	318	76
17	94	37	54	22	32	13	e35	e55	e33	e64	328	74
18	68	36	43	19	25	59	e170	e52	e30	e56	129	68
19	60	36	38	22	20	121	e120	e48	e41	e44	187	65
20	43	37	34	22	16	69	e102	e45	e60	e43	129	51
21	35	36	31	24	18	41	e96	e46	e37	e42	84	87
22	35	34	34	21	15	30	e94	e43	e23	e130	338	82
23	23	34	28	25	15	23	e105	e38	e14	e132	145	46
24	111	37	30	22	19	23	e110	e43	e12	e140	115	46
25	61	36	28	21	21	20	e130	e60	e10	e240	124	41
26	102	33	30	19	20	15	e150	e57	e20	e250	108	38
27	49	39	28	21	17	16	e110	e54	e45	e100	96	38
28	126	129	27	20	13	12	e130	e54	e94	e78	80	39
29	128	73	33	20	---	12	e120	e55	e90	e56	65	36
30	123	52	36	20	---	19	e110	e56	e81	e130	126	37
31	105	---	30	20	---	e18	---	e55	---	e150	149	---
TOTAL	3331	1471	1099	756	558.3	802	2205	1966	1528	2602	3871	2367
MEAN	107	49.0	35.5	24.4	19.9	25.9	73.5	63.4	50.9	83.9	125	78.9
MAX	225	129	54	33	36	121	170	120	94	250	338	172
MIN	23	33	27	19	8.3	11	17	38	10	42	50	36
AC-FT	6610	2920	2180	1500	1110	1590	4370	3900	3030	5160	7680	4690

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	43.2	27.2	21.9	18.6	29.8	42.5	46.4	76.4	77.7	121	110	72.3
MAX (WY)	107	49.0	35.5	27.7	102	124	73.5	124	137	260	204	162
MIN (WY)	17.8	16.8	13.3	12.9	14.6	13.6	25.2	46.1	33.9	68.0	53.6	16.9
(WY)	1993	1995	1995	1995	1995	1995	1996	1993	1996	1994	1993	1992

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1992 - 1998
ANNUAL TOTAL	40415	22556.3	
ANNUAL MEAN	111	61.8	58.9
HIGHEST ANNUAL MEAN			99.9
LOWEST ANNUAL MEAN			35.5
HIGHEST DAILY MEAN	1100	Jul 29	338 Aug 22
LOWEST DAILY MEAN	10	Mar 23	8.3 Feb 5
ANNUAL SEVEN-DAY MINIMUM	12	Jan 1	16 Feb 26
INSTANTANEOUS PEAK FLOW			a-Not determined
INSTANTANEOUS PEAK STAGE			12.63 Jul 10
ANNUAL RUNOFF (AC-FT)	80160	44740	42670
10 PERCENT EXCEEDS	230	128	129
50 PERCENT EXCEEDS	64	46	34
90 PERCENT EXCEEDS	18	19	13

e-Estimated.

a-Probably occurred in July during period of backwater from construction.

b-From rating curve extended above 500 ft³/s.

c-Maximum gage height, 12.63 ft Jul 10, 1998, backwater from construction.

06714800 LEAVENWORTH CREEK AT MOUTH NEAR GEORGETOWN, CO

LOCATION.--Lat 39°41'14", long 105°41'59", in NE¼SW¼ sec.20, T.4 S., R.74 W., Clear Creek County, Hydrologic Unit 10190004, on left bank 400 ft upstream from confluence of South Clear Creek, 0.3 mi south of Georgetown Reservoir, and 1.3 mi south of Georgetown.

DRAINAGE AREA.--12.0 mi².

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 9,280 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Vidler tunnel (transmountain diversion) imports water from Peru Creek. There is seasonal diversion into Green Lake. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	e4.3	e3.0	e2.3	e2.3	e1.9	e2.1	e3.1	52	52	37	16
2	6.1	e4.1	e2.9	e2.3	e2.2	e1.8	e2.2	e3.4	55	50	33	14
3	6.0	e4.0	e2.9	e2.3	e2.2	e1.6	e2.1	e3.5	57	48	29	13
4	5.8	e3.8	e2.9	e2.3	e2.2	e1.8	e2.2	e3.6	53	47	30	12
5	5.6	e3.9	e2.8	e2.3	e2.2	e1.8	e2.3	4.7	47	44	31	11
6	5.6	e3.9	e2.8	e2.2	e2.2	e1.8	e2.3	5.1	45	45	26	11
7	5.5	e3.9	e2.8	e2.3	e2.2	e1.9	e2.4	4.9	44	41	24	11
8	6.0	e3.8	e2.9	e2.4	e2.2	e1.9	e2.4	5.3	42	38	22	11
9	6.1	e3.8	e2.9	e2.6	e2.2	e1.8	e2.3	6.0	41	49	23	10
10	6.0	e3.7	e2.9	e2.5	e2.2	e1.7	e2.5	7.2	40	46	23	9.4
11	5.9	e3.7	e2.8	e2.4	e2.2	e1.7	e2.6	9.3	41	46	21	9.3
12	5.6	e3.8	e2.8	e2.3	e2.2	e1.7	e3.0	9.8	44	47	20	12
13	5.7	e3.8	e2.8	e2.3	e2.2	e1.7	e2.8	13	45	44	19	13
14	6.5	e3.3	e2.8	e2.4	e2.2	e1.7	e2.8	15	42	41	19	10
15	6.6	e2.9	e2.8	e2.5	e2.2	e1.7	e2.9	12	41	37	18	9.5
16	5.6	e3.3	e2.8	e2.3	e2.3	e1.9	e2.8	13	38	34	18	9.6
17	5.5	e3.7	e2.7	e2.2	e2.2	e2.0	e2.8	16	37	32	19	9.4
18	5.4	e3.9	e2.7	e2.2	e2.1	e1.8	e2.8	21	38	31	19	9.2
19	5.2	e3.7	e2.6	e2.2	e2.0	e1.9	e2.8	23	39	29	18	8.9
20	5.2	e3.6	e2.6	e2.3	e2.0	e2.0	e3.0	25	41	28	18	8.9
21	5.2	e3.5	e2.5	e2.4	e2.0	e2.1	e2.7	30	44	26	19	8.7
22	5.1	e3.3	e2.6	e2.5	e2.0	e2.2	e2.5	30	46	29	19	8.6
23	4.8	e3.3	e2.7	e2.6	e2.0	e2.4	e2.7	26	48	33	17	8.6
24	3.8	e3.2	e2.5	e2.4	e1.9	e2.5	e3.0	27	46	31	16	8.5
25	e3.6	e3.2	e2.4	e2.3	e1.9	e2.6	e3.4	28	46	33	16	8.2
26	e4.0	e3.2	e2.3	e2.3	e1.9	e2.3	e3.6	35	47	35	15	8.0
27	e4.5	e3.2	e2.3	e2.3	e1.9	e2.2	e2.9	39	48	30	15	7.9
28	e5.2	e3.2	e2.3	e2.3	e2.0	e2.3	e2.8	44	49	30	14	7.9
29	e5.0	e3.2	e2.2	e2.3	---	e2.4	e3.2	48	49	29	13	8.2
30	e4.7	e3.1	e2.3	e2.4	---	e2.3	e3.1	48	53	32	13	8.0
31	e4.6	---	e2.2	e2.4	---	e2.2	---	48	---	33	13	---
TOTAL	166.6	107.3	82.5	72.8	59.3	61.6	81.0	606.9	1358	1170	637	300.8
MEAN	5.37	3.58	2.66	2.35	2.12	1.99	2.70	19.6	45.3	37.7	20.5	10.0
MAX	6.6	4.3	3.0	2.6	2.3	2.6	3.6	48	57	52	37	16
MIN	3.6	2.9	2.2	2.2	1.9	1.6	2.1	3.1	37	26	13	7.9
AC-FT	330	213	164	144	118	122	161	1200	2690	2320	1260	597

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998
MEAN	5.89	3.76	2.50	1.95	1.75	1.68	2.23	18.8	64.8	47.3	19.2	8.74
MAX	7.33	4.35	2.70	2.35	2.12	1.99	2.70	28.5	80.2	81.7	25.7	10.9
(WY)	1996	1996	1997	1998	1998	1998	1998	1996	1997	1995	1995	1995
MIN	5.11	3.28	2.08	1.62	1.35	1.42	1.61	5.10	45.3	34.6	11.2	6.28
(WY)	1997	1995	1995	1995	1995	1995	1995	1995	1998	1997	1996	1996

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1995 - 1998

ANNUAL TOTAL	5584.5	4703.8	
ANNUAL MEAN	15.3	12.9	14.9
HIGHEST ANNUAL MEAN			17.7
LOWEST ANNUAL MEAN			12.9
HIGHEST DAILY MEAN	100	Jun 7	125
LOWEST DAILY MEAN	e1.5	Mar 27	a1.2
ANNUAL SEVEN-DAY MINIMUM	1.6	Mar 21	1.7
INSTANTANEOUS PEAK FLOW			69
INSTANTANEOUS PEAK STAGE		4.50	Jun 3
ANNUAL RUNOFF (AC-FT)	11080	9330	10810
10 PERCENT EXCEEDS	42	41	46
50 PERCENT EXCEEDS	3.9	3.9	4.1
90 PERCENT EXCEEDS	1.8	2.2	1.6

e-Estimated.
a-Also occurred Mar 13, 1995.
b-Maximum gage height, 5.69 ft, Jun 17, 1995.

394308105413800 CLEAR CREEK ABOVE GEORGETOWN LAKE NEAR GEORGETOWN, CO

LOCATION.--Lat 39°43'08", long 105°41'38", in SW¹/₄NE¹/₄, sec.8, T.4 S., R.74 W., Clear Creek County, Hydrologic Unit 10190004, on left bank 300 ft upstream from Georgetown Lake, and 1.0 mi north of Georgetown.

DRAINAGE AREA.--80.0 mi².

PERIOD OF RECORD.--July 1997 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 8,460 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	31	e22	e20	e13	e14	e13	36	237	286	181	78
2	43	31	e22	e20	e13	e14	e13	35	264	280	170	74
3	44	31	e23	e20	e13	e14	e14	42	283	264	161	68
4	41	33	e23	e20	e13	e14	e14	53	262	255	162	60
5	39	32	e20	e20	e13	e14	e14	54	222	241	160	62
6	41	32	e21	e20	e13	e13	e14	50	195	247	150	63
7	36	32	e20	e20	e13	e13	e15	50	183	230	143	60
8	38	32	e19	e20	e13	e13	15	52	181	225	140	59
9	37	32	e20	e20	e13	e13	16	54	184	276	141	59
10	40	31	e20	e20	e13	e12	16	57	181	259	135	54
11	39	30	e20	e20	e13	e12	17	67	178	257	135	55
12	35	33	e20	e19	e13	e11	18	71	194	240	130	64
13	34	30	e20	e19	e13	e12	16	82	215	224	127	69
14	32	31	e20	e19	e13	e12	17	89	195	210	127	61
15	41	e29	21	e18	e13	e12	17	78	191	197	125	58
16	37	e28	e20	e18	e13	e12	e15	78	175	187	122	57
17	35	e28	20	e18	e13	e12	e14	87	172	180	123	54
18	34	e27	20	e18	e13	e13	e15	107	173	173	124	54
19	32	27	20	e17	e13	e14	e15	116	179	165	109	54
20	33	28	e20	e17	e13	e13	15	131	206	157	96	52
21	32	29	e20	e17	e13	e14	15	147	225	151	101	51
22	31	e28	e20	e16	e13	14	19	144	241	159	110	51
23	28	e27	e20	e16	e13	16	23	136	251	176	95	50
24	23	27	e20	e16	e13	18	29	132	248	179	91	48
25	18	25	e20	e16	e13	19	30	136	247	196	74	44
26	31	25	e20	e15	e14	16	30	152	266	193	73	44
27	33	26	e20	e15	e14	15	27	167	272	175	80	42
28	32	25	e20	e15	e14	13	24	191	279	182	76	42
29	31	24	e20	e14	---	16	28	214	281	183	73	43
30	30	e23	e20	e14	---	e15	34	228	291	174	69	44
31	36	---	e20	e13	---	e14	---	224	---	170	68	---
TOTAL	1079	867	631	550	367	427	562	3260	6671	6491	3671	1674
MEAN	34.8	28.9	20.4	17.7	13.1	13.8	18.7	105	222	209	121	58.5
MAX	44	33	23	20	14	19	34	228	291	286	181	78
MIN	18	23	19	13	13	11	13	35	172	151	68	42
AC-FT	2140	1720	1250	1090	728	847	1110	6470	13230	12870	7280	3320

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1998, BY WATER YEAR (WY)

	1997	1998	1998	1998	1998	1998	1998	1998	1998	1998	1997	1998
MEAN	34.8	28.9	20.4	17.7	13.1	13.8	18.7	105	222	209	121	58.5
MAX	34.8	28.9	20.4	17.7	13.1	13.8	18.7	105	222	209	124	61.1
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1997	1997
MIN	34.8	28.9	20.4	17.7	13.1	13.8	18.7	105	222	209	118	55.8
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998

SUMMARY STATISTICS

FOR 1998 WATER YEAR

WATER YEARS 1997 - 1998

ANNUAL TOTAL	26250	
ANNUAL MEAN	71.9	71.9
HIGHEST ANNUAL MEAN		71.9
LOWEST ANNUAL MEAN		71.9
HIGHEST DAILY MEAN	291	Jun 30
LOWEST DAILY MEAN	e11	Mar 12
ANNUAL SEVEN-DAY MINIMUM	12	Mar 10
INSTANTANEOUS PEAK FLOW	385	Jul 8
INSTANTANEOUS PEAK STAGE	a4.73	Jul 8
ANNUAL RUNOFF (AC-FT)	52070	52100
10 PERCENT EXCEEDS	195	222
50 PERCENT EXCEEDS	32	50
90 PERCENT EXCEEDS	13	14

e-Estimated.

a-Maximum gage height, 6.59 ft, Jan 15, backwater from ice.

b-Maximum gage height, 6.59 ft, Jan 15, 1998, backwater from ice.

394359105411900 CLEAR CREEK BELOW GEORGETOWN LAKE NEAR GEORGETOWN, CO

LOCATION.--Lat 39°43'59", long 105°41'19", in SE¼4NE¼, sec.5, T.4 S., R.74 W., Clear Creek County, Hydrologic Unit 10190004, on left bank 30 ft upstream from spillway on Georgetown Lake, and 2.0 mi north of Georgetown.

DRAINAGE AREA.--82.4 mi².

PERIOD OF RECORD.--July 1997 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 8,450 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	26	23	18	15	16	11	35	262	274	169	78
2	43	26	23	19	15	16	16	35	288	269	161	75
3	42	29	21	17	15	16	16	41	311	255	148	68
4	42	26	20	18	15	16	15	51	294	243	149	61
5	40	25	21	17	16	16	16	56	246	228	151	62
6	41	25	20	17	15	15	16	52	210	234	140	63
7	39	27	20	17	15	15	16	51	193	222	133	61
8	38	27	19	17	15	13	16	50	192	209	131	61
9	36	26	18	17	15	14	16	53	194	268	132	60
10	40	25	19	17	15	13	16	54	186	247	129	56
11	35	25	17	18	14	13	17	66	180	248	126	56
12	35	27	17	18	16	13	20	71	191	232	123	62
13	32	25	16	17	16	14	18	79	221	214	120	71
14	33	24	17	16	16	13	18	93	192	199	120	61
15	36	20	18	18	15	13	18	75	184	186	118	58
16	35	23	17	18	16	14	18	75	165	176	114	57
17	33	24	17	17	15	14	16	84	158	170	114	54
18	30	25	20	16	15	16	17	108	153	163	117	55
19	29	26	19	17	14	17	17	120	160	154	106	54
20	30	26	18	16	14	16	17	136	188	146	93	53
21	29	25	17	15	15	15	15	156	207	137	97	52
22	28	24	19	16	15	17	18	154	223	143	106	52
23	26	24	16	16	15	18	21	137	234	167	93	51
24	26	24	17	16	16	21	27	135	233	166	89	49
25	19	23	17	15	17	21	28	135	228	184	75	47
26	27	24	15	15	17	19	30	153	248	187	73	46
27	30	24	17	16	16	17	27	174	257	164	80	46
28	29	24	16	15	16	14	25	209	263	168	76	46
29	29	23	17	15	---	18	27	238	266	176	73	44
30	27	23	18	15	---	16	32	256	277	161	69	46
31	27	---	18	15	---	16	---	253	---	157	68	---
TOTAL	1030	745	567	514	429	485	580	3385	6604	6147	3493	1705
MEAN	33.2	24.8	18.3	16.6	15.3	15.6	19.3	109	220	198	114	57.5
MAX	44	29	23	19	17	21	32	256	311	274	169	78
MIN	19	20	15	15	14	13	11	35	153	137	68	44
AC-FT	2040	1480	1120	1020	851	962	1150	6710	13100	12190	6930	3380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1998, BY WATER YEAR (WY)

	1997	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
MEAN	33.2	24.8	18.3	16.6	15.3	15.6	19.3	109	220	198	114	57.5
MAX	33.2	24.8	18.3	16.6	15.3	15.6	19.3	109	220	198	116	58.2
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1997	1997
MIN	33.2	24.8	18.3	16.6	15.3	15.6	19.3	109	220	198	113	56.8
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998

SUMMARY STATISTICS

FOR 1998 WATER YEAR

WATER YEARS 1997 - 1998

ANNUAL TOTAL	25684	
ANNUAL MEAN	70.4	70.4
HIGHEST ANNUAL MEAN		70.4
LOWEST ANNUAL MEAN		70.4
HIGHEST DAILY MEAN	311	311
LOWEST DAILY MEAN	11	11
ANNUAL SEVEN-DAY MINIMUM	13	13
INSTANTANEOUS PEAK FLOW	356	356
INSTANTANEOUS PEAK STAGE	a4.10	b4.10
ANNUAL RUNOFF (AC-FT)	50940	50980
10 PERCENT EXCEEDS	193	209
50 PERCENT EXCEEDS	27	49
90 PERCENT EXCEEDS	15	16

a-Maximum gage height, 4.12 ft, Jun 30 and Jul 9.
b-Maximum gage height, 4.12 ft, Jun 30 and Jul 9, 1998.

06715000 CLEAR CREEK ABOVE WEST FORK CLEAR CREEK NEAR EMPIRE, CO

LOCATION.--Lat 39°45'07", long 105°39'41", in NE¼NW¼ sec.34, T.3 S., R.74 W., Clear Creek County, Hydrologic Unit 10190004, on left bank, 1.1 mi west of exit 232 on I-70, 1.3 mi southeast of Empire, and 2.1 mi west of Lawson.

DRAINAGE AREA.--86.1 mi².

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 8,280 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	35	e25	e19	e16	e15	15	43	234	277	182	84
2	49	32	e26	e19	e16	e15	18	41	257	270	176	83
3	48	33	e23	e19	e16	e14	18	45	280	258	163	76
4	47	34	e23	e19	e16	e15	19	59	268	249	163	70
5	44	33	e23	e19	e16	e16	19	62	229	236	163	71
6	45	32	e23	e19	e16	e15	19	60	204	238	150	71
7	43	33	e22	e18	e16	e15	19	59	191	231	142	69
8	44	33	e22	e19	e15	e15	19	58	192	217	138	69
9	40	32	e22	e18	e15	e15	20	63	193	270	139	68
10	46	31	e22	e21	e15	e14	19	63	191	253	135	64
11	43	32	e21	e20	e15	e14	20	71	188	255	131	64
12	42	31	e21	e18	e16	e14	22	76	196	237	128	69
13	37	e29	e21	e17	e16	e14	20	83	223	221	125	80
14	39	e26	e21	e17	e16	e15	21	95	203	208	125	70
15	43	e24	e21	e19	e16	e15	22	83	199	198	123	68
16	41	e30	e20	e18	e16	e15	22	81	185	189	120	66
17	40	e33	e20	e17	e16	e16	20	87	179	184	119	64
18	40	e32	e20	e17	e15	17	21	105	178	175	122	65
19	38	e30	e20	e17	e15	15	22	113	179	167	113	63
20	38	e29	e20	e17	e13	15	23	127	206	159	101	62
21	38	e28	e21	e18	e16	15	20	147	222	153	105	60
22	36	e27	e21	e18	e16	17	24	149	238	157	112	60
23	34	e26	e20	e18	e16	18	27	136	245	185	100	59
24	34	e26	e20	e20	e16	19	34	136	246	181	98	56
25	27	e26	e20	e19	e15	21	38	134	239	197	83	54
26	34	e25	e20	e19	e15	20	40	150	257	202	81	51
27	40	e26	e20	e18	e15	18	35	164	261	180	87	51
28	38	e26	e20	e18	e15	16	31	191	266	180	84	51
29	38	e30	e20	e17	---	17	34	211	268	191	81	51
30	36	e29	e19	e17	---	18	40	226	278	176	77	52
31	36	---	e19	e16	---	19	---	224	---	172	75	---
TOTAL	1247	893	656	565	435	497	721	3342	6695	6466	3741	1941
MEAN	40.2	29.8	21.2	18.2	15.5	16.0	24.0	108	223	209	121	64.7
MAX	49	35	26	21	16	21	40	226	280	277	182	84
MIN	27	24	19	16	13	14	15	41	178	153	75	51
AC-FT	2470	1770	1300	1120	863	986	1430	6630	13280	12830	7420	3850

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

	1995	1996	1997	1998
MEAN	38.1	25.4	20.1	16.0
MAX	45.2	29.8	24.9	19.2
(WY)	1996	1998	1996	1996
MIN	27.9	19.3	15.4	12.8
(WY)	1995	1995	1995	1995

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1995 - 1998

ANNUAL TOTAL	37474.5	27199		
ANNUAL MEAN	103	74.5		100
HIGHEST ANNUAL MEAN				126
LOWEST ANNUAL MEAN				74.5
HIGHEST DAILY MEAN	618	Jun 20	280	Jun 3
LOWEST DAILY MEAN	e8.5	Mar 8	e13	Feb 20
ANNUAL SEVEN-DAY MINIMUM	9.1	Mar 3	e14	Mar 7
INSTANTANEOUS PEAK FLOW			a321	Jun 3
INSTANTANEOUS PEAK STAGE			b5.02	Jun 3
ANNUAL RUNOFF (AC-FT)	74330	53950	72540	
10 PERCENT EXCEEDS	280	202	268	
50 PERCENT EXCEEDS	35	36	32	
90 PERCENT EXCEEDS	12	16	15	

e-Estimated.

a-Also occurred Jun 30 and Jul 9.

b-Maximum gage height, 5.03 ft, Jun 30 and Jul 9.

394730105464802 HOOP CREEK ABOVE TRIBUTARY AT FLORAL PARK NEAR BERTHOUD PASS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 39°47'30", long 105°46'48", (unsurveyed), Clear Creek County, Hydrologic Unit 14010001, 1.25 mi upstream from the confluence with West Fork Clear Creek, and 9.5 mi west of Empire.

PERIOD OF RECORD.--April 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
JUN 02...	1050	4.4	36	7.7	1.5	11	10.0	9
SEP 03...	1205	0.48	34	7.4	7.3	0.45	8.4	12

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
JUN 02...	2.4	0.68	4.5	27	0.075	0.009	0.004
SEP 03...	3.0	0.99	2.2	26	0.114	<0.002	0.002

DATE	CADMIUM UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
JUN 02...	<1	<1	2	1	720	38	1	<1	22	5	<10	<20
SEP 03...	--	<1	--	<1	--	<10	--	<1	--	<4	--	<20

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
MAY 22...	1420	0.38	7	0.01
JUN 02...	1200	4.4	189	2.2
SEP 03...	1210	0.48	4	0.01

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SAM-PLING METHOD, CODES (82398)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/ DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.125 MM (80227)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.250 MM (80228)
JUN 02...	1152	4.4	1.5	10	10	1	1
JUN 02...	1159	4.4	1.5	10	9.5	1	1

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)
JUN 02...	5	23	59	84	96	100
JUN 02...	6	28	66	91	99	100

PLATTE RIVER BASIN

394730105464801 HOOP CREEK TRIBUTARY AT FLORAL PARK NEAR BERTHOUD PASS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 39°47'30", long 105°46'48", (unsurveyed), Clear Creek County, Hydrologic Unit 14010001, 10 ft above confluence with Hoop Creek, 1.25 mi upstream from the confluence with West Fork Clear Creek, and 9.5 mi west of Empire.

PERIOD OF RECORD.--April 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)
APR 22...	1245	0.91	300	7.3	0.5	1.5	9.8	59
DATE		CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
APR 22...	17		4.2	77	174	0.091	<0.002	<0.001
DATE		CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	
APR 22...		<1	<1	<10	<1.0	<4	<20	

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
APR 22...	1246	0.91	5	0.01

394714105465200 HOOP CREEK BELOW FLORAL PARK NEAR BERTHOUD PASS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 39°47'14", long 105°46'52", (unsurveyed), Clear Creek County, Hydrologic Unit 14010001, 0.9 mi upstream from the confluence with West Fork Clear Creek and 9.2 mi west of Empire.

PERIOD OF RECORD.--April 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
APR 22...	1310	0.17	289	7.3	2.5	17	9.8	56
JUN 02...	1130	21	49	7.4	4.0	10	9.4	11
SEP 03...	1245	1.3	47	7.2	9.2	0.6	7.9	13

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
APR 22...	15	4.6	74	171	0.16	<0.002	<0.001
JUN 02...	3.0	0.87	7.3	33	0.08	0.005	0.004
SEP 03...	3.4	1.0	4.9	36	0.07	<0.002	0.001

DATE	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
APR 22...	--	<1	--	<1	--	46	--	<1	--	29	--	<20
JUN 02...	<1	<1	3	<1	1100	31	4	<1	30	<4	10	<20
SEP 03...	--	<1	--	<1	--	32	--	<1	--	6	--	<20

PLATTE RIVER BASIN

394714105465200 HOOP CREEK BELOW FLORAL PARK NEAR BERTHOUD PASS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
APR 22...	1310	0.17	23	0.01
JUN 02...	1306	21	166	9.3
SEP 03...	1250	1.3	13	0.04

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE (DEG C) (00010)	SAM-PLING METHOD, CODES (82398)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.062 MM (80226)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.125 MM (80227)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.250 MM (80228)
JUN 02...	1301	21	4.0	10	60	0.40	0.50	0.80
JUN 02...	1302	21	4.0	10	60	0.30	0.40	0.60

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM (80235)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM (80236)
JUN 02...	8	19	32	43	54	75	100	--
JUN 02...	7	18	30	41	52	72	92	100

**394716105474100 WEST HOOP CREEK TRIBUTARY AT UPPER STATION NEAR BERTHOUD PASS, CO
WATER-QUALITY RECORDS**

LOCATION.--Lat 39°47'16", long 105°47'41", (unsurveyed), Clear Creek County, Hydrologic Unit 14010001, 0.75 mi upstream from the confluence with Hoop Creek, and 10.5 mi west of Empire.

PERIOD OF RECORD.--April 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
APR 22...	1150	0.21	33	7.9	1.6	1.5	9.3	12
JUN 02...	1025	3.8	23	7.6	3.5	0.6	9.3	8
SEP 03...	1140	0.96	23	7.2	5.6	0.3	8.9	9

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
APR 22...	3.7	0.74	<0.1	28	0.13	<0.002	0.011
JUN 02...	2.4	0.50	<0.1	20	0.06	0.006	0.008
SEP 03...	2.7	0.57	<0.1	23	0.05	<0.002	0.006

DATE	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
APR 22...	--	<1	--	<1	--	<10	--	<1	--	<4	--	<20
JUN 02...	<1	<1	<1	<1	40	11	<1	<1	<10	<4	<10	<20
SEP 03...	--	<1	--	<1	--	<10	--	<1	--	<4	--	<20

PLATTE RIVER BASIN

394716105474100 WEST HOOP CREEK TRIBUTARY AT UPPER STATION NEAR BERTHOUD PASS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	TEMPER- ATURE WATER (DEG C) (00010)	SAM- PLING METHOD, CODES (82398)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
APR						
22...	1131	1.6	10	0.21	20	0.01
MAY						
12...	1550	0.5	10	0.63	3	0.01
18...	1445	--	10	1.5	18	0.07
22...	1450	2.6	10	2.0	9	0.05
26...	1115	3.3	10	2.2	4	0.02
JUN						
02...	1100	3.5	10	3.8	4	0.04
08...	1115	3.3	10	3.9	8	0.08
08...	1200	3.3	10	3.9	1	0.01
10...	1628	3.0	10	4.4	1	0.02
10...	1640	3.0	10	4.4	1	0.02
AUG						
05...	1400	--	10	0.1	6	0.02
SEP						
03...	1145	5.6	10	0.96	4	0.01

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SAM- PLING METHOD, CODES (82398)	SEDI- MENT DIS- CHARGE, BEDLOAD (TONS/ DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.125 MM (80227)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.250 MM (80228)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)
APR												
22...	1131	0.21	1.6	10	0.0	--	--	--	--	--	--	--
MAY												
12...	1550	0.63	0.5	10	0.0	--	--	--	--	--	--	--
18...	1445	1.5	--	10	0.0	--	--	--	--	--	--	--
22...	1450	2.0	2.6	10	0.0	--	--	--	--	--	--	--
26...	1115	2.2	3.3	10	0.0	--	--	--	--	--	--	--
JUN												
02...	1100	3.8	3.5	10	0.0	--	--	--	--	--	--	--
08...	1115	3.9	3.3	10	0.0	--	--	--	--	--	--	--
10...	1640	4.4	3.0	10	0.0	--	--	--	--	--	--	--
AUG												
05...	1400	0.1	--	10	0.0	--	--	--	--	--	--	--
SEP												
03...	1145	0.96	5.6	10	0.0	--	--	--	--	--	--	--

394657105471500 WEST HOOP CREEK TRIBUTARY AT LOWER STATION NEAR BERTHOUD PASS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 39°46'57", long 105°47'15", (unsurveyed), Clear Creek County, Hydrologic Unit 14010001, 0.25 mi upstream from the confluence with Hoop Creek, and 7.5 mi west of Empire.

PERIOD OF RECORD.--April 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)
APR 22...	1350	0.36	45	7.9	1.0	2.6	10.3	14
JUN 02...	1215	4.2	31	7.6	5.0	1.7	9.2	10
SEP 03...	1315	0.72	27	7.3	7.0	0.28	8.3	10

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
APR 22...	4.0	0.84	3.1	33	0.114	<0.002	0.006
JUN 02...	2.9	0.66	1.8	25	0.038	0.003	0.006
SEP 03...	2.8	0.60	0.51	27	0.020	<0.002	0.004

DATE	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
APR 22...	--	<1	--	<1	--	<10	--	<1	--	<4	--	<20
JUN 02...	<1	<1	<1	<1	100	13	<1	<1	<10	<4	<10	<20
SEP 03...	--	<1	--	<1	--	<10	--	<1	--	<4	--	<20

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
APR 22...	1351	0.36	75	0.07
MAY 22...	1540	0.79	9	0.02
JUN 02...	1415	4.2	42	0.47
SEP 03...	1320	0.72	5	0.01

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SAM-PLING METHOD, CODES (82398)	SEDI-MENT DIS-CHARGE, BEDLOAD (TONS/DAY) (80225)	SED. BEDLOAD % FINER THAN 0.125 MM (80227)	SED. BEDLOAD % FINER THAN 0.250 MM (80228)	SED. BEDLOAD % FINER THAN 0.500 MM (80229)	SED. BEDLOAD % FINER THAN 1.00 MM (80230)	SED. BEDLOAD % FINER THAN 2.00 MM (80231)	SED. BEDLOAD % FINER THAN 4.00 MM (80232)	SED. BEDLOAD % FINER THAN 8.00 MM (80233)
JUN 02...	1410	4.2	6.3	10	0.40	0.00	0.30	10	29	55	84	100

**394657105471501 MISCELLANEOUS ROAD RUNOFF AT WEST HOOP CREEK TRIBUTARY NEAR BERTHOUD PASS, CO
WATER-QUALITY RECORDS**

LOCATION.--Lat 39°46'57", long 105°47'15", (unsurveyed), Clear Creek County, Hydrologic Unit 14010001, 0.25 mi upstream from the confluence with Hoop Creek, and 7.5 mi west of Empire.

PERIOD OF RECORD.--April to September 1998.

REMARKS--Road runoff from culvert, downstream from West Hoop Creek Tributary at Lower Station site.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)
APR 22...	1420	0.25	393	7.5	1.5	4700	10	31

DATE	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg) (00925)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
APR 22...	9.1	2.1	100	209	0.06	0.007	0.001

DATE	CADMIUM DIS-SOLVED (UG/L AS Cd) (01025)	COPPER, DIS-SOLVED (UG/L AS Cu) (01040)	IRON, DIS-SOLVED (UG/L AS Fe) (01046)	LEAD, DIS-SOLVED (UG/L AS Pb) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS Mn) (01056)	ZINC, DIS-SOLVED (UG/L AS Zn) (01090)
APR 22...	<1	2	<10	<1	54	<20

DATE	TIME	TEMPER-ATURE WATER (DEG C) (00010)	SAM-PLING METHOD, CODES (82398)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI-MENT, DIS-SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-SUS-PENDED (T/DAY) (80155)
APR 22...	1421	1.5	10	0.67	3130	5.7

394634105465800 HOOP CREEK AT MOUTH NEAR BERTHOUD FALLS, CO

LOCATION.--Lat 39°46'34", long 105°46'58", T.3 S., R.75 W. (unsurveyed), Clear Creek County, Hydrologic Unit 10190004, on left bank 10 ft downstream from U.S. Highway 40 culvert, and 1.0 mi southeast of Berthoud Falls.

DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1997 to current year (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 9,595 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Natural flow of stream affected by minor transmountain diversion from Colorado River basin through Berthoud Pass ditch (see elsewhere in this report).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge during period of seasonal operation, 61 ft³/s, June 22, 1997 during period of estimated record. Maximum recorded discharge, 73 ft³/s, June 27, 1997, gage height 1.52 ft; minimum daily, 0.70 ft³/s (estimated), Apr. 3, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 27 ft³/s, June 2, at 1530, gage height 1.80 ft; maximum gage height, 1.88 ft, May 29, at 2245; minimum daily discharge, 0.70 ft³/s (estimated), Apr. 3.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	---	---	---	---	---	e.74	1.2	18	19	6.6	3.1
2	1.9	---	---	---	---	---	e.78	1.3	20	20	6.1	2.7
3	2.0	---	---	---	---	---	e.70	1.7	22	19	6.0	2.5
4	1.8	---	---	---	---	---	e.78	2.0	22	18	6.0	2.3
5	1.8	---	---	---	---	---	e.82	2.1	21	16	5.8	2.2
6	1.9	---	---	---	---	---	e.82	2.1	19	16	5.5	2.1
7	1.9	---	---	---	---	---	e.76	2.0	17	15	5.2	2.0
8	2.1	---	---	---	---	---	e.76	1.9	16	14	5.2	2.0
9	2.1	---	---	---	---	---	e.76	2.0	15	14	5.4	1.8
10	1.9	---	---	---	---	---	e.76	2.5	e15	14	5.3	1.7
11	1.8	---	---	---	---	---	e.84	2.7	e15	e13	5.1	1.7
12	e1.6	---	---	---	---	---	e.86	2.9	14	e13	4.8	2.3
13	e1.3	---	---	---	---	---	e.80	3.9	15	e12	4.6	1.9
14	e1.2	---	---	---	---	---	e.84	4.1	15	e11	4.9	1.8
15	1.6	---	---	---	---	---	e.79	3.9	15	e10	4.5	1.7
16	1.9	---	---	---	---	---	e.79	4.3	14	e9.8	4.2	1.7
17	1.8	---	---	---	---	---	e.79	5.0	14	e9.5	4.2	1.6
18	1.4	---	---	---	---	---	e.81	5.6	14	9.2	4.0	1.5
19	1.3	---	---	---	---	---	e.83	6.8	14	8.3	3.8	1.4
20	1.3	---	---	---	---	---	e.88	8.4	14	7.7	4.1	1.3
21	1.2	---	---	---	---	---	e1.1	9.7	15	7.5	4.0	1.3
22	1.2	---	---	---	---	---	e1.2	10	17	7.5	3.6	1.2
23	1.2	---	---	---	---	---	1.0	10	17	8.1	3.4	1.2
24	e1.2	---	---	---	---	---	1.1	9.8	18	7.8	3.2	1.1
25	e1.0	---	---	---	---	---	1.1	10	18	7.8	4.0	1.0
26	e1.2	---	---	---	---	---	e1.1	11	18	7.3	3.4	.99
27	e1.4	---	---	---	---	---	1.0	12	19	6.9	3.5	.96
28	e1.3	---	---	---	---	---	1.0	14	19	7.6	3.0	.95
29	e1.3	---	---	---	---	---	1.2	15	19	7.1	2.9	.95
30	e1.2	---	---	---	---	---	1.2	e17	19	6.8	2.7	.95
31	e1.2	---	---	---	---	---	---	18	---	6.5	3.0	---
TOTAL	47.9	---	---	---	---	---	26.91	202.9	508	349.4	138.0	49.90
MEAN	1.55	---	---	---	---	---	.90	6.55	16.9	11.3	4.45	1.66
MAX	2.1	---	---	---	---	---	1.2	18	22	20	6.6	3.1
MIN	1.0	---	---	---	---	---	.70	1.2	14	6.5	2.7	.95
AC-FT	95	---	---	---	---	---	53	402	1010	693	274	99

e-Estimated.

394634105465800 HOOP CREEK AT MOUTH NEAR BERTHOUD FALLS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1997 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1997 to current year.

WATER TEMPERATURE: May 1997 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1997.

REMARKS.--Water temperature and specific conductance records are rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 440 microsiemens, Sept. 5, 1997; minimum, 23 microsiemens, June 20, 22, 1997.

WATER TEMPERATURE: Maximum 11.7°C, July 27, 1998; minimum, 0.0°C, many days during winter months.

EXTREMES FOR CURRENT PERIOD.--

SPECIFIC CONDUCTANCE: Maximum, 367 microsiemens, Apr. 27; minimum, 26 microsiemens, July 2, 3.

WATER TEMPERATURE: Maximum 11.7°C, July 27; minimum, 0.0°C, May 15, 16, and many days in Oct., Nov., and Apr.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL AS CAC03 (00900)				
		CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)				
APR 22...	1520	1.3	194	7.7	1.0	92	10.3	41				
JUN 02...	1315	28	54	7.7	6.5	15	8.8	13				
SEP 03...	1350	2.2	56	7.4	9.7	5.4	8.2	16				
APR 22...	11	3.2	61	143	0.10	<0.002	0.001					
JUN 02...	3.5	0.98	8.9	36	0.05	0.004	0.003					
SEP 03...	4.4	1.2	7.6	41	0.02	<0.002	0.003					
DATE	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
APR 22...	<1	<1	13	<1	6400	<10	24	<1	220	6	70	<20
JUN 02...	<1	<1	2	<1	990	29	2	<1	30	4	<10	<20
SEP 03...	<1	<1	2	<1	698	<10	24	<1	27	<4	<10	<20

394634105465800 HOOP CREEK AT MOUTH NEAR BERTHOUD FALLS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	TEMPER- ATURE- WATER (DEG C) (00010)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
DEC					
31...	1510	0.0	0.46	3	<0.01
MAR					
25...	1610	0.0	1.7	198	0.90
APR					
01...	1052	0.0	0.73	15	0.03
14...	1345	0.6	0.60	8	0.01
20...	1400	0.0	0.70	18	0.03
20...	1401	0.1	0.88	10	0.02
21...	1430	0.7	0.70	10	0.02
22...	1400	1.6	1.1	11	0.03
22...	1521	1.0	1.3	227	0.78
23...	1340	2.2	0.86	34	0.08
23...	1401	2.2	0.97	53	0.14
24...	1401	2.0	1.1	66	0.20
25...	1401	2.3	1.1	20	0.06
26...	1401	0.0	4.2	16	0.18
27...	1401	1.4	0.97	20	0.05
28...	1401	2.2	0.97	6	0.02
29...	1130	0.9	0.97	8	0.02
29...	1401	2.2	0.97	8	0.02
30...	1401	1.7	1.2	12	0.04
MAY					
01...	1401	1.4	1.2	7	0.02
02...	1401	2.2	1.3	17	0.06
03...	1401	3.0	1.7	30	0.14
04...	1401	3.1	2.0	17	0.09
05...	1401	2.0	2.0	8	0.04
06...	1401	2.4	2.0	8	0.04
07...	1401	2.4	2.0	10	0.05
08...	1401	2.7	2.0	7	0.04
08...	1420	2.4	2.0	7	0.04
08...	1448	2.3	2.0	9	0.05
08...	1455	2.3	2.0	17	0.09
09...	1401	2.9	2.0	5	0.03
10...	1401	3.7	2.4	12	0.08
11...	1401	3.4	2.5	17	0.12
12...	1401	3.5	2.8	8	0.06
12...	1535	3.0	3.2	13	0.11
13...	1401	4.9	3.5	35	0.33
14...	1401	2.4	4.0	9	0.09
15...	1401	3.3	3.8	7	0.07
16...	1401	4.7	4.2	11	0.13
17...	1401	5.3	4.9	16	0.22
18...	1200	3.5	4.8	7	0.08
18...	1330	4.9	5.5	26	0.39
18...	1400	4.9	5.5	33	0.49
18...	1700	3.5	6.6	7	0.13
19...	0800	0.9	5.9	7	0.11
19...	1700	4.1	7.7	5	0.11
19...	1755	3.2	8.6	228	5.3
19...	1820	3.2	8.6	134	3.1
20...	0800	1.4	7.0	18	0.35
20...	1615	4.0	10	301	8.1
20...	1640	4.0	10	252	6.8
20...	1700	3.6	10	35	0.95
20...	1725	3.4	10	8	0.21
21...	0800	1.7	8.8	27	0.65
21...	1650	3.7	11	220	6.5
21...	1700	4.1	11	39	1.2
21...	1715	3.7	11	308	9.1
22...	0800	1.6	9.8	27	0.70
22...	1605	3.5	10	102	2.8
22...	1625	3.5	9.8	96	2.5
22...	1700	3.2	10	154	4.2
23...	0800	0.9	9.6	29	0.75
23...	1700	4.1	11	147	4.4
24...	1700	3.7	10	85	2.3
25...	0800	0.9	9.6	16	0.41
25...	1700	4.2	11	12	0.37

PLATTE RIVER BASIN

394634105465800 HOOP CREEK AT MOUTH NEAR BERTHOUD FALLS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	TEMPER- ATURE- WATER (DEG C) (00010)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENED (T/DAY) (80155)
MAY					
26...	0800	1.4	10	8	0.21
26...	1238	5.1	10	51	1.4
26...	1300	6.0	11	67	2.0
26...	1700	3.9	12	38	1.2
27...	0800	1.3	11	26	0.77
27...	1000	2.5	11	40	1.2
27...	1035	2.5	11	28	0.83
27...	1700	4.5	14	296	11
28...	0800	1.8	12	47	1.5
28...	1550	5.5	15	349	14
28...	1606	5.5	16	328	14
28...	1700	4.6	16	554	24
29...	0800	2.1	14	55	2.1
29...	1400	6.0	15	10	0.40
29...	1420	6.0	15	10	0.40
29...	1440	6.3	16	171	7.4
29...	1450	6.3	16	188	8.1
29...	1700	4.2	14	831	31
30...	0800	2.3	16	85	3.7
30...	1700	4.2	22	847	50
31...	0800	1.5	18	44	2.1
31...	1700	4.8	21	89	5.1
JUN					
01...	0800	2.2	18	130	6.3
01...	1515	5.9	19	180	9.2
01...	1530	6.0	19	153	7.9
01...	1700	4.9	19	195	10
02...	0800	2.4	17	80	3.7
02...	1450	6.0	28	483	36
02...	1700	4.4	23	604	38
03...	0800	2.2	21	233	13
03...	1605	5.0	24	479	31
03...	1618	5.0	25	406	27
03...	1700	4.7	25	537	36
04...	0800	1.9	22	185	11
04...	0908	2.1	22	56	3.3
04...	1659	3.0	22	57	3.4
04...	1700	2.9	22	52	3.1
04...	1715	3.0	22	67	4.0
05...	0800	1.0	21	78	4.4
05...	1700	2.3	21	25	1.4
06...	0800	0.8	19	11	0.57
06...	1700	3.8	20	9	0.46
07...	0800	1.8	17	31	1.4
07...	1700	4.6	17	36	1.6
08...	0800	1.8	15	16	0.63
08...	1005	2.6	16	28	1.2
08...	1030	2.7	16	33	1.4
08...	1700	4.8	15	68	2.8
09...	0800	1.4	16	53	2.3
09...	1700	5.1	16	7	0.31
10...	0800	1.8	15	9	0.37
10...	1655	3.7	15	15	0.62
10...	1728	3.7	15	40	1.6
11...	1410	4.0	14	13	0.48
12...	1100	3.8	13	16	0.57
16...	1700	5.4	14	8	0.31
17...	1700	4.2	14	8	0.29
18...	1700	5.2	14	8	0.31
19...	1700	7.2	14	21	0.81
20...	1700	6.3	16	11	0.48
21...	1700	6.4	17	18	0.84
22...	1700	7.2	17	35	1.6
23...	1700	7.0	19	43	2.2
24...	1700	6.4	19	24	1.2
25...	1700	7.8	19	31	1.6
26...	1700	7.8	19	23	1.2
27...	1700	8.0	19	27	1.4
28...	0700	3.2	18	19	0.91
29...	0700	3.7	19	17	0.87
30...	0700	4.4	19	14	0.71

394634105465800 HOOP CREEK AT MOUTH NEAR BERTHOUD FALLS, CO--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	TEMPER- ATURE WATER (DEG C) (00010)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE D (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE D (T/DAY) (80155)
JUL					
02...	0700	4.4	21	7	0.39
04...	0700	3.9	18	15	0.72
06...	0700	5.3	15	12	0.49
08...	0700	4.7	14	16	0.59
10...	0700	4.6	14	21	0.81
12...	0700	4.5	13	11	0.40
14...	0700	4.7	13	9	0.31
16...	0700	4.4	13	17	0.59
18...	0700	5.1	9.3	10	0.26
20...	0700	5.7	7.8	12	0.24
22...	0700	6.1	7.5	7	0.15
24...	0700	6.2	7.5	12	0.25
26...	0700	6.8	7.1	9	0.17
28...	0700	7.1	6.8	7	0.14
30...	0700	6.0	6.8	10	0.19
AUG					
01...	0700	6.1	6.5	5	0.08
05...	0700	5.2	5.9	6	0.09
05...	1205	6.6	5.5	12	0.18
SEP					
03...	1400	9.7	2.2	4	0.02
04...	1245	9.0	2.0	9	0.05
04...	1250	9.0	2.0	7	0.04

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT DIS- CHARGE, BEDLOAD (TONS/ DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.062 MM (80226)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.125 MM (80227)		
MAY								
08...	1600	2.0	2.1	0.0	--	--		
12...	1240	2.7	3.0	0.0	--	--		
18...	1340	4.7	5.0	0.5	--	--		
18...	1350	4.7	5.7	1.6	--	--		
19...	1809	8.6	3.2	12	--	--		
20...	1620	10	4.0	17	--	0.0		
20...	1630	10	3.9	10	--	0.0		
DATE		SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.250 MM (80228)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)
MAY								
08...	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--
18...	0.0	4	32	68	92	100	--	--
18...	0.0	3	33	69	93	100	--	--
19...	0.0	6	23	54	86	100	--	--
20...	1	6	24	55	87	100	--	--
20...	1	13	41	74	92	99	100	--

PLATTE RIVER BASIN

394634105465800 HOOP CREEK AT MOUTH NEAR BERTHOUD FALLS, CO--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT DIS- CHARGE, BEDLOAD (TONS/ DAY) (80225)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.062 MM (80226)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.125 MM (80227)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.250 MM (80228)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 0.500 MM (80229)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM (80230)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM (80231)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM (80232)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM (80233)	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM (80234)
MAY													
21...	1700	11	3.6	58	--	--							
22...	1616	10	3.3	8.0	--	--							
26...	1245	10	5.1	7.9	--	--							
27...	1015	11	2.5	4.5	--	--							
28...	1557	15	5.4	--	--	--							
28...	1603	16	5.4	9.1	--	--							
29...	1445	15	6.3	10	--	--							
MAY													
21...	0.0	7	26	58	86	100	100						
22...	0.0	19	47	70	87	99	100						
26...	0.0	15	43	73	91	100	--						
27...	0.0	18	48	73	90	98	100						
28...	1	13	34	59	81	95	100						
28...	1	16	41	65	86	98	100						
29...	1	15	38	63	83	93	97						
MAY													
01...	1544	20	5.8	9.7	--	0.0	1						
02...	1452	23	6.1	37	--	0.0	1						
03...	1610	25	5.1	32	--	0.0	1						
04...	1705	22	2.9	7.6	--	--	0.0						
08...	1017	15	2.6	0.9	--	0.0	1						
10...	1710	15	3.7	0.5	--	0.0	1						
JUN													
01...	15	38	61	80	92	100	--						
02...	12	28	47	66	87	100	--						
03...	14	32	52	73	88	97	100						
04...	11	29	53	75	96	100	--						
08...	15	42	71	90	99	100	--						
10...	15	37	60	77	87	100	--						

394634105465800 HOOP CREEK AT MOUTH NEAR BERTHOUD FALLS, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	52	50	51	---	---	---	---	---	---	---	---	---
2	52	51	52	---	---	---	---	---	---	---	---	---
3	53	51	52	129	69	89	---	---	---	---	---	---
4	52	51	52	109	78	86	---	---	---	---	---	---
5	53	51	52	100	78	84	---	---	---	---	---	---
6	52	51	52	90	78	82	---	---	---	---	---	---
7	52	51	52	84	78	80	---	---	---	---	---	---
8	55	50	52	79	76	77	---	---	---	---	---	---
9	55	48	52	---	---	---	---	---	---	---	---	---
10	53	50	52	---	---	---	---	---	---	---	---	---
11	53	52	52	---	---	---	---	---	---	---	---	---
12	---	---	---	172	78	108	---	---	---	---	---	---
13	---	---	---	96	81	85	---	---	---	---	---	---
14	98	56	68	---	---	---	---	---	---	---	---	---
15	65	57	60	---	---	---	---	---	---	---	---	---
16	60	56	58	---	---	---	---	---	---	---	---	---
17	61	56	58	---	---	---	---	---	---	---	---	---
18	63	61	62	---	---	---	---	---	---	---	---	---
19	64	62	63	75	72	74	---	---	---	---	---	---
20	73	63	64	75	74	75	---	---	---	---	---	---
21	66	63	64	75	74	75	---	---	---	---	---	---
22	65	64	65	79	75	76	---	---	---	---	---	---
23	65	64	65	108	75	83	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	164	72	104	---	---	---	---	---	---	---	---	---
28	155	85	111	---	---	---	---	---	---	---	---	---
29	122	81	96	---	---	---	---	---	---	---	---	---
30	90	77	81	---	---	---	---	---	---	---	---	---
31	93	74	80	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	226	221	224
2	---	---	---	---	---	---	---	---	---	225	215	222
3	---	---	---	---	---	---	---	---	---	226	202	218
4	---	---	---	---	---	---	276	206	237	221	201	215
5	---	---	---	---	---	---	208	182	191	219	203	212
6	---	---	---	---	---	---	288	167	192	224	203	210
7	---	---	---	---	---	---	---	---	---	219	212	215
8	---	---	---	---	---	---	301	179	226	227	204	211
9	---	---	---	---	---	---	221	183	197	210	196	204
10	---	---	---	---	---	---	197	166	181	202	178	194
11	---	---	---	---	---	---	184	172	178	191	181	187
12	---	---	---	---	---	---	189	180	185	186	176	183
13	---	---	---	---	---	---	185	178	182	181	152	171
14	---	---	---	---	---	---	250	179	195	174	166	171
15	---	---	---	---	---	---	---	---	---	172	167	171
16	---	---	---	---	---	---	---	---	---	171	153	165
17	---	---	---	---	---	---	---	---	---	160	139	152
18	---	---	---	---	---	---	---	---	---	148	132	142
19	---	---	---	---	---	---	242	163	198	138	94	122
20	---	---	---	---	---	---	298	198	236	98	84	92
21	---	---	---	---	---	---	305	201	240	89	80	86
22	---	---	---	---	---	---	240	207	223	84	80	82
23	---	---	---	---	---	---	221	204	210	83	78	81
24	---	---	---	---	---	---	224	202	207	80	78	79
25	---	---	---	---	---	---	325	208	219	78	70	75
26	---	---	---	---	---	---	---	---	---	96	71	80
27	---	---	---	---	---	---	367	219	249	89	76	84
28	---	---	---	---	---	---	238	223	228	80	67	75
29	---	---	---	---	---	---	224	217	220	71	60	67
30	---	---	---	---	---	---	223	218	221	64	55	60
31	---	---	---	---	---	---	---	---	---	60	53	57
MONTH	---	---	---	---	---	---	---	---	---	227	53	145

394634105465800 HOOP CREEK AT MOUTH NEAR BERTHOUD FALLS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	2.0	0.2	0.8
2	---	---	---	---	---	---	---	---	---	2.3	0.3	1.0
3	---	---	---	---	---	---	---	---	---	3.0	0.4	1.1
4	---	---	---	---	---	---	0.6	0.0	0.1	3.1	0.1	1.1
5	---	---	---	---	---	---	1.2	0.0	0.3	2.3	0.3	1.0
6	---	---	---	---	---	---	0.2	0.0	0.0	2.6	0.2	0.8
7	---	---	---	---	---	---	---	---	---	2.7	0.1	1.1
8	---	---	---	---	---	---	1.0	0.0	0.2	3.0	0.3	1.1
9	---	---	---	---	---	---	1.1	0.0	0.2	3.1	0.3	1.3
10	---	---	---	---	---	---	1.3	0.0	0.3	3.9	0.4	1.6
11	---	---	---	---	---	---	1.9	0.0	0.4	3.5	0.4	1.4
12	---	---	---	---	---	---	1.5	0.0	0.4	3.5	0.4	1.6
13	---	---	---	---	---	---	1.7	0.0	0.4	4.9	0.4	1.8
14	---	---	---	---	---	---	0.9	0.0	0.2	2.4	0.5	1.3
15	---	---	---	---	---	---	---	---	---	3.5	0.0	1.1
16	---	---	---	---	---	---	---	---	---	4.8	0.0	1.6
17	---	---	---	---	---	---	---	---	---	5.4	0.6	2.1
18	---	---	---	---	---	---	---	---	---	5.0	1.1	2.3
19	---	---	---	---	---	---	0.4	0.0	0.1	5.6	0.8	2.4
20	---	---	---	---	---	---	0.3	0.0	0.1	5.6	1.4	2.6
21	---	---	---	---	---	---	1.0	0.0	0.3	4.5	1.7	2.6
22	---	---	---	---	---	---	1.7	0.0	0.3	3.4	1.5	2.2
23	---	---	---	---	---	---	2.2	0.0	0.6	4.8	0.9	2.2
24	---	---	---	---	---	---	2.2	0.3	0.8	3.7	0.8	2.0
25	---	---	---	---	---	---	2.3	0.0	0.7	5.7	0.8	2.5
26	---	---	---	---	---	---	---	---	---	5.9	1.3	2.7
27	---	---	---	---	---	---	1.5	0.0	0.3	6.5	1.2	2.9
28	---	---	---	---	---	---	2.3	0.0	0.6	6.6	1.6	3.2
29	---	---	---	---	---	---	2.2	0.0	0.6	6.1	1.6	3.2
30	---	---	---	---	---	---	2.0	0.0	0.7	6.2	2.0	3.1
31	---	---	---	---	---	---	---	---	---	5.8	1.3	3.1
MONTH	---	---	---	---	---	---	---	---	---	6.6	0.0	1.9
	JUNE			JULY			AUGUST			SEPTEMBER		
1	6.4	2.0	3.4	9.4	4.4	6.3	7.8	5.4	6.8	7.6	6.1	6.9
2	6.4	2.0	3.4	9.1	4.3	6.3	9.5	4.3	6.4	9.7	5.1	7.1
3	6.2	2.1	3.5	7.9	4.0	5.6	8.8	5.5	6.8	10.6	5.1	7.4
4	3.7	1.8	2.5	7.2	3.9	5.4	7.7	5.7	6.6	10.9	5.6	7.8
5	3.1	0.7	1.7	8.8	3.8	6.1	10.3	5.0	7.4	10.7	6.3	8.1
6	4.8	0.7	2.4	7.7	5.1	6.0	10.7	5.1	7.4	11.0	6.1	8.1
7	5.7	1.7	3.2	8.1	4.2	5.8	9.9	4.8	7.1	10.7	5.6	7.9
8	5.5	1.7	3.1	8.2	4.7	6.3	10.0	5.6	7.5	9.2	6.4	7.8
9	5.8	1.4	3.1	7.9	5.4	6.4	9.3	6.4	7.8	9.4	6.2	7.7
10	5.2	1.7	3.7	8.6	4.6	6.2	10.2	6.2	7.7	8.8	5.8	7.3
11	4.2	2.5	3.4	10.4	4.5	6.7	8.8	6.1	7.3	9.3	5.8	7.6
12	6.7	2.0	3.8	10.4	4.5	6.8	8.9	5.1	6.8	8.6	6.6	7.7
13	5.3	2.5	3.4	10.5	4.6	6.9	8.7	5.0	6.7	7.6	4.9	6.3
14	3.8	2.0	2.8	9.7	4.7	6.7	9.7	5.1	6.8	8.8	5.7	7.0
15	5.4	1.3	2.9	9.2	4.4	6.5	10.3	5.6	7.5	9.2	5.1	7.1
16	5.5	2.3	3.8	10.3	4.3	7.0	9.6	5.8	7.5	7.5	5.0	6.2
17	5.2	1.7	3.2	10.5	4.8	7.2	9.2	6.0	7.5	8.5	4.4	6.2
18	6.1	1.0	2.9	11.2	5.1	7.6	9.9	6.4	7.8	9.1	4.6	6.6
19	8.5	2.1	4.3	11.2	5.4	7.9	9.3	6.0	7.6	8.5	5.7	6.8
20	7.1	2.5	4.4	10.7	5.7	7.8	10.6	6.3	8.1	7.4	3.8	5.7
21	7.0	3.2	4.5	10.3	6.0	7.7	8.8	6.5	7.8	6.5	3.7	5.4
22	7.3	2.5	4.6	10.2	6.1	7.7	10.7	6.4	8.1	7.2	2.8	5.1
23	8.1	2.5	4.5	9.9	6.4	7.7	11.0	6.3	8.3	7.1	4.7	5.8
24	7.7	2.1	4.2	9.2	6.2	7.4	11.0	7.6	8.8	8.2	4.7	6.2
25	8.8	2.1	4.7	10.0	6.7	7.8	9.0	6.9	7.9	8.3	4.5	6.0
26	8.7	3.1	5.1	8.4	6.8	7.6	11.6	6.6	8.6	7.4	3.8	5.4
27	9.1	3.0	5.3	11.7	5.8	8.0	11.1	6.4	8.4	7.1	2.6	4.8
28	9.6	3.2	5.6	10.3	7.1	8.0	10.4	4.5	7.0	7.8	3.6	5.3
29	9.6	3.7	6.1	9.9	6.4	7.6	10.8	5.0	7.6	7.9	5.1	6.1
30	9.1	4.3	6.4	8.8	5.8	7.2	11.0	6.2	8.2	5.7	4.1	5.3
31	---	---	---	9.5	5.6	7.3	9.4	6.1	7.5	---	---	---
MONTH	9.6	0.7	3.9	11.7	3.8	7.0	11.6	4.3	7.5	11.0	2.6	6.6

06716100 WEST FORK CLEAR CREEK ABOVE MOUTH NEAR EMPIRE, CO

LOCATION.--Lat 39°45'32", long 105°39'34", in NE¼SW¼ sec.27, T.3 S., R.74 W., Clear Creek County, Hydrologic Unit 10190004, on left bank, 60 ft downstream from frontage road bridge and 1.2 mi east of Empire.

DRAINAGE AREA.--57.6 mi².

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 8,235 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by transbasin diversions. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	25	e21	e18	e12	e12	15	27	230	282	127	59
2	33	23	e21	e17	e13	e12	13	28	255	273	120	56
3	35	24	e19	e17	e13	e12	14	32	282	261	112	51
4	33	24	e18	e17	e13	e12	14	38	283	250	113	49
5	31	23	e17	e17	e13	e12	14	40	254	236	110	49
6	32	23	e17	e17	e13	e12	14	40	218	235	96	48
7	30	23	e17	e16	e13	e12	14	39	196	224	89	46
8	32	23	e18	e16	e13	e12	13	39	182	210	86	46
9	31	23	e19	e16	e13	e12	13	41	173	228	88	45
10	30	22	e19	e15	e13	e12	14	45	171	218	89	44
11	30	22	e20	e15	e13	e12	15	55	172	212	84	45
12	31	22	e20	e15	e13	e12	16	56	174	199	82	48
13	28	e24	e20	e14	e13	e12	15	62	183	191	80	49
14	30	e23	e19	e14	e13	e12	15	70	178	181	79	44
15	31	e23	e19	e14	e13	e12	13	66	170	170	76	43
16	30	e23	e18	e14	e13	e12	14	66	159	160	73	44
17	29	e23	e18	e13	e13	e12	15	74	158	153	73	43
18	27	e25	e18	e13	e13	e12	15	85	150	146	73	41
19	27	e24	e17	e14	e13	e12	14	100	149	138	69	40
20	26	e24	e16	e13	e13	e12	15	121	164	133	69	41
21	26	e23	e16	e14	e12	e11	15	138	184	129	70	40
22	26	e23	e16	e14	e12	e12	15	141	204	131	69	39
23	25	e23	e16	e13	e12	e13	17	135	220	141	63	38
24	25	e23	e16	e13	e12	e14	20	133	220	139	60	39
25	22	e22	e16	e14	e12	17	21	130	218	140	62	38
26	24	e22	e16	e13	e12	16	22	139	229	139	61	36
27	28	e22	e16	e13	e12	14	22	152	244	131	61	36
28	27	e22	e16	e12	e12	16	22	174	254	134	56	35
29	27	e22	e16	e14	---	13	23	195	261	135	53	35
30	26	e21	e17	e13	---	13	24	212	272	128	52	36
31	26	---	e18	e13	---	14	---	218	---	123	51	---
TOTAL	892	689	550	451	355	393	486	2891	6207	5570	2446	1303
MEAN	28.8	23.0	17.7	14.5	12.7	12.7	16.2	93.3	207	180	78.9	43.4
MAX	35	25	21	18	13	17	24	218	283	282	127	59
MIN	22	21	16	12	12	11	13	27	149	123	51	35
AC-FT	1770	1370	1090	895	704	780	964	5730	12310	11050	4850	2580

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998
MEAN	28.6	22.2	16.6	13.8	12.0	13.7	19.8	117	372	245	90.1	44.5
MAX (WY)	33.4	29.0	20.9	16.2	12.7	15.5	26.4	194	504	395	143	54.7
MIN (WY)	22.0	15.9	10.4	9.92	11.1	12.7	15.3	47.2	207	180	54.1	37.2

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1995 - 1998

ANNUAL TOTAL	33906	22233		
ANNUAL MEAN	92.9	60.9	83.1	
HIGHEST ANNUAL MEAN			94.4	1995
LOWEST ANNUAL MEAN			60.9	1998
HIGHEST DAILY MEAN	675	Jun 22	283	Jun 4
LOWEST DAILY MEAN	e10	Feb 26	e11	Mar 21
ANNUAL SEVEN-DAY MINIMUM	11	Feb 20	12	Mar 15
INSTANTANEOUS PEAK FLOW			319	Jun 3
INSTANTANEOUS PEAK STAGE			5.73	Jun 3
ANNUAL RUNOFF (AC-FT)	67250	44100	60200	
10 PERCENT EXCEEDS	296	179	249	
50 PERCENT EXCEEDS	26	25	26	
90 PERCENT EXCEEDS	12	13	12	

e-Estimated.
a-Also occurred Jan 17-20, 1995.
b-Also occurred Jun 20, 1995.

06717400 CHICAGO CREEK BELOW DEVILS CANYON, NEAR IDAHO SPRINGS, CO

LOCATION (REVISED).--Lat 39°42'59", long 105°34'15", in NW¼SW¼ sec.9, T.4 S., R.73 W., Clear Creek County, Hydrologic Unit 10190004, on left bank, 50 ft upstream from Highway 103 bridge, 5.6 mi upstream from intersection of I-70 and Colorado Highway 103, and 3.2 mi southwest of Idaho Springs.

DRAINAGE AREA.--43.7 mi².

PERIOD OF RECORD (REVISED).--October 1994 to current year. Records for May 14, 1996 (when gage was located 700 ft upstream) to April 10, 1998, may not be equivalent to other records because gage was moved upstream of inflow from Devils Canyon.

GAGE (REVISED).--Water-stage recorder. Elevation of gage is 8,040 ft above sea level, from topographic map. Prior to May 14, 1996, at site 150 ft downstream at different datum. May 14, 1996 to Apr. 10, 1998, at site 700 ft upstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	9.0	e6.4	e5.8	e4.2	e4.3	7.9	54	108	69	69	30
2	12	8.7	e6.2	e5.7	e4.2	e4.3	6.6	57	114	66	70	29
3	12	8.9	e6.2	e5.5	e4.1	e4.3	7.9	66	116	65	68	26
4	12	8.8	e6.0	e5.4	e4.1	e4.3	8.2	69	115	72	72	22
5	12	8.7	e6.0	e5.4	e4.0	e4.4	8.2	76	110	74	77	17
6	12	8.7	e6.0	e5.4	e4.0	e4.4	7.9	63	109	72	68	16
7	12	8.5	e6.2	e5.2	e3.9	e4.4	8.2	59	103	69	64	16
8	12	8.4	e6.2	e5.4	e3.8	e4.3	7.8	61	102	66	63	17
9	11	e8.7	e6.1	e5.4	e3.8	e4.2	7.9	62	99	77	63	17
10	11	e8.4	e6.0	e5.8	e3.7	e4.2	e8.7	66	98	83	68	16
11	11	e8.4	e6.0	e5.4	e3.7	e4.2	8.8	70	96	81	61	17
12	11	e8.5	e5.9	e5.2	e3.6	e4.4	11	73	95	74	57	25
13	10	e8.0	e6.0	e5.0	e3.6	e4.8	11	83	95	72	55	22
14	11	e7.0	e6.0	e4.7	e3.6	e5.0	15	90	87	70	52	18
15	12	e6.0	e5.9	e5.0	e3.6	e5.4	25	89	83	67	50	17
16	12	e6.8	e5.8	e5.4	e3.6	e5.4	35	89	77	65	47	18
17	11	e7.4	e5.8	e5.8	e3.6	e5.4	25	92	78	62	46	20
18	9.4	e7.6	e5.8	e5.0	e3.7	e5.6	24	94	73	63	46	29
19	8.9	e8.0	e5.9	e5.2	e3.8	e5.8	30	89	76	59	41	22
20	9.1	e8.0	e5.9	e5.4	e3.9	e5.4	25	89	77	52	39	12
21	9.1	e7.9	e6.0	e5.6	e4.0	e5.6	27	100	76	43	39	14
22	9.0	e7.7	e6.4	e5.4	e4.0	e5.4	30	95	75	34	37	15
23	8.7	e7.6	e6.0	e5.2	e4.0	e6.0	43	90	74	40	32	14
24	8.3	e7.4	e6.0	e5.0	e4.1	e6.8	59	86	72	44	31	15
25	8.2	e7.2	e5.9	e4.8	e4.2	8.5	61	88	70	54	35	15
26	9.1	e7.0	e5.8	e4.6	e4.3	7.9	62	92	70	56	33	16
27	e9.0	e6.9	e5.8	e4.4	e4.3	7.8	60	89	69	48	30	15
28	e9.0	e6.8	e5.7	e4.2	e4.2	7.4	62	87	69	48	29	15
29	e8.9	e6.6	e5.7	e4.4	---	7.0	64	95	68	45	28	13
30	e8.9	e6.6	e5.8	e4.2	---	6.9	64	105	70	47	27	12
31	e8.7	---	e5.8	e4.3	---	8.5	---	107	---	52	26	---
TOTAL	320.3	234.2	185.2	159.2	109.6	172.3	821.1	2525	2624	1889	1523	550
MEAN	10.3	7.81	5.97	5.14	3.91	5.56	27.4	81.5	87.5	60.9	49.1	18.3
MAX	12	9.0	6.4	5.8	4.3	8.5	64	107	116	83	77	30
MIN	8.2	6.0	5.7	4.2	3.6	4.2	6.6	54	68	34	26	12
AC-FT	635	465	367	316	217	342	1630	5010	5200	3750	3020	1090

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

	1995	1996	1997	1998
MEAN	9.59	7.10	5.80	5.00
MAX	10.7	8.88	6.75	5.40
(WY)	1997	1997	1997	1996
MIN	7.70	4.62	4.10	4.12
(WY)	1995	1995	1995	1995

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1995 - 1998

ANNUAL TOTAL	7733.2	11112.9		
ANNUAL MEAN	21.2	30.4	24.8	
HIGHEST ANNUAL MEAN			33.5	1995
LOWEST ANNUAL MEAN			13.7	1996
HIGHEST DAILY MEAN	126	Jun 8	116	Jun 3
LOWEST DAILY MEAN	e4.3	Feb 25	e,a3.6	Feb 12
ANNUAL SEVEN-DAY MINIMUM	4.4	Feb 19	3.6	Feb 11
INSTANTANEOUS PEAK FLOW			130	May 30
INSTANTANEOUS PEAK STAGE			b5.62	May 30
ANNUAL RUNOFF (AC-FT)	15340	22040	17940	
10 PERCENT EXCEEDS	53	79	69	
50 PERCENT EXCEEDS	10	11	9.1	
90 PERCENT EXCEEDS	4.8		4.2	

e-Estimated.
a-Also occurred Feb 13-17.
b-Maximum gage height, 5.64 ft, May 19.

06718300 CLEAR CREEK ABOVE JOHNSON GULCH NEAR IDAHO SPRINGS, CO

LOCATION.--Lat 39°44'47", long 105°26'08", in NE¼SW¼ sec.34, T.3 S., R.72 W., Clear Creek County, Hydrologic Unit 10190004, on left bank 150 ft downstream from I-70 exit 243 bridge over Clear Creek, and 2 mi east of Idaho Springs.

DRAINAGE AREA.--267 mi².

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,210 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	e90	e58	e46	e39	e36	52	121	700	714	460	212
2	126	e86	e58	e45	e38	e36	52	122	738	694	444	207
3	126	e82	e56	e45	e37	e34	55	135	802	675	411	198
4	124	e80	e54	e45	e37	e36	54	156	796	661	416	184
5	122	e78	e54	e44	e37	e37	55	177	708	627	429	180
6	123	e76	e54	e43	e37	e38	55	175	634	618	384	177
7	e120	e74	e54	e41	e37	e39	55	183	580	608	359	172
8	e118	e72	e53	e43	e37	e38	54	178	565	564	345	171
9	e115	e70	e52	e45	e36	e38	53	186	547	670	353	171
10	e122	e68	e52	e48	e35	e38	54	196	534	646	368	164
11	e120	e66	e52	e46	e35	e38	55	223	528	649	349	162
12	e120	e64	e52	e44	e36	e38	60	234	531	593	330	183
13	e100	e64	e51	e41	e36	e38	58	253	583	556	315	201
14	e108	e60	e50	e41	e37	e41	58	295	548	525	308	172
15	e115	e54	e50	e43	e37	e42	56	271	530	498	303	166
16	e115	e60	e50	e41	e38	e42	56	264	500	468	289	164
17	e115	e70	e49	e40	e38	e44	56	281	493	447	288	168
18	e110	e70	e49	e40	e37	e50	56	323	480	426	299	170
19	e110	e68	e49	e40	e36	e45	56	368	469	410	273	162
20	e105	e66	e48	e40	e35	e47	60	427	525	393	252	151
21	e103	e64	e50	e40	e36	e45	57	479	567	367	258	150
22	e102	e62	e54	e44	e37	e48	62	500	610	367	268	148
23	e100	e60	e52	e44	e37	e52	71	469	640	445	235	145
24	e98	e58	e50	e43	e37	e54	86	463	639	430	227	143
25	e85	e57	e50	e42	e37	59	95	446	612	473	225	141
26	e92	e57	e48	e42	e37	57	104	475	649	472	219	143
27	e100	e57	e48	e41	e37	53	94	514	666	427	220	140
28	e100	e57	e48	e41	e36	52	96	570	679	416	208	143
29	e96	e57	e47	e40	---	52	99	629	688	447	198	141
30	e94	e57	e47	e39	---	52	110	668	705	418	190	144
31	e90	---	e46	e39	---	53	---	669	---	430	186	---
TOTAL	3398	2004	1585	1316	1029	1372	1984	10450	18246	16134	9409	4973
MEAN	110	66.8	51.1	42.5	36.8	44.3	66.1	337	608	520	304	166
MAX	126	90	58	48	39	59	110	669	802	714	460	212
MIN	85	54	46	39	35	34	52	121	469	367	186	140
AC-FT	6740	3970	3140	2610	2040	2720	3940	20730	36190	32000	18660	9860

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

MEAN	101	63.8	50.6	42.3	37.2	45.2	70.0	367	1078	771	317	165
MAX	116	75.6	60.8	54.6	46.2	49.4	85.2	549	1325	1398	441	189
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1995	1995	1995	1995
MIN	65.0	49.6	43.2	34.1	30.5	43.1	49.9	221	608	520	195	140
(WY)	1995	1995	1995	1995	1995	1995	1995	1995	1998	1998	1996	1996

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1995 - 1998

ANNUAL TOTAL	96891	71900		
ANNUAL MEAN	265	197	260	
HIGHEST ANNUAL MEAN			326	1995
LOWEST ANNUAL MEAN			197	1998
HIGHEST DAILY MEAN	1560	Jun 20	802	Jun 3
LOWEST DAILY MEAN	e33	Feb 10	e34	Mar 3
ANNUAL SEVEN-DAY MINIMUM	34	Feb 5	36	Feb 7
INSTANTANEOUS PEAK FLOW			912	Jun 3
INSTANTANEOUS PEAK STAGE			6.26	Jun 3
ANNUAL RUNOFF (AC-FT)	192200	142600	188200	
10 PERCENT EXCEEDS	735	551	705	
50 PERCENT EXCEEDS	100	96	86	
90 PERCENT EXCEEDS	37	38	38	

e-Estimated.
a-Also occurred Feb 17-19, (also estimated days).
b-Maximum gage height, 8.23 ft, Jun 17, 1995.

06718550 NORTH CLEAR CREEK ABOVE MOUTH NEAR BLACKHAWK, CO

LOCATION.--Lat 39°44'56", long 105°23'57", in NE¼SW¼ sec.36, T.3 S., R.72 W., Clear Creek County, Hydrologic Unit 10190004, on left bank 150 ft upstream from intersection of Hwy 6 and Hwy 119 bridge over North Clear Creek, 0.2 mi above mouth, and 6.5 mi southeast of Blackhawk.

DRAINAGE AREA.--59.4 mi².

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,910 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	6.2	e2.9	e2.3	e2.3	e2.2	9.9	55	89	22	48	e19
2	3.8	5.4	e2.8	e2.4	e2.3	e2.2	9.1	59	87	22	45	e17
3	3.8	5.1	e2.7	e2.4	e2.3	e1.9	13	69	89	23	44	16
4	3.9	5.2	e2.8	e2.4	e2.3	e2.1	14	75	88	23	50	15
5	3.7	5.1	e2.8	e2.3	e2.3	e2.2	14	92	86	22	51	14
6	3.6	5.0	e2.8	e2.2	e2.3	e2.2	14	95	79	21	44	13
7	3.1	5.3	e2.8	e2.4	e2.3	e2.4	13	102	70	20	39	12
8	3.8	5.7	e2.7	e2.5	e2.3	e2.2	13	100	68	20	35	12
9	4.0	5.4	e2.7	e2.5	e2.2	e2.2	14	103	65	28	37	14
10	4.1	4.5	e2.7	e2.8	e2.1	e2.1	15	107	58	27	45	12
11	4.1	e4.0	e2.7	e2.6	e2.1	e2.2	17	111	56	23	41	11
12	4.8	e3.3	e2.6	e2.4	e2.2	e2.2	20	117	50	19	36	15
13	4.2	e3.2	e2.6	e2.2	e2.3	e2.2	20	123	49	17	33	17
14	4.4	e3.0	e2.6	e2.4	e2.4	e2.2	21	131	48	16	31	13
15	4.8	e2.5	e2.6	e2.3	e2.3	e2.4	20	126	46	15	29	11
16	4.7	e3.0	e2.5	e2.3	e2.3	e2.4	20	118	43	15	e27	11
17	4.5	e3.4	e2.5	e2.3	e2.3	e2.5	19	116	42	14	e30	11
18	4.5	e3.5	e2.5	e2.3	e2.2	e2.4	21	122	40	13	e31	11
19	4.5	e3.4	e2.5	e2.3	e2.1	e2.3	20	128	38	12	e28	10
20	4.5	e3.3	e2.5	e2.5	e2.0	e2.2	22	138	37	11	e25	9.8
21	4.7	e3.3	e2.6	e2.8	e2.2	e2.8	23	140	38	11	e26	10
22	4.5	e3.3	e2.8	e3.3	e2.3	e3.5	27	135	36	27	e26	10
23	4.4	e3.2	e2.6	e3.0	e2.4	e7.0	32	126	34	29	e21	10
24	5.0	e3.1	e2.6	e2.8	e2.4	e9.0	39	120	30	27	e20	10
25	5.4	e3.0	e2.5	e2.7	e2.3	14	43	108	30	30	e20	9.4
26	4.4	e3.1	e2.5	e2.5	e2.2	15	47	96	28	26	e19	8.9
27	7.8	e3.2	e2.5	e2.4	e2.2	13	46	95	27	23	e18	8.9
28	8.4	e2.9	e2.5	e2.3	e2.2	13	48	94	26	25	e20	8.5
29	7.1	e3.0	e2.5	e2.4	---	11	49	93	25	23	e18	8.3
30	6.6	e3.0	e2.4	e2.5	---	9.7	51	93	23	39	e17	9.4
31	7.3	---	e2.3	e2.4	---	10	---	91	---	38	e18	---
TOTAL	148.3	116.6	81.1	76.9	63.1	152.7	734.0	3278	1525	681	972	357.2
MEAN	4.78	3.89	2.62	2.48	2.25	4.93	24.5	106	50.8	22.0	31.4	11.9
MAX	8.4	6.2	2.9	3.3	2.4	15	51	140	89	39	51	19
MIN	3.1	2.5	2.3	2.2	2.0	1.9	9.1	55	23	11	17	8.3
AC-FT	294	231	161	153	125	303	1460	6500	3020	1350	1930	709

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998
MEAN	4.21	3.53	2.84	2.56	2.20	4.46	15.5	93.8	114	26.7	13.9	6.98
MAX	5.32	4.25	4.03	3.59	2.89	6.08	24.5	112	228	49.7	31.4	11.9
(WY)	1996	1996	1996	1996	1996	1997	1998	1995	1995	1995	1998	1998
MIN	3.08	2.68	1.68	1.30	1.38	2.21	7.60	78.4	50.8	13.4	4.33	4.38
(WY)	1995	1995	1995	1995	1995	1995	1995	1996	1998	1996	1996	1996

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1995 - 1998

ANNUAL TOTAL	8183.7	8185.9	
ANNUAL MEAN	22.4	22.4	24.3
HIGHEST ANNUAL MEAN			35.6
LOWEST ANNUAL MEAN			16.9
HIGHEST DAILY MEAN	232	Jun 7	415
LOWEST DAILY MEAN	e1.9	Feb 17	e1.2
ANNUAL SEVEN-DAY MINIMUM	2.1	Feb 15	2.1
INSTANTANEOUS PEAK FLOW			199
INSTANTANEOUS PEAK STAGE		5.18	Jul 22
ANNUAL RUNOFF (AC-FT)	16230	16240	17600
10 PERCENT EXCEEDS	81	68	79
50 PERCENT EXCEEDS	5.5	9.7	5.0
90 PERCENT EXCEEDS	2.5	2.3	2.2

e-Estimated.

a-From rating curve extended above 300 ft³/s.

06719505 CLEAR CREEK AT GOLDEN, CO

LOCATION.--Lat 39°45'11", long 105°14'05", in NE¼NW¼ sec.33, T.3 S., R.70 W., Jefferson County, Hydrologic Unit 10190004, on left bank 100 ft downstream from U.S. Highway 6 bridge at west edge of Golden, 0.7 mi downstream from headgate of Church ditch, and 13.3 mi downstream from North Clear Creek.

DRAINAGE AREA.--400 mi².

PERIOD OF RECORD.--October 1974 to current year. Records for station at site 0.8 mi upstream (October 1908 to December 1909, June 1911 to September 1974) are not equivalent due to diversions by Church ditch. Water-quality data available, November 1977 to August 1995. Sediment data available, April to September 1981, and April 1993 to August 1995.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,695 ft above sea level, from topographic map. Prior to Sept. 12, 1980, at site 80 ft downstream. Prior to Jan. 22, 1987, at datum 2.00 ft higher, at both sites.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by minor transmountain diversions from Colorado River basin through Berthoud Pass ditch (see elsewhere in this report) and several small reservoirs upstream from station. Diversion by Welch ditch 1.4 mi upstream from station and by Church Ditch 0.7 mi upstream from station for irrigation of about 5,200 acres downstream from station. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	90	69	e50	e44	47	69	242	790	697	419	163
2	105	83	66	e49	e44	53	72	244	834	660	420	163
3	103	77	64	e49	e44	56	74	266	897	638	378	151
4	104	85	53	e48	e43	52	84	293	913	621	389	138
5	97	80	51	e49	e43	49	84	360	800	592	414	131
6	98	79	e53	e48	e43	48	84	353	706	570	350	130
7	113	79	e53	45	e43	44	82	384	633	569	318	124
8	106	79	e52	51	e43	40	85	370	610	509	296	142
9	111	82	e50	50	e43	47	79	385	587	626	299	163
10	114	73	e50	47	e43	48	81	387	568	607	331	153
11	113	81	e48	e52	43	46	85	415	550	618	321	147
12	116	76	44	e50	52	50	94	430	534	547	299	162
13	104	82	e47	e48	56	50	93	448	599	506	282	203
14	109	69	e47	e48	50	49	96	503	562	464	275	165
15	107	54	e47	47	47	49	97	469	544	435	276	156
16	108	51	e47	e48	46	50	97	444	508	406	260	150
17	103	62	e48	e46	47	50	93	450	495	383	249	156
18	99	71	e48	e45	46	56	104	491	476	355	267	156
19	95	77	e48	e45	45	47	104	524	451	334	244	151
20	98	89	e49	e43	43	53	113	578	499	310	217	138
21	95	76	48	e43	50	52	117	627	545	287	218	141
22	87	71	56	e44	47	57	135	665	591	304	224	141
23	87	73	50	e45	45	69	156	657	621	399	196	136
24	92	74	42	e44	46	76	186	632	617	385	183	136
25	81	70	47	e44	46	87	208	585	585	434	181	123
26	81	68	40	e44	37	89	238	566	614	434	183	128
27	104	68	47	e44	36	79	218	605	639	381	175	123
28	103	72	38	e44	48	76	220	667	653	348	166	128
29	96	66	e50	e46	---	72	219	736	661	390	155	124
30	92	67	e53	e44	---	68	228	779	670	365	145	128
31	95	---	e51	e44	---	70	---	780	---	396	139	---
TOTAL	3121	2224	1556	1444	1263	1779	3695	15335	18752	14570	8269	4350
MEAN	101	74.1	50.2	46.6	45.1	57.4	123	495	625	470	267	145
MAX	116	90	69	52	56	89	238	780	913	697	420	203
MIN	81	51	38	43	36	40	69	242	451	287	139	123
AC-FT	6190	4410	3090	2860	2510	3530	7330	30420	37190	28900	16400	8630

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1998, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	83.9	61.3	48.4	42.7	41.6	43.4	73.4	315	798	480	209	126													
MAX	192	115	86.6	70.5	66.9	58.9	123	655	1522	1203	475	231													
(WY)	1985	1985	1984	1984	1985	1984	1998	1984	1995	1995	1984	1984													
MIN	54.3	39.2	33.5	29.3	25.9	31.2	39.0	123	382	161	100	78.8													
(WY)	1982	1982	1990	1995	1995	1976	1982	1981	1977	1977	1977	1977													

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1975 - 1998
ANNUAL TOTAL	98981	76358	
ANNUAL MEAN	271	209	194
HIGHEST ANNUAL MEAN			321
LOWEST ANNUAL MEAN			109
HIGHEST DAILY MEAN	1700	Jun 20	2300
LOWEST DAILY MEAN	38	Dec 28	18
ANNUAL SEVEN-DAY MINIMUM	45	Dec 23	24
INSTANTANEOUS PEAK FLOW		992	2370
INSTANTANEOUS PEAK STAGE		6.93	a6.44
ANNUAL RUNOFF (AC-FT)	196300	151500	140500
10 PERCENT EXCEEDS	762	585	546
50 PERCENT EXCEEDS	95	103	78
90 PERCENT EXCEEDS	50	46	36

e-Estimated.
a-Maximum gage height, 8.10 ft, Jun 21, 1995.

06720500 SOUTH PLATTE RIVER AT HENDERSON, CO

LOCATION.--Lat 39°55'19", long 104°52'04", in SE¼NE¼ sec.34, T.1 S., R.67 W., Adams County, Hydrologic Unit 10190003, on right bank 500 ft upstream from bridge on State Highway 22, and 0.2 mi northwest of Henderson.

DRAINAGE AREA.--4,713 mi².

PERIOD OF RECORD.--May 1926 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310. Statistical summary computed for 1976 to current year. Water-quality data available, July 1955 to September 1957, June 1962 to September 1973, and April 1988 to September 1995.

REVISED RECORDS.--WSP 1310: 1934-36(M). WSP 1730: Drainage area. WDR C0-88-1: 1986.

GAGE (REVISED)--Water-stage recorder with satellite telemetry. Datum of gage is 4999.12 ft above sea level. See WSP 1710 or 1730 for history of changes prior to June 1, 1960. June 1, 1960, to May 10, 1969, water-stage recorder at site 1,200 ft upstream at datum 5.00 ft higher. May 11 to Oct. 2, 1969, nonrecording gage at site 500 ft downstream at datum 3.00 ft higher. Oct. 3, 1969 to Jan. 15, 1986, at present site, at datum 3.00 ft higher.

REMARKS.--No estimated daily discharges. Records good except for period Apr. 3 to May 8, which is fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals, diversions for irrigation of about 253,000 acres, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	472	519	410	543	495	329	550	1520	1230	627	919	722
2	473	453	407	550	501	334	823	1360	1050	657	1310	482
3	470	422	462	551	478	336	1960	1340	943	618	1300	516
4	467	400	579	556	472	337	1330	1340	1030	591	1790	439
5	458	384	493	545	366	346	1010	2120	1570	579	1530	345
6	453	406	450	595	339	343	975	2390	1010	634	1070	382
7	438	422	456	597	324	413	1030	3780	853	852	771	473
8	467	379	494	568	329	448	1050	2990	1250	830	523	431
9	514	438	538	540	317	404	793	3490	1300	1160	531	287
10	456	461	526	522	314	351	808	2210	1070	1280	548	270
11	444	416	487	536	309	301	732	2070	750	1800	674	298
12	997	427	418	544	301	292	700	2120	519	1310	388	281
13	760	433	418	535	305	310	698	1990	495	1070	386	466
14	554	416	463	527	310	304	819	1900	745	730	599	423
15	461	433	502	529	310	278	1040	1780	1070	370	762	309
16	401	415	465	519	351	261	1300	1650	510	480	723	299
17	394	422	489	525	342	269	1240	1470	422	585	598	299
18	368	422	489	519	320	713	2450	1360	385	519	555	312
19	356	427	461	522	316	1250	1570	1020	355	413	660	303
20	397	449	445	519	312	1010	1180	857	346	436	810	309
21	484	411	444	507	313	748	1170	695	587	456	461	298
22	478	406	443	501	316	659	1070	1000	753	800	591	509
23	464	425	533	489	317	632	1150	2010	711	1810	605	303
24	1050	427	575	478	315	617	1270	1420	467	1130	579	316
25	869	427	539	507	315	602	1380	1400	397	2010	544	281
26	1050	416	533	484	330	569	3030	1440	407	3570	516	277
27	1520	411	541	484	326	652	1740	1490	503	1400	508	273
28	1520	832	533	484	327	671	1750	1390	561	1040	494	283
29	1100	572	555	484	---	676	1790	1410	551	1020	440	283
30	742	433	577	478	---	828	1830	1290	557	1160	430	279
31	631	---	559	495	---	759	---	1280	---	1640	415	---
TOTAL	19708	13304	15284	16233	9670	16042	38238	53582	22397	31577	22030	10748
MEAN	636	443	493	524	345	517	1275	1728	747	1019	711	358
MAX	1520	832	579	597	501	1250	3030	3780	1570	3570	1790	722
MIN	356	379	407	478	301	261	550	695	346	370	386	270
AC-FT	39090	26390	30320	32200	19180	31820	75850	106300	44420	62630	43700	21320

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1998, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MEAN	354	327	299	322	320	367	535	1129	1274	843	643	385	
MAX	1835	1268	554	592	642	842	1732	3923	4796	3204	2074	1141	
(WY)	1985	1985	1984	1984	1984	1983	1983	1980	1995	1995	1984	1984	
MIN	144	173	177	155	156	118	140	324	334	269	279	157	
(WY)	1978	1978	1976	1977	1977	1982	1982	1986	1981	1994	1977	1977	

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1976 - 1998

ANNUAL TOTAL	239155	268813	
ANNUAL MEAN	655	736	a568
HIGHEST ANNUAL MEAN			1379
LOWEST ANNUAL MEAN			252
HIGHEST DAILY MEAN	4650	Jun 7	3780
LOWEST DAILY MEAN	31	Apr 19	261
ANNUAL SEVEN-DAY MINIMUM	81	Apr 17	285
INSTANTANEOUS PEAK FLOW			9360
INSTANTANEOUS PEAK STAGE			8.81
ANNUAL RUNOFF (AC-FT)	474400	533200	411300
10 PERCENT EXCEEDS	1460	1410	1080
50 PERCENT EXCEEDS	440	522	340
90 PERCENT EXCEEDS	242	316	179

a-Average discharge for 48 years (water years 1927-74), 366 ft³/s; 265200 acre-ft/yr, prior to completion of Chatfield Dam.

b-Maximum daily discharge for period of record, 13200 ft³/s, May 7, 1973.

c-Minimum daily discharge for period of record, 4.4 ft³/s, Apr 1, 1950.

d-Maximum discharge and stage for period of record, 33000 ft³/s, May 6, 1973, gage height, 11.67 ft, from rating curve extended above 7200 ft³/s, partly on basis of flow-over-road measurement of peak flow; maximum gage height, 12.93 ft, Jun 17, 1965, site and datum then in use.

f-Maximum gage height for statistical period, 9.91 ft, May 17, 1995.

06720820 BIG DRY CREEK AT WESTMINSTER, CO

LOCATION.--Lat 39°54'20", long 105°02'04", in NE¼SE¼ sec.6, T.2 S., R.68 W., Adams County, Hydrologic Unit 10190003, on left bank 0.75 mi upstream from bridge on 120th Ave., and 5.2 mi downstream from outlet of Standley Lake.

DRAINAGE AREA.--43.8 mi².

PERIOD OF RECORD.--July 1987 to September 1995, November 1996 to current year.

REVISED RECORDS.--WDR CO-91-1: Drainage area.

GAGE.--Water-stage recorder and concrete and steel v-notched control. Elevation of gage is 5,215 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow affected by storage diversions, ground-water withdrawals and diversions for irrigation and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	5.1	4.8	2.2	e2.0	e1.7	7.9	46	60	39	42	65
2	9.5	3.6	7.7	2.3	1.7	1.9	15	36	44	41	38	51
3	7.3	3.0	11	2.1	1.7	1.8	76	32	46	41	37	50
4	7.0	2.5	19	1.9	e1.8	1.9	44	14	50	43	41	49
5	7.1	2.1	9.2	1.9	e1.8	2.3	38	40	64	44	32	47
6	6.2	2.0	4.9	2.7	1.8	1.9	20	51	48	43	16	45
7	6.1	1.6	2.2	3.0	1.7	e4.7	34	35	48	43	16	38
8	6.5	2.0	2.2	2.3	1.7	e3.4	40	16	48	45	13	30
9	3.4	5.6	5.0	e2.0	1.7	e2.4	25	29	50	44	14	29
10	3.3	5.4	3.5	e1.8	1.9	e1.8	12	8.7	51	41	19	32
11	2.7	4.4	e2.7	e2.1	2.2	e1.7	9.8	4.8	50	40	26	38
12	14	5.3	e2.3	e2.3	1.9	1.4	7.5	19	56	41	31	49
13	5.6	4.2	2.6	e2.0	2.9	1.2	6.4	45	58	37	32	52
14	3.6	3.9	2.7	e2.0	5.0	2.0	10	29	62	25	38	47
15	2.7	e3.1	2.6	e2.0	4.9	1.7	9.1	43	65	23	47	43
16	3.1	e2.5	2.2	e2.0	7.7	1.6	10	47	62	22	61	34
17	5.3	2.9	2.2	e1.9	6.0	2.7	7.4	56	70	27	62	27
18	4.7	3.9	2.3	e2.0	e4.0	17	56	62	69	28	67	29
19	4.4	2.8	e2.2	2.0	4.6	24	36	76	71	28	72	28
20	5.1	2.6	e2.1	1.9	4.2	20	32	78	75	27	73	27
21	6.3	2.7	e2.0	e1.7	3.6	17	48	83	79	31	73	18
22	7.0	6.1	e2.0	e1.6	3.3	17	57	90	71	55	75	4.3
23	2.7	6.3	e1.9	e1.7	2.9	23	54	81	34	63	75	4.0
24	22	6.5	e1.9	1.4	3.1	27	53	86	34	53	70	4.5
25	11	6.6	e1.9	1.9	2.0	26	53	85	32	62	62	3.7
26	25	5.8	e1.9	1.8	e1.8	32	91	76	31	64	64	3.5
27	28	5.4	e1.9	1.8	e1.9	30	62	77	31	42	59	3.8
28	23	13	e1.8	1.8	e1.8	28	53	76	31	29	59	3.8
29	18	5.5	e2.1	1.7	---	26	40	72	30	28	58	e6.2
30	16	5.0	2.3	1.5	---	31	38	66	31	33	57	e11
31	10	---	2.0	e1.2	---	16	---	66	---	43	59	---
TOTAL	283.6	131.4	115.1	60.5	81.6	370.1	1045.1	1625.5	1551	1225	1488	872.8
MEAN	9.15	4.38	3.71	1.95	2.91	11.9	34.8	52.4	51.7	39.5	48.0	29.1
MAX	28	13	19	3.0	7.7	32	91	90	79	64	75	65
MIN	2.7	1.6	1.8	1.2	1.7	1.2	6.4	4.8	30	22	13	3.5
AC-FT	563	261	228	120	162	734	2070	3220	3080	2430	2950	1730

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1998, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	4.52	2.74	1.77	1.60	1.99	5.36	10.5	26.8	45.9	37.5	33.1	19.2
MAX	9.95	4.54	3.71	3.16	3.85	16.2	34.8	52.4	66.4	79.8	48.0	33.9
(WY)	1988	1988	1998	1994	1993	1992	1998	1998	1988	1995	1998	1995
MIN	1.55	1.33	1.14	.76	1.00	1.30	1.52	9.98	13.0	19.5	24.0	6.27
(WY)	1989	1989	1991	1995	1988	1989	1989	1989	1989	1990	1992	1987

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1987 - 1998
ANNUAL TOTAL	7482.68	8849.7	
ANNUAL MEAN	20.5	24.2	15.6
HIGHEST ANNUAL MEAN			24.2
LOWEST ANNUAL MEAN			7.72
HIGHEST DAILY MEAN	151	91	164
LOWEST DAILY MEAN	.88	e,al.2	.16
ANNUAL SEVEN-DAY MINIMUM	1.2	1.6	.37
INSTANTANEOUS PEAK FLOW		147	b378
INSTANTANEOUS PEAK STAGE		3.49	b6.08
ANNUAL RUNOFF (AC-FT)	14840	17550	11330
10 PERCENT EXCEEDS	59	62	49
50 PERCENT EXCEEDS	6.6	14	3.8
90 PERCENT EXCEEDS	1.4	1.9	1.2

e-Estimated.
a-Also occurred Mar 13 (not estimated).
b-Also occurred Aug 5, 1997.

06720990 BIG DRY CREEK AT MOUTH NEAR FORT LUPTON, CO

LOCATION.--Lat 40°04'09", long 104°49'52", in NE¼SE¼ sec.12, T.1 N., R.67 W., Weld County, Hydrologic Unit 10190003, on left bank 1.0 mi west of State Highway 85, 1.1 mi south of State Highway 52, and 25 mi northeast of Denver.

DRAINAGE AREA.--107 mi².

PERIOD OF RECORD.--October 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,900 ft above sea level, from topographic map.

REMARKS.--Records poor. Natural flow of stream affected by storage reservoirs, diversions for irrigation, and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	40	e40	e40	e35	e35	33	45	42	26	83	30
2	41	34	e40	e40	e35	e35	27	43	29	32	105	48
3	40	33	e40	e40	e30	e35	52	37	29	33	94	60
4	37	31	e35	e30	e30	e35	141	30	51	27	106	59
5	30	30	e30	e30	e30	e35	93	22	99	28	105	55
6	23	30	e28	e30	e35	e35	67	41	79	32	88	56
7	23	29	e28	e30	e35	e35	52	49	52	46	55	68
8	24	29	e28	e30	e35	e25	68	33	54	43	43	71
9	24	31	e28	e30	e35	e20	58	39	55	45	33	64
10	27	38	e28	e25	e35	e15	53	36	47	50	22	58
11	27	36	e28	e25	e35	e20	55	27	33	72	19	57
12	26	35	e28	e25	e35	e15	57	23	27	68	15	56
13	38	e35	e28	e25	e35	e20	54	21	28	60	11	65
14	39	e35	e33	e25	e35	e22	55	20	25	40	26	79
15	39	e33	e40	e28	e35	e23	58	20	34	32	31	73
16	38	e31	e40	e32	e30	e23	56	17	28	22	34	68
17	41	e31	e40	e34	e30	22	53	14	28	26	24	60
18	43	e31	e40	e34	e35	29	65	16	29	27	16	51
19	45	e32	e40	e34	e35	50	145	16	27	21	12	46
20	46	e35	e40	e34	e35	71	77	21	26	23	11	44
21	46	e37	e35	e34	e35	56	97	19	32	40	13	45
22	49	e40	e35	e30	e35	51	96	55	36	49	25	53
23	49	e40	e35	e30	e35	46	105	122	35	110	35	45
24	52	e40	e35	e35	e35	38	116	50	31	88	35	44
25	74	e40	e35	e35	e35	34	114	47	26	70	34	41
26	72	e41	e35	e35	e30	31	131	56	26	134	34	36
27	78	e44	e40	e35	e30	30	119	51	25	70	35	33
28	79	e44	e40	e35	e30	25	75	53	25	29	39	31
29	64	e44	e40	e35	---	25	61	52	23	23	39	30
30	58	e40	e40	e35	---	31	49	53	22	50	32	30
31	54	---	e40	e35	---	45	---	52	---	81	29	---
TOTAL	1366	1069	1092	995	940	1012	2282	1180	1103	1497	1283	1556
MEAN	44.1	35.6	35.2	32.1	33.6	32.6	76.1	38.1	36.8	48.3	41.4	51.9
MAX	79	44	40	40	35	71	145	122	99	134	106	79
MIN	23	29	28	25	30	15	27	14	22	21	11	30
AC-FT	2710	2120	2170	1970	1860	2010	4530	2340	2190	2970	2540	3090

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	40.1	28.3	23.7	22.0	22.7	33.2	54.5	51.6	60.9	52.5	46.1	52.8
MAX	64.3	35.6	35.2	32.1	33.6	50.1	76.1	85.5	117	111	75.1	67.0
(WY)	1995	1998	1998	1998	1998	1992	1998	1994	1995	1995	1997	1993
MIN	30.2	21.8	19.6	14.0	12.0	18.4	39.2	26.4	35.8	30.9	27.4	27.1
(WY)	1992	1997	1994	1995	1995	1993	1993	1993	1993	1994	1994	1994

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1992 - 1998

ANNUAL TOTAL	15757	15375		
ANNUAL MEAN	43.2	42.1	40.7	
HIGHEST ANNUAL MEAN			53.2	1995
LOWEST ANNUAL MEAN			35.1	1993
HIGHEST DAILY MEAN	454	Jul 31	454	Jul 31 1997
LOWEST DAILY MEAN	a11	Jul 4	.32	Apr 18 1994
ANNUAL SEVEN-DAY MINIMUM	14	Jul 7	3.6	Sep 3 1992
INSTANTANEOUS PEAK FLOW			541	Aug 6 1997
INSTANTANEOUS PEAK STAGE			6.80	May 23
ANNUAL RUNOFF (AC-FT)	31250	30500	29510	
10 PERCENT EXCEEDS	68	69	75	
50 PERCENT EXCEEDS	34	35	30	
90 PERCENT EXCEEDS	19	24	17	

e-Estimated.

a-Also occurred Jul 9.

b-Also occurred Aug 20.

06724000 ST. VRAIN CREEK AT LYONS, CO

LOCATION.--Lat 40°13'05", long 105°15'34", in NW¹/₄NW¹/₄ sec.20, T.3 N., R.70 W., Boulder County, Hydrologic Unit 10190005, on left bank 75 ft southwest of U.S. Highway 36 (State Highways 7 and 66) at southeast edge of Lyons, 400 ft upstream from St. Vrain Supply Canal, and 0.4 mi downstream from confluence of North and South St. Vrain Creeks.

DRAINAGE AREA.--212 mi².

PERIOD OF RECORD.--Streamflow records, August 1887 to September 1891, June 1895 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Lyons" 1901, 1903. Water-quality data available, October 1977 to February 1981.

REVISED RECORDS.--WSP 1310: 1898, 1900. WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,292 ft above sea level, from topographic map. Prior to Apr. 6, 1923, nonrecording gages near present site at different datums. Apr. 6, 1923 to Sept. 30, 1956, water-stage recorder at same site at datum 1.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Diversions upstream from station for irrigation of about 2,000 acres. Flow partly regulated by small reservoirs upstream from station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in June 1864 and May 1876. Flood in May or June 1894 reached a stage of 9.13 ft, from information by local resident, discharge, about 9,800 ft³/s. For discussions of these floods, see WSP 997.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	40	32	21	20	21	70	330	531	474	304	94
2	70	38	31	21	19	20	74	313	568	484	279	94
3	64	35	29	22	19	20	83	309	605	484	250	82
4	63	37	30	22	20	19	110	336	637	447	267	75
5	53	35	25	22	20	19	121	349	533	418	407	70
6	49	33	30	20	20	19	117	335	410	416	330	66
7	48	32	33	18	21	21	106	313	350	410	269	66
8	52	35	30	22	21	20	106	296	294	347	239	66
9	43	37	28	18	20	19	98	276	289	329	240	71
10	45	31	28	17	19	19	91	278	305	348	256	68
11	45	33	25	22	17	18	91	287	318	455	307	62
12	48	30	24	20	18	21	99	284	323	381	278	62
13	45	34	29	19	21	20	102	274	382	282	245	71
14	47	28	29	20	20	20	110	290	376	219	225	80
15	47	23	30	20	21	20	118	292	352	245	226	77
16	46	29	28	20	22	19	132	265	306	241	202	71
17	43	34	25	21	20	22	137	276	329	224	186	64
18	40	33	25	21	19	34	166	319	325	209	175	57
19	40	32	23	21	20	30	163	338	287	206	172	54
20	41	32	22	18	19	36	172	379	345	195	158	52
21	44	30	23	20	20	42	176	430	415	194	144	51
22	43	30	26	18	19	52	186	526	455	215	141	48
23	41	30	22	19	20	76	218	483	484	243	129	44
24	46	30	20	20	19	99	305	412	443	233	119	38
25	44	29	20	19	17	117	369	376	380	314	118	31
26	43	30	22	20	16	108	400	376	414	371	114	28
27	55	32	21	19	17	99	350	397	440	344	109	24
28	55	33	20	20	19	91	347	445	474	328	109	25
29	49	31	24	19	---	84	340	488	484	325	99	23
30	47	31	21	19	---	77	349	457	473	337	92	24
31	51	---	20	20	---	72	---	445	---	339	88	---
TOTAL	1521	967	795	618	543	1354	5306	10974	12327	10057	6277	1738
MEAN	49.1	32.2	25.6	19.9	19.4	43.7	177	354	411	324	202	57.9
MAX	74	40	33	22	22	117	400	526	637	484	407	94
MIN	40	23	20	17	16	18	70	265	287	194	88	23
AC-FT	3020	1920	1580	1230	1080	2690	10520	21770	24450	19950	12450	3450

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1896 - 1998, BY WATER YEAR (WY)

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	39.0	24.3	17.1	14.0	13.5	19.9	90.8	297	528	293	135	67.3																																																																																											
MAX	189	137	70.0	59.0	56.0	76.0	347	773	1096	701	299	263																																																																																											
(WY)	1896	1924	1903	1903	1903	1903	1926	1980	1969	1907	1899	1938																																																																																											
MIN	3.64	4.65	4.20	3.35	2.31	2.42	14.1	94.5	148	80.6	41.1	21.9																																																																																											
(WY)	1957	1940	1945	1932	1990	1964	1966	1977	1954	1934	1934	1934																																																																																											

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1896 - 1998	
ANNUAL TOTAL	70305		52477			
ANNUAL MEAN	193		144		128	
HIGHEST ANNUAL MEAN					222	
LOWEST ANNUAL MEAN					46.3	
HIGHEST DAILY MEAN	1550	Jun 7	637	Jun 4	2120	May 7 1969
LOWEST DAILY MEAN	17	Jan 5	16	Feb 26	a.00	Jan 19 1922
ANNUAL SEVEN-DAY MINIMUM	21	Dec 24	18	Feb 22	.31	Mar 24 1957
INSTANTANEOUS PEAK FLOW			662		Jun 4	10500
INSTANTANEOUS PEAK STAGE			4.81		Jun 4	9.06
ANNUAL RUNOFF (AC-FT)	139400		104100		93020	
10 PERCENT EXCEEDS	521		380		382	
50 PERCENT EXCEEDS	55		62		39	
90 PERCENT EXCEEDS	23		20		9.0	

a-Also occurred Jan 20, 1922 and Jan 12-13, 1950.

06725450 ST. VRAIN CREEK BELOW LONGMONT, CO

LOCATION.--Lat 40°09'30", long 105°00'48", in NW¼NW¼ sec.9, T.2 N., R.68 W., Weld County, Hydrologic Unit 10190005, on left bank 1,750 ft upstream from mouth of Boulder Creek, 1.8 mi downstream from Spring Gulch, and 4.7 mi southeast of Longmont.

DRAINAGE AREA.--424 mi².

PERIOD OF RECORD.--October 1976 to September 1982, August 1984 to current year. Water-quality data available, October 1976 to February 1981.

GAGE (REVISED)--Water-stage recorder. Elevation of gage is 4,852 ft, above sea level, from topographic map. Prior to Aug. 15, 1984, at site 150 ft downstream at same datum. Aug. 15, 1984 to Oct. 1, 1997 at site 70 ft downstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Natural flow of stream affected by storage reservoirs, diversions for irrigation, and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e145	113	85	63	43	34	64	530	130	233	156	113
2	127	105	86	63	44	34	132	489	191	257	153	107
3	111	102	88	62	43	35	135	461	245	288	145	101
4	106	102	83	61	44	35	162	503	348	244	163	99
5	95	100	80	61	43	35	177	539	368	222	234	99
6	85	98	79	53	42	35	106	518	255	249	213	92
7	84	99	85	48	40	37	108	454	198	290	185	88
8	88	100	87	53	40	35	112	426	172	280	163	78
9	84	107	83	49	41	35	104	421	135	271	135	81
10	81	104	82	52	41	36	94	395	133	252	123	77
11	78	106	75	50	41	35	96	400	138	316	111	68
12	99	104	75	48	43	35	92	363	147	356	86	76
13	93	102	82	46	41	35	94	284	160	314	71	85
14	83	99	78	45	40	34	107	222	171	226	71	90
15	78	92	79	45	39	35	126	203	174	187	76	87
16	77	96	76	46	44	35	185	147	121	181	87	86
17	74	99	76	44	41	37	194	113	122	189	84	85
18	68	103	76	45	40	66	266	92	120	184	86	83
19	66	100	73	44	37	65	258	88	120	179	83	76
20	70	103	70	45	39	59	281	74	101	184	83	72
21	76	102	65	e42	37	59	285	88	105	193	82	75
22	79	96	73	43	37	62	308	166	154	195	95	93
23	79	85	69	42	37	65	370	174	249	222	92	88
24	106	90	64	42	37	79	489	124	244	164	91	83
25	103	89	66	42	36	96	623	106	207	152	91	78
26	105	88	68	40	34	112	784	98	193	197	92	63
27	114	88	70	44	36	101	672	89	214	150	92	55
28	126	91	64	45	34	114	639	82	227	160	89	53
29	121	85	70	45	---	109	587	101	244	158	90	53
30	123	83	66	45	---	97	590	104	235	162	94	52
31	124	---	62	45	---	70	---	81	---	205	96	---
TOTAL	2948	2931	2335	1498	1114	1751	8240	7935	5621	6860	3512	2436
MEAN	95.1	97.7	75.3	48.3	39.8	56.5	275	256	187	221	113	81.2
MAX	145	113	88	63	44	114	784	539	368	356	234	113
MIN	66	83	62	40	34	34	64	74	101	150	71	52
AC-FT	5850	5810	4630	2970	2210	3470	16340	15740	11150	13610	6970	4830

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1998, BY WATER YEAR (WY)

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	69.4	58.7	50.9	45.2	44.5	49.8	88.3	245	379	178	145	102											
MAX	159	126	91.5	92.8	94.0	111	275	1155	1227	485	185	152											
(WY)	1985	1985	1985	1980	1980	1980	1998	1980	1995	1995	1986	1982											
MIN	45.5	34.5	30.8	25.7	27.9	28.9	27.5	35.8	63.3	100	88.9	53.7											
(WY)	1990	1979	1979	1978	1978	1982	1982	1977	1981	1981	1977	1977											

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1977 - 1998
ANNUAL TOTAL	77024	47181	
ANNUAL MEAN	211	129	121
HIGHEST ANNUAL MEAN			257
LOWEST ANNUAL MEAN			54.8
HIGHEST DAILY MEAN	1640	Jun 7	784
LOWEST DAILY MEAN	a34	Mar 9	b34
ANNUAL SEVEN-DAY MINIMUM	35	Mar 7	35
INSTANTANEOUS PEAK FLOW			870
INSTANTANEOUS PEAK STAGE			4.92
ANNUAL RUNOFF (AC-FT)	152800	93580	87910
10 PERCENT EXCEEDS	516	256	209
50 PERCENT EXCEEDS	95	91	68
90 PERCENT EXCEEDS	37	41	35

e-Estimated.

a-Also occurred Mar. 11, 12, 22, and 27.

b-Also occurred Feb 28, Mar 1, 2, and 14.

c-Lowest daily mean, published in water year 1997 report, 6.1 ft³/s, Jan 20, 1997, was in error.

d-Maximum gage height, 11.45 ft, Jan 13, 1993, backwater from ice.

06730200 BOULDER CREEK AT NORTH 75TH STREET NEAR BOULDER, CO

LOCATION.--Lat 40°03'06", long 105°10'42", in SE¼NW¼ sec.13, T.1 N., R.70 W., Boulder County, Hydrologic Unit 10190005, on left bank, 50 ft upstream from bridge on North 75th Street, 0.2 mi downstream from Boulder feeder ditch, and 6 mi northeast of Boulder.

DRAINAGE AREA.--304 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder with satellite telemetry, and concrete control. Elevation of gage is 5,106 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Flow is partially regulated by Barker Reservoir, and affected by Boulder feeder ditch, Boulder sewage treatment plant, and Public Service power plant. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	99	83	59	59	69	135	274	163	228	233	102
2	58	81	89	61	58	69	157	281	184	250	156	95
3	65	95	86	62	57	70	186	285	203	265	124	85
4	59	74	83	60	62	71	178	290	200	227	124	78
5	60	77	74	61	57	68	177	303	213	211	174	72
6	61	78	78	65	60	71	178	278	159	228	154	61
7	68	75	84	60	55	71	177	264	107	239	126	61
8	60	76	85	62	59	68	191	259	125	230	87	60
9	68	86	85	59	59	72	172	274	130	274	94	59
10	57	85	82	53	62	63	160	247	138	263	98	52
11	52	85	78	57	60	64	157	236	153	303	97	49
12	68	87	74	59	58	61	162	207	132	278	80	53
13	86	85	74	59	59	63	163	196	113	241	80	70
14	72	77	76	62	57	65	180	230	119	232	82	63
15	58	70	77	56	57	62	218	293	117	180	101	55
16	57	73	72	60	63	61	244	248	113	105	105	56
17	56	77	75	61	57	63	224	222	132	93	118	52
18	57	80	71	59	58	82	303	196	144	65	122	51
19	55	82	67	73	57	85	258	171	118	60	119	49
20	57	83	65	67	56	91	260	123	118	83	110	48
21	56	87	65	62	57	93	254	186	146	104	110	51
22	56	81	65	61	58	98	264	306	199	130	102	66
23	53	77	63	57	59	112	291	310	222	162	109	66
24	70	80	60	64	61	129	343	241	235	161	95	67
25	67	80	59	61	57	150	355	227	238	207	81	58
26	71	83	59	65	57	148	436	196	239	167	80	52
27	93	79	59	61	56	142	333	150	255	159	84	51
28	87	93	61	53	67	130	307	113	341	153	92	49
29	79	83	57	70	---	131	301	177	331	149	97	49
30	83	84	60	61	---	138	305	143	237	234	100	48
31	112	---	64	60	---	149	---	205	---	250	101	---
TOTAL	2063	2452	2230	1890	1642	2809	7069	7131	5324	5931	3435	1828
MEAN	66.5	81.7	71.9	61.0	58.6	90.6	236	230	177	191	111	60.9
MAX	112	99	89	73	67	150	436	310	341	303	233	102
MIN	52	70	57	53	55	61	135	113	107	60	80	48
AC-FT	4090	4860	4420	3750	3260	5570	14020	14140	10560	11760	6810	3630

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1998, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	49.0	55.4	51.2	49.0	48.1	54.9	92.3	195	312	226	132	74.6
MAX	77.8	81.7	74.9	68.3	61.3	90.6	236	465	868	492	170	111
(WY)	1997	1998	1989	1987	1996	1998	1998	1995	1995	1995	1993	1995
MIN	31.5	37.7	36.1	37.6	34.3	31.2	37.4	114	127	154	95.5	50.8
(WY)	1987	1993	1988	1988	1992	1989	1989	1991	1992	1988	1991	1992

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1987 - 1998
ANNUAL TOTAL	59470	43804	
ANNUAL MEAN	163	120	112
HIGHEST ANNUAL MEAN			198
LOWEST ANNUAL MEAN			85.5
HIGHEST DAILY MEAN	1450	436	1450
LOWEST DAILY MEAN	27	a48	20
ANNUAL SEVEN-DAY MINIMUM	35	52	23
INSTANTANEOUS PEAK FLOW		554	1950
INSTANTANEOUS PEAK STAGE		6.32	7.85
ANNUAL RUNOFF (AC-FT)	118000	86890	81070
10 PERCENT EXCEEDS	260	247	225
50 PERCENT EXCEEDS	81	83	64
90 PERCENT EXCEEDS	44	57	36

a-Also occurred Sep 30.

06730400 COAL CREEK NEAR LOUISVILLE, CO

LOCATION.--Lat 39°58'34", long 105°07'00", in NW¼SE¼ sec.9, T.1 S., R.69 W., Boulder County, Hydrologic Unit 10190005, on left bank on upstream side of County road 62 bridge, and 1.1 mi northeast of Louisville.

DRAINAGE AREA.--27.3 mi².

PERIOD OF RECORD.--July 1997 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,280 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair except for flows above 100 ft³/s, which are poor. Natural flow of stream affected by diversions for irrigation, and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	4.8	3.0	2.6	2.0	1.6	13	29	11	5.4	2.4	3.0
2	3.2	4.3	3.2	2.7	2.0	1.7	8.6	32	11	5.2	1.8	2.7
3	2.9	3.8	3.2	2.5	2.0	2.0	17	35	14	4.2	3.1	2.1
4	3.1	3.5	2.8	2.5	2.1	1.9	41	35	16	2.5	5.0	1.7
5	3.3	3.2	2.4	2.4	2.2	1.8	31	55	17	2.3	2.4	1.8
6	3.5	3.1	2.4	2.8	2.3	1.8	19	41	13	1.4	1.9	2.0
7	3.5	3.0	2.6	2.4	2.1	2.6	16	33	17	.92	2.0	2.1
8	3.1	2.8	2.8	2.2	2.2	2.4	21	30	17	.80	1.7	2.1
9	2.7	3.8	2.9	2.3	2.3	1.9	17	34	9.0	.91	1.7	2.0
10	2.6	3.4	3.0	2.4	2.2	1.9	13	28	11	.96	2.1	1.9
11	2.3	3.0	2.6	2.2	2.1	1.9	12	26	12	.97	1.8	1.9
12	3.2	3.1	2.2	2.2	2.1	2.1	12	28	11	.75	1.4	2.4
13	2.8	2.8	2.4	2.2	2.1	2.3	12	29	10	.69	2.1	2.5
14	2.9	3.1	2.6	2.3	2.4	2.2	13	38	12	.56	2.5	2.2
15	2.9	2.6	2.7	2.3	2.3	2.4	12	34	11	.61	3.6	2.3
16	3.1	2.4	2.7	2.5	2.8	2.4	10	22	10	.68	5.7	2.4
17	3.3	2.6	2.7	2.5	2.6	2.6	15	15	9.7	.70	5.0	2.2
18	3.1	2.8	2.7	2.5	2.5	4.7	41	12	9.8	.68	4.1	2.0
19	3.1	2.9	2.6	2.5	2.4	5.4	41	14	11	.60	4.0	1.9
20	3.3	3.3	2.8	2.5	2.2	4.9	42	13	12	.71	4.0	2.1
21	3.8	3.0	2.6	2.2	2.2	5.2	35	10	11	.63	4.1	2.0
22	3.5	2.8	2.8	2.1	2.3	6.7	38	12	10	2.8	4.0	2.3
23	3.5	2.7	3.0	2.4	2.3	13	56	12	14	4.1	4.2	1.6
24	9.1	2.8	2.6	2.3	2.4	15	69	16	13	1.5	3.5	2.1
25	2.8	3.0	2.5	2.5	2.3	16	70	16	12	17	3.0	1.4
26	5.4	3.0	2.5	2.3	2.0	15	130	16	11	3.9	2.3	3.5
27	6.2	3.3	2.4	2.3	1.9	15	100	13	9.7	2.6	1.9	1.9
28	5.8	4.2	2.2	2.3	1.7	15	82	12	6.4	2.4	1.8	1.5
29	6.4	3.2	2.6	2.1	---	13	56	12	5.7	2.1	1.7	2.3
30	6.1	3.0	2.5	2.1	---	13	40	9.1	5.2	27	1.9	1.8
31	5.3	---	2.4	2.2	---	14	---	11	---	3.7	2.8	---
TOTAL	119.2	95.3	82.4	73.3	62.0	191.4	1082.6	722.1	342.5	99.27	89.5	63.7
MEAN	3.85	3.18	2.66	2.36	2.21	6.17	36.1	23.3	11.4	3.20	2.89	2.12
MAX	9.1	4.8	3.2	2.8	2.8	16	130	55	17	27	5.7	3.5
MIN	2.3	2.4	2.2	2.1	1.7	1.6	8.6	9.1	5.2	.56	1.4	1.4
AC-FT	236	189	163	145	123	380	2150	1430	679	197	178	126

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1998, BY WATER YEAR (WY)

	1997	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
MEAN	3.85	3.18	2.66	2.36	2.21	6.17	36.1	23.3	11.4	3.49	4.65	2.06
MAX	3.85	3.18	2.66	2.36	2.21	6.17	36.1	23.3	11.4	3.77	6.41	2.12
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1997	1997	1998
MIN	3.85	3.18	2.66	2.36	2.21	6.17	36.1	23.3	11.4	3.20	2.89	1.99
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1997

SUMMARY STATISTICS

FOR 1998 WATER YEAR

WATER YEARS 1997 - 1998

ANNUAL TOTAL	3023.27		
ANNUAL MEAN	8.28	8.28	
HIGHEST ANNUAL MEAN		8.28	1998
LOWEST ANNUAL MEAN		8.28	1998
HIGHEST DAILY MEAN	130	Apr 26	130
LOWEST DAILY MEAN	.56	Jul 14	.56
ANNUAL SEVEN-DAY MINIMUM	.65	Jul 13	.65
INSTANTANEOUS PEAK FLOW	a329	Jul 30	a329
INSTANTANEOUS PEAK STAGE	2.85	Jul 30	2.85
ANNUAL RUNOFF (AC-FT)	6000		6000
10 PERCENT EXCEEDS	17		16
50 PERCENT EXCEEDS	2.8		2.8
90 PERCENT EXCEEDS	1.9		1.5

a-From rating curve extended above 100 ft³/s.

**402114105350101 BIG THOMPSON RIVER BELOW MORAINES PARK, NEAR ESTES PARK, CO
(National Water-Quality Assessment Program station)**

WATER-QUALITY RECORDS

LOCATION.--Lat 40°21'14", long 105°35'01", in SE¼SW¼ sec. 33, T.5 N., R.73 W., Larimer County, Hydrologic Unit 10190006, on left upstream wingwall of bridge at lower Moraine Park parking lot, in Rocky Mountain National Park, and 4.0 mi southwest of Estes Park.

DRAINAGE AREA.--39.8 mi².

PERIOD OF RECORD.--January 1995 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
OCT 16...	0830	27	20	6.9	0.0	10.9	--	--	--	--
NOV 14...	1130	14	25	7.4	0.3	10.9	8	2.2	0.6	1.3
DEC 11...	1230	6.8	26	6.9	0.1	12.9	9	2.3	0.7	1.5
JAN 08...	1200	5.3	28	6.8	0.0	9.2	9	2.5	0.6	1.7
FEB 05...	1330	4.2	30	7.1	0.0	10.2	10	2.6	0.7	1.7
MAR 05...	1150	3.1	30	7.0	0.0	10.4	10	2.8	0.8	1.9
APR 06...	1330	9.3	36	7.2	3.0	10.0	11	3.1	0.9	2.1
MAY 06...	1340	58	25	6.9	4.6	10.2	9	2.5	0.6	1.3
JUN 15...	1355	140	18	7.1	8.1	8.9	6	1.8	0.4	0.9
JUL 06...	1505	203	13	7.0	9.5	8.5	4	1.2	0.3	0.6
AUG 04...	1450	103	14	7.2	12.7	--	4	1.3	0.3	0.7
SEP 01...	1410	59	16	7.3	13.6	8.1	5	1.5	0.3	0.8

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-a BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-b LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
OCT 16...	--	8	7	--	--	--	--	--	<0.01	0.12
NOV 14...	0.3	8	7	2.4	0.2	<0.1	5.6	31	0.01	0.20
DEC 11...	0.3	8	7	2.5	0.1	0.1	6.5	24	<0.01	0.14
JAN 08...	0.3	11	9	2.4	0.2	0.1	6.6	12	<0.01	0.18
FEB 05...	0.4	13	11	2.8	0.2	0.2	6.9	33	<0.01	0.15
MAR 05...	0.3	11	9	2.5	0.2	0.1	7.5	29	<0.01	0.17
APR 06...	0.5	12	10	5.9	0.4	0.1	6.9	34	<0.01	0.14
MAY 06...	0.3	6	5	2.3	0.2	0.1	5.8	40	<0.01	0.09
JUN 15...	0.3	5	4	1.6	0.1	<0.1	4.2	22	<0.01	0.07
JUL 06...	0.2	4	4	1.1	<0.1	<0.1	2.7	14	<0.01	<0.05
AUG 04...	<0.1	5	4	1.0	<0.1	<0.1	2.9	11	<0.01	0.08
SEP 01...	0.2	6	5	1.2	0.1	<0.1	3.1	20	<0.01	0.10

a-Field dissolved bicarbonate, determined by incremental titration method.
b-Field total dissolved alkalinity, determined by incremental titration method.

**402114105350101 BIG THOMPSON RIVER BELOW MORAIN PARK, NEAR ESTES PARK, CO--Continued
(National Water-Quality Assessment Program station)**

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)
OCT 16...	<0.01	<0.2	<0.2	<0.01	<0.01	<0.01	--	--	--	--
NOV 14...	<0.02	<0.1	<0.1	0.01	<0.01	<0.01	120	10	2.2	<0.2
DEC 11...	<0.02	<0.1	<0.1	0.03	<0.01	0.01	120	9	1.8	0.2
JAN 08...	<0.02	<0.1	<0.1	0.02	<0.01	0.02	110	11	1.7	<0.2
FEB 05...	0.02	<0.1	0.1	<0.01	0.03	0.01	120	12	1.8	<0.2
MAR 05...	<0.02	<0.1	<0.1	0.01	<0.01	0.02	120	14	1.5	<0.2
APR 06...	0.03	0.2	0.2	<0.01	0.01	0.01	260	11	4.2	0.2
MAY 06...	<0.02	0.3	0.2	<0.01	<0.01	<0.01	160	6	8.4	0.2
JUN 15...	0.05	0.2	0.2	<0.01	<0.01	0.01	100	6	5.2	0.4
JUL 06...	0.03	<0.1	0.2	<0.01	<0.01	0.02	64	<4	2.4	0.3
AUG 04...	0.04	0.1	<0.1	<0.01	<0.01	0.01	85	<4	1.9	0.4
SEP 01...	<0.02	<0.1	0.1	0.03	0.03	0.02	96	<4	2.2	0.2

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 14...	1130	14	4	0.16	77
DEC 11...	1230	6.8	2	0.04	75
JAN 08...	1200	5.3	<1	--	--
FEB 05...	1330	4.2	1	0.01	100
MAR 05...	1150	3.1	1	0.01	90
APR 06...	1330	9.3	1	0.03	90
MAY 06...	1340	58	4	0.62	58
JUN 15...	1355	140	4	1.5	64
JUL 06...	1505	203	5	2.7	65
AUG 04...	1450	103	3	0.83	64
SEP 01...	1410	59	6	0.95	67

PLATTE RIVER BASIN

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°22'30", long 105°29'13", in SE¼NW¼ sec.29, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, at tunnel entrance at south end of Olympus Dam on Lake Estes, 1.9 mi east of Estes Park.

PERIOD OF RECORD.--September 1970 to present.

REMARKS.--Tunnel is part of Colorado-Big Thompson project. Field data collected prior to 1974 water year available in district office. Records of discharge are estimated values.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
NOV 25...	1215	537	33	7.7	2.0	10.7	14	4.1	0.88	1.7
MAY 14...	1330	401	47	7.4	7.9	9.1	17	5.0	1.1	2.3
SEP 08...	1010	531	41	7.9	16.0	6.6	17	5.0	1.0	1.7

DATE	TIME	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)
NOV 25...	0.2	0.4	16	2.0	0.8	0.1	5.0	27	25	0.04	
MAY 14...	0.2	0.5	16	2.6	1.8	0.2	6.6	37	30	0.05	
SEP 08...	0.2	0.6	18	2.0	0.6	0.1	5.2	40	27	0.05	

DATE	TIME	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
NOV 25...	39.1	<0.01	0.12	<0.02	--	0.1	<0.01	<0.01	<0.01	0.03
MAY 14...	40.1	<0.01	0.07	0.03	0.19	0.2	<0.01	<0.01	<0.01	<0.01
SEP 08...	57.3	<0.01	<0.05	0.07	0.31	0.4	0.02	<0.01	<0.01	<0.01

DATE	TIME	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIIUM, DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
NOV 25...	5	<0.5	<4	<1	<5	<3	<10	41	<10	
MAY 14...	6	<1	<16	<8	<14	<12	<10	100	<100	
SEP 08...	6	<1	<16	<8	<14	<12	<10	62	<100	

DATE	TIME	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV 25...	<4	<4	<10	<10	<10	<1	23	<6	<3	
MAY 14...	<4	10	10	<60	<40	<4	27	<10	<20	
SEP 08...	<4	<4	20	<60	<40	<4	29	<10	<20	

402231105291900 LAKE ESTES NEAR DAM NEAR ESTES PARK, CO

WATER-QUALITY RECORDS

LOCATION.--Lat. 40°22'31", long 105°29'19", in SE 1/4 NW 1/4 sec.29, T.5 N, R.72 W., Larimer County, Hydrologic Unit 14010001, 1 mi southeast of Estes Park.

PERIOD OF RECORD.--May to September 1998.

REMARKS.--Samples were collected near-surface and near-bottom near Olympus Dam.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	
MAY											
14...	0945	0.1	44	7.2	8.6	9.0					
14...	0946	5.0	44	7.2	8.6	9.0					
14...	0947	10	44	7.2	8.5	9.0					
14...	0948	15	44	7.2	8.5	8.9					
14...	0949	20	44	7.3	8.5	8.9					
14...	0950	25	44	7.3	8.4	8.9					
14...	0951	30	44	7.3	7.8	8.8					
14...	0952	40	42	7.2	6.4	8.6					
AUG											
06...	1130	0.1	26	7.5	16.8	7.6					
06...	1131	5.0	27	7.5	16.1	7.5					
06...	1132	10	28	7.5	15.6	7.5					
06...	1133	15	25	7.5	15.2	7.5					
06...	1134	20	24	7.4	14.5	7.5					
06...	1135	25	22	7.2	13.7	7.2					
06...	1136	30	23	7.0	13.3	6.3					
06...	1137	38	24	6.8	12.8	5.8					
DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TRANS-PAR-ENCY (SECCHI DISK (IN) (00077)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
MAY											
14...	1000	0.1	44	7.2	8.6	78.0	9.0	>120	17	5.0	1.1
14...	1015	40	42	7.2	6.4	--	8.6	--	17	5.0	1.1
AUG											
06...	1145	0.1	26	7.5	16.8	80.0	7.6	22	12	3.6	0.72
06...	1200	38	24	6.8	12.8	--	5.8	--	10	3.0	0.62
DATE	TIME	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CAC03) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY											
14...	2.3	0.2	0.5	17	2.7	1.9	0.2	6.5	41	31	
14...	2.3	0.2	0.5	16	2.7	1.8	0.1	6.5	38	30	
AUG											
06...	1.2	0.2	0.3	14	1.6	0.4	<0.1	4.2	25	20	
06...	1.2	0.2	0.3	11	1.4	0.5	<0.1	4.2	22	18	
DATE	TIME	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
MAY											
14...	<0.01	0.06	0.03	0.2	<0.01	<0.01	<0.01	3.1	<0.1	6.2	
14...	<0.01	0.07	0.04	0.2	<0.01	<0.01	<0.01	--	--	5.8	
AUG											
06...	<0.01	<0.05	0.05	0.2	<0.01	<0.01	<0.01	3	<0.1	3.6	
06...	0.01	0.07	0.05	0.3	<0.01	<0.01	<0.01	--	--	3.3	

PLATTE RIVER BASIN

402231105291900 LAKE ESTES NEAR DAM NEAR ESTES PARK, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	
MAY										
14...	1000	6	<1	<16	<8	<14	<12	<10	91	
14...	1015	6	<1	<16	<8	<14	<12	<10	98	
AUG										
06...	1145	4	<1	<16	<8	<14	<12	<10	43	
06...	1200	4	<1	<16	<8	<14	<12	<10	130	
DATE		LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
MAY										
14...	<100	<4	8	<60	<40	<0.2	27	<10	<20	
14...	<100	<4	9	<60	<40	<0.2	27	<10	<20	
AUG										
06...	<100	<4	<4	<60	<40	<0.2	20	<10	<20	
06...	<100	<4	7	<60	<40	<0.2	16	<10	<20	

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO

LOCATION.--Lat 40°36'00", long 105°10'06", in NW¼SW¼ sec.6, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, on right bank near abutment of Horsetooth Dam on tributaries to Cache la Poudre River, 4.8 mi west of city hall in Fort Collins.

RESERVOIR ELEVATIONS AND CONTENTS RECORDS

PERIOD OF RECORD.--April 1951 to current year.

GAGE.--Nonrecording gage read at irregular intervals from 1 to 10 days. Datum of gage is 5,430.00 ft above sea level, (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations above sea level.

REMARKS.--Reservoir is formed by an earth and rockfill dike and dams closing openings in subsequent valleys between hogbacks; storage began Jan. 10, 1951; dams completed July 21, 1949. Usable capacity, 143,500 acre-ft above elevations 5,320 ft, invert of channel from Spring Canyon Dam, 5,310 ft, invert of channel from Dixon Canyon Dam, 5,270 ft, trashrack sill of outlet at Soldier Canyon Dam, and below maximum water-surface elevation, 5,430 ft, 6 ft below crest of Satanka Dike. Dead storage, 7,003 acre ft. Figures given represent usable contents. Water is diverted from Colorado River basin through Alva B. Adams tunnel for supplemental irrigation supply to Cache la Poudre River. Water-quality sampling at two sites in reservoir.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 148,400 acre-ft, June 26-27, 1995, elevation, 5,429.36 ft; minimum observed, 9 acre-ft, Nov. 16-30, 1977, elevation, 5,270.25 ft; no storage prior to Apr. 18, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum contents, observed, 144,100 acre-ft, Feb. 8-9, elevation, 5,427.23 ft; minimum, observed, 70,960 acre-ft, July 15, elevation, 5,384.28 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	5,413.07	117,300	-
Oct. 31	5,415.58	121,800	+4,500
Nov. 30	5,420.62	131,200	+9,400
Dec. 31	5,422.78	135,400	+4,200
CAL YR 1997	-	-	+12,100
Jan. 31	5,426.72	143,100	+7,700
Feb. 28	5,426.87	143,400	+300
Mar. 31	5,426.78	143,200	-200
Apr. 30	5,425.88	141,500	-1,700
May 31	5,408.95	110,000	-31,500
June 30	5,403.05	99,930	-10,070
July 31	5,389.94	79,210	-20,720
Aug. 31	5,393.63	84,810	+5,600
Sept. 30	5,387.05	74,940	-9,870
WTR YR 1998	-	-	-42,360

PLATTE RIVER BASIN

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1969 to current year.

REMARKS.--Samples collected at various depths near north end of reservoir near Soldier Canyon Dam.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT						
22...	0910	0.1	51	7.5	14.2	7.1
22...	0911	5.0	51	7.5	14.2	7.0
22...	0912	10	51	7.5	14.2	7.0
22...	0913	15	51	7.5	14.2	7.0
22...	0914	20	51	7.4	14.2	7.0
22...	0915	25	51	7.4	14.2	7.0
22...	0916	30	51	7.4	14.2	7.0
22...	0917	40	51	7.4	14.2	7.0
22...	0918	50	51	7.4	14.2	7.0
22...	0919	60	51	7.4	14.2	7.0
22...	0920	70	50	7.3	13.6	6.4
22...	0921	80	51	7.2	12.7	5.4
22...	0922	90	51	7.1	11.7	5.0
22...	0923	100	52	7.1	10.5	5.2
22...	0924	110	53	7.1	10.2	5.1
22...	0925	120	54	7.1	9.9	4.9
22...	0926	130	54	7.0	9.6	4.7
22...	0927	140	55	7.0	9.4	4.2
22...	0928	150	55	7.0	9.3	4.0
MAY						
12...	1000	0.1	57	8.5	12.6	9.9
12...	1001	5.0	57	8.6	12.5	9.9
12...	1002	10	57	8.6	12.0	9.9
12...	1003	15	57	8.6	11.9	9.9
12...	1004	20	57	8.5	11.8	9.8
12...	1005	25	57	8.5	11.6	9.8
12...	1006	30	56	8.4	10.7	9.8
12...	1007	40	56	8.2	9.8	9.8
12...	1008	50	55	7.9	7.2	9.9
12...	1009	60	54	7.8	6.3	9.8
12...	1010	70	54	7.7	6.1	9.7
12...	1011	80	54	7.7	6.0	9.7
12...	1012	90	54	7.6	5.8	9.7
12...	1013	100	53	7.6	5.7	9.7
12...	1014	110	53	7.6	5.6	9.7
12...	1015	120	54	7.6	5.6	9.7
AUG						
04...	0915	0.1	56	7.3	20.3	6.5
04...	0916	5.0	56	7.3	20.3	6.5
04...	0917	10	56	7.3	20.3	6.5
04...	0918	15	56	7.3	20.3	6.5
04...	0919	20	56	7.3	20.3	6.5
04...	0920	25	51	7.1	19.5	5.3
04...	0921	30	51	7.0	19.3	5.2
04...	0922	40	52	6.9	18.6	4.7
04...	0923	50	60	6.9	15.8	4.1
04...	0924	60	59	6.9	13.4	4.6
04...	0925	70	58	6.9	12.0	4.9
04...	0926	80	57	7.0	10.6	4.8
04...	0927	90	57	6.9	9.7	4.9
04...	0928	100	56	7.0	8.8	5.2
04...	0930	110	57	6.9	8.3	5.1
04...	0931	120	57	6.9	8.0	5.0
04...	0932	130	57	7.0	8.0	4.9

PLATTE RIVER BASIN

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM-PLING DEPTH (FEET) (000003)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT											
22...	0945	0.1	51	7.5	14.2	177	7.1	K1	22	7.0	1.2
22...	1000	150	55	7.0	9.3	--	4.0	--	23	7.2	1.3
MAY											
12...	1020	0.1	57	8.5	12.6	80.0	9.9	K1	24	7.4	1.2
12...	1030	120	54	7.6	5.6	--	9.7	--	24	7.4	1.3
AUG											
04...	0945	0.1	56	7.3	20.3	71.0	6.5	14	33	11	1.4
04...	1000	130	57	7.0	3.0	--	4.9	--	26	8.4	1.3
DATE	TIME	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB AS CAC03) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF TUENTS, DIS-SOLVED (MG/L) (70301)
OCT											
22...		2.0	0.2	0.6	25	2.5	0.9	0.1	3.5	37	33
22...		2.0	0.2	0.6	26	2.7	0.9	0.1	3.8	39	35
MAY											
12...		2.0	0.2	0.6	26	2.4	1.0	0.1	3.6	16	34
12...		2.0	0.2	0.6	25	2.6	0.9	0.1	3.7	16	34
AUG											
04...		2.2	0.2	0.6	26	2.5	0.8	0.2	3.5	45	38
04...		2.1	0.2	0.6	27	2.7	0.8	0.2	4.3	48	37
DATE	TIME	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
22...		<0.01	<0.05	<0.02	<0.2	<0.01	<0.01	<0.01	1.9	<0.1	--
22...		<0.01	0.21	<0.02	<0.2	<0.01	<0.01	<0.01	--	--	--
MAY											
12...		<0.01	<0.05	0.08	0.3	<0.01	<0.01	<0.01	--	--	5.3
12...		<0.01	<0.05	0.08	0.1	<0.01	<0.01	<0.01	--	--	3.4
AUG											
04...		<0.01	<0.05	0.04	0.2	<0.01	<0.01	<0.01	1.9	0.1	3.1
04...		<0.01	0.11	0.08	0.2	<0.01	<0.01	0.01	--	--	3.5
DATE	TIME	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	
OCT											
22...	0945	17	<0.5	<4	<1	<5	<3	<10	5	10	
22...	1000	14	<0.5	5	<1	<5	<3	<10	21	<10	
MAY											
12...	1020	17	<1.0	<16	<8	<14	<12	<10	<10	<100	
12...	1030	17	<1.0	<16	<8	<14	<12	<10	<10	<100	
AUG											
04...	0945	28	<1.0	<16	<8	<14	<12	<10	<10	<100	
04...	1000	18	<1.0	<16	<8	<14	<12	<10	<10	<100	
DATE	TIME	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	
OCT											
22...		<4	<10	<1	<10	<10	<0.2	29	<6	<3	
22...		<4	40	12	<10	<10	<0.2	32	<6	6	
MAY											
12...		<4	<10	<4	<60	<40	<0.2	32	<10	<20	
12...		<4	<10	<4	<60	<40	<0.2	32	<10	<20	
AUG											
04...		<4	<10	<4	<60	<40	<0.2	41	<10	<20	
04...		<4	<10	<4	<60	<40	<0.2	36	<10	<20	

K-Based on non-ideal colony count.

PLATTE RIVER BASIN

403147105083800 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1983 to current year.

REMARKS.--Samples were collected near surface and near bottom, near south end of reservoir near Spring Canyon Dam.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT										
22...	1011	0.1	51	7.6	14.0	7.7				
22...	1012	5.0	51	7.6	14.0	7.6				
22...	1013	10	51	7.6	14.0	7.5				
22...	1014	15	51	7.6	13.9	7.5				
22...	1015	20	51	7.6	13.9	7.5				
22...	1016	25	51	7.5	13.9	7.5				
22...	1017	30	51	7.5	13.9	7.4				
22...	1018	40	51	7.5	13.9	7.4				
22...	1019	50	51	7.5	13.9	7.4				
22...	1020	60	51	7.5	13.9	7.4				
22...	1021	70	50	7.5	13.6	7.4				
22...	1022	80	48	7.4	13.3	7.2				
MAY										
12...	1115	0.1	59	8.3	12.7	9.8				
12...	1116	5.0	58	8.5	12.2	9.9				
12...	1117	10	59	8.6	11.9	9.9				
12...	1118	15	57	8.4	10.8	9.7				
12...	1119	20	56	8.2	10.0	9.7				
12...	1120	25	56	8.1	9.6	9.7				
12...	1121	30	56	8.0	9.3	9.5				
12...	1122	40	55	7.8	7.5	9.6				
12...	1123	50	54	7.8	6.3	9.7				
12...	1124	60	54	7.7	6.1	9.7				
12...	1125	70	54	7.7	6.0	9.6				
12...	1126	80	54	7.7	5.9	9.6				
12...	1127	90	54	7.7	5.8	9.5				
AUG										
04...	1025	0.1	56	7.4	21.1	6.9				
04...	1026	5.0	56	7.4	21.0	6.8				
04...	1027	10	56	7.4	21.0	6.8				
04...	1028	15	56	7.4	21.0	6.8				
04...	1029	20	56	7.4	21.0	6.8				
04...	1030	25	47	7.3	19.7	6.9				
04...	1031	30	45	7.3	19.4	6.9				
04...	1032	40	45	7.2	18.8	6.7				
04...	1033	50	56	7.0	15.8	4.3				
04...	1034	60	59	6.9	13.0	4.0				
04...	1035	70	58	7.0	8.9	4.8				
04...	1036	80	56	7.0	7.1	5.2				
04...	1037	90	57	7.0	6.8	4.6				

K-Based on non-ideal colony count.

403147105083800 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM, AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB AS (MG/L CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
OCT										
22...	1.9	0.2	0.6	25	2.4	0.9	0.1	3.3	37	33
22...	1.9	0.2	0.6	23	2.5	0.9	0.2	3.5	28	31
MAY										
12...	2.1	0.2	0.6	27	2.6	1.1	0.1	3.8	--	36
12...	2.0	0.2	0.6	25	2.6	1.0	0.1	3.8	--	34
AUG										
04...	2.2	0.2	0.5	27	2.5	0.8	0.1	4.0	44	37
04...	2.2	0.2	0.6	28	2.7	0.9	0.1	4.5	30	39

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70954)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT										
22...	<0.01	<0.05	0.04	<0.2	<0.01	<0.01	<0.01	6.7	<0.1	--
22...	<0.01	<0.05	<0.02	<0.2	<0.01	<0.01	<0.01	--	--	--
MAY										
12...	<0.01	<0.05	0.08	0.3	<0.01	<0.01	<0.01	--	--	5.4
12...	<0.01	0.08	0.08	0.1	<0.01	<0.01	<0.01	--	--	3.2
AUG										
04...	<0.01	<0.05	0.02	0.2	<0.01	<0.01	<0.01	1.8	0.1	3.3
04...	<0.01	0.13	<0.02	0.1	0.06	<0.01	<0.01	--	--	3.2

DATE	TIME	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
OCT										
22...	1030	17	<0.5	5	<1	<5	<3	<10	4	<10
22...	1045	14	<0.5	<4	<1	<5	<3	<10	11	<10
MAY										
12...	1130	18	<1.0	<16	<8	<14	<12	<10	<10	<100
12...	1145	17	<1.0	<16	<8	<14	<12	<10	<10	<100
AUG										
04...	1045	24	<1.0	<16	<8	<14	<12	<10	<10	<100
04...	1100	20	<1.0	<16	<8	<14	<12	<10	10	<100

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT									
22...	<4	<10	<1	<10	<10	<0.2	28	<6	<3
22...	<4	10	2	<10	<10	<0.2	27	<6	<3
MAY									
12...	<4	<10	<4	<60	<40	<0.2	33	<10	<20
12...	<4	<10	<4	<60	<40	<0.2	31	<10	<20
AUG									
04...	<4	<10	<4	<60	<40	<0.2	34	<10	<20
04...	<4	40	17	<60	<40	<0.2	37	<10	<20

06738000 BIG THOMPSON RIVER AT MOUTH OF CANYON, NEAR DRAKE, CO

LOCATION.--Lat 40°25'18", long 105°13'34", in SW¹/₄SW¹/₄ sec.3, T.5 N., R.70 W., Larimer County, Hydrologic Unit 10190006, on right bank at mouth of canyon, 400 ft upstream from Handy Ditch diversion dam, and 6.0 mi east of Drake.

DRAINAGE AREA.--305 mi².

PERIOD OF RECORD.--August 1887 to September 1892, May 1895 to September 1903, October 1926 to September 1933 (no winter records prior to October 1932, except water years 1927-28), April 1938 to September 1949, March 1951 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as Big Thompson Creek at Arkins 1887-92, Big Thompson Creek near Arkins 1901-3, and as Thompson River at mouth of canyon, near Drake 1927-30, 1938-47.

REVISED RECORDS.--WSP 1310: 1891, 1927. WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,305.47 ft above sea level (levels by U.S. Bureau of Reclamation). Oct. 1, 1949 to Sept. 18, 1977, at present site, datum 8.00 ft lower, Sept. 19, 1977 to July 27, 1980, at present site, datum 7.37 ft, lower. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1949.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions upstream from station for irrigation. Diversions from Colorado River basin to Big Thompson River basin upstream from station through Alva B. Adams tunnel began Aug. 10, 1947 (see station 09013000 in Volume 2 for diversion during current year); since Apr. 15, 1953, this imported water has been diverted from Lake Estes through Olympus tunnel bypassing this station. Part of the natural flow of the Big Thompson River has also been diverted through Olympus tunnel since May 17, 1955, 10,390 acre-ft diverted during current year; and Dille tunnel since Apr. 20, 1959, 29,230 acre-ft, diverted during current year, and may be returned to the river just downstream from this station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft³/s, July 31, 1976, gage height, 19.86 ft, from floodmarks, from slope-area measurements of peak flow; no flow at times in 1976 (all flow above station diverted through Olympus and Dille tunnels after flood of July 31, 1976), 1979-80 (all flow above station diverted through Dille tunnel).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 701 ft³/s, July 12, gage height, 3.88 ft; minimum daily, 21 ft³/s (estimated), Nov. 15.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	64	e40	e37	e35	e31	53	177	245	625	72	73
2	144	51	e39	e37	e36	e33	58	205	246	635	79	87
3	145	47	e40	e37	e35	e32	80	212	260	627	290	84
4	102	53	e39	e37	e35	e32	99	221	261	627	177	75
5	78	46	e39	e37	e34	e32	105	235	257	564	124	79
6	79	48	e39	e37	e35	e32	104	240	240	506	143	82
7	78	48	e39	e37	e35	e33	100	240	239	581	93	81
8	79	47	e38	e37	e35	e31	103	240	232	572	77	88
9	76	49	e38	e38	e33	e34	105	245	227	560	76	82
10	76	45	e37	e37	e33	e33	103	251	110	558	81	75
11	77	e44	e37	e38	e33	e31	102	248	65	646	90	75
12	76	e40	e36	e37	e33	e32	104	241	59	687	106	74
13	71	e39	e36	e37	e33	e33	105	233	55	647	117	71
14	78	e34	e36	e37	e33	e34	108	247	67	592	78	64
15	93	e21	e36	e38	e33	e35	113	255	98	199	66	65
16	104	e36	e36	e37	e33	e36	113	237	68	90	64	65
17	106	e44	e36	e37	e33	e37	115	257	63	101	75	82
18	100	e44	e36	e37	e32	e38	139	259	55	109	148	86
19	92	e44	e36	e38	e33	e40	138	263	293	99	79	87
20	85	e42	e36	e39	e32	e41	145	266	443	89	60	84
21	72	e41	e36	e39	e32	e42	141	278	497	90	66	82
22	62	e42	e36	e38	e33	e43	149	287	554	80	65	100
23	63	e44	e36	e37	e33	e44	162	270	607	82	63	103
24	71	e44	e37	e37	e33	e44	175	261	446	116	55	98
25	74	e42	e35	e37	e33	e45	184	254	349	104	54	95
26	69	e41	e37	e36	e33	e48	198	254	342	104	52	90
27	77	e41	e37	e37	e33	63	190	253	514	89	46	87
28	76	e40	e38	e35	e33	61	183	256	581	113	76	72
29	75	e40	e37	e36	---	58	174	257	434	94	80	78
30	73	e40	e36	e37	---	57	171	253	540	90	78	83
31	75	---	e37	e36	---	54	---	247	---	84	73	---
TOTAL	2636	1301	1151	1151	937	1239	3819	7642	8447	10160	2803	2447
MEAN	85.0	43.4	37.1	37.1	33.5	40.0	127	247	282	328	90.4	81.6
MAX	145	64	40	39	36	63	198	287	607	687	290	103
MIN	62	21	35	35	32	31	53	177	55	80	46	64
AC-FT	5230	2580	2280	2280	1860	2460	7570	15160	16750	20150	5560	4850

CAL YR 1997 TOTAL 51305 MEAN 141 MAX 1100 MIN 21 AC-FT 101800
WTR YR 1998 TOTAL 43733 MEAN 120 MAX 687 MIN 21 AC-FT 86740

e-Estimated.

06741510 BIG THOMPSON RIVER AT LOVELAND, CO

LOCATION.--Lat 40°22'43", long 105°03'38", in SE¼SE¼ sec.24, T.5 N., R.69 W., Larimer County, Hydrologic Unit 10190006, on right bank 690 ft downstream from county road bridge C-13, 1.7 mi south of sugar refinery in Loveland, and 1.9 mi downstream from Farmers Ditch diversion.

DRAINAGE AREA.--535 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1979 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,906 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation, and return flow from irrigated areas.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	100	57	50	115	98	43	55	62	148	40	33
2	54	76	56	49	112	105	47	64	57	159	60	29
3	109	70	53	47	140	114	51	65	58	155	83	21
4	158	44	50	43	155	112	90	67	119	157	64	17
5	152	11	46	43	152	104	100	80	124	138	64	7.1
6	143	12	50	47	151	99	82	95	80	136	48	4.1
7	130	11	72	37	148	95	60	94	79	171	43	1.2
8	119	11	60	45	147	83	63	93	76	199	62	15
9	106	12	59	62	145	82	62	96	67	211	56	29
10	105	11	55	69	142	75	59	96	63	225	58	26
11	112	35	45	96	135	71	59	61	67	242	70	29
12	109	63	44	98	134	e64	64	53	82	216	67	30
13	101	67	50	111	134	e59	68	37	83	189	51	33
14	111	64	57	109	140	e54	104	82	91	169	40	26
15	107	48	56	107	133	e49	146	85	99	136	35	18
16	113	45	51	123	134	e43	156	67	96	116	27	31
17	118	57	51	128	130	36	144	66	131	79	35	26
18	114	67	55	129	129	34	190	65	121	80	41	19
19	106	71	51	124	123	33	206	70	88	74	59	20
20	139	74	48	126	118	31	253	88	104	63	66	28
21	184	63	36	121	116	31	279	92	127	51	39	69
22	127	60	47	116	120	31	293	172	130	56	29	67
23	72	53	47	121	122	33	178	223	117	74	29	27
24	88	66	50	122	123	44	67	127	93	85	24	9.1
25	105	66	48	124	119	50	64	124	81	119	16	20
26	92	59	47	118	107	48	56	114	107	89	11	30
27	103	60	49	120	99	46	45	85	179	64	19	28
28	107	60	69	121	100	46	45	61	176	63	22	25
29	106	56	49	118	---	46	44	52	174	65	22	23
30	106	53	51	118	---	43	43	51	177	67	19	22
31	104	---	49	119	---	43	---	59	---	40	21	---
TOTAL	3432	1545	1608	2961	3623	1902	3161	2639	3108	3836	1320	762.5
MEAN	111	51.5	51.9	95.5	129	61.4	105	85.1	104	124	42.6	25.4
MAX	184	100	72	129	155	114	293	223	179	242	83	69
MIN	32	11	36	37	99	31	43	37	57	40	11	1.2
AC-FT	6810	3060	3190	5870	7190	3770	6270	5230	6160	7610	2620	1510

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1998, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
MEAN	31.3	22.9	11.9	16.9	17.4	13.6	42.9	238	319	126	78.8	36.2
MAX	111	95.8	51.9	95.5	129	61.4	292	2078	1493	418	153	83.9
(WY)	1998	1985	1998	1998	1998	1998	1980	1980	1983	1995	1981	1982
MIN	6.15	3.96	2.86	2.55	2.42	2.19	4.49	4.07	25.0	29.9	29.0	16.6
(WY)	1988	1982	1993	1994	1993	1996	1981	1981	1982	1987	1997	1990

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1979 - 1998

ANNUAL TOTAL	44389.7	29897.5	
ANNUAL MEAN	122	81.9	
HIGHEST ANNUAL MEAN			79.7
LOWEST ANNUAL MEAN			321
HIGHEST DAILY MEAN	1760	Jun 10	28.4
LOWEST DAILY MEAN	a1.7	Apr 13	4240
ANNUAL SEVEN-DAY MINIMUM	1.7	Apr 13	.80
INSTANTANEOUS PEAK FLOW			.89
INSTANTANEOUS PEAK STAGE			349
ANNUAL RUNOFF (AC-FT)	88050	59300	3.33
10 PERCENT EXCEEDS	235	143	6970
50 PERCENT EXCEEDS	35	67	b10.10
90 PERCENT EXCEEDS	4.3	29	57760

e-Estimated.
a-Also occurred Apr 14-19.
b-From high-water mark.

PLATTE RIVER BASIN

06741510 BIG THOMPSON RIVER AT LOVELAND, CO--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L) AS CAC03 (00900)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)	ANC UNFLTRD TIT 4.5 LAB (MG/L) AS CAC03 (90410)
OCT 14...	1255	121	217	8.7	8.5	11.4	89	25	6.5	--	49
NOV 12...	1006	55	387	8.2	2.0	12.8	160	43	13	--	82
DEC 09...	1025	51	365	8.5	1.5	13.8	150	42	12	--	74
JAN 20...	1307	132	289	8.7	3.0	12.4	120	33	8.7	--	64
FEB 17...	0915	116	294	7.8	4.0	9.9	120	32	8.8	--	63
MAR 16...	1240	43	436	8.8	7.5	14.0	190	51	15	17	84
APR 06...	0910	89	309	8.0	7.5	10.4	130	36	9.4	12	86
MAY 06...	0920	90	201	8.2	10.5	9.2	80	22	6.2	--	47
JUN 15...	0925	107	174	8.4	12.0	9.0	65	17	5.7	--	33
JUL 13...	1000	190	153	8.5	16.0	8.3	56	15	4.7	4.8	31
AUG 10...	0915	62	340	8.4	19.0	7.6	150	40	11	--	71
SEP 08...	1230	1.3	1160	8.2	22.0	10.4	470	98	55	--	182

DATE	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	CHLO-RIDE, DIS-SOLVED (MG/L) AS CL (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) AS F (00950)	SILICA, DIS-SOLVED (MG/L) AS SIO2 (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS N (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	PHOS-PHORUS, DIS-SOLVED (MG/L) AS P (00666)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L) AS P (00671)
OCT 14...	--	--	--	--	--	<0.01	0.02	<0.02	<0.01	<0.01
NOV 12...	--	--	--	--	--	--	0.20	<0.02	<0.01	0.02
DEC 09...	--	--	--	--	--	<0.01	0.24	<0.02	<0.01	0.01
JAN 20...	--	--	--	--	--	0.02	0.16	<0.02	<0.01	<0.01
FEB 17...	--	--	--	--	--	<0.01	0.07	<0.02	<0.01	0.01
MAR 16...	130	6.2	0.3	3.0	287	0.03	0.13	<0.02	<0.01	<0.01
APR 06...	65	4.9	--	11	--	--	--	--	--	--
MAY 06...	--	--	--	--	--	<0.01	0.12	0.04	<0.01	<0.01
JUN 15...	--	--	--	--	--	0.02	0.09	0.08	<0.01	<0.01
JUL 13...	36	1.5	0.2	3.8	99	0.01	0.07	0.05	<0.01	0.02
AUG 10...	--	--	--	--	--	<0.01	0.05	0.05	<0.01	<0.01
SEP 08...	--	--	--	--	--	0.01	1.0	0.04	<0.01	0.01

06741510 BIG THOMPSON RIVER AT LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)
OCT 14...	--	--	<1	--	--	--	<1	2	150	<1
NOV 12...	--	--	<1	--	--	--	<1	<1	100	<1
DEC 09...	--	--	<1	--	--	--	<1	<1	60	<1
JAN 20...	--	--	<1	--	--	--	<1	<1	70	<1
FEB 17...	--	--	<1	--	--	--	<1	<1	100	<1
MAR 16...	<10	<1	<1	<1	<1	<1	1	<1	160	<1
APR 06...	<10	<1	<1	<1	<1	<1	2	<1	570	<1
MAY 06...	--	--	<1	--	--	--	3	1	910	<1
JUN 15...	--	--	<1	--	--	--	3	2	410	<1
JUL 13...	16	<1	<1	<1	3	<1	2	2	480	<1
AUG 10...	--	--	<1	--	--	--	3	1	350	<1
SEP 08...	--	--	<1	--	--	--	2	<1	150	<1

DATE	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT 14...	--	--	--	--	--	--	<1	<0.2	--
NOV 12...	--	--	--	--	--	--	<1	<0.2	--
DEC 09...	--	--	--	--	--	--	<1	<0.2	--
JAN 20...	--	--	--	--	--	--	<1	<0.2	--
FEB 17...	--	--	--	--	--	--	<1	<0.2	--
MAR 16...	<1	65	<0.1	<0.1	<1	4	<1	<0.2	<20
APR 06...	<1	52	--	--	<1	2	<1	<0.2	<20
MAY 06...	--	--	--	--	--	--	<1	<0.2	--
JUN 15...	--	--	--	--	--	--	<1	<0.2	--
JUL 13...	<1	26	<0.1	<0.1	<1	<1	<1	<0.2	<20
AUG 10...	--	--	--	--	--	--	<1	<0.2	--
SEP 08...	--	--	--	--	--	--	<1	<0.2	--

06742500 CARTER LAKE NEAR BERTHOUD, CO

LOCATION.--Lat 40°19'28", long 105°12'41", in SE¼ sec.10, T.4 N., R.70 W., Larimer County, Hydrologic Unit 10190006, in hoist house 293 ft from right abutment of Carter Lake Dam on Dry Creek, 7.0 mi west of Berthoud, and 8.9 mi upstream from mouth. Water-quality sampling site near center of reservoir.

RESERVOIR ELEVATIONS AND CONTENTS RECORDS

PERIOD OF RECORD.--March 1954 to current year.

GAGE.--Nonrecording gage read at irregular intervals from 1 to 13 days. Datum of gage is 5,763.00 ft above sea level, (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations above sea level.

REMARKS.--Reservoir is formed by an earth and rockfill dam and dikes enlarging the natural basin of Carter Lake. Storage began in February 1954. Usable capacity, 113,500 acre-ft between elevations 5,618.00 ft, trashrack sill at outlet, and 5,763.00 ft, maximum water surface, 6 ft below crest of dam. Dead storage, 3,306 acre-ft. Figures given represent usable contents. Water diverted from Colorado River basin through Alva B. Adams tunnel is pumped from Flatiron Reservoir into Carter Lake for supplemental irrigation supply to Little Thompson River and St. Vrain and Boulder Creek basins. Water above elevation 5,620 ft may be released for return to Flatiron Reservoir where pump turbines can operate in reverse to generate power and water can be used for irrigation in Big Thompson or Cache la Poudre River basins.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 109,100 acre-ft, Apr. 27-29, 1971, elevation, 5,759.12 ft; minimum observed since appreciable storage was attained, 960 acre-ft, Oct. 25, 1954, elevation, 5,621.40 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 108,200 acre-ft, Feb. 26-27, elevation, 5,758.34 ft; minimum contents, 57,770 acre-ft, Nov. 23, elevation, 5,709.85 ft.

MONTHEND ELEVATION AND CONTENTS AT 0800, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	5,714.60	62,240	-
Oct. 31.	5,710.92	58,770	-3,470
Nov. 30.	5,714.80	62,430	+3,660
Dec. 31.	5,734.04	81,650	+19,220
CAL YR 1997.	-	-	+14,200
Jan. 31.	5,748.47	97,110	+15,460
Feb. 28.	5,758.26	108,100	+10,990
Mar. 31.	5,757.71	107,500	-600
Apr. 30.	5,756.35	105,900	-1,600
May 31.	5,753.56	102,800	-3,100
June 30.	5,747.56	96,110	-6,690
July 31.	5,722.39	69,810	-26,300
Aug. 31.	5,718.92	66,410	-3,400
Sept. 30.	5,713.00	60,720	-5,690
WTR YR 1998.	-	-	-1,520

**06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--February 1970 to current year.

REMARKS.--Samples were collected near surface and near bottom, near southeast end of reservoir.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT						
22...	1240	0.1	66	7.9	13.3	8.0
22...	1241	5.0	66	7.9	13.2	8.0
22...	1242	10	66	7.9	13.2	8.0
22...	1243	15	66	7.9	13.0	8.0
22...	1244	20	66	7.9	12.9	8.0
22...	1245	25	66	7.9	12.9	7.9
22...	1246	30	66	7.9	12.9	7.9
22...	1247	40	66	7.9	12.9	7.9
22...	1248	50	59	7.5	10.2	6.1
22...	1249	60	57	7.3	8.5	5.7
22...	1250	70	56	7.2	7.6	5.3
22...	1251	80	55	7.2	7.2	5.2
22...	1252	90	55	7.2	7.0	5.0
22...	1253	100	55	7.1	6.9	4.7
MAY						
12...	1400	0.1	58	8.0	12.9	9.2
12...	1401	5.0	57	8.2	11.7	9.3
12...	1402	10	57	8.2	11.5	9.6
12...	1403	15	57	8.4	10.6	9.7
12...	1404	20	57	8.4	10.1	9.7
12...	1405	25	57	8.4	9.5	9.1
12...	1406	30	57	8.3	8.9	9.4
12...	1407	40	57	8.1	7.4	9.6
12...	1408	50	57	7.9	6.4	9.5
12...	1409	60	57	7.9	6.3	9.6
12...	1410	70	57	7.8	5.9	9.4
12...	1411	80	57	7.8	5.7	9.3
12...	1412	90	56	7.8	5.4	8.9
12...	1413	100	56	7.7	5.2	8.8
12...	1414	110	56	7.7	5.1	8.6
12...	1415	120	56	7.7	5.1	8.5
AUG						
05...	0915	0.1	66	7.9	21.1	7.0
05...	0916	5.0	66	7.9	21.1	7.1
05...	0917	10	66	7.9	21.0	7.0
05...	0918	15	66	7.9	21.0	7.0
05...	0919	20	66	7.9	21.0	7.0
05...	0920	25	59	7.6	15.3	7.0
05...	0921	30	57	7.5	12.9	7.0
05...	0922	40	54	7.4	9.2	7.3
05...	0923	50	52	7.4	8.1	7.2
05...	0924	60	51	7.3	7.5	7.1
05...	0925	70	51	7.2	7.3	7.0
05...	0926	80	51	7.2	7.2	6.9
05...	0927	90	51	7.2	7.0	6.9
05...	0928	100	52	7.2	6.8	6.7

PLATTE RIVER BASIN

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAMPLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	pH (STANDARD) (00400)	TEMPERATURE WATER (DEG C) (00010)	TRANSPAR-ENCY (SECCHI DISK) (IN) (00077)	OXYGEN, SOLVED (MG/L) (00300)	FORM, FECAL, UM-MF (COLS./100 ML) (31625)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT											
22...	1300	0.1	66	7.9	13.3	139	8.0	<1	29	9.6	1.3
22...	1315	100	55	7.1	6.9	--	4.7	--	24	7.7	1.2
MAY											
12...	1430	0.1	58	8.0	12.9	96.0	9.2	K1	25	8.1	1.2
12...	1445	120	56	7.7	5.1	--	8.5	--	25	8.0	1.2
AUG											
05...	0945	0.1	66	7.9	21.1	88.0	7.0	K1	27	8.5	1.3
05...	1000	100	52	7.2	6.8	--	6.7	--	28	8.7	1.4

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)
OCT										
22...	2.1	0.2	0.6	33	2.8	0.7	0.1	2.5	44	39
22...	2.0	0.2	0.6	27	2.7	0.7	0.1	3.8	42	36
MAY										
12...	1.9	0.2	0.6	27	2.6	0.7	0.1	3.1	47	35
12...	1.9	0.2	0.6	27	2.7	0.8	0.1	3.7	--	35
AUG										
05...	2.1	0.2	0.5	32	2.7	0.7	0.2	3.9	47	39
05...	2.2	0.2	0.6	25	2.5	0.7	0.2	4.5	43	36

DATE	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS, PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CHLOROPHYLL-A, PLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOROPHYLL-B, PLANKTON CHROMO FLUOROM (UG/L) (70954)	CARBON, TOTAL ORGANIC (MG/L AS C) (00680)
OCT										
22...	<0.01	<0.05	<0.02	<0.2	<0.01	<0.01	<0.01	1.0	<0.1	--
22...	0.01	0.13	<0.02	<0.2	<0.01	0.01	<0.01	--	--	--
MAY										
12...	<0.01	<0.05	0.08	0.2	<0.01	<0.01	0.02	--	--	4
12...	<0.01	<0.05	0.09	0.2	<0.01	<0.01	<0.01	--	--	4
AUG										
05...	<0.01	<0.05	0.03	0.2	<0.01	<0.01	<0.01	0.6	<0.1	3.5
05...	<0.01	0.07	<0.02	0.2	<0.01	<0.01	<0.01	--	--	3.2

DATE	TIME	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYLLIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT										
22...	1300	25	<0.5	6	<1	<5	<3	<10	<3	<10
22...	1315	16	<0.5	<4	<1	<5	<3	<10	4	<10
MAY										
12...	1430	18	<1.0	<16	<8	<14	<12	<10	<10	<100
12...	1445	17	<1.0	<16	<8	<14	<12	<10	<10	<100
AUG										
05...	0945	23	<1.0	<16	<8	<14	<12	<10	<10	<100
05...	1000	19	<1.0	<16	<8	<14	<12	<10	<10	<100

DATE	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRONTIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANADIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT									
22...	<4	<10	<1	<10	<10	<0.2	38	<6	<3
22...	<4	10	4	<10	<10	<0.2	34	<6	<3
MAY									
12...	<4	<10	<4	<60	<40	<0.2	35	<10	<20
12...	<4	<10	<4	<60	<40	<0.2	35	<10	<20
AUG									
05...	<4	<10	<4	<60	<40	<0.2	33	<10	<20
05...	<4	30	13	<60	<40	<0.2	35	<10	<20

K-Based on non-ideal colony count.

06746095 JOE WRIGHT CREEK ABOVE JOE WRIGHT RESERVOIR, CO

LOCATION.--Lat 40°32'24", long 105°52'56", in SE¼SE¼ sec.26, T.7 N., R.76 W., Larimer County, Hydrologic Unit 10190007, on left bank 150 ft downstream from unnamed tributary and Colorado Highway 14 culvert crossing, 1.5 mi northeast of Cameron Pass, 1.5 mi southwest of Joe Wright Dam, and 8 mi east of Gould.

DRAINAGE AREA.--3.01 mi².

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 9,990 ft above sea level, from topographic map. Prior to Aug. 7, 1989, at datum 3.40 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	e5.2	e2.5	e2.5	e2.0	e1.5	e1.2	e2.7	50	85	e19	10
2	16	e5.2	e2.5	e2.5	e2.0	e1.5	e1.2	e3.5	74	82	e18	9.5
3	17	e5.2	e2.5	e2.5	e2.0	e1.5	e1.2	e4.5	75	76	e19	8.7
4	15	e5.2	e2.5	e2.5	e2.0	e1.5	e1.2	e4.8	67	71	e22	7.7
5	13	e4.5	e2.5	e2.5	e2.0	e1.5	e1.2	e4.0	53	67	e20	8.0
6	13	e4.3	e2.5	e2.5	e2.0	e1.5	e1.2	e3.7	45	64	e18	7.8
7	12	e4.1	e2.5	e2.5	e2.0	e1.5	e1.2	e3.4	41	55	e16	7.4
8	12	e3.9	e2.5	e2.5	e2.0	e1.5	e1.2	e3.5	40	50	e15	7.4
9	12	e3.8	e2.5	e2.5	e2.0	e1.4	e1.2	e4.0	37	49	e16	7.5
10	11	e3.8	e2.5	e2.5	e2.0	e1.4	e1.2	e4.5	36	50	e16	7.2
11	11	e3.6	e2.5	e2.5	e2.0	e1.4	e1.2	e5.6	34	47	e14	7.0
12	e10	e3.6	e2.5	e2.5	e1.9	e1.3	e1.2	e6.4	35	44	e13	7.3
13	e11	e3.6	e2.5	e2.5	e1.9	e1.3	e1.2	e6.8	39	41	e12	7.3
14	e14	e3.5	e2.5	e2.5	e1.8	e1.2	e1.2	e7.4	46	37	e11	6.6
15	11	e3.4	e2.5	e2.5	e1.8	e1.2	e1.2	e6.2	41	32	e11	5.8
16	10	e3.3	e2.5	e2.5	e1.8	e1.2	e1.2	e6.0	40	31	e11	6.5
17	10	e3.3	e2.5	e2.5	e1.7	e1.2	e1.1	e5.9	40	29	e11	5.9
18	10	e3.3	e2.5	e2.5	e1.7	e1.2	e1.2	e8.2	36	28	e12	5.5
19	9.7	e3.2	e2.5	e2.5	e1.7	e1.2	e1.2	e11	39	26	e12	5.3
20	9.4	e3.1	e2.5	e2.5	e1.6	e1.2	e1.2	e16	47	25	e11	5.1
21	9.2	e2.9	e2.5	e2.5	e1.6	e1.2	e1.2	e22	50	24	e16	5.1
22	9.0	e2.8	e2.5	e2.4	e1.5	e1.2	e1.4	e20	60	24	e16	4.9
23	9.2	e2.7	e2.5	e2.3	e1.5	e1.2	e1.8	e19	72	22	e13	5.3
24	e8.2	e2.7	e2.5	e2.3	e1.5	e1.2	e2.2	e17	73	22	e12	5.0
25	e8.5	e2.6	e2.5	e2.2	e1.5	e1.2	e2.1	e17	76	25	e11	4.6
26	e8.5	e2.6	e2.5	e2.2	e1.5	e1.2	e2.0	e18	82	e22	e10	4.4
27	e6.1	e2.5	e2.5	e2.1	e1.5	e1.2	e2.0	e19	87	e20	e11	4.2
28	e5.3	e2.5	e2.5	e2.1	e1.5	e1.2	e2.1	20	92	e19	11	4.2
29	e5.3	e2.5	e2.5	e2.0	---	e1.2	e2.3	25	92	e20	11	4.0
30	e5.5	e2.5	e2.5	e2.0	---	e1.2	e2.5	32	88	e20	10	4.0
31	e5.3	---	e2.5	e2.0	---	e1.2	---	33	---	e18	10	---
TOTAL	324.2	105.4	77.5	74.1	50.0	40.4	43.5	360.1	1687	1225	428	189.2
MEAN	10.5	3.51	2.50	2.39	1.79	1.30	1.45	11.6	56.2	39.5	13.8	6.31
MAX	17	5.2	2.5	2.5	2.0	1.5	2.5	33	92	85	22	10
MIN	5.3	2.5	2.5	2.0	1.5	1.2	1.1	2.7	34	18	10	4.0
AC-FT	643	209	154	147	99	80	86	714	3350	2430	849	375

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1998, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	2.89	1.47	.99	.81	.70	.70	1.11	13.5	52.7	27.9	8.76	4.53									
MAX	10.5	3.51	2.50	2.39	1.79	1.50	3.39	34.6	88.5	90.8	21.5	17.3									
(WY)	1998	1998	1998	1998	1998	1994	1994	1994	1988	1995	1995	1997									
MIN	.54	.36	.28	.25	.20	.20	.39	3.58	25.5	6.75	1.88	1.06									
(WY)	1981	1979	1981	1981	1979	1979	1979	1982	1989	1989	1985	1980									

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1979 - 1998

ANNUAL TOTAL	6017.48	4604.4	
ANNUAL MEAN	16.5	12.6	9.68
HIGHEST ANNUAL MEAN			16.9
LOWEST ANNUAL MEAN			5.40
HIGHEST DAILY MEAN	111	Jun 5	150
LOWEST DAILY MEAN	e.98	Apr 13	b.20
ANNUAL SEVEN-DAY MINIMUM	1.0	Apr 7	.20
INSTANTANEOUS PEAK FLOW			238
INSTANTANEOUS PEAK STAGE			c5.60
ANNUAL RUNOFF (AC-FT)	11940	9130	7010
10 PERCENT EXCEEDS	46	39	30
50 PERCENT EXCEEDS	3.9	4.0	1.6
90 PERCENT EXCEEDS	1.0	1.2	.45

e-Estimated.

a-Also occurred Jun 29.

b-Also occurred Jan 31 to Apr 4, 1979, and Feb 9 to Apr 9, 1981.

c-Maximum gage height, 10.64 ft, May 15, 1993, present datum, backwater from ice.

06746110 JOE WRIGHT CREEK BELOW JOE WRIGHT RESERVOIR, CO

LOCATION.--Lat 40°33'43", long 105°51'48", in SE¼NE¼ sec.24, T.7 N., R.76 W., Larimer County, Hydrologic Unit 10190007, on left bank 500 ft downstream from unnamed tributary, 2,000 ft downstream from Joe Wright Dam, and 3 mi southwest of Chambers Lake.

DRAINAGE AREA.--6.90 mi².

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 9,710 ft above sea level, from topographic map. Prior to Aug. 7, 1989, at datum 0.50 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Joe Wright Reservoir, 2000 ft upstream. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	e3.9	e2.5	e2.1	e2.1	e2.4	e2.5	3.0	50	67	42	57
2	5.6	e3.9	e2.5	e2.1	e2.0	e2.5	e2.5	3.0	45	60	41	54
3	5.7	e3.8	e2.4	e2.1	e2.1	e2.5	e2.5	3.2	46	48	38	56
4	5.6	e3.8	e2.4	e2.1	e2.1	e2.5	e2.5	6.7	56	36	38	60
5	5.3	e3.7	e2.3	e2.1	e2.1	e2.5	e2.5	9.2	66	24	40	52
6	5.4	e3.7	e2.3	e2.1	e2.1	e2.5	e2.5	9.1	65	23	38	45
7	5.3	e3.6	e2.2	e2.1	e2.1	e2.5	e2.5	8.9	59	23	37	47
8	5.4	e3.4	e2.2	e2.1	e2.1	e2.5	e2.5	8.6	38	23	37	53
9	5.3	e3.2	e2.2	e2.1	e2.1	e2.5	e2.5	8.7	25	24	37	59
10	5.3	e3.0	e2.1	e2.1	e2.1	e2.5	e2.5	9.3	25	31	35	64
11	5.3	e2.8	e2.1	e2.1	e2.1	e2.5	e2.5	9.2	29	39	32	64
12	5.3	e2.9	e2.1	e2.1	e2.1	e2.5	e2.5	9.1	31	39	31	61
13	5.2	e2.9	e2.1	e2.1	e2.1	e2.5	e2.5	9.4	34	29	31	60
14	5.3	e2.9	e2.1	e2.1	e2.1	e2.5	e2.5	32	44	12	31	43
15	5.3	e2.9	e2.1	e2.1	e2.1	e2.5	e2.5	67	66	17	34	7.1
16	5.1	e2.9	e2.1	e2.1	e2.1	e2.5	e2.5	63	75	39	40	7.1
17	5.0	e2.8	e2.1	e2.1	e2.1	e2.5	e2.5	58	66	41	55	7.0
18	4.9	e2.8	e2.1	e2.1	e2.1	e2.5	2.5	57	45	43	59	7.1
19	4.9	e2.7	e2.1	e2.1	e2.1	e2.5	2.5	58	28	46	66	7.1
20	4.9	e2.6	e2.1	e2.1	e2.1	e2.5	2.5	61	26	44	67	7.1
21	4.9	e2.6	e2.1	e2.1	e2.1	e2.5	2.5	70	39	42	65	7.1
22	4.9	e2.5	e2.1	e2.1	e2.1	e2.5	2.5	79	54	42	65	6.9
23	4.9	e2.5	e2.1	e2.1	e2.1	e2.5	2.6	86	66	42	63	6.6
24	4.9	e2.5	e2.1	e2.1	e2.1	e2.5	2.8	95	58	41	60	6.6
25	4.7	e2.5	e2.1	e2.1	e2.2	e2.5	2.8	99	52	39	58	6.4
26	4.9	e2.5	e2.1	e2.1	e2.3	e2.5	2.8	99	53	39	49	6.2
27	4.7	e2.5	e2.1	e2.1	e2.4	e2.5	2.8	109	53	39	47	6.2
28	4.6	e2.5	e2.1	e2.1	e2.4	e2.5	2.8	121	53	38	55	5.9
29	4.6	e2.5	e2.1	e2.1	---	e2.5	2.9	110	52	40	70	5.3
30	4.6	e2.5	e2.1	e2.1	---	e2.5	3.0	70	59	43	68	5.1
31	4.0	---	e2.1	e2.1	---	e2.5	---	58	---	42	63	---
TOTAL	157.4	89.3	67.2	65.1	59.6	77.4	77.5	1489.4	1458	1155	1492	879.8
MEAN	5.08	2.98	2.17	2.10	2.13	2.50	2.58	48.0	48.6	37.3	48.1	29.3
MAX	5.7	3.9	2.5	2.1	2.4	2.5	3.0	121	75	67	70	64
MIN	4.0	2.5	2.1	2.1	2.0	2.4	2.5	3.0	25	12	31	5.1
AC-FT	312	177	133	129	118	154	154	2950	2890	2290	2960	1750

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1998, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	4.38	1.14	.76	.67	.61	.61	.76	13.4	62.8	38.9	31.8	29.6								
MAX	20.8	3.01	2.17	2.10	2.13	2.50	2.90	48.0	100	90.8	84.7	61.8								
(WY)	1995	1982	1998	1998	1998	1998	1997	1998	1996	1993	1991	1995								
MIN	.54	.34	.21	.24	.22	.23	.29	1.21	12.6	2.49	6.44	1.13								
(WY)	1989	1995	1993	1993	1995	1995	1991	1980	1980	1989	1981	1991								

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1979 - 1998

ANNUAL TOTAL	8933.4	7067.7		
ANNUAL MEAN	24.5	19.4	15.5	
HIGHEST ANNUAL MEAN			24.4	1997
LOWEST ANNUAL MEAN			3.69	1980
HIGHEST DAILY MEAN	190	Jun 23	245	Jul 1 1993
LOWEST DAILY MEAN	a,e1.9	Feb 2	b.17	Apr 3 1991
ANNUAL SEVEN-DAY MINIMUM	1.9	Feb 2	2.1	Jan 27
INSTANTANEOUS PEAK FLOW			135	May 28
INSTANTANEOUS PEAK STAGE			2.16	May 28
ANNUAL RUNOFF (AC-FT)	17720	14020	11220	
10 PERCENT EXCEEDS	79	59	57	
50 PERCENT EXCEEDS	4.6	3.9	1.2	
90 PERCENT EXCEEDS	1.9	2.1	.34	

e-Estimated.

a-Also occurred Feb 3 to Apr 4.

b-Also occurred Apr 4, 1991.

c-Maximum gage height, 2.78 ft, Jul 10, 1997.

06751150 NORTH FORK CACHE LA POUDBRE RIVER BELOW HALLIGAN RESERVOIR NEAR VIRGINIA DALE, CO

LOCATION.--Lat 40°52'42", long 105°20'15", in NE¼SW¼ sec.34, T.11 N., R.71 W., Larimer County, Hydrologic Unit 10190007, on left bank 500 ft downstream from Halligan Dam, 4.0 mi west of Highway 287, and 5.0 mi south of Virginia Dale.

DRAINAGE AREA.--355 mi².

PERIOD OF RECORD.--March to September 1998.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,310 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Natural flow affected by transbasin diversions, storage reservoirs, and irrigation. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data for Gaging Stations" section of this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period March to September, 342 ft³/s, at 0845, May 15, gage height 3.94 ft; minimum daily, 1.3 ft³/s, Sept. 29-30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	65	163	220	113	104	110
2	---	---	---	---	---	---	76	183	215	113	107	109
3	---	---	---	---	---	---	73	193	208	115	112	108
4	---	---	---	---	---	---	86	201	216	108	114	108
5	---	---	---	---	---	---	103	234	247	108	114	107
6	---	---	---	---	---	---	110	267	247	108	112	106
7	---	---	---	---	---	---	101	270	229	108	112	105
8	---	---	---	---	---	---	101	279	255	109	110	104
9	---	---	---	---	---	---	102	290	260	109	110	102
10	---	---	---	---	---	---	108	298	239	110	109	100
11	---	---	---	---	---	---	107	298	210	109	108	100
12	---	---	---	---	---	---	118	278	184	109	106	103
13	---	---	---	---	---	---	137	275	171	109	105	102
14	---	---	---	---	---	14	133	285	169	109	106	101
15	---	---	---	---	---	29	137	326	203	107	107	104
16	---	---	---	---	---	30	134	290	210	107	106	116
17	---	---	---	---	---	30	122	272	250	106	106	119
18	---	---	---	---	---	30	130	264	244	104	107	115
19	---	---	---	---	---	30	135	265	204	104	107	111
20	---	---	---	---	---	30	142	267	175	103	107	108
21	---	---	---	---	---	30	148	280	165	103	107	95
22	---	---	---	---	---	30	151	291	162	102	107	60
23	---	---	---	---	---	30	158	297	157	102	107	50
24	---	---	---	---	---	30	172	278	144	102	106	42
25	---	---	---	---	---	31	188	277	136	100	107	37
26	---	---	---	---	---	31	190	264	129	100	106	36
27	---	---	---	---	---	31	181	249	123	100	106	33
28	---	---	---	---	---	31	176	240	117	101	111	13
29	---	---	---	---	---	42	174	232	110	102	112	1.3
30	---	---	---	---	---	68	162	233	105	102	111	1.3
31	---	---	---	---	---	69	---	227	---	103	110	---
TOTAL	---	---	---	---	---	---	3920	8066	5704	3285	3359	2506.6
MEAN	---	---	---	---	---	---	131	260	190	106	108	83.6
MAX	---	---	---	---	---	---	190	326	260	115	114	119
MIN	---	---	---	---	---	---	65	163	105	100	104	1.3
AC-FT	---	---	---	---	---	---	7780	16000	11310	6520	6660	4970

06751490 NORTH FORK CACHE LA POUDE RIVER AT LIVERMORE, CO

LOCATION.--Lat 40°47'15", long 105°15'06", in SW¹/₄SE¹/₄ sec.32, T.10 N., R.70 W., Larimer County, Hydrologic Unit 10190007, on left bank 30 ft downstream from bridge on Colorado State Highway 200, 2.0 mi west of Livermore, and 2.9 mi downstream from Stonewall Creek.

DRAINAGE AREA.--539 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1986 to current year. May 1929 to September 1931, May 1947 to September 1965 (published as "near Livermore", station 06751500); records are not considered equivalent.

GAGE.--Water-stage recorder. Elevation of gage is 5,715 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Natural flow affected by transbasin diversions, storage reservoirs, and irrigation.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	151	54	e19	e12	55	e100	157	e160	17	e18	e9.0
2	26	147	54	e20	e13	45	e115	144	e155	18	e20	e9.0
3	25	142	50	e19	e13	46	e130	159	e155	18	e25	e8.5
4	24	141	63	e18	e14	39	e140	166	e170	19	e23	e8.5
5	23	137	64	e17	e15	38	e155	197	e200	19	e23	e8.0
6	23	135	75	e16	e14	39	e170	236	e215	18	e22	e8.0
7	23	136	64	e15	e15	40	e185	234	e240	18	e22	e8.0
8	22	136	52	e16	17	42	e190	239	e260	18	e22	e8.0
9	23	136	52	e17	26	43	e195	262	261	16	e21	e8.0
10	23	134	49	e17	27	43	e195	266	240	13	e20	e8.5
11	23	133	30	e19	27	42	e200	257	213	14	e19	e8.6
12	26	133	35	e17	29	46	e205	223	175	14	e17	e8.8
13	34	130	32	e16	30	40	209	212	153	14	e15	e8.8
14	30	115	28	e15	29	18	222	e240	144	16	e13	e8.8
15	29	82	26	e14	29	40	237	e260	169	14	e13	e8.8
16	28	72	24	e13	35	43	244	e250	178	16	e12	e9.4
17	28	89	23	e12	34	46	232	e230	195	16	e12	e9.6
18	27	74	22	e12	35	51	254	e220	203	11	e11	e8.9
19	26	74	e22	e11	35	44	273	e220	167	10	e11	7.0
20	26	75	e21	e11	35	45	291	e225	140	13	e11	7.1
21	47	69	e20	e11	36	48	302	e230	125	14	e11	8.3
22	51	58	e20	e11	38	51	302	e240	117	16	e10	8.8
23	51	63	e21	e12	38	60	309	e250	107	16	e10	8.2
24	49	62	e21	e11	39	76	324	e230	94	16	e10	7.7
25	47	59	e19	e11	39	85	341	e220	85	e16	e10	6.9
26	49	58	e20	e10	37	e86	342	e200	79	e16	e10	6.2
27	55	59	e19	e11	48	e86	329	e200	60	e16	e10	6.2
28	84	58	e20	e11	71	e86	314	e190	47	e17	e10	6.0
29	86	53	e21	e11	---	e85	239	e180	31	e16	e10	5.9
30	94	53	e22	e11	---	e84	175	e170	17	e15	e9.5	5.8
31	138	---	e21	e11	---	e92	---	e160	---	e16	e9.5	---
TOTAL	1270	2964	1064	435	830	1684	6919	6667	4555	486	460.0	239.3
MEAN	41.0	98.8	34.3	14.0	29.6	54.3	231	215	152	15.7	14.8	7.98
MAX	138	151	75	20	71	92	342	266	261	19	25	9.6
MIN	22	53	19	10	12	18	100	144	17	10	9.5	5.8
AC-FT	2520	5880	2110	863	1650	3340	13720	13220	9030	964	912	475

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1998, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	12.2	17.6	10.1	9.05	14.2	20.4	65.2	139	216	30.9	18.3	10.5
MAX (WY)	41.0	98.8	34.3	27.6	48.2	55.5	244	365	857	133	52.5	23.6
MIN (WY)	1998	1998	1998	1996	1996	1990	1990	1995	1995	1995	1991	1997
MAX (WY)	4.85	6.62	3.58	3.60	5.00	6.35	4.57	10.3	20.3	5.23	4.24	4.48
MIN (WY)	1989	1988	1988	1988	1995	1995	1995	1989	1987	1989	1988	1987

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1987 - 1998

ANNUAL TOTAL	22664.9	27573.3		
ANNUAL MEAN	62.1	75.5	46.9	1995
HIGHEST ANNUAL MEAN			118	1989
LOWEST ANNUAL MEAN			8.06	1989
HIGHEST DAILY MEAN	e426	Jun 10	342	Apr 26
LOWEST DAILY MEAN	a4.6	Mar 8	5.8	Sep 30
ANNUAL SEVEN-DAY MINIMUM	4.8	Mar 4	6.4	Sep 24
INSTANTANEOUS PEAK FLOW			362	Apr 24
INSTANTANEOUS PEAK STAGE			9.21	Apr 24
ANNUAL RUNOFF (AC-FT)	44960	54690	33940	1991
10 PERCENT EXCEEDS	169	221	105	1991
50 PERCENT EXCEEDS	29	35	11	1991
90 PERCENT EXCEEDS	7.7	10	5.0	1991

e-Estimated.

a-Also occurred Mar 9-10.

b-Also occurred Sep 3, 1988 and Apr 27, 1989.

**06751490 NORTH FORK CACHE LA POUVRE RIVER AT LIVERMORE, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--November 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)
OCT											
16...	1026	29	261	8.2	6.0	10.2	120	35	8.4	10	15
NOV											
12...	1355	135	152	8.9	3.0	13.2	65	19	4.2	6.0	17
DEC											
09...	1416	53	189	8.7	2.0	13.7	81	23	5.4	8.0	17
JAN											
21...	1005	10	286	8.3	0.0	11.6	130	37	9.1	11	16
FEB											
17...	0910	32	206	8.6	1.0	11.5	92	27	5.9	7.8	15
MAR											
17...	1310	47	184	8.8	8.0	11.0	81	24	5.0	6.8	15
APR											
07...	1345	190	129	8.1	5.5	9.8	57	17	3.6	5.7	18
MAY											
07...	1150	241	123	--	9.5	9.5	52	15	3.2	5.2	18
JUN											
16...	1145	189	128	8.4	13.0	9.1	57	17	3.6	5.1	16
JUL											
14...	1100	16	365	8.5	18.5	8.3	170	48	11	14	15
AUG											
11...	1145	22	327	8.4	17.0	9.2	150	42	9.8	12	15
SEP											
09...	1120	7.3	428	8.4	18.5	8.7	200	55	15	15	14

DATE	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)
OCT										
16...	0.4	1.4	120	11	4.9	1.0	16	164	160	0.22
NOV										
12...	0.3	1.0	71	5.6	3.1	0.8	13	112	96	0.15
DEC										
09...	0.4	1.0	86	9.5	4.1	0.9	13	125	117	0.17
JAN										
21...	0.4	1.3	128	16	7.3	1.2	14	186	174	0.25
FEB										
17...	0.4	1.1	92	11	4.4	1.0	13	131	127	0.18
MAR										
17...	0.3	1.1	80	9.1	4.3	0.9	13	119	112	0.16
APR										
07...	0.3	1.1	56	6.7	2.8	0.8	15	96	86	0.13
MAY										
07...	0.3	1.0	53	5.9	2.4	0.9	14	97	80	0.13
JUN										
16...	0.3	0.8	60	4.8	1.9	0.6	14	97	84	0.13
JUL										
14...	0.5	1.7	172	13	8.0	1.0	13	227	215	0.31
AUG										
11...	0.4	1.5	154	11	6.5	1.0	15	208	192	0.28
SEP										
09...	0.5	1.8	204	18	8.6	1.1	14	265	252	0.36

PLATTE RIVER BASIN

06751490 NORTH FORK CACHE LA POUVRE RIVER AT LIVERMORE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT 16...	12.7	<0.01	<0.05	<0.02	--	<0.2	--	0.02	<0.01	<0.01
NOV 12...	40.8	0.14	<0.05	<0.02	--	0.2	--	0.02	<0.01	0.02
DEC 09...	17.8	<0.01	<0.05	<0.02	--	0.2	--	0.02	<0.01	0.02
JAN 21...	5.07	0.01	0.14	<0.02	--	0.1	0.25	<0.01	<0.01	<0.01
FEB 17...	11.4	<0.01	0.16	0.02	0.10	0.1	0.29	<0.01	<0.01	0.02
MAR 17...	15.2	0.03	0.10	<0.02	--	0.2	0.31	<0.01	<0.01	<0.01
APR 07...	49.2	<0.01	0.14	0.02	0.42	0.4	0.57	0.04	0.01	0.01
MAY 07...	63.1	<0.01	<0.05	0.03	0.32	0.4	--	0.02	<0.01	<0.01
JUN 16...	49.5	<0.01	<0.05	0.08	0.25	0.3	--	0.03	0.02	0.01
JUL 14...	9.87	0.01	<0.05	0.05	0.32	0.4	--	0.14	0.02	0.02
AUG 11...	12.1	<0.01	<0.05	0.06	0.23	0.3	--	0.03	0.02	0.02
SEP 09...	5.24	<0.01	<0.05	0.04	0.21	0.3	--	0.02	0.02	0.02

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
OCT 16...	75	<0.5	26	<1	<5	<3	<10	68	<10
NOV 12...	40	<0.5	17	<1	<5	<3	<10	110	<10
DEC 09...	48	<0.5	17	<8	<5	<3	<10	99	<10
JAN 21...	75	<1	27	<8	<14	<12	<10	59	<100
FEB 17...	55	<1	20	<8	<14	<12	<10	38	<100
MAR 17...	46	<1	--	<8	<14	<12	<10	39	<100
APR 07...	38	<1	<16	<8	<14	<12	<10	42	<100
MAY 07...	34	<1	<16	<8	<14	<12	<10	53	<100
JUN 16...	37	<1	16	<8	<14	<12	<10	74	<100
JUL 14...	110	<1	39	<8	<14	<12	<10	38	<100
AUG 11...	93	<1	34	<8	<14	<12	<10	47	<100
SEP 09...	130	<1	46	<8	<14	<12	<10	28	<100

06751490 NORTH FORK CACHE LA POUVRE RIVER AT LIVERMORE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT 16...	11	17	<10	<10	<1	200	<6	<3
NOV 12...	<4	8	<10	<10	<1	98	<6	3
DEC 09...	5	9	<10	<10	<1	130	<6	<20
JAN 21...	11	15	<60	<40	<4	210	<10	<20
FEB 17...	9	9	<60	<40	<4	140	<10	<20
MAR 17...	8	6	<60	<40	<4	120	<10	<20
APR 07...	5	8	<60	<40	<4	84	<10	<20
MAY 07...	5	6	<60	<40	<4	78	<10	<20
JUN 16...	5	7	<60	<40	<4	92	<10	<20
JUL 14...	13	16	<60	<40	<4	300	<10	<20
AUG 11...	14	16	<60	<40	<4	260	<10	<20
SEP 09...	15	20	<60	<40	<4	350	<10	<20

SUSPENDED SEDIMENT DISCHARGE, WATER YEARS OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE D (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE D (T/DAY) (80155)
OCT 16...	0916	29	13.0	1.0
NOV 12...	1343	140	13.3	4.8
DEC 09...	1359	53	4.7	0.67
JAN 21...	1012	10	6.2	0.17
FEB 18...	0855	32	5.5	0.48
MAR 17...	1255	47	7.2	0.92
APR 07...	1320	190	33.0	17
MAY 07...	1135	240	26.9	18
JUN 16...	1135	190	15.2	7.8
JUL 14...	1030	16	3.9	0.17
AUG 11...	1120	22	8.7	0.51
SEP 09...	1115	7.3	10.4	0.21

06752258 CACHE LA POUFRE RIVER AT SHIELDS STREET, AT FORT COLLINS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°36'11", long 105°05'43", in NE¼4SE¼4 sec.3, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, at Shields Street bridge, 0.8 mi downstream from Larimer-Weld Canal, and 1.0 mi northwest of Fort Collins.

PERIOD OF RECORD.--October 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT 16...	1232	178	148	8.7	9.0	11.2	65	19	4.2	--	57
NOV 13...	0825	192	213	8.5	2.0	13.2	96	28	6.2	--	93
DEC 10...	0858	105	197	8.4	1.0	13.1	83	24	5.5	--	77
JAN 21...	1215	88	214	8.7	0.0	12.2	98	29	6.5	6.9	84
FEB 18...	1130	70	241	8.7	4.0	11.6	110	31	6.9	--	88
MAR 17...	1500	72	216	9.1	9.5	10.5	97	28	6.4	--	80
APR 07...	1530	162	184	8.9	9.5	10.4	79	23	5.1	--	73
MAY 07...	1410	405	75	--	10.0	9.6	30	9.1	1.8	--	31
JUN 16...	1345	440	65	8.6	13.0	9.3	28	8.0	1.9	--	27
JUL 14...	0800	462	57	8.4	13.0	8.9	24	7.3	1.4	2.0	25
AUG 11...	0840	139	79	8.2	15.0	7.8	32	9.5	2.1	--	32
SEP 09...	0900	36	101	8.3	17.0	8.3	44	13	2.7	--	39

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
OCT 16...	--	--	--	--	--	<0.01	0.03	<0.01	<0.01	<0.01
NOV 13...	--	--	--	--	--	--	0.08	<0.02	<0.01	0.01
DEC 10...	--	--	--	--	--	<0.01	0.05	<0.02	0.01	0.02
JAN 21...	24	3.8	0.6	12	146	0.01	0.13	<0.02	<0.01	<0.01
FEB 18...	--	--	--	--	--	<0.01	0.10	0.02	<0.01	0.01
MAR 17...	--	--	--	--	--	0.02	0.04	<0.02	<0.01	<0.01
APR 07...	--	--	--	--	--	<0.01	0.09	0.02	0.02	0.02
MAY 07...	--	--	--	--	--	<0.01	0.01	0.04	<0.01	<0.01
JUN 16...	--	--	--	--	--	<0.01	0.02	0.05	<0.01	<0.01
JUL 14...	3.5	0.8	0.1	5.2	45	0.01	0.04	0.06	0.01	0.02
AUG 11...	--	--	--	--	--	<0.01	0.05	0.06	<0.01	<0.01
SEP 09...	--	--	--	--	--	<0.01	0.05	0.03	0.04	0.01

PLATTE RIVER BASIN

06752258 CACHE LA POUVRE RIVER AT SHIELDS STREET, AT FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
OCT 16...	--	--	--	--	<1	190	--
NOV 13...	--	--	--	--	<1	170	--
DEC 10...	--	--	--	--	<1	160	--
JAN 21...	<10	<1	<1	<1	<1	160	<1
FEB 18...	--	--	--	--	<1	100	--
MAR 17...	--	--	--	--	<1	100	--
APR 07...	--	--	--	--	<1	240	--
MAY 07...	--	--	--	--	2	330	--
JUN 16...	--	--	--	--	1	340	--
JUL 14...	<10	<1	<1	<1	2	140	<1
AUG 11...	--	--	--	--	1	170	--
SEP 09...	--	--	--	--	1	100	--

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT 16...	--	--	--	--	<0.2	--
NOV 13...	--	--	--	--	<0.2	--
DEC 10...	--	--	--	--	<0.2	--
JAN 21...	21	<0.1	<1	<1	<0.2	<20
FEB 18...	--	--	--	--	<0.2	--
MAR 17...	--	--	--	--	<0.2	--
APR 07...	--	--	--	--	<0.2	--
MAY 07...	--	--	--	--	<0.2	--
JUN 16...	--	--	--	--	<0.2	--
JUL 14...	11	<0.1	<1	<1	<0.2	<20
AUG 11...	--	--	--	--	<0.2	--
SEP 09...	--	--	--	--	<0.2	--

06752260 CACHE LA POUDBRE RIVER AT FORT COLLINS, CO

LOCATION.--Lat 40°35'21", long 105°04'09", in SE¹/₄NW¹/₄ sec.12, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, on left bank 100 ft upstream from Lincoln Street Bridge in Fort Collins.

DRAINAGE AREA.--1,127 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1975 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,940 ft above sea level, from topographic map. Prior to Nov. 10, 1988 at site 4,300 ft upstream, at different datum. Prior to May 22, 1987, at site 300 ft downstream, at different datum. May 22, 1987 to Oct. 16, 1996, at site 100 ft upstream, at same datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, diversion for municipal supply, diversions upstream from station for irrigation, and return flow from irrigated areas.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191	254	140	97	48	63	192	198	155	460	247	65
2	191	247	131	99	50	82	201	290	113	435	264	62
3	185	229	118	105	52	86	202	236	371	419	173	97
4	181	219	105	95	53	94	206	299	793	403	237	94
5	179	226	89	97	53	85	198	479	718	350	277	91
6	205	214	79	109	49	91	266	349	693	247	189	93
7	210	221	106	88	61	97	234	354	579	240	220	50
8	203	227	120	109	66	78	157	305	552	286	182	34
9	195	233	116	96	68	90	70	330	718	488	144	36
10	178	224	113	e63	65	84	21	363	801	580	149	18
11	168	203	109	e87	56	85	20	355	783	486	140	20
12	169	216	98	e88	63	89	20	376	720	267	84	30
13	195	207	94	e77	63	91	23	390	737	209	38	73
14	181	190	90	e73	68	95	76	426	594	254	32	52
15	178	138	95	e81	66	99	51	404	495	108	44	49
16	181	117	88	80	71	97	51	164	395	95	31	77
17	177	121	87	74	66	79	123	111	428	39	22	70
18	178	104	72	77	69	99	146	233	381	26	21	38
19	175	138	65	78	61	83	189	324	170	16	23	11
20	169	185	59	82	65	102	321	146	152	18	28	12
21	143	183	48	75	62	107	298	221	267	11	106	35
22	159	158	59	56	73	115	316	291	254	27	88	36
23	154	148	61	55	73	125	344	152	255	46	43	10
24	181	152	56	58	80	147	326	111	178	e17	7.4	9.4
25	212	192	79	59	81	166	307	186	135	e60	20	10
26	131	151	74	58	84	182	334	302	257	e90	37	9.2
27	162	149	70	60	73	222	300	367	403	e18	30	9.5
28	190	160	73	58	64	214	262	466	446	e25	70	8.2
29	194	151	92	46	---	180	203	483	422	e70	84	7.0
30	196	134	103	50	---	175	185	414	384	226	39	7.5
31	223	---	95	50	---	191	---	360	---	253	19	---
TOTAL	5634	5491	2784	2380	1803	3593	5642	9485	13349	6269	3088.4	1213.8
MEAN	182	183	89.8	76.8	64.4	116	188	306	445	202	99.6	40.5
MAX	223	254	140	109	84	222	344	483	801	580	277	97
MIN	131	104	48	46	48	63	20	111	113	11	7.4	7.0
AC-FT	11180	10890	5520	4720	3580	7130	11190	18810	26480	12430	6130	2410

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1998, BY WATER YEAR (WY)

MEAN	27.5	29.3	23.5	29.5	31.2	36.8	107	430	956	254	73.8	35.3
MAX (WY)	1998	1998	1985	1984	1984	1980	1983	1980	1983	1983	1997	1997
MIN (WY)	1978	1978	1978	1978	1987	1988	1988	1976	1989	1988	1988	1987

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1975 - 1998

ANNUAL TOTAL	103000.0	60732.2	
ANNUAL MEAN	282	166	172
HIGHEST ANNUAL MEAN			779
LOWEST ANNUAL MEAN			41.8
HIGHEST DAILY MEAN	2790	801	6080
LOWEST DAILY MEAN	a3.9	7.0	b.00
ANNUAL SEVEN-DAY MINIMUM	5.2	8.7	.00
INSTANTANEOUS PEAK FLOW		959	c6660
INSTANTANEOUS PEAK STAGE		4.70	d8.31
ANNUAL RUNOFF (AC-FT)	204300	120500	124500
10 PERCENT EXCEEDS	558	365	362
50 PERCENT EXCEEDS	131	113	24
90 PERCENT EXCEEDS	23	35	2.8

e-Estimated.
a-Also occurred Apr 13.
b-Also occurred Aug 19, Sep 4, 18-19, 1987, and many days in 1988.
c-Site and datum then in use.
d-Maximum gage height, 9.15 ft, Jun 2, 1991, present site and datum.

06752260 CACHE LA POUDBRE RIVER AT FORT COLLINS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1987 to current year.

pH: October 1987 to current year.

WATER TEMPERATURE: October 1987 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1987.

REMARKS.--Specific conductance record rated good. Water temperature record rated good. pH record rated fair, except for Oct.1-Jan.31, and July 15 - Aug 12, which are poor.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 558 microsiemens, March 7; minimum, 44 microsiemens, June 3, 4.

pH: Maximum, 9.3 pH units, Oct. 7, 10; minimum, 6.9 pH units, Aug. 4, 5.

WATER TEMPERATURE: Maximum, 26.0°C July 19; minimum 0.0°C many days in winter.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT											
15...	0827	183	156	8.2	7.5	10.9	69	20	4.6	--	61
NOV											
14...	0852	196	196	8.3	0.0	13.4	90	27	5.9	--	86
DEC											
10...	1116	104	212	8.4	1.0	13.8	88	26	6.0	--	80
JAN											
22...	0902	46	268	8.5	0.5	12.6	120	36	8.5	8.5	101
FEB											
19...	0915	68	272	8.4	2.0	11.7	120	34	7.8	--	96
MAR											
18...	0835	104	--	--	3.5	--	95	27	6.4	--	78
APR											
08...	0900	163	209	8.4	6.5	10.3	89	26	5.9	--	78
MAY											
08...	0820	296	77	--	7.5	9.8	33	9.8	2.0	--	34
JUN											
17...	0915	460	64	7.7	10.5	9.4	28	8.2	1.9	--	28
JUL											
15...	0800	247	67	8.2	13.0	8.7	28	8.3	1.7	2.3	29
AUG											
12...	0915	83	91	8.3	15.0	9.1	38	11	2.6	--	37
SEP											
10...	0900	22	199	8.2	18.5	7.6	84	23	6.1	--	75

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
OCT										
15...	--	--	--	--	--	<0.01	0.05	<0.01	<0.01	<0.01
NOV										
14...	--	--	--	--	--	--	0.03	<0.02	<0.01	--
DEC										
10...	--	--	--	--	--	<0.01	0.08	<0.02	<0.01	0.01
JAN										
22...	34	4.8	0.6	12	181	0.01	0.24	<0.02	<0.01	<0.01
FEB										
19...	--	--	--	--	--	<0.01	0.17	0.02	<0.01	0.01
MAR										
18...	--	--	--	--	--	0.03	0.17	0.10	<0.01	<0.01
APR										
08...	--	--	--	--	--	<0.01	0.15	0.02	<0.01	0.01
MAY										
08...	--	--	--	--	--	<0.01	0.02	0.03	<0.01	<0.01
JUN										
17...	--	--	--	--	--	0.01	0.02	0.06	<0.01	<0.01
JUL										
15...	4.5	1.0	0.2	5.1	50	0.01	0.04	0.06	<0.01	0.02
AUG										
12...	--	--	--	--	--	<0.01	0.07	0.06	<0.01	<0.01
SEP										
10...	--	--	--	--	--	<0.01	0.17	0.02	0.02	0.01

06752260 CACHE LA POUDBRE RIVER AT FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
OCT 15...	--	--	--	--	<1	160	--
NOV 14...	--	--	--	--	<1	180	--
DEC 10...	--	--	--	--	<1	150	--
JAN 22...	<10	<1	<1	<1	<1	120	<1
FEB 19...	--	--	--	--	<1	110	--
MAR 18...	--	--	--	--	<1	240	--
APR 08...	--	--	--	--	4	250	--
MAY 08...	--	--	--	--	2	270	--
JUN 17...	--	--	--	--	<1	330	--
JUL 15...	<10	<1	<1	<1	2	160	<1
AUG 12...	--	--	--	--	<1	180	--
SEP 10...	--	--	--	--	1	120	--

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT 15...	--	--	--	--	<0.2	--
NOV 14...	--	--	--	--	<0.2	--
DEC 10...	--	--	--	--	<0.2	--
JAN 22...	20	<0.1	<1	<1	<0.2	<20
FEB 19...	--	--	--	--	<0.2	--
MAR 18...	--	--	--	--	<0.2	--
APR 08...	--	--	--	--	<0.2	--
MAY 08...	--	--	--	--	<0.2	--
JUN 17...	--	--	--	--	<0.2	--
JUL 15...	10	<0.1	<1	<1	<0.2	<20
AUG 12...	--	--	--	--	<0.2	--
SEP 10...	--	--	--	--	<0.2	--

PLATTE RIVER BASIN

06752260 CACHE LA POUFRE RIVER AT FORT COLLINS, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	150	138	146	217	206	212	221	196	205	241	219	227
2	145	132	141	220	210	215	223	195	204	239	217	224
3	143	124	134	228	212	221	290	196	217	240	221	228
4	150	130	140	229	206	220	231	207	216	252	231	239
5	149	131	139	217	204	212	---	---	---	253	226	236
6	147	135	141	217	203	210	---	---	---	343	---	---
7	144	134	140	213	199	206	---	---	---	---	---	---
8	148	137	142	204	192	199	214	192	201	---	---	---
9	146	135	141	204	187	196	217	197	206	---	---	---
10	159	139	148	210	194	201	219	---	---	---	---	---
11	167	150	158	222	203	214	---	---	---	---	---	---
12	159	148	154	218	198	208	---	---	---	---	---	---
13	159	135	147	219	208	213	---	---	---	---	---	---
14	170	151	161	233	196	208	238	214	225	---	---	---
15	165	150	157	---	---	---	231	209	217	---	---	---
16	166	142	155	---	---	---	248	214	233	---	---	---
17	168	150	158	263	239	250	242	221	229	---	---	---
18	161	146	153	275	242	259	265	228	243	---	---	---
19	159	145	151	252	205	230	279	244	256	---	---	---
20	174	146	158	211	188	198	285	251	263	---	---	---
21	186	167	175	201	186	193	301	257	274	---	---	---
22	189	166	175	210	187	199	291	236	268	---	---	---
23	195	177	186	220	199	207	266	233	246	---	---	---
24	201	160	184	220	201	209	---	---	---	---	---	---
25	175	147	156	209	164	193	---	---	---	---	---	---
26	209	175	196	223	194	206	---	---	---	---	---	---
27	200	176	186	214	196	204	---	---	---	---	---	---
28	183	170	173	206	188	194	---	---	---	---	---	---
29	209	183	193	208	189	197	---	---	---	---	---	---
30	214	206	210	217	197	206	235	215	224	---	---	---
31	219	208	214	---	---	---	---	---	---	---	---	---
MONTH	219	124	162	---	---	---	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	221	207	216	166	151	157
2	---	---	---	---	---	---	252	197	211	169	140	155
3	---	---	---	261	231	239	214	201	208	174	147	157
4	---	---	---	248	228	234	213	198	206	209	78	144
5	---	---	---	269	228	246	229	190	201	86	77	79
6	---	---	---	275	254	259	201	176	190	88	77	81
7	---	---	---	558	245	283	217	178	194	89	76	79
8	---	---	---	---	---	---	223	209	214	82	75	78
9	---	---	---	271	242	252	364	217	277	77	75	76
10	---	---	---	269	240	251	378	---	---	78	72	74
11	---	---	---	251	228	239	---	---	---	80	72	75
12	---	---	---	---	---	---	---	---	---	84	72	76
13	---	---	---	248	223	235	---	---	---	86	79	81
14	---	---	---	246	217	229	319	156	260	85	77	79
15	---	---	---	239	214	223	250	158	212	103	73	85
16	---	---	---	234	208	218	253	216	234	124	102	112
17	---	---	---	278	224	245	223	172	183	128	108	115
18	---	---	---	278	215	233	191	169	175	114	90	103
19	---	---	---	375	241	270	182	163	172	103	79	90
20	306	258	281	275	237	254	171	160	166	109	74	88
21	320	261	282	270	246	259	172	163	166	115	66	80
22	320	256	275	268	245	256	174	160	166	84	63	71
23	280	249	256	277	237	262	169	159	163	91	71	79
24	258	235	244	257	223	236	166	149	157	94	78	84
25	258	231	241	231	209	216	156	145	150	98	75	82
26	248	218	228	224	204	215	149	142	145	81	68	73
27	---	---	---	219	176	208	150	141	145	75	62	67
28	285	242	266	221	212	215	157	145	150	79	56	63
29	---	---	---	244	206	218	161	146	153	61	55	58
30	---	---	---	249	197	219	171	153	159	67	55	60
31	---	---	---	233	209	219	---	---	---	66	54	60
MONTH	---	---	---	---	---	---	---	---	---	209	54	89

06752260 CACHE LA POUDBRE RIVER AT FORT COLLINS, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	133	63	79	54	48	50	102	84	90	153	111	125
2	246	58	107	56	50	52	97	72	81	130	108	115
3	124	44	61	56	52	53	96	79	85	145	102	121
4	55	44	47	57	53	54	89	74	80	150	127	136
5	58	49	53	59	53	56	81	67	75	163	140	148
6	69	56	62	65	56	59	89	74	80	155	138	144
7	72	61	66	67	57	61	92	77	83	202	138	173
8	74	67	70	70	58	62	100	82	91	200	130	164
9	79	72	75	63	57	59	105	89	95	207	115	155
10	82	76	78	61	55	58	97	82	88	200	146	175
11	79	74	76	64	52	57	99	81	89	233	146	185
12	79	73	75	65	56	60	106	84	96	238	153	204
13	75	62	66	69	59	63	132	96	113	223	143	163
14	67	60	63	70	60	63	158	99	123	195	164	177
15	66	57	61	166	63	87	134	101	116	211	184	196
16	72	63	66	107	77	92	149	118	130	184	152	163
17	75	61	66	144	94	117	248	99	162	185	153	169
18	79	64	69	194	123	150	151	104	126	252	150	188
19	97	71	82	228	166	187	151	89	110	365	252	326
20	132	66	89	202	111	155	126	78	97	378	279	357
21	71	60	65	339	140	199	119	78	95	321	200	237
22	73	58	64	165	113	141	112	85	95	276	197	219
23	72	54	61	148	87	118	139	92	113	385	276	354
24	74	55	63	313	148	225	243	117	202	399	378	387
25	87	57	67	---	---	---	247	102	173	400	374	386
26	70	55	59	158	94	110	119	96	106	395	378	388
27	58	51	54	199	122	148	146	101	120	417	394	407
28	56	48	51	199	94	123	117	96	105	444	416	427
29	54	48	51	113	78	92	122	105	113	457	415	439
30	55	45	50	92	71	83	190	108	139	488	450	461
31	---	---	---	91	80	86	179	126	155	---	---	---
MONTH	246	44	67	---	---	---	248	67	111	488	102	243

pH (STANDARD UNITS), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	9.0	8.3	8.5	8.7	7.8	8.1	9.0	8.1	8.5	8.6	7.9	8.2
2	9.1	8.2	8.5	8.7	7.8	8.2	8.9	8.0	8.3	8.7	8.0	8.3
3	9.1	8.2	8.6	8.7	7.8	8.2	9.0	8.0	8.4	8.8	8.1	8.4
4	9.1	8.2	8.5	8.7	7.8	8.2	8.9	8.0	8.4	8.8	8.2	8.4
5	9.2	8.2	8.6	8.7	7.8	8.1	8.8	8.0	8.3	8.9	8.3	8.5
6	9.2	8.3	8.6	8.7	7.8	8.2	8.8	8.0	8.3	8.9	8.3	8.5
7	9.3	8.3	8.6	8.8	7.8	8.2	8.7	8.1	8.3	8.8	8.4	8.5
8	9.2	8.3	8.6	8.8	7.8	8.1	8.8	8.0	8.3	---	---	---
9	9.1	8.3	8.6	8.7	7.8	8.1	8.9	7.9	8.3	---	---	---
10	9.3	8.3	8.6	8.7	7.8	8.1	---	7.9	8.2	---	---	---
11	9.2	8.2	8.6	8.6	7.9	8.1	8.6	7.9	8.2	---	---	---
12	9.2	8.1	8.5	8.9	7.9	8.2	8.6	7.9	8.2	---	---	---
13	8.9	8.2	8.5	8.8	7.9	8.2	8.6	7.8	8.1	---	---	---
14	9.0	8.0	8.4	8.7	7.9	8.2	8.6	7.8	8.1	---	---	---
15	---	7.7	8.2	8.7	7.8	8.2	8.7	7.8	8.2	---	---	---
16	8.7	7.7	8.1	8.6	7.9	8.2	8.6	7.9	8.2	---	---	---
17	8.7	7.6	8.0	8.7	7.9	8.2	8.6	7.8	8.1	---	---	---
18	8.8	7.6	8.1	8.8	7.8	8.2	8.6	7.8	8.1	---	---	---
19	8.4	7.6	7.9	8.9	7.7	8.2	8.2	7.8	7.9	---	---	---
20	8.7	7.6	8.0	9.1	8.0	8.4	8.5	7.8	8.1	---	---	---
21	8.8	7.6	8.1	9.0	8.0	8.4	8.4	7.8	8.1	---	---	---
22	8.8	7.7	8.1	9.1	8.1	8.5	8.6	7.8	8.1	---	---	---
23	8.7	7.7	8.1	8.7	8.1	8.3	8.3	7.7	8.0	---	---	---
24	8.3	7.7	7.9	9.0	8.1	8.5	8.2	7.7	7.9	---	---	---
25	8.4	7.7	7.9	9.1	8.1	8.4	8.4	7.8	8.1	---	---	---
26	8.4	7.7	8.0	9.1	8.1	8.4	8.3	7.8	8.0	---	---	---
27	8.4	7.6	7.9	8.9	8.1	8.3	8.2	7.7	7.9	---	---	---
28	8.5	7.6	8.0	9.2	8.1	8.5	8.2	7.6	7.8	---	---	---
29	8.6	7.7	8.0	9.0	8.1	8.5	8.2	7.7	7.9	---	---	---
30	8.8	7.8	8.2	9.0	8.1	8.5	---	7.8	8.1	---	---	---
31	8.6	7.8	8.1	---	---	---	8.4	7.8	8.1	---	---	---
MONTH	---	7.6	8.3	9.2	7.8	8.3	---	7.6	8.1	---	---	---

06752260 CACHE LA POUDE RIVER AT FORT COLLINS, CO--Continued

pH (STANDARD UNITS), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	8.3	---	---	8.9	7.8	8.2	8.9	7.5	8.1
2	---	---	---	8.4	---	---	---	---	---	8.6	7.6	8.0
3	---	---	---	8.1	7.5	7.8	8.9	7.7	8.2	8.6	7.6	8.0
4	---	---	---	7.9	7.4	7.7	9.0	7.8	8.3	8.7	7.4	7.7
5	---	---	---	7.9	7.4	7.6	9.0	7.8	8.3	7.9	7.4	7.6
6	---	---	---	7.8	7.5	7.7	8.5	7.8	8.1	8.0	7.4	7.6
7	---	---	---	8.0	7.5	7.7	8.8	7.8	8.2	8.0	7.4	7.6
8	---	---	---	7.9	7.5	7.7	8.6	7.8	8.1	7.9	7.4	7.6
9	---	---	---	8.0	7.6	7.7	8.7	7.7	8.2	7.9	7.1	7.5
10	---	---	---	8.0	7.5	7.7	8.4	7.6	8.0	8.0	7.1	7.4
11	---	---	---	8.0	7.6	7.7	8.4	7.7	8.1	7.9	7.2	7.5
12	---	---	---	8.0	7.5	7.7	---	---	---	8.0	7.2	7.5
13	---	---	---	8.1	7.5	7.8	---	---	---	8.1	7.2	7.6
14	---	---	---	8.1	7.5	7.8	8.6	7.7	8.0	7.9	7.3	7.5
15	---	---	---	8.3	7.4	7.8	8.4	7.6	8.0	7.9	7.2	7.5
16	---	---	---	8.3	7.5	7.8	8.4	7.7	8.0	8.3	7.3	7.7
17	---	---	---	8.4	7.4	7.8	8.5	7.7	8.0	8.4	7.2	7.7
18	---	---	---	8.0	7.4	7.7	8.6	7.8	8.1	8.0	7.3	7.6
19	---	---	---	8.2	7.4	7.7	8.6	7.7	8.1	7.8	7.2	7.5
20	8.3	7.9	8.1	8.2	7.5	7.8	8.4	7.8	8.1	8.0	7.1	7.5
21	8.4	7.9	8.1	8.3	7.5	7.9	8.7	7.8	8.1	7.6	7.0	7.4
22	8.4	7.9	8.1	8.3	7.5	7.9	8.7	7.8	8.1	7.7	7.3	7.4
23	8.5	7.9	8.2	8.4	7.5	7.9	8.7	7.7	8.1	7.9	7.3	7.5
24	8.5	7.9	8.2	8.8	7.5	8.1	8.9	7.7	8.2	7.9	7.2	7.5
25	8.4	8.0	8.2	8.8	7.8	8.2	8.7	7.6	8.0	8.0	7.3	7.6
26	8.4	---	---	8.7	7.9	8.2	8.9	7.5	8.1	8.0	7.3	7.5
27	8.3	---	---	8.7	7.8	8.2	9.0	7.5	8.2	7.9	7.3	7.5
28	8.3	---	---	8.7	7.9	8.2	9.0	7.5	8.2	7.6	7.2	7.4
29	---	---	---	8.6	7.9	8.2	9.1	7.5	8.2	7.6	7.2	7.3
30	---	---	---	8.7	7.8	8.2	9.0	7.5	8.2	7.6	7.2	7.4
31	---	---	---	8.7	7.8	8.2	---	---	---	7.7	7.2	7.4
MONTH	---	---	---	8.8	---	---	---	---	---	8.9	7.0	7.6
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.3	7.2	7.6	8.4	7.6	7.9	8.0	7.2	7.5	8.4	7.2	7.7
2	8.3	7.4	7.8	8.5	7.6	7.9	8.0	7.2	7.5	8.3	7.2	7.6
3	7.8	7.6	7.7	8.5	7.5	7.8	7.9	7.0	7.3	8.2	7.2	7.7
4	7.8	7.6	7.7	8.5	7.5	7.9	7.9	6.9	7.2	8.4	7.3	7.7
5	7.9	7.6	7.8	8.6	7.5	7.9	8.2	6.9	7.4	8.4	7.3	7.8
6	7.9	7.6	7.7	8.4	7.5	7.8	8.5	7.0	7.6	8.5	7.4	7.8
7	8.0	7.6	7.7	8.7	7.5	8.0	8.6	7.1	7.8	8.5	7.4	7.8
8	8.1	7.6	7.8	8.4	7.5	7.9	8.6	7.2	7.8	8.5	7.4	7.8
9	8.1	7.7	7.8	8.3	7.6	7.8	8.5	7.4	7.9	8.5	7.3	7.7
10	8.1	7.7	7.9	8.3	7.6	7.8	8.5	7.1	7.7	8.3	7.2	7.7
11	8.2	7.7	7.9	8.2	7.5	7.8	8.7	7.1	7.9	8.6	7.2	7.7
12	8.3	7.7	7.9	8.4	7.5	7.8	8.5	7.2	7.8	8.4	7.3	7.8
13	8.0	7.7	7.8	8.3	7.4	7.7	8.6	7.4	7.8	8.3	7.5	7.8
14	8.1	7.5	7.8	8.0	7.4	7.6	8.5	7.4	7.8	8.5	7.4	7.9
15	8.0	7.5	7.7	8.6	7.3	7.7	8.6	7.4	7.9	8.5	7.5	8.0
16	8.1	7.5	7.7	8.3	7.3	7.7	8.6	7.5	7.9	8.4	7.5	7.9
17	8.0	7.5	7.7	8.4	7.4	7.8	8.5	7.4	7.8	8.5	7.4	7.9
18	8.4	7.5	7.8	8.2	7.5	7.7	8.6	7.4	7.8	8.2	7.4	7.7
19	8.6	7.3	7.9	8.2	7.6	7.8	8.4	7.3	7.7	8.3	7.4	7.8
20	8.4	7.2	7.6	8.1	7.5	7.7	8.3	7.2	7.6	8.3	7.5	7.9
21	8.0	7.2	7.5	8.1	7.5	7.7	8.4	7.2	7.7	8.0	7.5	7.7
22	8.2	7.1	7.5	7.8	7.4	7.6	8.3	7.5	7.8	8.2	7.4	7.8
23	8.1	7.1	7.4	8.1	7.4	7.7	8.5	7.4	7.8	7.9	7.2	7.5
24	8.3	7.0	7.5	---	---	---	8.4	7.3	7.8	8.0	7.3	7.6
25	8.2	7.0	7.5	---	---	---	8.5	7.4	7.8	8.1	7.3	7.7
26	8.2	7.1	7.5	---	---	---	8.5	7.4	7.8	8.0	7.4	7.6
27	7.8	7.1	7.4	---	---	---	8.5	7.3	7.7	8.0	7.4	7.6
28	7.8	7.1	7.3	8.5	7.3	7.8	8.4	7.4	7.8	7.9	7.4	7.6
29	7.8	7.0	7.4	8.2	7.2	7.7	8.5	7.4	7.8	7.9	7.4	7.6
30	8.3	7.0	7.6	8.0	7.0	7.3	8.5	7.4	7.8	7.9	7.3	7.6
31	---	---	---	8.0	7.1	7.4	8.4	7.3	7.7	---	---	---
MONTH	8.6	7.0	7.7	---	---	---	8.7	6.9	7.7	8.6	7.2	7.7

06752260 CACHE LA POUDBRE RIVER AT FORT COLLINS, CO--Continued

TEMPERATURE, WATER (DEG. C) WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	17.1	12.5	14.8	7.7	5.3	6.6	3.3	1.3	2.4	3.8	1.1	2.4
2	17.0	13.1	15.1	6.9	4.2	5.5	3.0	1.5	2.4	3.5	1.2	2.4
3	17.0	13.8	15.5	7.5	3.5	5.5	1.9	0.0	1.1	3.2	1.3	2.0
4	16.5	12.4	14.5	7.8	5.4	6.6	1.3	0.0	0.6	2.5	0.4	1.4
5	16.6	12.3	14.4	7.8	4.4	6.1	0.6	0.0	0.2	2.9	0.0	1.4
6	15.2	12.3	13.9	8.0	4.3	6.1	0.7	0.0	0.2	1.8	0.0	0.9
7	14.7	10.9	12.9	8.1	4.5	6.3	1.6	0.0	0.6	0.4	0.0	0.0
8	13.6	11.3	12.4	7.0	4.7	5.9	2.5	0.1	1.3	---	0.0	---
9	12.5	8.6	10.6	5.8	3.5	4.8	2.7	1.9	2.3	---	---	---
10	12.7	8.7	10.7	3.8	2.5	3.2	2.0	0.1	1.0	---	---	---
11	14.0	9.9	11.9	3.3	2.2	2.8	0.3	0.0	0.1	---	---	---
12	12.6	8.3	10.0	4.8	1.8	3.2	0.3	0.0	0.1	---	---	---
13	9.6	5.9	7.7	4.9	1.5	3.2	1.4	0.0	0.5	---	---	---
14	11.1	6.2	8.5	3.0	0.0	1.0	2.5	0.0	1.2	---	---	---
15	11.2	7.3	9.3	1.2	0.0	0.5	3.3	0.3	1.8	---	---	---
16	11.5	7.3	9.4	2.3	0.0	0.9	2.7	0.4	1.7	---	---	---
17	12.2	7.6	9.9	3.5	0.2	1.9	2.1	0.8	1.5	---	---	---
18	12.5	8.4	10.5	4.0	1.4	2.8	2.7	0.3	1.5	---	---	---
19	11.3	8.6	9.2	4.9	1.3	3.0	2.1	0.6	1.0	---	---	---
20	9.4	7.9	8.7	4.7	2.5	3.6	1.8	0.4	1.1	---	---	---
21	10.0	8.3	9.0	3.1	0.9	2.0	1.0	0.0	0.5	---	---	---
22	10.6	6.9	8.8	3.1	0.9	2.1	2.4	0.2	1.2	---	---	---
23	9.9	7.6	8.5	1.8	0.0	0.8	1.5	0.0	0.5	---	---	---
24	8.6	1.9	6.1	4.4	0.6	2.4	0.4	0.0	0.0	---	---	---
25	2.8	0.2	1.4	4.6	1.5	3.0	1.2	0.0	0.5	---	---	---
26	4.9	1.2	3.0	3.2	1.5	2.2	1.3	0.0	0.5	---	---	---
27	6.3	2.0	4.1	2.9	0.9	1.9	0.3	0.0	0.0	---	---	---
28	6.7	3.7	5.3	4.6	2.6	3.5	0.0	0.0	0.0	---	---	---
29	7.7	3.7	5.7	4.1	1.4	2.8	1.9	0.0	0.6	---	---	---
30	8.4	5.6	6.9	3.2	0.7	2.1	2.8	0.7	1.7	---	---	---
31	9.5	6.4	7.8	---	---	---	2.2	0.0	0.9	---	---	---
MONTH	17.1	0.2	9.6	8.1	0.0	3.4	3.3	0.0	0.9	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	1.8	0.0	0.5	10.5	3.8	7.2	14.3	9.8	12.3
2	---	---	---	3.7	0.0	1.6	8.5	3.9	5.6	15.1	9.5	12.2
3	---	---	---	5.4	0.2	3.0	10.7	3.6	7.0	14.8	9.7	12.2
4	---	---	---	6.3	2.6	4.6	12.4	5.9	9.2	15.1	8.1	11.5
5	---	---	---	5.7	1.2	3.9	11.7	6.2	9.0	10.2	7.3	8.6
6	---	---	---	5.3	2.1	3.1	10.1	6.8	7.7	9.6	6.9	8.2
7	---	---	---	4.0	0.6	2.3	9.4	4.9	7.2	10.5	6.7	8.2
8	---	---	---	3.6	0.0	1.6	9.9	5.7	7.9	8.5	6.9	7.6
9	---	---	---	3.8	0.0	2.0	12.3	5.8	9.1	10.7	6.4	8.2
10	---	---	---	4.5	0.0	2.3	14.2	6.9	10.6	12.2	7.0	9.3
11	---	---	---	3.2	0.0	1.1	16.5	8.1	12.2	11.0	8.4	9.4
12	---	---	---	6.2	0.0	3.0	16.2	10.4	12.7	12.1	7.5	9.4
13	---	---	---	7.8	2.1	5.3	12.1	8.5	10.4	12.9	7.6	9.8
14	---	---	---	7.8	3.3	5.8	9.7	7.5	8.6	11.2	7.8	9.0
15	---	---	---	9.3	3.7	6.8	7.5	6.2	6.8	13.9	7.3	10.2
16	---	---	---	8.2	4.2	6.3	6.4	4.7	5.6	15.8	8.9	12.3
17	---	---	---	9.4	5.9	7.7	9.2	4.1	6.8	16.7	10.0	13.2
18	---	---	---	8.3	1.0	3.0	10.7	5.1	7.9	14.4	10.5	12.7
19	---	---	---	6.4	0.7	3.6	10.4	4.8	7.8	14.7	10.7	12.6
20	5.0	1.1	3.4	7.7	3.0	5.6	10.2	5.7	7.9	15.5	10.5	12.9
21	5.4	1.1	3.6	9.2	3.0	6.4	12.9	5.9	9.1	14.1	10.9	12.6
22	5.7	2.4	4.5	8.9	4.7	7.1	13.7	6.2	10.0	11.6	9.8	10.7
23	5.7	3.2	4.8	9.9	6.4	8.3	14.3	7.2	10.7	13.9	8.7	11.1
24	6.9	3.3	5.3	12.6	6.4	9.6	14.9	8.1	11.4	12.9	9.5	11.2
25	6.5	1.8	3.9	12.9	7.1	10.1	12.6	8.9	10.8	14.0	9.6	11.7
26	2.7	0.0	1.5	10.7	7.5	9.2	13.0	8.5	10.4	14.2	9.7	11.8
27	1.5	0.0	0.6	11.8	6.4	9.1	14.0	7.4	10.6	15.1	9.8	12.3
28	1.8	0.0	0.6	11.2	6.7	9.1	15.2	8.8	11.8	14.5	10.8	12.6
29	---	---	---	8.6	6.3	7.5	15.8	8.0	11.9	14.8	10.9	12.5
30	---	---	---	7.7	4.3	6.0	15.8	9.2	12.7	14.2	10.7	12.3
31	---	---	---	9.3	2.9	6.0	---	---	---	15.2	11.2	13.0
MONTH	---	---	---	12.9	0.0	5.2	16.5	3.6	9.2	16.7	6.4	11.0

06752260 CACHE LA POUDDRE RIVER AT FORT COLLINS, CO--Continued

TEMPERATURE, WATER (DEG. C) WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	17.2	11.2	14.1	16.1	13.0	14.3	19.3	16.5	17.6	19.7	16.4	18.2
2	17.2	11.9	14.8	16.3	13.1	14.5	18.8	14.8	16.6	20.4	15.1	18.0
3	14.5	8.6	10.8	15.6	12.8	13.9	16.9	15.0	15.9	21.2	15.8	18.6
4	9.6	8.4	9.1	15.5	12.3	13.5	16.5	14.6	15.3	21.2	16.6	19.3
5	9.0	7.6	8.2	15.8	11.7	13.4	19.0	13.9	16.3	22.3	17.0	20.0
6	11.8	6.5	9.1	14.2	12.4	13.1	20.6	15.2	17.7	22.7	17.9	20.6
7	13.0	9.4	11.1	15.5	11.7	13.5	21.5	15.6	18.4	21.9	18.6	20.6
8	12.7	11.0	11.7	14.7	12.2	13.2	21.0	16.5	18.7	22.4	18.4	20.7
9	13.0	10.9	11.7	14.7	11.9	12.9	19.5	16.7	18.1	22.2	17.7	20.2
10	14.4	11.1	12.4	15.6	11.3	12.9	18.2	15.1	16.9	22.1	18.2	20.1
11	15.2	11.0	13.0	15.4	11.5	13.5	19.5	15.3	17.3	22.7	18.5	20.5
12	16.4	12.4	14.0	17.3	12.7	14.6	20.7	14.9	17.7	21.8	19.4	20.3
13	13.7	12.1	13.1	17.5	12.8	14.8	21.7	15.4	18.5	19.5	16.2	17.7
14	13.3	11.1	12.1	16.3	13.0	14.4	20.1	16.0	18.3	18.9	15.3	17.3
15	13.1	9.6	11.4	20.6	12.6	16.0	20.5	15.8	18.4	19.8	16.0	18.2
16	12.8	10.7	11.8	22.4	15.4	18.6	20.9	16.9	19.0	19.6	15.8	18.2
17	12.5	10.4	11.3	24.1	17.2	20.6	22.3	17.3	19.9	20.1	16.2	18.6
18	14.0	9.6	11.5	24.5	18.1	21.6	23.3	17.1	19.9	21.1	16.0	18.7
19	17.4	10.7	13.7	26.0	20.1	22.9	21.3	16.7	19.2	21.0	16.4	18.5
20	16.3	12.5	14.2	25.4	19.4	22.6	21.2	16.9	19.3	17.7	15.4	16.6
21	14.2	11.2	12.7	24.8	20.0	21.6	20.7	17.0	19.0	16.3	13.5	14.6
22	15.5	11.3	13.4	20.2	17.5	18.6	21.1	16.3	18.8	14.6	12.7	13.6
23	16.7	12.1	14.2	19.5	16.4	18.0	21.4	16.8	19.3	15.1	13.5	14.3
24	16.6	11.9	14.1	22.1	18.1	20.1	23.7	18.3	20.6	19.0	13.2	15.8
25	16.4	11.4	13.9	19.9	---	---	20.7	18.2	19.5	19.9	14.5	17.0
26	16.2	11.9	13.9	23.3	16.7	19.9	23.1	16.3	18.9	19.2	14.4	16.6
27	16.1	12.1	13.9	24.6	18.0	21.3	21.4	17.7	19.3	19.0	13.9	16.3
28	16.0	11.9	13.8	23.2	18.6	21.0	20.7	15.3	18.3	18.9	13.9	16.4
29	16.6	12.7	14.4	20.8	17.7	19.1	21.2	15.9	18.8	20.2	15.1	17.1
30	15.3	12.8	14.0	18.7	15.6	16.6	22.3	16.9	19.6	18.7	14.7	16.3
31	---	---	---	19.1	15.4	16.8	21.4	18.2	19.8	---	---	---
MONTH	17.4	6.5	12.6	26.0	---	---	23.7	13.9	18.4	22.7	12.7	18.0

06752270 CACHE LA POUFRE RIVER BELOW FORT COLLINS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°34'01", long 105°01'36", in NW¹/₄NE¹/₄ sec.20, T.7 N., R.68 W., Larimer County, Hydrologic Unit 10190007, 1.4 mi west of Interstate 25 on Prospect Street in Fort Collins.

DRAINAGE AREA.--1,240 mi².

PERIOD OF RECORD.--January 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L) AS CACO3 (00900)	CALCIUM DIS-SOLVED (MG/L) AS CA (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) AS MG (00925)	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)	ANC UNFLTRD TIT 4.5 LAB (MG/L) AS CACO3 (90410)
OCT											
17...	0816	182	198	8.1	8.5	10.2	83	24	5.8	--	71
NOV											
13...	1028	213	255	8.9	2.5	15.3	110	32	7.3	--	99
DEC											
11...	0932	123	292	8.3	0.0	14.5	120	34	8.7	--	97
JAN											
21...	1416	110	325	9.0	2.0	14.7	140	40	10	12	105
FEB											
18...	1320	55	363	9.0	6.0	14.5	150	43	11	--	118
MAR											
16...	1435	78	278	9.4	7.5	15.5	120	33	8.6	--	95
APR											
06...	1325	278	270	8.8	8.0	11.2	110	33	7.9	--	83
MAY											
06...	1115	295	124	8.7	9.5	10.8	49	14	3.3	--	42
JUN											
15...	1415	475	94	8.6	13.0	9.0	39	11	2.7	--	35
JUL											
13...	1400	268	139	8.7	18.5	9.7	55	15	4.2	5.7	44
AUG											
10...	1340	195	162	8.4	18.5	8.5	64	18	4.6	--	50
SEP											
08...	1600	40	429	9.2	25.0	12.2	180	50	14	--	110

DATE	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	CHLO-RIDE, DIS-SOLVED (MG/L) AS CL (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) AS F (00950)	SILICA, DIS-SOLVED (MG/L) AS SIO2 (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) AS N (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS N (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	PHOS-PHORUS DIS-SOLVED (MG/L) AS P (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) AS P (00671)
OCT										
17...	--	--	--	--	--	<0.01	0.24	<0.02	0.03	0.03
NOV										
13...	--	--	--	--	--	0.15	0.39	<0.02	--	--
DEC										
11...	--	--	--	--	--	<0.01	0.64	<0.02	0.08	0.09
JAN										
21...	53	7.4	0.6	11	215	0.02	0.87	<0.02	0.07	0.08
FEB										
18...	--	--	--	--	--	0.02	0.95	0.13	0.12	0.12
MAR										
16...	--	--	--	--	--	0.03	0.56	<0.02	0.09	0.08
APR										
06...	--	--	--	--	--	0.01	0.30	<0.02	0.03	0.03
MAY										
06...	--	--	--	--	--	<0.01	0.15	0.09	0.02	0.03
JUN										
15...	--	--	--	--	--	<0.01	0.07	0.06	0.03	0.01
JUL										
13...	20	2.3	0.2	5.6	94	0.01	0.21	0.05	0.04	0.04
AUG										
10...	--	--	--	--	--	<0.01	0.19	0.06	0.04	0.03
SEP										
08...	--	--	--	--	--	0.01	0.80	0.03	0.16	0.15

PLATTE RIVER BASIN

06752270 CACHE LA POUDBRE RIVER BELOW FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL, RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
OCT 17...	--	--	--	--	<1	160	--
NOV 13...	--	--	--	--	<1	40	--
DEC 11...	--	--	--	--	<1	170	--
JAN 21...	<10	<1	<1	<1	<1	210	<1
FEB 18...	--	--	--	--	1	140	--
MAR 16...	--	--	--	--	<1	130	--
APR 06...	--	--	--	--	<1	620	--
MAY 06...	--	--	--	--	2	330	--
JUN 15...	--	--	--	--	1	430	--
JUL 13...	16	<1	<1	<1	2	190	<1
AUG 10...	--	--	--	--	1	190	--
SEP 08...	--	--	--	--	1	90	--

DATE	MANGA- NESE, TOTAL, RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT 17...	--	--	--	--	<0.2	--
NOV 13...	--	--	--	--	<0.2	--
DEC 11...	--	--	--	--	<0.2	--
JAN 21...	23	<0.1	<1	<1	<0.2	<20
FEB 18...	--	--	--	--	<0.2	--
MAR 16...	--	--	--	--	<0.2	--
APR 06...	--	--	--	--	<0.2	--
MAY 06...	--	--	--	--	<0.2	--
JUN 15...	--	--	--	--	<0.2	--
JUL 13...	15	<0.1	<1	<1	<0.2	<20
AUG 10...	--	--	--	--	<0.2	--
SEP 08...	--	--	--	--	<0.2	--

06752280 CACHE LA POUDE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO

LOCATION.--Lat 40° 33'07", long 105° 00'39", in NE¼NW¼ sec.28, T.7 N., R.68 W., Larimer County, Hydrologic Unit 10190007, on left bank 4,000 ft upstream from Box Elder Creek, 2.0 mi upstream from Interstate Highway 25 bridge, and 3.8 mi southeast of intersection of College Avenue and Prospect Street in Fort Collins.

DRAINAGE AREA.--1,245 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,860 ft above sea level, from topographic map. Prior to March 24, 1994, at site 1,900 ft downstream at different datum.

REMARKS.--No estimated daily discharges. Records fair. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, diversion for municipal supply, diversions upstream from station for irrigation, and return flow from irrigated areas.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169	230	151	115	23	21	143	137	133	344	183	25
2	167	225	144	115	18	28	149	170	74	332	194	32
3	161	208	138	122	13	35	189	243	241	322	124	46
4	155	197	128	108	11	41	169	190	656	310	165	58
5	151	203	121	101	13	44	166	402	689	268	207	43
6	170	196	108	117	9.5	40	179	281	699	177	120	50
7	173	199	124	85	14	46	241	277	589	166	131	22
8	171	202	138	79	20	42	141	240	492	186	123	12
9	166	210	134	66	23	42	102	256	630	364	82	12
10	156	206	133	39	19	39	38	278	713	473	89	4.8
11	148	185	133	55	15	40	16	275	704	412	89	4.5
12	147	195	124	66	18	38	12	293	635	200	58	4.3
13	162	185	116	57	18	44	9.7	305	648	156	19	36
14	156	179	116	58	19	47	34	326	526	186	7.0	28
15	153	147	121	62	19	50	79	336	445	100	15	20
16	155	128	116	58	27	51	52	138	336	67	7.0	42
17	152	136	116	49	23	42	77	73	342	24	5.5	38
18	154	132	105	51	23	64	104	147	329	11	5.5	27
19	152	153	97	52	19	66	116	265	156	7.8	4.8	4.5
20	153	187	93	55	22	61	237	119	97	6.8	5.3	4.0
21	138	188	80	53	21	61	236	140	203	6.5	29	14
22	147	173	87	35	25	62	237	240	183	9.3	49	19
23	144	163	93	32	27	78	258	131	193	25	15	5.1
24	165	164	82	32	30	102	257	88	140	8.1	6.3	5.0
25	204	191	108	37	33	114	234	123	80	45	3.9	4.8
26	146	166	103	32	38	123	239	219	164	64	6.4	4.3
27	162	158	100	35	31	149	241	291	280	10	4.4	4.6
28	183	164	91	35	39	157	211	356	324	18	14	4.7
29	181	159	108	25	---	156	185	394	316	53	39	4.9
30	184	146	123	24	---	128	148	332	268	188	17	5.0
31	201	---	113	26	---	141	---	291	---	195	4.2	---
TOTAL	5026	5375	3544	1876	610.5	2152	4499.7	7356	11285	4734.5	1822.3	584.5
MEAN	162	179	114	60.5	21.8	69.4	150	237	376	153	58.8	19.5
MAX	204	230	151	122	39	157	258	402	713	473	207	58
MIN	138	128	80	24	9.5	21	9.7	73	74	6.5	3.9	4.0
AC-FT	9970	10660	7030	3720	1210	4270	8930	14590	22380	9390	3610	1160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1998, BY WATER YEAR (WY)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	21.6	31.6	25.8	25.9	26.6	33.6	114	418	949	225	52.2	32.1							
MAX	162	179	114	139	156	159	633	2729	4430	1288	278	182							
(WY)	1998	1998	1998	1984	1984	1980	1980	1980	1983	1983	1997	1997							
MIN	3.55	4.45	3.99	3.39	3.76	4.38	3.45	8.66	85.8	5.94	4.27	3.61							
(WY)	1992	1991	1991	1995	1992	1991	1991	1982	1989	1987	1987	1988							

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1980 - 1998

ANNUAL TOTAL	95842.4	48865.5		
ANNUAL MEAN	263	134		
HIGHEST ANNUAL MEAN			700	1983
LOWEST ANNUAL MEAN			19.4	1989
HIGHEST DAILY MEAN	2770	Jun 9	713	Jun 10
LOWEST DAILY MEAN	2.4	Apr 20	3.9	Aug 25
ANNUAL SEVEN-DAY MINIMUM	3.2	Apr 15	4.8	Sep 24
INSTANTANEOUS PEAK FLOW			811	Jun 4
INSTANTANEOUS PEAK STAGE			6.49	Jun 4
ANNUAL RUNOFF (AC-FT)	190100	96920		
10 PERCENT EXCEEDS	483	279		310
50 PERCENT EXCEEDS	122	116		11
90 PERCENT EXCEEDS	4.9	12		4.0

a-Site and datum then in use. Maximum gage height, 10.84 ft, Jul 29, 1997, from floodmarks.

**06752280 CACHE LA POUDE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--October 1979 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CAC03) (90410)
OCT 17...	1110	152	275	8.7	9.5	9.7	110	32	8.4	--	73
NOV 13...	1240	181	334	9.2	3.5	15.0	150	41	11	--	105
DEC 11...	1116	144	363	8.7	0.5	15.5	160	43	12	--	102
JAN 22...	1152	34	587	8.6	0.0	14.6	270	72	21	23	134
FEB 18...	1325	25	540	8.9	6.5	13.5	240	64	19	--	125
MAR 24...	1220	103	375	9.1	11.0	13.1	160	43	12	--	104
APR 08...	1330	130	335	8.6	9.0	10.8	140	40	11	--	100
MAY 06...	1310	212	156	8.6	11.0	10.1	62	18	4.4	--	45
JUN 15...	1200	500	113	8.5	12.0	8.9	45	13	3.4	--	34
JUL 13...	1200	144	190	8.6	18.0	--	73	20	5.8	7.0	49
AUG 12...	1140	96	215	8.9	18.0	10.7	89	25	6.7	--	55
SEP 08...	1420	5.8	1260	8.5	24.0	12.0	580	140	54	--	137

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
OCT 17...	--	--	--	--	--	<0.01	0.26	<0.01	0.03	0.03
NOV 13...	--	--	--	--	--	--	0.43	<0.02	--	--
DEC 11...	--	--	--	--	--	<0.01	0.68	<0.02	0.08	0.07
JAN 22...	170	9.7	0.7	10	411	0.03	1.4	<0.02	--	--
FEB 18...	--	--	--	--	--	0.02	0.81	0.12	0.07	0.08
MAR 24...	--	--	--	--	--	<0.01	--	--	--	--
APR 08...	--	--	--	--	--	0.01	0.45	0.03	0.04	0.03
MAY 06...	--	--	--	--	--	<0.01	0.15	0.07	0.03	0.02
JUN 15...	--	--	--	--	--	0.01	0.08	0.08	<0.01	0.02
JUL 13...	37	2.8	0.2	5.6	124	0.02	0.20	0.06	0.05	0.04
AUG 12...	--	--	--	--	--	<0.01	0.22	0.06	0.04	0.03
SEP 08...	--	--	--	--	--	0.06	0.65	1.0	0.02	0.03

06752280 CACHE LA POUDRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
OCT 17...	--	--	--	--	<1	180	--
NOV 13...	--	--	--	--	<1	150	--
DEC 11...	--	--	--	--	1	180	--
JAN 22...	<10	<1	<1	<1	<1	150	<1
FEB 18...	--	--	--	--	<1	140	--
MAR 24...	--	--	--	--	<1	360	--
APR 08...	--	--	--	--	1	3600	--
MAY 06...	--	--	--	--	2	380	--
JUN 15...	--	--	--	--	1	440	--
JUL 13...	13	<1	<1	<1	1	200	<1
AUG 12...	--	--	--	--	1	240	--
SEP 08...	--	--	--	--	1	230	--

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT 17...	--	--	--	--	<0.2	--
NOV 13...	--	--	--	--	<0.2	--
DEC 11...	--	--	--	--	<0.2	--
JAN 22...	30	<0.1	<1	2	<0.2	<20
FEB 18...	--	--	--	--	<0.2	--
MAR 24...	--	--	--	--	<0.2	--
APR 08...	--	--	--	--	<0.2	--
MAY 06...	--	--	--	--	<0.2	--
JUN 15...	--	--	--	--	<0.2	--
JUL 13...	10	<0.1	<1	<1	<0.2	<20
AUG 12...	--	--	--	--	<0.2	--
SEP 08...	--	--	--	--	<0.2	--

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO

LOCATION.--Lat 40°24'44", long 104°33'46", in NW¼SW¼ sec.9, T.5 N., R.64W., Weld County, Hydrologic Unit 10190003, on downstream side of bridge on State Highway 37, 1.9 mi north of railroad in Kersey, and 2.5 mi downstream from Cache la Poudre River.

DRAINAGE AREA.--9,598 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1901 to December 1903, March 1905 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "at Kersey" 1901-03. Statistical summary computed for 1976 to current year.

REVISED RECORDS.--WSP 1310: 1902, 1906, 1935(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,575.77 ft above sea level. See WSP 1710 or 1730 for history of changes prior to July 3, 1935.

REMARKS.--Records good, except for Oct. 13 to Apr. 17, which are poor. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 888,000 acres, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1220	e1990	e1450	e1260	1200	961	e1600	2870	1720	314	1980	488
2	1170	e1830	e1360	e1300	1190	983	e1410	2530	1530	335	1410	609
3	1140	e1810	e1310	e1350	1180	1000	e1800	2210	1360	410	1350	602
4	1160	e1780	e1270	e1360	e1190	e1000	e2630	2130	1480	475	1390	580
5	1180	e1700	e1240	e1440	1170	e943	2520	2130	2400	425	1970	541
6	1150	e1620	e1210	1430	1140	e1000	2250	2970	2920	402	1860	514
7	1120	1560	e1210	1300	1110	e1010	2250	3270	2280	477	1330	512
8	1180	1540	e1240	1300	1100	e1040	2210	4370	1940	645	955	556
9	1190	e1540	1270	1280	1090	e1100	2160	4290	2080	754	716	596
10	1210	e1550	1250	1230	1050	e1120	1780	4180	2300	988	632	562
11	1230	1480	1260	1220	1030	e1100	1620	3350	2200	1290	605	507
12	1200	1500	1270	1150	1010	e1030	1470	3040	1820	1670	635	482
13	e1540	1460	1300	1170	1010	e1020	1390	2890	1420	1450	484	494
14	e1590	1340	e1280	1220	1000	e1020	1400	2690	1210	1110	412	548
15	1380	1310	e1240	1150	1000	e990	1610	2610	1180	810	453	627
16	1160	1340	e1280	1210	1020	e925	e1820	2440	1260	599	514	564
17	e1070	1340	e1190	1170	1070	e766	e1980	2170	865	469	613	543
18	1130	e1450	e1210	e1240	1040	e718	2100	1900	697	409	538	515
19	1110	e1500	e1170	e1240	1010	e952	3270	1560	552	404	521	470
20	1050	e1590	e1180	e1270	984	e1290	2770	1220	400	376	554	479
21	1110	e1420	e1160	e1180	952	e1390	2630	1020	319	344	630	612
22	e1180	e1420	e1190	e1130	969	e1370	2450	1090	310	336	525	654
23	1220	e1310	e1180	e1190	980	e1340	2330	2010	358	476	509	772
24	e1330	e1300	e1170	e1150	1050	1350	2330	2360	418	1160	546	730
25	e1840	e1370	e1160	e1210	1060	1430	2510	1900	353	1030	567	691
26	e1790	e1420	e1190	e1200	1020	1470	2800	1910	308	2310	547	633
27	e1940	e1420	e1150	e1110	996	1480	4250	1930	272	2910	532	561
28	e2350	e1480	e1200	e1130	961	1510	3340	1810	267	1540	509	507
29	e2440	e1500	e1270	e1170	---	1540	3060	1810	295	1090	498	516
30	e2320	e1490	e1250	1180	---	e1540	2990	1900	321	1170	477	520
31	e1990	---	e1240	1210	---	e1600	---	1760	---	1670	458	---
TOTAL	43690	45360	38350	38150	29582	35988	68730	74320	34835	27848	24720	16985
MEAN	1409	1512	1237	1231	1057	1161	2291	2397	1161	898	797	566
MAX	2440	1990	1450	1440	1200	1600	4250	4370	2920	2910	1980	772
MIN	1050	1300	1150	1110	952	718	1390	1020	267	314	412	470
AC-FT	86660	89970	76070	75670	58680	71380	136300	147400	69100	55240	49030	33690

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1998, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	885	942	857	831	857	957	1132	2455	3425	1098	833	807												
MAX	3388	2585	1337	1434	1641	1852	3894	13060	14520	5784	2783	2079												
(WY)	1985	1985	1985	1984	1984	1983	1983	1980	1983	1983	1984	1984												
MIN	415	488	568	503	540	473	144	251	113	183	304	259												
(WY)	1978	1978	1982	1982	1978	1982	1982	1977	1977	1994	1981	1977												

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1976 - 1998
ANNUAL TOTAL	664102	478558	
ANNUAL MEAN	1819	1311	a1256
HIGHEST ANNUAL MEAN			3631
LOWEST ANNUAL MEAN			456
HIGHEST DAILY MEAN	15600	Jun 14	4370
LOWEST DAILY MEAN	183	Apr 23	267
ANNUAL SEVEN-DAY MINIMUM	285	Apr 18	302
INSTANTANEOUS PEAK FLOW			5680
INSTANTANEOUS PEAK STAGE		7.39	May 9
ANNUAL RUNOFF (AC-FT)	1317000	949200	910000
10 PERCENT EXCEEDS		3210	2120
50 PERCENT EXCEEDS		1040	772
90 PERCENT EXCEEDS		484	503

e-Estimated.

a-Average discharge for 71 years (water years 1902-03, 1906-74), 777 ft³/s; 562900 acre-ft/yr, prior to completion of Chatfield Dam.

b-Maximum daily discharge for period of record, 31000 ft³/s, Jun 7, 1921.

c-Minimum daily discharge for period of record, 28 ft³/s, Apr 30, 1955.

d-Maximum discharge and stage for period of record, 31500 ft³/s, May 8, 1973, gage height, 11.73 ft.

**0675400 0 SOUTH PLATTE RIVER NEAR KERSEY, CO--Continued
(National Water-Quality Assessment Program station)**

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	
OCT											
15...	0830	1420	1010	8.2	9.8	8.7	330	77	33	76	
NOV											
12...	1215	1430	1220	8.0	5.3	10.0	390	90	40	99	
DEC											
08...	1400	1300	1160	7.8	5.7	9.7	380	89	38	96	
JAN											
06...	1130	1420	1150	8.2	3.2	10.0	340	80	34	92	
FEB											
04...	1400	1150	1150	8.1	4.5	10.4	350	85	34	96	
MAR											
04...	1200	961	1180	8.2	6.3	10.6	380	90	38	97	
APR											
14...	1050	1360	995	8.1	10.0	8.3	310	72	31	82	
MAY											
12...	1110	3190	565	8.0	14.9	7.9	170	45	15	45	
JUN											
09...	1120	2200	726	7.7	16.5	7.6	230	55	24	55	
JUL											
22...	0910	370	1360	8.0	18.4	7.3	530	120	57	98	
AUG											
12...	1135	628	1170	8.0	21.3	8.0	420	93	44	89	
SEP											
02...	1340	641	1260	8.3	22.8	9.2	430	94	47	96	
DATE		POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-a BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-b LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
OCT											
15...	5.6	246	202	270	47	0.9	9.1	669	0.05	4.6	
NOV											
12...	6.4	212	174	320	68	0.9	10	802	0.05	5.1	
DEC											
08...	6.3	223	183	300	64	1.0	9.9	772	0.08	5.9	
JAN											
06...	6.3	211	173	290	67	1.0	9.2	760	0.14	7.2	
FEB											
04...	7.3	214	175	280	66	1.0	8.5	766	0.12	7.2	
MAR											
04...	6.9	225	184	300	59	0.9	7.4	774	0.10	7.1	
APR											
14...	5.2	177	145	240	54	0.8	8.6	643	0.06	5.1	
MAY											
12...	3.4	117	96	120	29	0.8	11	352	<0.01	2.3	
JUN											
09...	4.1	--	c121	180	31	0.8	10	465	0.03	3.1	
JUL											
22...	6.3	256	210	420	41	0.9	12	1010	0.11	5.9	
AUG											
12...	5.7	239	196	330	41	0.9	11	817	0.05	5.0	
SEP											
02...	6.1	244	200	360	48	1.0	9.7	904	0.04	5.1	

a-Field dissolved bicarbonate, determined by incremental titration method.
 b-Field total dissolved alkalinity, determined by incremental titration method.
 c-Acid-neutralizing capacity, determined on an unfiltered sample by the laboratory.

**06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO--Continued
(National Water-Quality Assessment Program station)**

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
OCT 15...	0.21	1.2	0.8	0.71	0.52	0.48	5	7	4.2	1.8
NOV 12...	0.60	1.6	1.1	0.63	0.56	0.58	12	14	4.4	<0.2
DEC 08...	0.72	1.5	1.2	0.77	0.68	0.69	15	17	3.9	0.2
JAN 06...	0.62	1.7	1.4	0.86	0.76	0.18	14	18	4.7	0.2
FEB 04...	0.75	1.7	1.4	0.85	0.70	0.76	16	23	4.9	1.0
MAR 04...	0.33	1.5	0.9	1.0	0.88	0.83	12	22	4.7	1.9
APR 14...	0.20	1.2	0.7	0.81	0.62	0.60	<10	10	4.8	1.7
MAY 12...	0.07	0.8	0.3	0.55	0.25	0.24	11	7	4.9	4.3
JUN 09...	0.16	1.3	0.4	0.68	0.34	0.35	<10	8	4.0	3.2
JUL 22...	0.26	1.5	0.6	0.54	0.29	0.28	<10	31	4.1	0.7
AUG 12...	0.16	1.0	0.6	0.44	0.31	0.29	<10	14	4.1	3.2
SEP 02...	0.07	1.9	0.5	0.65	0.31	0.28	<10	10	4.5	5.7

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 15...	0830	1420	92	353	63
NOV 12...	1215	1430	42	162	60
DEC 08...	1400	1300	30	105	74
JAN 06...	1130	1420	28	107	77
FEB 04...	1400	1150	248	770	15
MAR 04...	1200	961	38	99	64
APR 14...	1050	1360	53	195	53
MAY 12...	1110	3190	226	1950	--
JUN 09...	1120	2200	197	1170	65
JUL 22...	0910	370	176	176	97
AUG 12...	1135	628	103	175	85
SEP 02...	1340	641	367	635	82

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO

LOCATION.--Lat 40°19'19", long 103°55'17", in SW¼SW¼ sec.7, T.4 N., R.58 W., Morgan County, Hydrologic Unit 10190003, on left bank 400 ft downstream from bridge on State Highway 144, 2.8 mi southeast of Weldona, and 4.2 mi upstream from Bijou Creek.

DRAINAGE AREA.--13,245 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year. Statistical summary computed for 1976 to current year.

REVISED RECORDS.--WSP 1710: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,307.80 ft above sea level.

REMARKS.--Records good except for those above 1,620 ft³/s, which are fair, and estimated daily discharges, which are poor. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, ground-water withdrawals, and diversions for irrigation, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1230	1510	e1290	1370	1230	692	1360	2610	1700	205	669	418
2	1160	1390	e1280	1400	1290	769	1280	2300	1580	258	709	442
3	1110	1230	e1220	1390	1320	753	1210	1940	1260	375	472	524
4	1240	e1230	e1170	1450	1340	755	1750	1730	1020	432	459	550
5	1270	e1250	1120	1460	1340	709	1950	1700	1180	494	656	554
6	1270	e1240	1140	1460	1320	503	1710	1890	1930	421	907	508
7	1240	e1380	1070	1330	1110	489	1550	2730	2100	369	723	472
8	1230	e1410	1060	1310	1020	475	1510	3240	1720	358	456	484
9	1090	e1440	1100	1250	1010	495	1430	3100	1540	463	253	548
10	1070	e1490	1120	1240	953	529	1370	3420	1640	488	225	590
11	1080	e1540	1110	1160	928	517	1160	2890	1710	586	342	568
12	1090	e1620	1080	1200	909	500	1060	2370	1530	803	417	564
13	1070	e1570	1030	1240	895	478	916	2320	1180	1030	386	587
14	992	e1360	990	e1190	902	482	922	2000	930	788	247	641
15	916	e1340	1000	e1130	926	503	954	1830	754	463	140	609
16	826	e1300	1040	e1140	946	541	1170	1670	728	593	240	636
17	709	e1260	1090	e1180	982	562	1630	1540	653	526	297	606
18	674	e1260	1090	e1190	1030	493	1840	1300	415	369	396	561
19	652	e1240	1130	e1190	974	463	2200	1010	239	169	335	532
20	434	e1300	1120	e1200	956	629	2920	755	116	169	363	507
21	434	e1370	1100	e1280	935	1070	2550	537	119	316	390	521
22	396	e1330	1070	e1280	695	1400	2410	440	173	316	476	630
23	525	e1260	1040	e1250	540	1290	2200	653	580	358	377	665
24	605	e1220	1040	e1280	525	1270	2110	1590	513	481	358	730
25	707	e1200	1060	e1270	531	1380	2160	1770	533	1010	352	732
26	1170	e1190	1250	e1310	531	1480	2380	1530	457	734	384	684
27	1140	e1210	1280	e1320	604	1530	3040	1480	286	1360	455	646
28	1290	e1220	1260	e1340	645	1540	3490	1390	226	1240	457	614
29	1670	e1300	1250	e1250	---	1570	2980	1280	177	683	436	603
30	1720	e1340	1320	e1230	---	1510	2760	1440	173	441	462	593
31	1660	---	1350	1210	---	1420	---	1730	---	431	438	---
TOTAL	31670	40000	35270	39500	26387	26797	55972	56185	27162	16729	13277	17319
MEAN	1022	1333	1138	1274	942	864	1866	1812	905	540	428	577
MAX	1720	1620	1350	1460	1340	1570	3490	3420	2100	1360	907	732
MIN	396	1190	990	1130	525	463	916	440	116	169	140	418
AC-FT	62820	79340	69960	78350	52340	53150	111000	111400	53880	33180	26330	34350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1998, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	552	519	600	746	684	550	839	1776	2494	829	632	676												
MAX	3119	2298	1266	1443	1562	1494	3226	10130	12310	5121	2208	2118												
(WY)	1985	1985	1986	1984	1984	1983	1983	1980	1983	1995	1984	1984												
MIN	134	100	115	259	231	132	119	183	101	191	237	123												
(WY)	1977	1977	1995	1995	1978	1978	1982	1981	1977	1981	1981	1977												

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1976 - 1998

ANNUAL TOTAL	482020	386268	
ANNUAL MEAN	1321	1058	a907
HIGHEST ANNUAL MEAN			2995
LOWEST ANNUAL MEAN			231
HIGHEST DAILY MEAN	11000	Jun 15	3490
LOWEST DAILY MEAN	e76	Apr 4	116
ANNUAL SEVEN-DAY MINIMUM	135	Mar 31	243
INSTANTANEOUS PEAK FLOW			4050
INSTANTANEOUS PEAK STAGE			5.84
ANNUAL RUNOFF (AC-FT)	956100	766200	657300
10 PERCENT EXCEEDS	2120	1710	1630
50 PERCENT EXCEEDS	800	1070	474
90 PERCENT EXCEEDS	287	407	164

e-Estimated.

a-Average discharge for 22 years (water years 1953-74), 572 ft³/s; 414400 acre-ft/yr, prior to completion of Chatfield Dam.

b-Maximum daily discharge for period of record, 20800 ft³/s, May 9, 1973.

c-Maximum discharge and stage for period of record, 26800 ft³/s, May 8, 1973, gage height, 11.68 ft, from rating curve extended above 16000 ft³/s.

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1967 to September 1968, October 1971 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
JAN 14...	1150	1270	1260	8.4	1.0	12.8	K28	140	420	100
MAR 23...	1255	1240	1230	8.3	12.5	9.1	K16	K36	390	92
MAY 22...	1100	438	1190	8.3	19.0	8.3	320	280	400	97
AUG 25...	0900	440	1470	8.5	18.0	8.2	--	--	530	120

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
JAN 14...	41	110	2	7.1	210	340	73	1.0	11	884
MAR 23...	40	120	3	7.0	183	330	83	0.9	9.2	836
MAY 22...	37	93	2	6.2	190	340	57	0.8	13	806
AUG 25...	54	120	2	7.7	231	450	65	1.1	12	1060

DATE	SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AM-MONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00665)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)
JAN 14...	852	1.20	3030	0.08	1.6	7.2	0.95	0.65	0.64	0.63
MAR 23...	813	1.14	2800	0.01	0.7	5.9	0.03	0.53	0.52	0.51
MAY 22...	770	1.10	953	0.02	0.4	3.5	0.06	0.23	0.24	0.24
AUG 25...	997	1.44	1260	0.03	0.6	4.8	0.08	0.21	0.20	0.19

DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
JAN 14...	42	<1	234	<8	<14	<12	<10	<10	<100
MAR 23...	40	<1	216	<8	<14	<12	<10	<10	<100
MAY 22...	51	<1	182	<8	<14	<12	<10	<10	<100
AUG 25...	56	<1	259	<8	<14	<12	<10	<10	<100

DATE	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
JAN 14...	40	6	<60	<40	3	<4	1100	<10	<20
MAR 23...	37	6	<60	<40	3	<4	1000	<10	<20
MAY 22...	28	11	<60	<40	4	<4	1000	<10	<20
AUG 25...	39	4	<60	<40	4	<4	1500	<10	<20

K-Based on non-ideal colony count.

06759910 SOUTH PLATTE RIVER AT COOPER BRIDGE, NEAR BALZAC, CO

LOCATION.--Lat 40°21'23", long 103°31'39", in SW¹/₄NE¹/₄ sec.33, T.5 N., R.55 W., Morgan County, Hydrologic Unit 10190012, on left bank 0.7 mi downstream from North Sterling Canal, 1.3 mi downstream from Beaver Creek, and 4.3 mi northeast of Snyder.

DRAINAGE AREA.--16,852 mi² (Area at downstream site used prior to October 1987).

PERIOD OF RECORD.--October 1987 to current year. Records prior to water year 1993 can be obtained from the Colorado Division of Water Resources. Statistical summary computed for 1993 to current year. Water-quality data available, April 1993 to September 1995.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,140 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, ground-water withdrawals and diversions above station for irrigation.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1360	1160	1010	1320	1380	745	1480	2220	1800	e212	412	234
2	1290	1090	961	1370	1380	810	1490	2120	1780	e247	851	248
3	1160	1010	930	1370	1430	867	1340	1820	1350	e252	598	294
4	1200	884	888	1450	1350	837	1460	1490	830	e420	494	e401
5	1250	872	846	1530	1380	893	1980	1260	750	e494	450	424
6	1290	873	882	1570	1470	766	1570	1160	1400	e467	727	427
7	1310	863	864	1560	1430	690	1400	1720	2120	e337	820	433
8	1290	1000	790	1470	1320	626	1250	2120	1910	e283	598	445
9	1190	1020	800	1420	1250	612	1210	2930	1560	309	361	482
10	1050	1060	924	1350	1190	632	1180	2690	1500	e438	203	557
11	1100	1110	990	1350	1090	584	982	2950	1740	419	e309	583
12	1120	1150	1060	1360	1060	582	867	2300	1630	e527	e402	586
13	1080	1240	1080	1380	1090	496	807	2070	1340	e960	e391	590
14	861	1270	916	1390	1100	506	978	2000	1040	e923	e379	e640
15	566	1160	873	1340	1110	527	1100	1670	860	516	e307	716
16	524	1120	992	1280	1100	514	1230	1380	658	702	e228	748
17	448	1090	1030	1290	1040	551	1540	1180	e676	642	e267	e716
18	364	1050	993	1330	1040	518	1890	910	e468	533	e268	e658
19	317	1050	997	1340	1050	505	2100	e595	273	367	e299	614
20	276	1020	1010	1340	1070	484	2790	e349	194	171	247	604
21	260	1030	1000	1350	1070	705	2440	202	153	167	256	e654
22	206	1070	982	1400	1010	1130	2140	e114	e160	208	299	e730
23	e209	1040	938	1420	755	1260	1880	538	375	284	319	839
24	e245	972	930	1400	686	1230	1630	970	666	387	246	e870
25	544	930	962	1430	678	1260	1750	1960	464	1230	219	e945
26	781	920	1030	1420	e649	1350	1900	1730	e447	1180	191	899
27	1060	900	1150	1460	649	1430	2180	1490	e370	809	217	834
28	1080	909	1180	1470	731	1420	3090	1380	e294	1600	256	783
29	1180	916	1180	1490	---	1430	2490	1290	e224	952	253	713
30	1270	1000	1260	1400	---	1500	2310	1260	e175	608	252	677
31	1260	---	1310	1380	---	1490	---	1730	---	429	273	---
TOTAL	27141	30779	30758	43430	30558	26950	50454	47598	27207	17073	11392	18344
MEAN	876	1026	992	1401	1091	869	1682	1535	907	551	367	611
MAX	1360	1270	1310	1570	1470	1500	3090	2950	2120	1600	851	945
MIN	206	863	790	1280	649	484	807	114	153	167	191	234
AC-FT	53830	61050	61010	86140	60610	53460	100100	94410	53970	33860	22600	36390

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1998, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998
MEAN	418	252	440	730	653	518
MAX	876	1026	992	1401	1091	869
(WY)	1998	1998	1998	1998	1998	1998
MIN	58.8	22.7	60.4	145	109	238
(WY)	1995	1995	1995	1995	1995	1995

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1993 - 1998

ANNUAL TOTAL	440816	361684	
ANNUAL MEAN	1208	991	847
HIGHEST ANNUAL MEAN			1723
LOWEST ANNUAL MEAN			308
HIGHEST DAILY MEAN	10700	Jun 16	3090
LOWEST DAILY MEAN	e25	Jul 7	e114
ANNUAL SEVEN-DAY MINIMUM	109	Jul 6	233
INSTANTANEOUS PEAK FLOW			3430
INSTANTANEOUS PEAK STAGE			4.46
ANNUAL RUNOFF (AC-FT)	874400	717400	613500
10 PERCENT EXCEEDS	2460	1580	1450
50 PERCENT EXCEEDS	720	982	381
90 PERCENT EXCEEDS	191	284	53

e-Estimated.

a-Also occurred Dec 31, 1994.

07079300 EAST FORK ARKANSAS RIVER AT HIGHWAY 24 NEAR LEADVILLE, CO

LOCATION.--Lat 39°16'21", long 106°18'21", in NW¹/₄NW¹/₄ sec. 14, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, on right bank 20 ft downstream from U.S. Highway 24, 0.35 mi downstream from Leadville Mine Drainage Tunnel, 1.5 mi northwest of Leadville, and 2.2 mi upstream from Tennessee Creek.

DRAINAGE AREA.--49.9 mi².

PERIOD OF RECORD.--May 1990 to current year. Water-quality data available, May 1990 to September 1996.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 9,900 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions (see elsewhere in this report). Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	20	e15	e12	e11	e12	15	18	192	152	99	37
2	24	21	e14	e12	e11	e13	13	18	228	132	91	38
3	22	24	e16	e12	e11	e13	14	21	255	118	78	32
4	22	20	e16	e13	e10	e13	13	24	201	112	74	29
5	22	20	e16	e13	e9.9	e13	13	30	144	106	69	27
6	22	19	e16	e14	e11	e13	13	30	119	110	62	26
7	22	19	e16	e13	e12	e13	13	27	106	107	58	25
8	24	19	e15	e13	e10	e13	13	26	103	113	55	24
9	23	20	e13	e12	e11	e12	13	26	99	125	53	24
10	23	19	e15	e12	e12	e12	13	27	106	170	56	24
11	23	19	e14	e12	e13	e12	14	30	97	156	57	25
12	24	19	e14	e12	e13	e12	15	30	96	107	55	25
13	24	e18	e14	e12	e13	e12	15	32	113	93	50	27
14	23	e18	e14	e13	e12	e12	14	37	98	86	49	25
15	24	e17	e14	e12	e12	e12	14	36	97	81	48	25
16	23	e17	e13	e12	e12	e12	13	36	93	78	43	30
17	22	e16	e13	e12	e12	e12	13	39	94	75	41	28
18	21	e16	e13	e12	e12	e12	12	46	90	71	38	26
19	21	e17	e13	e12	e12	e12	13	57	92	68	36	25
20	21	e16	e13	e11	e12	e12	12	71	120	64	36	24
21	22	e16	e13	e11	e12	e12	13	82	124	61	36	24
22	21	e16	e13	e11	e12	12	14	85	138	66	38	e24
23	21	e16	e13	e11	e12	12	17	75	156	102	34	e24
24	22	e15	e12	e12	e12	13	18	76	146	116	31	e25
25	25	e15	e12	e11	e12	14	18	74	129	90	32	e24
26	29	e15	e12	e11	e12	14	17	86	147	95	34	e24
27	24	e15	e12	e11	e12	14	16	98	154	85	34	e24
28	22	e14	e12	e11	e12	14	17	128	153	83	32	e23
29	22	e14	e12	e11	---	13	17	160	148	110	29	e23
30	21	e14	e12	e11	---	14	17	184	150	83	28	e23
31	20	---	e12	e11	---	13	---	168	---	80	27	---
TOTAL	702	524	422	368	327.9	392	432	1877	3988	3095	1503	784
MEAN	22.6	17.5	13.6	11.9	11.7	12.6	14.4	60.5	133	99.8	48.5	26.1
MAX	29	24	16	14	13	14	18	184	255	170	99	38
MIN	20	14	12	11	9.9	12	12	18	90	61	27	23
AC-FT	1390	1040	837	730	650	778	857	3720	7910	6140	2980	1560

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1998, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MEAN	18.6	14.4	12.1	10.6	10.4	10.6	13.9	93.2	237	101	42.2	24.9
MAX	22.9	18.1	15.4	13.0	13.3	13.0	19.8	205	404	266	75.1	32.2
(WY)	1996	1996	1996	1996	1997	1997	1996	1996	1996	1995	1995	1995
MIN	15.1	10.8	10.1	9.17	7.10	8.74	10.5	38.4	133	42.2	23.5	19.3
(WY)	1995	1992	1992	1995	1993	1995	1993	1995	1998	1994	1994	1994

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1990 - 1998

ANNUAL TOTAL	24003.6	14414.9	
ANNUAL MEAN	65.8	39.5	50.4
HIGHEST ANNUAL MEAN			73.0
LOWEST ANNUAL MEAN			34.5
HIGHEST DAILY MEAN	811	255	811
LOWEST DAILY MEAN	e7.7	e9.9	6.0
ANNUAL SEVEN-DAY MINIMUM	7.8	11	6.7
INSTANTANEOUS PEAK FLOW		332	a1010
INSTANTANEOUS PEAK STAGE		3.71	4.23
ANNUAL RUNOFF (AC-FT)	47610	28590	36530
10 PERCENT EXCEEDS	176	106	143
50 PERCENT EXCEEDS	21	21	18
90 PERCENT EXCEEDS	12	12	9.7

e-Estimated.

a-From rating curve extended above 520 ft³/s.

07082400 TURQUOISE LAKE NEAR LEADVILLE, CO

LOCATION.--Lat 39°15'10", long 106°22'26", in SW¼NE¼ sec.19, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, in control house of Sugar Loaf Dam on Lake Fork, 4.0 mi west of Leadville, and 4.6 mi upstream from mouth.

DRAINAGE AREA.--28.1 mi².

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Nonrecording gage read once daily. Datum of gage is 9,869.40 ft above sea level, (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations above sea level.

REMARKS.--Reservoir formed by earthfill dam completed in 1909, capacity, 17,400 acre-ft. Enlargement of dam began Dec. 8, 1965, and closure was made Apr. 15, 1968. Enlarged capacity, 129,400 acre-ft at elevation 9,869.40 ft, crest of spillway. Dead storage, 2,770 acre-ft below elevation 9,765.90 ft, sill of lowest outlet. Figures given are total contents. Since Apr. 15, 1968, Turquoise Lake has been a regulatory reservoir for the Fryingpan-Arkansas project and stores water imported from the Colorado River basin through Charles H. Boustead Tunnel for irrigation, municipal water supply, and power development. It also stores water for industrial use, and water imported from the Colorado River basin through Busk-Ivanhoe tunnel for irrigation and through Homestake tunnel for municipal water supply.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES (at 0800 of the following day) FOR PERIOD OF RECORD.--Maximum contents, 131,820 acre-ft, July 10, 1983, elevation, 9,870.73 ft; minimum since appreciable storage was attained, 14,510 acre-ft, Oct. 1, 1968, elevation, 9,782.85 ft.

EXTREMES (at 0800 of the following day) FOR CURRENT YEAR.--Maximum contents, 128,750 acre-ft, June 30 and July 1, elevation, 9,869.04 ft; minimum, 102,650 acre-ft, May 27, elevation, 9,853.94 ft.

MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	9,865.20	121,950	-
Oct. 31.	9,864.56	120,830	-1,120
Nov. 30.	9,861.72	115,890	-4,940
Dec. 31.	9,859.76	112,510	-3,380
CAL YR 1997.	-	-	+19,360
Jan. 31.	9,856.56	107,050	-5,460
Feb. 28.	9,855.27	104,880	-2,170
Mar. 31.	9,858.51	110,370	+5,490
Apr. 30.	9,856.07	106,230	-4,140
May 31.	9,855.93	105,990	-240
June 30.	9,869.04	128,750	+22,760
July 31.	9,867.80	126,550	-2,200
Aug. 31.	9,866.65	124,510	-2,040
Sept. 30.	9,863.09	118,260	-6,250
WTR YR 1998.	-	-	-3,690

07086000 ARKANSAS RIVER AT GRANITE, CO

LOCATION.--Lat 39°02'34", long 106°15'55", in SE¹/₄SW¹/₄ sec.31, T.11 S., R.79 W., Chaffee County, Hydrologic Unit 11020001, on right bank at Granite, 100 ft east of U.S. Highway 24, 100 ft downstream from county bridge, and 200 ft upstream from Cache Creek.

DRAINAGE AREA.--427 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to October 1895, May to December 1897, August to September 1898, March to October 1899, April to May 1901 (gage heights and discharge measurements only in 1895, 1899, and 1901), April 1910 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1711: 1952, 1956(M).

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 8,914.86 ft above sea level, supplementary adjustment of 1960. Prior to Apr. 6, 1910, nonrecording gages near present site at different datums. Apr. 6, 1910 to Oct. 25, 1917, water-stage recorder or nonrecording gage at site 832 ft upstream, at different datum. Oct. 26, 1917 to Oct. 26, 1960, water-stage recorder at site 168 ft downstream, at present datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 6,700 acres. Turquoise Lake and Twin Lakes Reservoir, on tributaries upstream from station, have a combined capacity of 269,700 acre-ft. Transmountain diversions from Colorado River basin to Arkansas River basin enter upstream from this station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	139	e125	163	e150	e91	e112	203	1620	2390	779	266
2	148	132	124	165	e153	e94	115	212	1840	2250	770	244
3	155	129	e121	164	e153	e98	e102	230	1750	2230	664	202
4	148	137	e126	160	155	102	117	269	1570	2190	547	184
5	139	132	e127	e152	154	100	119	316	1110	2110	644	164
6	139	132	e122	162	155	100	118	324	779	2100	646	155
7	142	134	e122	e168	150	101	113	309	636	2150	672	153
8	154	132	e121	e162	e151	e87	117	282	624	2070	711	150
9	150	138	e123	e156	157	e97	115	305	732	1920	708	151
10	152	135	e146	e156	e158	e97	114	306	732	1970	712	152
11	150	136	e177	168	e157	e100	131	333	820	1710	722	151
12	153	138	e179	167	e158	e93	145	336	834	1680	696	162
13	150	139	e173	e160	e166	e91	141	344	1020	1630	588	170
14	156	132	e170	e160	166	e95	136	404	1070	1610	537	166
15	159	e127	e168	e164	166	e100	128	383	963	1580	542	166
16	150	e127	e170	168	167	110	127	343	875	1130	525	165
17	150	e128	e176	165	e162	113	118	373	861	744	526	159
18	145	e130	e164	161	e162	e108	116	480	796	642	470	149
19	142	e130	e159	e160	e167	e107	110	587	692	630	326	142
20	142	131	e159	171	e160	e96	115	602	724	578	297	139
21	145	e129	e156	e168	e165	e99	121	768	708	492	282	138
22	142	e130	e152	e172	e158	106	136	870	802	470	260	139
23	142	e130	e147	e157	e140	e130	166	836	1490	522	255	139
24	150	e126	e148	e161	107	e150	194	832	2160	573	251	138
25	150	e123	e144	164	104	177	196	833	2190	560	241	130
26	142	122	e142	e163	e97	161	183	926	2300	547	214	127
27	142	124	e143	e167	e94	150	167	1000	2230	539	200	122
28	142	125	e148	e167	e91	151	166	1030	2270	553	252	121
29	142	e121	e155	e152	---	137	169	1070	2220	695	314	123
30	148	e125	164	e156	---	e118	181	1240	2320	713	310	133
31	145	---	e154	e151	---	e118	---	1390	---	752	290	---
TOTAL	4564	3913	4605	5030	4123	3477	4088	17736	38738	39730	14951	4700
MEAN	147	130	149	162	147	112	136	572	1291	1282	482	157
MAX	159	139	179	172	167	177	196	1390	2320	2390	779	266
MIN	139	121	121	151	91	87	102	203	624	470	200	121
AC-FT	9050	7760	9130	9980	8180	6900	8110	35180	76840	78800	29660	9320

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1998, BY WATER YEAR (WY)

	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	157	130	107	103	109	128	240	700	1282	908	541	245																																																																													
MAX	356	337	448	419	526	500	667	1711	2146	2367	1239	546																																																																													
(WY)	1977	1983	1983	1983	1985	1985	1962	1984	1984	1983	1984	1961																																																																													
MIN	82.4	64.3	48.5	39.8	45.0	55.0	97.1	191	432	217	151	105																																																																													
(WY)	1932	1945	1977	1918	1919	1919	1933	1935	1934	1934	1934	1990																																																																													

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1910 - 1998
ANNUAL TOTAL	191028	145655	
ANNUAL MEAN	523	399	389
HIGHEST ANNUAL MEAN			687
LOWEST ANNUAL MEAN			188
HIGHEST DAILY MEAN	2670	Jun 3	2390 Jul 1
LOWEST DAILY MEAN	e,a121	Nov 29	e87 Mar 8
ANNUAL SEVEN-DAY MINIMUM	123	Dec 3	94 Mar 8
INSTANTANEOUS PEAK FLOW			2500 Jul 1
INSTANTANEOUS PEAK STAGE			5.44 Jul 1
ANNUAL RUNOFF (AC-FT)	378900	288900	7.20 Jun 28 1957
10 PERCENT EXCEEDS	1350	978	282000
50 PERCENT EXCEEDS	293	160	1050
90 PERCENT EXCEEDS	138	117	170
			74

e-Estimated.
a-Also occurred Dec 3 and 8.

**07086000 ARKANSAS RIVER AT GRANITE, CO--Continued
WATER-QUALITY RECORD**

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1993 to current year.

WATER TEMPERATURE: October 1993 to current year.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for specific conductance are good except for Oct. 1 to May 6, which are poor. Records for water temperature are good. Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 249 microsiemens, Jan. 16, 1996 and Oct. 1, 1997; minimum, 65 microsiemens, July 5-6, 1998.

WATER TEMPERATURE: Maximum, 18.7°C, Aug. 17, 1994; minimum, 0.0°C, many days.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 249 microsiemens, Oct. 1; minimum, 65 microsiemens, July 5-6.

WATER TEMPERATURE: Maximum, 18.5°C, Aug. 23; minimum, 0.0°C, many days.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	249	170	201	219	212	214	204	201	203	182	166	176
2	247	220	234	208	202	205	218	201	206	187	171	180
3	245	235	239	207	204	206	229	218	225	179	146	168
4	239	215	224	207	202	205	229	226	227	147	141	143
5	217	208	213	211	204	208	226	224	225	153	143	147
6	215	207	212	---	---	---	227	219	223	152	146	150
7	231	208	217	217	215	216	219	211	217	156	149	152
8	228	212	219	219	195	208	222	211	215	156	149	151
9	239	210	221	205	194	200	229	213	220	164	154	159
10	236	226	232	198	186	194	239	201	227	165	147	157
11	233	206	219	200	189	195	201	192	193	150	146	148
12	---	---	---	213	198	205	193	180	189	149	146	148
13	207	204	206	217	207	212	189	168	177	152	144	148
14	226	204	212	210	207	209	171	162	167	161	146	152
15	240	214	223	232	193	214	166	154	162	164	148	159
16	237	222	228	212	192	199	198	157	172	160	155	157
17	237	227	232	203	189	196	202	176	185	164	153	159
18	232	206	218	202	197	199	193	179	185	153	146	151
19	209	203	206	209	200	205	184	171	178	154	145	150
20	208	197	206	217	206	210	183	156	173	159	148	150
21	221	204	211	223	216	219	182	159	168	165	152	159
22	229	211	220	221	216	219	177	164	167	166	155	163
23	218	207	214	223	202	217	172	165	168	170	163	166
24	---	---	---	220	202	206	169	159	164	172	153	166
25	---	---	---	216	204	209	181	164	169	161	155	157
26	206	203	204	212	207	210	181	147	158	165	157	159
27	206	202	203	217	209	213	157	144	152	162	157	159
28	---	---	---	219	213	216	160	150	156	185	162	172
29	212	206	209	219	202	214	164	152	160	184	175	180
30	216	209	212	209	202	204	166	158	161	186	181	184
31	---	---	---	---	---	---	178	160	166	189	166	181
MONTH	---	---	---	---	---	---	239	144	186	189	141	160

07086000 ARKANSAS RIVER AT GRANITE, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	170	166	167	222	207	212	205	186	195	170	155	161
2	171	163	167	209	203	206	216	189	200	158	149	154
3	170	163	166	216	204	208	213	192	203	154	143	149
4	172	169	171	233	216	226	215	172	202	148	131	137
5	176	172	173	229	218	225	184	167	173	143	126	135
6	182	175	179	225	205	218	176	167	170	141	132	136
7	187	170	180	210	205	207	181	170	177	147	130	137
8	171	168	170	210	192	206	184	171	179	144	139	142
9	171	160	168	207	192	197	181	166	174	145	129	134
10	177	161	165	212	200	204	186	166	172	137	129	132
11	177	171	175	218	203	211	181	166	171	149	127	135
12	183	171	177	222	211	216	181	170	173	141	129	134
13	185	178	181	219	196	211	177	169	173	140	126	131
14	186	169	179	206	197	200	182	173	177	139	115	124
15	173	166	169	209	197	203	181	167	176	136	119	130
16	168	166	167	208	199	203	187	173	178	133	122	129
17	179	164	169	204	194	200	186	172	177	128	119	125
18	181	173	177	200	190	195	184	168	174	131	100	116
19	188	173	182	207	119	190	175	167	171	112	101	108
20	182	172	180	211	142	195	183	171	174	112	103	108
21	176	159	171	200	122	185	184	173	177	110	94	103
22	169	159	164	187	168	177	187	173	179	96	92	94
23	166	162	163	207	160	174	186	169	178	94	92	93
24	164	162	163	221	161	179	176	166	171	95	93	94
25	164	159	162	216	181	195	170	161	165	97	94	95
26	178	163	166	207	197	201	168	159	163	97	92	95
27	205	178	194	216	195	202	180	158	166	98	93	96
28	211	197	202	208	201	205	184	169	177	99	93	97
29	---	---	---	203	196	200	187	172	179	106	99	101
30	---	---	---	202	187	196	180	170	175	102	89	95
31	---	---	---	196	186	190	---	---	---	91	83	87
MONTH	211	159	173	233	119	201	216	158	177	170	83	120
	JUNE			JULY			AUGUST			SEPTEMBER		
1	86	78	83	69	66	68	106	99	103	172	139	161
2	82	79	81	69	67	67	104	95	99	186	167	175
3	84	80	82	68	66	67	114	95	100	196	175	185
4	88	81	84	68	66	67	118	106	114	190	182	186
5	105	88	96	67	65	66	110	100	106	188	178	182
6	112	100	106	67	65	66	102	96	100	184	176	179
7	119	110	114	69	67	68	99	88	95	184	174	178
8	119	108	115	71	69	70	90	86	88	179	173	176
9	112	102	107	80	69	72	89	87	88	192	177	185
10	106	98	102	87	80	84	90	87	89	193	183	188
11	101	98	100	86	77	82	96	90	92	185	170	178
12	103	96	99	77	72	75	101	93	97	175	169	171
13	99	88	94	74	72	73	103	95	98	177	171	174
14	94	87	90	75	70	73	121	100	108	174	169	171
15	101	94	98	76	70	72	134	116	121	186	169	179
16	103	98	100	93	76	83	117	113	116	195	177	184
17	100	97	99	108	93	100	115	94	107	203	190	196
18	108	97	102	108	104	106	127	97	109	197	183	188
19	108	103	106	108	104	106	139	126	131	188	182	185
20	110	102	106	117	107	111	146	137	141	189	177	183
21	110	102	106	126	117	121	148	136	141	194	183	188
22	112	91	104	129	126	128	152	144	148	193	185	189
23	98	74	87	132	127	129	145	141	144	199	186	194
24	75	71	73	134	124	129	147	141	143	201	194	197
25	73	70	72	131	124	128	172	147	161	197	183	189
26	73	68	71	136	131	133	186	167	176	191	182	187
27	71	67	69	151	134	141	215	179	187	191	182	186
28	70	67	69	136	115	129	204	128	167	190	182	185
29	72	69	70	125	112	118	128	121	125	200	186	194
30	72	68	71	112	97	106	126	120	122	200	196	198
31	---	---	---	102	97	99	140	120	126	---	---	---
MONTH	119	67	92	151	65	95	215	86	121	203	139	184

07086000 ARKANSAS RIVER AT GRANITE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	12.3	6.2	9.7	---	---	---	.0	.0	.0	1.9	.0	.6
2	12.8	6.7	9.8	---	---	---	.9	.0	.2	2.5	.6	1.2
3	12.5	7.9	10.2	---	---	---	.0	.0	.0	2.3	.7	1.2
4	12.0	5.1	8.9	---	.0	---	.0	.0	.0	2.6	.0	.9
5	11.9	5.1	8.9	---	.2	---	.0	.0	.0	1.9	.0	.5
6	11.2	5.0	8.1	---	---	---	.0	.0	.0	2.2	.0	.6
7	9.7	5.4	7.9	5.1	---	---	.0	.0	.0	1.3	.0	.3
8	---	5.4	---	3.9	.2	2.2	.0	.0	.0	2.2	.0	.6
9	9.4	2.1	5.6	2.8	.2	1.7	.0	.0	.0	2.2	.0	.5
10	9.0	3.5	6.3	3.2	.0	1.2	.0	.0	.0	2.6	.0	.8
11	8.9	6.2	7.5	3.2	.5	1.9	.0	.0	.0	2.9	.1	1.0
12	---	---	---	2.6	.0	.8	.0	.0	.0	2.9	.0	1.1
13	---	---	---	1.9	.0	.4	.0	.0	.0	3.0	.0	1.0
14	7.5	---	---	.1	.0	.0	.7	.0	.1	2.2	.0	.6
15	8.4	1.7	5.0	.0	.0	.0	.7	.0	.2	2.5	.0	.9
16	8.5	---	---	.0	.0	.0	1.1	.0	.2	2.5	.5	1.3
17	9.0	2.3	5.6	.1	.0	.0	2.0	.0	.5	1.9	.3	1.1
18	8.8	2.5	5.7	.5	.0	.1	1.7	.0	.5	2.9	.0	1.0
19	8.3	2.2	5.4	1.2	.0	.4	2.1	.0	.4	2.2	.0	.8
20	8.1	4.5	6.4	1.7	.0	.6	1.9	.0	.5	1.7	.0	.5
21	8.3	3.6	5.8	.0	.0	.0	1.6	.0	.3	1.7	.0	.3
22	7.8	1.9	4.8	.2	.0	.0	1.6	.0	.4	1.5	.0	.3
23	6.4	1.8	4.1	.4	.0	.1	2.0	.0	.5	2.1	.0	.6
24	---	---	---	1.2	.0	.3	.3	.0	.0	3.1	.0	1.0
25	---	---	---	1.1	.0	.2	1.5	.0	.3	2.5	.0	1.0
26	---	---	---	.5	.0	.1	1.4	.0	.2	2.9	.0	.8
27	---	---	---	1.2	.0	.2	.6	.0	.1	3.0	.0	.9
28	---	---	---	1.0	.0	.2	.0	.0	.0	3.2	.0	1.0
29	---	.0	---	.2	.0	.0	1.7	.0	.6	3.3	.0	.9
30	5.6	.7	3.2	.0	.0	.0	2.1	.2	.9	2.7	.0	.9
31	---	---	---	---	---	---	2.4	.0	.7	2.3	.0	.7
MONTH	---	---	---	---	---	---	2.4	.0	.2	3.3	.0	.8
	FEBRUARY			MARCH			APRIL			MAY		
1	2.8	.0	.6	.0	.0	.0	7.2	.0	3.2	10.9	2.8	6.8
2	2.5	.0	.7	.1	.0	.0	4.6	.0	2.2	11.5	3.4	7.3
3	2.4	.0	.9	1.9	.0	.5	6.6	.0	3.0	12.9	3.3	8.0
4	2.1	.0	1.1	1.8	.0	.5	9.2	.6	4.7	12.0	2.8	7.2
5	2.7	.0	1.1	2.8	.0	.7	9.1	1.0	5.0	10.7	3.7	7.0
6	3.6	.0	1.2	2.6	.0	.6	5.9	1.3	3.8	8.9	4.6	6.7
7	2.6	.0	.9	1.2	.0	.3	7.1	.0	3.3	8.5	5.7	6.9
8	3.0	.0	1.0	1.4	.0	.3	7.4	.9	3.9	9.5	3.0	6.3
9	3.2	.0	1.0	2.7	.0	.5	7.1	.0	3.5	9.9	4.6	7.1
10	3.0	.0	.7	1.7	.0	.4	9.6	.1	4.8	12.0	5.1	8.2
11	1.8	.0	.5	2.6	.0	.6	8.8	.9	5.2	11.6	4.6	8.0
12	3.1	.0	.8	3.4	.0	.9	9.6	1.7	5.5	11.0	4.2	7.6
13	3.6	.0	1.1	3.3	.0	.9	9.0	1.1	4.9	11.3	4.3	7.8
14	3.4	.0	1.3	3.8	.0	1.1	7.1	1.8	4.2	10.2	5.4	7.4
15	3.3	.1	1.3	5.3	.0	1.5	7.4	.2	3.1	10.6	3.5	6.8
16	2.7	.7	1.4	4.0	.2	1.5	6.9	.0	3.0	11.1	3.9	7.5
17	3.7	.0	1.1	3.5	.0	1.3	8.6	.0	3.7	12.2	4.9	8.4
18	2.7	.0	.8	.6	.0	.1	8.2	1.0	4.2	10.6	6.0	8.5
19	3.0	.0	.8	2.4	.0	.5	8.2	.0	3.9	11.3	6.1	8.7
20	2.6	.0	.6	3.6	.0	.9	9.8	1.6	5.4	11.3	6.4	8.9
21	3.3	.0	.9	3.4	.0	.9	10.6	1.4	5.9	10.6	7.5	8.9
22	3.7	.0	1.2	5.2	.0	1.7	11.8	1.1	6.5	9.1	6.5	8.1
23	2.3	.0	1.0	5.6	.2	1.9	12.2	1.9	7.2	10.7	6.3	8.4
24	1.8	.0	.6	6.9	.5	3.0	11.2	2.6	7.1	9.4	7.1	8.3
25	2.0	.0	.4	7.3	1.4	3.9	8.9	3.6	6.3	10.7	6.5	8.6
26	.5	.0	.1	5.0	2.0	3.5	6.9	2.5	4.7	9.9	7.4	8.7
27	.0	.0	.0	7.4	2.0	4.2	10.0	.9	5.2	11.5	6.7	9.0
28	.3	.0	.0	4.4	.9	3.1	11.2	3.0	6.8	12.5	7.8	10.2
29	---	---	---	5.4	1.1	3.1	11.7	2.1	6.9	12.2	8.3	10.4
30	---	---	---	3.6	.0	1.6	10.4	2.6	6.8	11.6	8.5	10.1
31	---	---	---	6.2	.0	2.4	---	---	---	12.0	8.0	10.1
MONTH	3.7	.0	.8	7.4	.0	1.4	12.2	.0	4.8	12.9	2.8	8.1

ARKANSAS RIVER BASIN

07086000 ARKANSAS RIVER AT GRANITE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	12.4	8.7	10.6	14.2	10.7	12.5	15.4	13.5	14.5	13.6	11.5	12.4
2	12.6	8.8	10.7	14.0	10.8	12.4	16.3	12.3	14.4	17.2	10.2	13.3
3	11.7	9.0	10.5	13.2	10.4	11.8	16.3	13.2	14.6	17.6	9.9	13.7
4	11.1	8.7	9.9	13.1	10.5	11.8	15.0	11.9	13.6	17.4	9.8	13.6
5	10.0	8.4	9.2	13.9	10.9	12.3	17.4	12.7	14.8	17.8	9.8	13.9
6	10.9	6.7	8.9	13.1	11.3	12.1	17.3	13.1	15.2	18.1	9.9	14.0
7	10.1	7.7	9.1	13.0	11.4	12.1	17.3	13.3	15.4	18.0	9.9	13.9
8	11.6	7.2	9.3	13.7	10.9	12.1	16.7	13.8	15.3	16.7	10.0	13.6
9	12.4	7.6	10.0	13.3	11.2	12.2	17.1	14.6	15.6	15.9	10.3	13.2
10	11.2	8.0	9.6	14.0	11.1	12.4	16.2	14.5	15.4	16.0	9.2	12.9
11	12.3	7.9	9.9	14.7	10.1	12.4	16.2	14.2	15.1	16.5	9.8	13.3
12	13.1	8.7	10.9	15.4	10.4	12.9	16.7	13.2	14.7	15.6	11.6	13.4
13	12.0	9.7	10.8	14.4	11.0	12.9	16.1	12.7	14.4	14.9	9.1	12.1
14	11.3	9.0	10.1	15.4	11.0	13.2	16.0	12.3	13.9	16.6	9.6	12.8
15	12.0	8.0	9.9	15.4	11.6	13.4	16.4	12.0	14.0	16.5	10.1	13.2
16	12.1	9.1	10.7	16.0	11.2	13.5	15.8	12.6	14.2	14.3	9.1	12.1
17	11.4	9.0	10.1	17.4	12.2	14.6	16.1	12.6	14.3	15.7	7.7	11.9
18	12.4	8.4	10.3	17.5	11.9	14.8	16.3	13.0	14.5	16.2	8.2	12.4
19	14.0	8.3	11.1	15.3	12.3	13.7	16.8	12.1	14.4	16.1	8.6	12.4
20	13.9	9.2	11.6	16.6	11.4	13.8	17.3	11.7	14.3	14.8	7.1	11.0
21	13.0	9.6	11.4	15.6	11.0	13.4	15.6	12.0	13.9	14.4	6.9	10.7
22	14.2	9.0	11.5	16.6	12.5	14.1	17.7	11.0	14.2	14.6	7.0	10.9
23	13.4	9.4	11.6	15.9	12.7	14.1	18.5	11.1	14.6	15.5	9.3	12.0
24	13.1	9.4	11.3	15.9	12.2	14.1	15.0	11.7	13.6	15.1	7.8	11.5
25	13.6	9.5	11.6	15.9	12.6	14.2	16.0	11.5	13.5	14.6	7.1	11.0
26	14.0	9.8	11.9	15.2	12.5	13.6	16.9	10.8	13.9	14.2	6.8	10.5
27	14.3	9.5	11.8	17.5	11.7	14.4	16.9	11.4	14.0	13.7	5.8	9.9
28	14.8	9.7	12.2	15.9	13.0	14.4	17.8	9.1	13.4	14.2	6.0	10.2
29	15.1	10.6	12.9	15.9	13.1	14.5	17.9	11.8	14.8	13.2	9.1	11.5
30	14.3	11.6	13.1	15.8	12.6	14.5	18.1	12.2	14.8	13.5	8.0	10.9
31	---	---	---	16.3	13.4	14.8	15.1	11.8	13.3	---	---	---
MONTH	15.1	6.7	10.8	17.5	10.1	13.3	18.5	9.1	14.4	18.1	5.8	12.3

07091200 ARKANSAS RIVER NEAR NATHROP, CO

LOCATION.--Lat 38°39'08", long 106°03'02", in SE¼SW¼ sec.23, T.51 N., R.8 E., Chaffee County, Hydrologic Unit 11020001, on right bank 300 ft upstream from end of Chaffee County Road 194 in Browns Canyon, 3.7 mi downstream from Browns Creek, 6.7 mi south of Nathrop, and 9 mi north of Salida.

DRAINAGE AREA.--1,060 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to September 1982. April 1989 to September 1993. October 1993 to current year (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 7,350 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), storage reservoirs, power development, diversions for irrigation of about 15,000 acres, and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,540 ft³/s, July 14, 1995, gage height, 8.63 ft, maximum gage height, 9.94 ft, Aug. 31, 1978, backwater from unnamed tributary; minimum daily discharge, 95 ft³/s, Feb. 25-27, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 2,960 ft³/s, July 1, gage height, 7.15 ft; minimum daily discharge, 227 ft³/s, April 20-21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	400	---	---	---	---	---	231	262	1690	2830	1200	495
2	e400	---	---	---	---	---	230	281	2120	2670	1210	485
3	---	---	---	---	---	---	230	298	2230	2580	1100	430
4	---	---	---	---	---	e241	233	324	2180	2510	870	390
5	---	---	---	---	---	241	234	392	1620	2460	981	377
6	---	---	---	---	---	241	232	399	1190	2360	968	359
7	---	---	---	---	---	241	230	421	987	2470	949	341
8	---	---	---	---	---	241	230	366	888	2410	1010	330
9	---	---	---	---	---	241	230	382	968	2220	1010	323
10	---	---	---	---	---	241	230	392	1090	2390	1020	322
11	---	---	---	---	---	241	232	412	1200	2140	1020	320
12	---	---	---	---	---	241	241	418	1190	2010	1050	331
13	---	---	---	---	---	237	245	430	1270	2000	908	365
14	---	---	---	---	---	235	239	477	1410	1860	801	350
15	---	---	---	---	---	235	235	503	1310	1880	791	351
16	---	---	---	---	---	235	238	434	1210	1450	739	349
17	---	---	---	---	---	235	231	459	1160	1030	720	358
18	---	---	---	---	---	234	230	495	1110	828	730	353
19	---	---	---	---	---	232	230	676	954	781	520	403
20	---	---	---	---	---	232	227	706	1120	766	449	413
21	---	---	---	---	---	232	227	839	1210	709	467	331
22	---	---	---	---	---	232	230	959	1220	669	462	328
23	---	---	---	---	---	232	240	932	1650	745	445	323
24	---	---	---	---	---	232	264	912	2480	850	444	322
25	---	---	---	---	---	237	280	905	2430	961	455	304
26	---	---	---	---	---	240	272	975	2550	989	460	299
27	---	---	---	---	---	232	255	1090	2520	966	439	295
28	---	---	---	---	---	232	245	1180	2650	853	421	294
29	---	---	---	---	---	232	239	1280	2600	1090	511	277
30	---	---	---	---	---	232	245	1430	2680	1110	503	288
31	---	---	---	---	---	232	---	1530	---	1170	491	---
TOTAL	---	---	---	---	---	---	7155	20559	48887	49757	23144	10506
MEAN	---	---	---	---	---	---	239	663	1630	1605	747	350
MAX	---	---	---	---	---	---	280	1530	2680	2830	1210	495
MIN	---	---	---	---	---	---	227	262	888	669	421	277
AC-FT	---	---	---	---	---	---	14190	40780	96970	98690	45910	20840

e-Estimated.

07091200 ARKANSAS RIVER NEAR NATHROP, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	12.9	6.0	9.7
2	---	---	---	---	---	---	---	---	---	12.7	7.1	10.3
3	---	---	---	---	---	---	13.0	---	---	13.8	7.6	11.0
4	---	---	---	---	---	---	11.9	1.3	5.7	13.0	8.0	10.9
5	---	---	---	---	---	---	12.7	1.6	5.8	12.5	8.7	10.8
6	---	---	---	---	---	---	9.8	2.4	4.8	12.8	8.8	10.5
7	---	---	---	---	---	---	8.5	2.2	3.8	11.4	7.0	9.5
8	---	---	---	---	---	---	11.4	2.6	5.2	11.7	6.3	9.2
9	---	---	---	---	---	---	14.0	2.8	5.5	12.7	7.0	10.2
10	---	---	---	---	---	---	14.5	3.2	6.6	14.6	9.0	11.7
11	---	---	---	---	---	---	14.8	3.5	7.4	14.3	9.0	11.7
12	---	---	---	---	---	---	13.1	4.6	7.5	13.5	7.9	10.9
13	---	---	---	---	---	---	11.9	4.7	7.2	13.4	8.5	11.2
14	---	---	---	---	---	---	9.7	4.8	6.4	11.7	9.1	10.6
15	---	---	---	---	---	---	12.6	4.1	6.2	11.7	7.2	9.8
16	---	---	---	---	---	---	6.5	4.2	5.2	12.3	7.7	10.4
17	---	---	---	---	---	---	13.6	4.1	6.8	13.0	8.2	10.9
18	---	---	---	---	---	---	13.9	4.7	7.0	12.2	9.4	11.0
19	---	---	---	---	---	---	15.8	4.2	7.9	12.6	9.7	11.2
20	---	---	---	---	---	---	15.6	5.1	8.5	12.3	10.2	11.4
21	---	---	---	---	---	---	17.4	5.6	9.1	12.4	10.5	11.4
22	---	---	---	---	---	---	16.2	4.7	9.1	11.4	9.4	10.5
23	---	---	---	---	---	---	14.4	5.6	9.6	11.4	8.4	10.0
24	---	---	---	---	---	---	13.5	7.1	10.1	11.0	9.6	10.1
25	---	---	---	---	---	---	11.8	8.5	10.0	11.8	8.4	10.0
26	---	---	---	---	---	---	9.3	7.1	8.3	11.8	10.2	11.1
27	---	---	---	---	---	---	12.6	6.0	9.0	12.2	9.3	10.8
28	---	---	---	---	---	---	13.2	6.9	9.2	12.7	10.1	11.4
29	---	---	---	---	---	---	14.9	4.6	9.4	12.8	10.5	11.8
30	---	---	---	---	---	---	13.4	5.2	9.4	12.7	10.6	11.7
31	---	---	---	---	---	---	---	---	---	11.8	9.8	10.9
MONTH	---	---	---	---	---	---	---	---	---	14.6	6.0	10.7
	JUNE			JULY			AUGUST			SEPTEMBER		
1	12.8	10.3	11.6	14.4	12.8	13.6	14.5	13.8	14.0	13.8	12.7	13.2
2	12.7	10.4	11.7	13.9	13.0	13.6	13.9	12.9	13.5	14.6	11.8	13.2
3	12.5	10.4	11.6	13.8	12.5	13.1	14.2	13.1	13.7	15.3	12.5	14.1
4	11.9	10.3	10.9	13.2	12.3	13.2	13.9	13.0	13.5	20.5	12.3	16.0
5	11.3	9.9	10.6	13.7	12.4	13.2	14.7	12.9	13.6	20.2	12.3	16.0
6	10.9	9.1	10.1	13.6	12.9	13.1	14.9	13.7	14.3	19.9	11.6	15.8
7	11.6	10.0	10.8	13.4	12.7	13.1	15.1	13.7	14.4	19.5	12.3	15.7
8	12.1	9.5	10.8	13.5	12.3	13.0	15.0	13.8	14.5	20.6	12.2	15.8
9	12.3	10.5	11.5	13.7	12.7	13.2	14.7	13.6	14.2	20.0	12.5	15.6
10	11.9	10.4	11.1	13.8	12.6	13.3	14.7	13.8	14.1	19.2	12.3	15.5
11	12.3	10.0	11.1	13.9	12.4	13.3	14.1	13.2	13.7	19.8	12.1	15.0
12	13.0	10.5	11.7	14.1	12.8	13.6	16.1	13.2	14.7	15.4	13.5	14.5
13	12.7	11.3	12.0	14.4	13.0	13.8	15.4	13.9	14.8	15.9	11.8	14.1
14	12.0	10.6	11.2	14.4	12.7	13.6	15.5	13.4	14.4	15.4	11.5	13.7
15	12.4	9.6	10.9	14.5	13.3	14.0	15.0	12.9	14.0	16.5	12.0	14.4
16	12.7	10.6	11.4	14.4	13.2	14.0	15.5	13.6	14.5	15.1	11.5	13.8
17	12.5	10.6	11.4	15.3	13.4	14.3	15.9	13.7	14.8	15.9	10.8	13.7
18	12.6	9.8	11.2	15.6	13.9	14.8	16.2	13.8	15.0	15.6	11.1	13.9
19	13.4	10.8	12.1	15.2	14.2	14.8	15.6	13.8	14.9	15.6	11.6	13.8
20	13.5	11.5	12.6	14.8	13.5	14.2	16.0	14.1	15.2	14.6	10.8	13.1
21	13.2	11.6	12.5	15.0	13.5	14.2	15.4	14.2	14.9	14.1	9.9	12.3
22	13.5	11.5	12.6	14.6	13.7	14.1	16.0	14.1	15.1	14.9	10.8	12.8
23	13.5	11.4	12.5	14.9	13.8	14.3	16.3	14.0	15.3	15.0	10.8	13.2
24	13.2	11.4	12.4	14.8	13.9	14.4	15.8	14.1	15.1	15.4	10.5	13.2
25	13.4	11.2	12.4	14.7	13.9	14.3	15.6	13.4	14.4	14.4	9.7	12.2
26	13.6	11.6	12.7	14.4	13.7	14.0	15.9	12.7	14.5	13.9	8.7	11.5
27	13.7	11.9	12.9	14.8	13.2	13.9	15.7	13.6	14.8	13.7	7.8	11.0
28	13.9	12.1	13.1	14.9	14.1	14.5	15.8	12.4	14.4	15.5	7.4	11.5
29	14.4	12.5	13.5	14.8	13.8	14.3	15.9	13.3	14.8	16.7	9.1	12.4
30	14.8	13.8	14.3	14.7	13.7	14.2	16.1	13.7	15.0	16.7	9.5	12.6
31	---	---	---	14.6	13.9	14.3	15.8	13.5	14.5	---	---	---
MONTH	14.8	9.1	11.8	15.6	12.3	13.8	16.3	12.4	14.5	20.6	7.4	13.8

07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO

LOCATION.--Lat 38°39'32", long 105°48'48", in SE¼SE¼ sec.13, T.51 N., R.10 E. (revised), Fremont County, Hydrologic Unit 11020001, on left bank 0.1 mi downstream from County Road 2, 1.0 mi upstream from Steer Creek, 14.3 mi north of Howard, and 14.6 mi upstream from mouth.

DRAINAGE AREA.--106 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1989 to current year (seasonal records only). Records for December 1980 to September 1986 (continuous records) and October 1986 to October 1988 (seasonal records only), at site 0.2 mi downstream, not equivalent because of seepage at that site.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 8,790 ft above sea level, from topographic map. Prior to Oct. 28, 1988 at site 0.2 mi downstream, at different datum. Mar. 24, 1989 to June 30, 1994 at site 0.1 mi downstream, at different datum. July 1, 1994 to Aug. 1, 1996 at site 60 ft upstream, at datum 1.00 ft higher.

REMARKS.--Records good except those below 0.50 ft³/s and above 5.0 ft³/s which are fair, and estimated daily discharges which are poor.

AVERAGE DISCHARGE.--5 years (water years 1981-86), 5.89 ft³/s; 4,270 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,360 ft³/s, Aug. 14, 1983, gage height, 8.22 ft, result of indirect determination of peak flow; no flow, July 17-23, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 230 ft³/s at 1715 Aug 25, gage height, 3.84 ft; minimum daily, 0.10 ft³/s, June 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.46	---	---	---	---	---	1.5	1.0	.25	.12	.63	e1.5
2	.47	---	---	---	---	---	.82	.85	.20	.13	.64	e1.3
3	.48	---	---	---	---	---	1.0	.81	.20	.14	.54	e1.2
4	.48	---	---	---	---	---	1.0	.75	.22	.65	.69	e1.1
5	.47	---	---	---	---	---	.90	.75	.29	.76	.86	e1.1
6	.48	---	---	---	---	---	.67	.75	.34	.49	.58	e.96
7	.48	---	---	---	---	---	.63	.70	.36	.70	.48	e.86
8	.54	---	---	---	---	---	.54	.69	.37	.81	.44	e.72
9	.55	---	---	---	---	---	.44	.72	.33	.69	.43	e.57
10	.55	---	---	---	---	---	.63	.67	.32	.70	.48	e.43
11	.90	---	---	---	---	---	.89	.60	.34	.68	.61	e.35
12	.98	---	---	---	---	---	1.0	.52	.30	.55	.61	.36
13	.77	---	---	---	---	---	.84	.51	.23	.50	.45	.44
14	.73	---	---	---	---	---	.85	.47	.25	.42	.41	.39
15	.66	---	---	---	---	---	.91	.48	.38	.36	.49	.36
16	.62	---	---	---	---	---	.97	.45	.32	.32	.44	.38
17	.61	---	---	---	---	---	.96	.44	.29	.29	.40	.40
18	.61	---	---	---	---	---	.82	.43	.27	.26	.38	.36
19	.61	---	---	---	---	---	.80	.49	.22	.24	.33	.33
20	.63	---	---	---	---	---	.80	.41	.18	.25	.47	.31
21	.62	---	---	---	---	---	.78	.40	.22	.24	.35	.33
22	.59	---	---	---	---	---	.82	.38	.35	12	.33	.35
23	.60	---	---	---	---	---	.86	.40	.25	5.2	.31	.33
24	.46	---	---	---	---	---	.99	.41	.20	.97	.30	.33
25	.31	---	---	---	---	---	2.0	.48	.18	1.1	17	.32
26	.35	---	---	---	---	---	1.3	.43	.16	1.0	e5.0	.30
27	.36	---	---	---	---	---	.90	.40	.12	.65	e4.1	.30
28	.45	---	---	---	---	---	.89	.36	.12	.56	e3.2	.32
29	.51	---	---	---	---	---	.84	.35	.10	2.6	e2.6	.33
30	.44	---	---	---	---	---	.84	.30	.11	.76	e2.1	.37
31	.59	---	---	---	---	---	---	.27	---	.69	e1.8	---
TOTAL	17.36	---	---	---	---	---	27.19	16.67	7.47	34.83	47.45	16.70
MEAN	.56	---	---	---	---	---	.91	.54	.25	1.12	1.53	.56
MAX	.98	---	---	---	---	---	2.0	1.0	.38	12	17	1.5
MIN	.31	---	---	---	---	---	.44	.27	.10	.12	.30	.30
AC-FT	34	---	---	---	---	---	54	33	15	69	94	33

e-Estimated.

**07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--February 1981 to October 1988 (seasonal record only) at site 1,000 ft downstream, not equivalent because of seepage at site. March 1989 to current year (seasonal record only).

PERIOD OF DAILY RECORD.--Daily sediment record June 1981 to October 1988 (seasonal only) at site 1,000 ft downstream, not equivalent because of seepage at site. Daily sediment record March 1989 to current year (seasonal only). Daily water temperature record March 1995 to current year (seasonal record only).

INSTRUMENTATION.--Pumping sediment sampler since June 1981. Water temperature probe with satellite telemetry.

REMARKS.--Records for water temperature are good. Records of daily sediment during period of seasonal operation (Apr. 1 to June 3) are fair except for estimated sediment discharge, which are poor. Daily water temperature data that are not published during period of seasonal operation (Oct. 1 to Nov. 3 and Apr. 1 to Sept. 30) are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum during period of seasonal operation, 30.7°C, July 28, 1995 and July 18, 1998, minimum, 0.0°C, Oct. 7, 15, 19, 29, 1995, and Apr. 30, 1996.

SEDIMENT CONCENTRATIONS: Maximum daily during period of seasonal operation, 25,800 mg/L, Aug. 20, 1982; minimum daily, 0 mg/L, many days.

SEDIMENT LOADS: Maximum daily during period of seasonal operation, 15,600 tons, Aug. 14, 1983; minimum daily, 0 ton, many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum during period of seasonal operation, 30.7°C, July 18; minimum, 0.1°C, several days.

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 249 mg/L, Apr. 25; minimum daily mean, 17 mg/L, May 14, 18.

SEDIMENT LOADS: Maximum daily during period of seasonal operation, 1.4 tons, Apr. 25; minimum daily, 0.01 ton, June 2-3.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI-MENT, SUS-PENDE (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDE (T/DAY) (80155)
MAR 31...	1220	0.39	107	0.11
APR 10...	1130	0.20	38	0.02
APR 24...	1230	1.0	48	0.13
MAY 15...	1200	0.46	16	0.02
JUN 03...	1000	0.20	28	0.02

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)
OCT 1997 07...	1115	0.49	425	9.0	JUN 1998 03...	1000	0.20	412	12.5
NOV 04...	0930	0.46	460	0.0	NOV 30...	0800	0.11	441	14.0
MAR 1998 31...	1230	0.39	388	3.0	AUG 25...	1230	0.31	395	20.0
APR 10...	1230	0.20	417	9.5	SEP 02...	0900	1.4	447	11.0
APR 24...	1415	1.0	393	17.0	SEP 11...	1215	0.32	414	16.5
MAY 15...	1200	0.46	408	13.5					

07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20.9	4.6	11.4	7.1	.1	1.3	---	---	---	---	---	---
2	17.6	4.6	10.4	4.5	.1	.8	---	---	---	---	---	---
3	19.3	6.5	11.0	6.1	.1	1.3	---	---	---	---	---	---
4	18.6	2.5	9.1	---	---	---	---	---	---	---	---	---
5	18.0	1.4	8.4	---	---	---	---	---	---	---	---	---
6	18.0	2.0	8.5	---	---	---	---	---	---	---	---	---
7	11.5	3.3	7.5	---	---	---	---	---	---	---	---	---
8	11.2	2.4	5.8	---	---	---	---	---	---	---	---	---
9	14.9	.3	5.5	---	---	---	---	---	---	---	---	---
10	14.6	1.3	7.1	---	---	---	---	---	---	---	---	---
11	9.9	5.7	7.7	---	---	---	---	---	---	---	---	---
12	6.2	.2	3.6	---	---	---	---	---	---	---	---	---
13	10.8	.2	3.4	---	---	---	---	---	---	---	---	---
14	13.5	.2	5.1	---	---	---	---	---	---	---	---	---
15	14.1	.2	5.7	---	---	---	---	---	---	---	---	---
16	14.0	.2	6.1	---	---	---	---	---	---	---	---	---
17	15.1	.2	6.3	---	---	---	---	---	---	---	---	---
18	14.3	.4	6.2	---	---	---	---	---	---	---	---	---
19	13.8	.4	5.7	---	---	---	---	---	---	---	---	---
20	13.1	4.0	7.2	---	---	---	---	---	---	---	---	---
21	13.5	3.2	7.0	---	---	---	---	---	---	---	---	---
22	12.8	.3	4.7	---	---	---	---	---	---	---	---	---
23	9.7	.2	3.6	---	---	---	---	---	---	---	---	---
24	2.6	.2	.6	---	---	---	---	---	---	---	---	---
25	.3	.2	.3	---	---	---	---	---	---	---	---	---
26	.4	.1	.2	---	---	---	---	---	---	---	---	---
27	.3	.1	.2	---	---	---	---	---	---	---	---	---
28	.4	.1	.2	---	---	---	---	---	---	---	---	---
29	.4	.1	.2	---	---	---	---	---	---	---	---	---
30	2.2	.1	.7	---	---	---	---	---	---	---	---	---
31	4.6	.1	1.1	---	---	---	---	---	---	---	---	---
MONTH	20.9	.1	5.2	---	---	---	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	10.7	.2	3.9	12.8	.7	6.8
2	---	---	---	---	---	---	5.4	.3	1.9	19.2	.7	8.4
3	---	---	---	---	---	---	10.2	.4	3.4	18.3	.3	9.0
4	---	---	---	---	---	---	11.4	.5	5.0	20.6	.2	8.8
5	---	---	---	---	---	---	12.6	.5	5.6	16.1	1.4	7.9
6	---	---	---	---	---	---	9.2	.7	4.5	17.9	2.4	8.2
7	---	---	---	---	---	---	9.0	.7	3.4	14.7	.8	7.5
8	---	---	---	---	---	---	7.9	.7	2.9	12.9	2.1	7.4
9	---	---	---	---	---	---	11.8	.8	4.4	14.0	2.3	8.1
10	---	---	---	---	---	---	15.4	.9	6.2	19.8	4.3	10.4
11	---	---	---	---	---	---	15.8	.2	6.5	18.2	2.0	9.1
12	---	---	---	---	---	---	13.1	.3	5.8	18.7	.3	8.4
13	---	---	---	---	---	---	13.0	.3	5.3	19.6	1.9	9.9
14	---	---	---	---	---	---	14.3	.3	5.3	16.4	2.5	8.1
15	---	---	---	---	---	---	5.4	.3	1.8	19.6	.2	8.7
16	---	---	---	---	---	---	10.3	.4	3.4	18.8	.2	8.3
17	---	---	---	---	---	---	9.4	.4	3.8	20.7	1.8	10.1
18	---	---	---	---	---	---	13.8	.4	5.0	15.2	2.1	8.6
19	---	---	---	---	---	---	13.6	.4	5.5	18.9	1.2	10.0
20	---	---	---	---	---	---	10.9	.5	5.2	17.8	2.5	9.7
21	---	---	---	---	---	---	16.9	.5	7.6	21.4	5.0	11.3
22	---	---	---	---	---	---	19.6	.4	8.5	19.4	1.0	9.4
23	---	---	---	---	---	---	18.6	.8	9.0	21.0	.6	10.0
24	---	---	---	---	---	---	17.2	2.9	9.1	17.0	2.5	8.6
25	---	---	---	---	---	---	14.0	2.3	6.9	22.5	2.8	10.6
26	---	---	---	---	---	---	5.6	1.7	4.1	19.7	5.3	11.2
27	---	---	---	---	---	---	15.6	.2	6.5	23.7	3.6	12.4
28	---	---	---	---	---	---	16.5	2.6	7.7	21.7	3.0	12.0
29	---	---	---	---	---	---	18.5	.2	7.5	23.0	3.6	12.1
30	---	---	---	---	---	---	18.1	.2	7.8	23.4	5.7	13.2
31	---	---	---	---	---	---	---	---	---	21.4	2.8	11.8
MONTH	---	---	---	---	---	---	19.6	.2	5.4	23.7	.2	9.5

07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---
	APRIL			MAY			JUNE		
1	1.5	114	.46	1.0	---	e.21	.25	32	.02
2	.82	115	.25	.85	52	.12	.20	21	.01
3	1.0	74	.20	.81	34	.07	.20	26	.01
4	1.0	87	.25	.75	36	.07	.22	---	---
5	.90	135	.33	.75	30	.06	.29	---	---
6	.67	85	.16	.75	---	e.06	.34	---	---
7	.63	58	.10	.70	32	.06	.36	---	---
8	.54	86	.13	.69	27	.05	.37	---	---
9	.44	49	.06	.72	21	.04	.33	---	---
10	.63	52	.10	.67	22	.04	.32	---	---
11	.89	112	.27	.60	---	e.04	.34	---	---
12	1.0	72	.21	.52	22	.03	.30	---	---
13	.84	57	.14	.51	18	.03	.23	---	---
14	.85	104	.24	.47	17	.02	.25	---	---
15	.91	74	.18	.48	24	.03	.38	---	---
16	.97	67	.18	.45	---	e.04	.32	---	---
17	.96	78	.20	.44	19	.02	.29	---	---
18	.82	62	.14	.43	17	.02	.27	---	---
19	.80	41	.09	.49	26	.03	.22	---	---
20	.80	52	.11	.41	21	.02	.18	---	---
21	.78	33	.07	.40	---	e.02	.22	---	---
22	.82	42	.09	.38	22	.02	.35	---	---
23	.86	46	.11	.40	18	.02	.25	---	---
24	.99	46	.12	.41	27	.03	.20	---	---
25	2.0	249	1.4	.48	35	.05	.18	---	---
26	1.3	---	e.47	.43	---	e.04	.16	---	---
27	.90	71	.17	.40	33	.04	.12	---	---
28	.89	56	.14	.36	30	.03	.12	---	---
29	.84	59	.13	.35	31	.03	.10	---	---
30	.84	79	.18	.30	36	.03	.11	---	---
31	---	---	---	.27	---	e.03	---	---	---
TOTAL	27.19	---	6.68	16.67	---	1.40	7.47	---	---

e-Estimated.

ARKANSAS RIVER BASIN

07093740 BADGER CREEK, UPPER STATION, NEAR HOWARD, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.12	---	---	.63	---	---	e1.5	---	---
2	.13	---	---	.64	---	---	e1.3	---	---
3	.14	---	---	.54	---	---	e1.2	---	---
4	.65	---	---	.69	---	---	e1.1	---	---
5	.76	---	---	.86	---	---	e1.1	---	---
6	.49	---	---	.58	---	---	e.96	---	---
7	.70	---	---	.48	---	---	e.86	---	---
8	.81	---	---	.44	---	---	e.72	---	---
9	.69	---	---	.43	---	---	e.57	---	---
10	.70	---	---	.48	---	---	e.43	---	---
11	.68	---	---	.61	---	---	e.35	---	---
12	.55	---	---	.61	---	---	.36	---	---
13	.50	---	---	.45	---	---	.44	---	---
14	.42	---	---	.41	---	---	.39	---	---
15	.36	---	---	.49	---	---	.36	---	---
16	.32	---	---	.44	---	---	.38	---	---
17	.29	---	---	.40	---	---	.40	---	---
18	.26	---	---	.38	---	---	.36	---	---
19	.24	---	---	.33	---	---	.33	---	---
20	.25	---	---	.47	---	---	.31	---	---
21	.24	---	---	.35	---	---	.33	---	---
22	12	---	---	.33	---	---	.35	---	---
23	5.2	---	---	.31	---	---	.33	---	---
24	.97	---	---	.30	---	---	.33	---	---
25	1.1	---	---	17	---	---	.32	---	---
26	1.0	---	---	e5.0	---	---	.30	---	---
27	.65	---	---	e4.1	---	---	.30	---	---
28	.56	---	---	e3.2	---	---	.32	---	---
29	2.6	---	---	e2.6	---	---	.33	---	---
30	.76	---	---	e2.1	---	---	.37	---	---
31	.69	---	---	e1.8	---	---	---	---	---
TOTAL	34.83	---	---	47.45	---	---	16.70	---	---

e-Estimated.

07093775 BADGER CREEK, LOWER STATION, NEAR HOWARD, CO

LOCATION.--Lat 38°28'02", long 105°51'34", in SW¹/₄SW¹/₄ sec.27, T.49 N., R.10 E., Fremont County, Hydrologic Unit 11020001, on left bank 660 ft upstream from Denver and Rio Grande Railroad bridge, 960 ft upstream from mouth, and 1.9 mi northwest of Howard.

DRAINAGE AREA.--211 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1980 to September 1996, October 1996 to current year (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,780 ft above sea level, from topographic map. Prior to May 19, 1983, at site 360 ft downstream, at datum 5.07 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,990 ft³/s, July 8, 1996, from rating curve extended above 160 ft³/s on the basis of slope-area measurement of peak flow; gage height, 10.73 ft, from floodmarks; minimum daily, 0.56 ft³/s, Feb. 4, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 1,080 ft³/s, Aug. 20, gage height, 7.35 ft; minimum daily, 4.1 ft³/s, Sept. 20.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	---	---	---	---	---	8.2	9.1	5.5	5.0	e6.0	6.2
2	5.0	---	---	---	---	---	10	8.8	5.4	5.0	e5.4	5.8
3	5.1	---	---	---	---	---	9.2	8.6	5.2	5.2	e8.0	5.1
4	5.1	---	---	---	---	---	9.6	9.0	5.4	5.3	e5.6	5.9
5	5.2	---	---	---	---	---	9.6	8.9	5.8	5.6	e5.5	6.7
6	5.2	---	---	---	---	---	9.9	8.2	6.1	5.8	e5.5	6.5
7	5.3	---	---	---	---	---	9.5	7.8	6.1	6.4	e5.5	6.4
8	5.5	---	---	---	---	---	9.4	7.7	6.0	6.5	e5.5	6.3
9	5.5	---	---	---	---	---	9.2	7.7	5.8	6.3	e5.5	6.2
10	5.5	---	---	---	---	---	8.7	7.4	5.8	6.1	e5.5	6.4
11	6.3	---	---	---	---	---	9.0	7.2	5.8	5.9	e5.5	6.4
12	e6.1	---	---	---	---	---	10	7.1	5.4	5.7	e5.4	6.5
13	e6.0	---	---	---	---	e6.2	9.2	6.9	5.5	5.6	e5.4	6.7
14	e6.0	---	---	---	---	5.9	9.4	6.8	5.5	5.4	5.7	6.5
15	e5.9	---	---	---	---	5.9	9.4	6.9	5.8	5.4	5.4	7.0
16	e5.9	---	---	---	---	6.0	9.2	6.8	5.6	5.4	5.2	4.6
17	e5.8	---	---	---	---	6.2	8.8	6.7	5.5	5.3	5.2	4.5
18	e5.8	---	---	---	---	7.1	8.9	6.6	5.5	5.2	5.0	4.5
19	e5.8	---	---	---	---	7.2	8.4	6.7	5.2	e5.4	5.0	4.2
20	e5.7	---	---	---	---	6.7	8.4	6.6	5.1	e5.3	35	4.1
21	e5.7	---	---	---	---	6.6	8.1	6.3	5.0	5.2	8.5	4.2
22	e5.6	---	---	---	---	6.5	8.1	6.2	4.9	17	e6.5	4.4
23	e5.6	---	---	---	---	9.1	9.1	6.2	4.8	15	e6.0	4.3
24	e6.0	---	---	---	---	18	11	6.3	4.7	37	e5.8	4.3
25	4.4	---	---	---	---	19	11	6.4	4.6	9.7	e5.8	4.2
26	4.7	---	---	---	---	14	11	6.3	4.5	8.4	8.9	4.2
27	5.3	---	---	---	---	8.2	9.0	6.1	4.4	e7.2	6.3	4.2
28	5.7	---	---	---	---	6.7	8.6	5.8	4.4	e7.0	6.0	4.2
29	5.7	---	---	---	---	6.7	8.6	5.7	4.3	e6.9	5.8	4.3
30	5.6	---	---	---	---	6.2	9.0	5.6	4.6	e6.6	5.7	4.4
31	5.5	---	---	---	---	6.6	---	5.6	---	e6.3	6.2	---
TOTAL	171.4	---	---	---	---	---	277.5	218.0	158.2	238.1	212.3	159.2
MEAN	5.53	---	---	---	---	---	9.25	7.03	5.27	7.68	6.85	5.31
MAX	6.3	---	---	---	---	---	11	9.1	6.1	37	35	7.0
MIN	4.4	---	---	---	---	---	8.1	5.6	4.3	5.0	5.0	4.1
AC-FT	340	---	---	---	---	---	550	432	314	472	421	316

e--Estimated.

07094500 ARKANSAS RIVER AT PARKDALE, CO

LOCATION.--Lat 38°29'14", long 105°22'23", in NE¹/₄NW¹/₄ sec.18, T.18 S., R.71 W., Fremont County, Hydrologic Unit 11020001, on left bank at Parkdale, 100 ft upstream from Bumback Gulch, 300 ft upstream from bridge on U.S. Highway 50, and 0.9 mi upstream from Copper Gulch.

DRAINAGE AREA.--2,548 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to September 1955, October 1964 to September 1994, April 1995 to current year (seasonal records only). Monthly discharge only for October 1945 to May 1946, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,720 ft above sea level, from topographic map. Prior to Oct. 1, 1964, at site 600 ft downstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, diversions for irrigation of about 35,000 acres upstream from station, and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,830 ft³/s, June 18, 1995, gage height 8.82 ft; maximum gage height, 9.13 ft, June 9, 1985; minimum daily, 199 ft³/s, Mar. 17, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 3,170 ft³/s, July 1, gage height, 5.77 ft; minimum daily, 288 ft³/s, May 1.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	548	---	---	---	---	---	367	288	1780	3030	1330	593
2	500	---	---	---	---	---	360	303	2190	2940	1380	564
3	494	---	---	---	---	---	369	315	2440	2810	1300	536
4	499	---	---	---	---	---	358	329	2560	2700	1210	471
5	489	---	---	---	---	---	351	364	2100	2700	1100	437
6	468	---	---	---	---	---	344	436	1590	2500	1140	420
7	e459	---	---	---	---	---	336	430	1290	2700	1080	401
8	---	---	---	---	---	---	329	438	1130	2800	1100	382
9	---	---	---	---	---	---	332	407	1070	2570	1130	368
10	---	---	---	---	---	---	327	416	1140	2650	1140	363
11	---	---	---	---	---	---	311	420	1320	2530	1170	368
12	---	---	---	---	---	e355	311	444	1330	2200	1170	367
13	---	---	---	---	---	360	329	452	1340	2170	1110	398
14	---	---	---	---	---	361	328	476	1490	2020	994	418
15	---	---	---	---	---	361	324	558	1480	2010	940	398
16	---	---	---	---	---	363	331	541	1390	1780	910	417
17	---	---	---	---	---	368	328	476	1300	1370	883	401
18	---	---	---	---	---	388	324	512	1280	1080	862	402
19	---	---	---	---	---	391	319	633	1140	930	785	389
20	---	---	---	---	---	359	317	782	1120	898	663	439
21	---	---	---	---	---	360	321	841	1310	863	670	427
22	---	---	---	---	---	370	299	1070	1330	823	604	373
23	---	---	---	---	---	406	310	1160	1470	905	558	369
24	---	---	---	---	---	422	309	1090	2280	1070	528	366
25	---	---	---	---	---	477	329	1060	2570	1190	531	354
26	---	---	---	---	---	495	378	1050	2590	1170	574	334
27	---	---	---	---	---	493	359	1150	2600	1160	550	328
28	---	---	---	---	---	426	327	1280	2730	1080	529	328
29	---	---	---	---	---	416	299	1430	2790	1100	524	326
30	---	---	---	---	---	395	289	1570	2830	1270	592	320
31	---	---	---	---	---	e366	---	1710	---	1310	569	---
TOTAL	---	---	---	---	---	---	9915	22431	52980	56329	27626	12057
MEAN	---	---	---	---	---	---	331	724	1766	1817	891	402
MAX	---	---	---	---	---	---	378	1710	2830	3030	1380	593
MIN	---	---	---	---	---	---	289	288	1070	823	524	320
AC-FT	---	---	---	---	---	---	19670	44490	105100	111700	54800	23920

e-Estimated.

ARKANSAS RIVER BASIN
07094500 ARKANSAS RIVER AT PARKDALE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	10.7	5.1	7.8	13.1	5.4	10.3
2	---	---	---	---	---	---	8.4	5.1	6.9	15.4	11.1	13.1
3	---	---	---	---	---	---	9.9	3.8	6.7	17.6	11.3	14.3
4	---	---	---	---	---	---	12.1	5.8	8.8	18.0	12.4	14.9
5	---	---	---	---	---	---	12.9	7.4	9.9	17.9	13.2	15.0
6	---	---	---	---	---	---	11.2	7.9	9.4	15.9	12.3	14.0
7	---	---	---	---	---	---	9.4	5.4	7.5	16.8	12.2	14.3
8	---	---	---	---	---	---	11.3	6.6	7.9	15.5	11.7	13.0
9	---	---	---	---	---	---	11.3	5.7	8.2	16.1	10.3	13.2
10	---	---	---	---	---	---	13.0	5.9	9.2	17.9	12.3	15.1
11	---	---	---	---	---	---	14.9	7.3	10.5	17.4	12.6	14.9
12	---	---	---	---	---	---	13.0	8.0	9.9	17.4	12.9	15.2
13	---	---	---	8.8	3.0	5.8	13.4	6.5	9.6	17.7	13.1	15.3
14	---	---	---	9.9	4.7	7.0	14.4	8.3	10.4	16.6	12.8	14.5
15	---	---	---	10.7	5.3	7.8	8.6	4.0	7.1	15.8	11.1	13.4
16	---	---	---	9.5	7.6	8.4	6.9	4.5	5.5	15.8	12.1	14.0
17	---	---	---	11.5	7.1	8.7	10.9	4.0	6.7	16.8	12.3	14.5
18	---	---	---	8.4	5.5	6.9	11.6	6.2	8.0	16.9	13.3	15.0
19	---	---	---	8.7	5.1	6.8	12.5	5.6	8.5	17.0	12.8	14.7
20	---	---	---	10.2	5.5	7.8	12.4	7.6	9.1	16.2	13.3	14.8
21	---	---	---	11.0	6.6	8.6	15.2	7.2	10.6	16.7	13.5	15.0
22	---	---	---	11.7	6.9	9.1	16.1	6.9	10.9	15.3	12.2	13.9
23	---	---	---	12.6	8.3	10.4	17.9	7.4	12.7	15.4	12.5	14.0
24	---	---	---	13.7	9.1	11.4	18.0	9.6	13.3	14.8	12.6	13.8
25	---	---	---	14.1	9.5	11.4	15.5	9.4	12.3	15.0	11.4	13.3
26	---	---	---	13.3	9.3	11.0	11.8	8.3	10.0	16.4	13.2	14.8
27	---	---	---	12.8	9.4	10.7	14.0	7.1	10.3	16.8	13.2	15.0
28	---	---	---	12.3	7.6	9.8	16.4	9.5	12.2	17.2	13.8	15.5
29	---	---	---	10.7	4.4	8.0	16.5	6.9	11.3	16.7	13.6	15.3
30	---	---	---	7.3	1.5	3.6	16.4	4.4	10.3	16.7	13.9	15.4
31	---	---	---	9.4	.5	5.2	---	---	---	16.0	13.2	14.5
MONTH	---	---	---	---	---	---	18.0	3.8	9.4	18.0	5.4	14.3
	JUNE			JULY			AUGUST			SEPTEMBER		
1	16.7	13.3	14.9	18.7	16.2	17.4	19.5	17.8	18.5	19.7	17.0	18.2
2	17.0	13.8	15.4	17.9	15.3	16.7	19.1	16.2	17.7	20.7	15.5	18.0
3	16.2	13.7	14.9	17.4	14.9	16.4	19.2	16.5	17.9	22.8	16.9	19.5
4	14.8	13.1	13.9	17.1	14.6	15.9	18.3	16.8	17.6	23.4	16.2	19.5
5	13.6	11.7	12.7	17.8	15.2	16.5	20.1	16.8	18.4	---	---	---
6	14.1	11.9	13.1	17.0	15.4	16.2	21.2	17.5	19.4	---	---	---
7	15.3	12.2	13.9	16.5	15.3	16.0	21.3	18.0	19.7	---	---	---
8	15.9	12.5	14.3	17.2	15.0	16.0	21.3	17.9	19.6	---	---	---
9	16.8	13.5	15.2	18.7	15.3	16.7	20.3	17.8	19.1	21.4	---	---
10	16.0	13.5	14.5	18.3	15.6	16.7	19.1	17.5	18.3	21.3	16.9	19.0
11	16.1	12.7	14.5	18.3	15.5	16.9	18.8	16.4	17.6	21.3	17.3	19.0
12	17.6	13.5	15.5	18.4	16.0	17.3	20.0	16.9	18.3	20.4	17.1	18.7
13	17.0	14.9	15.8	18.8	15.7	17.4	19.9	16.7	18.3	19.8	16.0	18.1
14	16.5	13.6	15.0	18.4	16.3	17.5	20.0	15.9	17.9	19.9	16.1	17.9
15	15.5	13.2	14.5	19.2	16.2	17.7	18.9	16.1	17.5	19.8	16.0	17.9
16	16.8	13.4	14.9	19.5	16.7	18.2	18.9	16.0	17.7	19.6	15.9	17.4
17	16.2	13.5	15.0	20.5	16.5	18.7	19.7	16.5	18.3	19.1	14.7	17.0
18	16.5	11.9	14.4	22.0	17.8	19.8	20.9	17.8	19.2	19.9	15.7	17.8
19	18.2	14.0	16.1	20.3	17.8	19.2	20.5	18.0	19.2	19.9	16.1	18.0
20	18.5	15.1	16.8	21.2	17.2	19.0	22.5	17.5	19.8	18.8	16.4	17.6
21	18.7	15.0	17.0	21.1	17.6	19.3	20.5	15.1	18.8	18.1	15.6	16.9
22	18.9	15.2	17.2	21.6	18.1	19.6	21.8	18.1	20.0	18.5	15.1	16.7
23	18.0	15.0	16.6	20.5	17.5	19.2	23.4	18.2	20.7	18.4	14.9	16.5
24	16.9	14.4	15.7	21.7	16.3	19.1	24.2	18.6	20.8	18.6	14.4	16.6
25	17.2	13.6	15.5	19.9	14.6	18.5	22.8	18.8	20.0	18.0	14.5	16.3
26	17.8	14.0	15.8	20.6	18.2	19.2	22.2	17.4	19.7	17.6	13.7	15.6
27	18.4	14.5	16.4	20.5	17.5	19.0	22.8	18.2	20.2	16.8	13.3	15.1
28	18.7	14.8	16.8	20.6	18.4	19.4	22.7	17.2	20.0	17.2	13.3	15.3
29	18.8	15.6	17.2	21.7	17.8	19.9	22.9	17.2	19.9	17.8	14.4	16.1
30	18.5	16.2	17.5	20.5	18.5	19.6	21.8	17.6	19.7	18.0	15.0	16.3
31	---	---	---	20.4	17.4	19.0	21.6	17.7	19.5	---	---	---
MONTH	18.9	11.7	15.4	22.0	14.6	18.0	24.2	15.1	19.0	---	---	---

07096000 ARKANSAS RIVER AT CANON CITY, CO

LOCATION.--Lat 38°26'02", long 105°15'24", in SE¼SE¼ sec.31, T.18 S., R.72 W., Fremont County, Hydrologic Unit 11020002, on right bank 800 ft upstream from Sand Creek, 0.7 mi downstream from Grape Creek, and 0.7 mi upstream from First Street Bridge in Canon City.

DRAINAGE AREA.--3,117 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1888 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "near Canyon" 1900-1906.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1311: 1897-98.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,342.13 ft above sea level. See WSP 1711 or 1731 for history of changes prior to Oct. 1, 1957. Oct. 1, 1957 to Nov. 15, 1962, water-stage recorder at present site at datum 1.49 ft higher.

REMARKS.--No estimated daily discharges. Records good. Diversions for irrigation of about 250 acres upstream from station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	491	543	529	499	426	337	404	274	1650	2850	1270	474
2	448	505	543	496	401	342	403	256	2080	2780	1270	457
3	445	490	549	502	411	366	402	255	2380	2690	1180	432
4	444	483	502	497	411	376	401	249	2530	2600	1140	382
5	432	487	488	475	406	381	408	280	2060	2590	1010	359
6	410	480	486	463	406	376	384	338	1490	2400	1020	349
7	353	500	519	430	416	376	365	332	1140	2590	964	312
8	351	505	528	429	411	361	354	345	963	2750	974	295
9	394	522	515	455	406	356	351	321	903	2560	1010	285
10	387	538	507	454	401	351	359	332	972	2580	1060	284
11	450	525	491	487	391	356	341	322	1140	2500	1050	281
12	507	538	479	471	394	351	330	336	1160	2210	1050	286
13	490	544	484	458	401	361	335	349	1170	2180	990	306
14	476	542	504	445	406	376	334	366	1340	2020	879	322
15	452	527	511	431	410	391	337	419	1490	1990	782	304
16	490	470	520	458	420	416	330	407	1190	1750	758	318
17	480	476	509	480	415	447	312	353	1090	1280	710	301
18	437	518	522	452	420	501	317	359	1070	958	689	298
19	410	518	521	442	398	486	316	436	944	819	642	289
20	409	537	508	442	391	431	332	597	920	776	497	323
21	409	548	490	416	386	416	342	628	1110	712	648	320
22	393	524	480	411	406	426	310	814	1130	659	495	274
23	385	514	497	431	408	491	301	978	1280	753	449	273
24	400	504	464	437	421	590	291	936	2120	947	424	272
25	466	520	463	447	386	668	296	896	2450	1120	461	265
26	440	535	424	437	366	638	351	887	2490	1050	488	247
27	455	546	416	437	342	602	348	980	2520	1010	438	246
28	515	561	433	426	328	531	321	1090	2620	986	424	246
29	544	539	428	421	---	485	298	1260	2660	995	415	242
30	539	513	478	426	---	454	277	1430	2690	1170	476	235
31	544	---	530	431	---	410	---	1600	---	1300	450	---
TOTAL	13846	15552	15318	13986	11184	13449	10250	18425	48752	53575	24113	9277
MEAN	447	518	494	451	399	434	342	594	1625	1728	778	309
MAX	544	561	549	502	426	668	408	1600	2690	2850	1270	474
MIN	351	470	416	411	328	337	277	249	903	659	415	235
AC-FT	27460	30850	30380	27740	22180	26680	20330	36550	96700	106300	47830	18400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1889 - 1998, BY WATER YEAR (WY)

	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	374	378	370	345	342	352	428	1113	2295	1487	857	451																																																																																																		
MAX	1195	620	623	609	781	711	1120	2667	4286	5541	2134	1411																																																																																																		
(WY)	1912	1924	1983	1983	1985	1989	1942	1984	1980	1957	1957	1909																																																																																																		
MIN	167	180	204	195	217	176	108	243	481	230	217	188																																																																																																		
(WY)	1978	1940	1940	1979	1978	1904	1940	1977	1902	1902	1977	1931																																																																																																		

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1889 - 1998

ANNUAL TOTAL	368107	247727	
ANNUAL MEAN	1009	679	735
HIGHEST ANNUAL MEAN			1299
LOWEST ANNUAL MEAN			329
HIGHEST DAILY MEAN	4670	Jun 21	2850 Jul 1
LOWEST DAILY MEAN	339	May 5	235 Sep 30
ANNUAL SEVEN-DAY MINIMUM	370	Sep 14	250 Sep 24
INSTANTANEOUS PEAK FLOW			3630 Jul 8
INSTANTANEOUS PEAK STAGE			8.95 Jul 8
ANNUAL RUNOFF (AC-FT)	730100	491400	a19000 b,c10.70
10 PERCENT EXCEEDS	2330	1270	532400
50 PERCENT EXCEEDS	556	463	1730
90 PERCENT EXCEEDS	413	321	416
			240

a-Site and datum then in use, from rating curve extended above 5000 ft³/s.
b-From floodmark.
c-Maximum gage height, 10.90 ft, Jun 18, 1995.

**07096000 ARKANSAS RIVER AT CANON CITY, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--October 1993 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1993 to current year.

WATER TEMPERATURE: October 1993 to current year.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for specific conductance are good except for Nov. 19, Jan. 18-21, Mar. 26-27, Apr. 15-16, May 8, 12, 18-19, June 15, and July 20-21, which are poor. Records for water temperature are good except for Nov. 14 to Apr. 2, Apr. 15-16, May 8, 12, 18-19, June 15, July 20-21, and Sept. 26, which are poor. Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 673 microsiemens, July 10, 1996; minimum, 94 microsiemens, June 9, 1996.

WATER TEMPERATURE: Maximum, 22.5°C, Aug. 27, 1994; minimum, 0.0°C, many days during the winter.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 602 microsiemens, Sept. 17; minimum, 108 microsiemens, June 29, and July 1-2.

WATER TEMPERATURE: Maximum, 22.1°C, Aug. 23; minimum, 0.0°C, many days during the winter.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	281	266	272	296	291	294	301	293	296	279	269	275
2	293	281	287	296	294	295	300	295	297	279	274	277
3	300	293	297	300	295	297	296	290	294	284	278	281
4	306	300	303	300	293	297	303	290	296	285	279	281
5	303	299	301	296	290	293	320	297	308	286	279	282
6	307	301	303	293	290	291	321	307	316	287	278	283
7	312	307	310	298	293	296	314	290	303	297	275	284
8	315	307	310	298	295	297	297	287	292	305	279	288
9	315	304	308	296	293	295	294	291	293	299	284	290
10	310	305	307	296	291	294	294	291	293	291	276	284
11	310	298	305	297	290	293	306	293	299	281	270	274
12	309	300	302	295	288	291	325	303	313	274	268	270
13	301	296	298	296	284	289	317	307	313	271	265	268
14	298	293	295	299	288	292	307	292	299	265	259	263
15	300	294	297	311	292	300	292	280	287	268	253	260
16	300	293	296	306	291	297	285	279	282	268	255	261
17	303	297	300	311	304	306	281	273	279	265	259	262
18	306	300	303	307	287	298	281	276	279	263	256	258
19	310	302	306	313	284	294	286	277	282	---	---	---
20	309	300	305	287	283	285	289	281	285	280	273	279
21	305	294	300	289	283	286	290	283	286	273	243	258
22	305	299	301	295	280	287	294	278	285	265	225	244
23	306	291	300	302	284	292	292	284	288	277	242	256
24	303	295	299	301	291	296	299	284	290	267	248	255
25	299	290	296	301	297	300	308	290	299	262	252	256
26	301	288	293	300	295	298	313	286	299	264	249	254
27	310	297	301	301	295	298	319	295	306	264	248	255
28	306	294	298	297	293	295	318	302	312	265	247	255
29	296	289	292	299	294	296	311	291	300	266	246	256
30	292	289	290	302	294	298	300	286	292	269	248	259
31	295	291	293	---	---	---	286	276	280	270	260	265
MONTH	315	266	299	313	280	295	325	273	295	---	---	---

07096000 ARKANSAS RIVER AT CANON CITY, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	267	260	264	313	277	298	337	328	332	362	357	360
2	273	254	263	311	277	297	331	320	328	362	358	360
3	273	256	266	310	289	300	329	318	324	360	351	356
4	272	260	265	307	290	297	333	323	328	357	322	347
5	269	261	264	300	289	294	338	330	334	351	331	342
6	270	261	265	299	289	294	335	331	333	344	318	330
7	271	262	267	300	293	296	332	326	329	322	308	314
8	271	263	267	300	294	297	329	322	326	313	290	302
9	271	263	267	299	290	295	334	324	329	303	290	295
10	271	261	266	303	293	298	335	327	332	306	300	302
11	275	254	265	309	290	299	336	327	332	306	296	300
12	279	260	269	308	292	300	337	331	334	299	290	293
13	281	262	271	309	295	302	334	330	332	291	284	287
14	280	269	273	310	302	305	331	323	327	290	282	285
15	278	270	273	313	305	309	327	312	323	282	271	276
16	275	268	271	316	305	312	330	311	321	271	263	267
17	273	271	272	318	312	316	337	328	333	285	264	274
18	272	261	267	320	307	312	344	331	338	287	270	274
19	274	268	271	313	309	311	351	338	344	266	254	261
20	279	268	272	320	310	313	355	347	350	254	235	244
21	283	269	275	326	319	323	357	351	354	239	232	236
22	286	274	279	327	323	325	357	351	354	232	205	218
23	287	276	280	336	324	331	355	339	352	208	201	204
24	282	276	278	348	335	343	353	349	350	214	204	210
25	283	275	278	358	344	350	357	346	352	214	200	204
26	292	283	286	346	328	335	348	327	338	203	197	200
27	299	287	291	341	327	331	349	333	343	200	184	192
28	312	283	300	341	335	338	354	349	351	184	177	181
29	---	---	---	340	329	336	357	353	355	178	171	174
30	---	---	---	333	322	327	358	355	357	171	163	167
31	---	---	---	331	322	327	---	---	---	169	150	162
MONTH	312	254	272	358	277	313	358	311	338	362	150	265
	JUNE			JULY			AUGUST			SEPTEMBER		
1	154	149	152	114	108	112	209	172	199	284	270	275
2	149	132	144	111	108	110	209	201	204	290	279	285
3	136	130	133	113	110	111	205	200	202	294	283	288
4	130	127	129	116	111	113	255	199	214	301	293	298
5	152	128	138	125	112	119	231	218	225	310	300	305
6	173	148	159	119	114	117	224	210	216	313	309	311
7	195	173	185	133	118	120	212	203	208	312	308	310
8	198	184	193	279	121	133	203	193	199	314	309	311
9	206	198	202	166	134	141	196	187	192	320	310	314
10	205	194	199	153	142	146	212	186	195	324	315	319
11	195	181	187	168	142	162	197	193	195	324	313	319
12	182	178	180	170	156	167	209	190	195	323	314	319
13	191	179	182	158	153	155	202	186	191	324	316	320
14	189	153	168	157	152	154	207	202	205	320	307	313
15	157	151	154	157	150	155	218	206	212	315	304	309
16	164	157	160	165	150	157	226	215	219	422	304	312
17	170	163	167	191	165	177	230	220	224	602	329	381
18	170	165	167	214	191	203	228	220	227	330	323	326
19	182	167	174	234	213	225	227	219	223	326	318	323
20	189	182	186	234	224	227	285	227	244	328	315	322
21	191	169	182	213	210	212	420	243	304	316	301	306
22	175	153	171	222	210	216	302	283	292	317	303	308
23	175	161	169	368	218	242	284	276	280	326	316	320
24	161	121	141	248	221	235	286	280	283	327	321	324
25	121	116	119	280	212	241	305	262	284	328	319	324
26	118	112	116	243	208	219	306	261	285	329	322	325
27	115	112	113	226	212	216	313	289	293	332	325	328
28	121	111	116	239	213	227	295	290	292	333	327	330
29	116	108	110	243	218	235	302	291	294	338	327	330
30	113	110	112	229	210	217	303	285	294	335	327	331
31	---	---	---	256	171	207	285	270	275	---	---	---
MONTH	206	108	157	368	108	176	420	172	238	602	270	316

07096000 ARKANSAS RIVER AT CANON CITY, CO--Continued

TEMPERATURE, WATER (DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.7	14.2	15.5	8.0	6.8	7.3	2.7	1.8	2.3	.4	.0	.1
2	16.9	13.9	15.3	6.8	5.4	5.9	2.9	2.2	2.6	.9	.0	.4
3	17.1	14.1	15.5	6.0	4.2	5.3	2.2	1.2	1.6	2.7	.5	2.0
4	16.1	13.1	14.8	6.7	5.1	5.9	1.2	.2	.4	2.5	1.5	2.0
5	15.0	12.0	13.7	6.6	5.3	6.0	.3	.1	.2	1.9	.7	1.2
6	14.7	12.1	13.3	6.4	4.9	5.8	.3	.2	.2	1.7	.5	1.1
7	14.7	12.0	13.3	7.0	5.5	6.3	.8	.2	.3	.5	.0	.1
8	13.5	11.2	12.3	7.0	5.9	6.4	1.2	.2	.7	.0	.0	.0
9	11.9	9.3	10.7	6.5	4.0	5.1	1.8	1.1	1.4	.1	.0	.0
10	12.3	9.8	11.2	4.0	3.2	3.7	1.4	.4	.9	.0	.0	.0
11	14.3	11.5	12.8	4.2	2.3	3.2	.4	.2	.2	.6	.0	.1
12	12.8	8.8	10.7	2.7	1.8	2.3	.3	.2	.2	.9	.0	.3
13	9.5	7.0	8.4	3.9	2.7	3.3	.3	.2	.2	1.5	.3	.9
14	10.3	7.4	8.8	3.4	.7	1.7	.3	.2	.2	1.9	.6	1.2
15	10.6	8.4	9.5	.7	.3	.3	.2	.0	.1	.8	.1	.4
16	10.9	8.7	9.9	.3	.2	.2	.4	.0	.1	1.2	.0	.6
17	11.3	8.9	10.2	.7	.2	.3	.7	.0	.2	2.3	.6	1.4
18	11.7	9.5	10.7	1.0	.2	.4	.7	.0	.2	2.5	1.3	1.9
19	11.3	9.6	10.5	2.2	.2	.9	.7	.0	.3	2.1	1.1	1.6
20	11.6	9.8	10.7	4.0	2.2	3.0	1.1	.3	.6	1.8	.6	1.3
21	11.9	10.3	11.2	3.7	2.3	3.0	.7	.0	.3	.6	.0	.2
22	12.0	9.8	11.0	2.3	1.3	1.7	.5	.0	.1	---	---	---
23	10.8	9.0	9.9	1.6	.7	1.2	.7	.0	.3	.0	.0	.0
24	9.7	4.7	7.7	2.2	.9	1.6	.4	.0	.0	.1	.0	.0
25	4.7	2.7	3.5	3.6	1.9	2.8	.0	.0	.0	.8	.0	.1
26	3.9	1.7	2.9	4.1	2.7	3.4	.0	.0	.0	.9	.0	.3
27	5.4	3.4	4.4	4.1	2.6	3.4	.0	.0	.0	1.6	.0	.6
28	6.4	4.7	5.6	3.5	3.0	3.2	.0	.0	.0	1.7	.2	.9
29	6.8	5.3	6.1	3.3	2.2	2.8	.0	.0	.0	1.5	.0	.8
30	7.7	6.2	7.1	2.6	1.6	1.9	.1	.0	.0	1.9	.2	1.0
31	8.5	6.9	7.7	---	---	---	.1	.0	.0	1.9	1.2	1.6
MONTH	17.1	1.7	10.2	8.0	.2	3.3	2.9	.0	.4	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	2.3	.5	1.3	1.4	.1	.5	9.9	5.0	7.4	12.7	9.7	11.6
2	1.2	.0	.6	2.0	.1	.9	8.1	5.3	6.9	15.1	10.5	12.9
3	1.6	.2	.9	3.7	.1	1.9	8.9	3.8	6.4	17.2	11.3	14.1
4	1.8	1.1	1.4	4.8	2.1	3.3	11.5	6.0	8.4	17.7	12.6	15.0
5	1.9	1.4	1.7	5.9	2.9	4.2	11.9	7.3	9.4	17.4	13.0	14.9
6	3.5	1.7	2.5	5.7	3.1	4.4	9.7	8.1	8.9	15.4	12.5	13.9
7	3.9	2.0	2.8	4.6	1.8	3.4	9.0	5.9	7.5	16.8	12.4	14.3
8	3.6	2.0	2.7	4.0	.5	2.1	9.3	6.5	7.8	14.5	12.0	13.2
9	3.4	2.0	2.7	3.3	1.2	2.2	10.3	5.9	7.9	16.1	10.5	13.1
10	3.2	1.5	2.3	4.7	.2	2.4	11.8	6.1	8.9	18.1	12.7	15.1
11	1.7	.9	1.3	4.3	1.9	3.0	13.5	8.0	10.7	17.5	13.0	14.9
12	2.3	.2	1.2	5.9	1.3	3.5	12.6	9.0	10.6	17.6	13.4	15.1
13	2.7	.5	1.6	8.2	3.4	5.7	12.2	7.3	9.5	18.1	12.8	15.3
14	4.1	1.7	2.8	9.0	5.0	6.9	13.1	8.6	10.4	17.8	13.1	14.9
15	3.8	2.5	3.2	9.6	5.6	7.5	9.7	4.3	7.3	15.9	10.9	13.4
16	4.0	3.4	3.7	8.8	7.7	8.1	6.5	3.7	5.0	16.2	12.1	14.1
17	4.9	2.8	3.8	10.1	7.0	8.3	9.5	3.8	6.4	17.5	12.1	14.6
18	4.4	2.3	3.5	7.9	2.9	4.7	10.0	5.1	7.3	17.4	13.5	15.6
19	4.4	2.3	3.2	6.8	1.9	4.2	11.0	5.2	8.0	17.0	12.7	14.8
20	3.2	.8	2.1	8.4	3.7	5.9	10.8	7.4	9.0	16.8	12.9	14.9
21	3.4	.9	2.1	9.2	4.7	6.8	13.4	7.1	9.9	16.9	14.1	15.4
22	4.8	1.9	3.2	9.8	5.8	7.8	14.5	8.2	11.2	15.9	12.4	14.4
23	5.5	2.8	4.2	10.8	7.2	9.0	16.1	9.4	12.7	15.9	12.6	14.3
24	6.6	3.5	5.1	11.7	6.0	9.1	16.9	11.5	13.9	15.4	12.9	14.2
25	5.6	2.8	4.4	11.6	6.8	9.2	15.5	11.6	13.1	15.4	11.7	13.7
26	3.3	1.6	2.2	10.6	6.9	8.4	12.1	8.2	10.2	16.6	13.4	15.1
27	2.3	.1	1.1	11.1	7.6	9.2	13.2	7.3	9.9	17.0	13.2	15.2
28	1.4	.1	.3	10.6	7.2	9.0	14.8	9.6	11.8	17.3	14.2	15.7
29	---	---	---	8.9	6.7	8.3	15.2	9.0	12.1	16.6	14.2	15.6
30	---	---	---	6.7	3.9	5.0	15.1	9.7	12.4	16.6	14.4	15.5
31	---	---	---	8.7	3.3	5.8	---	---	---	15.8	13.3	14.8
MONTH	6.6	.0	2.4	11.7	.1	5.5	16.9	3.7	9.4	18.1	9.7	14.5

07096000 ARKANSAS RIVER AT CANON CITY, CO--Continued

TEMPERATURE, WATER (DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.6	13.5	15.1	18.9	16.7	17.8	19.3	15.1	17.9	19.1	17.8	18.4
2	16.9	14.0	15.6	17.9	15.6	17.0	19.2	16.6	17.9	20.1	16.2	18.0
3	16.3	13.9	15.2	17.7	15.6	16.8	19.3	17.2	18.2	21.2	17.2	19.2
4	14.9	13.1	14.0	17.2	15.2	16.2	18.4	17.1	17.8	21.2	17.5	19.3
5	13.1	11.1	12.2	18.2	15.6	16.9	20.2	17.0	18.6	21.9	17.7	19.7
6	14.0	11.5	13.0	17.6	15.8	16.6	21.1	17.7	19.5	21.5	17.5	19.5
7	15.3	11.9	13.7	16.8	15.8	16.3	21.4	18.3	19.9	21.2	17.7	19.4
8	15.5	12.3	14.2	18.4	15.3	16.4	21.2	18.1	19.7	21.6	18.0	19.6
9	17.2	13.4	15.1	18.7	15.6	17.0	20.5	18.1	19.5	21.3	17.2	19.0
10	15.4	13.4	14.4	18.5	15.8	17.2	19.1	17.0	18.3	20.9	17.3	19.0
11	16.1	12.6	14.4	18.8	15.9	17.4	18.9	16.8	17.9	21.3	17.3	19.2
12	17.3	13.2	15.3	18.8	16.6	17.8	19.7	16.9	18.4	20.5	17.5	18.8
13	16.6	14.8	15.9	19.3	16.1	17.9	19.9	16.8	18.5	19.9	16.8	18.3
14	15.9	13.7	14.8	18.8	16.8	18.0	19.7	16.3	18.2	20.0	16.5	18.0
15	15.7	13.2	14.6	19.3	16.7	18.1	19.2	16.5	17.9	19.8	16.4	17.7
16	16.6	13.4	14.8	19.8	17.4	18.7	19.0	16.5	17.9	19.3	15.9	17.5
17	16.3	13.9	15.0	20.8	17.1	19.0	20.0	16.9	18.3	18.7	14.8	16.8
18	16.0	11.8	14.1	22.0	17.9	20.0	20.6	17.9	19.3	19.6	15.6	17.6
19	17.9	14.0	16.0	20.9	18.1	19.6	20.5	18.5	19.2	19.8	16.4	17.9
20	18.2	15.3	16.8	21.4	17.5	19.3	21.6	18.1	19.7	19.0	16.3	17.5
21	19.1	15.1	17.2	21.5	18.0	19.5	20.1	16.6	19.0	18.2	16.0	16.9
22	18.8	15.5	17.4	21.1	18.7	19.7	21.8	18.4	20.2	18.3	15.0	16.4
23	18.1	15.4	16.9	20.2	18.3	19.3	22.1	18.5	20.4	17.8	14.9	16.2
24	16.9	14.7	15.9	21.5	17.2	19.4	22.0	19.2	20.6	18.3	14.8	16.5
25	17.1	14.0	15.7	20.4	17.0	19.0	21.5	18.9	20.1	18.0	14.5	16.1
26	17.7	14.2	16.0	20.5	18.5	19.6	21.4	17.5	19.5	17.3	13.9	15.4
27	18.2	14.8	16.6	20.8	17.8	19.3	21.6	18.8	20.1	16.7	12.9	14.7
28	18.8	15.4	17.2	20.9	18.4	19.7	21.4	18.0	19.7	16.7	13.0	15.0
29	18.8	16.1	17.6	21.9	18.2	20.2	21.7	17.8	19.8	17.8	14.2	15.9
30	18.7	16.6	17.8	21.1	18.9	19.9	21.5	17.9	19.8	18.0	14.9	16.3
31	---	---	---	21.3	14.9	19.0	20.6	18.2	19.4	---	---	---
MONTH	19.1	11.1	15.4	22.0	14.9	18.3	22.1	15.1	19.1	21.9	12.9	17.7

07096250 FOURMILE CREEK BELOW CRIPPLE CREEK NEAR VICTOR, CO

LOCATION.--Lat 38°39'52", long 105°13'37", in SW¼SE¼ sec.9, T.16 S., R.70 W., Teller County, Hydrologic Unit 11020002, on left bank 500 ft from Teller County Route 88, 0.2 mi downstream from Cripple Creek, and 5.5 mi southwest of Victor.

DRAINAGE AREA.--272 mi².

PERIOD OF RECORD.--September 1992 to current year.

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gage. Elevation of gage is 6,870 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	7.8	e10	e6.6	4.0	7.1	18	34	47	10	37	46
2	9.2	6.8	10	e6.6	6.7	8.5	19	39	43	10	32	51
3	9.3	6.5	e9.4	6.5	4.8	7.4	19	42	42	10	36	45
4	9.5	7.1	e9.0	e7.0	3.3	5.6	20	43	45	11	28	40
5	9.5	7.0	e8.4	e6.6	2.8	5.7	18	45	45	12	27	37
6	9.5	7.5	e7.8	6.5	3.4	5.4	16	50	44	12	24	35
7	9.3	7.8	e7.6	e6.2	3.4	4.9	17	53	42	12	22	33
8	9.4	8.0	e7.6	6.4	3.4	5.4	20	53	38	13	20	32
9	9.3	9.5	e8.0	7.0	3.1	8.0	21	51	36	15	20	29
10	9.2	9.6	e8.2	6.5	3.1	9.7	18	49	36	21	28	28
11	10	8.4	e8.2	e6.4	3.8	6.2	18	49	35	21	35	27
12	11	9.0	e8.2	e6.2	5.1	6.8	20	51	33	17	38	26
13	11	9.4	e8.6	e6.0	4.5	6.7	20	51	33	16	34	27
14	10	9.3	e8.8	5.9	3.2	6.9	21	63	31	14	36	25
15	10	e7.2	e9.0	6.3	3.3	7.9	21	70	32	14	36	25
16	10	e7.6	e9.2	4.5	3.0	8.3	23	61	29	15	32	65
17	10	e7.0	e9.4	4.9	3.6	8.4	22	53	17	13	34	79
18	9.7	e7.4	e9.6	3.9	3.2	8.8	24	50	15	13	34	69
19	9.6	e7.8	e9.4	4.7	3.9	9.1	24	53	12	12	35	63
20	9.7	e8.2	e9.6	4.1	5.7	10	24	57	11	12	39	58
21	10	e8.6	e9.8	e3.6	6.1	10	26	59	11	12	37	59
22	9.7	e9.0	e9.8	e3.3	4.6	11	25	61	11	13	36	59
23	8.6	e9.2	e10	e3.0	4.4	13	25	63	11	15	33	59
24	8.2	e9.4	e8.2	e3.4	4.3	16	28	63	11	45	30	55
25	6.2	10	e6.0	e4.0	4.0	18	30	60	11	84	38	54
26	6.3	9.7	e5.6	e4.5	4.3	21	36	57	10	41	49	53
27	11	9.5	e5.8	e4.8	6.1	24	36	52	11	36	45	54
28	9.4	9.5	e6.0	5.2	8.3	21	34	51	10	40	44	54
29	8.5	10	e6.0	4.7	---	19	33	51	9.3	55	40	44
30	8.2	11	e6.6	4.4	---	17	31	51	10	42	36	16
31	7.9	---	e6.6	3.0	---	18	---	50	---	48	34	---
TOTAL	289.0	254.8	256.4	162.7	119.4	334.8	707	1635	771.3	704	1049	1347
MEAN	9.32	8.49	8.27	5.25	4.26	10.8	23.6	52.7	25.7	22.7	33.8	44.9
MAX	11	11	10	7.0	8.3	24	36	70	47	84	49	79
MIN	6.2	6.5	5.6	3.0	2.8	4.9	16	34	9.3	10	20	16
AC-FT	573	505	509	323	237	664	1400	3240	1530	1400	2080	2670

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1998, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
MEAN	15.4	12.5	8.32	7.45	6.42	8.23	20.7	59.6	52.8	26.8	21.7	20.3
MAX	21.1	21.8	16.6	15.4	11.6	10.8	40.2	149	128	75.8	37.7	44.9
(WY)	1995	1995	1996	1996	1996	1998	1994	1994	1995	1995	1995	1998
MIN	6.65	7.57	5.66	4.55	3.79	5.55	9.75	12.3	11.8	11.2	4.95	5.19
(WY)	1994	1994	1994	1997	1995	1997	1997	1996	1996	1993	1993	1993

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1993 - 1998

ANNUAL TOTAL	5000.2	7630.4	
ANNUAL MEAN	13.7	20.9	21.8
HIGHEST ANNUAL MEAN			38.2
LOWEST ANNUAL MEAN			12.6
HIGHEST DAILY MEAN	91	84	373
LOWEST DAILY MEAN	e3.2	2.8	2.5
ANNUAL SEVEN-DAY MINIMUM	4.0	3.2	3.2
INSTANTANEOUS PEAK FLOW		a415	a647
INSTANTANEOUS PEAK STAGE		4.28	4.62
ANNUAL RUNOFF (AC-FT)	9920	15130	15760
10 PERCENT EXCEEDS	29	51	51
50 PERCENT EXCEEDS	9.6	11	12
90 PERCENT EXCEEDS	4.7	4.9	5.3

e-Estimated.

a-From rating curve extended above 127 ft³/s.

**07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--February 1977 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to current year.

WATER TEMPERATURE: October 1979 to current year.

INSTRUMENTATION.--Water-quality monitor since November 1982, with satellite telemetry.

REMARKS.--Specific conductance records fair. Water temperature records good. Specific conductance data may not be representative of the cross section at the site during flash floods. Daily data that are not published are either missing or of unacceptable quality. Periodic water-quality data available Feb. 1977 to Sept. 1995 under National Stream-Quality Accounting Network (NASQAN) for this site.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,380 microsiemens (observer), Sept. 30, 1981; minimum, 111 microsiemens, June 22, 1984.

WATER TEMPERATURES: Maximum, 26.0°C, July 27, 1987; minimum, 0.0°C, many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,080 microsiemens, July 23; minimum, 138 microsiemens, June 28.

WATER TEMPERATURES: Maximum, 24.6°C, Aug. 23; minimum, 0.0°C, many days during winter months.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	440	405	430	456	431	444	516	455	492	449	409	433
2	461	437	452	471	419	450	508	477	490	439	419	432
3	472	451	464	471	450	462	499	457	477	445	404	436
4	482	452	472	494	444	463	498	450	478	439	427	433
5	483	468	473	497	434	458	517	482	492	445	412	436
6	486	460	473	471	436	450	506	463	485	441	429	435
7	524	481	500	465	430	447	496	452	479	462	426	442
8	514	479	502	468	433	450	472	435	456	472	378	430
9	502	456	480	473	440	456	471	450	460	458	350	404
10	497	464	476	475	431	461	466	428	454	447	396	429
11	497	446	472	476	463	469	460	437	451	460	389	418
12	446	432	441	478	457	466	488	409	449	442	423	432
13	620	421	442	475	432	460	478	419	452	446	421	432
14	445	419	436	481	456	466	458	420	445	447	408	434
15	458	433	441	490	373	456	453	430	442	464	394	430
16	449	416	431	510	446	483	444	408	432	459	408	437
17	443	417	432	521	419	494	438	419	430	443	421	433
18	452	421	438	507	477	489	436	407	424	447	402	434
19	487	417	440	486	462	469	432	410	419	467	420	436
20	456	418	443	468	441	463	443	406	424	471	439	456
21	462	436	446	468	456	460	446	430	439	481	440	453
22	472	446	457	473	446	461	458	422	433	491	413	463
23	481	421	459	482	454	466	447	429	438	491	405	449
24	490	458	479	490	468	479	464	423	445	475	435	459
25	503	461	473	492	470	478	466	416	440	500	440	467
26	515	460	476	483	459	471	476	418	454	480	435	458
27	551	482	505	478	460	465	494	419	462	472	426	447
28	551	468	510	576	447	508	497	419	476	463	432	450
29	499	448	464	548	489	519	509	451	480	461	437	450
30	470	431	454	538	472	504	490	447	474	461	443	453
31	462	429	450	---	---	---	457	433	447	478	444	454
MONTH	620	405	462	576	373	469	517	406	455	500	350	440

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	470	443	461	547	483	503	635	551	600	528	506	521
2	471	442	457	557	472	514	577	534	556	717	501	525
3	466	438	451	564	472	511	555	500	529	556	508	527
4	482	464	475	533	475	506	540	494	522	521	492	506
5	506	453	481	522	461	492	529	488	513	520	491	504
6	506	456	480	506	482	494	539	505	521	491	463	473
7	474	413	450	506	472	487	577	530	547	487	463	474
8	468	414	450	542	459	492	582	532	544	480	458	466
9	451	409	436	534	469	504	551	530	541	492	464	477
10	451	391	430	537	458	504	564	521	543	491	463	476
11	440	409	424	537	490	503	546	475	530	595	454	473
12	520	434	495	972	482	525	553	524	540	485	449	462
13	522	454	487	542	472	510	539	512	529	453	440	446
14	510	456	487	526	494	511	542	496	522	445	434	440
15	474	421	457	530	480	509	557	507	523	440	415	430
16	468	446	457	522	497	509	646	537	577	437	422	428
17	473	419	449	510	465	496	646	512	586	456	437	447
18	463	430	441	514	474	489	637	559	594	532	440	453
19	477	419	456	567	475	512	680	522	620	447	414	436
20	466	444	456	593	514	554	624	546	584	414	376	387
21	467	443	456	628	542	596	597	545	574	377	365	370
22	477	425	460	608	528	575	615	555	576	365	318	340
23	466	419	444	555	492	527	639	520	564	307	296	303
24	452	419	440	512	454	486	603	505	538	312	295	306
25	478	422	455	464	439	456	545	491	520	317	305	312
26	491	457	473	481	430	457	542	502	517	325	308	318
27	502	468	483	521	436	481	542	482	507	320	296	311
28	557	469	500	499	465	478	513	483	496	304	281	294
29	---	---	---	511	465	492	531	493	506	281	245	265
30	---	---	---	518	458	488	538	504	516	263	232	249
31	---	---	---	607	514	540	---	---	---	240	221	231
MONTH	557	391	460	972	430	506	680	475	545	717	221	408
	JUNE			JULY			AUGUST			SEPTEMBER		
1	238	211	225	438	144	170	294	258	280	598	554	573
2	215	191	206	158	142	149	290	269	280	595	561	581
3	197	181	190	150	139	145	467	273	300	596	529	579
4	193	180	187	154	144	149	357	278	303	633	594	621
5	226	185	204	157	146	152	354	329	341	655	613	630
6	270	219	245	160	148	157	345	314	328	666	614	634
7	303	268	288	171	156	160	333	321	325	691	610	670
8	330	301	314	173	157	166	335	308	322	706	617	683
9	341	308	332	203	159	174	326	295	311	711	642	665
10	322	300	313	281	162	183	329	286	305	---	---	---
11	307	270	288	221	186	194	308	286	305	---	---	---
12	271	261	268	195	183	190	331	295	305	609	551	579
13	270	248	264	193	180	187	307	291	295	599	549	572
14	260	229	248	189	180	185	330	299	314	568	513	545
15	247	231	237	191	170	184	346	323	335	566	526	544
16	255	235	245	202	171	189	496	332	355	567	495	541
17	263	251	257	245	197	220	370	343	353	714	546	604
18	260	243	255	282	242	261	360	339	352	575	549	567
19	274	250	263	314	281	296	905	342	453	570	555	561
20	282	265	276	310	304	307	555	509	530	577	535	554
21	266	239	255	314	298	304	706	424	551	546	531	538
22	251	237	243	335	314	326	602	563	588	564	530	545
23	252	216	237	1080	312	427	602	563	584	571	553	562
24	219	163	193	572	332	356	608	579	597	562	548	556
25	163	150	154	496	292	337	890	583	608	570	552	564
26	155	139	149	833	302	398	595	540	567	583	550	568
27	171	139	148	432	324	343	701	560	605	590	556	577
28	155	138	148	691	314	371	646	581	609	584	568	574
29	150	143	146	493	346	386	621	597	608	594	565	576
30	149	143	146	397	291	329	593	554	576	613	565	590
31	---	---	---	316	280	304	581	554	565	---	---	---
MONTH	341	138	231	1080	139	248	905	258	424	---	---	---

ARKANSAS RIVER BASIN

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	19.6	15.0	17.0	9.7	6.8	8.2	4.2	2.4	3.2	4.0	.7	2.2
2	19.3	14.6	16.9	8.6	5.7	6.9	3.8	3.1	3.4	4.0	.9	2.4
3	19.1	15.2	17.0	8.4	4.4	6.4	4.0	1.7	2.9	3.5	1.4	2.6
4	18.6	14.2	16.4	9.2	5.5	7.2	3.1	.7	1.7	4.8	2.6	3.6
5	17.7	13.1	15.4	9.0	5.3	7.1	2.1	.0	.7	4.4	1.5	2.9
6	17.0	12.8	14.9	9.1	5.3	7.1	.7	.0	.2	4.0	1.7	2.6
7	16.3	12.2	14.4	9.8	5.4	7.5	2.4	.0	1.0	2.7	.1	1.3
8	15.0	11.9	13.7	9.4	6.2	7.6	3.5	.4	1.9	2.0	.0	.7
9	14.1	9.5	11.9	7.2	4.7	6.0	3.5	1.4	2.3	.4	.0	.1
10	14.3	9.8	12.0	5.3	4.0	4.6	2.7	1.3	2.0	.0	.0	.0
11	15.9	11.8	13.6	4.6	3.0	4.1	2.1	.0	.9	2.9	.0	1.1
12	13.4	9.7	11.5	5.2	2.4	3.6	.8	.0	.1	2.6	.3	1.5
13	11.3	7.5	9.3	5.8	2.6	4.1	.5	.0	.1	2.5	.3	1.4
14	12.0	7.7	9.7	3.9	1.1	2.5	1.4	.0	.6	3.4	1.0	2.0
15	12.9	8.3	10.4	1.9	.0	.7	3.1	.2	1.4	3.4	.0	1.7
16	12.9	8.5	10.6	.9	.0	.3	3.0	.2	1.5	3.6	.7	2.1
17	13.5	8.6	11.0	3.3	.0	1.5	3.3	.6	1.8	4.4	.7	2.5
18	13.9	9.5	11.6	3.8	.3	2.0	3.2	.6	1.8	5.1	2.0	3.4
19	13.1	9.4	11.2	3.7	.3	1.8	2.4	.3	1.4	3.5	1.1	2.4
20	12.9	10.1	11.4	5.8	2.4	4.0	3.0	.8	1.8	4.1	1.6	2.8
21	13.3	10.4	11.7	5.0	3.0	4.0	2.3	.9	1.6	2.7	.1	1.3
22	13.6	9.6	11.5	4.8	1.9	3.2	2.3	.2	1.1	1.8	.0	.7
23	12.6	9.1	10.9	3.6	.8	2.1	1.9	.6	1.3	2.1	.0	.8
24	10.9	5.8	8.7	5.3	1.4	3.1	1.6	.5	1.2	2.1	.0	.9
25	5.8	2.6	3.6	6.3	2.2	4.1	1.3	.0	.4	3.3	.3	1.8
26	6.0	1.8	3.9	5.1	3.6	4.3	.2	.0	.0	3.6	.0	1.6
27	7.9	2.4	5.1	5.1	3.1	4.3	.0	.0	.0	4.3	.3	2.2
28	8.9	4.9	6.6	4.4	3.1	4.0	.0	.0	.0	3.7	.8	2.3
29	8.8	5.5	6.9	5.7	3.0	4.3	.6	.0	.2	4.5	.4	2.4
30	9.9	6.3	7.9	4.9	2.2	3.5	2.6	.0	1.1	4.9	.8	2.7
31	10.7	7.3	8.8	---	---	---	3.4	.0	1.4	4.1	2.0	3.1
MONTH	19.6	1.8	11.1	9.8	.0	4.3	4.2	.0	1.3	5.1	.0	1.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	5.0	1.7	3.3	3.5	.0	1.6	12.5	5.9	9.3	15.1	9.8	12.5
2	3.5	1.1	2.3	4.6	.0	2.2	10.0	7.5	8.6	16.6	9.5	13.1
3	3.8	.7	2.3	7.0	.0	3.4	11.7	5.5	8.7	16.9	10.4	13.8
4	3.1	2.2	2.6	6.9	1.6	4.3	13.6	6.8	10.2	18.0	10.8	14.3
5	3.4	2.4	2.8	7.8	2.9	5.3	14.2	8.1	11.1	18.1	11.4	14.5
6	5.9	2.6	4.0	7.8	3.4	5.6	11.8	8.8	10.4	16.6	10.8	13.5
7	5.3	3.0	4.1	5.5	2.8	4.2	13.0	7.0	9.8	18.0	10.0	13.8
8	6.3	2.5	4.4	5.8	.8	3.4	11.1	7.4	9.3	15.1	11.0	13.1
9	6.4	2.9	4.6	5.9	1.1	3.4	12.4	7.5	9.8	17.5	10.2	13.6
10	5.7	2.1	3.9	7.1	.2	3.6	13.9	7.1	10.5	19.4	11.1	15.1
11	4.4	1.4	3.1	6.0	1.8	3.9	15.6	8.3	12.0	18.4	11.6	15.0
12	5.3	1.0	3.1	7.7	.7	4.4	14.7	9.6	12.2	18.6	12.3	15.3
13	5.7	1.0	3.4	9.9	2.9	6.6	14.5	8.5	11.5	19.2	11.7	15.4
14	7.0	2.4	4.6	10.1	4.5	7.6	15.5	9.3	12.3	17.9	12.4	15.2
15	6.3	3.2	4.8	11.0	5.1	8.2	12.5	6.8	9.5	17.5	10.3	13.9
16	5.4	4.4	4.9	9.1	8.1	8.5	8.2	5.5	6.8	18.0	11.1	14.5
17	7.7	4.2	5.7	12.1	7.0	9.4	11.7	4.8	8.1	18.8	11.0	14.9
18	5.8	4.5	5.1	9.6	3.0	5.9	10.0	6.9	8.5	18.8	12.5	15.7
19	7.3	3.2	5.1	7.9	2.1	4.9	12.8	6.7	9.8	18.1	12.4	15.5
20	5.9	2.2	4.1	9.6	3.5	6.6	13.5	8.9	11.3	18.6	13.2	15.8
21	6.7	1.8	4.3	10.9	4.3	7.7	15.3	8.3	11.7	19.4	13.9	16.4
22	7.5	2.8	5.1	12.3	5.9	9.2	16.1	9.0	12.6	18.2	13.2	15.5
23	8.5	3.5	5.9	12.4	7.5	10.0	17.0	9.9	13.6	18.0	12.7	15.0
24	8.9	3.8	6.6	13.5	8.3	11.0	17.7	11.2	14.5	17.5	13.6	15.4
25	7.2	4.3	5.8	13.5	9.3	11.4	15.9	11.1	13.6	17.5	12.5	15.0
26	6.1	2.1	4.2	12.8	8.9	10.9	13.4	9.2	10.6	18.8	13.4	16.1
27	5.9	1.4	3.4	13.3	9.4	11.1	14.4	7.1	10.5	19.6	13.6	16.5
28	4.8	.0	2.1	13.4	8.5	10.8	15.4	9.0	12.0	19.7	14.6	17.0
29	---	---	---	12.3	8.1	10.1	16.1	8.2	12.2	19.3	15.0	16.8
30	---	---	---	8.1	5.4	6.6	16.2	9.0	12.7	18.5	15.0	16.5
31	---	---	---	11.0	4.8	7.8	---	---	---	17.7	14.6	15.9
MONTH	8.9	.0	4.1	13.5	.0	6.8	17.7	4.8	10.8	19.7	9.5	15.0

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	18.4	14.2	16.1	20.2	17.3	18.7	20.8	18.0	19.5	21.3	18.2	19.5
2	18.2	14.8	16.5	18.9	16.8	17.9	21.2	17.5	19.2	22.3	17.0	19.5
3	17.4	15.1	16.1	18.9	16.8	17.8	21.5	17.1	19.0	23.4	17.6	20.4
4	16.3	13.7	15.0	18.2	15.8	17.2	19.6	17.8	18.5	23.5	17.6	20.6
5	14.3	11.9	12.6	19.7	16.6	18.0	22.1	17.3	19.5	24.1	17.9	21.0
6	15.9	11.9	13.8	18.2	17.0	17.7	23.1	18.4	20.5	24.0	17.8	20.9
7	16.4	12.7	14.5	17.5	16.8	17.1	23.5	19.1	21.1	23.6	17.8	20.8
8	17.5	13.4	15.3	18.5	16.4	17.3	23.6	18.8	20.8	23.5	18.1	20.9
9	19.6	14.2	16.4	18.5	16.4	17.6	22.5	19.4	20.8	23.5	17.5	20.4
10	17.1	13.9	15.7	20.0	16.8	18.2	20.7	18.5	19.4	23.5	16.8	20.3
11	17.5	13.6	15.5	19.9	16.7	18.3	21.2	18.2	19.2	23.4	17.0	20.4
12	19.1	14.0	16.4	20.6	17.4	18.8	21.7	17.4	19.4	22.3	17.8	20.2
13	19.0	15.5	17.0	20.9	17.7	19.0	21.7	17.8	19.6	22.0	17.5	19.8
14	18.2	14.1	15.7	20.6	17.7	19.0	21.9	17.7	19.6	22.6	17.1	19.7
15	18.4	14.3	16.0	20.7	17.5	19.1	21.1	17.4	19.2	22.1	16.8	19.4
16	19.1	14.0	16.2	21.1	18.0	19.4	21.3	16.9	18.9	21.9	16.1	19.0
17	18.4	14.4	16.3	22.4	17.9	20.1	22.8	17.5	19.9	21.2	16.2	18.7
18	18.1	13.1	15.5	23.8	18.9	21.1	23.5	18.0	20.4	21.9	15.9	18.9
19	20.3	14.4	17.2	23.6	19.3	21.0	22.0	18.7	20.4	21.9	16.5	19.2
20	20.5	15.8	17.9	22.2	18.5	20.5	23.8	18.4	20.8	21.4	17.1	19.1
21	20.8	16.6	18.4	23.7	18.3	20.9	23.3	19.2	20.9	21.0	17.0	18.8
22	20.9	16.7	18.7	23.4	18.9	20.8	24.5	18.8	21.4	20.5	15.6	17.8
23	20.4	16.6	18.3	22.5	18.7	20.2	24.6	18.8	21.7	20.2	15.5	17.8
24	18.6	15.8	17.0	21.9	18.9	20.4	23.9	19.2	21.5	20.9	15.5	18.3
25	18.2	15.1	16.6	22.5	18.2	20.3	23.6	19.1	21.3	19.9	15.0	17.8
26	18.5	15.2	16.9	21.9	18.5	20.0	23.7	18.6	20.9	19.8	14.5	17.4
27	19.1	16.0	17.6	23.2	18.8	20.6	23.1	19.1	21.2	19.1	13.5	16.6
28	19.5	16.9	18.2	22.6	19.3	20.5	23.9	18.7	21.2	19.6	13.9	16.9
29	20.1	17.6	18.7	23.5	19.1	21.1	24.0	18.1	21.0	20.4	15.0	17.8
30	19.7	17.5	18.6	22.6	19.9	20.8	24.3	18.8	21.4	19.7	16.1	17.9
31	---	---	---	22.1	18.8	20.3	22.7	18.6	20.7	---	---	---
MONTH	20.9	11.9	16.5	23.8	15.8	19.3	24.6	16.9	20.3	24.1	13.5	19.2

07099050 BEAVER CREEK ABOVE UPPER BEAVER CEMETERY, NEAR PENROSE, CO

LOCATION.--Lat 38°33'42", long 105°01'17", in NW¹/₄NE¹/₄ sec.20, T.17 S., R.68 W., Fremont County, Hydrologic Unit 11020002, on left bank 40 ft upstream from bridge on Fremont County Road 132, 1 mi downstream from Banta Gulch, 1.3 mi northeast of Upper Beaver Cemetery, and 9.2 mi north of Penrose.

DRAINAGE AREA.--122 mi².

PERIOD OF RECORD.--March 1991 to current year (seasonal record). Water-quality data available, March 1991 to September 1994.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,020 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of creek affected by storage reservoirs and diversions for municipal use by the City of Colorado Springs. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 659 ft³/s, June 10, 1997, gage height, 5.57 ft, from rating curve extended above 600 ft³/s; maximum gage height, 6.45 ft, May 12, 1994; minimum daily, 4.2 ft³/s, Mar. 25, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 213 ft³/s, July 29, gage height, 4.31 ft; minimum daily, 14.0 ft³/s, Mar. 20.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	32	---	---	---	---	e34	118	102	50	108	94
2	27	29	---	---	---	---	e39	119	101	36	97	88
3	26	26	---	---	---	---	35	123	100	38	89	74
4	25	26	---	---	---	---	41	126	100	50	103	62
5	24	25	---	---	---	---	46	130	98	36	103	57
6	23	24	---	---	---	---	48	134	97	33	98	53
7	22	24	---	---	---	---	41	128	92	52	90	48
8	22	24	---	---	---	---	42	127	85	44	83	45
9	21	24	---	---	---	---	39	126	85	52	88	42
10	21	23	---	---	---	---	38	125	80	61	106	39
11	21	22	---	---	---	---	46	132	80	64	108	38
12	22	23	---	---	---	e20	61	132	76	51	102	37
13	22	22	---	---	---	23	60	136	68	44	88	41
14	22	22	---	---	---	e47	59	142	63	39	83	36
15	21	22	---	---	---	e49	58	141	68	38	101	35
16	23	e21	---	---	---	e49	52	140	62	37	92	33
17	24	e20	---	---	---	e36	44	138	56	33	107	36
18	24	e20	---	---	---	e21	47	140	50	29	104	34
19	24	e20	---	---	---	e16	41	145	48	28	104	29
20	24	---	---	---	---	14	46	141	48	25	115	27
21	24	---	---	---	---	e15	45	144	47	24	126	26
22	24	---	---	---	---	16	55	145	46	41	107	24
23	24	---	---	---	---	19	82	140	43	49	96	22
24	26	---	---	---	---	e23	107	132	38	50	92	21
25	27	---	---	---	---	e31	122	122	33	107	97	19
26	21	---	---	---	---	e35	108	119	30	87	125	20
27	23	---	---	---	---	e52	102	115	27	76	99	21
28	27	---	---	---	---	e52	105	113	26	83	88	21
29	29	---	---	---	---	e49	106	112	26	170	80	20
30	31	---	---	---	---	e38	114	108	46	129	73	22
31	32	---	---	---	---	e40	---	104	---	129	68	---
TOTAL	755	---	---	---	---	---	1863	3997	1921	1785	3020	1164
MEAN	24.4	---	---	---	---	---	62.1	129	64.0	57.6	97.4	38.8
MAX	32	---	---	---	---	---	122	145	102	170	126	94
MIN	21	---	---	---	---	---	34	104	26	24	68	19
AC-FT	1500	---	---	---	---	---	3700	7930	3810	3540	5990	2310

e-Estimated.

07099060 BEAVER CREEK ABOVE HIGHWAY 115, NEAR PENROSE, CO

LOCATION.--Lat 38°29'21", long 104°59'49", in NE¼NE¼ sec.16, T.18 S., R.68 W., Fremont County, Hydrologic Unit 11020002, on left bank 300 ft downstream from Beaver Park Irrigation Company diversion dam, 1.8 mi upstream from Highway 115, and 4.7 mi north of Penrose.

DRAINAGE AREA.--138 mi².

PERIOD OF RECORD.--March 1991 to current year (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,659.08 ft above sea level.

REMARKS.--Records good except for estimated daily discharges and discharges below 1.5 ft³/s, which are poor. Natural flow of creek is affected by storage reservoirs, diversions for municipal use by Colorado Springs, and diversions for irrigation, mainly by the Beaver Park Irrigation Company. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 611 ft³/s, May 30, 1995, gage height, 6.55 ft, from rating curve extended above 420 ft³/s; no flow many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 208 ft³/s, July 29, gage height, 4.81 ft, no flow many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	.00	---	---	---	---	46	101	60	11	65	e61
2	.75	.00	---	---	---	---	49	95	60	.19	55	e59
3	.01	.00	---	---	---	---	27	91	59	.12	60	47
4	e.00	.00	---	---	---	---	26	88	57	.10	83	37
5	.00	.01	---	---	---	---	24	89	54	.17	87	31
6	.00	.00	---	---	---	---	19	90	54	.01	78	25
7	.00	.00	---	---	---	---	6.4	83	49	.01	62	28
8	.41	.00	---	---	---	---	8.5	77	45	.21	40	26
9	.55	.00	---	---	---	---	13	69	44	.24	47	20
10	.00	.00	---	---	---	e5.0	21	66	42	.51	77	8.9
11	.00	.00	---	---	---	2.2	27	73	41	10	97	.00
12	.00	.00	---	---	---	.00	39	74	37	4.3	91	.00
13	1.0	.00	---	---	---	7.5	39	79	28	2.6	71	4.8
14	.00	.00	---	---	---	31	39	90	24	.35	66	.41
15	.00	.00	---	---	---	37	39	87	28	.28	88	.00
16	1.0	1.1	---	---	---	14	32	84	23	.22	73	.00
17	1.1	4.1	---	---	---	6.1	24	79	16	.11	87	1.0
18	.00	.00	---	---	---	8.8	27	82	12	.00	87	.78
19	1.3	e.00	---	---	---	3.0	21	89	11	.00	74	.00
20	.78	---	---	---	---	6.4	31	85	9.3	.00	88	.00
21	.70	---	---	---	---	2.2	32	91	9.2	.00	104	.00
22	.81	---	---	---	---	2.0	40	94	6.1	.00	82	.00
23	.00	---	---	---	---	11	55	86	1.1	.24	68	.00
24	2.1	---	---	---	---	21	84	75	1.0	5.0	62	.00
25	9.0	---	---	---	---	23	111	65	.90	69	65	.00
26	.77	---	---	---	---	8.3	84	61	e.80	56	101	.00
27	.00	---	---	---	---	14	82	57	.70	50	70	.00
28	1.2	---	---	---	---	35	91	56	.65	64	58	.00
29	2.3	---	---	---	---	50	89	56	.59	161	51	.00
30	2.2	---	---	---	---	43	99	57	1.8	116	45	.00
31	.00	---	---	---	---	43	---	59	---	100	42	---
TOTAL	28.18	---	---	---	---	---	1324.9	2428	776.14	651.66	2224	349.89
MEAN	.91	---	---	---	---	---	44.2	78.3	25.9	21.0	71.7	11.7
MAX	9.0	---	---	---	---	---	111	101	60	161	104	61
MIN	.00	---	---	---	---	---	6.4	56	.59	.00	40	.00
AC-FT	56	---	---	---	---	---	2630	4820	1540	1290	4410	694

e--Estimated.

07099215 TURKEY CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°36'42", long 104°53'39", in NW¹/₄SE¹/₄ sec. 33, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020002, on Fort Carson Military Reservation, on left bank 100 ft downstream from State Highway 115 bridge, 0.7 mi downstream from Turkey Canyon, 0.8 mi upstream from Turkey Creek Ranch, and 9.4 mi southwest of Fountain.

DRAINAGE AREA.--13.0 mi².

PERIOD OF RECORD.--Streamflow records, May 1978 to September 1989, May 1995 to current year. Water-quality data available, May 1978 to September 1982.

REVISED RECORDS.--WDR CO-80-1: 1978-79 (M). WDR CO-96-1: 1980 (M), 1982-86 (M).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,420 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.78	.91	.60	.40	.43	.06	5.7	12	1.4	.00	5.0	2.4
2	.66	.79	.59	.41	.47	.05	6.0	11	.62	.00	3.3	4.0
3	e.50	.69	e.50	.42	.48	.03	5.8	10	.71	.60	4.9	2.4
4	e.45	.68	e.50	e.40	e.40	.01	6.0	9.7	1.3	.37	5.8	1.1
5	e.36	.68	e.55	e.45	.37	.07	6.6	9.7	.98	.30	5.7	.56
6	e.32	.68	e.40	.47	.43	.02	6.8	e9.8	.79	3.8	4.0	.81
7	e.32	.66	e.40	e.30	e.30	.14	6.7	e9.8	1.1	5.0	4.0	.71
8	e.30	.65	.45	e.40	.32	.10	6.7	e9.7	1.5	4.1	4.6	.60
9	e.32	.72	.47	e.40	.40	.19	6.6	e9.8	1.3	4.3	3.5	.50
10	e.36	.93	e.55	e.50	.30	.26	6.5	e9.7	1.2	4.0	2.0	.57
11	e.30	.68	e.50	e.60	.25	.26	7.1	e9.8	1.1	3.9	5.2	.54
12	e.40	.71	e.60	e.50	.15	.23	8.6	e9.8	.89	3.5	2.8	.51
13	e.55	.66	.59	e.40	.10	.43	8.9	e9.8	.81	3.2	1.9	.59
14	e.50	e.50	.53	e.32	.65	.56	9.0	e10	.76	2.8	1.5	.60
15	e.50	e.55	.46	.59	.46	.49	9.2	e10	.90	2.3	4.8	.65
16	e.45	e.60	e.50	e.50	.17	.53	9.0	e9.7	.74	2.0	3.0	.71
17	e.50	e.60	.53	e.40	.23	.23	8.6	e9.6	.51	1.4	2.6	.66
18	e.48	e.70	.53	e.40	.09	.38	8.9	e9.5	.19	.93	2.1	.54
19	e.48	.60	.53	e.30	.00	.30	8.8	e9.4	.15	.31	1.3	.44
20	e.54	.60	.56	e.20	.22	1.2	9.3	e9.2	.04	.00	.48	.45
21	e.60	.68	e.50	e.30	.32	2.3	9.6	e9.0	.01	.00	.19	.60
22	e.60	e.70	e.60	e.50	e.30	.31	11	e8.5	.02	.88	.04	.87
23	.51	e.70	.51	e.60	e.40	2.1	14	8.5	.03	1.1	.07	.69
24	.56	.66	e.60	e.60	.47	3.1	15	8.4	.06	1.8	.63	.44
25	e.70	.56	e.50	.64	.41	4.4	17	8.4	.04	1.7	1.2	.32
26	e.60	.58	e.60	.49	.27	5.4	15	8.7	.00	2.2	4.9	.22
27	.71	.57	e.55	.53	.21	6.7	13	8.1	.00	1.2	.15	.17
28	.74	.68	e.50	.76	.08	6.8	12	7.1	.00	3.3	5.3	.10
29	.74	.65	e.50	.51	---	6.6	12	5.4	.00	11	17	.09
30	.74	e.60	e.55	.43	---	6.1	12	4.2	.00	11	10	.02
31	.80	---	e.60	e.40	---	6.0	---	3.8	---	22	4.9	---
TOTAL	16.37	19.97	16.35	14.12	8.68	55.35	281.4	278.1	17.15	98.99	112.86	22.86
MEAN	.53	.67	.53	.46	.31	1.79	9.38	8.97	.57	3.19	3.64	.76
MAX	.80	.93	.60	.76	.65	6.8	17	12	1.5	22	17	4.0
MIN	.30	.50	.40	.20	.00	.01	5.7	3.8	.00	.00	.04	.02
AC-FT	32	40	32	28	17	110	558	552	34	196	224	45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1998, BY WATER YEAR (WY)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998		
MEAN	1.36	.79	.34	.19	.16	.44	2.02	7.38	6.00	1.48	2.23	.85											
MAX (WY)	14.6	7.06	2.34	1.17	.82	1.79	9.38	36.6	29.7	5.11	13.8	6.38											
MIN (WY)	.000	.000	.000	.000	.000	.000	.000	.057	.006	.002	.000	.000											
(WY)	1979	1979	1979	1979	1979	1980	1981	1981	1978	1989	1989	1978											

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1978 - 1998

ANNUAL TOTAL	1706.48	942.20		
ANNUAL MEAN	4.68	2.58		
HIGHEST ANNUAL MEAN			1.88	
LOWEST ANNUAL MEAN			5.53	1985
HIGHEST DAILY MEAN	e380	Jun 10	.083	1989
LOWEST DAILY MEAN	a.00	Jan 1		
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 12		
INSTANTANEOUS PEAK FLOW			.00	Jun 26
INSTANTANEOUS PEAK STAGE			49	Aug 11
ANNUAL RUNOFF (AC-FT)	3380	1870	2.70	Aug 11
10 PERCENT EXCEEDS	12	9.2		5.0
50 PERCENT EXCEEDS	.66	.60		.20
90 PERCENT EXCEEDS	.04	.17		.00

e-Estimated.

a-No flow many days some years.

b-From rating curve extended above 400 ft³/s on the basis of slope-area measurement of peak flow.

c-From floodmarks.

07099230 TURKEY CREEK ABOVE TELLER RESERVOIR, NEAR STONE CITY, CO

LOCATION.--Lat 38°27'54", long 104°49'33", in SW¹/₄(revised)SW¹/₄ sec.19, T.18 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on Fort Carson Military Reservation, on left bank, 0.7 mi northwest of intersection of military roads 9 and 1, 2.2 mi upstream from Teller Reservoir Dam, and 2.2 mi northeast of Stone City.

DRAINAGE AREA.--62.3 mi².

REVISED RECORDS.--WDR CO-89-1: Drainage area.

PERIOD OF RECORD.--Streamflow records, May 1978 to current year. Water-quality data available, May 1978 to September 1981.

GAGE.--Water-stage recorder with satellite telemetry and concrete control with V-notch sharp-crested weir. Elevation of gage is 5,520 ft above sea level, from topographic map. Prior to July 20, 1989, at site 0.6 mi downstream, at different datum.

REMARKS.--Records fair except for discharges above 190 ft³/s, which are poor. Diversions upstream from gage for irrigation, amount unknown. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	1.6	2.2	2.1	1.9	1.4	5.9	27	8.4	.17	.37	4.4
2	1.5	1.8	2.1	2.0	1.9	1.4	6.6	27	7.0	.16	.44	4.1
3	1.0	1.8	2.3	2.0	1.9	1.5	7.0	27	6.1	.16	5.7	2.9
4	.97	1.7	2.2	2.1	1.9	1.4	6.9	28	6.1	.16	9.3	2.2
5	.87	1.7	2.0	2.1	1.9	1.4	7.0	29	7.0	.16	6.4	1.7
6	.77	1.8	2.1	2.0	1.9	1.4	7.6	30	7.6	.16	4.1	1.4
7	.74	1.8	2.2	2.0	1.9	1.4	8.3	30	6.4	.17	2.8	1.0
8	.72	1.7	2.2	2.0	1.8	1.2	8.7	29	5.1	.18	2.3	.86
9	.84	1.7	2.1	2.0	1.8	1.3	8.8	31	4.7	.20	1.9	.70
10	.94	1.9	2.2	2.1	1.8	1.2	8.3	29	3.7	.22	3.5	.58
11	.75	2.0	2.1	2.1	1.8	1.3	7.9	31	2.6	.22	28	.54
12	.88	2.1	2.1	2.0	1.8	1.2	8.0	31	1.7	.21	9.1	.52
13	1.1	2.0	2.2	2.0	1.8	1.2	8.9	31	1.4	.19	4.3	.51
14	1.0	2.1	2.2	2.0	1.8	1.2	9.6	31	1.3	.17	3.1	.54
15	1.0	1.9	2.1	1.9	1.8	1.2	11	31	1.5	.16	2.8	.52
16	.97	1.8	2.1	1.9	1.8	1.1	13	29	1.2	.17	3.8	.49
17	.95	1.8	2.2	1.9	1.8	1.2	12	28	1.0	.19	3.0	.47
18	.81	1.6	2.1	2.0	1.8	.92	12	26	.84	e.16	2.2	.46
19	.82	1.7	2.1	2.0	1.7	1.6	12	25	.70	.14	2.0	.42
20	.91	1.7	2.1	2.0	1.6	1.6	12	24	.57	.12	2.0	.40
21	1.0	1.8	2.3	1.9	1.6	1.5	12	22	.55	.11	1.7	.39
22	1.0	1.7	2.2	1.9	1.5	1.5	12	22	.50	.12	1.6	.37
23	1.0	1.7	2.3	2.0	1.4	1.6	12	21	.37	.13	1.2	.37
24	1.1	1.7	2.3	2.0	1.4	1.5	15	19	.32	.11	.91	.38
25	1.4	1.7	2.2	2.0	1.4	1.3	20	18	.31	.13	1.9	.36
26	1.5	1.6	2.1	1.9	1.4	1.3	25	17	.25	.15	4.4	.35
27	1.7	1.9	2.1	1.9	1.5	1.9	25	15	.25	.13	6.1	.34
28	1.7	2.5	2.1	1.9	1.4	2.2	25	13	.21	1.8	5.4	.31
29	1.6	2.3	2.2	1.9	---	3.5	26	12	.19	2.3	4.4	.28
30	1.6	2.2	2.2	2.0	---	4.7	27	11	.19	.93	3.5	.26
31	1.5	---	2.1	1.9	---	5.5	---	9.7	---	.41	2.9	---
TOTAL	34.94	55.3	67.0	61.5	48.0	52.62	380.5	753.7	78.05	9.79	131.12	28.12
MEAN	1.13	1.84	2.16	1.98	1.71	1.70	12.7	24.3	2.60	.32	4.23	.94
MAX	2.3	2.5	2.3	2.1	1.9	5.5	27	31	8.4	2.3	28	4.4
MIN	.72	1.6	2.0	1.9	1.4	.92	5.9	9.7	.19	.11	.37	.26
AC-FT	69	110	133	122	95	104	755	1490	155	19	260	56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1998, BY WATER YEAR (WY)

	1978	1979	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	2.92	1.98	.94	.74	.71	.69	1.83	13.2	11.1	2.83	3.93	1.51				
MAX	44.6	26.7	6.47	2.69	2.58	2.75	12.9	73.6	60.1	17.1	40.9	18.1				
(WY)	1985	1985	1985	1985	1985	1985	1985	1980	1997	1985	1982	1982				
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000				
(WY)	1979	1979	1979	1979	1979	1979	1979	1979	1979	1978	1990	1978				

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1978 - 1998
ANNUAL TOTAL	3108.69	1700.64	
ANNUAL MEAN	8.52	4.66	3.62
HIGHEST ANNUAL MEAN			13.1
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	506	a31	506
LOWEST DAILY MEAN	.31	b.11	c.00
ANNUAL SEVEN-DAY MINIMUM	.37	.12	.00
INSTANTANEOUS PEAK FLOW		378	d3640
INSTANTANEOUS PEAK STAGE		8.43	f11.51
ANNUAL RUNOFF (AC-FT)	6170	3370	2630
10 PERCENT EXCEEDS	21	13	5.9
50 PERCENT EXCEEDS	1.5	1.9	.48
90 PERCENT EXCEEDS	.62	.32	.00

e-Estimated.

a-Also occurred May 11-15.

b-Also occurred Jul 24.

c-No flow many days during most years.

d-From rating curve extended above 100 ft³/s, on the basis of slope-area measurements at gage heights 8.04 ft and 11.27 ft.

f-Maximum gage height, 11.88 ft, Jun 8, 1987, site and datum then in use.

07099233 TELLER RESERVOIR NEAR STONE CITY, CO

LOCATION.--Lat 38°26'33", long 104°49'31", in SE¼NW¼ sec.31, T.18 S., R.66 W., in Pueblo County, Hydrologic Unit 11020002, at left upstream end of dam on Turkey Creek on Fort Carson Military Reservation, 1.4 mi upstream from Booth Gulch, and 2.0 mi east of Stone City.

DRAINAGE AREA.--71.5 mi².

PERIOD OF RECORD.--September 1978 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 5,453 ft above sea level, from topographic map.

REMARKS.--Records good. Reservoir is formed by an earthfill dam completed around 1908. Maximum capacity of reservoir is 1,780 acre-ft at an uncontrolled spillway elevation of about 88 ft, 1980 survey. There is a controlled outlet from reservoir, however, considerable leakage occurs. Reservoir is used for recreation and for amphibious training for Fort Carson. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data for Gaging Stations" section of this report.

EXTREMES (at 2400) FOR PERIOD OF RECORD.--Maximum contents, 2,210 acre-ft, June 21, 1980, elevation, 90.15 ft, from capacity curve extended above 88 ft; no contents during 1979, 1991-1994 water years.

EXTREMES (at 2400) FOR CURRENT YEAR.--Maximum contents, 1,270 acre-ft, May 5-15, elevation, 84.91ft, May 8-9; minimum contents, 719 acre-ft, July 27, elevation, 80.59 ft, July 27.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1110	1100	1170	1160	1150	1120	1170	1260	1140	827	808	991
2	1110	1100	1170	1170	1150	1120	1180	1260	1130	816	805	995
3	1110	1100	1170	1160	1150	1120	1180	1260	1130	805	803	997
4	1100	1100	1170	1160	1150	1120	1190	1260	1120	794	827	995
5	1100	1100	1170	1160	1150	1110	1190	1270	1120	783	836	993
6	1100	1100	1170	1170	1140	1110	1190	1270	1120	776	839	991
7	1100	1100	1170	1160	1140	1110	1200	1270	1110	774	840	990
8	1090	1100	1170	1160	1140	1110	1200	1270	1100	772	839	986
9	1090	1110	1170	1160	1140	1110	1200	1270	1100	769	841	983
10	1090	1110	1170	1160	1140	1110	1200	1270	1090	767	842	979
11	1080	1110	1170	1160	1140	1110	1200	1270	1080	765	909	975
12	1080	1110	1170	1160	1140	1100	1200	1270	1070	761	938	973
13	1080	1120	1160	1160	1140	1100	1200	1270	1050	757	942	975
14	1080	1120	1170	1160	1140	1100	1200	1270	1040	753	943	980
15	1080	1120	1170	1160	1140	1100	1220	1270	1030	749	944	983
16	1080	1120	1160	1160	1130	1100	1230	1260	1020	745	949	990
17	1080	1120	1170	1160	1130	1100	1220	1260	1010	741	951	984
18	1080	1120	1170	1160	1130	1120	1230	1250	995	737	951	980
19	1070	1130	1170	1160	1130	1120	1220	1250	982	733	965	977
20	1070	1130	1170	1160	1130	1130	1220	1250	969	730	965	973
21	1070	1130	1170	1160	1130	1130	1220	1240	956	725	965	973
22	1070	1130	1170	1160	1130	1130	1220	1230	943	721	964	969
23	1070	1130	1170	1160	1130	1130	1220	1220	927	722	962	965
24	1080	1130	1170	1160	1120	1130	1220	1210	911	724	958	970
25	1090	1130	1160	1160	1120	1130	1230	1200	896	723	960	960
26	1090	1130	1160	1160	1120	1130	1250	1200	882	722	962	960
27	1090	1150	1160	1160	1120	1150	1260	1190	869	719	973	953
28	1090	1170	1160	1160	1120	1150	1260	1180	857	770	979	947
29	1100	1170	1160	1150	---	1150	1260	1170	845	802	982	942
30	1100	1170	1160	1150	---	1160	1260	1160	837	811	983	936
31	1100	---	1160	1150	---	1160	---	1150	---	809	984	---
TOTAL	33730	33660	36180	35950	31790	34770	36440	38430	30329	23602	28409	29265
MEAN	1090	1120	1170	1160	1140	1120	1210	1240	1010	761	916	976
MAX	1110	1170	1170	1170	1150	1160	1260	1270	1140	827	984	997
MIN	1070	1100	1160	1150	1120	1100	1170	1150	837	719	803	936

CAL YR 1997 TOTAL 321905 MEAN 882 MAX 1630 MIN 376
WTR YR 1998 TOTAL 392555 MEAN 1080 MAX 1270 MIN 719

07099235 TURKEY CREEK NEAR STONE CITY, CO

LOCATION.--Lat 38°26'22", long 104°49'34", in SW¹/₄SW¹/₄ sec.31, T.18 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on Fort Carson Military Reservation, on right bank, 0.2 mi downstream from Teller Reservoir Dam, 1.1 mi upstream from military road No. 11, and 2.0 mi southeast of Stone City.

DRAINAGE AREA.--71.5 mi².

PERIOD OF RECORD.--May 1978 to November 1984, June 1987 to current year.

REVISED RECORDS.--WDR CO-80-1: 1979(M).

GAGE (REVISED).--Water-stage recorder with satellite telemetry, and concrete control with V-notch sharp-crested weir since Dec. 6, 1989. Elevation of gage is 5,395 ft above sea level, from topographic map. Prior to June 12, 1987, at site 0.1 mi upstream at different datum. June 12, 1987 to Dec. 6, 1989 at site 0.3 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records are poor. Flow regulated by Teller Reservoir 0.2 mi upstream. Gage records seepage and releases from reservoir. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.69	.89	.89	1.3	1.2	1.2	2.4	5.5	2.8	.57	.66
2	1.1	.72	.89	.89	1.3	1.2	1.2	2.4	5.5	2.7	.58	.66
3	1.1	.72	.88	.89	1.3	1.2	1.3	2.4	5.5	2.7	.60	.67
4	1.0	.75	.87	.89	1.3	1.1	1.3	2.3	5.4	2.7	.65	.64
5	.99	.77	.89	.89	1.2	1.1	1.3	2.3	5.4	2.5	.63	.60
6	1.0	.78	.89	.88	1.2	1.1	1.3	2.5	5.4	1.7	.62	.59
7	.94	.78	.89	.89	1.2	1.1	1.3	2.5	5.3	.38	.63	.60
8	.88	.78	.89	.89	1.2	1.1	1.4	2.4	5.2	.38	.61	.61
9	.87	.78	.89	.87	1.2	1.1	1.4	2.6	5.1	.38	.62	.62
10	.84	.76	.89	.86	1.2	1.1	1.4	2.8	5.0	.39	.69	.61
11	.82	.78	.89	.86	1.2	1.1	1.4	2.9	5.0	.39	.67	.61
12	.83	.78	.89	.86	1.2	1.1	1.4	3.3	4.9	.42	.74	.61
13	.81	.78	.89	.86	1.2	1.1	1.4	3.4	4.9	.43	.75	.62
14	.78	.78	.89	.86	1.2	1.1	1.5	3.1	4.8	.44	.72	.61
15	.75	.78	.89	.86	1.2	1.2	1.6	3.1	4.6	.45	.70	.60
16	.72	.76	.89	.82	1.2	1.2	1.6	3.0	4.4	.45	.68	.58
17	.68	.69	.89	.80	1.2	1.2	1.8	2.8	4.2	.45	.67	.57
18	.67	.71	.89	.78	1.2	1.2	1.7	2.8	4.0	.44	.65	.56
19	.63	.71	.89	.78	1.2	1.3	1.7	2.7	4.0	.44	.70	.55
20	.61	.72	.89	.78	1.2	1.3	1.8	2.7	3.9	.45	.67	.55
21	.59	.73	.89	.76	1.2	1.2	2.0	2.7	3.9	.45	.66	.54
22	.57	.74	.89	.76	1.2	1.4	2.2	4.9	3.6	.45	.65	.51
23	.57	.76	.89	.76	1.2	1.4	2.2	6.2	3.5	.47	.63	.50
24	.60	.76	.89	.76	1.2	1.4	2.1	6.0	3.5	.49	.63	.49
25	.72	.76	.89	.76	1.2	1.4	2.0	5.8	3.4	.49	.64	.50
26	.72	.77	.89	.76	1.2	1.3	2.1	5.7	3.3	.49	.63	.50
27	.71	.80	.89	.76	1.2	1.3	2.4	5.7	3.2	.48	.64	.47
28	.66	.88	.89	.97	1.2	1.2	2.3	5.8	3.1	.65	.63	.48
29	.65	.88	.89	1.3	---	1.2	2.4	5.7	2.9	.62	.64	.48
30	.63	.89	.89	1.3	---	1.2	2.4	5.7	2.9	.58	.65	.48
31	.66	---	.89	1.3	---	1.2	---	5.5	---	.57	.65	---
TOTAL	24.20	22.99	27.56	27.29	34.0	37.3	51.1	114.1	131.3	26.73	20.20	17.07
MEAN	.78	.77	.89	.88	1.21	1.20	1.70	3.68	4.38	.86	.65	.57
MAX	1.1	.89	.89	1.3	1.3	1.4	2.4	6.2	5.5	2.8	.75	.67
MIN	.57	.69	.87	.76	1.2	1.1	1.2	2.3	2.9	.38	.57	.47
AC-FT	48	46	55	54	67	74	101	226	260	53	40	34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1998, BY WATER YEAR (WY)

MEAN	.34	.33	.29	.27	.29	.29	.29	1.28	2.67	1.18	.81	.64
MAX	1.64	1.57	1.47	1.49	1.54	1.36	1.70	8.37	20.3	9.78	4.43	3.03
(WY)	1983	1983	1983	1983	1983	1983	1998	1995	1995	1995	1995	1995
MIN	.010	.010	.010	.010	.010	.015	.015	.011	.010	.010	.010	.010
(WY)	1992	1992	1992	1979	1979	1992	1979	1979	1978	1991	1991	1991

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1978 - 1998
ANNUAL TOTAL	533.48	533.84	
ANNUAL MEAN	1.46	1.46	.73
HIGHEST ANNUAL MEAN			3.93
LOWEST ANNUAL MEAN			.024
HIGHEST DAILY MEAN	52	6.2	70
LOWEST DAILY MEAN	a.01	b.38	.00
ANNUAL SEVEN-DAY MINIMUM	.02	.40	.01
INSTANTANEOUS PEAK FLOW		6.8	c83
INSTANTANEOUS PEAK STAGE		4.54	6.29
ANNUAL RUNOFF (AC-FT)	1060	1060	531
10 PERCENT EXCEEDS	2.4	3.3	1.6
50 PERCENT EXCEEDS	.71	.89	.15
90 PERCENT EXCEEDS	.03	.57	.01

a-Also occurred Apr 25-27.
b-Also occurred July 8-9.
c-From rating curve extended above 62 ft³/s.

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO

LOCATION.--Lat 38°16'15", long 104°43'30", in NE¹/₄ sec.36, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, at dam on Arkansas River, 7 mi west of Pueblo.

DRAINAGE AREA.--4,669 mi².

RESERVOIR ELEVATIONS AND CONTENTS RECORDS

PERIOD OF RECORD.--January 1974 to current year.

GAGE.--Nonrecording gage. Datum of gage is 4,898.70 ft above sea level, (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations above sea level.

REMARKS.--Reservoir is formed by concrete and earthfill dam. Storage began Jan. 9, 1974; dam completed in August 1975. Capacity, 357,700 acre-ft at elevation 4,898.70 ft, crest of spillway. Dead storage, 3,730 acre-ft, below elevation 4,764.00 ft, invert of river outlet. Reservoir is terminal reservoir of the Fryingpan-Arkansas project and is used to provide flood control, municipal and industrial supplies, and to fulfill irrigation requirements in the Arkansas River valley. Figures given are total contents.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 295,480 acre-ft, Feb. 12, 1985, elevation, 4,886.94 ft; minimum since appreciable storage was attained, 22,680 acre-ft, Nov. 13, 1974, elevation, 4,790.50 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 257,870 acre-ft, Mar. 27, elevation, 4,880.69 ft; minimum contents, 147,850 acre-ft, Sept. 30, elevation, 4,852.06 ft.

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	4,866.88	199,830	-
Oct. 31	4,865.78	195,620	-4,210
Nov. 30	4,866.50	198,370	+2,750
Dec. 31	4,870.03	212,180	+13,810
CAL YR 1997	-	-	-20,660
Jan. 31	4,875.70	235,620	+23,440
Feb. 28	4,879.45	252,180	+16,560
Mar. 31	4,880.35	256,350	+4,170
Apr. 30	4,871.64	218,670	-37,680
May 31	4,863.99	188,890	-29,780
June 30	4,862.28	182,810	-6,080
July 31	4,862.46	183,260	+450
Aug. 31	4,860.15	174,970	-8,290
Sept. 30	4,852.06	147,850	-27,120
WTR YR 1998	-	-	-51,980

**07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued
WATER-QUALITY RECORDS**

REMARKS.--Samples and field measurements were collected at a number of transects located along the length of the reservoir.

381754104504000 PUEBLO RESERVOIR SITE 2B

LOCATION.--Lat 38°17'54", long 104°50'40", in SW¹/₄NW¹/₄, sec.24, T.20 S., R.67 W., Pueblo County, Hydrologic Unit 11020002, at approximate center of transect, approximately 1.1 mi downstream from Rush Creek, 1.1 mi upstream from Turkey Creek, and 7.8 mi upstream from Pueblo Dam.

PERIOD OF RECORD.--June 1988 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
MAY 1998							
13...	1120	--	--	--	--	0.3	--
13...	1121	0.0	537	8.6	18.8	--	8.8
13...	1122	3.0	514	8.5	16.6	--	7.1
13...	1123	6.0	512	8.5	16.2	--	6.9
13...	1124	9.0	515	8.4	16.0	--	7.0
13...	1125	12.0	515	8.4	15.1	--	7.1
13...	1126	15.0	504	8.4	14.4	--	6.8
JUN							
18...	1310	--	--	--	--	0.3	--
18...	1311	0.0	298	8.1	15.6	--	7.5
18...	1312	3.0	298	8.1	15.6	--	7.5
18...	1313	6.0	298	8.1	15.4	--	7.6
18...	1314	9.0	297	8.1	14.6	--	7.6
AUG							
07...	1215	--	--	--	--	0.5	--
07...	1216	0.0	366	8.4	25.4	--	8.2
07...	1217	3.0	360	8.3	22.3	--	7.3
07...	1218	6.0	359	8.2	20.7	--	7.0
07...	1219	8.0	361	8.0	19.9	--	6.5

ARKANSAS RIVER BASIN

**07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued
WATER-QUALITY RECORDS**

381725104494400 PUEBLO RESERVOIR SITE 3B

LOCATION.--Lat 38°17'25", long 104°49'44", in SW¹/₄SW¹/₄, sec.19, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, at approximate center of transect, approximately 100 ft downstream from Turkey Creek, and 6.7 mi upstream from Pueblo Dam.

PERIOD OF RECORD.--June 1988 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
MAY 1998							
13...	1050	--	--	--	--	0.5	--
13...	1051	0.0	530	8.5	17.9	--	8.9
13...	1052	3.0	530	8.5	16.4	--	7.8
13...	1053	6.0	530	8.5	16.3	--	7.6
13...	1054	9.0	537	8.5	16.0	--	7.6
13...	1055	12.0	543	8.4	16.0	--	7.7
13...	1056	15.0	546	8.4	15.8	--	7.5
13...	1057	18.0	552	8.4	15.5	--	7.4
13...	1058	21.0	574	8.4	15.0	--	7.0
13...	1059	24.0	560	8.4	14.5	--	6.3
13...	1100	25.0	569	8.3	14.2	--	5.9
JUN							
18...	1220	--	--	--	--	0.5	--
18...	1221	0.0	309	8.3	18.1	--	7.1
18...	1222	3.0	304	8.3	17.8	--	7.1
18...	1223	6.0	300	8.3	17.5	--	7.1
18...	1224	9.0	299	8.3	17.4	--	7.1
18...	1225	12.0	301	8.2	17.3	--	7.0
18...	1226	15.0	307	8.2	17.2	--	7.0
18...	1227	18.0	307	8.2	17.1	--	6.9
18...	1228	20.0	340	8.2	17.1	--	6.6
AUG							
07...	1115	--	--	--	--	0.9	--
07...	1116	0.0	361	8.6	25.9	--	8.6
07...	1117	3.0	361	8.6	24.4	--	8.4
07...	1118	6.0	360	8.5	24.2	--	7.8
07...	1119	9.0	361	8.5	24.1	--	7.2
07...	1120	12.0	365	8.4	23.8	--	6.8
07...	1121	15.0	363	8.3	23.0	--	6.5
07...	1122	18.0	358	8.1	20.7	--	6.0
07...	1123	19.0	358	8.1	20.6	--	5.8
SEP							
23...	1145	--	--	--	--	0.8	--
23...	1146	0.0	488	8.6	21.1	--	8.9
23...	1147	3.0	498	8.5	21.0	--	8.8
23...	1148	6.0	520	8.5	20.2	--	8.1
23...	1149	9.0	603	8.2	17.3	--	6.4
23...	1150	10.0	628	8.1	16.7	--	6.7

**07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued
WATER-QUALITY RECORDS**

381647104475300 PUEBLO RESERVOIR SITE 4B

LOCATION.--Lat 38°16'47", long 104°47'53", in NW¹/₄SE¹/₄, sec.29, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, at approximate center of transect, approximately 1.3 mi upstream from Peck Creek, 2.2 mi downstream from Turkey Creek, and 4.5 mi upstream from Pueblo Dam.

PERIOD OF RECORD.--June 1988 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
MAY 1998							
13...	1020	--	--	--	--	2.4	--
13...	1021	0.0	555	8.4	15.6	--	8.0
13...	1022	6.0	555	8.4	14.8	--	8.0
13...	1023	12.0	555	8.4	14.6	--	8.1
13...	1024	18.0	554	8.4	14.5	--	8.1
13...	1025	24.0	554	8.4	14.3	--	8.1
13...	1026	30.0	564	8.3	11.9	--	6.5
13...	1027	36.0	554	8.2	10.7	--	6.8
13...	1028	42.0	548	8.1	10.4	--	7.2
13...	1029	48.0	537	8.1	9.3	--	7.6
13...	1030	54.0	537	8.1	9.3	--	7.6
13...	1031	56.0	537	8.1	9.3	--	7.6
JUN							
18...	1200	--	--	--	--	0.8	--
18...	1201	0.0	358	8.1	18.1	--	6.9
18...	1202	6.0	357	8.1	18.0	--	6.9
18...	1203	12.0	355	8.1	17.9	--	6.8
18...	1204	18.0	355	8.1	17.8	--	6.7
18...	1205	24.0	364	8.1	17.8	--	6.7
18...	1206	30.0	390	8.1	17.5	--	6.2
18...	1207	36.0	414	8.0	17.1	--	5.8
18...	1208	42.0	412	8.0	17.1	--	5.7
18...	1209	46.0	423	8.0	16.9	--	5.5
AUG							
07...	1045	--	--	--	--	1.8	--
07...	1046	0.0	355	8.3	24.3	--	6.8
07...	1047	6.0	355	8.4	24.0	--	7.1
07...	1048	12.0	355	8.3	23.8	--	6.5
07...	1049	18.0	355	8.3	23.6	--	6.3
07...	1050	24.0	362	8.2	22.8	--	5.6
07...	1051	30.0	367	8.1	22.2	--	5.3
07...	1052	36.0	364	8.0	21.8	--	4.9
07...	1053	42.0	367	7.9	21.6	--	5.0
07...	1054	46.0	382	7.9	21.0	--	5.3
SEP							
23...	0923	--	--	--	--	1.4	--
23...	0924	0.0	434	8.3	21.9	--	7.2
23...	0925	6.0	435	8.3	21.7	--	7.0
23...	0926	12.0	436	8.3	21.6	--	6.7
23...	0927	18.0	436	8.3	21.6	--	6.7
23...	0928	24.0	436	8.3	21.6	--	6.6
23...	0929	30.0	436	8.2	21.6	--	6.5
23...	0930	36.0	435	8.2	21.5	--	6.4
23...	0931	38.0	526	8.1	20.3	--	5.5

**07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued
WATER-QUALITY RECORDS**

381559104465500 PUEBLO RESERVOIR SITE 5C

LOCATION.--Lat 38°15'59", long 104°46'55", in SW¹/₄NE¹/₄, sec.33, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, at approximate center of transect, approximately 0.1 mi upstream from Peck Creek, 1.2 mi upstream from Rock Creek, and 3.2 mi upstream from Pueblo Dam.

PERIOD OF RECORD.--June 1988 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
MAY 1998							
13...	0950	--	--	--	--	2.9	--
13...	0951	0.0	563	8.3	15.0	--	8.2
13...	0952	3.0	562	8.3	14.7	--	8.2
13...	0953	6.0	559	8.3	14.6	--	8.2
13...	0954	9.0	558	8.3	14.5	--	8.2
13...	0955	12.0	558	8.3	14.5	--	8.2
13...	0956	15.0	557	8.3	14.5	--	8.2
13...	0957	18.0	557	8.3	14.4	--	8.2
13...	0958	21.0	555	8.3	14.1	--	8.1
13...	0959	24.0	554	8.3	14.0	--	8.1
13...	1000	27.0	554	8.3	13.9	--	8.1
13...	1001	30.0	553	8.3	13.7	--	8.0
13...	1002	33.0	552	8.3	13.6	--	8.0
13...	1003	36.0	552	8.3	13.3	--	8.0
13...	1004	39.0	555	8.3	12.1	--	7.5
13...	1005	42.0	556	8.3	11.3	--	7.3
13...	1006	45.0	551	8.2	10.8	--	7.3
13...	1007	48.0	549	8.2	10.6	--	7.3
13...	1008	51.0	547	8.2	10.3	--	7.3
13...	1009	54.0	541	8.2	9.5	--	7.4
13...	1010	57.0	536	8.2	9.0	--	7.4
13...	1011	58.0	535	8.2	9.0	--	7.4
JUN							
18...	1125	--	--	--	--	1.5	--
18...	1126	0.0	399	8.2	18.1	--	7.2
18...	1127	3.0	399	8.2	18.1	--	7.1
18...	1128	6.0	400	8.1	18.1	--	7.0
18...	1129	9.0	412	8.1	18.0	--	7.0
18...	1130	12.0	419	8.1	17.9	--	7.0
18...	1131	15.0	420	8.1	17.9	--	7.0
18...	1132	18.0	422	8.1	17.9	--	6.9
18...	1133	21.0	424	8.1	17.9	--	6.9
18...	1134	24.0	424	8.1	17.8	--	6.8
18...	1135	27.0	427	8.1	17.8	--	6.9
18...	1136	30.0	429	8.1	17.8	--	6.9
18...	1137	33.0	430	8.1	17.8	--	6.9
18...	1138	36.0	431	8.1	17.8	--	6.9
18...	1139	39.0	433	8.1	17.8	--	6.9
18...	1140	42.0	434	8.1	17.8	--	6.8
18...	1141	45.0	437	8.1	17.7	--	6.7
18...	1142	48.0	443	8.1	17.5	--	6.4
18...	1143	51.0	443	8.1	17.3	--	6.2
18...	1144	54.0	425	8.1	16.6	--	5.2
18...	1145	57.0	427	8.0	16.3	--	4.9
18...	1146	58.0	427	8.0	16.3	--	4.8
AUG							
07...	1015	--	--	--	--	2.4	--
07...	1016	0.0	356	8.3	24.0	--	6.5
07...	1017	3.0	356	8.3	24.0	--	6.5
07...	1018	6.0	355	8.3	23.7	--	6.6
07...	1019	9.0	355	8.3	23.6	--	6.6
07...	1020	12.0	355	8.3	23.6	--	6.6
07...	1021	15.0	355	8.3	23.5	--	6.6
07...	1022	18.0	357	8.2	23.2	--	5.7
07...	1023	21.0	357	8.2	23.2	--	5.8
07...	1024	24.0	360	8.1	22.9	--	5.5
07...	1025	27.0	362	8.1	22.5	--	5.1
07...	1026	30.0	359	8.0	22.4	--	5.0
07...	1027	33.0	362	8.0	22.2	--	4.5
07...	1028	36.0	367	7.9	21.8	--	3.9
07...	1029	39.0	363	7.8	21.4	--	3.8
07...	1030	42.0	362	7.8	21.3	--	3.9
07...	1031	45.0	362	7.8	21.1	--	4.0
07...	1032	48.0	361	7.7	21.0	--	4.0
07...	1033	51.0	363	7.7	20.8	--	4.3
07...	1034	54.0	362	7.7	20.7	--	4.6
07...	1035	57.0	373	7.7	20.6	--	4.6
07...	1036	59.0	373	7.7	20.5	--	4.1

**07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued
WATER-QUALITY RECORDS**

381559104465500 PUEBLO RESERVOIR SITE 5C

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
SEP							
23...	1115	--	--	--	--	0.9	--
23...	1116	0.0	425	8.1	21.8	--	6.2
23...	1117	3.0	424	8.1	21.7	--	6.0
23...	1118	6.0	424	8.1	21.6	--	5.9
23...	1119	9.0	425	8.1	21.6	--	5.9
23...	1120	12.0	424	8.1	21.6	--	5.8
23...	1121	15.0	424	8.1	21.6	--	5.8
23...	1122	18.0	424	8.0	21.6	--	5.8
23...	1123	21.0	424	8.0	21.6	--	5.8
23...	1124	24.0	424	8.0	21.6	--	5.8
23...	1125	27.0	424	8.0	21.6	--	5.8
23...	1126	30.0	424	8.0	21.6	--	5.8
23...	1127	33.0	425	8.1	21.6	--	5.8
23...	1128	36.0	424	8.1	21.6	--	5.8
23...	1129	39.0	424	8.1	21.6	--	5.8
23...	1130	42.0	424	8.1	21.5	--	5.8
23...	1131	45.0	424	8.0	21.5	--	5.8
23...	1132	47.0	424	8.0	21.5	--	5.6

**07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued
WATER-QUALITY RECORDS**

381548104453300 PUEBLO RESERVOIR SITE 6C

LOCATION.--Lat 38°15'48", long 104°45'33", in NE¹/₄SE¹/₄, sec.34, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, at approximate center of transect, approximately 0.2 mi downstream from Rock Creek, and 1.2 mi downstream from Peck Creek, and 2.0 mi upstream from Pueblo Dam.

PERIOD OF RECORD.--June 1988 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
MAY 1998							
13...	0920	--	--	--	--	5.5	--
13...	0921	0.0	553	8.3	14.5	--	8.4
13...	0922	6.0	551	8.3	14.2	--	8.4
13...	0923	12.0	552	8.3	14.2	--	8.4
13...	0924	18.0	551	8.3	14.2	--	8.4
13...	0925	24.0	551	8.3	14.1	--	8.4
13...	0926	30.0	550	8.3	13.9	--	8.3
13...	0927	36.0	549	8.3	13.3	--	8.3
13...	0928	42.0	547	8.2	11.6	--	7.8
13...	0929	48.0	546	8.2	10.8	--	7.6
13...	0930	54.0	538	8.2	9.7	--	7.9
13...	0931	60.0	538	8.2	9.3	--	7.8
13...	0932	66.0	537	8.1	9.2	--	7.7
13...	0933	72.0	535	8.1	8.9	--	7.7
13...	0934	78.0	532	8.1	8.8	--	7.7
13...	0935	84.0	531	8.1	8.6	--	7.6
13...	0936	88.0	532	8.1	8.6	--	7.6
JUN							
18...	1100	--	--	--	--	2.1	--
18...	1101	0.0	457	8.2	18.0	--	7.2
18...	1102	6.0	457	8.2	18.0	--	7.2
18...	1103	12.0	456	8.2	17.9	--	7.1
18...	1104	18.0	456	8.2	17.9	--	7.1
18...	1105	24.0	456	8.2	17.9	--	7.1
18...	1106	30.0	456	8.2	17.9	--	7.0
18...	1107	36.0	456	8.2	17.9	--	7.0
18...	1108	42.0	455	8.2	17.9	--	7.0
18...	1109	48.0	455	8.2	17.8	--	7.0
18...	1110	54.0	455	8.2	17.8	--	6.9
18...	1111	60.0	454	8.2	17.7	--	6.8
18...	1112	66.0	455	8.1	16.9	--	5.6
18...	1113	72.0	449	8.0	15.7	--	4.7
18...	1114	76.0	461	7.9	15.0	--	4.0
AUG							
07...	0935	--	--	--	--	3.5	--
07...	0936	0.0	353	8.2	23.8	--	6.2
07...	0937	6.0	352	8.2	23.6	--	6.3
07...	0938	12.0	353	8.2	23.4	--	6.9
07...	0939	18.0	353	8.2	23.2	--	7.0
07...	0940	24.0	359	8.1	22.9	--	6.2
07...	0941	30.0	357	7.9	22.3	--	4.7
07...	0942	36.0	374	7.7	21.8	--	4.2
07...	0943	42.0	366	7.7	21.4	--	4.5
07...	0944	48.0	364	7.6	21.1	--	3.6
07...	0945	54.0	361	7.6	20.9	--	3.6
07...	0946	60.0	356	7.6	20.5	--	2.6
07...	0947	66.0	361	7.6	20.4	--	2.7
07...	0948	72.0	364	7.5	20.3	--	2.6
07...	0949	76.0	354	7.5	19.6	--	1.6
SEP							
23...	1030	--	--	--	--	1.5	--
23...	1031	0.0	424	8.0	21.8	--	5.5
23...	1032	6.0	424	8.0	21.7	--	5.5
23...	1033	12.0	425	8.0	21.6	--	5.4
23...	1034	18.0	425	7.9	21.6	--	5.4
23...	1035	24.0	425	7.9	21.6	--	5.3
23...	1036	30.0	425	7.9	21.6	--	5.3
23...	1037	36.0	424	7.9	21.6	--	5.3
23...	1038	42.0	423	7.9	21.6	--	5.4
23...	1039	48.0	424	7.9	21.6	--	5.4
23...	1040	54.0	427	7.9	21.6	--	5.2
23...	1041	60.0	441	7.8	21.6	--	3.9
23...	1042	66.0	445	7.8	21.6	--	3.6

**07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued
WATER-QUALITY RECORDS**

381602104435200 PUEBLO RESERVOIR SITE 7B

LOCATION.--Lat 38°16'02", long 104°43'52", in SE¹/₄NW¹/₄, sec.36, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, at approximate center of transect, approximately 0.3 mi downstream from Boggs Creek, and 0.4 mi upstream from Pueblo Dam.

PERIOD OF RECORD.--June 1988 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
MAY 1998							
13...	0835	--	--	--	--	4.9	--
13...	0836	0.0	547	8.1	14.2	--	8.3
13...	0837	3.0	547	8.2	14.2	--	8.3
13...	0838	6.0	547	8.2	14.1	--	8.4
13...	0839	9.0	547	8.2	14.1	--	8.3
13...	0840	12.0	547	8.2	14.1	--	8.4
13...	0841	15.0	547	8.2	14.1	--	8.3
13...	0842	18.0	547	8.2	14.1	--	8.3
13...	0843	21.0	547	8.2	14.0	--	8.3
13...	0844	24.0	547	8.2	13.9	--	8.3
13...	0845	27.0	547	8.2	13.7	--	8.3
13...	0846	30.0	547	8.2	13.6	--	8.3
13...	0847	33.0	545	8.2	13.4	--	8.3
13...	0848	36.0	544	8.2	13.0	--	8.3
13...	0849	39.0	544	8.2	12.7	--	8.2
13...	0850	42.0	542	8.2	12.1	--	8.1
13...	0851	45.0	541	8.2	11.4	--	8.1
13...	0852	48.0	541	8.2	10.9	--	8.1
13...	0853	51.0	539	8.2	10.7	--	8.1
13...	0854	54.0	539	8.1	10.5	--	8.0
13...	0855	57.0	537	8.1	10.1	--	8.0
13...	0856	60.0	537	8.1	10.1	--	7.9
13...	0857	63.0	536	8.1	9.9	--	7.8
13...	0858	66.0	535	8.1	9.6	--	7.9
13...	0859	69.0	535	8.1	9.3	--	7.8
13...	0900	72.0	535	8.1	9.3	--	7.7
13...	0901	75.0	534	8.1	9.2	--	7.7
13...	0902	78.0	533	8.1	9.1	--	7.8
13...	0903	81.0	534	8.1	9.0	--	7.8
13...	0904	84.0	533	8.1	8.9	--	7.8
13...	0905	87.0	533	8.1	8.9	--	7.8
13...	0906	90.0	533	8.1	8.8	--	7.7
13...	0907	93.0	533	8.0	8.8	--	7.7
13...	0908	96.0	532	8.0	8.8	--	7.7
13...	0909	99.0	532	8.0	8.7	--	7.7
13...	0910	102	532	8.0	8.6	--	7.7
13...	0911	105	531	8.0	8.5	--	7.6
13...	0912	108	531	8.0	8.5	--	7.6
13...	0913	111	531	8.0	8.4	--	7.5
13...	0914	112	530	8.0	8.3	--	7.3

ARKANSAS RIVER BASIN

**07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued
WATER-QUALITY RECORDS**

381602104435200 PUEBLO RESERVOIR SITE 7B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
JUN							
18...	0850	--	--	--	--	2.3	--
18...	0851	0.0	464	8.1	18.2	--	7.9
18...	0852	3.0	464	8.1	18.2	--	7.7
18...	0853	6.0	464	8.1	18.2	--	7.6
18...	0854	9.0	464	8.1	18.2	--	7.6
18...	0855	12.0	464	8.1	18.3	--	7.6
18...	0856	15.0	464	8.1	18.2	--	7.5
18...	0857	18.0	463	8.1	18.2	--	7.5
18...	0858	21.0	464	8.1	18.2	--	7.5
18...	0859	24.0	463	8.1	18.2	--	7.5
18...	0900	27.0	463	8.1	18.2	--	7.5
18...	0901	30.0	463	8.1	18.2	--	7.5
18...	0902	33.0	463	8.1	18.2	--	7.5
18...	0903	36.0	463	8.1	18.2	--	7.5
18...	0904	39.0	463	8.1	18.2	--	7.5
18...	0905	42.0	462	8.1	18.2	--	7.5
18...	0906	45.0	461	8.1	18.2	--	7.4
18...	0907	48.0	461	8.1	18.2	--	7.4
18...	0908	51.0	461	8.1	18.2	--	7.4
18...	0909	54.0	454	8.1	18.0	--	7.3
18...	0910	57.0	454	8.1	18.0	--	7.2
18...	0911	60.0	457	8.1	17.7	--	6.8
18...	0912	63.0	460	8.1	17.6	--	6.7
18...	0913	66.0	461	8.0	17.4	--	6.5
18...	0914	69.0	451	8.0	16.8	--	6.1
18...	0915	72.0	454	7.9	16.5	--	5.8
18...	0916	75.0	455	7.8	15.6	--	5.2
18...	0917	78.0	460	7.8	15.4	--	5.1
18...	0918	81.0	456	7.8	15.1	--	5.0
18...	0919	84.0	481	7.8	14.5	--	4.8
18...	0920	87.0	485	7.8	14.4	--	4.7
18...	0921	90.0	492	7.7	14.2	--	4.6
18...	0922	93.0	505	7.7	13.6	--	4.4
18...	0923	96.0	522	7.7	12.5	--	4.2
18...	0924	99.0	530	7.7	11.8	--	3.9
18...	0925	102	532	7.7	11.5	--	3.5
18...	0926	105	533	7.6	11.3	--	3.2
18...	0927	106	532	7.6	11.3	--	3.2

**07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO--Continued
WATER-QUALITY RECORDS**

381602104435200 PUEBLO RESERVOIR SITE 7B--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH WATER WHOLE FIELD (STAND- ARDS) UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
AUG 1998							
07...	0900	--	--	--	--	2.7	--
07...	0901	0.0	350	7.4	23.3	--	6.2
07...	0902	3.0	350	7.7	23.3	--	6.2
07...	0903	6.0	350	7.7	23.3	--	6.1
07...	0904	9.0	350	7.8	23.2	--	6.1
07...	0905	12.0	352	7.8	22.9	--	5.7
07...	0906	15.0	352	7.8	22.8	--	5.7
07...	0907	18.0	351	7.8	22.8	--	5.6
07...	0908	21.0	342	7.9	22.7	--	5.5
07...	0909	24.0	349	7.9	22.7	--	5.5
07...	0910	27.0	349	7.9	22.7	--	5.4
07...	0911	30.0	346	7.9	22.5	--	4.8
07...	0912	33.0	343	7.8	22.2	--	4.0
07...	0913	36.0	339	7.8	21.9	--	3.6
07...	0914	39.0	340	7.7	21.6	--	3.1
07...	0915	42.0	349	7.7	21.4	--	2.9
07...	0916	45.0	362	7.6	21.3	--	2.7
07...	0917	48.0	358	7.6	21.2	--	2.6
07...	0918	51.0	352	7.5	21.0	--	2.6
07...	0919	54.0	357	7.5	21.0	--	2.5
07...	0920	57.0	359	7.5	20.8	--	2.5
07...	0921	60.0	348	7.5	20.7	--	2.5
07...	0922	63.0	345	7.4	20.5	--	2.5
07...	0923	66.0	339	7.4	20.3	--	2.3
07...	0924	69.0	335	7.4	20.2	--	2.2
07...	0925	72.0	325	7.4	19.9	--	2.2
07...	0926	75.0	319	7.4	19.7	--	2.2
07...	0927	78.0	317	7.4	19.5	--	2.0
07...	0928	81.0	317	7.4	19.3	--	1.8
07...	0929	84.0	307	7.4	19.1	--	1.9
07...	0930	87.0	308	7.4	18.9	--	1.8
07...	0931	90.0	317	7.4	18.6	--	1.7
07...	0932	93.0	327	7.4	18.4	--	1.6
07...	0933	96.0	337	7.4	18.3	--	1.2
07...	0934	99.0	345	7.4	18.0	--	.8
07...	0935	102	356	7.3	17.8	--	.2
07...	0936	105	383	7.3	17.1	--	.1
SEP							
23...	0950	--	--	--	--	2.3	--
23...	0951	0.0	421	7.8	21.5	--	5.1
23...	0952	3.0	421	7.8	21.5	--	5.1
23...	0953	6.0	421	7.8	21.5	--	5.1
23...	0954	9.0	421	7.8	21.4	--	5.0
23...	0955	12.0	422	7.8	21.4	--	5.0
23...	0956	15.0	421	7.8	21.4	--	5.0
23...	0957	18.0	422	7.8	21.4	--	5.0
23...	0958	21.0	422	7.8	21.4	--	4.9
23...	0959	24.0	422	7.8	21.4	--	4.9
23...	1000	27.0	422	7.8	21.4	--	4.9
23...	1001	30.0	422	7.8	21.4	--	5.0
23...	1002	33.0	422	7.8	21.4	--	4.9
23...	1003	36.0	422	7.8	21.4	--	4.9
23...	1004	39.0	422	7.8	21.4	--	4.9
23...	1005	42.0	422	7.8	21.4	--	4.9
23...	1006	45.0	422	7.8	21.4	--	4.9
23...	1007	48.0	422	7.8	21.4	--	4.9
23...	1008	51.0	422	7.8	21.4	--	4.9
23...	1009	54.0	422	7.8	21.4	--	4.9
23...	1010	57.0	422	7.8	21.4	--	4.9
23...	1011	60.0	422	7.8	21.4	--	4.9
23...	1012	63.0	422	7.8	21.4	--	4.9
23...	1013	66.0	423	7.8	21.4	--	4.9
23...	1014	69.0	424	7.8	21.4	--	4.8
23...	1015	72.0	426	7.8	21.4	--	4.3
23...	1016	75.0	431	7.7	21.3	--	3.0
23...	1017	78.0	433	7.7	21.1	--	2.8
23...	1018	81.0	435	7.6	21.0	--	1.8
23...	1019	84.0	439	7.6	20.9	--	.6
23...	1020	87.0	438	7.5	20.8	--	.4
23...	1021	90.0	435	7.5	20.5	--	.4
23...	1022	93.0	434	7.5	20.3	--	.3
23...	1023	96.0	434	7.5	20.0	--	.2

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO

LOCATION.--Lat 38°16'18", long 104°43'03", in SE¼NE¼ sec.36, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on left bank 200 ft downstream from northeast corner of Arkansas River bridge, 0.4 mi downstream from Pueblo Dam, and 7 mi west of Pueblo.

DRAINAGE AREA.--4,670 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1965 to current year. Statistical summary computed for 1975 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,740 ft above sea level, from topographic map. Prior to Mar. 23, 1967, at site 730 ft upstream at datum 1.23 ft higher. May 24, 1974 to Feb. 24, 1975, at site 1,500 ft downstream, at different datum. Since Feb. 25, 1975, at or within 50 ft of present location at present datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions upstream from station for irrigation of about 88,000 acres and return flow from irrigated areas. Flow completely regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	344	647	650	51	62	348	401	697	1580	1840	1510	358
2	344	597	748	51	62	301	427	698	1880	2110	1510	410
3	344	531	747	52	62	196	476	698	2010	2060	1500	557
4	345	422	642	51	62	114	476	851	2220	1770	1520	1020
5	318	357	428	51	62	98	476	991	2790	1630	992	1300
6	310	328	430	51	62	106	476	1110	3220	1780	1110	1240
7	352	351	431	52	62	104	515	1160	2760	1860	1090	1120
8	392	367	468	53	62	104	581	1150	1380	1760	789	1030
9	398	366	510	56	62	140	624	1080	684	1740	766	959
10	401	384	555	57	62	195	1740	967	682	1840	783	538
11	401	390	579	58	62	232	2400	926	682	2100	784	537
12	401	424	579	58	62	222	2390	927	818	1880	860	520
13	401	444	579	58	175	211	2320	968	901	1720	961	479
14	443	506	580	59	67	211	918	1040	1050	1650	941	462
15	573	543	374	60	67	239	332	1080	1250	1500	901	473
16	563	543	128	60	67	298	397	1070	1220	1350	976	482
17	452	543	e50	60	67	330	488	1030	1120	1170	896	506
18	402	478	e59	61	67	362	616	1090	1040	900	625	546
19	404	472	e51	57	66	514	674	1150	954	871	476	573
20	402	494	e51	57	66	596	674	1230	922	829	526	546
21	370	493	e51	57	66	487	637	1270	920	787	567	564
22	351	493	e51	59	66	381	603	1330	991	885	567	603
23	358	493	e51	61	66	311	747	1350	1090	1070	568	640
24	324	493	51	62	155	249	952	1350	1170	1240	598	612
25	328	492	51	62	271	248	1290	1350	1450	1340	555	560
26	431	487	51	62	325	356	1450	1440	1620	1380	585	357
27	548	477	50	62	347	665	1760	1510	1760	1520	697	267
28	624	481	51	62	348	908	1940	1300	1870	1780	738	237
29	670	479	51	62	---	934	1820	1060	1920	1900	629	207
30	682	478	52	62	---	762	1230	1170	1840	1740	488	190
31	662	---	51	62	---	515	---	1380	---	1100	398	---
TOTAL	13338	14053	9200	1786	3030	10737	29830	34423	43794	47102	25906	17893
MEAN	430	468	297	57.6	108	346	994	1110	1460	1519	836	596
MAX	682	647	748	62	348	934	2400	1510	3220	2110	1520	1300
MIN	310	328	50	51	62	98	332	697	682	787	398	190
AC-FT	26460	27870	18250	3540	6010	21300	59170	68280	86870	93430	51380	35490

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1998, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	367	260	161	173	222	321	604	1185	2429	1710	1043	472													
MAX	1103	505	553	558	837	718	1389	2564	4219	4110	2716	1040													
(WY)	1985	1985	1987	1985	1985	1985	1985	1984	1980	1995	1984	1982													
MIN	121	77.0	58.8	55.6	55.9	81.1	125	374	645	428	200	118													
(WY)	1979	1979	1980	1980	1979	1978	1978	1978	1978	1977	1977	1977													

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1975 - 1998
ANNUAL TOTAL	348682	251092	
ANNUAL MEAN	955	688	a747
HIGHEST ANNUAL MEAN			1227
LOWEST ANNUAL MEAN			265
HIGHEST DAILY MEAN	5910	Jun 23	b5910
LOWEST DAILY MEAN	e,c50	Dec 17	d47
ANNUAL SEVEN-DAY MINIMUM	51	Dec 21	49
INSTANTANEOUS PEAK FLOW		3530	f10100
INSTANTANEOUS PEAK STAGE		5.69	Jun 5
ANNUAL RUNOFF (AC-FT)	691600	498000	g9.40
10 PERCENT EXCEEDS	2070	1540	541500
50 PERCENT EXCEEDS	573	531	1880
90 PERCENT EXCEEDS	86	61	402
			87

e-Estimated.

a-Average discharge for 8 years (water years 1966-73), 643 ft³/s; 465900 acre-ft/yr, prior to completion of Pueblo Dam.

b-Also the maximum daily discharge for period of record.

c-Also occurred Dec 27 (not estimated).

d-Minimum daily discharge for period of record, 28 ft³/s, May 11, 1967.

f-Present site and datum, from rating curve extended above 1600 ft³/s, on basis of slope-area measurement of peak flow.

g-From floodmarks.

**07099400 ARKANSAS RIVER ABOVE PUEBLO, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--October 1965 to September 1970 (chemical and sediment data), December 1985 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1985 to current year.

WATER TEMPERATURE: December 1985 to current year.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for daily specific conductance are good. Records for daily water temperature are good. Daily data not published are either missing or of unacceptable quality. Specific conductance data may not be representative of the river at the site during periods of transient hydrologic conditions caused by abrupt flow changes from Pueblo Reservoir.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 814 microsiemens, Nov. 14, 1990; minimum, 223 microsiemens, July 13, 1986.

WATER TEMPERATURE: Maximum, 23.1°C, Aug. 13, 15, 17, 1994; minimum, 1.1°C, Jan. 30, 1995.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 631 microsiemens, Feb. 23; minimum, 307 microsiemens, July 29-30.

WATER TEMPERATURE: Maximum, 21.6°C, Sept. 19; minimum, 2.3°C, Jan. 11.

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	414	401	407	435	421	427	465	450	457	528	506	517
2	409	400	404	432	423	429	467	455	463	534	510	517
3	412	403	407	443	429	435	471	465	467	535	505	512
4	412	403	408	444	431	437	504	450	463	524	506	514
5	410	400	404	451	427	442	475	455	466	529	514	521
6	408	401	404	451	442	447	483	470	475	573	513	526
7	410	387	398	449	443	446	480	469	474	538	512	517
8	399	372	383	457	443	450	475	465	471	555	519	530
9	382	375	379	456	447	451	469	462	465	548	528	539
10	384	379	382	452	446	449	468	459	465	552	532	541
11	380	378	379	448	443	446	470	464	467	597	523	546
12	385	380	382	448	438	444	475	468	471	533	517	522
13	387	382	384	446	438	442	477	469	472	521	514	518
14	389	383	386	443	430	437	477	468	473	529	517	521
15	404	387	393	442	437	440	512	470	488	542	520	527
16	415	404	409	442	437	440	598	482	527	543	514	523
17	423	414	417	445	433	438	539	520	529	556	514	526
18	424	406	415	442	435	438	521	506	515	559	518	528
19	427	412	420	---	---	---	513	504	508	529	518	523
20	424	415	420	448	438	443	524	509	516	561	516	535
21	425	407	419	447	441	444	526	515	521	523	513	518
22	420	407	413	449	442	446	528	515	522	533	516	522
23	425	413	418	454	448	450	533	521	527	538	514	522
24	437	423	430	457	449	454	542	528	534	542	516	524
25	429	413	418	457	446	452	538	520	530	575	520	536
26	418	394	410	466	447	458	537	508	526	546	513	523
27	413	405	409	463	447	457	559	508	520	560	517	534
28	428	410	417	470	445	457	533	507	516	560	519	532
29	439	424	431	454	446	451	558	505	519	527	518	523
30	439	423	429	455	449	452	540	506	517	534	517	526
31	432	415	426	---	---	---	519	500	510	547	527	533
MONTH	439	372	406	---	---	---	598	450	496	597	505	526

ARKANSAS RIVER BASIN

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	540	532	537	549	536	540	550	516	527	524	519	521
2	549	530	540	554	540	546	522	508	514	524	519	521
3	550	534	543	595	540	560	517	506	513	522	519	520
4	554	545	550	576	570	573	515	507	512	522	513	518
5	554	548	551	616	541	565	515	506	511	521	517	519
6	557	548	553	561	541	548	515	509	512	522	518	520
7	558	552	555	603	538	550	514	502	509	521	517	519
8	566	548	558	557	534	542	511	505	509	539	519	527
9	582	557	566	537	499	517	512	509	511	536	532	534
10	570	555	564	511	499	505	513	491	500	537	536	537
11	571	558	566	511	503	507	497	491	494	538	534	536
12	583	561	571	510	507	509	497	491	493	536	533	534
13	625	517	567	509	505	507	495	491	494	536	531	534
14	583	573	578	513	505	509	575	494	517	534	528	531
15	579	566	572	516	510	513	522	505	512	532	528	529
16	590	563	575	517	504	511	510	503	506	533	527	529
17	578	553	560	526	510	514	508	502	505	533	529	531
18	563	557	560	528	513	521	507	501	503	532	525	529
19	570	554	564	521	495	506	505	501	503	532	529	531
20	573	552	563	517	504	510	507	502	505	532	526	528
21	576	558	567	534	513	521	512	505	508	532	527	530
22	617	546	575	527	516	520	514	509	511	532	526	529
23	631	535	555	551	516	530	514	504	509	533	529	532
24	561	507	528	540	524	531	510	502	508	533	531	532
25	515	508	512	534	520	526	507	503	505	535	531	533
26	523	515	519	537	502	520	508	505	507	537	532	535
27	531	523	526	517	497	507	510	505	508	537	532	534
28	541	528	534	509	501	505	512	507	510	539	533	536
29	---	---	---	508	500	504	514	511	512	540	535	538
30	---	---	---	533	504	512	537	511	520	539	535	537
31	---	---	---	551	507	524	---	---	---	540	535	537
MONTH	631	507	554	616	495	524	575	491	508	540	513	530
	JUNE			JULY			AUGUST			SEPTEMBER		
1	541	535	538	459	439	446	321	314	318	419	404	410
2	541	538	540	453	428	442	333	313	321	424	405	416
3	543	538	540	451	439	444	334	325	329	421	409	414
4	542	540	541	455	440	446	342	328	333	419	410	415
5	543	538	541	449	438	443	359	338	352	419	413	415
6	541	538	540	446	431	441	365	352	358	423	418	420
7	539	535	537	447	431	437	356	347	351	429	421	425
8	548	537	542	439	428	433	362	348	357	432	424	429
9	547	534	539	442	427	437	365	355	360	483	429	436
10	541	533	537	433	422	427	364	358	361	482	443	454
11	535	524	530	429	422	425	372	355	362	459	440	448
12	535	515	524	423	390	408	372	358	366	457	441	447
13	518	489	503	421	402	413	366	361	363	484	440	456
14	516	485	501	413	383	399	372	363	367	471	447	456
15	489	473	479	408	384	391	368	359	363	469	449	455
16	480	472	475	393	376	385	369	365	366	465	441	451
17	488	465	474	392	370	383	371	364	368	446	427	438
18	484	470	478	391	381	387	401	370	383	451	439	445
19	477	469	473	395	379	385	387	376	381	450	435	442
20	474	469	473	389	377	385	385	372	378	462	441	453
21	---	---	---	388	375	382	382	371	376	461	440	452
22	---	---	---	384	361	372	382	374	377	458	439	446
23	---	---	---	370	348	360	381	375	378	443	436	441
24	482	476	480	356	331	343	380	374	377	454	438	443
25	485	472	477	345	331	337	449	377	386	451	439	444
26	475	469	472	338	327	333	389	375	381	479	442	455
27	471	466	469	340	325	333	383	377	380	459	449	454
28	471	454	460	325	314	318	386	381	382	470	451	459
29	462	452	457	325	307	315	399	386	392	471	453	460
30	455	427	441	343	307	313	439	392	405	482	461	470
31	---	---	---	407	317	338	425	402	410	---	---	---
MONTH	---	---	---	459	307	390	449	313	367	484	404	442

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20.0	19.0	19.3	13.0	12.2	12.5	7.7	7.5	7.5	7.3	3.7	5.0
2	19.9	19.0	19.3	12.8	12.2	12.4	7.5	7.2	7.3	6.8	4.3	5.0
3	19.9	18.9	19.2	12.6	12.1	12.2	7.2	6.8	7.1	5.3	4.0	4.3
4	19.9	18.9	19.2	12.5	12.0	12.2	7.3	6.9	7.1	6.5	3.9	4.6
5	19.9	18.9	19.2	12.5	11.7	12.0	7.1	6.6	6.8	7.1	2.5	4.6
6	19.7	18.8	19.1	12.2	11.5	11.8	6.9	6.5	6.7	5.9	2.8	4.4
7	19.7	18.8	19.1	12.0	11.4	11.6	6.8	6.4	6.5	6.3	2.4	3.8
8	19.4	18.6	18.9	11.7	11.1	11.4	6.8	6.3	6.5	6.4	2.7	4.0
9	19.4	18.5	18.8	11.2	11.0	11.1	6.5	6.2	6.4	4.4	2.8	3.2
10	19.3	18.4	18.7	11.3	10.9	11.0	6.3	6.0	6.1	3.7	2.7	3.1
11	19.1	18.4	18.7	11.1	10.8	11.0	6.3	5.7	6.0	6.6	2.3	3.8
12	18.4	17.8	18.1	11.3	10.8	11.0	6.1	5.5	5.8	4.2	3.0	3.4
13	18.2	17.5	17.8	11.1	10.3	10.8	5.9	5.4	5.6	4.6	2.8	3.3
14	18.1	17.3	17.6	10.5	10.1	10.2	5.9	5.4	5.6	6.2	2.9	3.9
15	17.6	16.7	17.2	10.3	9.8	10.0	5.9	5.3	5.6	6.0	2.5	3.7
16	17.0	16.2	16.6	10.1	9.6	9.8	8.6	5.3	6.2	6.0	2.8	3.8
17	16.8	15.7	16.2	10.0	9.5	9.7	8.4	5.3	6.4	6.1	2.7	3.9
18	16.8	15.7	16.1	9.8	9.4	9.6	7.9	5.0	6.1	6.3	2.9	4.2
19	16.2	15.6	15.8	---	---	---	7.1	5.1	5.7	5.1	2.7	3.7
20	16.4	15.7	15.9	9.4	8.8	9.1	7.1	4.4	5.4	5.4	2.6	3.6
21	16.3	15.6	15.9	9.0	8.4	8.8	6.1	3.9	4.9	4.8	2.6	3.4
22	16.5	15.6	15.9	8.7	8.0	8.4	6.0	3.8	4.7	5.8	2.6	3.7
23	16.4	15.3	15.7	8.2	7.9	8.0	5.3	4.2	4.5	5.9	2.7	3.7
24	15.7	14.3	15.2	8.1	7.6	7.8	4.9	3.5	4.1	4.6	2.8	3.4
25	14.3	13.5	14.1	8.2	7.6	7.9	6.6	2.9	4.2	5.5	2.6	3.7
26	14.8	13.9	14.2	8.2	7.4	7.7	6.3	2.7	3.9	6.2	2.4	3.9
27	14.6	13.7	14.1	8.0	7.4	7.7	5.9	2.5	3.7	6.7	2.4	4.0
28	14.0	12.8	13.5	8.0	7.1	7.6	5.4	2.5	3.5	6.4	2.8	4.1
29	13.0	12.1	12.7	8.1	7.7	7.8	6.9	2.5	4.2	6.4	2.7	4.1
30	13.1	12.1	12.6	8.0	7.6	7.7	5.9	3.6	4.5	6.3	2.8	4.0
31	13.5	12.4	12.8	---	---	---	7.1	2.8	4.5	5.5	3.0	4.0
MONTH	20.0	12.1	16.7	---	---	---	8.6	2.5	5.6	7.3	2.3	3.9
	FEBRUARY			MARCH			APRIL			MAY		
1	6.4	3.2	4.4	4.3	3.3	3.8	6.9	5.8	6.2	8.8	8.1	8.3
2	5.3	2.6	3.8	4.3	3.5	3.8	6.4	5.8	5.9	8.9	8.1	8.5
3	5.2	3.0	3.7	4.7	3.4	3.9	6.9	5.8	6.2	9.1	8.2	8.6
4	4.4	3.3	3.7	4.9	3.6	4.0	7.0	5.9	6.3	8.9	8.3	8.6
5	4.0	3.1	3.4	6.1	3.5	4.3	7.3	6.1	6.6	9.2	8.3	8.6
6	6.1	3.1	4.1	6.3	3.4	4.3	6.7	6.2	6.4	9.3	8.5	8.8
7	4.9	3.0	3.8	4.7	3.1	3.7	7.2	6.0	6.4	9.0	8.4	8.8
8	6.5	2.8	4.1	6.0	2.7	3.9	6.9	6.0	6.4	9.2	8.5	8.8
9	6.3	3.2	4.1	4.6	3.0	3.7	7.1	6.2	6.5	9.9	8.5	9.1
10	6.6	2.9	4.2	4.5	3.3	3.8	6.6	6.1	6.3	9.7	8.7	9.1
11	6.3	2.5	4.0	4.4	3.5	3.8	8.1	6.3	6.8	9.9	8.7	9.2
12	6.6	2.4	4.0	4.6	3.5	3.9	8.8	6.4	8.0	9.9	8.7	9.2
13	4.8	2.5	3.5	4.8	3.5	4.0	8.4	7.7	7.9	10.1	9.0	9.5
14	6.9	3.4	4.8	4.7	3.7	4.0	8.5	7.5	7.9	9.8	8.8	9.3
15	5.5	3.3	4.3	4.7	3.8	4.1	8.1	7.4	7.6	9.8	9.0	9.4
16	4.8	3.5	4.2	4.2	4.0	4.0	7.7	7.4	7.6	10.1	9.0	9.5
17	6.4	3.4	4.4	4.8	4.0	4.2	8.4	7.5	7.8	10.3	9.2	9.8
18	4.5	3.5	3.9	4.2	3.8	4.1	8.1	7.7	7.8	9.9	9.3	9.6
19	6.5	3.1	4.3	4.6	4.0	4.2	8.4	7.5	7.9	10.4	9.6	9.9
20	5.9	2.8	4.0	4.6	3.9	4.3	8.4	7.7	8.0	10.3	9.5	9.8
21	6.8	2.9	4.4	4.9	4.2	4.4	8.5	7.7	8.0	10.4	9.6	9.9
22	7.6	3.4	4.9	5.2	4.2	4.6	8.7	7.6	8.0	10.6	9.5	10.0
23	8.2	3.1	5.0	5.2	4.4	4.7	8.5	7.7	8.0	11.5	9.7	10.4
24	6.8	3.5	4.4	5.4	4.3	4.7	8.4	7.8	8.0	10.8	9.7	10.3
25	4.5	3.7	3.9	5.4	4.3	4.7	8.3	7.8	8.0	11.0	9.8	10.7
26	4.3	3.6	3.9	6.0	4.4	4.8	8.0	7.8	7.9	11.8	10.1	11.0
27	4.2	3.6	3.8	6.1	4.7	5.4	8.3	8.0	8.2	11.3	10.2	10.9
28	4.2	3.4	3.8	6.1	5.0	5.3	8.4	8.0	8.2	11.6	11.0	11.3
29	---	---	---	7.3	5.0	6.2	8.7	8.0	8.3	11.6	10.4	11.2
30	---	---	---	6.3	5.9	6.1	8.8	8.2	8.4	11.9	10.7	11.4
31	---	---	---	7.0	5.8	6.2	---	---	---	12.3	11.2	11.8
MONTH	8.2	2.4	4.1	7.3	2.7	4.4	8.8	5.8	7.4	12.3	8.1	9.7

ARKANSAS RIVER BASIN

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	12.7	11.2	12.1	18.0	17.0	17.5	19.4	18.9	19.1	20.4	19.9	20.1
2	12.9	11.8	12.5	18.1	17.1	17.7	19.6	18.9	19.3	20.8	20.0	20.3
3	13.2	11.7	12.5	18.0	17.5	17.7	19.6	19.2	19.4	20.8	20.1	20.4
4	13.1	12.3	12.8	18.1	17.5	17.8	19.4	19.2	19.3	21.0	20.2	20.6
5	13.7	12.9	13.3	18.1	17.5	17.8	19.7	19.1	19.3	21.1	20.7	20.9
6	13.8	13.2	13.5	18.1	17.6	17.9	19.9	19.2	19.5	21.1	20.6	20.8
7	14.4	13.6	13.9	18.4	17.7	18.0	19.9	19.2	19.5	21.2	20.6	20.8
8	14.1	12.1	13.4	18.2	17.9	18.1	19.9	19.2	19.5	21.2	20.6	20.9
9	13.3	12.2	12.8	18.3	17.9	18.1	19.9	19.3	19.5	21.3	20.5	20.9
10	13.3	12.2	12.8	18.4	17.8	18.2	19.9	19.4	19.6	21.0	20.4	20.7
11	13.8	12.5	13.0	18.6	18.0	18.3	20.1	19.3	19.6	21.2	20.5	20.8
12	14.0	12.7	13.4	18.5	18.0	18.3	20.2	19.5	19.7	21.1	20.5	20.7
13	14.3	13.4	13.8	18.5	18.1	18.3	20.1	19.5	19.8	21.1	20.4	20.7
14	14.3	13.3	13.9	18.8	18.0	18.4	20.4	19.5	19.8	21.3	20.5	20.8
15	14.7	14.0	14.4	18.7	18.2	18.4	20.3	19.4	19.8	21.2	20.5	20.8
16	14.9	14.3	14.6	18.6	18.1	18.4	20.5	19.7	20.0	21.3	20.6	20.9
17	15.4	14.0	14.8	18.9	18.1	18.4	20.4	19.8	20.0	21.4	20.6	20.9
18	15.8	14.4	15.0	18.7	18.0	18.3	20.2	19.6	19.9	21.3	20.6	20.9
19	15.5	14.5	14.9	18.7	18.0	18.3	20.3	19.5	19.8	21.6	20.8	21.1
20	15.6	14.9	15.2	18.8	18.1	18.4	20.5	19.6	20.0	21.4	20.8	21.0
21	---	---	---	18.9	18.1	18.4	20.4	19.8	20.1	21.5	20.8	21.1
22	---	---	---	18.7	18.2	18.5	20.6	19.7	20.1	21.4	20.8	21.1
23	---	---	---	19.0	18.4	18.6	20.6	19.9	20.1	21.4	20.9	21.1
24	17.8	16.3	17.0	19.0	18.4	18.7	20.6	19.9	20.1	21.4	20.9	21.1
25	16.9	16.3	16.6	19.1	18.6	18.8	20.6	20.0	20.3	21.5	20.9	21.1
26	17.2	16.4	16.9	19.0	18.6	18.7	20.6	20.0	20.2	21.3	20.6	21.0
27	17.1	16.8	17.0	19.1	18.6	18.8	20.7	20.0	20.3	21.3	20.4	20.8
28	17.5	16.9	17.2	19.2	18.7	18.9	20.5	20.1	20.3	21.3	20.5	20.8
29	17.6	17.0	17.3	19.2	18.9	19.0	20.6	20.1	20.3	21.2	20.4	20.6
30	17.7	17.1	17.4	19.5	18.7	19.1	20.6	19.9	20.2	21.2	20.3	20.6
31	---	---	---	19.3	18.4	18.8	20.7	19.9	20.1	---	---	---
MONTH	---	---	---	19.5	17.0	18.3	20.7	18.9	19.8	21.6	19.9	20.8

07099969 ARKANSAS RIVER AT ST. CHARLES MESA DIVERSION AT PUEBLO, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°15'13", long 104°36'20", in SW¹/₄NW¹/₄ sec.6, T.21 S., R.64 W., Pueblo County, Hydrologic Unit 11020002, on right bank 10 ft upstream from intake of Saint Charles Mesa Water Association, 150 ft downstream from Santa Fe Avenue bridge, and 1.1 mi upstream from Fountain Creek.

DRAINAGE AREA.--4,778 mi².

PERIOD OF RECORD.--October 1988 to current year. Prior to October 1989, published as Arkansas River at Moffat Street at Pueblo (07099970).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records fair. Daily data not published are either missing or of poor quality. Specific conductance data is not representative of the cross section at the site "and is more representative of flow entering diversion". Specific conductance data representative of the cross section at the site is published as Arkansas River at Moffat Street at Pueblo (07099970) since water year 1991.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,980 microsiemens, Nov. 24, 1988; minimum, 225 microsiemens, Aug. 25, 1995.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,090 microsiemens, Jan. 20; minimum, 255 microsiemens, Aug. 11.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	585	558	572	533	521	526	656	626	643	988	965	975
2	---	---	---	534	519	526	641	630	636	999	944	971
3	570	555	564	553	529	536	640	628	633	977	950	965
4	---	---	---	567	543	552	665	604	622	1010	958	979
5	---	---	---	584	558	566	668	641	655	1010	960	977
6	569	552	562	593	580	586	663	649	656	1030	959	979
7	564	524	548	598	570	581	668	646	658	1020	919	972
8	538	502	523	583	568	574	660	631	646	1030	923	968
9	519	497	507	603	566	581	637	626	631	1030	934	976
10	525	503	510	584	567	578	632	608	619	999	958	976
11	522	497	510	575	565	570	615	595	606	1070	925	983
12	583	476	504	578	554	570	620	596	608	1020	973	994
13	519	505	512	561	550	557	615	600	608	991	957	972
14	536	505	517	578	533	557	616	602	610	964	944	955
15	505	480	491	539	524	531	699	606	642	1010	910	954
16	511	485	497	541	525	531	865	657	721	973	946	962
17	541	503	518	536	526	533	953	865	916	993	953	979
18	541	522	532	545	527	535	959	923	936	1010	990	1010
19	541	522	530	548	535	544	947	891	916	1020	928	982
20	546	530	540	623	542	554	959	915	936	1090	921	1000
21	572	535	543	563	551	557	976	929	954	1040	933	990
22	551	540	546	562	554	559	1000	946	976	1070	936	1010
23	562	539	549	570	557	562	1030	988	1010	1010	888	949
24	618	513	557	578	562	568	1050	978	1010	1010	911	956
25	558	512	531	579	564	571	1010	958	987	995	962	973
26	571	504	542	582	566	572	1010	944	975	1000	916	962
27	549	464	507	680	430	572	1040	933	973	998	921	961
28	531	501	513	618	384	536	1050	941	981	987	943	967
29	524	512	519	661	618	641	1030	932	968	970	912	946
30	533	515	523	658	646	652	1030	975	1000	966	908	948
31	535	522	528	---	---	---	1020	917	976	971	933	954
MONTH	---	---	---	680	384	563	1050	595	797	1090	888	972

0709969 ARKANSAS RIVER AT ST. CHARLES MESA DIVERSION AT PUEBLO, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	985	938	965	650	624	638	762	710	732	746	718	730
2	985	945	960	676	627	647	788	620	719	738	721	729
3	1000	953	975	720	644	668	727	699	714	726	710	717
4	991	947	968	767	720	752	721	701	709	718	677	701
5	975	958	965	844	755	772	717	689	701	679	659	673
6	968	945	956	879	840	860	709	684	697	665	631	651
7	977	947	960	906	858	887	730	638	692	647	633	639
8	987	950	963	917	831	875	721	516	679	642	633	639
9	995	935	965	901	722	855	731	710	719	654	636	642
10	996	943	964	722	664	688	725	573	650	664	649	655
11	998	944	980	694	674	684	581	573	576	669	653	661
12	1020	989	1000	689	661	677	576	568	572	668	656	663
13	1020	694	910	695	688	691	572	567	569	664	640	653
14	964	787	918	697	684	691	759	569	652	648	622	637
15	1010	964	993	697	683	691	785	519	711	633	619	628
16	1080	885	994	694	668	686	837	680	789	634	627	629
17	1000	950	974	685	660	670	778	749	766	642	632	634
18	1060	889	953	729	583	657	770	728	742	644	620	635
19	1010	968	999	759	619	698	742	724	735	632	620	626
20	1040	1010	1020	727	699	712	778	721	733	627	610	622
21	1060	1000	1030	748	704	720	745	719	731	621	606	614
22	1050	1010	1040	758	739	751	746	725	733	623	606	614
23	1050	1010	1030	785	738	752	735	699	722	616	610	613
24	1040	805	999	791	775	786	703	661	683	616	563	607
25	805	663	696	788	765	778	667	606	636	619	607	615
26	663	644	653	789	706	757	640	581	610	621	606	616
27	653	634	641	805	508	694	637	599	620	611	604	608
28	645	631	638	702	666	687	609	603	606	640	608	619
29	---	---	---	676	641	664	618	606	611	648	640	644
30	---	---	---	704	639	667	736	611	651	649	624	639
31	---	---	---	745	701	718	---	---	---	632	615	626
MONTH	1080	631	932	917	508	725	837	516	682	746	563	644
	JUNE			JULY			AUGUST			SEPTEMBER		
1	622	605	615	543	495	505	408	379	397	633	468	596
2	614	605	610	534	488	505	410	385	395	633	586	610
3	609	605	607	521	488	501	420	394	405	607	554	584
4	615	600	607	---	---	---	420	337	399	570	495	542
5	613	594	605	---	---	---	484	401	457	507	494	500
6	601	595	598	533	488	513	494	438	469	520	506	511
7	607	596	601	523	485	496	484	434	454	537	514	526
8	721	600	652	543	465	492	508	476	491	552	530	538
9	712	697	706	546	493	515	506	487	500	556	537	548
10	706	690	697	519	476	487	506	493	500	601	544	590
11	699	683	691	480	468	474	576	255	477	597	586	590
12	694	658	679	507	447	477	531	490	508	593	574	585
13	660	631	646	508	466	483	497	463	482	618	580	588
14	652	605	633	501	450	473	503	442	474	623	579	592
15	631	547	586	492	457	472	503	476	491	598	577	588
16	597	582	589	488	448	463	498	486	491	602	575	586
17	608	574	597	539	458	481	527	490	500	590	570	581
18	625	581	604	576	497	535	565	508	530	601	573	585
19	628	607	617	567	495	520	606	505	552	582	571	575
20	629	613	620	580	505	527	572	288	529	597	565	581
21	630	610	621	529	501	515	548	318	519	602	577	593
22	620	601	610	512	488	499	549	531	539	593	566	581
23	604	578	592	498	377	470	591	532	547	578	562	570
24	593	573	581	484	425	448	603	499	539	584	560	570
25	575	546	554	464	411	429	647	306	514	589	563	576
26	554	528	541	429	408	418	638	533	567	640	581	600
27	544	522	529	421	397	409	548	520	536	659	626	644
28	534	506	520	402	376	388	534	520	528	653	622	639
29	528	506	512	386	325	376	550	530	537	660	635	649
30	529	485	507	406	337	375	588	547	563	675	646	661
31	---	---	---	534	357	444	615	438	577	---	---	---
MONTH	721	485	604	---	---	---	647	255	499	675	468	583

07099970 ARKANSAS RIVER AT MOFFAT STREET, AT PUEBLO, CO

LOCATION.--Lat 38°15'13", long 104°36'20", in SW¼NW¼ sec.6, T.21 S., R.64 W., Pueblo County, Hydrologic Unit 11020002, on right bank 10 ft upstream from intake of Saint Charles Mesa Water Association, 150 ft downstream from Santa Fe Avenue bridge, and 1.1 mi upstream from Fountain Creek.

DRAINAGE AREA.--4,778 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1988 to current year.

REVISED RECORDS: WDR CO-90-1: 1989(M).

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Elevation of gage is 4,653 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Records do not include diversion for municipal supply of Saint Charles Mesa Water Association. Natural flow of stream affected by storage reservoirs, power developments, transbasin and transmountain diversions, and diversions for irrigation and municipal use. Flow almost completely regulated by Pueblo Reservoir.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	315	601	655	63	64	362	466	689	1530	1690	1450	356
2	315	570	789	66	64	322	470	693	1830	2020	1490	366
3	314	513	794	67	62	238	531	700	1980	1940	1440	489
4	322	426	729	67	63	130	531	794	2170	e1700	1540	863
5	300	345	482	60	65	112	526	930	2740	e1550	1010	1210
6	270	303	473	65	67	82	518	1060	3360	1650	1030	1160
7	315	325	473	63	66	76	562	1120	2830	1770	1080	1040
8	353	358	503	64	66	74	651	1120	1570	1680	773	961
9	372	361	546	62	69	111	688	1080	680	1650	727	925
10	371	394	592	63	67	199	1610	972	690	1740	741	493
11	376	429	616	63	60	239	2480	909	680	1980	846	479
12	393	451	616	63	59	248	2470	897	769	1840	830	478
13	384	480	621	66	163	230	2400	925	883	1600	917	452
14	410	532	623	66	62	231	1170	993	972	1550	922	418
15	497	577	458	66	58	255	442	1040	1220	1410	839	415
16	503	575	198	66	67	320	485	1040	1170	1270	929	436
17	408	581	86	59	69	374	544	1020	1070	1120	858	448
18	347	533	82	56	70	440	658	1040	993	850	629	482
19	348	506	83	62	65	563	729	1120	898	791	462	523
20	350	534	78	58	61	655	730	1190	858	762	523	499
21	337	531	77	59	59	577	695	1270	864	708	556	505
22	310	534	70	54	57	440	644	1310	904	806	547	550
23	307	532	65	67	59	382	740	1360	983	1010	539	587
24	287	531	67	61	104	286	919	1380	1050	1190	551	567
25	300	529	68	62	272	278	1220	1380	1320	1310	613	508
26	386	525	67	62	327	360	1430	1450	1460	1350	560	344
27	505	528	66	62	365	687	1660	1550	1620	1430	663	210
28	562	591	63	62	364	933	1880	1370	1750	1690	706	181
29	612	526	63	65	---	964	1770	1080	1790	1860	624	155
30	639	520	60	65	---	846	1300	1160	1720	1780	472	150
31	617	---	64	65	---	606	---	1350	---	1090	384	---
TOTAL	12125	14741	10227	1949	2994	11620	30919	33992	42354	44787	25251	16250
MEAN	391	491	330	62.9	107	375	1031	1097	1412	1445	815	542
MAX	639	601	794	67	365	964	2480	1550	3360	2020	1540	1210
MIN	270	303	60	54	57	74	442	689	680	708	384	150
AC-FT	24050	29240	20290	3870	5940	23050	61330	67420	84010	88840	50090	32230

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1998, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998		
MEAN	255	215	108	86.8	153	314	591	1140	2318	1660	929	379
MAX	431	491	330	161	312	623	1031	1716	4111	4290	1616	699
(WY)	1996	1998	1998	1991	1996	1997	1998	1996	1997	1995	1995	1995
MIN	125	87.9	16.1	16.7	64.2	159	217	491	970	957	545	113
(WY)	1990	1989	1990	1989	1995	1990	1991	1989	1989	1994	1990	1996

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1989 - 1998

ANNUAL TOTAL	345265	247209	
ANNUAL MEAN	946	677	681
HIGHEST ANNUAL MEAN			1107
LOWEST ANNUAL MEAN			444
HIGHEST DAILY MEAN	6030	Jun 23	3360
LOWEST DAILY MEAN	60	Dec 30	54
ANNUAL SEVEN-DAY MINIMUM	64	Dec 25	59
INSTANTANEOUS PEAK FLOW			3630
INSTANTANEOUS PEAK STAGE			11.58
ANNUAL RUNOFF (AC-FT)	684800	490300	493300
10 PERCENT EXCEEDS	2040	1540	1710
50 PERCENT EXCEEDS	567	532	349
90 PERCENT EXCEEDS	82	65	52

e-Estimated.

a-From rating curve extended above 5200 ft³/s on the basis of slope-conveyance and area-velocity studies.

**07099970 ARKANSAS RIVER AT MOFFAT STREET, AT PUEBLO, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--October 1988 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1988 to current year.

WATER TEMPERATURE: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for water temperature are good. Records for specific conductance are fair except for Oct. 12, 24, Nov. 20, 27-28, Dec. 16, Feb. 13-14, 16, 18, 24-25, Mar. 9, 18-19, 27, Apr. 2, 8, 10, 14-16, 30, June 8, July 8, 17, 23, 29-31, Aug. 4-5, 11, 20-21, 24-26, Aug. 31 to Sept. 1, which are poor. Daily data not published are either during periods of estimated daily discharge, or are missing or unrepresentative of the river for the day. Specific conductance data computed by using discharge-related coefficients, the discharge record at the site, and the daily mean specific conductance from Arkansas River at St. Charles Mesa Diversion at Pueblo (07099969). Prior to October 1989, published specific conductance data was not representative of the cross section at the site.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily mean, 1,490 microsiemens, Oct. 17, 1996; minimum daily mean, 252 microsiemens, June 29, 1993.

WATER TEMPERATURE: Maximum, 26.3°C, Aug. 31, 1990; minimum, 0.0°C, many days.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily mean, 975 microsiemens, Feb. 22, minimum daily mean, 334 microsiemens, July 30.

WATER TEMPERATURE: Maximum, 24.9°C, Aug. 23, 30; minimum, 0.1°C, Dec. 28.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)
OCT							
17...	0940	454	450	8.1	14.5	9.4	6
31...	1045	585	451	--	12.5	--	6
NOV							
13...	0930	420	474	8.3	10.0	9.7	8
25...	1030	477	480	8.5	7.5	10.2	6
DEC							
11...	1015	558	481	8.4	5.5	10.5	8
23...	1000	68	915	8.4	3.5	10.8	28
JAN							
13...	1030	70	885	8.1	2.0	12.1	36
30...	1100	65	852	8.4	5.5	10.3	32
FEB							
11...	1015	59	896	7.9	5.0	11.8	28
25...	0915	243	573	8.2	5.0	11.2	11
MAR							
12...	1015	254	567	8.4	3.0	11.5	10
25...	1000	277	615	8.4	6.5	11.2	11
APR							
08...	1000	613	558	8.5	6.5	11.0	10
23...	1100	656	574	8.5	9.5	11.2	8
MAY							
06...	1015	1010	554	8.5	10.5	10.3	7
20...	1115	1160	546	8.5	12.5	10.3	7
JUN							
10...	1030	686	575	8.5	12.5	--	7
19...	1000	922	526	8.6	15.5	9.2	6
JUL							
01...	1015	1640	431	8.0	18.0	8.0	6
22...	1145	850	375	8.7	20.5	8.2	4
AUG							
21...	1030	532	431	8.4	21.0	8.0	6

0709970 ARKANSAS RIVER AT MOFFAT STREET, AT PUEBLO, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	491	439	536	912	901	547	621	607	528	443	338	511
2	---	440	524	905	897	557	610	606	546	464	338	523
3	526	451	522	899	913	583	602	596	554	456	344	495
4	---	469	515	913	905	674	597	578	566	---	343	452
5	---	485	554	920	901	698	592	550	591	---	373	413
6	486	505	556	914	892	792	589	530	610	470	386	420
7	471	499	557	909	896	820	582	523	592	441	374	429
8	447	491	546	904	899	810	567	522	579	432	405	438
9	432	497	531	913	898	780	598	523	588	450	414	447
10	434	493	518	912	898	606	580	534	580	431	414	501
11	435	484	506	919	919	596	554	541	575	434	395	506
12	429	483	508	929	942	590	550	543	561	427	418	505
13	436	471	508	907	829	604	544	534	530	420	393	513
14	426	469	509	891	860	603	577	519	518	407	388	522
15	407	445	546	890	934	600	605	510	484	399	403	523
16	418	445	639	898	927	592	668	510	484	386	400	524
17	440	447	841	920	907	574	645	515	485	394	411	505
18	455	450	862	947	886	559	619	517	491	439	443	495
19	453	459	843	921	932	587	609	512	505	429	468	485
20	461	467	864	945	958	594	607	512	509	436	447	491
21	465	469	881	933	970	605	608	511	510	427	436	501
22	469	470	907	956	975	639	612	513	499	411	453	489
23	472	473	944	885	968	644	598	514	482	386	460	478
24	480	478	937	895	923	680	558	510	472	370	453	479
25	457	481	918	911	604	674	526	517	463	359	430	486
26	462	482	908	900	562	650	516	522	460	351	477	517
27	427	482	907	900	549	578	541	522	460	348	452	565
28	430	449	917	904	546	561	546	520	461	342	438	564
29	432	540	905	884	---	541	542	524	456	338	449	577
30	435	550	938	885	---	548	558	524	448	334	477	588
31	440	---	912	891	---	601	---	525	---	373	494	---
MEAN	---	475	712	910	864	629	584	532	520	---	417	498
MAX	---	550	944	956	975	820	668	607	610	---	494	588
MIN	---	439	506	884	546	541	516	510	448	---	338	413

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	22.2	17.3	19.5	13.2	11.0	12.0	8.1	6.5	7.1	6.5	2.8	4.5
2	21.9	16.8	19.2	13.4	10.4	11.6	7.1	6.5	6.9	6.4	3.6	4.9
3	20.8	17.3	18.9	13.5	10.0	11.5	7.7	5.8	6.6	4.9	3.5	4.1
4	21.4	16.4	18.8	13.4	10.5	11.7	7.4	5.4	6.2	5.5	3.3	4.1
5	21.2	16.1	18.6	13.2	9.9	11.4	6.9	4.7	5.6	5.5	2.3	3.9
6	20.4	16.1	18.3	13.1	9.4	11.2	6.7	4.8	5.6	5.1	3.2	4.0
7	20.6	16.1	18.1	13.3	9.3	11.2	7.1	4.9	5.8	4.0	.9	2.4
8	18.8	16.0	17.3	12.8	9.8	11.1	7.6	4.8	6.0	3.6	.6	2.0
9	20.1	15.2	17.4	10.2	9.1	9.6	6.6	5.5	5.9	2.3	1.0	1.6
10	20.0	15.5	17.7	10.6	8.5	9.4	6.0	4.7	5.5	1.9	.6	1.2
11	20.3	16.9	18.2	9.6	8.8	9.4	6.0	4.4	5.1	3.9	.2	2.0
12	17.2	14.7	15.8	11.2	8.6	9.8	6.5	3.6	4.9	3.3	2.2	2.7
13	17.9	14.1	15.9	11.6	8.8	10.2	6.6	4.2	5.2	3.1	1.7	2.3
14	18.4	14.2	16.1	9.8	7.3	8.4	6.8	4.2	5.2	4.5	1.5	2.7
15	18.5	14.7	16.3	9.9	7.1	8.3	6.2	4.4	5.3	4.4	1.4	2.9
16	18.2	14.5	16.0	10.0	7.2	8.3	6.1	3.7	4.9	5.0	2.5	3.6
17	18.1	13.9	15.8	10.4	7.4	8.6	6.7	3.7	5.2	4.8	2.2	3.5
18	17.7	13.6	15.6	10.2	7.7	8.8	5.8	3.5	4.8	6.2	2.9	4.2
19	16.6	13.4	14.9	10.6	7.4	8.8	4.9	3.4	4.4	3.6	2.2	2.9
20	16.6	14.0	15.1	10.7	7.9	9.0	5.6	3.4	4.4	4.6	1.8	3.0
21	16.2	14.0	14.9	9.4	7.5	8.4	4.9	3.6	4.1	2.8	1.1	2.0
22	17.2	13.2	15.1	9.4	6.7	7.9	4.9	3.1	3.9	4.0	.4	2.0
23	16.6	13.0	14.8	8.4	6.3	7.2	4.5	3.5	4.0	4.1	1.2	2.5
24	14.7	8.4	12.7	9.4	6.3	7.5	4.0	2.8	3.3	3.1	1.3	2.2
25	10.1	5.7	7.4	9.3	6.2	7.6	4.2	1.6	2.7	4.5	2.1	3.2
26	13.4	10.1	11.5	8.6	6.5	7.6	3.8	1.5	2.4	5.0	1.4	3.2
27	13.4	10.9	12.2	9.0	5.0	7.2	3.8	.6	2.0	5.7	1.7	3.6
28	14.7	11.4	12.7	6.5	4.1	5.4	2.7	.1	1.3	5.8	2.4	4.0
29	13.5	11.0	12.0	9.0	6.5	7.6	4.2	.7	2.4	5.6	2.0	3.7
30	14.4	10.8	12.2	8.5	6.1	7.1	5.5	2.6	3.9	5.7	2.1	3.8
31	14.0	11.3	12.5	---	---	---	5.2	1.9	3.5	5.1	3.2	4.2
MONTH	22.2	5.7	15.5	13.5	4.1	9.1	8.1	.1	4.6	6.5	.2	3.1

ARKANSAS RIVER BASIN

0709970 ARKANSAS RIVER AT MOFFAT STREET, AT PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	7.0	3.6	5.0	6.5	1.4	3.8	10.9	4.9	7.6	13.2	8.0	10.1
2	4.8	2.9	3.8	6.7	1.7	4.1	7.4	5.6	6.2	13.8	8.2	10.4
3	4.0	2.6	3.2	7.7	1.8	4.8	10.9	5.4	7.6	13.9	8.2	10.5
4	4.4	3.5	3.8	7.1	3.0	5.2	11.4	5.3	7.9	13.3	8.2	10.2
5	3.8	3.0	3.3	7.2	3.4	5.3	11.8	5.6	8.2	13.1	8.6	10.2
6	5.6	2.9	4.0	7.7	3.7	5.7	9.0	6.1	7.2	12.6	8.5	9.9
7	4.9	3.8	4.3	6.2	2.0	4.1	10.3	5.3	7.5	12.6	8.5	10.0
8	6.4	2.4	4.4	6.2	.4	3.1	9.7	5.8	7.2	11.7	8.7	9.6
9	6.9	4.0	5.4	6.2	2.1	4.3	11.0	5.6	7.7	13.2	8.6	10.3
10	7.5	4.2	5.5	7.3	1.2	4.4	8.5	5.7	6.9	13.7	9.0	10.7
11	6.2	2.6	4.4	5.9	1.8	4.1	8.8	6.1	7.4	13.7	8.7	10.7
12	6.8	2.4	4.4	8.1	1.5	4.7	10.4	6.6	8.3	13.6	9.0	10.7
13	6.1	2.5	4.4	8.9	2.4	5.8	9.9	7.5	8.4	14.2	8.9	11.0
14	7.8	3.4	5.3	8.1	3.2	5.7	13.2	7.2	9.6	13.7	9.0	10.8
15	5.9	4.3	5.2	8.8	2.9	5.8	9.6	6.3	7.8	13.4	9.2	10.8
16	5.5	4.6	5.0	6.8	4.8	5.4	8.5	6.4	7.3	13.5	8.8	10.6
17	7.5	4.1	5.4	8.7	4.3	6.1	12.1	6.2	8.6	14.0	9.2	11.2
18	6.3	5.0	5.6	6.3	1.7	3.8	9.6	7.4	8.1	13.3	9.7	11.1
19	7.9	3.7	5.6	7.4	1.8	4.4	11.4	6.8	8.7	13.3	9.6	11.0
20	6.9	3.3	5.1	8.3	3.4	5.2	12.0	7.6	9.2	13.5	9.5	11.0
21	8.0	3.4	5.6	8.8	3.4	5.7	12.7	7.2	9.4	13.0	9.9	11.2
22	9.6	5.0	7.0	10.0	3.6	6.4	13.5	7.0	9.6	13.7	9.7	11.1
23	9.9	5.3	7.5	10.1	4.4	7.0	13.2	7.2	9.6	14.4	9.9	11.6
24	9.2	6.0	7.7	11.0	4.7	7.8	12.4	7.7	9.4	14.0	9.9	11.5
25	7.5	3.6	5.1	11.5	4.9	8.1	10.8	7.9	8.7	13.9	9.8	11.7
26	6.5	2.1	4.2	10.8	4.9	7.5	8.5	7.8	8.1	14.6	10.8	12.1
27	6.5	2.8	4.3	9.6	5.6	7.3	10.4	7.6	8.7	14.3	10.3	12.0
28	6.4	1.7	3.9	9.2	4.9	6.6	10.6	7.9	8.8	15.2	11.1	12.6
29	---	---	---	9.4	5.0	6.9	11.2	7.7	9.0	15.8	11.1	12.9
30	---	---	---	7.4	5.7	6.4	11.5	7.9	9.6	15.5	10.8	12.7
31	---	---	---	10.7	5.4	7.5	---	---	---	15.0	11.2	12.9
MONTH	9.9	1.7	4.9	11.5	.4	5.6	13.5	4.9	8.3	15.8	8.0	11.1
	JUNE			JULY			AUGUST			SEPTEMBER		
1	15.5	12.1	13.3	20.4	17.2	18.4	21.1	19.0	19.7	21.9	18.7	20.1
2	15.5	11.9	13.4	20.3	17.2	18.5	22.4	18.9	20.2	24.3	18.5	21.0
3	15.1	12.2	13.2	20.2	17.4	18.4	22.3	19.2	20.1	24.4	18.8	21.1
4	15.1	12.2	13.3	---	---	---	21.0	19.3	19.8	23.4	18.8	20.7
5	14.0	12.8	13.3	---	---	---	23.0	19.1	20.5	23.6	19.8	21.2
6	15.4	13.2	14.1	19.4	---	---	23.3	18.8	20.5	23.5	19.8	21.1
7	16.0	13.8	14.6	19.2	17.8	18.4	23.4	19.2	20.8	23.4	19.7	21.1
8	18.5	13.5	15.3	19.9	17.9	18.7	24.4	19.1	21.1	23.6	19.9	21.2
9	18.4	12.4	14.8	20.8	18.1	18.9	23.2	19.2	20.6	23.6	19.5	21.0
10	15.3	12.1	13.5	20.9	17.7	18.9	23.0	19.3	20.5	24.0	18.9	21.0
11	18.5	12.6	15.0	20.8	17.9	19.0	23.2	19.2	20.5	24.2	19.0	21.1
12	18.3	12.5	15.0	21.1	18.2	19.3	23.9	19.1	20.9	24.0	19.1	21.1
13	17.8	13.1	15.0	21.3	17.9	19.2	23.2	19.2	20.6	22.5	19.2	20.7
14	17.3	13.0	14.7	21.4	17.9	19.1	23.3	18.8	20.6	23.8	19.1	20.9
15	17.8	13.8	15.5	21.7	17.9	19.2	23.2	18.7	20.3	23.7	18.9	20.8
16	18.4	14.0	15.8	21.9	18.1	19.5	23.6	18.9	20.6	23.7	18.5	20.7
17	18.8	14.0	15.7	22.2	17.7	19.5	23.7	19.0	20.9	24.0	18.6	20.9
18	19.3	14.0	16.2	23.1	17.6	19.8	24.3	19.1	21.2	23.9	18.6	20.8
19	19.6	14.0	16.3	22.3	17.5	19.4	23.5	19.1	20.7	23.9	18.9	20.9
20	19.8	14.3	16.5	23.4	17.8	20.0	24.3	18.8	21.1	23.3	19.2	20.8
21	20.2	15.0	17.0	23.1	17.7	19.8	24.3	19.1	21.3	22.9	19.4	20.8
22	20.0	14.9	17.0	21.6	18.1	19.5	24.5	19.4	21.4	22.8	18.7	20.2
23	19.6	15.1	17.0	21.9	18.3	19.4	24.9	18.9	21.4	23.0	19.0	20.5
24	19.7	15.3	17.2	22.1	18.6	19.7	24.1	19.1	20.9	23.7	19.5	21.1
25	19.7	15.7	17.4	22.3	18.7	19.8	23.9	19.3	21.1	23.2	18.9	20.7
26	19.9	16.2	17.6	20.4	18.7	19.4	24.4	19.3	21.2	23.4	18.6	20.7
27	19.8	16.5	17.8	21.8	18.8	19.9	22.7	19.4	20.7	22.6	17.2	20.0
28	20.1	16.9	18.2	21.5	18.7	19.8	23.7	19.2	20.9	23.1	17.4	20.3
29	20.2	17.2	18.3	21.7	19.1	20.1	24.3	19.0	21.1	21.6	18.0	19.8
30	20.1	17.4	18.1	21.8	19.2	20.1	24.9	19.1	21.5	22.1	17.9	20.1
31	---	---	---	21.9	18.5	19.8	23.2	18.7	20.8	---	---	---
MONTH	20.2	11.9	15.7	---	---	---	24.9	18.7	20.8	24.4	17.2	20.7
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO

LOCATION.--Lat 38°51'17", long 104°52'39", in SE¼SW¼ sec.3, T.14 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 200 ft upstream from diversion to city of Colorado Springs, 0.5 mi east of bridge on U.S. Highway 24 near west city limits of Colorado Springs, and 1.0 mi downstream from Sutherland Creek.

DRAINAGE AREA.--103 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1958 to current year.

GAGE.--Water-stage recorder with satellite telemetry, and V-notch weir. Elevation of gage is 6,110 ft above sea level, from topographic map. Apr. 1958 to Feb. 3, 1992 and Apr. 16, 1992 to current year, at present site and datum. Feb. 4 to Apr. 15, 1992 gage temporarily located 80 ft upstream, at same datum.

REMARKS.--No estimated daily discharges. Records good except for those above 750 ft³/s, which are poor. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation and municipal use, and at times, transbasin diversion from Beaver Creek drainage and transmountain diversions from Colorado River basin.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	24	27	12	13	13	21	40	45	25	53	41
2	22	22	28	12	13	15	24	43	38	20	50	36
3	21	22	29	12	13	15	24	52	40	21	63	34
4	21	22	30	12	13	14	27	78	46	21	77	32
5	21	22	27	12	12	14	27	101	54	20	66	31
6	21	22	29	12	13	14	27	99	50	20	65	30
7	20	21	30	9.3	13	13	27	91	45	20	52	28
8	21	24	25	9.9	14	13	27	91	44	19	49	27
9	19	22	15	11	13	11	33	73	43	34	53	24
10	16	21	15	10	12	10	29	70	39	26	53	24
11	17	21	14	11	12	10	26	71	36	22	46	23
12	18	22	12	11	12	12	28	72	34	17	38	22
13	18	27	14	11	12	14	27	72	33	16	35	30
14	17	28	16	10	12	14	28	73	34	16	64	29
15	17	27	16	9.7	12	15	30	70	36	16	40	29
16	15	24	15	10	13	15	32	68	33	15	37	29
17	15	21	15	11	12	16	29	66	29	14	32	27
18	15	21	15	11	13	17	30	64	25	14	32	26
19	15	21	14	9.9	12	20	28	58	21	13	26	25
20	17	21	15	9.8	11	17	28	73	20	13	34	25
21	18	21	15	8.0	12	17	27	74	24	12	38	25
22	18	21	15	7.1	12	18	29	70	24	18	36	24
23	18	20	14	11	12	20	32	66	22	31	35	23
24	20	21	14	13	12	21	35	64	19	31	36	22
25	19	20	13	12	11	22	43	58	17	39	80	22
26	24	20	12	12	11	24	64	55	16	38	58	18
27	27	21	14	12	11	26	58	51	16	39	46	14
28	25	23	12	11	12	25	44	49	16	57	42	16
29	24	21	13	12	---	25	44	47	16	59	36	16
30	25	24	13	12	---	23	42	44	22	94	35	16
31	26	---	12	12	---	22	---	44	---	64	35	---
TOTAL	612	667	548	338.7	343	525	970	2047	937	864	1442	768
MEAN	19.7	22.2	17.7	10.9	12.3	16.9	32.3	66.0	31.2	27.9	46.5	25.6
MAX	27	28	30	13	14	26	64	101	54	94	80	41
MIN	15	20	12	7.1	11	10	21	40	16	12	26	14
AC-FT	1210	1320	1090	672	680	1040	1920	4060	1860	1710	2860	1520

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1998, BY WATER YEAR (WY)

MEAN	12.7	10.8	8.72	8.03	7.66	9.11	13.5	31.2	32.2	22.0	19.8	14.4
MAX	44.0	34.6	18.8	18.5	13.6	16.9	33.4	172	198	108	60.9	36.1
(WY)	1985	1985	1985	1985	1986	1998	1985	1980	1997	1995	1965	1997
MIN	5.29	4.98	4.14	4.46	4.44	4.91	5.90	6.37	6.69	6.48	5.48	5.00
(WY)	1979	1965	1990	1994	1972	1965	1963	1989	1989	1964	1974	1978

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1958 - 1998

ANNUAL TOTAL	15051.1	10061.7	
ANNUAL MEAN	41.2	27.6	15.8
HIGHEST ANNUAL MEAN			39.7
LOWEST ANNUAL MEAN			7.29
HIGHEST DAILY MEAN	a623	101	a623
LOWEST DAILY MEAN	3.6	7.1	2.0
ANNUAL SEVEN-DAY MINIMUM	6.3	9.5	3.0
INSTANTANEOUS PEAK FLOW		1290	b3340
INSTANTANEOUS PEAK STAGE		c4.83	d5.57
ANNUAL RUNOFF (AC-FT)	29850	19960	11480
10 PERCENT EXCEEDS	73	54	29
50 PERCENT EXCEEDS	22	22	9.8
90 PERCENT EXCEEDS	7.6	12	5.5

a-Also occurred Jun 10, 1997.

b-From rating curve extended above 488 ft³/s, on basis of slope-area measurements of peak flow at gage heights, 3.87 ft, 4.52 ft, and 5.27 ft.

c-From peak stage indicator.

d-Maximum gage height, 6.15 ft, Sep 3, 1991, from floodmark.

**07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--December 1974 to current year.

PERIOD OF DAILY RECORD.--Suspended-sediment discharge August 1995 to September 1998 (peak flows only), April to September 1998 (seasonal record only).

INSTRUMENTATION.--Pumping sediment sampler since August 1995.

REMARKS.--Records for daily sediment during period of seasonal operation (Apr. 1 to Sept. 30) are fair, except for periods of estimated record which are poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 8,090 mg/L, June 6, 1997; minimum daily mean, 8 mg/L, Sept. 25, 1998.

SEDIMENT LOADS: Maximum daily during period of seasonal operation, 41,800 tons, June 6, 1997; minimum daily, 0.39 ton, June 26-27, 29, 1998.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 2,140 mg/L, July 30; minimum daily mean, 8 mg/L, Sept. 25.

SEDIMENT LOADS: Maximum daily during period of seasonal operation, 1,180 tons, July 30; minimum daily, 0.39 ton, June 26-27, 29.

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
OCT 1997					JUN 1998				
08...	1550	21	244	10.0	09...	1115	44	154	9.5
NOV					16...	0945	34	175	9.0
17...	1445	21	138	3.0	16...	0950	36	--	9.0
DEC					30...	1945	20	243	19.0
15...	1540	16	302	3.5	JUL				
JAN 1998					01...	1715	205	173	22.0
14...	1605	10	380	2.5	09...	0745	20	--	13.5
FEB					22...	0855	14	287	14.5
12...	0955	7.3	467	0.0	29...	1615	71	143	18.0
MAR					29...	1620	73	--	18.0
09...	1320	16	321	1.0	30...	2100	216	--	13.0
31...	1100	21	441	3.0	AUG				
APR					04...	1025	61	148	11.5
09...	1400	33	213	6.5	10...	1430	50	--	15.0
09...	1415	33	--	6.5	25...	1900	410	--	15.0
MAY					SEP				
11...	1655	66	--	10.5	02...	0755	36	176	11.0
11...	1710	58	159	10.5					

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. %FINER THAN .062 MM (70331)
MAR					
31...	1100	21	23	1.3	
APR					
09...	1415	33	154	14	
MAY					
11...	1655	66	65	12	
JUN					
16...	0950	36	16	1.6	
30...	1945	20	78	4.2	
JUL					
01...	1715	205	6540	3620	74
09...	0745	20	42	2.3	
29...	1620	73	883	174	
30...	2100	216	6060	3530	
AUG					
10...	1430	50	43	5.8	
25...	1415	34	53	4.9	
25...	1900	410	7740	8570	

ARKANSAS RIVER BASIN

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
										APRIL
1	21	---	e1.6	40	---	e12	45	46	5.7	
2	24	37	2.4	43	117	14	38	38	4.0	
3	24	37	2.5	52	205	31	40	---	e3.5	
4	27	50	3.6	78	---	e60	46	62	8.1	
5	27	43	3.1	101	220	60	54	95	14	
6	27	53	3.9	99	154	42	50	42	5.7	
7	27	37	2.6	91	---	e30	45	30	3.7	
8	27	43	3.2	91	116	29	44	---	e4.7	
9	33	157	14	73	---	e16	43	48	5.6	
10	29	---	e6.9	70	75	14	39	23	2.5	
11	26	53	3.7	71	72	14	36	20	2.0	
12	28	---	e3.7	72	74	14	34	16	1.5	
13	27	48	3.6	72	94	19	33	---	e1.3	
14	28	---	e4.3	73	---	e19	34	35	3.5	
15	30	68	5.6	70	88	17	36	28	2.8	
16	32	---	e6.6	68	78	14	33	16	1.4	
17	29	78	6.0	66	71	13	29	12	.97	
18	30	---	e3.2	64	63	11	25	---	e.97	
19	28	34	2.6	58	---	e8.8	21	17	.92	
20	28	---	e2.7	73	13	13	20	11	.62	
21	27	40	3.0	74	---	e13	24	14	1.0	
22	29	32	2.5	70	60	11	24	24	1.6	
23	32	---	e3.4	66	53	9.4	22	---	e1.0	
24	35	80	7.6	64	---	e8.0	19	14	.72	
25	43	183	22	58	43	6.7	17	14	.63	
26	64	277	49	55	42	6.2	16	9	.39	
27	58	119	19	51	---	e5.5	16	9	.39	
28	44	151	18	49	39	5.1	16	---	e.41	
29	44	---	e17	47	---	e4.3	16	9	.39	
30	42	114	13	44	31	3.7	22	87	5.5	
31	---	---	---	44	31	3.8	---	---	---	
TOTAL	970	---	240.3	2047	---	527.5	937	---	85.51	
		JULY			AUGUST			SEPTEMBER		
1	25	621	104	53	261	39	41	---	e5.7	
2	20	244	13	50	---	e19	36	44	4.2	
3	21	---	e3.6	63	339	75	34	44	4.0	
4	21	42	2.8	77	1120	251	32	58	5.0	
5	20	200	12	66	425	78	31	46	3.8	
6	20	55	2.9	65	128	24	30	---	e3.1	
7	20	59	3.2	52	---	e8.7	28	48	3.6	
8	19	---	e2.6	49	44	5.9	27	65	4.7	
9	34	1810	543	53	35	5.1	24	46	3.0	
10	26	741	55	53	42	5.9	24	28	1.8	
11	22	190	12	46	44	5.5	23	---	e1.3	
12	17	89	4.1	38	---	e3.9	22	21	1.2	
13	16	---	e2.6	35	33	3.1	30	24	2.0	
14	16	49	2.1	64	835	792	29	26	2.0	
15	16	38	1.6	40	291	35	29	28	2.2	
16	15	33	1.4	37	101	11	29	---	e1.8	
17	14	31	1.2	32	66	5.8	27	16	1.1	
18	14	---	e1.0	32	64	5.7	26	11	.74	
19	13	24	.89	26	66	4.7	25	11	.77	
20	13	23	.78	34	398	70	25	10	.68	
21	12	22	.74	38	1250	134	25	---	e.71	
22	18	108	9.1	36	---	e23	24	11	.75	
23	31	456	40	35	60	5.8	23	10	.63	
24	31	166	14	36	60	5.8	22	11	.67	
25	39	121	13	80	1700	1120	22	8	.44	
26	38	75	7.8	58	1230	220	18	---	e.60	
27	39	55	5.8	46	---	e30	14	24	.96	
28	57	616	274	42	86	10	16	21	.88	
29	59	845	142	36	67	6.5	16	23	1.1	
30	94	2140	1180	35	63	6.0	16	44	1.9	
31	64	865	176	35	59	5.6	---	---	---	
TOTAL	864	---	2632.21	1442	---	3015.0	768	---	61.33	

e-Estimated.

07103703 CAMP CREEK AT GARDEN OF THE GODS, CO

LOCATION.--Lat 38°52'37", long 104°52'20", in SE¼NE¼ sec.34, T.13 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank, 70 ft downstream from county road bridge at east entrance to Garden of the Gods Park, and 1.9 mi upstream from mouth.

DRAINAGE AREA.--9.45 mi².

PERIOD OF RECORD.--April 1992 to current year.

GAGE.--Water-stage recorder and satellite telemetry. Elevation of gage is 6,310 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, and those above 100 ft³/s, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	3.4	11	.30	.00	1.8	.00
2	.00	.00	.00	.00	.00	.00	2.8	9.3	.19	.00	1.6	.00
3	.00	.00	.00	.00	.00	.00	2.2	8.2	.11	.00	1.2	.00
4	.00	.00	.00	.00	.00	.00	2.0	8.5	.05	.00	.56	.00
5	.00	.00	.00	.00	.00	.00	2.2	8.2	.08	.00	.32	.00
6	.00	.00	.00	.00	.00	.00	2.3	8.5	.00	.00	.53	.00
7	.00	.00	.00	.00	.00	.00	2.2	e9.1	.00	.00	.71	.00
8	.00	.00	.00	.00	.00	.00	2.0	e9.4	.14	.00	.46	.00
9	.00	.00	.00	.00	.00	.00	1.9	e9.6	.20	.00	.27	.00
10	.00	.00	.00	.00	.00	.00	.87	e9.4	.10	.01	.04	.00
11	.00	.00	.00	.00	.00	.00	.00	e9.2	.02	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	8.3	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.04	7.4	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	2.1	6.6	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	4.1	6.1	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	3.8	5.5	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	3.1	5.2	.00	.00	.00	.00
18	.00	.00	.00	.00	.01	.01	3.1	4.7	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.12	3.1	4.1	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.01	3.0	3.7	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.03	1.2	3.2	.01	.00	.00	.00
22	.00	.00	.00	.00	.00	.01	.00	2.9	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	2.1	2.6	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	5.2	2.3	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	8.2	2.0	.00	.00	.00	.00
26	.03	.00	.00	.00	.00	.00	11	1.6	.00	.00	.00	.00
27	.01	.00	.00	.00	.00	.00	9.8	1.4	.00	.00	.00	.00
28	.00	.01	.00	.00	.00	.01	9.7	1.2	.00	.04	.00	.00
29	.00	.00	.00	.00	---	.07	11	.98	.00	.00	.00	.00
30	.00	.00	.00	.00	---	1.9	11	.70	.00	12	.00	.00
31	.00	---	.00	.00	---	4.1	---	.43	---	5.4	.00	---
TOTAL	0.04	0.01	0.00	0.00	0.01	6.26	113.41	171.31	1.20	17.45	7.49	0.00
MEAN	.001	.000	.000	.000	.000	.20	3.78	5.53	.040	.56	.24	.000
MAX	.03	.01	.00	.00	.01	4.1	11	11	.30	.12	1.8	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.43	.00	.00	.00	.00
AC-FT	.08	.02	.00	.00	.02	12	225	340	2.4	35	15	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	1995	1995	1993	1995	1998	1996	1998	1995	1997	1995	1995	1994
MEAN	.021	.000	.000	.002	.000	.12	1.11	9.02	7.29	1.12	.17	.17
MAX	.12	.002	.001	.015	.000	.38	3.78	41.1	27.7	6.78	.77	.76
(WY)	1995	1995	1993	1995	1998	1996	1998	1995	1997	1995	1995	1994
MIN	.000	.000	.000	.000	.000	.000	.000	.014	.001	.000	.000	.000
(WY)	1993	1993	1994	1993	1993	1994	1994	1996	1996	1993	1993	1993

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1992 - 1998

ANNUAL TOTAL	1113.67	317.18	
ANNUAL MEAN	3.05	.87	1.80
HIGHEST ANNUAL MEAN			6.03
LOWEST ANNUAL MEAN			.044
HIGHEST DAILY MEAN	a139	Jun 7	a139
LOWEST DAILY MEAN	b.00	Jan 1	b.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00
INSTANTANEOUS PEAK FLOW			c273
INSTANTANEOUS PEAK STAGE			d5.28
ANNUAL RUNOFF (AC-FT)	2210	629	1310
10 PERCENT EXCEEDS	7.1	3.1	2.2
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e-Estimated.

a-Also occurred Jun 10, 1997.

b-No flow most of the time most years.

c-From rating curve extended above 40 ft³/s on the basis of contracted-opening measurement.

d-From floodmarks.

07103780 MONUMENT CREEK ABOVE NORTH GATE BOULEVARD, AT U.S. AIR FORCE ACADEMY, CO

LOCATION.--Lat 39°01'52", long 104°50'52", in SW¹/₄SW¹/₄ sec.1, T.12 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank, at U.S. Air Force Academy, 50 ft upstream from Denver and Rio Grande Western Railroad bridge, 0.8 mi upstream from North Gate Boulevard, and 1.5 mi downstream from Beaver Creek.

DRAINAGE AREA.--81.7 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1985 to current year.

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gage. Elevation of gage is 6,640 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Storage and diversions upstream from station for municipal supply of Monument and Palmer Lake.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	e20	e8.5	6.9	e7.0	e10	47	110	29	3.0	20	6.2
2	7.8	e19	e8.6	7.5	e7.0	e10	42	114	22	3.6	17	5.4
3	7.7	e19	e8.4	7.8	8.0	e10	43	119	20	4.4	16	4.8
4	7.5	e19	e8.0	7.9	8.5	11	50	121	21	3.9	16	5.0
5	8.1	e18	e8.0	7.8	8.6	8.2	56	127	21	4.3	17	4.2
6	6.9	e19	e9.0	7.8	9.3	8.2	57	131	21	5.2	13	4.1
7	6.4	e20	e11	e7.6	9.1	e8.0	59	129	20	4.4	12	4.0
8	8.3	e19	12	e8.4	9.2	e7.8	59	124	19	6.2	10	4.2
9	3.6	e18	e10	e8.4	9.3	e9.0	55	117	22	8.9	10	3.8
10	3.0	e17	e8.0	e9.2	9.1	e8.0	46	114	22	11	11	3.5
11	3.7	e16	e8.0	e9.4	e9.0	5.7	40	112	21	9.9	12	3.8
12	5.4	e15	e8.0	e9.7	e8.8	6.7	44	114	20	7.8	10	4.6
13	6.7	15	e9.0	e10	e8.6	6.6	46	113	19	9.1	6.8	5.5
14	4.3	14	e10	9.5	8.4	7.3	60	109	16	15	5.0	4.5
15	6.7	e13	e11	e9.6	8.9	7.5	75	103	19	13	4.8	4.3
16	9.2	e12	e11	9.8	9.3	7.7	67	96	14	9.7	5.0	4.2
17	9.4	e11	11	9.8	8.8	11	62	81	13	6.1	4.0	3.7
18	13	e10	12	9.3	9.6	19	81	76	12	2.8	8.2	3.3
19	18	e8.0	12	10	10	20	76	73	8.8	2.4	9.5	3.0
20	18	7.3	12	e10	e10	14	77	70	7.8	2.8	5.1	3.2
21	15	7.8	12	e10	10	11	73	66	7.8	2.4	5.7	3.0
22	10	e8.0	e11	e10	9.3	14	70	66	9.2	5.2	4.6	2.9
23	7.8	e8.0	e10	e10	9.3	21	71	64	7.0	7.7	3.7	2.8
24	8.2	e8.0	e10	e10	9.6	36	77	58	7.8	5.7	4.4	2.5
25	e8.0	e8.0	e9.5	10	e12	41	89	21	5.1	6.1	5.9	2.9
26	e15	e8.0	e9.0	e9.0	e11	45	116	32	5.6	10	11	2.6
27	e17	e8.0	e9.0	e8.0	e10	56	118	45	4.0	9.2	15	2.7
28	e19	e8.4	e10	6.4	e10	60	112	36	3.0	10	13	2.8
29	e20	e8.5	e11	e7.0	---	59	105	33	2.9	12	11	2.8
30	e21	e8.5	7.0	7.1	---	58	102	31	3.6	14	5.9	2.8
31	26	---	7.5	6.5	---	58	---	30	---	16	5.7	---
TOTAL	328.4	390.5	301.5	270.4	257.7	654.7	2075	2635	423.6	231.8	298.3	113.1
MEAN	10.6	13.0	9.73	8.72	9.20	21.1	69.2	85.0	14.1	7.48	9.62	3.77
MAX	26	20	12	10	12	60	118	131	29	16	20	6.2
MIN	3.0	7.3	7.0	6.4	7.0	5.7	40	21	2.9	2.4	3.7	2.5
AC-FT	651	775	598	536	511	1300	4120	5230	840	460	592	224

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1998, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	5.15	6.06	5.07	4.57	4.91	8.66	24.3	43.7	23.1	8.92	7.46	5.23		
MAX	10.6	13.0	9.73	9.51	9.20	21.1	69.2	105	60.4	30.6	26.6	15.7		
(WY)	1998	1998	1998	1986	1998	1998	1998	1985	1995	1995	1997	1997		
MIN	.95	1.63	1.54	1.08	1.81	2.38	7.04	6.57	4.49	1.04	.90	1.16		
(WY)	1990	1990	1990	1990	1990	1991	1989	1989	1989	1989	1989	1989		

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1985 - 1998

ANNUAL TOTAL	6305.8	7980.0		
ANNUAL MEAN	17.3	21.9	11.7	
HIGHEST ANNUAL MEAN			21.9	1998
LOWEST ANNUAL MEAN			3.82	1989
HIGHEST DAILY MEAN	124	Jun 10	131	May 6
LOWEST DAILY MEAN	3.0	Oct 10	a2.4	Jul 19
ANNUAL SEVEN-DAY MINIMUM	3.3	Mar 7	2.7	Sep 23
INSTANTANEOUS PEAK FLOW			134	May 6
INSTANTANEOUS PEAK STAGE			4.84	May 6
ANNUAL RUNOFF (AC-FT)	12510	15830	8460	
10 PERCENT EXCEEDS	39	66	29	
50 PERCENT EXCEEDS	10	9.9	5.7	
90 PERCENT EXCEEDS	4.0	4.2	1.9	

e-Estimated.

a-Also occurred Jul 21.

**07103780 MONUMENT CREEK ABOVE NORTH GATE BOULEVARD, AT U.S. AIR FORCE ACADEMY, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--April 1984 to current year.

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
OCT 1997					MAY 1998				
09...	1335	2.7	308	14.0	15...	1525	102	106	15.0
NOV					JUN				
13...	1205	16	230	3.5	10...	1155	25	154	9.0
DEC					JUL				
08...	1020	11	290	2.0	10...	1205	12	266	22.0
FEB 1998					AUG				
12...	1340	8.9	292	4.0	04...	1355	14	234	19.5
APR									
17...	1235	54	191	8.5					

07103797 WEST MONUMENT CREEK BELOW RAMPART RESERVOIR, CO

LOCATION.--Lat 38°58'30", long 104°57'18", in NE¼SE¼ sec.26, T.12 S., R.68 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.1 mi below Wildcat Gulch and 0.5 mi below Rampart Reservoir.

DRAINAGE AREA.--7.29 mi².

PERIOD OF RECORD.--November 1993 to current year.

GAGE.--Water-stage recorder and satellite telemetry. Elevation of gage is 8,710 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoir and transmountain diversions. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	3.8	3.8	4.3	4.1	4.7	3.5	4.3	3.5	4.0	4.2	7.8
2	4.1	3.6	3.7	4.3	4.0	4.6	3.6	4.1	3.4	3.9	4.1	7.7
3	4.1	3.5	3.7	4.2	4.2	4.5	3.7	4.3	3.6	3.9	4.2	7.4
4	4.1	3.5	3.6	4.2	4.3	4.5	3.9	4.1	3.7	4.2	4.4	7.5
5	4.0	3.4	3.6	4.0	4.3	4.6	3.8	3.7	3.7	4.2	4.4	7.0
6	4.0	3.4	3.7	3.8	4.3	4.7	3.6	3.5	3.7	4.1	4.3	5.0
7	4.0	3.5	3.8	3.7	4.4	4.7	3.4	3.4	3.7	4.1	4.2	4.3
8	4.1	3.5	3.8	3.7	4.4	4.5	3.4	3.5	3.5	4.0	4.2	3.6
9	4.4	3.5	3.7	3.8	4.6	4.4	3.5	3.4	3.5	4.2	4.2	3.6
10	4.4	3.5	3.7	3.9	4.7	4.3	3.4	3.4	3.3	4.4	4.2	3.7
11	4.6	3.5	3.7	3.9	4.6	4.3	3.7	3.3	3.3	4.2	4.1	3.7
12	4.6	3.6	3.6	3.8	4.7	4.3	3.9	3.2	3.3	4.1	4.1	3.4
13	4.3	3.5	3.8	3.8	4.7	4.4	4.1	3.2	3.3	4.0	4.0	3.3
14	4.1	3.4	3.8	3.9	4.6	4.4	4.1	3.2	3.4	4.0	3.9	3.2
15	3.8	3.3	3.8	4.1	4.7	4.4	4.1	3.1	3.6	3.9	4.0	3.2
16	3.4	3.3	3.9	4.1	4.7	4.2	4.2	3.0	3.5	3.8	4.0	3.2
17	3.4	3.4	3.9	4.1	4.9	4.1	4.2	3.2	e4.0	3.7	4.1	3.1
18	3.6	3.4	3.8	4.0	5.0	4.2	4.0	3.2	4.6	3.7	4.9	3.1
19	3.8	3.3	3.8	4.0	5.0	4.4	3.9	3.1	4.2	3.7	6.0	3.1
20	3.8	3.1	3.8	3.9	4.8	4.3	3.9	3.1	4.1	3.7	e7.9	3.2
21	3.9	3.1	3.8	3.9	4.8	4.3	4.1	3.2	4.1	3.8	e9.1	3.3
22	4.0	3.3	3.8	3.9	4.8	4.5	4.4	3.3	4.2	4.1	9.9	3.5
23	3.7	3.5	3.9	4.1	4.9	4.3	4.6	3.5	4.0	4.1	10	3.5
24	3.9	3.6	3.9	4.1	4.9	4.0	4.8	3.5	4.1	4.1	10	3.4
25	3.6	3.6	3.9	4.0	4.7	4.4	4.5	3.4	4.0	4.1	11	3.4
26	3.8	3.6	3.9	3.9	4.7	4.3	3.9	3.4	4.0	4.1	9.2	3.4
27	3.6	3.7	4.0	4.0	4.7	3.9	4.1	3.4	4.1	4.1	8.4	3.4
28	3.6	3.7	4.0	4.0	4.8	3.7	4.0	3.3	4.0	4.1	8.3	3.4
29	3.7	3.7	4.0	4.1	---	3.5	4.0	3.4	3.9	4.2	8.2	3.5
30	3.9	3.7	4.0	4.1	---	3.4	4.2	3.5	4.3	5.1	8.3	3.5
31	3.9	---	4.2	4.1	---	3.4	---	3.4	---	4.4	7.8	---
TOTAL	122.3	104.5	118.4	123.7	129.3	132.2	118.5	106.6	113.6	126.0	189.6	124.4
MEAN	3.95	3.48	3.82	3.99	4.62	4.26	3.95	3.44	3.79	4.06	6.12	4.15
MAX	4.6	3.8	4.2	4.3	5.0	4.7	4.8	4.3	4.6	5.1	11	7.8
MIN	3.4	3.1	3.6	3.7	4.0	3.4	3.4	3.0	3.3	3.7	3.9	3.1
AC-FT	243	207	235	245	256	262	235	211	225	250	376	247

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1998, BY WATER YEAR (WY)

	1994	1995	1996	1997	1998
MEAN	5.52	6.28	7.04	6.65	6.76
MAX	10.1	10.6	9.68	9.36	8.75
(WY)	1995	1996	1994	1996	1994
MIN	3.74	3.48	3.82	3.99	4.62
(WY)	1997	1998	1998	1998	1998

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1994 - 1998

ANNUAL TOTAL	1870.5	1509.1	
ANNUAL MEAN	5.12	4.13	6.85
HIGHEST ANNUAL MEAN			10.0
LOWEST ANNUAL MEAN			4.13
HIGHEST DAILY MEAN	23	11	29
LOWEST DAILY MEAN	1.4	3.0	1.4
ANNUAL SEVEN-DAY MINIMUM	3.3	3.1	3.0
INSTANTANEOUS PEAK FLOW		15	a46
INSTANTANEOUS PEAK STAGE		4.87	5.54
ANNUAL RUNOFF (AC-FT)	3710	2990	4960
10 PERCENT EXCEEDS	7.0	4.7	13
50 PERCENT EXCEEDS	4.6	4.0	6.3
90 PERCENT EXCEEDS	3.7	3.4	3.8

e-Estimated.

a-From rating curve extended above 30 ft³/s.

07103800 WEST MONUMENT CREEK AT U.S. AIR FORCE ACADEMY, CO

LOCATION.--Lat 38°58'14", long 104°54'08", in SW¹/₄SW¹/₄ sec.28, T.12 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 500 ft upstream from diversion to city of Colorado Springs water-treatment plant, 2.7 mi south of U.S. Air Force Academy chapel, and 4.4 mi upstream from mouth.

DRAINAGE AREA.--14.9 mi².

PERIOD OF RECORD.--May 1970 to current year.

GAGE.--Water-stage recorder with satellite telemetry and concrete control. Elevation of gage is 7,180 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, and those above 100 ft³/s, which are poor. Natural flow of stream affected by trans-mountain diversions from Colorado River basin, storage reservoirs, and operation of water-supply system. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.89	2.8	.88	.81	.74	e.70	3.3	10	3.3	2.1	4.4	1.0
2	.88	2.7	.88	.81	.73	e.70	2.9	11	3.2	2.0	5.5	.99
3	.86	2.6	.88	.81	.74	e.68	2.7	12	3.0	2.0	5.6	.91
4	.86	2.6	.88	.81	.74	.68	2.2	12	3.1	2.1	5.7	.85
5	.81	2.6	e.86	.81	.74	.67	2.3	13	3.2	2.1	5.6	.83
6	.83	2.6	e.86	.79	.74	.68	2.3	12	3.1	1.5	5.4	.79
7	.84	2.5	.88	e.79	.74	.67	2.9	11	2.9	.88	4.6	.78
8	.85	2.5	.89	e.79	.74	e.66	4.0	11	2.8	.81	3.5	.77
9	.81	2.3	.88	e.80	.74	e.66	4.0	13	2.8	.90	3.3	.73
10	.82	1.1	.93	e.81	.74	e.64	4.0	15	2.6	1.0	2.8	.71
11	.87	.97	e.90	.82	e.72	e.62	4.2	15	2.6	.91	2.4	.71
12	.91	.96	e.84	.81	e.70	.61	4.4	14	2.5	.77	2.2	.83
13	.88	.94	.81	.81	e.70	.66	4.4	11	2.4	.73	2.0	1.3
14	.85	e.90	.85	.76	.70	.68	4.3	9.0	2.5	.72	2.0	2.4
15	.85	e.86	.88	.78	.74	.70	4.2	8.5	2.4	.70	2.0	2.4
16	.83	e.82	.85	.79	.74	.71	4.0	8.4	1.2	.67	1.7	2.4
17	.81	.83	.88	.78	.74	.75	4.1	9.7	1.1	.63	1.3	2.4
18	.81	.85	.88	.75	.74	.69	4.2	11	1.0	.60	1.1	2.3
19	.81	.91	.88	.80	.74	e.74	4.2	10	1.0	.58	1.2	2.3
20	.85	.92	.88	.77	.72	.77	4.2	6.2	.99	.56	.98	2.3
21	.88	.90	.86	e.76	.74	.87	4.2	5.1	1.7	.54	1.0	2.4
22	.84	.88	.85	e.75	.74	1.1	4.5	5.0	3.0	.68	.88	2.4
23	.81	.88	.84	e.75	.74	1.5	5.2	4.7	2.9	.90	.82	2.4
24	.88	.84	.82	e.74	.77	1.9	6.1	4.5	2.9	1.1	.81	2.3
25	1.0	.84	e.82	.74	.77	2.3	7.1	4.3	2.9	2.3	1.5	1.5
26	.96	.84	e.82	.73	e.74	2.3	8.3	4.1	2.9	2.7	1.9	.65
27	1.0	.90	e.82	.74	e.72	2.6	9.6	4.0	2.9	3.4	1.2	.61
28	1.2	.93	e.82	.74	e.70	4.0	9.8	3.7	2.6	3.1	1.1	.61
29	2.7	.88	e.82	.74	---	4.0	9.8	3.6	2.0	2.6	1.0	.64
30	2.8	.88	.81	.74	---	3.9	10	3.5	2.6	3.6	.98	.80
31	3.0	---	.81	.74	---	3.8	---	3.4	---	3.8	.96	---
TOTAL	32.99	42.03	26.56	24.07	20.55	41.94	147.4	268.7	74.09	46.98	75.43	42.01
MEAN	1.06	1.40	.86	.78	.73	1.35	4.91	8.67	2.47	1.52	2.43	1.40
MAX	3.0	2.8	.93	.82	.77	4.0	10	15	3.3	3.8	5.7	2.4
MIN	.81	.82	.81	.73	.70	.61	2.2	3.4	.99	.54	.81	.61
AC-FT	65	83	53	48	41	83	292	533	147	93	150	83

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1998, BY WATER YEAR (WY)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	1.83	1.19	.90	.62	.35	.50	1.93	6.34	4.78	2.47	2.57	1.81																	
MAX	11.7	7.74	8.62	8.78	3.63	2.46	12.4	30.5	32.1	23.3	23.8	20.3																	
(WY)	1972	1971	1971	1971	1971	1971	1971	1971	1971	1970	1970	1970																	
MIN	.000	.000	.000	.000	.000	.001	.11	.20	.031	.017	.000	.000																	
(WY)	1993	1993	1994	1993	1976	1991	1989	1976	1976	1993	1993	1993																	

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1970 - 1998

ANNUAL TOTAL	1539.09	842.75	
ANNUAL MEAN	4.22	2.31	1.85
HIGHEST ANNUAL MEAN			13.4
LOWEST ANNUAL MEAN			.10
HIGHEST DAILY MEAN	154	Jun 10	154
LOWEST DAILY MEAN	e,a .09	Jan 13	c.00
ANNUAL SEVEN-DAY MINIMUM	.10	Jan 12	.00
INSTANTANEOUS PEAK FLOW			d169
INSTANTANEOUS PEAK STAGE			f3.24
ANNUAL RUNOFF (AC-FT)	3050	1670	1340
10 PERCENT EXCEEDS	6.8	4.6	5.0
50 PERCENT EXCEEDS	1.0	.91	.49
90 PERCENT EXCEEDS	.13	.72	.06

e-Estimated.

a-Also occurred Jan 14-16.

b-Also occurred May 11.

c-No flow many days during 1976, 1991-92.

d-From rating curve extended above 68 ft³/s.

f-Maximum gage height, 3.88 ft, Dec 22, 1983, backwater from ice.

07103970 MONUMENT CREEK ABOVE WOODMEN ROAD, AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°56'02", long 104°49'00", in SW¼NE¼ sec.7, T.13 S, R.66 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.1 mi upstream from Woodmen Road, 0.2 mi west of Interstate 25, and 0.5 mi upstream from Cottonwood Creek.

DRAINAGE AREA.--181 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1996 to current year.

GAGE.--Water-stage recorder with satellite telemetry, concrete control, and crest-stage gage. Elevation of gage is 6,270 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges and those above 400 ft³/s, which are poor. Natural flow of stream affected by runoff from industrial and residential areas of northeast Colorado Springs.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	52	25	e12	15	20	75	129	42	15	29	21
2	17	41	19	e12	16	20	69	136	38	14	27	13
3	18	39	e15	e12	17	21	68	142	38	15	26	13
4	17	39	e14	e12	20	22	76	144	40	15	27	13
5	19	36	e11	e12	19	19	80	154	46	15	30	12
6	16	39	e13	e12	19	19	79	162	39	20	25	12
7	15	40	e14	e12	19	17	81	160	38	15	23	11
8	17	41	e15	e12	20	16	83	157	35	15	23	12
9	14	40	e13	e12	20	20	79	148	38	21	25	11
10	14	37	e10	e12	21	16	72	145	35	96	21	10
11	14	35	e10	e12	19	15	64	146	35	29	21	10
12	16	34	e10	e12	19	15	68	146	35	19	21	16
13	17	27	e11	e12	20	15	69	141	32	17	18	12
14	14	22	e12	e13	19	15	82	134	31	22	17	10
15	15	e22	e14	e13	19	15	102	126	34	22	17	10
16	18	e22	e14	e13	22	16	97	120	30	19	25	11
17	19	e21	e14	e13	22	17	87	110	27	16	19	9.9
18	20	e20	e15	e13	24	28	101	98	27	13	32	9.5
19	26	e20	e16	e13	23	35	97	91	24	13	26	9.4
20	27	22	16	e12	22	33	98	88	22	13	15	9.6
21	25	22	16	e12	21	27	96	82	48	13	14	10
22	20	22	e17	e14	20	33	93	77	24	19	13	9.8
23	19	22	e17	e14	19	39	93	78	20	18	12	9.5
24	19	24	e16	e14	18	49	99	72	19	16	12	9.1
25	16	24	e15	e15	23	67	110	51	17	17	25	9.1
26	60	24	e14	e16	21	70	125	48	17	19	22	8.8
27	55	24	e14	e16	19	82	132	58	16	17	21	8.7
28	53	32	e15	16	20	87	127	48	15	23	18	8.8
29	75	33	e16	e16	---	86	125	45	15	29	17	9.6
30	76	27	e11	e15	---	84	124	43	36	95	13	9.0
31	88	---	e12	e15	---	84	---	42	---	32	13	---
TOTAL	858	903	444	409	556	1102	2751	3321	913	722	647	327.8
MEAN	27.7	30.1	14.3	13.2	19.9	35.5	91.7	107	30.4	23.3	20.9	10.9
MAX	88	52	25	16	24	87	132	162	48	96	32	21
MIN	14	20	10	12	15	15	64	42	15	13	12	8.7
AC-FT	1700	1790	881	811	1100	2190	5460	6590	1810	1430	1280	650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1998, BY WATER YEAR (WY)

	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998
MEAN	24.5	22.0	13.2	13.3	15.7	23.9	59.7	86.3	82.7	24.8	37.8	20.0
MAX	27.7	30.1	14.3	13.3	19.9	35.5	91.7	107	135	26.4	54.8	29.1
(WY)	1998	1998	1998	1997	1998	1998	1998	1998	1997	1997	1997	1997
MIN	21.3	13.9	12.1	13.2	11.4	12.3	27.7	65.4	30.4	23.3	20.9	10.9
(WY)	1997	1997	1997	1998	1997	1997	1997	1997	1998	1998	1998	1998

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1997 - 1998

ANNUAL TOTAL	13614.1	12953.8		
ANNUAL MEAN	37.3	35.5	35.4	
HIGHEST ANNUAL MEAN			35.5	1998
LOWEST ANNUAL MEAN			35.2	1997
HIGHEST DAILY MEAN	417	162	417	Jun 10 1997
LOWEST DAILY MEAN	a9.6	8.7	8.7	Sep 27 1998
ANNUAL SEVEN-DAY MINIMUM	10	9.0	9.0	Sep 24 1998
INSTANTANEOUS PEAK FLOW		b1470	b1470	Jul 10 1998
INSTANTANEOUS PEAK STAGE		7.95	7.95	Jul 10 1998
ANNUAL RUNOFF (AC-FT)	27000	25690	25620	
10 PERCENT EXCEEDS	72	89	80	
50 PERCENT EXCEEDS	20	20	19	
90 PERCENT EXCEEDS	11	12	11	

e-Estimated.

a-Also occurred on Mar 20, 22-23.

b-From rating curve extended above 370 ft³/s.

**07103970 MONUMENT CREEK ABOVE WOODMEN ROAD AT COLORADO SPRINGS, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Daily sediment record May 1997 to current year.

PERIOD OF DAILY RECORD.--Suspended-sediment discharge May to September 1997 (peak flows only), April to September 1998 (seasonal records only).

INSTRUMENTATION.--Pumping sediment sampler since May 1997.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 3,580 mg/L, Aug. 19, 1998; minimum daily mean, 5 mg/L, Sept. 24, 1998.

SEDIMENT LOADS: Maximum daily during period of seasonal operation 3,060 tons, June 7, 1997; minimum daily, 0.13 ton, Sept. 24, 1998.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 3,580 mg/L, Aug. 19; minimum daily mean, 5 mg/L, Sept. 24.

SEDIMENT LOADS: Maximum daily during during period of seasonal operation, 1,380 tons, July 30; minimum daily, 0.13 ton, Sept. 24.

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
OCT 1997					MAY 1998				
23...	1525	18	313	13.0	12...	1155	146	130	11.0
NOV					26...	1420	45	--	19.5
07...	1425	40	305	9.5	JUN				
DEC					16...	1130	31	262	16.0
05...	1135	17	414	0.0	30...	1415	18	308	25.0
FEB 1998					JUL				
03...	1425	26	349	2.0	08...	1505	15	333	21.5
20...	1040	22	403	0.5	10...	1750	110	--	19.0
MAR					10...	1755	110	162	19.0
09...	1600	27	366	3.0	14...	0945	23	--	18.0
31...	1430	86	194	9.5	29...	1805	45	210	21.0
APR					29...	2030	28	--	20.0
07...	1030	73	--	4.0	31...	1130	27	--	17.5
07...	1035	79	210	4.0	SEP				
17...	1030	73	--	4.0	02...	1040	14	357	17.0
17...	1415	90	--	9.5	09...	1445	11	352	23.5
27...	1535	132	--	11.5					

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE D (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE D (T/DAY) (80155)
APR				
07...	1030	73	409	92
17...	1415	90	519	132
27...	1535	132	848	304
MAY				
26...	1420	45	86	18
JUN				
16...	1130	31	62	4.3
30...	1415	18	352	134
JUL				
08...	1505	15	92	4.4
10...	1750	110	899	1170
14...	0945	23	166	9.7
29...	2030	28	441	29
30...	1745	258	7010	1380
31...	1130	27	407	104
AUG				
25...	1530	13	104	78
SEP				
09...	1445	11	11	0.32

07103970 MONUMENT CREEK ABOVE WOODMEN ROAD AT COLORADO SPRINGS, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE	CONCEN-		DISCHARGE	CONCEN-		DISCHARGE	DISCHARGE	
	(CFS)	TRATION	(TONS/DAY)	(CFS)	TRATION	(TONS/DAY)	(CFS)	TRATION	(TONS/DAY)
		(MG/L)			(MG/L)			(MG/L)	
		OCTOBER			NOVEMBER			DECEMBER	
1	19	---	---	52	---	---	25	---	---
2	17	---	---	41	---	---	19	---	---
3	18	---	---	39	---	---	e15	---	---
4	17	---	---	39	---	---	e14	---	---
5	19	---	---	36	---	---	e11	---	---
6	16	---	---	39	---	---	e13	---	---
7	15	---	---	40	---	---	e14	---	---
8	17	---	---	41	---	---	e15	---	---
9	14	---	---	40	---	---	e13	---	---
10	14	---	---	37	---	---	e10	---	---
11	14	---	---	35	---	---	e10	---	---
12	16	---	---	34	---	---	e10	---	---
13	17	---	---	27	---	---	e11	---	---
14	14	---	---	22	---	---	e12	---	---
15	15	---	---	e22	---	---	e14	---	---
16	18	---	---	e22	---	---	e14	---	---
17	19	---	---	e21	---	---	e14	---	---
18	20	---	---	e20	---	---	e15	---	---
19	26	---	---	e20	---	---	16	---	---
20	27	---	---	22	---	---	16	---	---
21	25	---	---	22	---	---	16	---	---
22	20	---	---	22	---	---	e17	---	---
23	19	---	---	22	---	---	e17	---	---
24	19	---	---	24	---	---	e16	---	---
25	16	---	---	24	---	---	e15	---	---
26	60	---	---	24	---	---	e14	---	---
27	55	---	---	24	---	---	e14	---	---
28	53	---	---	32	---	---	e15	---	---
29	75	---	---	33	---	---	e16	---	---
30	76	---	---	27	---	---	e11	---	---
31	88	---	---	---	---	---	e12	---	---
TOTAL	858	---	---	903	---	---	444	---	---
		JANUARY			FEBRUARY			MARCH	
1	e12	---	---	15	---	---	20	---	---
2	e12	---	---	16	---	---	20	---	---
3	e12	---	---	17	---	---	21	---	---
4	e12	---	---	20	---	---	22	---	---
5	e12	---	---	19	---	---	19	---	---
6	e12	---	---	19	---	---	19	---	---
7	e12	---	---	19	---	---	17	---	---
8	e12	---	---	20	---	---	16	---	---
9	e12	---	---	20	---	---	20	---	---
10	e12	---	---	21	---	---	16	---	---
11	e12	---	---	19	---	---	15	---	---
12	e12	---	---	19	---	---	15	---	---
13	e12	---	---	20	---	---	15	---	---
14	e13	---	---	19	---	---	15	---	---
15	e13	---	---	19	---	---	15	---	---
16	e13	---	---	22	---	---	16	---	---
17	e13	---	---	22	---	---	17	---	---
18	e13	---	---	24	---	---	28	---	---
19	e13	---	---	23	---	---	35	---	---
20	e12	---	---	22	---	---	33	---	---
21	e12	---	---	21	---	---	27	---	---
22	e14	---	---	20	---	---	33	---	---
23	e14	---	---	19	---	---	39	---	---
24	e14	---	---	18	---	---	49	---	---
25	e15	---	---	23	---	---	67	---	---
26	e16	---	---	21	---	---	70	---	---
27	e16	---	---	19	---	---	82	---	---
28	16	---	---	20	---	---	87	---	---
29	e16	---	---	---	---	---	86	---	---
30	e15	---	---	---	---	---	84	---	---
31	e15	---	---	---	---	---	84	---	---
TOTAL	409	---	---	556	---	---	1102	---	---

e-Estimated.

07103970 MONUMENT CREEK ABOVE WOODMEN ROAD AT COLORADO SPRINGS, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
										APRIL
1	75	---	---	129	---	e196	42	127	15	
2	69	---	---	136	563	206	38	91	9.4	
3	68	---	---	142	536	206	38	---	e7.6	
4	76	---	---	144	---	e204	40	86	9.4	
5	80	---	---	154	530	220	46	124	15	
6	79	---	---	162	---	e237	39	133	14	
7	81	424	92	160	549	238	38	95	9.7	
8	83	492	110	157	---	e213	35	---	e5.7	
9	79	543	116	148	---	e180	38	63	6.5	
10	72	422	82	145	408	160	35	104	9.8	
11	64	389	68	146	371	146	35	73	6.9	
12	68	444	81	146	311	122	35	61	5.7	
13	69	342	64	141	385	146	32	---	e5.0	
14	82	361	82	134	---	e134	31	65	5.6	
15	102	670	195	126	303	103	34	69	6.3	
16	97	714	188	120	277	90	30	53	4.3	
17	87	557	132	110	288	85	27	57	4.1	
18	101	616	168	98	274	73	27	---	e3.5	
19	97	---	e117	91	244	60	24	32	2.1	
20	98	325	86	88	225	53	22	32	2.0	
21	96	---	e86	82	226	50	48	1010	518	
22	93	351	89	77	216	45	24	936	62	
23	93	---	e103	78	195	41	20	---	e13	
24	99	486	130	72	---	e34	19	---	e4.4	
25	110	582	174	51	133	19	17	---	e3.2	
26	125	---	e263	48	133	18	17	---	e3.0	
27	132	851	304	58	159	25	16	---	e2.6	
28	127	---	e252	48	140	18	15	---	e2.3	
29	125	---	e210	45	128	16	15	---	e2.2	
30	124	562	187	43	118	14	36	745	134	
31	---	---	---	42	123	14	---	---	---	
TOTAL	2751	---	---	3321	---	3366	913	---	892.3	
		JULY			AUGUST			SEPTEMBER		
1	15	---	e5.1	29	459	36	21	199	12	
2	14	---	e2.9	27	---	e24	13	70	2.6	
3	15	---	e2.8	26	173	12	13	20	.71	
4	15	---	e2.5	27	148	11	13	20	.69	
5	15	---	e2.2	30	138	11	12	17	.57	
6	20	160	14	25	135	9.0	12	---	e.43	
7	15	---	e4.9	23	---	e8.0	11	11	.33	
8	15	98	4.4	23	131	8.2	12	10	.32	
9	21	251	17	25	967	85	11	11	.32	
10	96	879	1170	21	999	56	10	10	.29	
11	29	326	26	21	380	22	10	---	e.52	
12	19	195	10	21	---	e16	16	281	33	
13	17	---	e7.6	18	188	9.0	12	162	5.8	
14	22	161	9.7	17	211	9.9	10	39	1.1	
15	22	135	8.2	17	441	21	10	19	.53	
16	19	101	5.3	25	1120	131	11	---	e.82	
17	16	---	e3.7	19	714	60	9.9	30	.80	
18	13	---	e2.5	32	1270	258	9.5	14	.36	
19	13	---	e1.9	26	3580	284	9.4	10	.24	
20	13	---	e1.6	15	925	38	9.6	8	.20	
21	13	---	e1.4	14	514	20	10	---	e.22	
22	19	167	16	13	---	e13	9.8	8	.22	
23	18	---	e7.7	12	259	8.4	9.5	7	.17	
24	16	---	e2.8	12	155	5.2	9.1	5	.13	
25	17	---	e3.8	25	473	78	9.1	6	.16	
26	19	---	e3.9	22	407	25	8.8	---	e.18	
27	17	---	e2.1	21	---	e7.9	8.7	8	.19	
28	23	---	e12	18	110	5.5	8.8	8	.18	
29	29	322	29	17	95	4.3	9.6	6	.17	
30	95	2000	1380	13	---	e2.8	9.0	9	.21	
31	32	958	104	13	64	2.2	---	---	---	
TOTAL	722	---	2865.0	647	---	1281.4	327.8	---	63.46	

e-Estimated.

07103977 COTTONWOOD CREEK AT COWPOKE ROAD AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°57'04", long 104°42'47", in SE¹/₄NW¹/₄ sec.6, T.13 S., R.65 W., El Paso County, Hydrologic Unit 11020003, on left bank 30 ft downstream from bridge on Cowpoke Road at Colorado Springs, 1.0 mi upstream from Woodmen Road., and 5.3 mi east of Interstate 25.

DRAINAGE AREA.--5.93 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to September 1998 (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry, crest-stage gage, and concrete control. Elevation of gage is 6,875 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 50 ft³/s, Aug. 11, 1998, from rating curve extended above 40 ft³/s; gage height, 4.93 ft; minimum daily, 0.03 ft³/s, on many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 50 ft³/s, Aug. 11, gage height, 4.93 ft; minimum daily, 0.03 ft³/s, on many days.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	.34	e.06	e.08	e.08	.09
2	---	---	---	---	---	---	---	.32	e.06	.07	e.06	.07
3	---	---	---	---	---	---	---	.34	e.06	e.07	e.05	.05
4	---	---	---	---	---	---	---	e.34	.10	e.07	e.04	.04
5	---	---	---	---	---	---	---	e.34	.16	e.07	e.04	.03
6	---	---	---	---	---	---	---	e.37	.11	e.07	e.04	.03
7	---	---	---	---	---	---	---	e.34	.07	e.07	e.03	.04
8	---	---	---	---	---	---	---	.42	.19	e.10	e.03	.04
9	---	---	---	---	---	---	---	.35	.21	.12	e.03	.04
10	---	---	---	---	---	---	---	.26	.13	e.10	.03	.04
11	---	---	---	---	---	---	.46	e.28	e.10	e.15	2.3	.03
12	---	---	---	---	---	---	.48	e.30	e.09	e.10	e.10	.04
13	---	---	---	---	---	---	.49	.45	e.08	e.09	e.04	.03
14	---	---	---	---	---	---	.52	e.40	e.12	e.09	e.03	.04
15	---	---	---	---	---	---	.62	e.30	e.10	e.09	e.03	.04
16	---	---	---	---	---	---	.76	e.22	e.09	e.09	e.06	.04
17	---	---	---	---	---	---	.83	e.22	e.08	.09	e.03	.04
18	---	---	---	---	---	---	.93	e.22	e.08	e.08	e.03	.03
19	---	---	---	---	---	---	.87	.37	e.08	e.08	.03	.03
20	---	---	---	---	---	---	.80	.37	e.08	e.08	.03	.04
21	---	---	---	---	---	---	.64	.29	e.31	e.08	.03	.05
22	---	---	---	---	---	---	.59	.21	e.10	e.12	.03	.06
23	---	---	---	---	---	---	.54	e.21	e.08	e.09	e.03	.04
24	---	---	---	---	---	---	.50	e.21	e.08	e.08	.04	.04
25	---	---	---	---	---	---	.53	e.21	e.08	e.09	e.60	.04
26	---	---	---	---	---	---	.57	e.21	e.08	e.08	e.08	.04
27	---	---	---	---	---	---	.51	.16	e.08	e.07	e.06	.05
28	---	---	---	---	---	---	.51	.09	e.08	e.10	.05	.06
29	---	---	---	---	---	---	.48	.05	e.08	e.30	e.05	.05
30	---	---	---	---	---	---	.38	e.06	e.31	.48	e.05	.06
31	---	---	---	---	---	---	---	e.06	---	.11	.04	---
TOTAL	---	---	---	---	---	---	---	8.31	3.33	3.36	4.17	1.32
MEAN	---	---	---	---	---	---	---	.27	.11	.11	.13	.044
MAX	---	---	---	---	---	---	---	.45	.31	.48	2.3	.09
MIN	---	---	---	---	---	---	---	.05	.06	.07	.03	.03
AC-FT	---	---	---	---	---	---	---	16	6.6	6.7	8.3	2.6

e--Estimated.

**07103977 COTTONWOOD CREEK AT COWPOKE ROAD AT COLORADO SPRINGS, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--April to September 1998 (seasonal records only).

PERIOD OF DAILY RECORD.--Daily sediment record April to September 1998 (seasonal records only).

INSTRUMENTATION.--Pumping sediment sampler since April 1998.

REMARKS.--Records of daily sediment during period of seasonal operation (Apr. 11 to Sept. 30) are poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 4,240 mg/L, Aug. 11, 1998; minimum daily mean, 74 mg/L, Sept. 14, 1998.

SEDIMENT LOADS: Maximum daily during period of seasonal operation, 155 tons, Aug. 11, 1998; minimum daily mean, 0.01 ton (estimated), many days during 1998.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 4,240 mg/L, Aug. 11; minimum daily mean, 74 mg/L, Sept. 14.

SEDIMENT LOADS: Maximum daily during period of seasonal operation, 155 tons, Aug. 11; minimum daily, 0.01 ton (estimated), many days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS./100 ML) (31673)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
APR 22...	1645	0.54	343	8.5	19.5	7.2	--	--	<0.050	0.037	0.078	0.011
JUN 18...	0915	0.06	420	7.4	13.5	7.6	180	300	<0.050	<0.020	<0.010	<0.010
AUG 21...	0630	0.03	435	8.0	13.0	8.0	1100	210	<0.050	0.039	0.060	0.011

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)
APR 1998					JUL 1998				
13...	1405	0.45	--	14.5	08...	1240	0.07	432	22.5
13...	1415	0.45	372	14.5	08...	1300	0.08	--	22.5
17...	1415	0.88	--	18.0	30...	1355	0.06	--	22.5
17...	1420	0.90	355	18.0	31...	1400	0.08	--	20.5
MAY					SEP				
12...	1055	e. 27	--	15.5	09...	1035	0.04	--	19.5
18...	1330	0.24	385	21.5	09...	1045	0.05	498	19.5
28...	0730	0.11	--	10.0	21...	1235	0.06	--	19.0
JUN									
03...	1220	0.06	--	23.5					
05...	1330	0.25	417	12.0					

e-Estimated.

07103977 COTTONWOOD CREEK AT COWPOKE ROAD AT COLORADO SPRINGS, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	JANUARY			FEBRUARY			MARCH		
1	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---
	APRIL			MAY			JUNE		
1	---	---	---	.34	---	e.20	e.06	---	e.01
2	---	---	---	.32	216	.19	e.06	---	e.01
3	---	---	---	.34	236	.22	e.06	---	e.01
4	---	---	---	e.34	---	e.32	.10	---	e.03
5	---	---	---	e.34	---	e.38	.16	421	.22
6	---	---	---	e.37	---	e.26	.11	---	e.09
7	---	---	---	e.34	---	e.26	.07	---	e.03
8	---	---	---	.42	309	.35	.19	---	e.15
9	---	---	---	.35	319	.30	.21	---	e.36
10	---	---	---	.26	295	.21	.13	---	e.17
11	.46	932	1.2	e.28	---	e.20	e.10	---	e.05
12	.48	2010	2.6	e.30	---	e.19	e.09	---	e.02
13	.49	1230	1.7	.45	---	e.47	e.08	---	e.01
14	.52	1510	2.1	e.40	---	e.58	e.12	---	e.01
15	.62	866	1.5	e.30	---	e.36	e.10	---	e.01
16	.76	---	e2.1	e.22	---	e.20	e.09	---	e.01
17	.83	1170	2.6	e.22	---	e.15	e.08	---	e.01
18	.93	---	e2.3	e.22	---	e.11	e.08	---	e.01
19	.87	669	1.6	.37	---	e.18	e.08	---	e.01
20	.80	---	e1.0	.37	---	e.18	e.08	---	e.01
21	.64	---	e.55	.29	---	e.14	e.31	---	e.98
22	.59	---	e.34	.21	---	e.11	e.10	---	e.03
23	.54	157	.23	e.21	---	e.11	e.08	---	e.03
24	.50	---	e.22	e.21	---	e.10	e.08	---	e.06
25	.53	180	.26	e.21	---	e.10	e.08	---	e.10
26	.57	---	e.37	e.21	---	e.10	e.08	---	e.13
27	.51	256	.35	.16	---	e.08	e.08	---	e.13
28	.51	205	.28	.09	168	.04	e.08	---	e.13
29	.48	195	.25	.05	---	e.02	e.08	---	e.13
30	.38	---	e.20	e.06	---	e.02	e.31	---	e1.3
31	---	---	---	e.06	---	e.02	---	---	---
TOTAL	---	---	---	8.31	---	6.15	3.33	---	4.25

e-Estimated.

07103977 COTTONWOOD CREEK AT COWPOKE ROAD AT COLORADO SPRINGS, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	e.08	---	e.12	e.08	---	e.11	.09	---	e.07
2	.07	---	e.09	e.06	---	e.08	.07	---	e.03
3	e.07	---	e.09	e.05	---	e.06	.05	---	e.02
4	e.07	---	e.08	e.04	---	e.05	.04	---	e.01
5	e.07	---	e.07	e.04	---	e.06	.03	---	e.01
6	e.07	---	e.06	e.04	---	e.06	.03	---	e.01
7	e.07	---	e.05	e.03	---	e.04	.04	---	e.01
8	e.10	---	e.07	e.03	---	e.04	.04	---	e.01
9	.12	---	e.12	e.03	---	e.04	.04	91	.01
10	e.10	---	e.14	.03	---	e.05	.04	---	e.01
11	e.15	---	e.25	2.3	4240	155	.03	---	e.01
12	e.10	---	e.18	e.10	---	e.34	.04	---	e.02
13	e.09	---	e.12	e.04	---	e.09	.03	---	e.01
14	e.09	---	e.10	e.03	---	e.06	.04	74	.01
15	e.09	---	e.08	e.03	---	e.06	.04	---	e.01
16	e.09	---	e.08	e.06	---	e.12	.04	99	.01
17	.09	---	e.08	e.03	---	e.05	.04	---	e.01
18	e.08	---	e.07	e.03	---	e.04	.03	---	e.01
19	e.08	---	e.08	.03	---	e.05	.03	140	.01
20	e.08	---	e.08	.03	---	e.06	.04	---	e.01
21	e.08	---	e.09	.03	---	e.08	.05	124	.02
22	e.12	---	e.14	.03	---	e.10	.06	---	e.02
23	e.09	---	e.11	e.03	---	e.13	.04	---	e.02
24	e.08	---	e.10	.04	---	e.21	.04	---	e.02
25	e.09	---	e.12	e.60	---	e4.0	.04	---	e.02
26	e.08	---	e.11	e.08	---	e.04	.04	---	e.02
27	e.07	---	e.10	e.06	---	e.02	.05	---	e.02
28	e.10	---	e.16	.05	126	.02	.06	---	e.03
29	e.30	---	e2.3	e.05	---	e.02	.05	---	e.03
30	.48	3420	22	e.05	---	e.02	.06	---	e.04
31	.11	866	.26	.04	---	e.02	---	---	---
TOTAL	3.36	---	27.50	4.17	---	161.12	1.32	---	0.54

e-Estimated.

07103980 COTTONWOOD CREEK AT WOODMEN ROAD NEAR COLORADO SPRINGS, CO

LOCATION.--Lat 38°56'22", long 104°44'26", in NE¹/₄NE¹/₄ sec.11, T.13 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on right bank, 100 ft downstream from Woodmen Road, 4.0 mi east of Interstate 25, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--10.3 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1992 to current year.

REVISED RECORDS.--WDR CO-93-1: Drainage area. WDR CO-96-1: 1995 (M)

GAGE.--Water-stage recorder with satellite telemetry, crest-stage gage, and artificial control. Elevation of gage is 6,680 ft above sea level, from topographic map.

REMARKS.--Records fair except for Oct. 1-11, estimated daily discharges, and discharges above 50 ft³/s, which are poor.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.94	e2.1	3.1	1.1	e1.0	e1.5	1.6	.99	.77	.42	.81	3.0
2	.93	2.4	2.7	1.7	e.96	e1.8	2.1	2.0	.62	.45	.80	.57
3	.87	3.0	2.6	1.9	e.94	2.2	2.9	1.2	.64	1.2	1.1	.49
4	.92	4.5	1.6	1.8	.94	1.8	1.6	1.2	1.8	.41	.82	.47
5	e.96	3.7	2.3	1.8	e.98	1.7	1.5	1.2	4.3	e.45	.84	.48
6	e.98	e3.4	1.9	e1.5	e1.1	1.7	1.5	1.6	1.0	1.9	.75	.52
7	.94	e4.1	1.3	e1.2	e1.2	1.8	1.7	1.1	.95	.51	.62	.55
8	1.2	e5.0	2.0	e1.0	e1.3	3.7	1.8	1.8	1.2	5.3	1.2	.58
9	e1.0	5.8	1.2	e1.0	e1.4	2.8	1.4	1.2	1.3	4.4	1.9	.63
10	e1.0	4.1	.97	e.96	e1.3	3.5	1.4	1.2	.82	9.5	1.1	.70
11	e1.2	3.8	e.94	1.1	e1.3	2.6	1.3	1.2	.65	.85	17	.68
12	1.4	4.5	1.3	1.0	e1.2	3.8	1.4	.94	.69	.48	1.5	4.8
13	1.1	5.7	1.2	1.5	e1.1	2.2	1.3	1.3	.60	.51	1.1	1.9
14	1.3	2.9	1.6	e1.4	e1.1	2.2	1.8	1.3	1.2	.53	1.0	1.6
15	1.3	e2.7	1.5	e1.2	e1.0	2.4	4.1	1.0	1.2	.59	1.0	1.6
16	1.1	2.9	1.2	1.5	e1.2	2.5	1.8	.95	.86	.56	3.2	1.5
17	.94	3.1	1.3	1.5	e1.1	2.3	1.6	.96	.71	.43	1.1	1.4
18	.84	2.3	1.5	1.4	e1.3	3.5	1.9	1.0	.58	.40	1.1	1.4
19	.99	2.0	1.4	1.4	e1.0	12	1.5	1.1	.54	.43	.94	1.3
20	1.1	1.9	1.5	1.3	e1.1	6.5	1.4	1.1	.49	.43	.77	1.3
21	.90	2.2	1.5	1.3	1.2	4.4	1.2	1.0	13	.47	.74	1.4
22	.96	2.3	1.3	e1.2	1.4	5.4	1.1	.89	1.3	5.4	.75	1.5
23	1.1	1.9	1.3	e1.1	1.6	5.6	1.2	.80	.94	1.0	.80	1.4
24	1.3	1.6	1.3	e1.1	1.9	6.7	1.1	.87	.60	.92	.82	1.3
25	e1.0	2.0	1.3	e1.2	1.7	3.6	1.2	.87	.48	2.9	8.3	1.1
26	e.90	1.9	e1.2	e1.4	1.7	2.6	2.3	.87	e.50	1.0	1.1	1.2
27	e.84	2.3	e1.1	e1.6	1.7	5.2	1.2	.83	e.50	.85	.66	1.3
28	e.73	2.3	e1.0	e1.8	e1.6	2.3	1.0	.77	e.50	3.6	.53	1.0
29	e.70	6.0	e.96	e1.7	---	1.8	.94	.74	.52	11	.53	1.0
30	e1.1	3.6	1.1	e1.4	---	1.8	.92	.76	9.1	17	.53	1.0
31	e1.8	---	1.2	e1.2	---	1.7	---	.73	---	1.1	.53	---
TOTAL	32.34	96.0	46.37	42.26	35.32	103.6	47.76	33.47	48.36	74.99	53.94	37.67
MEAN	1.04	3.20	1.50	1.36	1.26	3.34	1.59	1.08	1.61	2.42	1.74	1.26
MAX	1.8	6.0	3.1	1.9	1.9	12	4.1	2.0	13	17	17	4.8
MIN	.70	1.6	.94	.96	.94	1.5	.92	.73	.48	.40	.53	.47
AC-FT	64	190	92	84	70	205	95	66	96	149	107	75

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
MEAN	1.23	1.13	.71	.66	.74	1.27	1.50	2.38	3.24	2.08	2.29	1.36
MAX	2.59	3.20	1.50	1.36	1.26	3.34	3.73	7.75	8.85	4.56	4.45	2.82
(WY)	1995	1998	1998	1998	1998	1998	1997	1995	1995	1995	1997	1995
MIN	.35	.47	.33	.33	.42	.49	.50	.64	.49	.24	.66	.47
(WY)	1993	1993	1993	1994	1994	1995	1996	1993	1994	1994	1993	1992

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1992 - 1998

ANNUAL TOTAL	862.29	652.08	
ANNUAL MEAN	2.36	1.79	1.62
HIGHEST ANNUAL MEAN			2.74
LOWEST ANNUAL MEAN			.65
HIGHEST DAILY MEAN	30	Jun 10	a17 Jul 30
LOWEST DAILY MEAN	.17	Sep 14	.40 Jul 18
ANNUAL SEVEN-DAY MINIMUM	.24	Sep 8	.47 Jul 15
INSTANTANEOUS PEAK FLOW			294 Jul 30
INSTANTANEOUS PEAK STAGE			3.79 Jul 30
ANNUAL RUNOFF (AC-FT)	1710	1290	d5.57 Jul 19 1993
10 PERCENT EXCEEDS	4.7	3.5	2.7
50 PERCENT EXCEEDS	1.1	1.2	.70
90 PERCENT EXCEEDS	.46	.61	.31

e-Estimated.

a-Also occurred Aug 11.

b-Also occurred Jan 23, Feb 3, 1996.

c-From rating curve extended above 1.1 ft³/s, on basis of slope-area measurement of peak flow.

d-From floodmarks.

**07103980 COTTONWOOD CREEK AT WOODMEN ROAD NEAR COLORADO SPRINGS, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--April to September 1998 (seasonal records only).

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
JUN 05...	1510	11	4750	141

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
OCT 1997					APR 1998				
09...	1200	1.0	485	14.5	09...	1400	1.5	550	15.5
NOV					MAY				
07...	0950	3.3	560	10.0	01...	1255	1.2	581	14.0
DEC					28...	1115	0.79	588	23.0
04...	1045	1.5	657	2.0	JUN				
JAN 1998					05...	1510	11	--	13.5
02...	1025	1.4	580	3.0	05...	1535	11	260	13.5
29...	1200	1.5	625	8.5	JUL				
FEB					08...	1150	0.63	612	20.5
20...	0900	0.54	624	1.5	AUG				
MAR					06...	0750	0.84	679	13.0
04...	1235	3.7	498	7.5	SEP				
27...	1310	3.4	441	15.5	09...	0930	0.91	668	16.5

07103985 COTTONWOOD CREEK TRIBUTARY ABOVE RANGEWOOD DRIVE AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°55'45", long 104°44'48", in SE¹/₄SW¹/₄ sec.11, T.13S., R.66W., El Paso County, Hydrologic Unit 11020003, on right bank 400 ft upstream from Dublin Road, 0.2 mi upstream from Rangewood Drive, 0.5 mi upstream from mouth, and 3.2 mi east of Interstate 25.

DRAINAGE AREA.--2.81 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to September 1998 (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gage. Elevation of gage is 6,630 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair except for discharges above 30 ft³/s which are poor. Natural flow of stream affected by runoff from industrial and residential areas of northeast Colorado Springs.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 155 ft³/s, Aug. 11, 1998, gage height, 7.02 ft, from rating curve extended above 30 ft³/s; minimum daily 0.32 ft³/s, June 26, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 155 ft³/s, Aug. 11, gage height, 7.02 ft, from rating curve extended above 30 ft³/s; minimum daily 0.32 ft³/s, June 26.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	.36	.99	.72	2.7
2	---	---	---	---	---	---	---	---	.38	.45	.70	.59
3	---	---	---	---	---	---	---	---	.40	3.4	.85	.54
4	---	---	---	---	---	---	---	---	.75	.81	.71	.52
5	---	---	---	---	---	---	---	---	2.4	.71	.56	.51
6	---	---	---	---	---	---	---	2.2	.65	1.2	.53	.51
7	---	---	---	---	---	---	---	.74	.47	.74	.46	.50
8	---	---	---	---	---	---	---	.90	.60	.93	1.0	.49
9	---	---	---	---	---	---	---	.49	.65	1.5	1.7	.49
10	---	---	---	---	---	---	---	.50	.39	1.5	.78	.49
11	---	---	---	---	---	---	---	.52	.41	.62	6.3	.48
12	---	---	---	---	---	---	---	.53	.39	.54	1.7	2.1
13	---	---	---	---	---	---	---	.53	.40	.69	1.2	.75
14	---	---	---	---	---	---	---	.49	.93	.65	1.2	.49
15	---	---	---	---	---	---	---	.50	.64	.68	1.1	.45
16	---	---	---	---	---	---	---	.50	.35	.70	1.8	.48
17	---	---	---	---	---	---	---	.45	.36	.73	.91	.45
18	---	---	---	---	---	---	---	.45	.34	.70	.66	.45
19	---	---	---	---	---	---	---	.47	.34	.70	.63	.45
20	---	---	---	---	---	---	---	.46	.37	.71	.65	.46
21	---	---	---	---	---	---	---	.42	4.5	.67	.51	.46
22	---	---	---	---	---	---	---	.43	.88	3.0	.47	.47
23	---	---	---	---	---	---	---	.43	.72	1.1	.47	.46
24	---	---	---	---	---	---	---	.47	.37	.66	.65	.46
25	---	---	---	---	---	---	---	.42	.41	.66	4.8	.44
26	---	---	---	---	---	---	---	.41	.32	.67	1.3	.44
27	---	---	---	---	---	---	---	.41	.34	.63	.52	.46
28	---	---	---	---	---	---	---	.38	.35	2.2	.51	.46
29	---	---	---	---	---	---	---	.38	.36	4.3	.49	.53
30	---	---	---	---	---	---	---	.38	2.5	9.1	.49	.45
31	---	---	---	---	---	---	---	.36	---	1.1	.46	---
TOTAL	---	---	---	---	---	---	---	---	22.33	43.04	34.83	18.53
MEAN	---	---	---	---	---	---	---	---	.74	1.39	1.12	.62
MAX	---	---	---	---	---	---	---	---	4.5	9.1	6.3	2.7
MIN	---	---	---	---	---	---	---	---	.32	.45	.46	.44
AC-FT	---	---	---	---	---	---	---	---	44	85	69	37

**107103985 COTTONWOOD CREEK TRIBUTARY ABOVE RANGEWOOD DRIVE AT COLORADO SPRINGS, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--April to September 1998 (seasonal records only).

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: April to September 1998 (seasonal records only).

INSTRUMENTATION.--Pumping sediment sampler since April 1998.

REMARKS.--Records of daily sediment during period of seasonal operation (Apr. 8 to Sept. 30) are poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 3,080 mg/L, June 21, 1998; minimum daily mean, 35 mg/L, Sept. 21, 1998.

SEDIMENT LOADS: Maximum daily during period of seasonal operation, 481 tons (estimated), July 30, 1998; minimum daily, 0.04 ton Sept. 21, 22-28 (estimated).

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 3,080 mg/L, June 21; minimum daily mean, 35 mg/L, Sept. 21.

SEDIMENT LOADS: Maximum daily during period of seasonal operation, 481 tons (estimated), July 30; minimum daily, 0.04 ton Sept. 21, 22-28 (estimated).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS./100 ML) (31673)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	PHOS-PHORUS ORTHO, PHOS-DIS-SOLVED TOTAL (MG/L) AS P (00665)	PHOS-PHORUS DIS-SOLVED (MG/L) AS P (00671)
APR 22...	1610	0.56	1070	8.3	17.5	7.1	--	--	4.34	0.035	0.037	0.016
JUN 18...	1130	0.32	1090	7.8	20.0	6.9	87	270	5.79	0.031	0.140	0.078
AUG 21...	0800	0.65	1200	8.3	14.0	8.0	K2200	1400	7.28	0.049	0.159	0.107

K-Based on non-ideal colony count.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)
MAY 1998					JUL 1998				
12...	0950	0.58	1170	13.0	08...	1410	0.57	1120	21.5
18...	1105	0.45	1120	21.0	AUG 06...	0825	0.60	1240	13.0
JUN 05...	1115	3.4	332	11.0	SEP 09...	0715	0.60	1210	12.0
19...	1105	0.36	1100	21.0					

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. %FINER THAN .062 MM (70331)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
MAY 1998						JUL 1998				
06...	1440	8.9	6730	162		22...	1855	6.8	1510	28
12...	0955	0.56	73	0.11		29...	1335	0.41	290	0.32
28...	0815	0.44	43	0.05		31...	1220	0.92	289	0.72
JUN 05...	1105	4.7	3770	48	65	AUG 12...	1100	3.0	4400	36
08...	1120	0.45	49	0.06		25...	1510	0.45	333	0.40
19...	1020	0.38	141	0.14		25...	1945	56	3400	514
JUL 07...	1520	0.67	81	0.15		SEP 09...	0720	0.58	161	0.25
						21...	1145	0.36	35	0.03

07103985 COTTONWOOD CREEK TRIBUTARY ABOVE RANGEWOOD DRIVE AT COLORADO SPRINGS, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
										APRIL
1	---	---	---	---	---	---	.36	---	e.05	
2	---	---	---	---	---	---	.38	---	e.05	
3	---	---	---	---	---	---	.40	50	.05	
4	---	---	---	---	---	---	.75	736	6.9	
5	---	---	---	---	---	---	2.4	1910	22	
6	---	---	---	2.2	1720	61	.65	212	.41	
7	---	---	---	.74	---	e.49	.47	---	e.11	
8	---	---	---	.90	721	2.9	.60	145	2.2	
9	---	---	---	.49	600	.79	.65	686	2.1	
10	---	---	---	.50	106	.14	.39	---	e.32	
11	---	---	---	.52	79	.11	.41	---	e.25	
12	---	---	---	.53	75	.11	.39	---	e.18	
13	---	---	---	.53	---	e.12	.40	139	.15	
14	---	---	---	.49	---	e.13	.93	649	9.1	
15	---	---	---	.50	---	e.15	.64	531	1.3	
16	---	---	---	.50	131	.18	.35	---	e.18	
17	---	---	---	.45	---	e.16	.36	---	e.17	
18	---	---	---	.45	---	e.14	.34	---	e.14	
19	---	---	---	.47	---	e.12	.34	142	.13	
20	---	---	---	.46	---	e.11	.37	---	e.14	
21	---	---	---	.42	76	.09	4.5	3080	158	
22	---	---	---	.43	---	e.08	.88	---	e.88	
23	---	---	---	.43	---	e.08	.72	---	e1.6	
24	---	---	---	.47	---	e.13	.37	---	e.18	
25	---	---	---	.42	---	e.08	.41	---	e.44	
26	---	---	---	.41	73	.08	.32	---	e.13	
27	---	---	---	.41	---	e.07	.34	---	e.14	
28	---	---	---	.38	44	.05	.35	---	e.14	
29	---	---	---	.38	---	e.05	.36	---	e.15	
30	---	---	---	.38	---	e.05	2.5	---	e85	
31	---	---	---	.36	---	e.05	---	---	---	
TOTAL	---	---	---	---	---	---	22.33	---	292.59	
		JULY			AUGUST			SEPTEMBER		
1	.99	730	12	.72	---	e.22	2.7	---	e50	
2	.45	---	e.23	.70	---	e.18	.59	---	e.39	
3	3.4	1820	147	.85	95	.26	.54	---	e.28	
4	.81	---	e.44	.71	73	.15	.52	---	e.26	
5	.71	---	e.33	.56	---	e.10	.51	---	e.24	
6	1.2	349	1.7	.53	---	e.10	.51	---	e.22	
7	.74	86	.17	.46	---	e.08	.50	---	e.21	
8	.93	127	.82	1.0	293	4.4	.49	---	e.21	
9	1.5	985	4.4	1.7	870	20	.49	162	.21	
10	1.5	1550	9.6	.78	309	.72	.49	---	e.22	
11	.62	1250	2.1	6.3	2810	191	.48	---	e.22	
12	.54	---	e.72	1.7	1230	5.6	2.1	2980	43	
13	.69	167	.37	1.2	---	e.90	.75	---	e1.5	
14	.65	---	e.42	1.2	---	e.66	.49	---	e.26	
15	.68	---	e.41	1.1	---	e1.7	.45	---	e.11	
16	.70	203	.41	1.8	---	e13	.48	---	e.19	
17	.73	---	e.26	.91	173	.43	.45	---	e.08	
18	.70	---	e.21	.66	---	e.26	.45	---	e.07	
19	.70	---	e.19	.63	---	e.23	.45	---	e.06	
20	.71	---	e.17	.65	---	e.23	.46	---	e.05	
21	.67	77	.14	.51	---	e.17	.46	35	.04	
22	3.0	1650	30	.47	---	e.14	.47	---	e.04	
23	1.1	1170	5.2	.47	---	e.14	.46	---	e.04	
24	.66	---	e.14	.65	---	e1.9	.46	---	e.04	
25	.66	---	e.11	4.8	923	49	.44	---	e.04	
26	.67	---	e.08	1.3	---	e1.9	.44	---	e.04	
27	.63	---	e.06	.52	---	e.53	.46	---	e.04	
28	2.2	713	13	.51	---	e.42	.46	---	e.04	
29	4.3	977	17	.49	---	e.36	.53	289	.89	
30	9.1	---	e481	.49	---	e.31	.45	---	e.20	
31	1.1	392	1.5	.46	---	e.26	---	---	---	
TOTAL	43.04	---	730.18	34.83	---	295.35	18.53	---	99.19	

e Estimated

07103990 COTTONWOOD CREEK AT MOUTH AT PIKEVIEW, CO

LOCATION.--Lat 38°55'41", long 104°38'35", in SW¼SW¼ sec.8, T.13 S, R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 20 ft (revised) upstream from Vincent Drive bridge, 0.3 mi south of Woodmen Road, and 0.3 mi upstream from mouth.

DRAINAGE AREA.--18.7 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1985 to current year.

GAGE.--Water-stage recorder with satellite telemetry, and crest-stage gage. Elevation of gage is 6,265 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges and those above 60 ft³/s, which are poor. Natural flow of stream affected by runoff from industrial and residential areas of northeast Colorado Springs.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	7.0	e9.6	6.2	e3.0	4.0	6.6	7.0	5.1	6.1	5.4	12
2	6.0	7.3	e9.0	6.8	4.3	3.9	8.5	8.4	4.2	4.8	5.3	5.6
3	4.7	6.6	e9.0	7.1	e3.8	4.9	6.5	5.1	5.3	11	5.7	5.9
4	6.2	8.1	e9.4	7.1	e3.7	5.2	7.3	6.0	8.5	4.5	6.0	5.3
5	6.9	7.5	e8.6	5.0	e3.5	6.0	7.3	4.7	14	4.4	5.9	5.1
6	6.5	6.7	e8.6	5.7	e3.3	6.7	6.5	6.4	4.4	8.8	5.4	5.7
7	7.0	7.7	e9.0	e5.0	e3.3	4.6	7.7	6.1	6.2	4.4	5.3	5.1
8	5.9	8.2	e9.0	e4.3	e3.5	6.1	7.3	5.6	6.0	5.2	5.5	5.6
9	5.9	11	e9.4	e3.9	3.9	3.5	7.3	4.7	5.3	11	9.9	4.9
10	7.2	11	e8.8	e3.8	4.6	5.1	7.5	7.1	5.1	26	5.6	4.3
11	7.0	9.5	e8.2	e4.0	4.3	5.7	7.9	6.4	4.9	6.0	28	4.3
12	11	10	e7.6	4.4	4.5	5.8	6.4	7.0	4.1	5.0	4.9	13
13	4.9	9.3	e8.2	4.8	4.2	5.5	6.5	7.1	4.7	6.5	3.9	4.4
14	4.9	7.9	e8.6	5.1	3.5	7.2	6.6	7.1	7.3	6.4	7.1	4.6
15	5.9	e7.6	8.8	4.9	3.7	8.0	11	5.6	4.9	5.9	8.9	4.3
16	5.1	7.4	8.9	4.2	5.4	9.2	7.0	5.1	4.9	6.6	12	4.2
17	5.1	11	e8.8	e4.4	4.4	9.8	6.3	4.8	4.9	4.5	8.5	4.5
18	5.3	10	e8.8	4.6	e3.8	6.8	5.2	4.6	4.9	4.5	9.9	5.4
19	5.3	10	e8.4	3.6	4.0	15	4.6	5.2	5.1	5.1	6.2	4.7
20	4.9	9.9	e8.2	3.8	e3.8	13	4.3	5.2	4.5	5.0	6.7	3.8
21	5.1	10	e8.2	4.2	e4.0	10	4.9	4.3	44	5.5	7.1	4.3
22	4.0	9.0	e7.8	e3.9	4.8	12	5.1	5.8	4.3	15	7.3	3.8
23	4.9	8.1	e7.6	e3.7	4.9	9.6	4.8	5.8	4.3	4.7	7.3	4.3
24	7.9	7.7	e7.0	e3.6	5.8	9.4	5.7	5.1	4.6	5.8	8.3	3.7
25	e5.0	11	e6.6	e3.7	4.9	8.6	6.8	4.5	3.9	8.3	25	3.9
26	17	12	e6.0	3.9	4.0	8.8	7.8	4.4	3.9	6.6	5.5	3.5
27	23	12	e5.6	4.7	e3.7	11	6.4	3.6	4.4	5.5	5.2	3.9
28	20	11	5.8	5.4	e3.8	7.4	5.8	3.8	4.9	15	6.8	3.6
29	11	11	5.4	5.0	---	7.2	5.9	4.5	4.6	22	5.9	6.5
30	14	10	4.8	3.2	---	8.6	4.7	3.9	27	53	5.9	4.0
31	26	---	5.3	4.5	---	6.6	---	4.7	---	9.1	4.9	---
TOTAL	259.8	275.5	245.0	144.5	114.4	235.2	196.2	169.6	220.2	292.2	245.3	154.2
MEAN	8.38	9.18	7.90	4.66	4.09	7.59	6.54	5.47	7.34	9.43	7.91	5.14
MAX	26	12	9.6	7.1	5.8	15	11	8.4	44	53	28	13
MIN	4.0	6.6	4.8	3.2	3.0	3.5	4.3	3.6	3.9	4.4	3.9	3.5
AC-FT	515	546	486	287	227	467	389	336	437	580	487	306

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1998, BY WATER YEAR (WY)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	5.43	4.95	4.15	3.96	4.30	5.48	5.17	7.10	8.52	7.78	7.66	5.52	
MAX	9.59	9.18	7.90	5.30	6.57	11.1	7.96	19.5	26.4	16.8	12.6	9.86	
(WY)	1995	1998	1998	1994	1997	1992	1997	1995	1995	1995	1997	1995	
MIN	1.93	2.90	1.92	2.30	2.28	2.67	3.31	2.71	3.05	2.34	5.41	2.67	
(WY)	1987	1987	1992	1987	1990	1991	1989	1986	1990	1992	1993	1986	

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1986 - 1998

ANNUAL TOTAL	3097.6	2552.1		
ANNUAL MEAN	8.49	6.99		
HIGHEST ANNUAL MEAN			5.97	
LOWEST ANNUAL MEAN			10.4	1995
HIGHEST DAILY MEAN			4.01	1989
LOWEST DAILY MEAN	96	Jun 10	150	Jul 1 1995
ANNUAL SEVEN-DAY MINIMUM	e3.1	Jan 7	.01	Jul 10 1989
INSTANTANEOUS PEAK FLOW	3.5	Jan 7	.12	Jul 5 1989
INSTANTANEOUS PEAK STAGE			b2380	Jun 17 1993
ANNUAL RUNOFF (AC-FT)	6140		c8.26	Jul 26 1996
10 PERCENT EXCEEDS	12		4330	
50 PERCENT EXCEEDS	6.8		8.7	
90 PERCENT EXCEEDS	4.5		4.3	
			2.3	

e-Estimated.

a-From rating curve extended above 100 ft³/s on the basis of timed-drift measurement of flow.

b-From rating curve extended above 60 ft³/s, on basis of culvert measurement of peak flow, gage height not determined.

c-From flood mark, maximum gage height for flood of Jun 17, 1993 not determined.

**07103990 COTTONWOOD CREEK AT MOUTH AT PIKEVIEW, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--April to September 1998 (seasonal records only).

PERIOD OF DAILY RECORD.--Daily sediment record April to September 1998 (seasonal records only).

INSTRUMENTATION.--Pumping sediment sampler since April 1998.

REMARKS.--Records of daily sediment during period of seasonal operation (Apr. 8 to Sept. 30) are fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 4,940 mg/L, June 21, 1998; minimum daily mean, 204 mg/L, June 19, 1998.

SEDIMENT LOADS: Maximum daily during period of seasonal operation, 2,130 tons, June 21, 1998; minimum daily mean, 2.4 tons(estimated), June 12, 1998.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 4,940 mg/L, June 21; minimum daily mean, 204 mg/L, June 19.

SEDIMENT LOADS: Maximum daily during period of seasonal operation, 2,130 tons, June 21; minimum daily, 2.4 tons (estimated), June 12.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
APR 22...	1530	4.1	630	8.4	22.0	7.2	--	--	5.06	0.045	0.337	0.023
JUN 18...	1315	3.4	670	8.1	25.0	6.4	K95	200	5.36	<0.020	<0.010	0.018
AUG 21...	0845	8.7	698	8.4	18.0	7.3	500	660	5.39	0.039	0.155	0.031

K-Based on ideal colony count.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)
OCT 1997					APR 1998				
09...	1030	5.3	632	9.5	07...	1420	6.3	647	13.0
NOV 07...	1250	9.1	670	13.0	MAY 04...	1320	5.7	669	24.0
DEC 04...	1250	11	714	3.0	JUN 05...	0855	17	400	9.0
JAN 1998 02...	1225	6.8	690	6.5	19...	1230	4.4	677	26.0
FEB 10...	1310	7.5	1090	8.0	JUL 16...	0925	6.1	647	19.0
MAR 04...	1405	7.2	679	12.5	30...	2020	99	146	16.5
					SEP 08...	1245	5.1	675	25.5

07103990 COTTONWOOD CREEK AT MOUTH AT PIKEVIEW, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI-MENT, SUS-PENDE (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDE (T/DAY) (80155)
APR				
08...	1230	8.1	625	14
17...	1130	7.1	710	14
MAY				
12...	0845	8.7	621	15
15...	1146	5.7	818	13
28...	1215	4.1	331	3.7
JUN				
05...	0830	12	3060	99
19...	1215	3.7	204	2.0
JUL				
07...	1400	5.2	525	7.4
22...	1945	57	4240	653
30...	1150	4.0	686	7.4
30...	1945	174	14400	6770
AUG				
10...	1033	5.7	464	7.1
25...	1415	7.6	416	8.5
SEP				
08...	1243	7.9	269	5.7
21...	1035	3.2	306	2.6

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	OCTOBER			NOVEMBER			DECEMBER		
				MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	6.2	---	---	7.0	---	---	e9.6	---	---			
2	6.0	---	---	7.3	---	---	e9.0	---	---			
3	4.7	---	---	6.6	---	---	e9.0	---	---			
4	6.2	---	---	8.1	---	---	e9.4	---	---			
5	6.9	---	---	7.5	---	---	e8.6	---	---			
6	6.5	---	---	6.7	---	---	e8.6	---	---			
7	7.0	---	---	7.7	---	---	e9.0	---	---			
8	5.9	---	---	8.2	---	---	e9.0	---	---			
9	5.9	---	---	11	---	---	e9.4	---	---			
10	7.2	---	---	11	---	---	e8.8	---	---			
11	7.0	---	---	9.5	---	---	e8.2	---	---			
12	11	---	---	10	---	---	e7.6	---	---			
13	4.9	---	---	9.3	---	---	e8.2	---	---			
14	4.9	---	---	7.9	---	---	e8.6	---	---			
15	5.9	---	---	e7.6	---	---	8.8	---	---			
16	5.1	---	---	7.4	---	---	8.9	---	---			
17	5.1	---	---	11	---	---	e8.8	---	---			
18	5.3	---	---	10	---	---	e8.8	---	---			
19	5.3	---	---	10	---	---	e8.4	---	---			
20	4.9	---	---	9.9	---	---	e8.2	---	---			
21	5.1	---	---	10	---	---	e8.2	---	---			
22	4.0	---	---	9.0	---	---	e7.8	---	---			
23	4.9	---	---	8.1	---	---	e7.6	---	---			
24	7.9	---	---	7.7	---	---	e7.0	---	---			
25	e5.0	---	---	11	---	---	e6.6	---	---			
26	17	---	---	12	---	---	e6.0	---	---			
27	23	---	---	12	---	---	e5.6	---	---			
28	20	---	---	11	---	---	5.8	---	---			
29	11	---	---	11	---	---	5.4	---	---			
30	14	---	---	10	---	---	4.8	---	---			
31	26	---	---	---	---	---	5.3	---	---			
TOTAL	259.8	---	---	275.5	---	---	245.0	---	---			

e-Estimated.

07103990 COTTONWOOD CREEK AT MOUTH AT PIKEVIEW, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
										JANUARY
1	6.2	---	---	e3.0	---	---	4.0	---	---	
2	6.8	---	---	4.3	---	---	3.9	---	---	
3	7.1	---	---	e3.8	---	---	4.9	---	---	
4	7.1	---	---	e3.7	---	---	5.2	---	---	
5	5.0	---	---	e3.5	---	---	6.0	---	---	
6	5.7	---	---	e3.3	---	---	6.7	---	---	
7	e5.0	---	---	e3.3	---	---	4.6	---	---	
8	e4.3	---	---	e3.5	---	---	6.1	---	---	
9	e3.9	---	---	3.9	---	---	3.5	---	---	
10	e3.8	---	---	4.6	---	---	5.1	---	---	
11	e4.0	---	---	4.3	---	---	5.7	---	---	
12	4.4	---	---	4.5	---	---	5.8	---	---	
13	4.8	---	---	4.2	---	---	5.5	---	---	
14	5.1	---	---	3.5	---	---	7.2	---	---	
15	4.9	---	---	3.7	---	---	8.0	---	---	
16	4.2	---	---	5.4	---	---	9.2	---	---	
17	e4.4	---	---	4.4	---	---	9.8	---	---	
18	4.6	---	---	e3.8	---	---	6.8	---	---	
19	3.6	---	---	4.0	---	---	15	---	---	
20	3.8	---	---	e3.8	---	---	13	---	---	
21	4.2	---	---	e4.0	---	---	10	---	---	
22	e3.9	---	---	4.8	---	---	12	---	---	
23	e3.7	---	---	4.9	---	---	9.6	---	---	
24	e3.6	---	---	5.8	---	---	9.4	---	---	
25	e3.7	---	---	4.9	---	---	8.6	---	---	
26	3.9	---	---	4.0	---	---	8.8	---	---	
27	4.7	---	---	e3.7	---	---	11	---	---	
28	5.4	---	---	e3.8	---	---	7.4	---	---	
29	5.0	---	---	---	---	---	7.2	---	---	
30	3.2	---	---	---	---	---	8.6	---	---	
31	4.5	---	---	---	---	---	6.6	---	---	
TOTAL	144.5	---	---	114.4	---	---	235.2	---	---	
		APRIL			MAY			JUNE		
1	6.6	---	---	7.0	721	14	5.1	---	e4.7	
2	8.5	---	---	8.4	---	e25	4.2	---	e3.9	
3	6.5	---	---	5.1	---	e10	5.3	---	e5.0	
4	7.3	---	---	6.0	799	13	8.5	671	26	
5	7.3	---	---	4.7	848	11	14	1320	81	
6	6.5	---	---	6.4	1210	30	4.4	---	e3.6	
7	7.7	---	---	6.1	---	e15	6.2	---	e5.0	
8	7.3	640	13	5.6	---	e14	6.0	---	e14	
9	7.3	470	9.3	4.7	802	10	5.3	---	e5.6	
10	7.5	566	12	7.1	---	e14	5.1	---	e3.3	
11	7.9	617	13	6.4	---	e12	4.9	---	e3.0	
12	6.4	504	8.7	7.0	636	12	4.1	---	e2.4	
13	6.5	508	8.9	7.1	---	e13	4.7	---	e2.7	
14	6.6	544	10	7.1	---	e14	7.3	509	21	
15	11	---	e52	5.6	789	12	4.9	---	e3.8	
16	7.0	---	e13	5.1	---	e9.1	4.9	---	e2.6	
17	6.3	739	12	4.8	---	e7.0	4.9	---	e2.7	
18	5.2	757	11	4.6	444	5.5	4.9	---	e2.7	
19	4.6	611	7.6	5.2	---	e6.0	5.1	204	2.8	
20	4.3	600	6.9	5.2	---	e5.9	4.5	---	e2.5	
21	4.9	589	7.8	4.3	---	e4.8	44	4940	2130	
22	5.1	733	10	5.8	402	6.3	4.3	---	e16	
23	4.8	---	e10	5.8	---	e6.1	4.3	---	e6.4	
24	5.7	---	e13	5.1	---	e5.2	4.6	---	e6.2	
25	6.8	857	16	4.5	---	e4.5	3.9	---	e5.3	
26	7.8	936	29	4.4	---	e4.2	3.9	---	e5.3	
27	6.4	---	e12	3.6	---	e3.3	4.4	---	e6.1	
28	5.8	796	12	3.8	333	3.4	4.9	---	e6.8	
29	5.9	784	12	4.5	---	e4.0	4.6	518	6.5	
30	4.7	877	11	3.9	---	e3.6	27	3460	943	
31	---	---	---	4.7	---	e4.4	---	---	---	
TOTAL	196.2	---	---	169.6	---	302.3	220.2	---	3329.9	

e-Estimated.

07103990 COTTONWOOD CREEK AT MOUTH AT PIKEVIEW, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	6.1	---	e32	5.4	---	e7.3	12	756	60
2	4.8	---	e12	5.3	---	e7.1	5.6	---	e5.7
3	11	1970	202	5.7	---	e10	5.9	---	e5.6
4	4.5	---	e8.1	6.0	---	e26	5.3	---	e4.8
5	4.4	---	e7.2	5.9	---	e8.0	5.1	---	e4.4
6	8.8	862	45	5.4	---	e7.3	5.7	---	e4.6
7	4.4	534	6.4	5.3	---	e7.1	5.1	---	e4.0
8	5.2	---	e11	5.5	---	e20	5.6	272	4.1
9	11	1700	105	9.9	948	88	4.9	---	e3.7
10	26	1800	346	5.6	457	6.9	4.3	---	e3.3
11	6.0	---	e12	28	---	e723	4.3	---	e3.4
12	5.0	686	9.3	4.9	---	e5.7	13	1200	147
13	6.5	---	e20	3.9	---	e4.2	4.4	---	e5.8
14	6.4	---	e15	7.1	---	e18	4.6	---	e5.4
15	5.9	943	22	8.9	---	e17	4.3	416	4.8
16	6.6	---	e19	12	---	e38	4.2	---	e4.6
17	4.5	597	7.3	8.5	---	e55	4.5	---	e4.9
18	4.5	---	e7.8	9.9	---	e84	5.4	421	6.2
19	5.1	---	e9.4	6.2	---	e7.8	4.7	---	e5.0
20	5.0	---	e9.7	6.7	---	e11	3.8	---	e3.4
21	5.5	---	e12	7.1	---	e7.8	4.3	340	4.0
22	15	1440	126	7.3	---	e8.0	3.8	---	e3.1
23	4.7	---	e6.8	7.3	---	e8.0	4.3	297	3.5
24	5.8	565	10	8.3	---	e9.2	3.7	---	e3.4
25	8.3	---	e30	25	1840	447	3.9	397	4.1
26	6.6	---	e12	5.5	---	e9.0	3.5	---	e3.9
27	5.5	---	e4.4	5.2	---	e8.1	3.9	423	4.4
28	15	1160	202	6.8	566	10	3.6	---	e4.0
29	22	2130	487	5.9	---	e8.2	6.5	---	e23
30	53	3700	1840	5.9	---	e7.5	4.0	245	2.6
31	9.1	---	e21	4.9	---	e5.7	---	---	---
TOTAL	292.2	---	3657.4	245.3	---	1679.9	154.2	---	346.7

e-Estimated.

**07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--April 1975 to current year.

PERIOD OF DAILY RECORD.--Suspended-sediment discharge August 1995 to September 1997 for selected peak flows only.

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
OCT 1997					MAY 1998				
23...	1620	27	408	12.0	04...	1120	162	167	10.5
NOV					26...	1125	49	289	16.5
12...	1345	51	520	3.5	JUN				
DEC					03...	1540	39	296	23.5
05...	0955	9.9	580	.0	JUL				
FEB 1998					09...	0840	28	427	16.5
10...	1135	26	443	3.0	AUG				
MAR					04...	1220	34	394	17.0
06...	1145	26	455	1.5	SEP				
27...	1055	102	287	9.5	08...	1445	15	484	25.0

07104050 NORTH ROCKRIMMON CREEK ABOVE DELMONICO DRIVE AT COLORADO SPRINGS, CO**WATER-QUALITY RECORDS**

LOCATION.--Lat 39°54'56", long 104°49'35", in SW¹/₄NE¹/₄ sec.18, T.13 S., R.66 W., El Paso County, Hydrologic Unit 11020003, 0.1 mi upstream from Delmonico Drive, 0.2 mi west of Interstate 25, 0.3 mi upstream from mouth, and 2.0 mi downstream from Woodmen Road. Elevation of site is 6,220 feet above sea level, from topographic map.

DRAINAGE AREA.--1.82 mi².

PERIOD OF RECORD.--April to September 1998.

REMARKS.--Annual maximum discharge data are published in the "Maximum Discharge at Crest-Stage Partial-Record Stations" section of this report.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
AUG 25...	1845	162	7120	3110

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)
AUG 25...	1845	162	144

07104905 MONUMENT CREEK AT BIJOU STREET, AT COLORADO SPRINGS, CO**WATER-QUALITY RECORDS**

LOCATION.--Lat 38°50'14", long 104°49'44", in NW¹/₄NW¹/₄ sec.18, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003 at bridge on Bijou Street in Colorado Springs.

PERIOD OF RECORD.--December 1979 to current year.

* * * * *

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

* * * * *

07105000 BEAR CREEK NEAR COLORADO SPRINGS, CO

LOCATION.--Lat 38°49'21", long 104°53'17", in NE¹/₄NE¹/₄ sec.21, T.14 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank, 30 ft east of 26th Street, 0.1 mi west of Colorado Springs, 0.6 mi southwest of Bear Creek Nature Center, and 3.4 mi upstream from mouth.

DRAINAGE AREA.--6.89 mi².

PERIOD OF RECORD.--May 1992 to current year.

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gage. Elevation of gage is 6,520 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	2.7	2.2	1.7	1.5	1.4	2.5	6.4	5.5	3.1	6.8	3.7
2	3.1	2.5	2.1	1.7	1.5	1.5	2.4	6.4	5.1	3.2	6.6	3.6
3	3.2	2.5	1.9	1.7	1.5	1.5	2.7	6.3	5.0	e3.0	7.0	3.4
4	3.3	2.5	2.0	1.7	1.5	1.4	2.7	6.9	4.9	e3.0	7.2	3.2
5	3.5	2.5	1.9	1.7	1.5	1.3	2.7	7.3	5.0	e3.0	7.1	3.1
6	3.2	2.5	2.0	1.7	1.5	1.4	2.7	7.5	4.9	e3.2	7.0	2.9
7	2.7	2.5	1.9	1.5	1.5	1.3	2.6	7.3	4.8	e3.4	6.7	2.8
8	2.6	2.5	1.9	1.8	1.5	2.6	2.7	7.2	4.8	3.6	6.1	3.0
9	2.5	2.4	1.9	1.7	1.5	1.4	2.6	6.8	4.7	4.7	6.4	3.2
10	2.5	2.4	1.9	1.8	1.5	1.4	2.7	6.6	4.5	4.5	5.9	3.0
11	2.5	2.3	1.8	1.7	1.5	1.4	2.8	7.0	4.3	3.8	5.7	3.0
12	2.7	2.4	1.9	1.7	1.5	1.3	3.1	7.5	4.2	3.5	5.6	3.0
13	2.7	2.4	1.9	1.7	1.5	1.3	3.2	7.8	4.2	3.4	5.1	2.9
14	2.7	2.0	1.9	1.7	1.5	1.3	3.2	7.8	4.2	3.4	5.3	2.9
15	2.6	1.8	1.9	1.7	1.5	1.3	3.2	7.5	4.3	3.4	5.1	2.8
16	2.5	2.5	1.9	1.7	1.5	1.2	2.8	7.0	4.0	3.3	5.1	2.8
17	2.5	2.4	1.9	1.7	1.5	1.3	3.4	6.7	3.9	3.0	5.3	2.8
18	2.5	2.3	1.9	1.7	1.5	2.7	3.2	6.9	3.8	2.8	5.2	2.7
19	2.5	2.2	1.9	1.7	1.5	1.7	3.1	6.8	3.9	2.9	5.0	2.7
20	2.5	2.2	1.8	1.7	1.5	2.0	3.0	6.7	3.7	2.7	4.8	2.6
21	2.5	2.2	1.8	1.7	1.5	2.0	3.0	6.7	3.9	2.7	4.6	2.5
22	2.5	2.2	1.8	1.7	1.5	2.2	3.3	6.8	3.8	2.9	4.4	2.5
23	2.5	2.2	1.8	1.7	1.5	2.5	3.9	6.8	3.6	3.0	4.0	2.6
24	2.5	2.2	1.7	1.7	1.5	2.8	4.7	6.8	3.5	3.6	4.1	2.5
25	1.9	2.2	1.7	1.5	1.5	3.3	5.4	6.5	3.4	e3.9	4.5	2.4
26	2.9	2.2	1.8	1.5	1.4	3.4	5.2	6.1	3.3	e3.2	4.4	2.4
27	2.8	2.2	1.8	1.6	1.4	3.6	5.3	6.4	3.3	e3.2	4.0	2.4
28	2.8	2.2	1.8	1.5	1.4	3.2	5.5	6.2	3.3	4.3	3.9	2.4
29	2.7	2.3	1.8	1.5	---	2.9	6.1	6.0	e3.3	7.3	3.8	2.4
30	2.8	2.2	1.7	1.5	---	2.6	6.3	5.8	e3.3	7.9	3.7	2.5
31	2.8	---	1.7	1.5	---	2.5	---	5.7	---	7.3	3.5	---
TOTAL	84.1	69.6	57.9	51.4	41.7	61.7	106.0	210.2	124.4	116.2	163.9	84.7
MEAN	2.71	2.32	1.87	1.66	1.49	1.99	3.53	6.78	4.15	3.75	5.29	2.82
MAX	3.5	2.7	2.2	1.8	1.5	3.6	6.3	7.8	5.5	7.9	7.2	3.7
MIN	1.9	1.8	1.7	1.5	1.4	1.2	2.4	5.7	3.3	2.7	3.5	2.4
AC-FT	167	138	115	102	83	122	210	417	247	230	325	168

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	1.87	1.58	1.38	1.23	1.21	1.41	2.24	7.95	6.30	3.33	3.17	2.31
MAX	2.76	2.38	1.94	1.76	1.79	1.99	3.53	18.9	17.0	7.55	6.68	4.39
(WY)	1995	1996	1996	1996	1996	1998	1998	1995	1997	1995	1997	1997
MIN	.37	.14	.17	.30	.36	.52	.31	.87	.47	.30	.55	.30
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993	1992

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1992 - 1998

ANNUAL TOTAL	1634.2	1171.8	
ANNUAL MEAN	4.48	3.21	3.00
HIGHEST ANNUAL MEAN			5.12
LOWEST ANNUAL MEAN			.41
HIGHEST DAILY MEAN	81	Jun 10	81
LOWEST DAILY MEAN	a1.1	Jan 5	.02
ANNUAL SEVEN-DAY MINIMUM	1.1	Jan 11	1.3
INSTANTANEOUS PEAK FLOW			b18
INSTANTANEOUS PEAK STAGE			d1.55
ANNUAL RUNOFF (AC-FT)	3240	2320	2170
10 PERCENT EXCEEDS	8.3	6.3	6.2
50 PERCENT EXCEEDS	2.5	2.7	1.8
90 PERCENT EXCEEDS	1.2	1.5	.34

e-Estimated.

a-Also occurred Jan 6-7, 11-14, 16-18, 25, 28, and Feb 24-25.

b-Also occurred July 29.

c-From rating curve extended above 80 ft³/s.

d-Maximum gage height, 1.56 ft, Jul 29.

07105490 CHEYENNE CREEK AT EVANS AVENUE AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°47'26", Long 104°51'49", SW¹/₄NW¹/₄ sec.35, T.14 S., R.67W., El Paso County, Hydrologic Unit 11020003, on right bank 23 ft upstream from Evans Avenue, 30 ft downstream from the confluence of North and South Cheyenne Creeks, and 3.1 mi upstream from the mouth.

DRAINAGE AREA.--21.7 mi².

PERIOD OF RECORD.--April 1992 to current year.

REVISED RECORDS.--WDR CO-93-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,280 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several small reservoirs and diversions upstream from station. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	6.6	5.8	4.4	5.3	5.0	13	26	30	9.2	18	11
2	7.4	6.1	5.8	4.5	5.2	2.4	10	26	29	8.2	17	9.8
3	7.1	6.1	5.2	4.7	4.9	2.4	9.9	27	28	8.4	24	9.0
4	7.0	5.8	5.5	4.5	4.8	2.2	10	30	27	8.5	28	8.7
5	7.0	5.8	4.8	4.5	4.6	2.2	10	32	25	7.4	29	8.2
6	7.0	5.8	5.8	4.5	4.2	2.1	11	32	23	8.5	27	8.0
7	e5.8	5.8	5.5	4.1	4.3	2.1	10	30	21	7.8	24	7.7
8	e6.0	5.8	5.6	5.2	4.2	2.1	10	29	20	7.1	22	7.6
9	e6.1	5.8	5.8	4.9	4.1	2.1	9.5	29	18	12	23	7.4
10	5.8	6.2	5.5	5.0	4.0	2.0	9.8	28	17	13	21	7.1
11	5.5	6.0	4.9	4.9	4.3	3.0	11	31	16	11	19	6.9
12	6.0	5.6	5.2	4.2	4.4	4.0	11	34	16	8.8	17	7.3
13	6.1	5.4	5.5	4.1	4.5	4.0	11	35	14	8.5	15	7.2
14	5.9	4.7	5.3	4.1	4.5	4.0	12	36	14	8.0	15	6.7
15	5.9	4.4	5.3	4.3	4.6	4.6	12	38	15	7.4	16	6.7
16	6.3	5.7	5.2	4.1	4.9	6.1	12	37	13	6.9	14	6.6
17	6.2	5.6	5.2	4.1	5.2	4.7	12	37	13	6.2	14	6.3
18	5.7	5.3	5.1	4.0	5.5	4.2	11	38	12	4.9	14	6.0
19	5.8	5.3	5.0	3.9	5.6	6.9	11	40	11	4.9	13	5.7
20	5.8	5.3	4.8	3.7	6.2	7.9	11	43	10	4.8	13	5.6
21	5.8	5.3	4.7	4.0	6.2	7.7	12	45	11	4.9	12	5.7
22	5.8	5.0	4.7	4.1	6.1	8.8	13	45	10	6.4	12	6.1
23	5.8	5.1	4.9	4.3	6.1	11	18	44	9.2	7.7	11	6.0
24	6.0	5.2	5.0	4.3	6.3	14	23	44	9.2	9.1	11	5.7
25	4.0	5.4	4.6	4.4	6.8	17	26	41	9.0	11	12	5.4
26	7.2	5.5	4.9	4.4	6.3	16	27	38	8.5	11	12	5.3
27	7.5	5.5	5.0	4.2	6.3	18	25	35	8.3	11	12	5.2
28	7.2	5.5	4.9	4.3	6.2	17	25	32	8.0	11	12	4.9
29	6.8	5.5	5.0	4.8	---	16	26	31	7.8	17	11	4.8
30	6.7	5.8	4.8	4.9	---	14	27	31	17	18	10	4.9
31	6.7	---	4.5	5.3	---	14	---	31	---	20	10	---
TOTAL	195.7	166.9	159.8	136.7	145.6	227.5	439.2	1075	470.0	288.6	508	203.5
MEAN	6.31	5.56	5.15	4.41	5.20	7.34	14.6	34.7	15.7	9.31	16.4	6.78
MAX	7.8	6.6	5.8	5.3	6.8	18	27	45	30	20	29	11
MIN	4.0	4.4	4.5	3.7	4.0	2.0	9.5	26	7.8	4.8	10	4.8
AC-FT	388	331	317	271	289	451	871	2130	932	572	1010	404

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998
MEAN	4.79	3.98	3.09	3.03	3.03	3.75	9.60
MAX	7.31	5.56	5.15	4.54	5.20	7.34	20.7
(WY)	1997	1998	1998	1996	1998	1998	1994
MIN	.73	.84	.46	.91	1.53	.53	.88
(WY)	1993	1993	1993	1993	1993	1993	1996

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1992 - 1998
ANNUAL TOTAL	7060.88	4016.5	
ANNUAL MEAN	19.3	11.0	12.2
HIGHEST ANNUAL MEAN			21.8
LOWEST ANNUAL MEAN			1.40
HIGHEST DAILY MEAN	432	445	432
LOWEST DAILY MEAN	.88	2.0	.10
ANNUAL SEVEN-DAY MINIMUM	2.2	2.1	.23
INSTANTANEOUS PEAK FLOW		55	b595
INSTANTANEOUS PEAK STAGE		1.50	3.51
ANNUAL RUNOFF (AC-FT)	14010	7970	8830
10 PERCENT EXCEEDS	48	27	29
50 PERCENT EXCEEDS	6.1	6.8	4.6
90 PERCENT EXCEEDS	2.9	4.3	.94

e-Estimated.

a-Also occurred May 22.

b-From rating curve extended above 437 ft³/s.

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°48'59", long 104°49'20", in NE¼SW¼ sec.19, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank 31 ft upstream from Nevada Avenue bridge in Colorado Springs, 100 ft downstream from mouth of Cheyenne Creek, and 1.3 mi downstream from mouth of Monument Creek.

DRAINAGE AREA.--392 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to September 1924, January 1976 to current year. Monthly discharge only for some periods, published in WSP 1311. Statistical summary computed for 1976 to current year.

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gage. Elevation of gage is 5,900 ft above sea level, from topographic map. Prior to Oct. 1, 1972, nonrecording gage at same site at different datum.

REMARKS.--Records fair except for estimated daily discharges and those above 1000 ft³/s, which are poor. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation and municipal use, return flow from irrigated areas and discharges from sewage treatment plants.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	115	92	54	46	49	155	236	130	69	158	126
2	58	100	86	54	43	49	153	249	114	57	124	78
3	56	98	83	55	42	49	146	267	111	91	140	70
4	55	97	81	53	45	48	149	277	131	56	153	64
5	56	95	75	51	44	44	156	295	212	52	156	62
6	54	97	84	52	45	44	154	308	147	78	133	60
7	52	98	88	42	47	44	154	295	130	62	116	58
8	54	98	83	48	50	46	158	297	116	56	116	57
9	54	98	70	49	44	48	156	276	130	134	292	55
10	49	95	63	e53	45	46	146	268	106	182	129	53
11	50	94	57	57	44	47	130	265	98	87	145	49
12	60	97	56	55	44	46	137	271	96	60	102	78
13	54	99	68	e54	46	47	140	268	87	49	85	e66
14	52	93	71	52	46	48	154	268	110	50	170	e48
15	53	78	73	50	46	50	233	258	117	51	105	e52
16	54	81	65	52	54	51	219	244	91	56	149	53
17	55	84	66	52	49	61	169	227	75	42	103	50
18	53	103	66	51	69	90	180	221	67	34	133	47
19	60	87	64	49	57	148	172	207	60	33	105	e48
20	68	80	64	50	48	160	173	214	57	33	80	e47
21	72	80	62	47	49	132	168	215	197	32	84	e48
22	64	77	62	46	50	139	165	207	92	117	71	47
23	62	74	68	49	49	127	172	205	51	93	64	45
24	70	76	64	48	51	133	187	207	44	68	76	41
25	44	76	58	49	54	148	210	172	41	81	207	40
26	120	80	60	46	51	145	257	152	39	80	145	38
27	166	82	60	48	52	179	251	165	37	71	103	36
28	159	105	58	45	51	164	243	145	35	114	95	36
29	148	93	65	43	---	161	240	138	36	239	88	40
30	150	88	58	45	---	161	232	132	127	489	81	44
31	158	---	54	45	---	166	---	128	---	249	76	---
TOTAL	2322	2718	2124	1544	1361	2870	5359	7077	2884	2965	3784	1636
MEAN	74.9	90.6	68.5	49.8	48.6	92.6	179	228	96.1	95.6	122	54.5
MAX	166	115	92	57	69	179	257	308	212	489	292	126
MIN	44	74	54	42	42	44	130	128	35	32	64	36
AC-FT	4610	5390	4210	3060	2700	5690	10630	14040	5720	5880	7510	3250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1998, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	45.9	39.1	31.2	28.1	27.0	39.6	76.6	180	130	76.1	82.0	46.2												
MAX	212	143	81.3	61.6	56.6	92.6	179	767	555	268	182	103												
(WY)	1985	1985	1985	1985	1985	1998	1998	1980	1997	1995	1997	1997												
MIN	10.6	11.4	11.8	5.12	6.27	11.4	14.8	23.5	16.3	12.9	20.9	7.98												
(WY)	1978	1979	1979	1979	1979	1976	1978	1976	1976	1976	1993	1978												

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1976 - 1998

ANNUAL TOTAL	48338	36644		
ANNUAL MEAN	132	100		
HIGHEST ANNUAL MEAN			155	1995
LOWEST ANNUAL MEAN			23.2	1978
HIGHEST DAILY MEAN	1990	Jun 10	489	Jul 30
LOWEST DAILY MEAN	24	Jan 7	32	Jul 21
ANNUAL SEVEN-DAY MINIMUM	26	Feb 4	39	Sep 24
INSTANTANEOUS PEAK FLOW			2750	Jul 30
INSTANTANEOUS PEAK STAGE			6.85	Jul 30
ANNUAL RUNOFF (AC-FT)	95880	72680		49880
10 PERCENT EXCEEDS	242	207		148
50 PERCENT EXCEEDS	77	75		34
90 PERCENT EXCEEDS	28	45		14

e-Estimated.

a-From slope-area measurement of peak flow.

b-From floodmark.

**07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--April 1975 to current year.

PERIOD OF DAILY RECORD.--Suspended-sediment discharge August 1995 to September 1997 (peak flows only), April to September 1998 (seasonal records only).

INSTRUMENTATION.--Pumping sediment sampler since August 1995.

REMARKS.--Records for daily sediment during period of seasonal operation (Apr. 1 to Sept. 30) are fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 8,520 mg/L, Aug. 2, 1996; minimum daily mean, 12 mg/L, Sept. 8, 1998.

SEDIMENT LOADS: Maximum daily during period of seasonal operation, 39,800 tons, June 6, 1997; minimum daily, 1.9 tons, Sept. 8, 1998.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 3,800 mg/L, June 21; minimum daily mean, 12 mg/L, Sept. 8.

SEDIMENT LOADS: Maximum daily during period of seasonal operation, 9,770 tons, July 30; minimum daily, 1.9 tons, Sept. 8.

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
OCT 1997					APR 1998				
03...	1230	59	643	19.0	22...	1235	155	422	13.0
NOV					MAY				
18...	1230	101	562	5.5	12...	1445	269	278	16.5
DEC					JUN				
22...	1300	59	629	3.5	10...	1240	109	477	17.0
JAN 1998					JUL				
14...	1440	60	630	5.0	01...	1045	49	660	23.0
FEB					AUG				
03...	1300	32	736	4.0	05...	1210	154	336	17.0
MAR									
06...	1205	41	490	2.0					

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PEN- DED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PEN- DED (T/DAY) (80155)
APR					
01...	1300	153	11.0	409	169
17...	1240	158	8.5	307	131
MAY					
15...	1400	260	16.0	423	297
JUN					
03...	1215	111	18.5	92	28
JUL					
01...	1045	49	23.0	69	9.1
10...	1620	584	19.0	11800	18600
29...	2000	326	20.0	3920	3450
AUG					
20...	1230	77	20.5	102	21
SEP					
15...	1530	52	--	20	2.8

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	155	403	168	236	1810	1150	130	---	e79
2	153	690	301	249	1620	1090	114	122	37
3	146	877	349	267	1930	1390	111	101	30
4	149	741	298	277	---	e1340	131	---	e56
5	156	705	296	295	1400	1110	212	536	328
6	154	611	255	308	1640	1360	147	231	93
7	154	581	242	295	1450	1160	130	140	49
8	158	653	279	297	1530	1230	116	138	43
9	156	---	e213	276	970	727	130	182	66
10	146	---	e146	268	664	481	106	109	31
11	130	---	e96	265	972	695	98	---	e26
12	137	---	e92	271	1010	741	96	90	23
13	140	---	e94	268	1130	821	87	68	16
14	154	613	291	268	---	e644	110	296	124
15	233	1870	1300	258	478	334	117	598	197
16	219	951	567	244	---	e296	91	---	e43
17	169	487	227	227	475	291	75	66	13
18	180	524	255	221	471	281	67	59	11
19	172	566	263	207	---	e256	60	27	4.4
20	173	574	268	214	---	e264	57	20	3.0
21	168	675	306	215	---	e282	197	3800	6450
22	165	1100	491	207	---	e253	92	1090	390
23	172	1050	486	205	---	e235	51	---	e37
24	187	---	e502	207	---	e239	44	195	23
25	210	1040	591	172	---	e155	41	---	e14
26	257	1420	1010	152	---	e93	39	---	e7.7
27	251	1980	1340	165	---	e100	37	---	e4.3
28	243	1570	1030	145	---	e55	35	27	2.6
29	240	---	e776	138	90	33	36	---	e2.4
30	232	1290	805	132	---	e51	127	1410	940
31	---	---	---	128	258	89	---	---	---
TOTAL	5359	---	13337	7077	---	17246	2884	---	9143.4
JULY			AUGUST			SEPTEMBER			
1	69	722	242	158	835	469	126	420	197
2	57	236	41	124	305	104	78	108	23
3	91	967	559	140	482	224	70	53	10
4	56	344	67	153	565	244	64	---	e6.0
5	52	163	23	156	---	e227	62	28	4.7
6	78	---	e147	133	206	74	60	19	3.1
7	62	310	57	116	218	68	58	---	e2.4
8	56	67	10	116	---	e68	57	12	1.9
9	134	916	836	292	1090	2700	55	---	e2.4
10	182	2340	2160	129	429	154	53	26	3.7
11	87	---	e50	145	1290	1000	49	---	e4.0
12	60	---	e12	102	503	153	78	361	156
13	49	43	6.1	85	71	16	e66	---	e35
14	50	96	13	170	756	1590	e48	---	e6.2
15	51	151	24	105	384	128	e52	---	e3.4
16	56	---	e48	149	615	601	53	35	5.0
17	42	134	16	103	223	94	50	49	6.5
18	34	44	4.1	133	---	e259	47	42	5.3
19	33	23	2.0	105	---	e97	e48	---	e4.7
20	33	28	2.5	80	202	53	e47	---	e4.7
21	32	---	e4.9	84	547	128	e48	---	e4.8
22	117	868	790	71	129	25	47	37	4.7
23	93	1300	453	64	45	7.8	45	---	e5.3
24	68	158	29	76	243	70	41	---	e6.1
25	81	271	59	207	1030	1660	40	65	7.0
26	80	---	e50	145	531	295	38	---	e7.1
27	71	110	21	103	---	e44	36	---	e7.1
28	114	464	550	95	105	27	36	78	7.6
29	239	1510	1440	88	68	16	40	---	e8.9
30	489	2750	9770	81	---	e15	44	87	10
31	249	1170	1060	76	98	20	---	---	---
TOTAL	2965	---	18546.6	3784	---	10630.8	1636	---	553.6

e-Estimated.

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD BELOW COLORADO SPRINGS, CO

LOCATION.--Lat 38°48'11", long 104°47'43", in NE¹/₄SE¹/₄ sec.29, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on right bank at upstream side of bridge on Janitell Road below Colorado Springs.

DRAINAGE AREA.--413 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder with satellite telemetry, and crest-stage gage. Elevation of gage is 5,840 ft above sea level, from topographic map. Prior to July 10, 1990, at site 500 ft upstream, at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records fair except for those above 1,000 ft³/s, which are poor. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation and municipal use, return flow from irrigated areas, and flows from sewage treatment plants.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	175	170	121	124	116	234	308	170	129	271	249
2	124	159	162	123	119	113	232	320	148	101	209	157
3	134	143	157	126	108	113	223	349	145	197	239	149
4	131	134	156	127	117	110	224	366	193	83	249	130
5	136	138	148	123	118	108	224	386	319	77	244	131
6	131	130	166	124	119	108	223	409	199	162	215	126
7	122	133	171	110	123	109	223	390	178	87	192	128
8	128	136	161	118	125	108	232	420	153	79	190	123
9	132	135	137	113	118	110	228	373	169	216	431	121
10	124	130	128	126	115	107	211	364	143	269	251	116
11	127	124	116	134	114	109	198	335	135	142	279	113
12	154	126	117	129	114	108	201	334	131	99	208	171
13	146	127	138	123	116	106	188	341	125	87	181	163
14	123	117	141	124	119	109	203	345	167	81	307	116
15	108	99	144	122	118	112	384	336	210	117	220	88
16	106	98	134	127	135	112	350	318	160	99	261	85
17	107	128	137	125	125	130	250	293	135	74	205	79
18	108	181	136	126	165	171	259	298	122	65	257	79
19	121	159	137	125	131	266	245	268	109	66	224	82
20	127	147	135	120	119	266	241	263	104	66	176	87
21	130	142	134	117	121	205	235	258	280	63	179	85
22	122	146	136	116	122	208	228	255	165	216	161	85
23	113	144	142	121	119	151	228	252	107	148	148	86
24	132	150	137	122	118	168	238	304	114	105	170	83
25	91	149	124	124	121	205	267	213	116	157	315	77
26	211	156	130	121	116	204	335	190	107	168	260	76
27	304	157	134	121	117	297	317	214	106	155	199	74
28	281	200	131	117	118	242	310	185	86	204	172	73
29	248	176	146	115	---	235	311	167	80	469	161	75
30	250	168	127	114	---	235	304	167	232	576	153	83
31	237	---	123	124	---	252	---	163	---	310	151	---
TOTAL	4614	4307	4355	3778	3394	4993	7546	9184	4608	4867	6878	3290
MEAN	149	144	140	122	121	161	252	296	154	157	222	110
MAX	304	200	171	134	165	297	384	420	319	576	431	249
MIN	91	98	116	110	108	106	188	163	80	63	148	73
AC-FT	9150	8540	8640	7490	6730	9900	14970	18220	9140	9650	13640	6530

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1998, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998			
MEAN	100	93.0	74.1	77.6	87.9	105	134	252	248	145	152	112
MAX	179	144	140	122	121	161	252	841	693	319	285	174
(WY)	1995	1998	1998	1998	1998	1998	1998	1995	1997	1995	1997	1997
MIN	47.3	48.6	39.5	46.2	56.4	76.4	86.1	78.6	69.4	70.1	74.2	59.7
(WY)	1993	1990	1990	1990	1990	1991	1993	1993	1990	1993	1993	1992

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1990 - 1998

ANNUAL TOTAL	74566	61814										
ANNUAL MEAN	204	169								138		
HIGHEST ANNUAL MEAN										246		1995
LOWEST ANNUAL MEAN										76.0		1993
HIGHEST DAILY MEAN	2580	Jun 10	576	Jul 30	4200	May 17	1995					
LOWEST DAILY MEAN	43	Jan 7	63	Jul 21	31	Dec 14	1992					
ANNUAL SEVEN-DAY MINIMUM	52	Jan 1	77	Sep 24	35	Nov 21	1989					
INSTANTANEOUS PEAK FLOW			3210	Aug 9	11300	Sep 2	1994					
INSTANTANEOUS PEAK STAGE			7.40	Aug 9	11.11	Sep 2	1994					
ANNUAL RUNOFF (AC-FT)	147900	122600								99870		
10 PERCENT EXCEEDS	323	280								228		
50 PERCENT EXCEEDS	138	137								94		
90 PERCENT EXCEEDS	73	105								53		

a-From rating curve extended above 7000 ft³/s.

**07105530 FOUNTAIN CREEK BELOW JANITELL ROAD, BELOW COLORADO SPRINGS, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--April 1975 to June 1976, May 1979 to September 1979, December 1979 to current year.

PERIOD OF DAILY RECORD.--

- SPECIFIC CONDUCTANCE: October 1990 to January 1998 (discontinued).
- WATER TEMPERATURE: October 1990 to January 1998 (discontinued).
- pH: October 1990 to January 1998 (discontinued).
- DISSOLVED OXYGEN: October 1990 to January 1998 (discontinued).

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for daily specific conductance are fair. Records for daily pH are fair except Oct. 1-22, which are poor. Records for daily water temperature are good. Records for daily dissolved oxygen are fair except Oct. 1-22 and Dec. 11 to Jan. 6, which are poor. Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--

- SPECIFIC CONDUCTANCE: Maximum, 1,710 microsiemens, Nov. 20, 1994; minimum, 114 microsiemens, May 9, 1994.
- WATER TEMPERATURE: Maximum, 25.1°C, July 16, 1993; minimum, 0.0°C, Apr. 24, 1997.
- pH: Maximum, 8.8 units, July 19, 1995; minimum, 6.7 units, July 26, 1995.
- DISSOLVED OXYGEN: Maximum, 13.0 mg/l, Nov. 14, 1998; minimum, 4.4 mg/l, Mar. 28, 1991.

EXTREMES FOR CURRENT YEAR.--

- SPECIFIC CONDUCTANCE: Maximum during period October to January, 834 microsiemens, Nov. 12; minimum, 313 microsiemens, Oct. 26.
- pH: Maximum during period October to January, 8.2 units, several days; minimum, 6.9 units, Oct. 1-3.
- WATER TEMPERATURE: Maximum during period October to January, 20.2°C, Oct. 1; minimum, 0.7°C, Nov. 14.
- DISSOLVED OXYGEN: Maximum during period October to January, 13.0 mg/l, Nov. 14; minimum, 5.5 mg/l, Oct. 1.

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
FEB 1998					JUN 1998				
03...	1150	104	720	8.5	10...	1050	169	443	16.0
MAR					JUL				
06...	1145	131	677	9.0	01...	1005	123	588	20.5
APR					AUG				
22...	1110	255	448	10.5	05...	1035	259	380	16.5
MAY					25...	1150	179	554	20.0
12...	1330	342	245	15.0					

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD, BELOW COLORADO SPRINGS, CO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.4	6.9	7.2	7.5	7.4	7.5	7.9	7.6	7.7	8.1	7.8	7.9
2	7.1	6.9	7.0	7.7	7.4	7.5	7.9	7.6	7.8	8.1	7.9	7.9
3	7.2	6.9	7.1	7.7	7.5	7.6	7.9	7.6	7.7	8.1	7.8	8.0
4	7.5	7.2	7.4	7.7	7.5	7.6	7.9	7.5	7.7	8.1	7.8	7.9
5	7.6	7.3	7.5	7.7	7.5	7.6	7.6	7.4	7.5	8.0	7.8	7.9
6	7.7	7.4	7.5	7.8	7.6	7.7	7.6	7.4	7.5	8.0	7.6	7.8
7	7.8	7.4	7.6	7.8	7.6	7.7	7.6	7.4	7.5	7.8	7.6	7.7
8	8.0	7.7	7.9	7.9	7.5	7.7	7.7	7.5	7.6	7.9	7.6	7.7
9	7.9	7.7	7.8	7.9	7.6	7.8	7.8	7.5	7.7	8.0	7.7	7.8
10	8.0	7.7	7.8	7.9	7.7	7.8	7.8	7.5	7.6	7.9	7.7	7.8
11	8.0	7.7	7.8	7.9	7.8	7.9	7.7	7.5	7.6	8.0	7.7	7.9
12	8.0	7.5	7.7	7.9	7.8	7.9	7.7	7.5	7.6	8.0	7.8	7.9
13	7.8	7.5	7.6	7.9	7.7	7.8	7.8	7.5	7.6	8.0	7.8	7.9
14	7.8	7.5	7.6	7.7	7.3	7.4	7.9	7.5	7.7	8.1	7.8	8.0
15	7.8	7.5	7.6	7.9	7.3	7.8	7.8	7.6	7.7	8.1	7.9	8.0
16	7.8	7.5	7.6	7.9	7.7	7.8	7.9	7.7	7.8	---	---	---
17	7.8	7.5	7.7	7.9	7.7	7.8	8.0	7.8	7.9	---	---	---
18	7.8	7.4	7.6	7.9	7.7	7.8	8.0	7.8	7.9	---	---	---
19	7.8	7.4	7.6	7.9	7.7	7.8	8.1	7.8	8.0	---	---	---
20	7.8	7.4	7.6	8.0	7.7	7.8	8.1	7.9	8.0	---	---	---
21	7.7	7.4	7.5	8.0	7.7	7.8	8.2	7.9	8.0	---	---	---
22	7.6	7.2	7.5	8.0	7.7	7.8	8.2	7.9	8.0	---	---	---
23	7.5	7.2	7.3	7.9	7.7	7.8	8.2	8.0	8.0	---	---	---
24	7.4	7.2	7.3	7.9	7.7	7.8	8.2	8.0	8.1	---	---	---
25	7.4	7.1	7.3	8.0	7.8	7.9	8.2	8.0	8.1	---	---	---
26	7.5	7.2	7.3	8.0	7.7	7.8	8.2	8.0	8.0	---	---	---
27	7.4	7.2	7.3	7.9	7.6	7.8	8.1	8.0	8.0	---	---	---
28	7.5	7.3	7.4	7.9	7.7	7.8	8.2	8.0	8.0	---	---	---
29	7.6	7.3	7.4	7.9	7.7	7.8	8.1	7.9	8.0	---	---	---
30	7.6	7.4	7.5	7.9	7.6	7.7	8.1	7.8	8.0	---	---	---
31	7.6	7.4	7.5	---	---	---	8.0	7.8	7.9	---	---	---
MONTH	8.0	6.9	7.5	8.0	7.3	7.7	8.2	7.4	7.8	---	---	---

ARKANSAS RIVER BASIN

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD, BELOW COLORADO SPRINGS, CO--Continued

TEMPERATURE, WATER (DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	---	---	---	---	---	
2	---	---	---	---	---	---	---	---	---	---	---	
3	---	---	---	---	---	---	---	---	---	---	---	
4	---	---	---	---	---	---	---	---	---	---	---	
5	---	---	---	---	---	---	---	---	---	---	---	
6	---	---	---	---	---	---	---	---	---	---	---	
7	---	---	---	---	---	---	---	---	---	---	---	
8	---	---	---	---	---	---	---	---	---	---	---	
9	---	---	---	---	---	---	---	---	---	---	---	
10	---	---	---	---	---	---	---	---	---	---	---	
11	---	---	---	---	---	---	---	---	---	---	---	
12	---	---	---	---	---	---	---	---	---	---	---	
13	---	---	---	---	---	---	---	---	---	---	---	
14	---	---	---	---	---	---	---	---	---	---	---	
15	---	---	---	---	---	---	---	---	---	---	---	
16	---	---	---	---	---	---	---	---	---	---	---	
17	---	---	---	---	---	---	---	---	---	---	---	
18	---	---	---	---	---	---	---	---	---	---	---	
19	---	---	---	---	---	---	---	---	---	---	---	
20	---	---	---	---	---	---	---	---	---	---	---	
21	---	---	---	---	---	---	---	---	---	---	---	
22	---	---	---	---	---	---	---	---	---	---	---	
23	---	---	---	---	---	---	---	---	---	---	---	
24	---	---	---	---	---	---	---	---	---	---	---	
25	---	---	---	---	---	---	---	---	---	---	---	
26	---	---	---	---	---	---	---	---	---	---	---	
27	---	---	---	---	---	---	---	---	---	---	---	
28	---	---	---	---	---	---	---	---	---	---	---	
29	---	---	---	---	---	---	---	---	---	---	---	
30	---	---	---	---	---	---	---	---	---	---	---	
31	---	---	---	---	---	---	---	---	---	---	---	
MONTH	---	---	---	---	---	---	---	---	---	---	---	

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.4	5.5	6.5	11.0	8.7	9.8	11.4	9.2	10.1	10.4	8.5	9.5
2	6.8	5.7	6.2	11.6	8.6	10.0	11.1	9.4	10.0	10.3	8.4	9.3
3	7.1	6.1	6.7	11.9	8.7	10.0	11.8	9.5	10.5	9.9	8.6	9.3
4	8.3	6.9	7.5	10.7	8.4	9.6	11.7	9.4	10.5	10.4	8.6	9.4
5	8.6	7.0	7.6	11.1	8.9	9.9	11.6	9.5	10.4	10.6	8.7	9.5
6	8.7	7.5	8.1	11.3	8.6	10.0	11.6	9.6	10.5	10.5	9.2	9.9
7	9.2	7.1	8.1	11.4	8.5	9.8	11.1	9.3	10.2	10.6	8.9	9.9
8	8.2	7.3	7.7	10.9	8.8	9.8	11.0	9.2	9.8	10.7	9.0	9.9
9	8.6	7.2	7.9	11.3	9.4	10.5	10.5	9.3	9.7	10.9	9.1	10.3
10	8.4	6.9	7.6	12.5	11.0	11.6	11.1	9.7	10.2	10.9	9.5	10.4
11	7.7	6.4	7.0	12.2	11.0	11.5	11.8	9.8	10.4	11.2	9.5	10.4
12	7.9	6.6	7.3	12.5	10.8	11.5	11.5	9.4	10.2	11.3	9.6	10.3
13	9.0	7.1	7.8	12.4	10.0	11.1	11.4	9.2	10.2	11.2	9.7	10.3
14	9.0	7.1	7.9	13.0	11.2	12.2	11.1	8.9	9.9	11.2	9.7	10.5
15	8.6	7.0	7.8	12.9	10.1	11.9	10.8	8.9	9.8	11.5	9.8	10.4
16	8.8	7.6	8.1	12.9	10.1	11.7	11.0	9.4	10.1	---	---	---
17	9.0	7.3	8.1	12.6	9.4	10.8	10.8	9.1	10.0	---	---	---
18	8.9	7.3	8.0	12.6	9.8	11.0	11.1	9.2	10.0	---	---	---
19	9.0	7.7	8.2	12.1	8.8	10.2	10.8	9.5	10.0	---	---	---
20	8.9	8.1	8.6	11.1	8.6	9.3	10.8	9.3	10.0	---	---	---
21	9.6	8.5	8.9	10.7	9.0	9.6	10.8	9.3	9.9	---	---	---
22	9.8	8.2	8.9	11.3	8.7	9.9	10.7	9.2	9.9	---	---	---
23	9.5	8.3	8.9	11.5	9.1	10.2	10.9	9.3	9.9	---	---	---
24	10.8	8.4	9.3	11.2	8.7	9.8	10.9	9.7	10.3	---	---	---
25	11.4	9.1	10.2	10.9	8.3	9.4	11.2	9.9	10.6	---	---	---
26	12.0	9.6	11.1	10.6	9.0	9.7	11.0	9.9	10.5	---	---	---
27	12.6	9.7	11.6	10.9	8.4	9.5	11.2	9.6	10.6	---	---	---
28	12.4	9.6	11.0	11.0	9.4	10.1	11.3	9.7	10.6	---	---	---
29	12.3	9.5	10.8	11.2	8.4	9.8	11.2	9.0	10.3	---	---	---
30	11.0	7.8	9.7	11.9	9.0	10.3	10.7	8.8	9.9	---	---	---
31	10.0	8.1	9.2	---	---	---	10.6	8.6	9.7	---	---	---
MONTH	12.6	5.5	8.5	13.0	8.3	10.4	11.8	8.6	10.2	---	---	---

**07105800 FOUNTAIN CREEK AT SECURITY, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--December 1984 to current year.

PERIOD OF DAILY RECORD.--

- SPECIFIC CONDUCTANCE: October 1990 to January 1998 (discontinued).
- WATER TEMPERATURE: October 1990 to January 1998 (discontinued).
- pH: October 1990 to January 1998 (discontinued).
- DISSOLVED OXYGEN: October 1990 to January 1998 (discontinued).
- SUSPENDED SEDIMENT DISCHARGE: April to September 1998 (seasonal records only).

INSTRUMENTATION.--Water-quality monitor with satellite telemetry. Pumping sediment sampler since April 1998.

REMARKS.--Records for daily specific conductance, pH and water temperature are fair. Records for daily dissolved oxygen are poor. Daily suspended sediment records are fair. Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--

- SPECIFIC CONDUCTANCE: Maximum, 1,460 microsiemens, Mar. 6, 1996; minimum, 101 microsiemens, June 12, 1995.
- pH: Maximum, 8.9 units Apr. 18-20, 1997; minimum 6.5 units, May 24-25, 1996.
- WATER TEMPERATURE: Maximum, 29.8°C, July 17, 1991; minimum, 0.0°C, on many days during winter months.
- DISSOLVED OXYGEN: Maximum, 14.2 mg/L, Oct. 25, 1997; minimum, 3.5 mg/L, Aug. 9, 1992.
- SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 4,570 mg/L, June 30, 1998; minimum daily mean, 51 mg/L, Sept. 29, 1998.
- SEDIMENT LOAD: Maximum daily during period of season operation, 13,700 tons, July 30, 1998; minimum daily, 12 tons (estimated), Sept. 28, 1998.

EXTREMES FOR CURRENT YEAR.--

- SPECIFIC CONDUCTANCE: Maximum, during period October to January, 1,060 microsiemens, Nov. 12.; minimum, 529 microsiemens, Oct.31.
- pH: Maximum, during period October to January, 8.4 units Nov. 27; minimum, 7.4 units, Oct. 1-2, 27.
- WATER TEMPERATURE: Maximum, during period October to January, 22.0°C, Oct. 1; minimum, 0.0°C, Oct. 25 and Nov. 15.
- DISSOLVED OXYGEN: Maximum, during period October to January, 14.2 mg/L, Oct. 25; minimum, 5.8mg/L, Oct. 13.
- SEDIMENT CONCENTRATIONS: Maximum daily mean during period of seasonal operation, 4,570 mg/L, June 30; minimum daily mean, 51 mg/L, Sept. 29.
- SEDIMENT LOAD: Maximum daily during period of season operation, 13,700 tons, July 30; minimum daily, 12 tons (estimated), Sept. 28.

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
FEB 1998					JUN 1998				
03...	1025	95	813	4.5	03...	0900	113	--	15.0
MAR					10...	1515	184	606	19.5
06...	1340	139	769	9.5	22...	1630	149	634	22.5
APR					JUL				
01...	1645	252	--	13.0	01...	1330	143	732	27.5
17...	1145	277	--	8.0	17...	1400	113	--	27.5
22...	1405	290	602	16.0	29...	2115	1010	--	19.5
MAY					AUG				
07...	1350	379	400	15.0	13...	1350	191	645	23.0
12...	1515	336	385	17.5	18...	1315	205	603	23.5
15...	1315	347	--	16.5	SEP				
					02...	1340	216	675	24.5

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
APR				
01...	1645	252	368	250
17...	1145	277	530	396
MAY				
15...	1315	347	114	107
JUN				
03...	0900	113	406	124
JUL				
17...	1400	113	185	56
29...	2115	1010	2920	7960
AUG				
12...	1515	202	529	289

07105800 FOUNTAIN CREEK AT SECURITY, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.6	7.4	7.5	7.8	7.5	7.7	8.2	8.0	8.1	8.1	7.9	7.9
2	7.7	7.4	7.6	7.9	7.7	7.8	8.2	8.0	8.1	8.1	7.9	8.0
3	7.8	7.6	7.7	7.8	7.7	7.8	8.2	8.1	8.1	8.1	7.8	7.9
4	7.9	7.7	7.8	7.9	7.7	7.9	8.2	7.7	8.0	8.1	7.8	7.9
5	8.0	7.7	7.8	7.9	7.9	7.9	---	---	---	8.1	7.8	7.9
6	8.0	7.8	7.9	8.0	7.9	7.9	---	---	---	8.1	7.8	7.9
7	8.2	8.0	8.0	8.0	7.9	8.0	---	---	---	8.2	7.8	8.0
8	8.1	8.0	8.0	8.0	7.9	8.0	---	---	---	8.1	7.9	8.0
9	8.1	7.9	8.0	8.1	7.9	8.0	---	---	---	8.2	8.0	8.1
10	8.1	7.9	8.0	8.2	8.1	8.2	8.0	7.5	7.7	8.1	7.8	8.0
11	8.1	7.8	8.0	8.2	8.2	8.2	8.0	7.9	7.9	8.2	7.9	8.0
12	8.0	7.8	7.9	8.2	8.1	8.2	8.0	7.9	7.9	8.3	7.8	8.0
13	8.0	7.7	7.9	8.2	8.1	8.2	8.0	7.8	7.9	8.2	7.8	8.0
14	8.1	7.9	8.0	8.2	8.1	8.2	8.0	7.8	7.9	8.2	7.9	8.0
15	8.0	7.9	7.9	8.3	8.2	8.2	8.0	7.8	7.9	8.2	8.0	8.1
16	7.9	7.8	7.8	8.2	8.2	8.2	8.1	7.8	7.9	---	---	---
17	8.1	7.8	8.0	8.2	8.1	8.1	8.0	7.8	7.9	---	---	---
18	8.1	7.9	8.0	8.2	8.1	8.1	8.2	7.8	8.0	---	---	---
19	8.1	7.9	8.0	8.2	8.1	8.2	8.3	7.7	8.0	---	---	---
20	8.0	7.8	7.9	8.3	8.2	8.3	8.3	7.9	8.1	---	---	---
21	8.1	7.9	8.0	8.3	8.2	8.3	8.2	7.9	8.0	---	---	---
22	8.0	7.7	7.9	8.3	8.2	8.2	8.1	7.9	8.0	---	---	---
23	7.9	7.8	7.8	8.3	8.2	8.2	8.3	7.9	8.1	---	---	---
24	7.9	7.7	7.8	8.3	8.2	8.2	8.1	7.9	8.0	---	---	---
25	7.8	7.7	7.7	8.3	8.2	8.2	8.1	7.9	8.0	---	---	---
26	7.7	7.6	7.7	8.3	8.2	8.2	8.1	7.6	8.0	---	---	---
27	7.7	7.4	7.6	8.4	8.2	8.3	8.1	7.7	8.0	---	---	---
28	7.6	7.5	7.6	8.2	8.0	8.1	8.1	7.7	8.0	---	---	---
29	7.7	7.5	7.6	8.1	8.0	8.1	8.1	7.7	8.0	---	---	---
30	7.7	7.5	7.6	8.2	8.1	8.1	8.1	7.8	8.0	---	---	---
31	7.7	7.5	7.6	---	---	---	8.1	7.8	8.0	---	---	---
MONTH	8.2	7.4	7.8	8.4	7.5	8.1	---	---	---	---	---	---

07105800 FOUNTAIN CREEK AT SECURITY, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	258	384	265	328	---	e770	159	---	e101
2	226	616	379	338	1160	1060	139	226	84
3	224	630	381	363	1270	1250	133	377	136
4	222	514	308	436	1130	1330	187	938	634
5	228	608	376	456	1020	1250	318	1610	1520
6	227	632	388	415	---	e1170	226	---	e509
7	223	602	362	360	1120	1090	189	363	185
8	238	719	462	420	2040	3030	166	207	93
9	226	832	509	375	---	e1300	180	434	210
10	208	647	363	378	---	e769	161	531	232
11	191	440	227	373	---	e579	142	130	51
12	191	490	254	345	427	396	139	188	71
13	178	395	189	344	262	243	128	158	54
14	183	624	319	333	---	e159	152	399	251
15	431	2840	4220	324	126	110	211	---	e681
16	400	1540	1790	297	117	94	161	---	e203
17	308	631	528	283	---	e105	135	---	e87
18	288	---	e459	291	166	131	123	---	e35
19	277	471	352	278	---	e177	110	58	17
20	275	551	411	262	300	212	108	---	e32
21	267	---	e371	259	269	188	232	2800	5480
22	264	445	317	256	337	233	184	3090	1990
23	270	479	349	248	290	194	124	---	e215
24	291	---	e382	417	658	1350	127	---	e134
25	341	569	535	308	---	e313	130	---	e132
26	469	1160	1570	238	390	248	124	365	122
27	413	---	e1060	208	543	305	121	374	123
28	359	1210	1170	174	403	190	112	424	128
29	343	---	e789	157	---	e130	106	866	250
30	331	648	580	155	---	e117	259	4570	5180
31	---	---	---	152	---	e105	---	---	---
TOTAL	8350	---	19665	9571	---	18598	4786	---	18940
		JULY		AUGUST		SEPTEMBER			
1	136	949	447	314	1010	1240	314	640	684
2	123	955	339	208	537	303	210	133	76
3	301	2350	5970	245	672	542	186	---	e53
4	180	1300	746	278	669	e504	163	131	58
5	114	---	e108	292	556	439	160	184	80
6	199	---	e908	238	444	286	157	173	73
7	122	699	263	211	228	129	155	141	59
8	90	266	64	203	319	179	150	---	e36
9	276	1330	3210	575	2040	8670	153	75	31
10	331	1520	1880	352	783	861	150	180	73
11	198	892	539	320	2200	3630	149	225	91
12	137	232	85	222	1520	1060	184	379	265
13	112	134	40	163	582	256	171	567	276
14	97	---	e41	360	1950	8300	123	279	93
15	131	1140	972	443	1480	2200	103	228	63
16	122	553	193	352	979	1530	100	78	21
17	83	216	48	255	839	651	97	57	15
18	65	---	e28	265	707	625	100	---	e16
19	63	---	e24	254	1400	1140	109	61	18
20	63	---	e21	163	738	324	113	88	27
21	58	---	e17	173	---	e277	117	111	35
22	308	1350	4020	152	---	e195	115	94	29
23	331	1260	1510	139	385	144	114	---	e28
24	230	471	296	161	---	e321	115	102	32
25	206	---	e228	269	1370	2010	108	84	25
26	190	---	e219	315	1240	1300	104	70	20
27	178	---	e185	260	654	673	99	57	15
28	201	642	693	224	268	164	99	---	e12
29	702	2570	7830	199	---	e91	103	51	14
30	1000	2610	13700	190	153	79	111	92	27
31	446	---	e1990	187	162	82	---	---	---
TOTAL	6793	---	46614	7982	---	38205	4132	---	2345

e Estimated

07105900 JIMMY CAMP CREEK AT FOUNTAIN, CO

LOCATION.--Lat 38°41'04", long 104°41'17", in NW¼SE¼ sec.5, T.16 S., R.65 W., El Paso County, Hydrologic Unit 11020003, on right bank at downstream side of bridge on county road, 1,000 ft east of Fountain, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--65.6 mi².

PERIOD OF RECORD.--January 1976 to current year.

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gage. Elevation of gage is 5,530 ft above sea level, from topographic map. Jan. 1976 to Sept. 3, 1986 at datum 4.0 ft higher. Aug. 14, 1991 to July 14, 1994, at site 110 ft downstream, at same datum.

REMARKS.--Records good except for estimated daily discharges, and those above 40 ft³/s, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 17, 1965 reached an estimated discharge of 124,000 ft³/s, gage height, unknown.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.8	2.0	2.1	1.9	1.6	1.9	1.6	2.5	3.6	8.3	1.5
2	1.5	1.8	2.0	2.1	1.9	1.6	1.9	1.7	2.5	2.4	4.1	1.5
3	1.5	1.8	2.0	2.1	1.9	1.6	1.9	1.7	2.4	2.2	2.9	1.4
4	1.5	1.8	2.0	2.1	1.8	1.6	1.9	1.9	2.3	1.9	2.4	1.4
5	1.5	1.8	2.0	2.0	1.8	1.5	1.9	2.0	2.3	2.0	2.1	1.3
6	1.5	1.8	2.0	2.0	1.8	1.5	1.9	1.9	2.0	2.1	2.2	1.3
7	1.6	1.8	2.1	e1.9	1.9	e1.5	1.9	2.0	2.0	1.7	2.2	1.3
8	1.6	1.8	2.1	2.0	1.8	e1.5	1.9	2.0	2.2	1.6	2.4	1.3
9	1.6	1.8	2.1	2.0	1.8	1.5	1.9	1.9	1.9	1.7	3.0	1.3
10	1.6	1.8	2.1	2.0	1.8	1.5	2.4	1.9	1.8	1.8	11	1.3
11	1.6	1.8	2.1	2.0	1.8	1.5	2.3	1.9	1.8	1.5	e100	1.2
12	1.6	1.8	2.1	2.0	1.8	1.5	2.2	2.0	1.7	1.4	e10	1.2
13	1.6	1.9	2.1	2.0	1.8	1.5	2.1	2.0	1.6	1.3	e5.0	1.2
14	1.7	1.8	2.1	1.9	1.8	1.5	2.1	2.0	1.7	1.3	2.0	1.2
15	1.7	1.8	2.1	e1.9	1.8	1.5	3.0	2.0	1.6	1.6	4.0	1.2
16	1.7	1.8	2.1	1.9	1.8	1.5	2.9	2.0	1.5	1.5	2.0	1.1
17	1.7	1.8	2.1	1.9	1.8	1.5	2.9	2.1	1.4	1.1	1.9	1.1
18	1.7	1.9	2.1	1.9	1.7	6.5	2.8	2.3	1.5	1.1	1.8	1.1
19	1.7	1.9	2.1	1.9	1.7	1.7	2.7	2.3	1.9	1.1	1.8	1.1
20	1.8	1.9	2.1	1.9	1.7	1.8	2.6	2.2	2.2	1.0	1.7	1.1
21	1.8	1.9	2.1	1.9	1.7	1.8	2.5	2.2	1.7	1.1	1.7	1.0
22	1.8	1.9	2.1	1.9	1.7	1.9	2.3	2.3	1.4	1.5	1.7	1.0
23	1.7	1.9	2.1	1.9	1.6	1.9	2.2	2.3	1.2	16	1.6	1.1
24	1.7	1.9	2.1	1.9	1.6	1.7	2.1	2.4	1.4	5.7	1.7	1.1
25	2.6	1.9	2.1	1.9	1.6	1.5	2.1	2.4	2.5	e110	1.8	1.1
26	1.8	1.9	2.1	1.9	1.6	1.4	2.2	2.6	2.0	8.7	1.5	1.1
27	1.8	1.9	2.1	1.9	1.6	1.7	1.8	2.5	2.1	4.7	1.6	1.2
28	1.8	2.0	2.1	1.9	1.6	1.6	1.6	2.5	2.1	3.9	1.8	1.3
29	1.8	2.0	2.1	1.9	---	1.9	1.6	2.5	1.8	15	1.4	1.2
30	1.8	2.0	2.1	1.9	---	1.9	1.6	2.4	8.5	e150	1.5	1.2
31	1.8	---	2.1	1.9	---	2.0	---	2.5	---	e35	1.4	---
TOTAL	52.7	55.7	64.5	60.5	49.1	55.2	65.1	66.0	63.5	385.5	188.5	36.4
MEAN	1.70	1.86	2.08	1.95	1.75	1.78	2.17	2.13	2.12	12.4	6.08	1.21
MAX	2.6	2.0	2.1	2.1	1.9	6.5	3.0	2.6	8.5	150	100	1.5
MIN	1.5	1.8	2.0	1.9	1.6	1.4	1.6	1.6	1.2	1.0	1.4	1.0
AC-FT	105	110	128	120	97	109	129	131	126	765	374	72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1998, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	2.09	2.28	1.78	1.69	1.62	1.76	1.73	2.50	3.82	3.59	4.54	1.81												
MAX	3.55	6.49	3.17	2.74	2.39	3.54	2.72	10.1	27.8	27.9	13.4	5.12												
(WY)	1985	1982	1995	1986	1977	1980	1993	1995	1985	1985	1984	1994												
MIN	1.20	1.58	.87	1.01	.79	1.05	.56	.91	.98	.96	.84	.68												
(WY)	1979	1984	1988	1988	1990	1990	1990	1986	1989	1989	1993	1990												

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1976 - 1998

ANNUAL TOTAL	853.0	1142.7	
ANNUAL MEAN	2.34	3.13	2.43
HIGHEST ANNUAL MEAN			5.12
LOWEST ANNUAL MEAN			1.20
HIGHEST DAILY MEAN	114	Jun 14	e150 Jul 30
LOWEST DAILY MEAN	e, a1.5	Jan 13	b1.0 Jul 20
ANNUAL SEVEN-DAY MINIMUM	1.5	Sep 30	1.1 Sep 16
INSTANTANEOUS PEAK FLOW			d1610 Aug 11
INSTANTANEOUS PEAK STAGE			8.42 Aug 11
ANNUAL RUNOFF (AC-FT)	1690	2270	d4810 Jun 3 1994
10 PERCENT EXCEEDS	2.5	2.5	f9.51 Jun 3 1994
50 PERCENT EXCEEDS	1.9	1.9	1.7
90 PERCENT EXCEEDS	1.7	1.4	.95

e-Estimated.

a-Also occurred Oct 2-6.

b-Also occurred on Sept. 21, 22.

c-Also occurred on Apr. 13, 15, 1990.

d-From rating curve extended above 100 ft³/s, on basis of slope-area measurement of peak flow.

f-From floodmark.

07105920 LITTLE FOUNTAIN CREEK ABOVE KEATON RESERVOIR NEAR FORT CARSON, CO

LOCATION.--Lat 38°40'54", long 104°51'29", in NE¼SW¼ sec.2, T.16 S, R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 100 ft upstream from Keaton Reservoir, 0.7 mi upstream from State Highway 115, and 4.8 mi southwest of Fort Carson.

DRAINAGE AREA.--11.0 mi².

PERIOD OF RECORD.--May 1978 to September 1987. October 1987 to September 1988, (seasonal records only). February 1995 to September 1998 (discontinued). Water-quality data available, May 1978 to September 1982.

REVISED RECORDS.--WDR CO-80-1: 1979.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,430 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. No known diversions upstream from station. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	2.8	e1.5	e1.1	e1.2	e1.3	8.9	22	8.4	4.8	8.0	3.9
2	1.8	2.4	1.7	e1.2	e1.2	e1.2	8.4	22	7.6	3.5	6.2	3.4
3	1.7	2.2	e1.6	e1.2	e1.2	e1.3	7.7	23	7.1	3.1	5.7	2.9
4	1.7	2.0	e1.7	e1.2	e1.2	e1.2	7.9	25	6.8	3.0	5.8	2.6
5	1.6	2.0	e1.6	e1.2	e1.2	1.3	9.0	28	7.2	2.4	6.2	2.4
6	1.5	1.9	e1.4	e1.2	1.2	e1.2	9.9	28	6.4	2.7	5.5	2.1
7	1.6	1.9	e1.5	e1.2	e1.1	e1.1	9.5	27	5.8	2.7	4.8	1.9
8	1.6	1.9	e1.6	e1.2	e1.2	e1.0	9.1	26	5.2	2.5	4.4	1.8
9	1.6	1.9	e1.7	e1.3	1.2	1.0	8.1	25	4.9	2.9	5.1	1.6
10	1.5	1.9	e1.7	e1.3	e1.1	1.1	7.9	24	4.4	4.2	7.4	1.5
11	1.6	1.9	e1.7	e1.3	e1.1	.91	9.0	27	4.1	4.2	7.5	1.4
12	1.9	e1.8	e1.5	1.4	e1.2	e.80	11	29	3.7	3.2	6.8	1.5
13	1.8	e1.8	e1.6	e1.3	e1.1	e.86	12	30	3.5	3.0	6.1	1.7
14	1.8	e1.7	e1.6	1.4	1.1	e.80	12	31	3.3	2.6	5.6	1.5
15	1.7	e1.8	e1.5	e1.2	1.3	.94	12	28	3.5	2.2	6.5	1.4
16	1.7	e1.7	e1.6	e1.3	1.2	.91	12	25	3.2	2.2	6.5	1.4
17	1.6	e1.8	e1.5	e1.3	e1.2	e.75	15	23	3.2	1.9	5.9	1.2
18	1.5	e1.8	e1.4	e1.2	1.1	e.70	8.9	22	3.0	1.7	5.8	1.2
19	1.4	e1.9	1.3	e1.3	e1.1	e.60	8.6	22	2.7	1.5	6.0	1.0
20	1.5	e1.9	e1.3	1.3	e1.0	e.55	8.3	21	2.5	1.4	5.4	1.0
21	1.7	e1.9	e1.0	e1.2	e.88	e1.1	8.3	21	2.6	1.2	5.1	1.1
22	1.5	1.9	e1.1	e1.2	.82	e.82	9.1	20	2.5	1.8	4.8	1.2
23	1.4	e1.7	1.2	e1.2	1.1	e1.5	15	19	2.1	1.8	4.1	1.1
24	1.6	e1.7	1.2	e1.1	1.1	e2.2	22	18	1.9	1.7	4.2	.99
25	2.6	e1.6	e1.2	e1.0	1.3	e1.0	26	16	1.8	1.7	4.9	.87
26	2.4	1.7	e1.1	e1.1	e1.1	13	25	14	1.6	1.9	4.6	.72
27	2.2	1.8	e1.1	e1.2	e1.3	15	22	13	1.4	1.5	4.1	.71
28	2.3	e1.6	e1.1	e1.2	e1.3	16	21	11	1.4	1.7	3.8	.72
29	2.4	1.7	e1.0	e1.1	---	14	23	11	1.3	4.0	3.5	.69
30	2.5	e1.6	e1.1	e1.2	---	12	23	10	9.6	6.0	3.2	.71
31	2.7	---	e1.1	e1.2	---	11	---	9.3	---	11	2.9	---
TOTAL	56.4	56.2	43.2	37.8	32.10	116.14	389.6	670.3	122.7	90.0	166.4	46.21
MEAN	1.82	1.87	1.39	1.22	1.15	3.75	13.0	21.6	4.09	2.90	5.37	1.54
MAX	2.7	2.8	1.7	1.4	1.3	16	26	31	9.6	11	8.0	3.9
MIN	1.4	1.6	1.0	1.0	.82	.55	7.7	9.3	1.3	1.2	2.9	.69
AC-FT	112	111	86	75	64	230	773	1330	243	179	330	92

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1998, BY WATER YEAR (WY)

	1978	1979	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	3.61	2.18	1.25	1.05	.99	1.74	7.19	25.1	14.5	4.35	6.95	3.06				
MAX	29.0	13.0	3.89	2.25	1.78	5.13	17.6	81.5	60.6	11.6	28.2	13.5				
(WY)	1985	1985	1985	1985	1983	1987	1987	1995	1997	1985	1982	1982				
MIN	.18	.29	.30	.30	.36	.52	.75	.90	1.04	.17	.11	.032				
(WY)	1979	1979	1979	1979	1981	1981	1981	1981	1981	1978	1978	1978				

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

(a) WATER YEARS 1978 - 1998

ANNUAL TOTAL	3842.95	1827.05		
ANNUAL MEAN	10.5	5.01	5.88	
HIGHEST ANNUAL MEAN			12.2	1985
LOWEST ANNUAL MEAN			1.17	1996
HIGHEST DAILY MEAN	e550	Jun 10	31	May 14
LOWEST DAILY MEAN	e.40	Jan 11	.55	Mar 20
ANNUAL SEVEN-DAY MINIMUM	.47	Jan 10	.75	Mar 14
INSTANTANEOUS PEAK FLOW			34	May 14
INSTANTANEOUS PEAK STAGE			1.06	May 14
ANNUAL RUNOFF (AC-FT)	7620	3620	4260	
10 PERCENT EXCEEDS	26	14	15	
50 PERCENT EXCEEDS	1.9	1.8	1.6	
90 PERCENT EXCEEDS	.57	1.1	.52	

e-Estimated.

a-Does not include 1988 to 1994 water years.

b-Also occurred Aug 23-28, and Sep 8-24, 1978.

c-From rating curve extended above 70 ft³/s, on basis of critical-depth measurement of peak flow.

d-From floodmark.

07105928 LITTLE FOUNTAIN CREEK NEAR FORT CARSON, CO

LOCATION.--Lat 38°40'49", long 104°51'08", in SW¹/₄SE¹/₄ sec.2, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.3 mi downstream from Keaton Reservoir, 0.4 mi upstream from State Highway 115, 1.2 mi upstream from Deadman Canyon, and 4.8 mi southwest of Fort Carson.

DRAINAGE AREA.--11.8 mi².

PERIOD OF RECORD.--Streamflow records, May 1978 to September 1989. January 1995 to September 1998 (discontinued). Water-quality data available, May 1978 to September 1979.

REVISED RECORDS--WDR CO-80-1: 1979.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,360 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. At times during the year, natural flow of stream may be affected by Womack ditch. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.08	.00	e.00	e.00	e.00	7.2	20	4.4	.76	3.0	.01
2	.03	.09	.00	e.00	e.00	e.00	7.1	19	4.0	1.5	1.9	.00
3	.03	.07	.00	e.00	e.00	e.00	6.7	20	3.7	2.0	1.9	.00
4	.03	.04	.00	e.00	e.00	e.00	6.7	22	3.7	1.8	2.2	.00
5	.03	.02	.00	e.00	e.00	e.00	6.7	25	3.5	e1.7	1.9	.00
6	.03	.03	.00	e.00	e.00	e.00	6.6	27	3.3	e.89	1.9	.00
7	.03	.02	.00	e.00	e.00	e.00	6.3	24	3.1	.38	1.8	.00
8	.03	.02	.00	e.00	e.00	e.00	6.3	23	2.8	.09	1.8	.00
9	.04	.02	.00	e.00	e.00	e.00	6.3	22	2.1	.07	1.7	.02
10	.05	.02	.00	e.00	e.00	e.00	6.3	22	1.7	.17	1.7	.04
11	.05	.02	.00	e.00	e.10	e.00	6.3	24	1.6	.25	1.7	.00
12	.05	.02	.00	e.00	e.30	e.00	6.3	25	1.5	.26	1.7	.00
13	.05	.02	.00	e.00	e.20	e.00	8.1	25	1.4	.41	1.9	.00
14	.05	.02	e.00	e.00	e.10	e.00	8.1	26	1.3	.30	1.8	.00
15	.05	.02	e.00	e.00	e.05	e.00	7.9	26	.64	.11	1.7	.00
16	.05	.02	e.00	e.00	e.02	e.00	7.3	23	.26	.03	1.7	.00
17	.05	.01	e.00	e.00	e.01	e.00	6.3	21	.18	.00	1.7	.00
18	.05	.01	e.00	e.00	e.01	e.00	6.0	19	.16	.00	1.7	.00
19	.05	.01	e.00	e.00	e.00	e.00	5.7	19	.16	.00	1.7	.00
20	.06	.01	e.00	e.00	e.00	.00	5.6	18	.16	.00	1.7	.00
21	.07	.01	e.00	e.00	e.00	.00	5.6	18	.16	.00	1.7	.00
22	.07	.01	e.00	e.00	e.00	.00	5.6	17	.15	.00	1.6	.00
23	.07	.01	e.00	e.00	e.00	.00	9.7	16	.11	.00	1.5	.00
24	.08	.00	e.00	e.00	e.00	2.3	19	14	.04	.00	1.5	.00
25	.09	.00	e.00	e.00	e.00	8.5	23	13	.01	.00	1.5	.00
26	.10	.00	e.00	e.00	e.00	11	22	11	.00	.00	1.4	.00
27	.08	.00	e.00	e.00	e.00	12	18	9.0	.00	.00	1.3	.00
28	.09	.00	e.00	e.00	e.00	13	18	7.7	.00	.00	1.2	.00
29	.09	.00	e.00	e.00	---	12	19	6.7	.00	.00	1.0	.00
30	.09	.00	e.00	e.00	---	9.4	20	5.7	.02	.13	1.0	.00
31	.08	---	e.00	e.00	---	7.9	---	4.9	---	1.6	.36	---
TOTAL	1.74	0.60	0.00	0.00	0.79	76.10	293.7	573.0	40.15	12.45	51.16	0.07
MEAN	.056	.020	.000	.000	.028	2.45	9.79	18.5	1.34	.40	1.65	.002
MAX	.10	.09	.00	.00	.30	13	23	27	4.4	2.0	3.0	.04
MIN	.02	.00	.00	.00	.00	.00	5.6	4.9	.00	.00	.36	.00
AC-FT	3.5	1.2	.00	.00	1.6	151	583	1140	80	25	101	.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1998, BY WATER YEAR (WY)

	1978	1979	1985	1986	1987	1988	1989	1995	1996	1997	1998	1998
MEAN	2.73	1.23	.30	.17	.26	.93	5.21	19.9	12.0	2.59	5.17	1.78
MAX	31.2	14.2	2.88	.98	1.27	3.71	18.2	71.5	59.0	9.98	27.1	12.6
(WY)	1985	1985	1985	1985	1983	1987	1985	1995	1997	1985	1982	1982
MIN	.000	.000	.000	.000	.000	.085	.064	.071	.31	.000	.000	.000
(WY)	1979	1979	1979	1979	1979	1989	1989	1981	1988	1978	1978	1978

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1978 - 1998	
ANNUAL TOTAL	3218.29		1049.76			
ANNUAL MEAN	8.82		2.88		4.08	
HIGHEST ANNUAL MEAN					11.7	
LOWEST ANNUAL MEAN					.22	
HIGHEST DAILY MEAN	580	Jun 10	27	May 6	580	Jun 10 1997
LOWEST DAILY MEAN	a.00	Apr 14	a.00	Nov 24	a.00	May 30 1978
ANNUAL SEVEN-DAY MINIMUM	.00	Nov 24	.00	Nov 24	.00	Jun 15 1978
INSTANTANEOUS PEAK FLOW			b27	May 5	c914	Jun 10 1997
INSTANTANEOUS PEAK STAGE			b3.62	May 5	7.29	Jun 10 1997
ANNUAL RUNOFF (AC-FT)	6380		2080		2960	
10 PERCENT EXCEEDS	21		11		12	
50 PERCENT EXCEEDS	.37		.03		.44	
90 PERCENT EXCEEDS	.00		.00		.00	

e-Estimated.

a-No flow at times most years.

b-Also occurred May 6,7.

c-From rating curve extended above 160 ft³/s on the basis of critical-depth measurement of peak flow.

07105945 ROCK CREEK ABOVE FORT CARSON RESERVATION, CO

LOCATION.--Lat 38°42'27", long 104°50'46", in NW¼NW¼ sec.36, T.15 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 20 ft (revised) upstream from county road bridge, 0.6 mi northwest of Rock Creek Park, 1.2 mi upstream from State Highway 115, and 3.2 mi southwest of Ft. Carson.

DRAINAGE AREA.--6.79 mi².

PERIOD OF RECORD.--May 1978 to current year. Water-quality data available, May 1978 to September 1979.

REVISED RECORDS.--WDR CO-85-1: 1982.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,390 ft above sea level, from topographic map. Prior to Oct. 10, 1997, at site 50 feet downstream and at datum 0.78 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.6	e1.0	.84	.59	.71	.71	4.7	12	.85	1.9	2.8	.53
2	e1.1	e.95	.84	.59	.71	.76	4.3	12	.73	1.1	2.1	.49
3	e.98	.89	.79	.57	.70	.83	4.1	12	.67	.95	2.1	.40
4	e.84	.85	.75	.57	.70	.85	4.5	12	.70	.91	2.4	.32
5	e.60	.90	.67	.65	.69	.79	4.8	13	1.0	.65	2.7	.29
6	e.54	.86	.74	.64	.77	.77	4.8	13	.87	.77	2.4	.25
7	e.59	.86	.74	.62	.78	.74	4.6	12	.66	.82	2.0	.23
8	e.93	.83	.71	.71	.78	.70	4.3	12	.57	.63	1.7	.22
9	e1.2	.86	.72	.68	.78	.68	3.9	11	.51	1.0	3.1	.25
10	e1.0	.88	.69	.68	.76	.68	3.8	10	.44	1.3	3.9	.29
11	.67	.85	.63	.70	.77	.69	4.0	11	.40	1.1	2.8	.19
12	.86	.83	.63	.65	.75	.74	4.7	11	.34	.79	2.2	.22
13	.91	.84	.65	.66	.75	.83	4.9	10	.30	.61	1.8	.25
14	.84	.78	.65	.65	.74	.88	4.9	10	.27	.53	1.5	.21
15	.77	.72	.64	.65	.75	.92	4.9	9.2	.37	.45	1.4	.20
16	.75	.72	.59	.66	.74	1.0	4.6	8.0	.30	.42	1.3	.19
17	.70	.72	.62	.67	.72	1.0	4.5	7.0	.23	.34	1.1	.18
18	.68	.72	.63	.72	.79	.77	4.2	6.1	.19	.28	1.3	.15
19	.65	.69	.63	.72	.79	1.2	4.2	5.5	.16	.25	1.0	.13
20	.69	.72	.62	.71	.75	1.4	5.2	4.8	.13	.22	.91	.13
21	.77	.72	.63	.68	.75	1.5	5.7	4.2	.14	.18	.80	.17
22	.76	.72	.59	.60	.80	1.9	6.4	3.8	.13	.34	.70	.19
23	.69	.71	.59	.66	.83	3.0	8.8	3.3	.23	.55	.60	.19
24	.74	.70	.58	.63	.91	4.9	12	3.2	.56	.41	.60	.16
25	.93	.75	.62	.68	.95	6.7	13	2.9	.51	.43	.69	.14
26	e1.2	.74	.61	.70	.86	6.8	12	2.4	.39	e.44	.66	.13
27	e1.5	.77	.60	.72	.76	9.9	12	1.9	.32	e.44	.71	.11
28	e1.4	.89	.56	.72	.69	8.8	13	1.6	.29	.45	.55	.12
29	e1.3	.91	.57	.70	---	7.4	13	1.3	.25	1.7	.45	.11
30	e1.2	.85	.60	.71	---	6.2	13	1.1	4.6	2.6	.37	.12
31	e1.1	---	.59	.67	---	5.2	---	1.0	---	5.2	.33	---
TOTAL	28.49	24.23	20.32	20.56	21.48	79.24	198.8	228.3	17.11	27.76	46.97	6.56
MEAN	.92	.81	.66	.66	.77	2.56	6.63	7.36	.57	.90	1.52	.22
MAX	1.6	1.0	.84	.72	.95	9.9	13	13	4.6	5.2	3.9	.53
MIN	.54	.69	.56	.57	.69	.68	3.8	1.0	.13	.18	.33	.11
AC-FT	57	48	40	41	43	157	394	453	34	55	93	13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1998, BY WATER YEAR (WY)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	1.64	1.07	.52	.49	.50	1.05	4.32	10.5	5.74	2.02	2.86	1.35										
MAX	20.7	10.7	2.25	1.42	1.33	2.56	12.3	39.1	32.7	7.23	14.8	7.75										
(WY)	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1982	1982										
MIN	.000	.028	.051	.073	.12	.29	.34	.41	.31	.010	.000	.000										
(WY)	1979	1979	1979	1979	1979	1981	1981	1996	1996	1978	1978	1978										

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1978 - 1998

ANNUAL TOTAL	2298.54	719.82	
ANNUAL MEAN	6.30	1.97	2.73
HIGHEST ANNUAL MEAN			7.70
LOWEST ANNUAL MEAN			.36
HIGHEST DAILY MEAN	e255	Jun 10	Jun 10 1997
LOWEST DAILY MEAN	b.32	Feb 19	d.00 Jul 6 1978
ANNUAL SEVEN-DAY MINIMUM	.34	Feb 15	.00 Jul 6 1978
INSTANTANEOUS PEAK FLOW			f14 Apr 24 g770 Jun 10 1997
INSTANTANEOUS PEAK STAGE			3.26 Apr 24 h9.71 Jun 10 1997
ANNUAL RUNOFF (AC-FT)	4560	1430	1980
10 PERCENT EXCEEDS	18	5.2	6.1
50 PERCENT EXCEEDS	1.0	.75	.68
90 PERCENT EXCEEDS	.41	.28	.16

e-Estimated.

a-Also occurred Apr. 29-31, and May 5-6.

b-Also occurred Feb 21.

c-Also occurred Sept 29.

d-No flow many days in most years.

f-Also occurred June 30.

g-Estimated on basis of slope-area measurement of peak flow at site 1.4 mi downstream.

h-From floodmarks, at sit and datum then in use.

07105950 ROCK CREEK NEAR FORT CARSON, CO

LOCATION.--Lat 38°41'49", long 104°49'39", in SW¹/₄SW¹/₄ sec.31, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank at Fort Carson Scout Camp, 0.2 mi downstream from bridge on State Highway 115, and 2.9 mi southwest of Fort Carson.

DRAINAGE AREA.--7.79 mi².

PERIOD OF RECORD.--May 1978 to September 1998 (discontinued). Water-quality data available, May 1978 to September 1980.

REVISED RECORDS.--WDR CO-97-1: 1996.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 6,150 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Some diversions upstream from station for irrigation and other uses, amounts unknown. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	.07	.05	.38	.10	.06	3.5	8.2	e1.4	.04	.62	.14
2	.17	.05	.06	.38	.08	.05	3.1	8.1	e1.3	.04	.54	.09
3	.19	.04	.06	.38	.08	.04	2.9	8.1	e1.2	.04	.86	.07
4	.18	.03	.07	.38	.07	.04	2.9	8.3	e1.1	.05	.92	.06
5	.16	.02	.08	.38	.07	.04	3.0	8.5	.92	.05	.86	.06
6	.14	.01	.08	.36	.07	.04	3.1	8.6	.80	.06	.88	.05
7	.12	.00	.09	e.33	.09	.04	2.9	8.3	.72	.06	.91	.04
8	.10	.00	.10	.30	.09	.04	2.7	8.1	.63	.04	.91	.03
9	.08	.00	.10	.28	.09	.04	2.2	7.9	.54	.05	1.1	e.04
10	.05	.00	.11	.25	.09	.04	2.0	7.5	.49	.06	2.2	e.01
11	.04	.00	.12	.23	.12	.03	2.1	7.5	.46	.04	1.3	.00
12	.04	.00	.14	.21	.13	.03	2.2	7.5	.40	.03	.99	.00
13	.04	.00	.17	.20	.13	.03	2.3	7.4	.33	.03	.89	.00
14	.03	.00	.18	.19	.13	.03	2.3	7.0	.29	.03	.88	.00
15	.02	.00	.19	.19	.13	.03	2.5	6.7	.30	.03	.84	.00
16	.01	.00	.21	.19	.13	.03	2.3	6.2	.22	.03	.78	.00
17	.00	.00	.21	.19	.13	.03	2.3	5.6	.19	.02	.73	.00
18	.00	.00	.21	.19	.12	.04	2.2	5.1	.15	e.02	.70	.00
19	.00	.01	.19	.19	.12	.05	2.0	4.7	.11	e.02	.67	.00
20	.00	.01	.17	.19	.11	.05	2.8	4.3	.07	e.01	.64	.00
21	.00	.01	.17	.19	.10	.05	3.9	4.0	.06	.01	.56	.00
22	.00	.01	.17	.19	.10	.05	4.5	3.6	.04	.04	.47	.00
23	.01	.01	.18	.19	.10	.13	6.6	3.3	.02	.09	.34	.00
24	.04	.01	.20	.19	.09	3.0	9.3	3.1	.01	.07	.32	.00
25	.06	.01	.24	.19	.09	4.9	10	3.1	.01	.06	.36	.00
26	.08	.02	.28	.18	.08	5.2	9.6	2.8	.01	.05	.32	.00
27	.10	.02	.31	.17	.08	7.9	8.8	2.4	.01	.04	.36	.00
28	.10	.03	.34	.16	.07	7.5	8.9	2.1	e.01	.03	.27	.00
29	.09	.03	.36	.15	---	6.9	8.6	1.9	e.03	.05	e.22	.00
30	.09	.04	.36	.13	---	6.2	8.4	1.8	e.05	.11	e.19	.00
31	.08	---	.38	.11	---	4.8	---	1.5	---	1.3	.13	---
TOTAL	2.18	0.43	5.58	7.24	2.79	47.41	129.9	173.2	11.87	2.60	21.76	0.59
MEAN	.070	.014	.18	.23	.10	1.53	4.33	5.59	.40	.084	.70	.020
MAX	.19	.07	.38	.38	.13	7.9	10	8.6	1.4	1.3	2.2	.14
MIN	.00	.00	.05	.11	.07	.03	2.0	1.5	.01	.01	.13	.00
AC-FT	4.3	.9	11	14	5.5	94	258	344	24	5.2	43	1.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1998, BY WATER YEAR (WY)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
MEAN	1.01	.51	.094	.060	.041	.21	2.80	8.99	4.55	1.14	1.61	.58
MAX	18.6	9.66	1.43	.81	.67	1.53	10.0	42.8	34.5	6.57	15.4	6.75
(WY)	1985	1985	1985	1985	1985	1988	1985	1980	1997	1982	1982	1982
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1979	1979	1979	1979	1979	1979	1981	1989	1989	1978	1978	1978

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1978 - 1998

ANNUAL TOTAL	1835.80	405.55	
ANNUAL MEAN	5.03	1.11	1.84
HIGHEST ANNUAL MEAN			6.24
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	337	Jun 10	337
LOWEST DAILY MEAN	a.00	Jan 1	a.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00
INSTANTANEOUS PEAK FLOW			b10
INSTANTANEOUS PEAK STAGE			3.31
ANNUAL RUNOFF (AC-FT)	3640	804	1330
10 PERCENT EXCEEDS	13	4.1	4.1
50 PERCENT EXCEEDS	.15	.13	.00
90 PERCENT EXCEEDS	.00	.00	.00

e-Estimated.

a-No flow many days.

b-Also occurred Apr 25-26.

c-From rating curve extended above 100 ft³/s on basis of slope-area measurement of peak flow.

d-From floodmarks.

**07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--November 1987 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1987 to current year.

pH: November 1987 to current year.

WATER TEMPERATURE: November 1987 to current year.

DISSOLVED OXYGEN: November 1987 to current year.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for daily specific conductance are fair. Records for daily pH are good. Records for daily water temperature are good. Records for daily dissolved oxygen are poor. Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,660 microsiemens, Aug. 27-28, 1996; minimum, 141 microsiemens, Aug. 8, 1991.

pH: Maximum, 8.5 units, July 15, Sept. 4, 1991; minimum 6.5 units, Oct. 26, 28-29, 31, 1995.

WATER TEMPERATURE: Maximum, 31.8°C, July 9, 1990; minimum, 0.0°C, on many days during winter months.

DISSOLVED OXYGEN: Maximum, 12.6 mg/L, Dec. 20, 1987; minimum, 3.7 mg/L, July 9, 1993.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,140 microsiemens, July 22; minimum, 282 microsiemens, July 30.

pH: Maximum, 8.3 units, Feb. 18, 25, and Sept. 10; minimum, 7.4 units, Aug. 9, 30-31 and Sept. 1-2.

WATER TEMPERATURE: Maximum, 31.3°C, July 19; minimum, 0.0°C, many days.

DISSOLVED OXYGEN: Maximum, 12.5 mg/L, Nov. 18; minimum, 5.1 mg/L, June 22 and July 4.

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Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

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SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1080	965	1010	903	728	814	899	848	870	1030	970	992
2	1010	954	979	903	819	853	895	856	873	1030	967	989
3	1010	928	965	931	803	863	911	870	885	1030	970	1000
4	1030	977	1000	925	867	892	954	854	898	1030	967	997
5	1000	956	988	894	834	875	950	865	908	1040	969	993
6	1030	951	981	896	856	878	935	886	906	1030	973	991
7	1040	937	989	937	885	900	939	875	896	1100	952	1010
8	1050	939	979	916	868	891	927	871	896	1100	955	1010
9	993	939	960	890	856	871	982	901	944	1070	931	1010
10	1020	938	973	938	860	903	982	939	954	1040	965	997
11	1030	974	994	954	924	939	1000	930	966	1080	935	978
12	1000	929	979	1030	924	948	1040	943	987	999	931	955
13	1030	926	961	1100	975	1050	1010	950	975	1010	939	966
14	1030	944	989	998	905	962	1010	940	968	1000	930	959
15	1090	1000	1040	992	882	938	988	926	950	1040	910	967
16	1090	1000	1040	970	889	924	1000	926	960	1000	924	959
17	1070	1010	1030	968	905	924	1010	948	967	1000	933	960
18	1080	1010	1040	923	859	892	998	931	960	983	923	950
19	1070	989	1030	921	842	882	980	932	950	983	924	944
20	1020	970	993	952	904	925	989	935	960	979	916	941
21	1010	956	978	959	917	932	991	940	964	995	893	941
22	1030	966	990	966	904	929	985	929	958	1010	936	960
23	1060	995	1010	952	902	922	974	918	944	998	869	938
24	1040	914	992	955	903	925	967	928	943	1010	879	938
25	926	838	871	962	901	929	994	923	953	951	903	921
26	1020	806	951	943	911	926	1010	925	959	995	880	925
27	876	692	809	951	901	922	1010	906	949	988	869	925
28	916	684	771	995	893	939	987	909	942	984	890	927
29	863	728	801	946	895	923	963	918	937	978	905	933
30	913	766	827	932	880	898	992	917	950	973	903	934
31	861	722	795	---	---	---	1040	948	983	957	895	933
MONTH	1090	684	959	1100	728	912	1040	848	940	1100	869	963

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.8	7.6	7.7	7.9	7.8	7.8	7.9	7.9	7.9	7.9	7.8	7.9
2	7.8	7.7	7.7	7.9	7.8	7.9	8.0	7.9	8.0	7.9	7.8	7.9
3	7.9	7.8	7.8	7.9	7.8	7.8	8.0	8.0	8.0	7.9	7.8	7.9
4	7.9	7.8	7.9	7.9	7.8	7.9	8.1	8.0	8.0	7.9	7.8	7.9
5	7.9	7.8	7.9	7.9	7.7	7.8	8.1	8.0	8.0	7.9	7.8	7.9
6	8.0	7.9	8.0	7.8	7.7	7.8	8.1	8.0	8.0	7.9	7.8	7.9
7	8.0	7.9	8.0	7.8	7.6	7.8	8.0	8.0	8.0	8.0	7.9	8.0
8	8.0	7.9	8.0	7.8	7.7	7.7	8.0	7.9	8.0	8.0	7.9	7.9
9	8.0	7.9	8.0	7.8	7.7	7.8	8.1	8.0	8.0	8.0	7.9	8.0
10	8.0	7.9	8.0	8.1	7.8	7.9	8.2	8.1	8.1	8.0	8.0	8.0
11	8.1	7.9	8.0	7.9	7.9	7.9	8.2	8.2	8.2	8.0	7.9	8.0
12	8.0	7.9	7.9	8.0	7.8	7.9	8.2	8.1	8.2	8.1	8.0	8.0
13	7.9	7.9	7.9	7.9	7.8	7.9	8.2	8.1	8.1	8.1	8.0	8.0
14	7.9	7.9	7.9	8.0	7.8	8.0	8.1	7.9	8.0	8.1	8.0	8.0
15	7.9	7.9	7.9	8.0	7.9	8.0	8.0	7.9	7.9	8.1	8.0	8.1
16	8.0	7.9	7.9	8.0	7.9	8.0	8.0	8.0	8.0	8.1	8.0	8.0
17	8.0	7.9	8.0	8.0	7.9	7.9	8.0	8.0	8.0	8.1	8.0	8.0
18	8.0	8.0	8.0	8.0	7.9	7.9	8.0	7.9	7.9	8.0	8.0	8.0
19	8.0	7.9	7.9	8.0	7.7	7.9	8.0	7.9	7.9	8.1	7.9	8.0
20	8.0	7.9	7.9	7.9	7.9	7.9	8.0	7.9	8.0	8.1	8.0	8.0
21	8.0	7.9	7.9	7.9	7.9	7.9	8.0	7.8	7.9	8.1	8.1	8.1
22	7.9	7.9	7.9	8.0	7.9	7.9	7.9	7.8	7.8	8.1	8.1	8.1
23	8.0	7.9	7.9	8.0	7.9	8.0	7.9	7.8	7.8	8.2	8.0	8.1
24	8.1	7.9	7.9	8.0	7.9	7.9	8.0	7.8	7.9	8.2	8.0	8.1
25	8.1	8.0	8.1	8.0	7.9	7.9	8.0	7.9	7.9	8.1	8.0	8.0
26	8.1	7.9	8.0	8.0	7.9	8.0	8.0	7.9	8.0	8.1	8.0	8.0
27	8.0	7.8	7.9	8.0	7.9	8.0	8.0	7.9	8.0	8.1	8.0	8.0
28	7.8	7.7	7.8	8.0	7.9	8.0	8.0	7.9	8.0	8.1	7.9	8.0
29	7.9	7.7	7.8	7.9	7.9	7.9	8.0	7.9	7.9	8.1	8.0	8.0
30	7.9	7.8	7.8	8.0	7.9	7.9	7.9	7.9	7.9	8.1	8.0	8.0
31	7.9	7.8	7.8	---	---	---	8.0	7.8	7.9	8.0	7.9	8.0
MONTH	8.1	7.6	7.9	8.1	7.6	7.9	8.2	7.8	8.0	8.2	7.8	8.0
	FEBRUARY			MARCH			APRIL			MAY		
1	8.0	7.8	7.9	8.0	7.9	8.0	8.0	7.9	7.9	7.8	7.8	7.8
2	8.0	7.8	7.9	8.1	7.9	8.0	8.0	7.9	8.0	7.9	7.7	7.8
3	8.0	8.0	8.0	8.0	7.9	8.0	8.0	7.9	7.9	7.9	7.7	7.8
4	8.0	7.9	8.0	8.0	7.8	7.9	8.0	7.9	8.0	7.9	7.7	7.8
5	8.1	7.9	8.0	8.0	7.8	7.9	8.0	7.9	7.9	7.9	7.8	7.8
6	8.1	8.0	8.0	8.0	7.9	7.9	8.1	7.9	8.0	7.9	7.8	7.9
7	8.0	7.9	8.0	8.0	7.9	7.9	8.0	7.9	8.0	7.9	7.8	7.9
8	8.0	7.9	8.0	7.9	7.7	7.9	8.1	8.0	8.0	7.9	7.7	7.8
9	8.0	7.9	7.9	7.9	7.8	7.9	8.1	8.0	8.0	7.9	7.7	7.8
10	---	---	---	8.0	7.8	7.9	8.1	8.0	8.0	7.9	7.8	7.9
11	---	---	---	8.0	7.9	7.9	8.2	8.0	8.1	7.9	7.8	7.9
12	---	---	---	8.0	7.9	8.0	8.2	7.9	8.1	8.0	7.9	7.9
13	---	---	---	8.0	7.9	8.0	8.2	8.0	8.1	7.9	7.9	7.9
14	---	---	---	8.1	7.9	8.0	8.2	8.0	8.1	7.9	7.8	7.9
15	---	---	---	8.0	7.9	7.9	8.1	7.8	8.0	8.0	7.8	7.9
16	---	---	---	7.9	7.8	7.8	8.0	7.8	7.9	8.0	7.8	7.9
17	8.1	7.9	8.1	8.0	7.8	7.9	8.1	7.9	8.0	8.0	7.8	7.9
18	8.3	7.9	8.1	7.9	7.7	7.8	8.0	7.9	8.0	8.1	7.8	7.9
19	8.1	7.8	7.9	7.9	7.8	7.9	8.1	8.0	8.0	8.0	7.8	7.9
20	8.0	7.7	7.9	7.8	7.7	7.8	8.0	8.0	8.0	8.1	7.9	8.0
21	8.0	7.8	7.9	7.8	7.7	7.8	8.1	8.0	8.1	8.1	7.9	8.0
22	8.0	7.9	7.9	7.9	7.8	7.9	8.1	7.9	8.0	8.1	7.9	8.0
23	8.0	7.9	7.9	7.9	7.8	7.9	8.2	8.0	8.1	8.2	7.9	8.0
24	8.0	7.9	7.9	8.0	7.9	7.9	8.2	8.0	8.1	8.2	7.6	7.9
25	8.3	7.9	8.0	8.0	7.9	7.9	8.1	8.0	8.0	7.9	7.6	7.8
26	8.1	7.9	7.9	8.0	7.9	7.9	8.0	7.9	7.9	8.0	7.8	7.9
27	8.1	7.9	8.0	7.9	7.7	7.8	8.0	7.9	7.9	8.0	7.8	8.0
28	8.1	7.9	8.0	7.9	7.9	7.9	8.0	7.9	7.9	8.0	7.9	7.9
29	---	---	---	8.0	7.9	7.9	7.9	7.8	7.9	8.0	7.9	7.9
30	---	---	---	8.0	7.9	7.9	7.8	7.8	7.8	8.0	7.8	7.9
31	---	---	---	8.0	7.9	7.9	---	---	---	8.0	7.8	7.9
MONTH	---	---	---	8.1	7.7	7.9	8.2	7.8	8.0	8.2	7.6	7.9

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.0	7.8	7.9	7.9	7.8	7.9	---	---	---	8.1	7.4	7.9
2	8.1	7.9	8.0	---	---	---	---	---	---	8.1	7.4	7.8
3	8.1	7.9	8.0	8.0	7.6	7.9	---	---	---	8.2	7.9	8.0
4	8.2	7.8	8.0	7.9	7.5	7.8	---	---	---	---	---	---
5	7.9	7.7	7.8	8.1	7.8	8.0	---	---	---	---	---	---
6	7.8	7.6	7.7	7.9	7.8	7.9	---	---	---	---	---	---
7	7.8	7.6	7.7	8.1	7.8	7.9	7.8	7.6	7.7	---	---	---
8	8.1	7.7	7.9	8.1	7.7	7.9	7.9	7.6	7.8	---	---	---
9	8.1	7.9	8.0	8.0	7.6	7.8	8.0	7.4	7.8	8.1	8.0	8.0
10	8.1	7.9	8.0	7.8	7.6	7.7	8.0	7.7	7.8	8.3	8.0	8.1
11	---	---	---	7.9	7.7	7.8	8.0	7.8	7.9	8.2	8.0	8.1
12	8.0	7.7	7.9	7.9	7.8	7.9	7.8	7.8	7.8	8.2	8.0	8.1
13	7.8	7.7	7.8	7.9	7.7	7.8	---	---	---	8.1	7.9	8.0
14	7.8	7.7	7.7	7.9	7.7	7.8	---	---	---	8.2	8.0	8.1
15	7.7	7.5	7.6	7.8	7.7	7.8	---	---	---	8.2	8.0	8.1
16	7.8	7.7	7.7	7.8	7.6	7.7	---	---	---	8.2	8.0	8.1
17	7.8	7.7	7.7	---	---	---	8.0	7.8	7.9	8.2	8.1	8.1
18	7.9	7.7	7.8	---	---	---	---	---	---	8.2	8.1	8.1
19	7.9	7.8	7.8	---	---	---	8.0	7.9	7.9	8.2	8.1	8.1
20	7.9	7.8	7.8	8.0	7.8	7.9	8.1	8.0	8.0	8.2	8.1	8.1
21	7.9	7.6	7.8	8.0	7.8	7.9	8.0	8.0	8.0	8.2	8.0	8.1
22	7.8	7.5	7.7	8.0	7.6	7.9	8.0	8.0	8.0	8.2	8.0	8.1
23	7.9	7.8	7.9	7.9	7.6	7.7	8.1	8.0	8.0	8.2	8.1	8.1
24	7.9	7.7	7.8	8.0	7.9	7.9	8.1	8.0	8.1	8.2	8.1	8.1
25	7.9	7.8	7.8	8.0	7.8	7.9	8.1	7.8	8.0	8.2	8.0	8.1
26	7.9	7.8	7.9	8.0	7.8	7.9	8.1	7.7	7.9	8.2	8.1	8.1
27	7.9	7.8	7.8	8.0	7.8	7.9	8.1	7.9	8.1	8.1	8.1	8.1
28	7.9	7.7	7.8	7.9	7.8	7.9	8.0	7.5	7.8	8.2	8.1	8.1
29	7.9	7.7	7.8	7.9	7.6	7.7	7.8	7.5	7.6	8.2	8.1	8.1
30	7.8	7.6	7.7	7.9	7.6	7.8	7.7	7.4	7.5	8.2	8.1	8.1
31	---	---	---	---	---	---	7.6	7.4	7.4	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	22.8	13.2	17.3	11.1	5.5	7.9	7.0	3.8	4.9	8.2	1.9	4.7
2	21.5	12.8	16.9	10.8	4.0	6.8	5.3	3.3	4.3	8.1	3.3	5.3
3	20.8	14.0	16.4	11.0	3.6	7.0	5.9	2.0	3.5	6.7	4.0	5.0
4	20.6	12.1	16.0	12.5	5.4	8.2	6.0	.7	2.9	7.4	3.4	4.7
5	20.6	11.3	15.5	11.8	5.0	7.8	5.2	.3	2.5	7.4	1.5	4.1
6	19.8	11.4	15.1	12.3	4.6	7.9	5.2	.8	2.7	5.2	1.3	3.1
7	18.7	11.3	14.8	12.7	4.8	7.9	6.6	2.0	3.9	5.5	.0	1.9
8	17.1	10.5	13.6	11.8	6.5	8.5	7.9	2.3	4.7	5.7	.0	2.1
9	16.9	8.9	12.5	7.2	4.4	5.9	5.5	3.1	4.2	4.4	.0	1.6
10	18.2	9.6	13.3	4.4	2.8	3.4	3.1	.6	2.0	1.7	.0	.7
11	18.6	12.8	14.9	4.6	2.7	3.7	3.0	.0	.8	7.0	.0	2.7
12	12.8	9.2	11.0	5.4	2.2	3.7	4.5	.0	1.5	5.5	1.0	3.1
13	15.5	6.6	10.4	8.4	2.4	5.0	6.3	.0	2.8	5.5	1.9	3.1
14	15.9	7.3	11.0	---	---	---	7.3	1.2	3.8	7.2	1.7	3.7
15	16.7	8.1	11.8	---	---	---	7.1	1.7	4.0	6.4	.0	2.8
16	16.6	7.9	11.7	---	---	---	6.7	1.6	3.8	6.7	1.8	3.6
17	17.3	8.1	12.1	---	---	---	7.4	1.9	4.2	7.4	.9	3.6
18	17.5	8.7	12.5	---	---	---	7.2	2.3	4.4	8.1	2.0	4.5
19	15.6	8.7	11.7	---	---	---	6.1	2.3	4.1	6.8	1.4	3.8
20	12.4	9.7	10.9	8.8	3.8	6.0	6.4	2.8	3.9	6.6	1.7	3.8
21	13.2	9.4	10.8	7.3	4.1	5.5	5.8	2.8	3.7	5.3	.0	2.2
22	15.8	7.1	10.8	8.2	2.2	4.7	5.7	2.8	3.8	5.6	.0	2.1
23	15.2	7.7	11.0	6.4	2.1	3.7	5.0	3.0	3.8	6.3	.0	2.5
24	10.8	.6	7.4	9.0	2.3	5.3	3.8	1.0	1.9	4.8	.3	2.4
25	.6	.0	.0	10.7	3.7	6.6	4.5	.0	1.6	6.2	2.1	3.8
26	9.0	.1	3.8	6.6	3.8	5.2	4.0	.0	1.6	7.6	.1	3.4
27	10.4	1.8	5.6	8.2	2.9	5.4	5.3	.0	1.6	8.4	.9	4.3
28	10.8	3.6	6.8	5.7	2.7	4.4	3.9	.0	1.3	7.8	1.2	4.3
29	10.6	4.6	7.1	8.4	4.0	5.6	6.0	.0	2.6	8.7	1.2	4.4
30	12.1	5.8	8.7	7.3	2.6	4.6	6.1	1.2	3.4	8.1	1.5	4.5
31	12.3	6.3	9.0	---	---	---	7.3	.9	3.7	6.5	3.2	4.8
MONTH	22.8	.0	11.3	---	---	---	7.9	.0	3.2	8.7	.0	3.4

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.4	1.4	4.7	9.4	.0	3.8	13.8	4.5	8.9	15.1	8.7	11.8
2	7.5	2.1	4.3	9.6	.0	4.3	8.6	4.0	6.1	16.2	9.0	12.7
3	6.5	1.9	3.8	11.3	.7	5.6	13.6	3.4	8.1	17.8	9.4	13.3
4	5.4	3.5	4.2	11.3	2.1	6.0	15.1	5.4	10.0	18.9	9.7	14.0
5	4.6	3.3	3.7	10.8	3.2	6.2	15.0	6.1	10.3	18.2	10.4	13.8
6	7.2	3.2	4.5	10.6	2.7	5.6	10.8	7.2	8.9	15.4	9.8	12.3
7	7.0	4.1	5.1	4.7	.0	2.4	11.6	4.7	8.0	17.1	8.3	12.4
8	9.1	2.1	5.3	9.2	.0	3.3	10.6	6.0	8.0	17.0	8.9	12.2
9	8.5	3.7	5.7	7.8	.2	3.5	13.2	5.1	9.0	17.7	7.8	12.1
10	8.7	2.7	5.2	10.0	.0	4.4	15.5	5.6	10.3	19.3	10.5	14.2
11	8.4	1.0	4.2	7.8	.8	3.7	17.0	6.4	11.3	19.0	10.1	14.4
12	8.9	.9	4.4	12.5	.0	5.6	16.1	7.1	11.5	19.2	11.0	14.7
13	---	---	---	14.1	2.3	7.7	16.3	6.9	11.2	19.4	10.3	14.5
14	---	---	---	13.2	3.7	7.8	14.2	6.8	9.9	18.5	10.5	13.9
15	---	---	---	15.2	3.8	8.8	9.0	3.6	5.9	19.6	10.0	14.5
16	---	---	---	9.2	7.3	8.3	9.6	3.2	6.0	19.7	9.9	14.6
17	---	---	---	14.3	6.5	9.1	12.6	3.2	7.6	20.4	10.1	15.1
18	7.1	4.9	5.7	8.2	.0	2.9	11.9	5.8	8.0	20.5	11.4	15.9
19	9.5	3.3	6.0	11.4	.0	4.4	13.9	4.5	8.8	20.3	11.7	15.8
20	9.4	1.6	5.0	11.9	1.5	6.1	13.7	7.2	9.8	21.8	11.6	16.3
21	10.6	1.5	5.7	13.3	2.2	7.5	14.8	6.5	10.5	21.2	12.9	16.4
22	11.7	3.5	7.0	15.6	4.2	9.6	17.2	6.9	11.9	21.7	12.0	16.0
23	12.2	3.3	7.4	15.9	6.7	10.9	18.5	7.9	12.9	20.7	11.0	15.3
24	12.0	4.3	7.9	16.3	6.9	11.3	18.1	9.3	13.3	21.1	10.0	14.5
25	9.9	4.0	6.4	16.0	7.9	11.6	15.1	9.9	12.0	20.4	9.7	14.6
26	9.5	1.5	4.6	16.1	7.6	11.2	10.4	7.4	8.8	22.9	12.4	16.8
27	8.1	1.6	4.2	14.4	4.4	10.7	13.9	6.6	9.9	22.7	11.8	16.9
28	9.0	.0	3.7	15.0	7.4	10.8	14.6	7.8	10.8	23.5	12.3	17.6
29	---	---	---	14.0	6.8	9.8	15.9	6.4	11.0	22.8	13.2	17.7
30	---	---	---	8.2	5.1	6.4	15.6	7.7	11.7	22.3	13.7	17.6
31	---	---	---	12.7	3.3	7.7	---	---	---	22.4	12.9	17.4
MONTH	---	---	---	16.3	.0	7.0	18.5	3.2	9.7	23.5	7.8	14.8
	JUNE			JULY			AUGUST			SEPTEMBER		
1	24.4	12.7	18.4	28.6	14.8	21.3	---	---	---	---	---	---
2	24.4	13.2	18.7	28.9	17.5	21.7	---	---	---	---	---	---
3	22.6	14.5	17.6	29.7	14.4	20.7	---	---	---	---	---	---
4	22.3	12.4	15.7	27.3	15.9	20.4	---	---	---	---	---	---
5	---	---	---	28.5	17.4	22.3	23.9	15.7	19.4	---	---	---
6	---	---	---	25.1	17.5	20.9	25.2	16.0	20.6	---	---	---
7	---	---	---	23.1	18.6	20.3	26.5	16.4	21.2	---	---	---
8	22.5	12.4	16.6	26.9	17.8	21.1	27.9	16.9	21.4	---	---	---
9	23.0	12.9	17.0	26.8	17.8	21.0	24.6	14.7	19.5	---	---	---
10	---	---	---	27.3	17.3	21.0	22.9	15.8	19.5	25.0	14.4	19.4
11	---	---	---	28.3	16.5	21.6	24.4	16.1	19.5	25.3	15.2	19.7
12	24.5	12.3	17.9	28.7	17.4	22.6	25.9	16.0	19.8	25.0	15.5	19.7
13	22.1	13.4	17.5	28.8	17.6	22.8	26.0	16.5	20.1	23.9	16.0	19.4
14	21.3	12.0	15.8	26.9	17.2	21.6	---	---	---	24.7	15.0	18.9
15	22.2	12.3	16.9	28.8	16.6	21.2	21.7	16.2	19.2	24.8	14.9	19.0
16	22.6	12.6	17.5	28.6	16.7	21.9	22.8	17.1	19.8	24.3	14.2	18.8
17	21.4	13.0	16.8	27.8	16.7	22.0	26.3	17.9	21.5	24.5	14.2	18.9
18	24.7	11.6	17.5	30.5	16.3	23.2	26.2	17.1	20.9	24.3	14.2	18.6
19	24.4	13.0	18.5	31.3	15.1	22.9	23.8	18.1	20.4	23.6	14.1	18.3
20	25.2	13.6	18.7	30.3	17.0	22.5	26.2	16.1	20.8	23.2	15.6	18.5
21	25.3	15.3	19.2	29.4	16.8	21.9	25.9	17.2	21.1	22.9	15.9	18.3
22	24.6	14.0	18.7	27.1	17.6	20.6	27.3	17.3	21.8	21.7	13.9	17.0
23	24.9	14.2	18.9	23.0	17.7	19.8	27.4	16.8	21.7	22.7	14.3	17.6
24	22.3	13.3	17.8	27.1	17.3	20.8	25.2	17.2	20.3	23.0	14.6	18.1
25	25.8	13.8	19.3	26.5	16.9	20.5	25.3	16.7	20.3	22.0	13.6	17.2
26	26.1	13.7	19.6	23.0	17.8	20.2	25.4	17.3	20.9	21.7	12.5	16.6
27	26.8	15.3	20.6	28.0	17.3	21.9	25.3	17.3	20.6	22.5	12.3	16.7
28	28.5	17.2	21.6	25.5	17.8	21.1	23.2	17.7	20.0	22.7	12.7	17.3
29	28.6	17.2	22.2	26.0	18.1	20.9	---	---	---	22.9	13.9	17.6
30	24.5	16.8	20.8	25.4	16.4	19.8	---	---	---	22.0	13.9	17.2
31	---	---	---	21.4	16.3	19.1	---	---	---	---	---	---
MONTH	---	---	---	31.3	14.4	21.3	---	---	---	---	---	---

07106000 FOUNTAIN CREEK NEAR FOUNTAIN, CO--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.2	6.8	7.5	11.1	9.2	10.2	9.4	8.3	9.0	11.1	8.4	9.8
2	---	---	---	11.7	9.2	10.5	9.3	8.7	9.0	10.3	8.4	9.5
3	---	---	---	11.6	8.7	10.2	9.7	8.4	9.2	9.9	9.0	9.5
4	8.7	7.2	7.9	10.6	8.3	9.6	10.1	8.7	9.4	10.2	8.5	9.5
5	8.7	6.8	7.9	10.6	7.9	9.5	10.1	8.3	9.3	11.2	8.5	9.8
6	8.9	7.1	8.0	10.6	7.7	9.2	10.5	8.7	9.6	11.1	9.2	10.2
7	8.8	6.8	7.9	---	---	---	10.0	8.2	9.2	---	---	---
8	8.8	6.8	7.9	---	---	---	10.0	8.1	9.1	---	---	---
9	9.3	7.8	8.5	9.8	8.8	9.4	10.6	9.2	9.8	---	---	---
10	9.3	7.5	8.3	10.9	9.8	10.5	12.2	10.6	11.4	---	---	---
11	8.2	6.9	7.5	11.1	10.1	10.6	---	---	---	---	---	---
12	8.7	7.6	8.2	11.3	9.4	10.6	---	---	---	11.0	9.1	10.0
13	9.6	7.1	8.4	11.3	9.0	10.3	12.2	9.2	10.8	10.7	9.2	10.1
14	9.6	7.6	8.5	12.3	9.9	11.4	11.7	8.8	10.4	10.8	8.7	10.0
15	9.3	7.1	8.3	---	---	---	11.1	8.7	10.1	---	---	---
16	9.4	6.5	8.3	---	---	---	11.4	9.1	10.3	11.0	9.0	10.1
17	9.5	7.5	8.4	---	---	---	11.1	8.8	10.1	11.5	8.6	10.1
18	9.1	7.0	8.1	12.5	9.9	11.3	11.0	8.9	10.0	10.8	8.5	9.7
19	9.1	7.6	8.3	---	---	---	11.1	9.5	10.3	11.1	8.7	9.9
20	9.0	8.2	8.5	11.7	10.0	10.9	10.9	9.4	10.4	10.8	8.8	9.8
21	8.7	7.7	8.3	11.3	10.3	10.8	10.7	9.5	10.2	---	---	---
22	9.6	7.3	8.5	12.2	9.9	11.1	10.7	9.6	10.3	---	---	---
23	9.0	7.2	8.0	11.9	10.2	11.2	10.7	10.0	10.3	---	---	---
24	11.3	7.6	8.8	11.6	9.2	10.4	---	---	---	---	---	---
25	---	---	---	10.8	8.5	9.8	---	---	---	10.5	8.8	9.8
26	11.3	8.1	9.9	10.3	9.3	9.9	---	---	---	---	---	---
27	10.8	7.3	9.1	10.4	8.4	9.4	---	---	---	11.3	8.0	9.6
28	9.7	7.0	8.4	10.3	9.1	9.7	---	---	---	11.1	8.3	9.6
29	9.1	6.9	8.1	9.6	8.2	9.0	---	---	---	11.1	8.0	9.6
30	8.4	6.5	7.5	10.1	8.3	9.3	11.6	9.5	10.6	10.8	8.2	9.4
31	9.9	7.3	8.4	---	---	---	12.0	8.8	10.5	9.9	8.3	9.0
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	10.6	7.6	9.0	---	---	---	9.4	6.9	8.1	9.3	8.0	8.5
2	10.2	8.0	9.2	---	---	---	9.7	8.0	8.8	9.1	7.5	8.3
3	10.5	8.8	9.7	10.7	7.7	9.1	10.0	7.1	8.5	9.0	7.3	8.1
4	9.6	8.9	9.3	9.9	7.6	8.7	9.2	6.9	8.0	8.7	7.0	7.9
5	9.9	9.1	9.6	9.6	7.8	8.6	9.0	7.0	7.9	8.7	7.2	8.0
6	10.2	8.7	9.6	9.7	7.9	8.8	8.8	7.9	8.3	8.8	7.8	8.2
7	9.7	8.6	9.2	---	---	---	9.9	7.8	8.8	9.2	7.3	8.2
8	10.6	8.0	9.2	---	---	---	9.7	8.3	9.0	9.0	7.3	8.2
9	9.5	8.1	8.8	10.9	8.5	9.6	10.2	8.0	8.9	9.1	7.1	8.2
10	10.5	8.4	9.4	---	---	---	10.3	7.4	8.7	8.5	6.9	7.7
11	11.5	8.7	9.9	11.0	8.9	9.7	9.9	7.2	8.4	8.5	6.8	7.6
12	11.5	8.3	9.9	---	---	---	9.4	7.5	8.3	8.4	6.8	7.6
13	---	---	---	10.3	7.6	8.9	9.8	7.3	8.4	8.4	7.1	7.7
14	---	---	---	10.0	8.1	9.0	9.4	7.6	8.5	8.7	7.2	8.0
15	---	---	---	10.0	7.7	8.8	10.4	8.8	9.7	8.9	7.0	8.0
16	---	---	---	9.1	8.5	8.8	11.1	8.5	9.9	9.1	7.1	8.1
17	---	---	---	---	---	---	11.0	7.7	9.2	9.0	6.9	7.9
18	---	---	---	---	---	---	9.5	7.9	8.8	8.7	7.0	7.8
19	9.3	8.0	8.6	10.9	8.0	9.5	10.1	7.4	8.7	8.9	7.2	8.0
20	10.2	8.3	9.2	10.2	7.4	8.9	9.1	7.7	8.4	9.0	7.3	8.1
21	10.3	7.9	9.0	10.0	7.2	8.5	9.4	7.3	8.3	8.9	7.4	8.1
22	9.5	7.7	8.6	9.3	7.1	8.1	9.1	6.9	7.9	9.2	7.2	8.2
23	9.6	7.7	8.5	8.6	6.9	7.8	9.0	6.8	7.8	9.5	7.7	8.6
24	9.3	7.8	8.5	8.6	6.6	7.7	8.5	6.6	7.5	---	---	---
25	9.3	8.1	8.7	8.5	7.0	7.7	8.3	7.3	7.7	9.1	6.5	7.8
26	10.3	8.3	9.3	8.5	7.0	7.8	9.1	8.0	8.5	---	---	---
27	10.5	8.7	9.5	9.3	6.9	7.6	9.2	7.2	8.3	8.7	6.1	7.4
28	---	---	---	8.5	7.1	7.8	9.6	8.1	8.7	8.2	6.3	7.2
29	---	---	---	8.6	7.4	8.1	10.5	7.8	9.1	7.9	6.2	7.1
30	---	---	---	9.1	8.5	8.7	9.8	7.9	8.7	7.7	6.3	6.9
31	---	---	---	9.5	6.9	8.3	---	---	---	7.8	6.1	6.9
MONTH	---	---	---	---	---	---	11.1	6.6	8.5	---	---	---

07106300 FOUNTAIN CREEK NEAR PINON, CO

LOCATION.--Lat 38°26'23", long 104°35'35", in NW¹/4SE¹/4 sec.31, T.18 S., R.64 W., Pueblo County, Hydrologic Unit 11020003, on right bank (revised), 0.5 mi below Pinon Road bridge, 0.9 mi northeast of Pinon, and 2.7 mi upstream from Steele Hollow Creek.

DRAINAGE AREA.--849 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1973 to current year. Low-flow records may not be equivalent prior to October 1995, as a result of varying underflow (diversion system) entering between the sites.

REVISED RECORDS.--WDR CO-80-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry, and crest-stage gage. Elevation of gage is 4,990 ft above sea level, from topographic map. Apr. 1973 to Apr. 22, 1976, non-recording gage, and Apr. 23, 1976 to Sept. 30, 1995, water-stage recorder, at site 0.5 mi upstream at different datum.

REMARKS.--Records fair except for estimated daily discharges and those above 3,000 ft³/s, which are poor. Natural flow of stream affected by storage reservoirs, power developments, transbasin and transmountain diversions for municipal use, diversions upstream from station for municipal use and for irrigation of about 10,000 acres, and return flow from irrigated areas.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	348	242	161	177	175	293	352	117	90	278	307
2	140	257	223	162	171	172	279	352	104	77	275	206
3	159	244	212	172	154	175	297	378	92	75	e260	153
4	154	209	200	169	159	173	279	409	99	300	251	129
5	152	228	202	164	160	170	268	371	250	64	266	e130
6	149	222	205	166	161	167	270	388	258	90	247	e140
7	143	227	215	153	159	167	274	407	172	158	235	e150
8	141	224	223	161	161	163	307	392	157	81	226	e140
9	151	227	200	162	166	168	296	543	150	100	257	e120
10	142	221	187	154	160	167	271	385	137	299	570	e100
11	142	213	174	160	155	163	256	383	124	186	231	e95
12	163	222	e170	169	158	158	262	346	123	79	537	e100
13	165	224	179	164	178	158	255	316	146	62	214	e145
14	114	225	176	166	178	153	248	305	158	55	180	e130
15	107	217	175	162	183	154	339	302	243	56	540	e100
16	110	e215	172	166	194	155	593	279	180	106	245	e90
17	112	220	171	169	212	159	332	270	130	51	307	e88
18	116	233	168	172	202	262	300	256	114	32	235	e85
19	124	250	169	170	232	229	317	246	113	25	275	e80
20	139	232	166	169	194	390	303	225	104	22	188	e78
21	128	228	170	160	183	338	294	238	113	22	196	e84
22	128	221	166	155	192	302	276	220	346	24	198	e83
23	115	224	173	165	190	315	280	199	130	430	173	e75
24	110	225	169	168	178	256	300	230	99	142	156	77
25	207	225	157	164	179	259	322	337	102	252	166	77
26	170	222	157	161	176	257	461	164	90	191	457	66
27	296	219	166	172	173	433	422	162	74	163	210	64
28	423	249	173	159	171	324	363	160	67	120	373	65
29	387	260	165	156	---	310	361	149	51	553	286	60
30	338	238	167	166	---	298	346	136	180	738	232	67
31	364	---	159	161	---	330	---	133	---	1390	180	---
TOTAL	5438	6969	5651	5078	4956	7100	9464	9033	4223	6033	8444	3284
MEAN	175	232	182	164	177	229	315	291	141	195	272	109
MAX	423	348	242	172	232	433	593	543	346	1390	570	307
MIN	107	209	157	153	154	153	248	133	51	22	156	60
AC-FT	10790	13820	11210	10070	9830	14080	18770	17920	8380	11970	16750	6510

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1998, BY WATER YEAR (WY)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	76.8	94.6	86.9	95.6	102	110	118	252	187	102	135	70.0														
MAX	457	289	182	174	177	229	315	1349	1083	365	385	205														
(WY)	1985	1985	1998	1996	1998	1998	1998	1980	1997	1985	1982	1982														
MIN	.81	5.77	30.0	19.0	35.3	20.0	3.36	.96	8.39	4.34	3.87	.000														
(WY)	1976	1979	1977	1979	1978	1978	1975	1975	1978	1976	1974	1975														

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1973 - 1998
ANNUAL TOTAL	99816	75673	
ANNUAL MEAN	273	207	118
HIGHEST ANNUAL MEAN			283
LOWEST ANNUAL MEAN			29.4
HIGHEST DAILY MEAN	e5600	1390	e5600
LOWEST DAILY MEAN	42	a22	b.00
ANNUAL SEVEN-DAY MINIMUM	55	40	.00
INSTANTANEOUS PEAK FLOW		3340	c10200
INSTANTANEOUS PEAK STAGE		5.79	d7.05
ANNUAL RUNOFF (AC-FT)	198000	150100	85630
10 PERCENT EXCEEDS	396	338	233
50 PERCENT EXCEEDS	169	173	80
90 PERCENT EXCEEDS	104	94	3.2

e-Estimated.
a-Also occurred Jul 21.
b-No flow at times during most years prior to 1985.
c-From rating curve extended above 7300 ft³/s.
d-Site and datum then in use. Maximum gage height, 7.46 ft, Jun 10, 1997, present site and datum.

**07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--July 1976 to December 1983, December 1990 to current year.

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
OCT 1997					MAY 1998				
15...	1305	107	1100	16.0	04...	1120	421	640	16.0
NOV					07...	1525	385	640	20.0
17...	1510	205	998	6.5	JUN				
DEC					04...	1340	105	960	22.5
01...	1435	241	946	6.5	JUL				
JAN 1998					02...	1105	122	980	24.5
12...	1505	172	1020	4.0	22...	1405	23	1140	28.5
FEB					31...	1530	802	580	21.5
02...	1435	167	1010	6.5	AUG				
24...	1105	180	1020	8.0	06...	1420	259	830	24.0
MAR					20...	1430	193	850	28.0
10...	1450	173	1010	9.0	SEP				
18...	1300	288	975	2.5	02...	1055	216	857	20.0
APR					15...	1500	87	1030	26.5
07...	1425	271	818	14.0	24...	1100	81	1030	20.0
16...	1045	598	638	4.5					
23...	1455	291	824	20.5					

**07106500 FOUNTAIN CREEK AT PUEBLO, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--February 1981 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1985 to current year.

WATER TEMPERATURE: December 1985 to current year.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for daily water temperature and specific conductance are fair. Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 3,460 microsiemens, July 7, 1989; minimum, 162 microsiemens, June 7, 1997.

WATER TEMPERATURE: Maximum, 33.1°C, July 17, 1991; minimum, 0.0°C, many days during the winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 2,180 microsiemens, June 30; minimum, 470 microsiemens, July 31.

WATER TEMPERATURE: Maximum, 32.3°C, July 20; minimum, 0.0°C, many days during winter.

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Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

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SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1280	1220	1250	1070	976	1010	1110	1080	1090	1120	1090	1100
2	1290	1240	1260	1080	1020	1050	1080	1050	1060	1130	1090	1110
3	1300	1180	1220	1100	1050	1080	1070	1040	1050	1130	1080	1110
4	1200	1160	1180	1130	1080	1100	1060	1030	1050	1150	1090	1120
5	1180	1140	1150	1120	1090	1110	1050	1020	1040	1150	1080	1120
6	1160	1120	1140	1120	1080	1100	1050	1040	1050	1150	1120	1120
7	1170	1130	1150	1130	1090	1100	1050	1020	1040	1130	1090	1110
8	1190	1160	1180	1110	1090	1100	1070	1020	1040	1160	1090	1120
9	1190	1160	1170	1110	1070	1090	1080	1020	1050	1150	1090	1110
10	1190	1150	1170	1100	1070	1080	1090	1080	1080	1130	1090	1110
11	1220	1140	1200	1090	1070	1080	1100	1050	1080	1170	1110	1130
12	1290	1190	1210	1130	1080	1100	1150	1070	1110	1120	1090	1110
13	1200	1140	1170	1170	1100	1130	1130	1080	1110	1110	1080	1090
14	1200	1160	1190	1170	1100	1130	1120	1090	1100	1100	1060	1100
15	1230	1190	1210	1140	1060	1100	1100	1070	1090	1120	1070	1100
16	1240	1220	1220	1130	1070	1090	1110	1090	1100	1130	1100	1110
17	1250	1230	1240	1090	1050	1080	1120	1090	1100	1120	1080	1100
18	1260	1230	1240	1100	1070	1080	1120	1080	1090	1120	1080	1100
19	1260	1230	1240	1080	1030	1060	1090	1050	1080	1110	1070	1090
20	1250	1200	1220	1150	1050	1070	1100	1070	1090	1110	1090	1100
21	1270	1190	1220	1150	1070	1090	1100	1050	1070	1110	1070	1090
22	1200	1170	1190	1100	1080	1090	1110	1050	1080	1120	1080	1100
23	1220	1180	1200	1100	1060	1080	1110	1050	1080	1120	1090	1100
24	1300	1140	1230	1090	1070	1080	1100	1070	1080	1110	1080	1100
25	1140	974	1060	1100	1060	1080	1100	975	1050	1130	1100	1110
26	1160	1020	1100	1100	1070	1090	1110	985	1070	1100	1070	1090
27	1160	1000	1060	1140	1070	1080	1140	1060	1100	1110	1100	1100
28	1050	910	961	1310	1070	1130	1110	1040	1070	1110	1090	1100
29	1010	932	973	1200	1130	1170	1130	1050	1090	1120	1080	1100
30	1050	999	1020	1160	1090	1110	1090	1060	1070	1120	1090	1110
31	1070	1010	1030	---	---	---	1100	1070	1080	1130	1110	1120
MONTH	1300	910	1160	1310	976	1090	1150	975	1080	1170	1060	1110

07106500 FOUNTAIN CREEK AT PUEBLO, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1120	1090	1110	1060	994	1030	922	886	906	---	---	---
2	1130	1090	1110	1090	945	1040	1020	881	919	772	724	758
3	1120	1100	1110	1070	1020	1060	943	898	928	762	726	742
4	1130	1110	1120	1070	1040	1060	937	911	927	742	709	724
5	1120	1100	1110	1080	1040	1070	941	899	923	756	711	733
6	1120	1090	1100	1100	1060	1080	927	886	901	760	710	723
7	1100	1080	1090	1100	1070	1090	932	873	890	729	692	712
8	1100	1070	1090	1140	1070	1090	1230	880	920	727	696	713
9	1090	1060	1070	1090	1060	1080	934	880	908	723	623	682
10	1090	1070	1080	1080	1030	1070	934	891	912	746	705	728
11	1100	1040	1080	1090	1060	1080	953	926	938	753	713	735
12	1100	1070	1080	1090	1030	1080	966	929	952	777	735	754
13	1090	1020	1080	1110	1080	1090	1020	921	948	779	743	761
14	1100	1090	1090	1090	1080	1090	969	928	942	779	671	750
15	1110	1070	1090	1090	1070	1080	1030	868	935	717	688	704
16	1190	1060	1110	1090	1060	1070	899	673	744	734	692	715
17	1120	1070	1090	1070	1050	1060	880	775	822	763	708	739
18	1100	1060	1080	1240	908	1070	960	851	904	815	749	773
19	1140	1030	1080	1130	888	1020	917	852	885	839	790	810
20	1100	1060	1080	1130	943	1020	906	877	890	866	813	834
21	1100	1080	1090	1030	909	972	900	824	859	848	821	837
22	1090	1080	1080	1030	928	974	898	754	842	849	819	839
23	1090	1060	1070	1020	945	981	887	852	867	868	829	851
24	1090	1060	1070	1050	999	1030	870	740	805	1950	839	951
25	1090	1070	1080	1020	997	1010	792	643	726	1020	627	755
26	1080	1060	1070	997	962	979	822	585	674	944	818	871
27	1080	1060	1070	1290	846	969	---	---	---	963	937	951
28	1070	1040	1060	979	845	924	---	---	---	969	930	951
29	---	---	---	944	909	926	---	---	---	1010	969	990
30	---	---	---	931	890	903	---	---	---	1050	1010	1030
31	---	---	---	906	878	894	---	---	---	1060	1030	1040
MONTH	1190	1020	1090	1290	845	1030	---	---	---	---	---	---
	JUNE			JULY			AUGUST			SEPTEMBER		
1	1100	1050	1080	1900	845	1070	915	681	818	1660	836	1040
2	1130	1100	1120	1660	1190	1360	916	810	869	997	810	917
3	1160	1130	1150	1430	1230	1270	980	896	914	1050	997	1020
4	1190	1120	1160	1290	658	829	1240	894	989	1150	1040	1080
5	1230	968	1080	1140	906	1040	1150	921	960	1130	1070	1110
6	977	829	884	1170	1090	1150	958	898	927	1150	1110	1130
7	998	933	964	1130	950	1030	993	931	958	1150	1120	1140
8	1050	986	1010	1210	1060	1130	1030	969	994	1340	1050	1150
9	1070	1040	1060	1260	1170	1210	1040	1000	1010	1190	932	1140
10	1080	1030	1060	1240	703	943	1020	596	742	1190	1110	1140
11	1140	1080	1110	999	783	893	1240	804	934	1140	968	1090
12	1160	1120	1140	1120	932	1030	1000	640	772	1190	1070	1130
13	1180	1120	1140	1200	1120	1150	1000	843	927	1190	906	1030
14	1490	1070	1140	1250	1200	1220	1040	990	1010	1110	915	976
15	1340	919	1060	1340	1240	1280	1050	581	791	1200	1000	1070
16	1010	944	981	1310	1070	1190	995	809	920	1210	1130	1180
17	1070	1010	1040	1260	1140	1210	1000	789	901	1180	1140	1150
18	1130	1060	1090	1340	1260	1290	976	868	920	1220	1110	1180
19	1150	1110	1130	1520	1340	1390	1050	730	909	1240	1200	1220
20	1180	1150	1170	1520	1470	1490	957	705	860	1250	1200	1220
21	1370	1020	1190	1530	1470	1490	975	910	942	1260	1200	1230
22	1400	720	984	1620	1520	1550	987	945	963	1240	1200	1220
23	1090	875	1000	1610	624	988	1060	985	1010	---	---	---
24	1160	1090	1120	1090	895	996	1180	817	1020	---	---	---
25	1170	1150	1160	1090	746	983	1500	765	1010	---	---	---
26	1200	1170	1180	990	908	957	1020	671	840	---	---	---
27	1230	1200	1220	1050	969	997	969	797	903	---	---	---
28	1290	1230	1240	1120	1050	1090	974	798	893	---	---	---
29	1320	1280	1300	1270	690	864	1010	967	984	1340	1290	1300
30	2180	859	1420	832	540	679	1040	987	1000	1360	1260	1310
31	---	---	---	845	470	594	1060	951	1020	---	---	---
MONTH	2180	720	1110	1900	470	1110	1500	581	926	---	---	---

07106500 FOUNTAIN CREEK AT PUEBLO, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	25.6	13.4	19.3	30.1	17.9	22.4	23.4	18.8	20.5	22.5	17.5	19.6
2	26.4	13.4	19.4	31.0	17.2	23.1	25.2	17.6	21.0	26.6	16.1	21.0
3	23.4	14.5	17.9	30.5	17.3	22.4	25.0	18.4	20.9	27.8	16.6	21.9
4	23.2	12.8	16.6	25.2	15.0	20.7	21.0	17.6	18.9	27.3	16.5	21.6
5	14.7	11.4	12.8	31.1	18.7	24.1	25.4	17.1	20.5	28.4	16.4	21.7
6	21.4	10.3	15.4	26.2	19.0	22.2	27.4	17.6	22.0	28.6	16.0	21.8
7	22.7	12.3	17.2	22.9	19.3	20.6	27.8	18.2	22.5	27.8	17.0	22.0
8	24.6	12.7	17.8	26.3	17.9	21.6	29.0	18.4	23.2	27.2	18.7	22.1
9	25.6	13.5	18.6	30.5	18.8	23.0	27.5	19.4	22.9	26.7	16.6	20.8
10	18.9	12.4	15.6	26.4	17.9	22.0	22.5	17.5	20.4	26.6	18.2	21.2
11	25.3	12.2	18.3	28.3	17.4	22.5	25.1	17.5	20.7	26.9	15.4	20.5
12	26.8	13.2	19.4	30.5	18.2	23.8	25.0	17.8	21.0	26.7	15.5	20.3
13	23.9	13.4	18.0	31.9	18.5	24.0	26.3	17.5	21.9	22.8	16.5	19.6
14	24.5	12.2	17.2	30.4	17.5	22.4	28.1	17.6	22.4	25.0	16.4	19.9
15	23.2	12.9	18.0	30.5	17.3	22.4	24.9	18.1	21.2	25.8	15.7	19.8
16	25.8	13.5	19.3	29.5	16.9	22.4	27.3	17.2	21.7	25.5	14.3	19.3
17	23.5	14.2	18.1	30.5	16.8	23.0	27.2	18.0	22.3	25.8	14.4	19.5
18	25.1	11.5	17.7	31.8	16.9	23.6	27.9	18.9	23.4	25.6	14.9	19.1
19	27.2	12.7	19.4	32.0	17.1	22.7	26.4	19.9	22.4	25.6	13.9	19.0
20	27.4	13.5	19.8	32.3	17.3	23.4	28.4	18.4	22.9	24.8	15.1	19.2
21	28.3	15.6	20.8	32.1	17.0	23.1	29.0	19.6	23.9	24.2	16.6	19.4
22	24.9	15.1	19.9	28.6	18.6	22.4	29.9	20.1	24.5	23.5	14.2	17.8
23	25.9	14.8	19.8	23.4	18.5	20.5	30.4	19.7	24.6	---	---	---
24	25.0	13.4	18.9	27.5	18.8	22.4	27.9	17.7	21.6	---	---	---
25	28.1	13.0	19.9	27.6	19.9	22.9	26.9	17.6	21.1	---	---	---
26	28.9	13.1	20.7	22.5	19.5	21.2	26.2	18.4	21.8	---	---	---
27	28.9	15.1	21.6	28.0	18.3	22.4	24.8	19.0	21.9	---	---	---
28	30.6	17.5	23.1	29.9	18.5	23.5	26.3	17.6	21.4	---	---	---
29	31.6	18.1	24.0	26.8	19.2	22.5	27.0	17.2	21.7	22.5	14.0	17.5
30	29.0	16.0	22.0	24.8	19.1	21.8	27.5	17.8	22.3	23.5	13.8	17.9
31	---	---	---	22.3	17.7	19.9	24.9	17.3	20.9	---	---	---
MONTH	31.6	10.3	18.9	32.3	15.0	22.4	30.4	17.1	21.9	---	---	---

381515104351900 FOUNTAIN CREEK AT MOUTH NEAR PUEBLO, CO**WATER-QUALITY RECORDS**

LOCATION.--Lat 38°15'15", long 104°35'19", in SE¹/₄NE¹/₄ sec.6, T.21 S., R.64 W., Pueblo County, Hydrologic Unit 11020002, 60 ft downstream from River Trail Walk Bridge, and 650 ft upstream from mouth.

PERIOD OF RECORD.--October 1997 to September 1998.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)
OCT							
17...	1030	119	1300	8.0	10.5	9.9	21
31...	1130	517	1010	8.2	10.5	9.6	13
NOV							
13...	1100	232	1130	8.2	7.0	9.9	20
25...	1130	209	1090	8.4	6.0	10.4	17
DEC							
11...	1130	203	1100	8.3	3.0	--	15
23...	1100	188	1120	8.4	3.0	11.0	19
JAN							
13...	1130	183	1110	8.3	1.5	11.4	17
30...	1230	164	1150	8.4	7.0	10.0	14
FEB							
11...	1045	178	1130	8.3	4.0	10.9	16
25...	1115	173	1140	8.3	7.0	10.0	16
MAR							
12...	1100	173	1110	8.3	4.5	10.8	13
25...	1100	226	1040	8.3	12.5	9.0	13
APR							
08...	1100	270	954	8.4	9.0	9.6	17
23...	1200	290	960	8.5	15.0	8.6	15
MAY							
06...	1115	423	782	8.6	15.0	8.5	12
20...	1300	226	885	8.3	22.5	7.2	9
JUN							
10...	1130	157	1060	8.4	15.0	--	12
19...	1100	110	1140	8.3	19.5	7.5	15
JUL							
01...	1100	178	1010	8.2	22.5	7.1	17
22...	1245	18	1630	8.4	27.0	7.2	47
AUG							
21...	1130	226	988	8.3	22.0	7.1	15
20...	1400	1460	609	8.3	18.0	9.0	14
JUN							
10...	1330	825	828	8.3	15.0	--	11
19...	1230	1060	745	8.4	19.5	8.3	12
JUL							
01...	1200	E1840	625	8.2	20.0	8.1	9
22...	1430	896	522	8.5	21.5	7.6	7
AUG							
21...	1245	749	806	8.2	24.0	7.2	10

381534104333201 ARKANSAS RIVER AT SITE 10-A NEAR PUEBLO, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°15'34", long 104°33'32", in SW¹/₄SE¹/₄ sec.33, T.20 S., R.64 W., Pueblo County, Hydrologic Unit 11020002, 0.9 mi downstream from the Pueblo Wastewater Treatment Plant outfall, and 1.75 mi downstream from Fountain Creek.

PERIOD OF RECORD.--October 1997 to September 1998.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)
OCT							
17...	1230	779	649	8.0	15.5	8.8	9
31...	1245	1040	770	8.4	12.5	--	10
NOV							
13...	1330	677	853	8.4	11.5	8.6	12
25...	1230	714	705	8.5	8.5	9.7	10
DEC							
11...	1245	767	645	8.5	4.5	--	9
23...	1230	272	1120	8.4	5.0	10.3	20
JAN							
13...	1200	260	1160	8.3	4.0	10.2	19
30...	1430	234	1330	8.3	9.5	9.3	20
FEB							
11...	1130	235	1180	8.3	8.5	10.4	23
25...	1215	433	842	8.4	9.5	9.6	16
MAR							
12...	1145	434	890	8.4	8.0	10.1	12
25...	1215	532	892	8.4	15.0	8.4	17
APR							
08...	1200	827	747	8.4	10.5	9.4	11
23...	1400	932	920	8.5	16.0	10.0	14
MAY							
06...	1215	1400	805	8.4	14.5	8.5	12
20...	1400	1460	609	8.3	18.0	9.0	14
JUN							
10...	1330	825	828	8.3	15.0	--	11
19...	1230	1060	745	8.4	19.5	8.3	12
JUL							
01...	1200	E1840	625	8.2	20.0	8.1	9
22...	1430	896	522	8.5	21.5	7.6	7
AUG							
21...	1245	749	806	8.2	24.0	7.2	10

07108900 ST. CHARLES RIVER AT VINELAND, CO

LOCATION.--Lat 38°14'44", long 104°29'09", in NE¼SW¼ sec.6, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank at right downstream end of downstream bridge on U.S. Highway 50C, 1.6 mi west of Vineland, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--474 mi².

PERIOD OF RECORD.--October 1978 to current year. March 1968 to September 1974 at site 2.6 mi upstream and at different datum, published as 07108800 St. Charles River near Vineland, not equivalent because of tributary inflow.

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gage. Datum of gage is 4,581.58 ft above sea level, (Colorado Division of Highways benchmark).

REMARKS.--Records good except for estimated daily discharges, and those above 1,500 ft³/s, which are poor. Natural flow of stream affected by diversions upstream from station for irrigation of about 8,500 acres, and for industrial uses, and return flow from land irrigated by Bessemer Ditch. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1901, 56,000 ft³/s, at site 5.0 mi upstream (revised).

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	31	32	24	24	38	233	443	281	148	43	26
2	16	31	33	24	23	38	218	421	271	33	49	30
3	15	29	33	25	22	38	202	434	255	25	61	23
4	15	24	30	26	23	38	167	462	228	26	82	19
5	15	25	25	24	23	38	159	486	204	22	70	18
6	14	25	24	25	23	40	161	e490	181	20	47	18
7	15	29	25	21	23	40	175	e450	158	25	31	18
8	16	24	26	22	e23	41	191	403	137	25	29	16
9	15	25	26	e21	24	39	200	369	79	28	28	16
10	16	25	25	e20	24	39	196	338	64	27	37	14
11	15	24	22	e22	24	38	188	371	58	25	102	13
12	15	24	22	24	23	39	190	387	51	21	111	13
13	15	25	21	25	23	38	183	372	46	20	44	15
14	16	24	22	24	23	38	179	409	42	18	40	15
15	15	22	24	24	23	43	188	402	43	19	40	13
16	16	22	24	24	23	50	212	349	40	19	40	12
17	16	23	24	23	25	30	192	311	38	18	35	12
18	18	31	24	22	24	37	201	333	37	17	35	11
19	15	37	23	20	24	44	198	401	35	16	35	12
20	16	36	25	22	23	44	206	420	34	16	34	14
21	17	37	23	20	22	49	215	451	35	16	111	13
22	17	36	22	20	22	58	216	517	32	18	43	13
23	17	35	24	20	25	68	224	426	30	20	33	13
24	e17	35	24	21	23	75	251	351	30	36	28	15
25	e18	35	22	23	25	171	306	316	26	26	33	14
26	e20	30	20	22	36	253	476	298	23	29	39	13
27	e21	29	20	21	43	898	446	286	22	28	34	13
28	25	40	19	22	39	640	460	295	20	23	29	13
29	26	35	23	23	---	384	453	329	17	22	27	12
30	30	32	24	23	---	296	467	314	16	23	25	12
31	29	---	23	24	---	249	---	301	---	54	22	---
TOTAL	546	880	754	701	702	3931	7353	11935	2533	863	1417	459
MEAN	17.6	29.3	24.3	22.6	25.1	127	245	385	84.4	27.8	45.7	15.3
MAX	30	40	33	26	43	898	476	517	281	148	111	30
MIN	14	22	19	20	22	30	159	286	16	16	22	11
AC-FT	1080	1750	1500	1390	1390	7800	14580	23670	5020	1710	2810	910

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1998, BY WATER YEAR (WY)

MEAN	14.1	15.4	13.0	12.8	13.6	23.1	69.5	163	87.4	37.1	48.8	20.6
MAX	39.5	31.8	24.3	22.6	25.1	127	306	484	358	108	207	120
(WY)	1983	1983	1998	1998	1998	1998	1987	1980	1983	1995	1982	1982
MIN	3.50	5.59	6.81	6.75	7.68	6.71	5.02	6.06	8.79	7.60	10.2	6.36
(WY)	1979	1979	1981	1981	1995	1995	1981	1991	1990	1981	1989	1980

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1979 - 1998

ANNUAL TOTAL	12538.9	32074	
ANNUAL MEAN	34.4	87.9	43.4
HIGHEST ANNUAL MEAN			88.4
LOWEST ANNUAL MEAN			9.52
HIGHEST DAILY MEAN	205	Sep 1	898
LOWEST DAILY MEAN	7.6	Jul 18	11
ANNUAL SEVEN-DAY MINIMUM	9.4	Jul 14	12
INSTANTANEOUS PEAK FLOW			2170
INSTANTANEOUS PEAK STAGE			8.78
ANNUAL RUNOFF (AC-FT)	24870	63620	31440
10 PERCENT EXCEEDS	99	303	101
50 PERCENT EXCEEDS	17	26	14
90 PERCENT EXCEEDS	12	16	6.6

e-Estimated.

a-From rating curve extended above 1800 ft³/s.

07109500 ARKANSAS RIVER NEAR AVONDALE, CO

LOCATION.--Lat 38°14'53", long 104°23'55", in NE¼SW¼ sec.1, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank 15 ft downstream from bridge on Sixmile Road, 0.3 mi upstream from Sixmile Creek, and 2.6 mi west of Avondale.

DRAINAGE AREA.--6,327 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1939 to September 1951, February 1965 to current year. Statistical summary computed for 1975 to current year.

REVISED RECORDS.--WSP 1087: 1942. WSP 1311: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 4,509.53 ft above sea level. Prior to Jan. 21, 1965, at site 550 ft downstream at datum 1.37 ft higher (revised). Jan. 21, 1965 to Sept. 30, 1991, at datum 1.00 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 123,000 acres and municipal use, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	557	1130	864	342	344	668	1060	1490	1750	1990	1830	707
2	539	1040	1060	339	344	648	982	1470	2010	2240	1860	764
3	541	928	1060	343	337	582	1040	1480	2180	2050	1710	758
4	555	817	1040	344	330	451	992	1570	2250	2090	e1900	976
5	549	717	775	344	339	427	971	1740	2630	1720	e1540	1490
6	514	644	720	347	345	394	964	1850	3770	1720	1350	1450
7	540	646	728	340	344	395	1010	1900	3360	1970	1510	1340
8	589	674	742	328	346	389	1160	1840	2330	1900	1150	1220
9	619	677	793	326	345	389	1200	1870	961	1800	1020	1140
10	638	699	807	323	348	497	1640	1680	944	1990	1320	857
11	632	719	832	338	335	536	2850	1580	934	2200	1240	679
12	637	718	824	346	333	570	2820	1550	945	2150	1630	661
13	637	749	821	347	394	539	2780	1540	1100	1750	1310	669
14	649	768	837	348	376	543	1990	1600	1150	1700	1300	669
15	720	836	786	348	336	550	863	1650	1480	1570	1270	630
16	785	839	536	345	351	619	1330	1590	1520	1430	1310	630
17	733	854	375	345	378	648	1250	1530	1360	1310	1260	650
18	636	843	364	336	367	761	1250	1510	1240	1040	1040	678
19	627	799	363	335	384	958	1360	1640	1120	870	863	721
20	644	826	364	338	372	1130	1350	1680	1040	870	872	706
21	655	825	354	334	355	1120	1330	1780	1030	795	1010	691
22	629	815	349	325	348	900	1260	1830	1120	840	878	741
23	629	809	341	332	349	876	1280	1820	1210	1190	829	774
24	614	808	344	335	347	734	1470	1790	1220	1480	810	785
25	670	811	334	336	518	787	1770	1880	1400	1580	924	716
26	711	799	325	338	602	875	2280	1810	1580	1680	1110	630
27	927	786	333	332	676	1660	2520	1870	1740	1640	1040	439
28	1120	1010	331	341	677	2010	2760	1760	1850	1770	1090	405
29	1180	930	340	342	---	1670	2650	1450	1910	2040	1010	364
30	1180	840	349	339	---	1530	2360	1450	1880	2360	824	347
31	1170	---	342	338	---	1240	---	1600	---	2360	695	---
TOTAL	21826	24356	18433	10494	10920	25096	48542	51800	49014	52095	37505	23287
MEAN	704	812	595	339	390	810	1618	1671	1634	1680	1210	776
MAX	1180	1130	1060	348	677	2010	2850	1900	3770	2360	1900	1490
MIN	514	644	325	323	330	389	863	1450	934	795	695	347
AC-FT	43290	48310	36560	20810	21660	49780	96280	102700	97220	103300	74390	46190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1998, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	534	472	354	376	427	542	862	1623	2765	1940	1331	645													
MAX	1631	985	718	770	1103	994	1884	4170	4971	4432	3210	1511													
(WY)	1985	1985	1987	1985	1985	1985	1987	1980	1997	1995	1984	1982													
MIN	187	170	197	190	223	219	220	517	638	562	423	200													
(WY)	1979	1979	1979	1979	1979	1978	1978	1977	1977	1977	1977	1977													

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1975 - 1998
ANNUAL TOTAL	482930	373368	
ANNUAL MEAN	1323	1023	a991
HIGHEST ANNUAL MEAN			1626
LOWEST ANNUAL MEAN			411
HIGHEST DAILY MEAN	6730	3770	Jun 6 1994
LOWEST DAILY MEAN	284	323	Jan 10 1978
ANNUAL SEVEN-DAY MINIMUM	289	333	Jan 21 1978
INSTANTANEOUS PEAK FLOW		3990	Jun 6 1978
INSTANTANEOUS PEAK STAGE		5.38	Jun 6 1978
ANNUAL RUNOFF (AC-FT)	957900	740600	718200
10 PERCENT EXCEEDS	2610	1860	2280
50 PERCENT EXCEEDS	928	840	599
90 PERCENT EXCEEDS	340	344	272

e-Estimated.

a-Average discharge for 20 years (water years 1940-51, 1966-73), 867 ft³/s; 628100 acre-ft/yr, prior to completion of Pueblo Reservoir.

b-Maximum daily discharge for period of record, 12100 ft³/s, Apr 24, 1942.

c-Minimum daily discharge for period of record, 50 ft³/s, Apr 2, 1940.

d-Maximum discharge and stage for period of record, about 50000 ft³/s, Jun 18, 1965, gage height, 9.77 ft, from rating curve extended above 6700 ft³/s, on basis of records for station near Pueblo and indirect measurements of peak flow on Fountain Creek at Pueblo, Chico Creek near North Avondale, and Arkansas River near North Avondale.

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--April to October 1976, April 1979 to September 1980, December 1985 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1979 to September 1980, December 1985 to current year.

WATER TEMPERATURE: July 1979 to September 1980, December 1985 to current year.

pH: July 1979 to September 1980, August 1988 to current year.

DISSOLVED OXYGEN: July 1979 to September 1980, August 1988 to current year.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for daily specific conductance are good except for Nov. 6-14, Dec. 9-16, Feb. 6-9, 17-19, May 8-12, May 26-30, June 1-2, and July 23-28, which are fair. Records for daily pH are fair. Records for daily water temperature are good. Records for daily dissolved oxygen are poor. Daily data that are not published are either missing or of unacceptable quality. Water-quality data prior to December 1985 are published in other reports.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,380 microsiemens, Jan.24, 25, 1980; minimum, 246 microsiemens, June 16, 1980.

pH: Maximum, 9.1 units, Dec. 3, 1989; minimum, 7.2 units, several days in 1992, 1995-96.

WATER TEMPERATURE: Maximum, 31.5°C, Aug. 6, 1980; minimum, 0.0°C, many days.

DISSOLVED OXYGEN: Maximum, 14.0 mg/L, Feb. 16, 1996; minimum, 2.6 mg/L, July 14, 1992.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,200 microsiemens, Jan. 9, Feb. 21-22, 24; minimum, 440 microsiemens, July 30.

pH: Maximum, 8.6 units, Dec. 13-15; minimum, 7.4 units, Nov. 5-6, 12-14.

WATER TEMPERATURE: Maximum, 26.5°C, July 20-21; minimum, 0.0°C, many days.

DISSOLVED OXYGEN: Maximum, 13.5 mg/L, Oct. 25; minimum, 5.1 mg/L, July 25.

* * * * *

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

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SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	847	793	813	797	739	767	806	701	772	1180	1120	1130
2	824	795	812	776	730	748	710	616	694	1160	1130	1140
3	834	787	815	789	752	769	705	635	693	1150	1120	1140
4	849	789	816	862	782	805	721	635	690	1150	1120	1130
5	857	799	818	865	835	851	794	676	762	1150	1110	1130
6	871	830	850	901	870	891	799	751	774	1150	1110	1130
7	869	809	836	952	813	885	---	---	---	1170	1100	1130
8	817	765	789	910	771	834	---	---	---	1190	1090	1130
9	784	745	768	910	711	814	792	770	777	1200	1080	1130
10	797	756	772	833	733	800	782	744	765	1180	1090	1140
11	783	749	768	814	770	798	---	---	---	1170	1100	1130
12	783	737	762	819	777	801	---	---	---	1150	1110	1130
13	796	753	775	813	774	796	---	---	---	1130	1110	1120
14	779	738	755	815	788	802	---	---	---	1130	1100	1110
15	750	685	713	799	741	766	899	728	761	1130	1090	1110
16	750	687	709	782	733	758	1030	891	915	1140	1090	1110
17	801	721	748	786	740	765	1120	1030	1070	1150	1100	1110
18	817	778	802	794	739	768	1120	1090	1110	1150	1110	1130
19	811	772	792	793	697	753	1120	1090	1100	1150	1110	1120
20	816	779	798	786	680	751	1140	1100	1110	1170	1110	1130
21	831	789	805	762	746	754	1140	1110	1120	1160	1100	1120
22	833	802	823	757	719	742	1140	1110	1120	1140	1060	1110
23	834	804	825	761	728	743	1140	1120	1130	1130	1080	1110
24	842	803	823	770	722	747	1150	1120	1140	1120	1070	1100
25	839	723	776	763	739	751	1160	1110	1130	1140	1090	1100
26	847	780	812	760	682	722	1170	1110	1120	1130	1070	1100
27	811	760	783	748	710	733	1170	1100	1130	1130	1100	1110
28	825	745	771	757	644	718	1170	1120	1130	1140	1100	1120
29	778	739	759	837	728	794	1170	1100	1130	1160	1090	1120
30	779	736	755	836	712	793	1150	1110	1130	1140	1100	1120
31	833	740	776	---	---	---	1150	1110	1130	1150	1100	1120
MONTH	871	685	788	952	644	781	---	---	---	1200	1060	1120

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1130	1100	1110	859	824	839	788	720	749	701	674	690
2	1130	1080	1110	902	823	846	806	762	785	709	677	694
3	1090	1060	1080	912	874	895	802	724	754	710	674	696
4	1130	1070	1100	1030	898	988	766	745	756	701	628	677
5	1130	1100	1120	1030	1000	1010	762	751	757	651	609	633
6	1190	1070	1110	1080	1020	1060	764	744	755	646	615	634
7	1130	1040	1080	1080	1050	1060	746	717	735	645	619	633
8	1120	1050	1070	1080	1050	1070	783	695	740	649	606	633
9	1120	1100	1110	1090	1050	1070	764	746	753	649	602	623
10	1120	1090	1110	1050	934	975	758	602	712	669	614	634
11	1130	1100	1120	938	901	918	614	598	605	671	617	641
12	1140	1110	1120	914	878	893	610	603	607	666	622	646
13	1130	785	1090	932	898	914	613	594	603	653	628	641
14	1080	785	987	920	895	907	801	605	654	644	615	629
15	1080	1060	1060	922	887	898	825	800	809	626	609	619
16	1080	1050	1060	890	835	852	821	766	798	633	617	625
17	1120	1020	1050	863	830	847	845	780	815	636	620	630
18	1090	1030	1060	865	767	822	847	802	821	644	617	630
19	1180	1070	1130	829	763	792	823	797	811	624	602	613
20	1180	1160	1170	819	751	786	809	786	797	615	598	609
21	1200	1160	1180	833	781	804	794	770	785	612	600	606
22	1200	1150	1170	880	833	859	798	772	787	605	584	596
23	1190	1150	1170	892	836	861	789	732	772	611	594	605
24	1200	1150	1160	923	870	902	742	696	723	776	606	619
25	1190	928	1010	988	810	867	703	648	678	778	611	642
26	973	853	909	810	715	780	653	622	641	650	617	630
27	853	829	843	775	646	706	668	641	655	643	607	624
28	856	830	843	698	547	624	647	612	627	633	556	597
29	---	---	---	666	563	638	636	600	620	623	561	603
30	---	---	---	686	635	653	685	590	618	626	601	614
31	---	---	---	733	674	694	---	---	---	637	577	609
MONTH	1200	785	1080	1090	547	865	847	590	724	778	556	631
	JUNE			JULY			AUGUST			SEPTEMBER		
1	623	586	605	986	529	617	530	497	513	829	697	775
2	635	604	615	808	540	598	527	495	508	803	753	780
3	611	603	606	544	527	536	521	496	512	768	691	746
4	615	595	607	575	524	547	517	491	506	713	573	675
5	620	593	604	565	550	556	---	---	---	585	569	576
6	617	592	604	551	537	545	---	---	---	600	569	581
7	625	604	611	565	535	548	601	538	550	620	582	596
8	733	610	643	558	533	547	648	593	611	619	600	609
9	777	732	752	555	543	552	642	626	635	619	599	609
10	777	753	766	604	531	550	724	585	620	731	594	673
11	781	758	767	563	514	535	638	582	624	736	707	717
12	780	725	759	527	490	512	896	502	686	739	699	716
13	726	701	711	529	519	523	618	590	603	787	709	730
14	715	685	699	522	502	513	603	568	588	789	739	758
15	685	653	666	520	506	512	741	553	623	775	738	755
16	669	644	654	542	498	513	607	554	585	751	717	736
17	674	650	662	542	516	527	641	590	608	748	724	738
18	688	654	668	580	531	549	727	608	635	743	708	721
19	695	667	681	579	548	565	810	685	711	717	686	702
20	693	672	684	568	545	555	807	683	728	735	686	703
21	683	661	675	572	558	564	799	645	719	728	704	718
22	759	649	683	568	529	550	712	681	700	718	694	706
23	667	644	655	699	517	546	715	684	697	705	676	690
24	654	634	642	606	527	567	710	677	695	711	671	688
25	634	596	610	574	518	541	801	667	700	727	696	712
26	597	576	590	585	518	534	939	639	757	856	710	738
27	577	561	569	527	490	516	666	639	652	892	839	863
28	561	544	554	490	449	472	674	632	648	893	847	873
29	549	537	543	518	446	470	702	632	660	926	893	906
30	604	525	548	487	440	458	753	686	705	939	904	921
31	---	---	---	636	464	512	773	746	757	---	---	---
MONTH	781	525	648	986	440	536	---	---	---	939	569	724

ARKANSAS RIVER BASIN

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.3	8.1	8.2	7.7	7.6	7.7	8.4	8.0	8.2	8.5	8.1	8.3
2	8.4	8.1	8.2	7.7	7.6	7.6	8.4	7.9	8.1	8.5	7.9	8.2
3	8.4	8.2	8.3	7.7	7.6	7.6	8.4	7.8	8.1	8.4	7.9	8.2
4	8.4	8.2	8.3	7.6	7.5	7.6	8.2	7.7	7.9	8.5	7.8	8.2
5	8.4	8.2	8.3	7.6	7.4	7.5	8.3	7.7	8.0	8.4	7.9	8.2
6	8.4	8.2	8.3	7.7	7.4	7.5	8.4	7.9	8.2	8.5	8.0	8.3
7	8.4	8.0	8.2	7.7	7.6	7.6	8.5	8.0	8.3	8.5	8.0	8.2
8	8.4	8.2	8.3	7.7	7.5	7.6	8.5	7.9	8.3	8.4	7.9	8.2
9	8.3	8.1	8.2	7.6	7.5	7.5	8.5	8.0	8.3	8.3	8.0	8.2
10	8.3	8.0	8.2	7.6	7.5	7.5	8.5	8.1	8.3	8.4	7.9	8.2
11	8.3	8.0	8.1	7.6	7.5	7.5	8.5	7.9	8.3	8.4	7.9	8.2
12	8.3	8.0	8.1	7.6	7.4	7.5	8.5	8.0	8.2	8.3	7.8	8.1
13	8.3	8.1	8.2	7.5	7.4	7.4	8.6	7.9	8.3	8.3	7.9	8.1
14	8.3	8.1	8.1	7.6	7.4	7.5	8.6	7.9	8.3	8.3	7.7	8.0
15	8.3	8.0	8.1	7.8	7.5	7.6	8.6	7.8	8.2	8.3	7.8	8.1
16	8.2	7.9	8.0	7.9	7.6	7.8	8.3	7.9	8.1	8.4	7.9	8.1
17	8.2	7.9	8.0	8.0	7.8	7.9	8.2	7.6	8.0	8.2	7.7	8.0
18	8.2	7.9	8.0	8.2	7.9	8.0	8.3	7.8	8.0	8.3	7.8	8.1
19	8.2	7.9	8.0	8.2	8.1	8.2	8.4	7.9	8.2	8.2	7.8	8.0
20	8.2	7.9	8.0	8.3	8.1	8.2	8.5	8.0	8.2	8.3	7.7	8.1
21	8.1	7.8	7.9	8.2	8.0	8.1	8.4	7.8	8.2	8.1	7.6	7.9
22	8.4	7.8	8.1	8.3	8.1	8.2	8.5	7.9	8.2	8.3	7.8	8.0
23	8.3	7.9	8.1	8.3	8.1	8.2	8.4	7.8	8.2	8.3	7.7	8.0
24	8.1	7.9	8.0	8.3	8.1	8.2	8.4	7.9	8.2	8.4	7.7	8.0
25	8.2	7.9	8.1	8.4	8.0	8.1	8.4	7.9	8.2	8.4	7.7	8.1
26	8.1	7.9	8.0	8.3	7.7	8.0	8.4	7.9	8.2	8.5	7.9	8.2
27	7.9	7.7	7.8	8.3	7.9	8.1	8.3	7.8	8.1	8.4	7.8	8.2
28	7.8	7.6	7.7	8.3	7.8	8.1	8.5	7.8	8.2	8.1	7.7	7.9
29	7.8	7.7	7.8	8.3	7.9	8.2	8.3	7.9	8.2	8.2	7.8	7.9
30	7.8	7.6	7.7	8.4	8.0	8.2	8.4	7.8	8.1	8.2	7.8	8.0
31	7.7	7.6	7.7	---	---	---	8.5	7.9	8.3	8.2	7.8	8.0
MONTH	8.4	7.6	8.1	8.4	7.4	7.8	8.6	7.6	8.2	8.5	7.6	8.1
	FEBRUARY			MARCH			APRIL			MAY		
1	8.3	7.9	8.1	8.2	7.9	8.1	8.3	8.1	8.2	8.3	8.1	8.2
2	8.2	7.8	8.1	8.3	7.9	8.1	8.3	8.0	8.2	8.4	8.0	8.2
3	8.2	7.9	8.0	8.2	8.0	8.1	8.3	8.1	8.2	8.4	8.0	8.2
4	8.2	7.9	8.0	8.3	8.0	8.1	8.4	8.0	8.2	8.4	8.0	8.2
5	8.2	7.9	8.0	8.3	8.0	8.1	8.4	8.0	8.3	8.4	8.0	8.2
6	8.3	7.9	8.1	8.3	8.0	8.1	8.4	8.0	8.2	8.4	8.1	8.3
7	8.3	8.0	8.1	8.2	7.9	8.0	8.3	8.0	8.1	8.5	8.1	8.2
8	8.3	7.9	8.1	8.2	8.0	8.1	8.3	7.8	8.1	8.4	8.2	8.3
9	8.3	7.8	8.1	8.2	7.9	8.1	8.3	7.9	8.1	8.4	8.1	8.2
10	8.2	7.9	8.0	8.3	8.0	8.1	8.2	7.9	8.0	8.4	8.1	8.3
11	8.1	7.8	8.0	8.3	8.0	8.1	8.1	7.9	8.0	8.4	8.1	8.3
12	8.3	7.9	8.0	8.3	7.9	8.1	8.2	8.0	8.1	8.5	8.1	8.3
13	8.3	7.8	8.1	8.4	8.1	8.2	8.2	8.0	8.1	8.4	8.1	8.3
14	8.3	7.9	8.1	8.4	8.0	8.1	8.1	7.9	8.0	8.5	8.0	8.2
15	8.2	7.8	8.0	8.5	8.1	8.2	8.0	7.8	8.0	8.4	8.0	8.3
16	8.2	7.8	8.0	8.4	8.0	8.2	8.0	7.8	7.9	8.4	8.2	8.3
17	8.2	7.8	8.1	8.3	8.0	8.2	8.1	7.9	8.0	8.4	8.1	8.3
18	8.0	7.7	7.9	8.2	7.9	8.0	8.2	7.9	8.0	8.4	8.1	8.3
19	8.2	7.8	8.0	8.1	7.8	8.0	8.2	7.9	8.1	8.5	7.9	8.3
20	8.2	7.9	8.0	8.3	7.9	8.1	8.2	7.9	8.1	8.5	8.2	8.3
21	8.2	7.9	8.0	8.3	8.1	8.2	8.3	8.0	8.1	8.5	8.2	8.3
22	8.3	7.9	8.0	8.3	8.1	8.2	8.3	7.9	8.1	8.5	8.1	8.3
23	8.3	8.0	8.1	8.3	8.1	8.2	8.3	7.8	8.0	8.5	7.9	8.3
24	8.3	7.9	8.1	8.2	8.0	8.1	8.3	7.9	8.1	8.5	8.1	8.3
25	8.2	8.0	8.1	8.2	8.0	8.1	8.3	7.9	8.1	8.5	8.0	8.2
26	8.2	8.0	8.1	8.3	8.0	8.2	8.2	7.9	8.1	8.5	8.2	8.3
27	8.2	8.0	8.1	8.3	7.9	8.2	8.3	8.0	8.1	---	---	---
28	8.2	7.9	8.0	8.3	8.0	8.2	8.3	8.1	8.2	---	---	---
29	---	---	---	8.3	8.0	8.2	8.4	8.0	8.2	---	---	---
30	---	---	---	8.3	8.0	8.2	8.4	8.1	8.2	---	---	---
31	---	---	---	8.3	8.1	8.2	---	---	---	---	---	---
MONTH	8.3	7.7	8.0	8.5	7.8	8.1	8.4	7.8	8.1	---	---	---

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

pH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	8.3	7.9	8.2	8.3	8.1	8.2	8.2	7.9	8.0
2	8.3	7.9	8.0	8.3	8.1	8.2	8.3	8.2	8.2	8.1	7.9	8.0
3	8.3	7.9	8.1	8.3	7.9	8.2	8.4	8.2	8.2	8.2	7.9	8.1
4	8.2	7.9	8.1	8.2	7.9	8.1	8.3	8.1	8.2	8.3	8.0	8.1
5	8.1	7.9	8.1	8.3	8.0	8.2	---	---	---	8.2	8.0	8.1
6	8.1	7.7	8.0	8.3	8.0	8.2	---	---	---	8.2	8.0	8.1
7	8.1	7.8	8.0	8.4	8.1	8.2	8.0	7.9	8.0	8.2	8.0	8.1
8	8.1	7.8	8.0	8.4	8.2	8.3	8.2	7.9	8.0	8.3	8.0	8.1
9	8.1	7.8	8.0	8.4	8.1	8.2	8.2	8.1	8.1	8.3	8.1	8.2
10	8.1	8.0	8.1	8.4	8.2	8.3	8.2	8.0	8.1	8.3	8.1	8.2
11	8.1	8.0	8.1	8.4	8.2	8.3	8.3	8.2	8.2	8.2	8.0	8.1
12	8.1	7.8	8.0	8.4	8.1	8.3	8.2	7.9	8.1	8.3	8.0	8.2
13	8.2	7.9	8.1	8.4	8.0	8.3	8.2	8.0	8.1	8.4	8.1	8.2
14	8.2	7.9	8.1	8.5	8.2	8.3	8.3	8.1	8.2	8.4	8.0	8.2
15	8.3	8.0	8.1	8.5	8.1	8.3	8.3	8.0	8.1	8.4	8.1	8.2
16	8.2	8.1	8.1	8.5	8.2	8.3	8.2	8.1	8.2	8.4	8.1	8.2
17	8.2	8.0	8.1	8.5	8.1	8.4	8.2	8.0	8.1	8.5	8.1	8.3
18	8.2	7.9	8.1	8.4	8.0	8.3	8.2	8.0	8.0	8.4	8.1	8.2
19	8.2	8.0	8.1	8.4	8.1	8.3	8.1	7.9	8.0	8.4	8.0	8.2
20	8.3	8.0	8.2	8.4	8.1	8.3	8.1	7.8	7.9	8.5	8.1	8.2
21	8.4	8.1	8.2	8.4	8.0	8.3	8.1	7.8	7.9	8.4	8.0	8.2
22	8.3	8.0	8.2	8.5	8.1	8.3	8.1	8.0	8.0	8.3	8.0	8.2
23	8.3	8.1	8.2	8.5	8.1	8.3	8.2	8.0	8.1	8.3	8.0	8.1
24	8.3	8.0	8.2	8.5	8.2	8.4	8.2	8.0	8.1	8.3	8.0	8.1
25	8.3	8.1	8.2	8.5	8.3	8.3	8.2	7.9	8.0	8.3	7.9	8.1
26	8.3	8.0	8.2	8.4	8.1	8.2	8.1	7.8	8.0	8.3	7.9	8.1
27	8.2	7.9	8.1	8.5	8.1	8.3	8.1	8.0	8.0	8.1	7.8	8.0
28	8.3	8.0	8.2	8.5	8.1	8.3	8.2	8.0	8.0	8.1	7.8	7.9
29	8.3	7.9	8.1	8.4	8.0	8.2	8.2	8.0	8.0	8.1	7.8	7.9
30	8.3	8.0	8.2	8.3	8.0	8.2	8.1	8.0	8.0	8.1	7.7	7.8
31	---	---	---	8.3	8.0	8.2	8.2	8.0	8.1	---	---	---
MONTH	---	---	---	8.5	7.9	8.3	---	---	---	8.5	7.7	8.1

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	22.4	17.4	19.8	12.0	9.4	10.7	6.6	5.0	5.9	5.9	1.6	3.8
2	21.7	16.5	19.2	11.3	8.0	9.8	6.1	5.2	5.6	6.0	2.8	4.5
3	20.9	17.1	19.0	11.1	7.5	9.5	6.4	4.7	5.4	4.9	3.4	3.9
4	20.7	15.8	18.3	12.2	8.6	10.5	5.8	3.5	4.6	5.4	3.0	4.1
5	20.5	15.5	18.1	11.6	8.2	10.2	4.7	2.4	3.7	5.1	2.3	3.9
6	19.8	15.5	17.7	11.3	7.8	9.6	4.4	2.5	3.4	4.9	2.5	3.8
7	19.3	15.1	17.2	11.8	7.9	10.0	5.1	2.8	4.0	3.0	.1	1.7
8	17.6	14.3	16.1	11.7	8.8	10.3	5.8	3.0	4.6	2.3	.0	1.1
9	17.9	12.7	15.4	10.1	6.9	8.4	5.4	3.6	4.8	1.4	.0	.7
10	19.1	13.9	16.6	7.6	6.0	6.8	4.9	3.4	4.3	.8	.0	.3
11	20.0	15.7	17.7	7.3	6.2	6.9	4.3	2.5	3.3	2.8	.0	1.0
12	17.5	13.1	14.3	8.3	5.8	7.0	3.9	1.0	2.6	2.4	1.2	1.9
13	15.4	11.2	13.3	9.8	7.3	8.5	5.1	2.0	3.6	2.3	1.2	1.7
14	16.2	11.5	13.9	7.6	4.7	5.8	5.4	2.4	4.1	4.3	.5	2.3
15	17.0	12.5	14.8	5.6	3.2	4.7	4.9	2.8	3.9	3.6	.0	1.9
16	16.8	12.5	14.8	6.1	3.0	4.8	5.0	2.8	3.9	5.0	1.7	3.3
17	16.8	12.2	14.7	7.6	3.6	5.8	5.8	2.3	4.1	5.1	1.6	3.4
18	16.9	12.3	14.8	7.9	5.0	6.6	5.0	2.9	4.1	6.1	2.4	4.3
19	15.1	12.4	14.0	---	5.0	---	4.6	2.6	3.8	4.0	1.7	2.9
20	15.4	12.6	13.9	9.1	6.0	7.8	4.8	3.0	4.0	5.1	1.8	3.4
21	15.1	12.5	13.7	8.4	6.3	7.2	4.0	3.0	3.5	2.7	.6	1.8
22	15.8	11.5	13.6	7.6	5.0	6.5	4.4	3.0	3.7	3.7	.0	1.9
23	15.4	11.6	13.7	6.4	4.3	5.4	3.9	3.1	3.6	4.2	.4	2.3
24	14.0	5.9	11.4	7.7	4.1	6.0	3.6	2.1	2.8	2.8	.2	1.7
25	5.9	.0	1.6	7.8	4.7	6.5	3.6	.7	2.0	4.3	1.4	2.8
26	9.6	3.3	6.5	7.4	5.9	6.7	2.6	.0	1.3	4.9	.6	2.9
27	10.0	6.1	8.3	7.7	4.8	6.3	2.0	.0	1.0	5.9	1.2	3.6
28	11.3	7.9	9.7	6.3	3.2	4.4	1.9	.0	.8	5.8	1.6	3.9
29	10.3	8.0	9.3	7.9	4.4	6.3	3.0	.0	1.5	5.9	1.6	3.9
30	12.2	8.4	10.4	6.7	4.6	5.9	4.2	.8	2.7	6.5	1.8	4.3
31	12.8	9.1	11.0	---	---	---	4.4	1.0	2.9	6.4	3.2	4.9
MONTH	22.4	.0	14.0	---	3.0	---	6.6	.0	3.5	6.5	.0	2.8

ARKANSAS RIVER BASIN

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	7.6	3.8	5.6	6.4	1.6	4.1	11.6	6.5	9.2	15.2	10.1	12.6
2	5.4	2.7	4.2	6.5	1.9	4.4	10.0	6.5	7.8	15.7	10.4	13.2
3	4.0	2.6	3.3	8.4	2.6	5.5	11.4	5.5	8.5	16.1	10.8	13.6
4	4.7	3.7	4.0	8.7	3.9	6.3	12.8	7.1	10.1	16.3	11.0	13.8
5	3.8	3.1	3.5	9.2	4.1	6.5	13.5	7.9	10.9	15.9	10.9	13.5
6	6.0	2.9	4.3	9.4	4.1	6.6	12.2	8.4	10.0	15.2	10.9	13.1
7	5.3	3.7	4.4	7.0	1.6	4.3	11.3	6.6	9.1	15.1	10.4	12.7
8	7.0	2.1	4.7	6.0	.0	3.1	10.4	7.1	9.0	13.4	10.7	12.3
9	7.8	4.1	5.9	7.5	1.5	4.4	12.6	6.5	9.5	15.2	9.7	12.4
10	7.7	4.1	5.8	8.3	1.4	4.9	12.3	7.2	9.6	16.6	11.1	13.7
11	6.3	2.5	4.6	6.7	2.7	4.8	11.8	6.5	8.9	16.5	11.1	13.9
12	7.4	2.4	5.0	8.5	1.6	5.0	11.9	7.2	9.6	16.4	11.4	14.0
13	7.5	2.1	4.9	10.6	4.1	7.3	12.3	7.9	9.8	17.2	11.3	14.3
14	9.1	3.8	6.3	9.5	5.8	7.5	12.7	7.8	10.0	16.2	11.2	13.9
15	7.0	4.4	5.6	10.7	4.8	7.8	11.5	8.0	9.6	16.2	10.8	13.6
16	6.1	5.3	5.7	8.9	7.1	7.8	8.0	6.0	6.8	16.3	10.6	13.6
17	8.1	4.7	6.2	10.9	6.0	8.2	11.3	5.4	8.3	17.3	10.8	14.0
18	7.2	5.8	6.4	9.1	1.3	5.1	10.8	7.5	8.8	17.0	12.2	14.7
19	9.1	4.7	6.8	8.0	1.1	4.3	11.4	6.5	9.1	16.4	11.8	14.2
20	8.0	3.5	5.9	8.8	3.8	6.5	13.1	8.4	10.8	16.8	11.6	14.4
21	9.0	3.4	6.3	9.5	4.0	7.0	13.7	8.5	11.2	17.3	12.0	14.4
22	10.4	4.4	7.4	11.3	5.7	8.6	14.8	8.6	11.9	16.7	11.8	14.1
23	11.0	4.8	8.0	12.2	7.6	10.1	15.7	9.5	12.7	17.4	11.4	14.3
24	10.1	5.5	8.1	14.0	8.6	11.4	15.6	10.0	13.0	16.9	12.2	14.4
25	8.5	5.2	6.7	14.4	9.5	12.0	13.5	9.7	11.6	16.9	11.5	14.2
26	7.0	2.9	5.0	13.7	9.4	11.7	10.6	7.9	9.0	17.0	12.5	14.8
27	6.9	3.3	5.1	11.5	8.4	10.1	11.5	7.2	9.1	18.4	11.7	14.9
28	6.4	2.0	4.3	11.0	7.3	9.3	12.4	8.4	10.2	18.6	12.4	15.6
29	---	---	---	10.7	7.0	8.9	13.4	8.0	10.5	19.1	13.1	16.1
30	---	---	---	8.7	5.9	6.9	13.0	8.7	11.0	19.3	13.4	16.5
31	---	---	---	10.6	5.4	8.0	---	---	---	18.7	13.1	15.9
MONTH	11.0	2.0	5.5	14.4	.0	7.0	15.7	5.4	9.9	19.3	9.7	14.1
	JUNE			JULY			AUGUST			SEPTEMBER		
1	19.5	13.2	16.2	23.6	17.6	20.2	21.9	19.5	20.7	21.8	19.3	20.6
2	19.2	13.0	16.0	22.9	17.7	20.2	23.9	18.9	21.2	24.8	18.7	21.6
3	17.0	13.7	15.3	23.2	17.9	20.2	23.4	19.4	21.4	25.7	19.5	22.6
4	16.8	12.9	14.7	22.7	17.8	20.0	---	19.1	---	25.0	19.1	22.2
5	14.5	12.7	13.3	24.5	18.6	21.2	---	---	---	25.0	19.1	22.0
6	17.4	13.0	14.8	21.7	18.5	20.2	---	---	---	24.8	18.9	21.9
7	18.2	13.6	15.7	20.6	18.6	19.5	24.7	---	---	24.5	19.1	21.9
8	19.5	13.8	16.5	22.0	18.3	20.0	26.2	19.5	22.7	24.4	19.4	21.9
9	20.6	14.5	17.6	22.8	18.7	20.6	24.5	20.2	22.5	24.6	18.6	21.6
10	18.2	13.9	15.8	23.9	18.3	20.8	22.4	19.4	21.2	24.5	18.8	21.8
11	21.0	13.7	17.2	23.4	18.4	20.8	23.7	18.7	21.0	24.8	18.7	21.8
12	21.9	14.7	18.3	24.3	18.6	21.2	23.5	18.5	21.0	24.3	18.9	21.7
13	20.3	14.5	17.5	24.6	18.7	21.4	24.4	19.0	21.7	23.2	19.2	21.3
14	19.9	13.9	16.8	23.3	18.3	20.8	24.9	18.9	21.9	23.8	18.6	21.1
15	20.4	14.1	17.1	23.8	18.4	20.8	23.4	19.0	21.4	23.9	18.5	21.1
16	20.9	14.3	17.7	24.4	18.3	21.2	24.6	18.7	21.5	23.9	17.8	20.9
17	20.2	14.8	17.6	24.8	18.1	21.5	24.7	19.0	22.0	24.3	18.2	21.2
18	21.2	14.1	17.5	25.8	18.5	22.1	25.1	19.7	22.6	24.0	18.0	21.0
19	22.2	14.8	18.6	24.8	18.8	21.9	24.0	20.4	22.2	23.9	18.0	21.0
20	22.6	15.4	19.0	26.5	18.6	22.4	25.4	19.5	22.4	23.4	18.4	20.9
21	23.1	16.1	19.5	26.5	18.9	22.6	25.5	20.1	22.9	23.1	19.2	20.8
22	22.7	16.2	19.6	24.6	19.4	21.9	26.0	20.3	23.2	22.2	17.4	19.6
23	22.6	16.1	19.5	23.3	19.1	21.0	26.3	20.0	23.3	22.3	17.5	19.8
24	21.8	15.8	19.0	24.0	19.4	21.6	24.6	20.2	22.5	23.8	18.5	21.1
25	22.5	16.1	19.3	24.9	19.6	22.0	25.2	19.5	22.2	22.7	17.9	20.5
26	23.1	15.9	19.5	21.9	19.6	20.8	25.0	20.0	22.6	22.8	17.1	19.9
27	23.0	16.8	19.9	24.1	19.2	21.5	23.8	20.5	22.4	22.8	16.3	19.5
28	23.4	17.6	20.3	24.7	19.0	21.6	24.6	19.2	21.9	23.6	17.0	20.1
29	23.7	17.9	20.6	24.0	19.3	21.6	25.0	19.2	22.2	21.0	17.5	19.2
30	21.8	18.0	19.8	23.4	19.6	21.4	25.3	19.8	22.8	22.5	16.8	19.4
31	---	---	---	22.2	19.0	20.6	24.0	20.1	22.3	---	---	---
MONTH	23.7	12.7	17.7	26.5	17.6	21.1	---	---	---	25.7	16.3	21.0

ARKANSAS RIVER BASIN

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.1	7.1	7.6	7.1	5.8	6.7	7.1	6.6	6.9	6.7	6.2	6.4
2	8.2	7.1	7.8	7.4	6.5	6.9	7.4	6.2	6.9	6.9	5.7	6.4
3	8.0	7.2	7.6	7.4	6.4	7.0	7.0	6.4	6.7	7.0	5.9	6.4
4	7.9	7.2	7.5	7.4	6.1	6.8	7.2	---	---	7.3	6.1	6.7
5	7.9	7.5	7.8	7.0	5.9	6.6	---	---	---	7.5	6.3	6.9
6	7.9	7.0	7.6	7.1	6.3	6.8	---	---	---	7.4	6.3	6.9
7	7.6	6.5	7.2	7.2	6.6	7.0	7.2	5.9	6.8	7.3	6.0	6.7
8	7.6	5.7	6.9	7.2	5.9	6.8	6.5	5.3	6.0	7.2	6.2	6.8
9	7.3	6.0	6.6	7.2	5.9	6.6	6.5	5.3	6.0	7.3	6.1	6.8
10	7.4	6.3	7.0	7.4	6.3	6.9	7.0	5.8	6.4	7.3	6.2	6.7
11	7.5	6.1	6.9	7.3	6.5	6.9	7.3	5.9	6.5	8.1	6.2	6.8
12	7.4	6.2	6.7	7.4	6.3	6.9	6.9	5.5	6.3	8.4	6.6	7.5
13	7.5	6.4	6.9	7.2	6.2	6.8	7.1	6.0	6.6	8.1	6.8	7.5
14	7.6	6.5	7.0	7.4	6.1	6.8	7.1	6.2	6.6	7.5	6.6	7.0
15	7.4	6.7	7.1	7.3	6.0	6.6	7.1	6.2	6.6	7.6	6.5	7.1
16	7.7	6.5	7.1	7.2	5.7	6.5	7.2	6.0	6.6	7.7	6.4	7.0
17	7.6	6.5	7.0	7.1	5.5	6.4	7.0	5.9	6.5	7.8	6.4	7.1
18	7.7	6.2	6.9	7.1	5.7	6.3	6.9	5.6	6.3	7.8	6.3	7.0
19	7.6	6.1	6.9	7.2	5.7	6.5	6.8	5.8	6.3	7.7	6.2	6.9
20	7.7	6.1	6.8	7.6	5.6	6.6	6.7	5.7	6.2	7.6	6.1	6.8
21	7.6	6.0	6.8	7.3	5.6	6.4	6.7	5.8	6.2	7.5	6.2	6.7
22	7.6	5.8	6.6	7.2	5.5	6.3	6.8	5.9	6.3	7.8	6.4	7.0
23	7.3	5.9	6.7	7.2	5.5	6.2	6.9	5.8	6.3	7.8	6.1	7.0
24	8.1	6.4	7.2	6.5	5.3	6.0	6.9	5.9	6.4	7.5	6.1	6.7
25	8.2	6.8	7.4	6.1	5.1	5.6	6.9	6.0	6.5	7.6	6.2	6.9
26	8.1	6.7	7.4	6.2	5.3	5.9	6.6	5.8	6.2	7.8	6.3	7.1
27	8.1	6.6	7.3	6.4	5.7	6.1	6.8	6.0	6.4	7.7	6.3	6.9
28	7.9	6.6	7.2	7.3	6.3	6.9	7.2	6.0	6.6	7.4	5.9	6.7
29	7.6	6.4	7.0	7.7	6.6	7.2	7.1	5.9	6.6	7.5	6.1	6.9
30	7.6	6.5	7.0	7.2	6.4	6.8	6.8	5.5	6.3	7.1	6.0	6.7
31	---	---	---	7.2	6.4	6.7	6.8	5.8	6.3	---	---	---
MONTH	8.2	5.7	7.1	7.7	5.1	6.6	---	---	---	8.4	5.7	6.9

07110400 CHICO CREEK NEAR PUEBLO CHEMICAL DEPOT, CO

LOCATION.--Lat 38°21'40", long 104°23'15", in NE¼NE¼ sec. 36, T.19 S., R.63 W., Pueblo County, Hydrologic Unit 11020004, on right bank, 6.6 mi northwest of the Pueblo Chemical Depot Headquarters, 8.0 mi northeast of Pueblo Memorial Airport, 9.3 mi upstream from mouth, and 10.5 mi northwest of Boone.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--May 1997 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 4,982 ft above sea level, from topographic map.

REMARKS.--Records fair except for Nov. 14 through Mar. 14 and those above 240 ft³/s, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	9.7	2.0	2.0	2.7	1.2	1.3	.70	.00	.00	20	.67
2	.01	4.5	1.6	2.0	2.4	1.2	1.8	.62	.00	.00	3.1	.14
3	.01	2.7	1.3	1.8	2.2	1.2	1.9	.68	.01	.01	1.5	.08
4	.01	2.1	1.2	1.9	2.4	1.4	1.9	.66	.01	105	.80	.09
5	.01	2.2	1.2	1.4	2.3	1.6	1.6	.64	.01	7.9	.37	.95
6	.01	1.8	1.2	1.5	2.3	1.6	1.4	.52	.01	1.3	.43	.24
7	.01	1.8	1.2	1.2	2.3	1.4	1.3	.45	.00	.54	.37	.09
8	.01	1.7	1.7	1.2	2.3	1.6	1.6	.47	.00	.30	.18	.06
9	.01	1.6	2.1	1.1	2.3	1.4	1.8	.48	.00	3.2	.13	.06
10	.01	1.5	2.0	1.0	2.2	1.3	1.7	.40	.00	1.4	.11	.06
11	.02	1.3	1.9	1.1	1.9	1.3	1.4	.38	.00	.40	3.4	.06
12	.03	1.4	e2.0	1.1	1.7	1.6	1.1	.35	.00	.23	29	.07
13	.02	1.4	e2.0	1.1	1.7	1.3	.81	.27	.00	.14	6.9	.08
14	.03	1.3	1.8	1.2	1.8	1.4	.68	.20	.01	.10	.68	.07
15	.03	1.1	1.7	1.2	1.8	1.4	.75	.17	.01	.08	.25	.06
16	.02	e1.3	1.7	1.4	2.3	1.5	.91	.16	.01	.07	.19	.05
17	.02	e1.4	1.8	1.5	3.8	1.6	1.4	.13	.00	.05	.17	.04
18	.01	1.3	1.9	1.3	3.2	3.2	1.3	.10	.00	.04	.10	.03
19	.01	1.4	2.0	1.7	2.8	7.7	1.1	.10	.00	.02	.07	.02
20	.02	1.8	1.9	1.8	2.5	9.9	1.3	.10	.00	.01	.07	.02
21	.01	2.3	2.2	2.1	2.1	8.1	1.4	.09	.00	.01	.07	.03
22	.01	2.4	2.2	1.2	1.9	6.7	1.2	.08	.00	116	.85	.04
23	.01	1.9	2.2	1.0	1.8	4.8	.88	.08	.00	145	.41	.03
24	.02	1.7	2.0	1.2	1.7	3.5	.79	.12	.00	47	.11	.03
25	.00	1.7	1.9	1.2	1.6	2.5	.73	.13	.00	27	11	.03
26	.58	1.7	2.1	1.3	1.4	2.1	.80	.11	.00	7.2	6.1	.02
27	.11	1.8	1.9	1.5	1.3	1.9	.68	.10	.00	6.1	1.6	.02
28	.23	2.8	1.7	1.6	1.2	1.6	.66	.05	.00	1.1	.71	.03
29	1.3	4.5	2.0	1.7	---	1.4	.71	.02	.00	4.4	.12	.02
30	1.4	3.0	1.9	2.2	---	1.4	.69	.01	.00	16	.06	.02
31	4.4	---	1.9	2.5	---	1.3	---	.00	---	50	.05	---
TOTAL	8.38	67.1	56.2	46.0	59.9	80.1	35.59	8.37	0.07	540.60	88.90	3.21
MEAN	.27	2.24	1.81	1.48	2.14	2.58	1.19	.27	.002	17.4	2.87	.11
MAX	4.4	9.7	2.2	2.5	3.8	9.9	1.9	.70	.01	145	29	.95
MIN	.00	1.1	1.2	1.0	1.2	1.2	.66	.00	.00	.00	.05	.02
AC-FT	17	133	111	91	119	159	71	17	.1	1070	176	6.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1998, BY WATER YEAR (WY)

	1997	1998	1998	1998	1998	1998	1998	1998	1998	1997	1998	1998
MEAN	.27	2.24	1.81	1.48	2.14	2.58	1.19	.27	2.07	15.4	4.63	.098
MAX	.27	2.24	1.81	1.48	2.14	2.58	1.19	.27	4.15	17.4	6.39	.11
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1997	1998	1997	1998
MIN	.27	2.24	1.81	1.48	2.14	2.58	1.19	.27	.002	13.4	2.87	.089
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1997	1998	1997

SUMMARY STATISTICS

FOR 1998 WATER YEAR

WATER YEARS 1997 - 1998

ANNUAL TOTAL	994.42	
ANNUAL MEAN	2.72	2.72
HIGHEST ANNUAL MEAN		2.72
LOWEST ANNUAL MEAN		2.72
HIGHEST DAILY MEAN	145	399
LOWEST DAILY MEAN	a.00	a.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00
INSTANTANEOUS PEAK FLOW	b866	b3590
INSTANTANEOUS PEAK STAGE	7.64	c9.85
ANNUAL RUNOFF (AC-FT)	1970	1970
10 PERCENT EXCEEDS	2.7	2.6
50 PERCENT EXCEEDS	1.2	.64
90 PERCENT EXCEEDS	.01	.01

e-Estimated.

a-No flow many days most years.

b-From rating curve extended above 240 ft³/s, on basis of slope-area measurement of peak flow.

c-From flood marks.

ARKANSAS RIVER BASIN

07116500 HUERFANO RIVER NEAR BOONE, CO

LOCATION.--Lat 38°13'30", long 104°15'37", in NE¼NE¼ sec.18, T.21 S., R.61 W., Pueblo County, Hydrologic Unit 11020006, at right upstream end of bridge on U.S. Highway 50, 0.8 mi upstream from mouth, and 1.6 mi south of Boone.

DRAINAGE AREA.--1,875 mi².

PERIOD OF RECORD.--January 1922 to September 1925 (monthly and annual discharge only, published in WSP 1311 as "near Nepesta"), October 1979 to current year.

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gages. Datum of gage is 4,443.75 ft above sea level. Jan. 1922 to Sept. 1925, at same site, different datum.

REMARKS.--Records fair except estimated daily discharges and discharges above 1000 ft³/s, which are poor. Natural flow of stream affected by diversions for irrigation of about 48,000 acres, and return flow from irrigated areas. Several measurements of water temperature and specific conductance were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	91	32	36	89	33	243	149	387	38	25	8.6
2	25	52	35	42	80	35	282	140	472	16	17	10
3	9.2	50	41	46	76	41	301	169	444	4.7	28	10
4	6.7	62	34	50	88	46	298	213	291	4.0	46	13
5	9.3	60	33	49	83	47	281	260	256	e3.9	64	10
6	13	43	38	43	80	45	272	426	293	e3.7	58	7.9
7	12	46	41	37	78	43	284	312	372	e3.2	38	6.7
8	13	31	60	35	83	41	311	417	342	e2.6	37	5.3
9	9.1	35	77	31	82	41	297	563	240	2.1	28	4.1
10	6.5	34	66	23	88	43	294	615	160	1.2	18	3.8
11	8.5	31	49	31	75	44	244	671	113	1.1	14	3.9
12	34	31	e45	38	77	41	209	760	39	.95	30	3.1
13	39	34	e40	39	81	42	204	204	15	.60	19	2.7
14	20	29	37	39	64	38	190	85	12	.31	9.0	2.9
15	11	26	43	45	56	38	204	81	13	1.0	7.5	3.0
16	13	32	40	44	60	39	246	105	16	1.8	8.7	3.1
17	12	33	43	41	61	44	237	81	8.7	1.4	7.6	4.0
18	12	43	41	50	55	68	233	62	8.1	.62	7.7	4.7
19	8.4	32	e40	48	61	95	237	62	7.2	.39	5.5	7.4
20	9.0	36	e40	42	54	114	229	136	5.6	.26	4.4	11
21	12	20	e41	36	50	126	225	113	4.5	.07	4.4	13
22	18	17	e41	37	46	127	210	110	4.0	.10	8.6	14
23	16	15	e40	39	48	122	195	106	3.3	.94	4.6	17
24	16	13	e38	40	42	131	149	146	3.2	4.7	4.9	17
25	e19	15	37	54	45	126	85	398	2.8	6.4	15	16
26	e24	14	26	61	43	121	103	297	2.6	34	30	17
27	e27	30	26	73	41	131	202	289	2.7	35	17	18
28	e31	34	23	79	40	136	173	301	3.8	3.3	12	15
29	e35	28	32	83	---	132	135	336	4.3	4.6	8.6	12
30	40	39	32	88	---	134	146	358	5.2	37	6.8	12
31	80	---	35	85	---	202	---	369	---	73	5.8	---
TOTAL	620.7	1056	1246	1484	1826	2466	6719	8334	3531.0	286.94	590.1	276.2
MEAN	20.0	35.2	40.2	47.9	65.2	79.5	224	269	118	9.26	19.0	9.21
MAX	80	91	77	88	89	202	311	760	472	73	64	18
MIN	6.5	13	23	23	40	33	85	62	2.6	.07	4.4	2.7
AC-FT	1230	2090	2470	2940	3620	4890	13330	16530	7000	569	1170	548

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1998, BY WATER YEAR (WY)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	8.90	16.2	15.7	21.7	26.2	23.5	33.0	157	110	28.2	32.6	6.88							
MAX	46.7	46.0	40.2	65.1	65.2	129	224	1113	667	226	254	26.5							
(WY)	1985	1986	1988	1984	1998	1984	1998	1987	1983	1995	1981	1995							
MIN	.000	.000	.000	.000	.13	2.12	.47	.53	.16	.000	.36	.000							
(WY)	1990	1990	1990	1990	1990	1990	1990	1992	1981	1989	1988	1980							

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1980 - 1998
ANNUAL TOTAL	10436.24	28435.94	
ANNUAL MEAN	28.6	77.9	40.1
HIGHEST ANNUAL MEAN			153
LOWEST ANNUAL MEAN			5.09
HIGHEST DAILY MEAN	769	760	2900
LOWEST DAILY MEAN	a.00	.07	b.00
ANNUAL SEVEN-DAY MINIMUM	.03	.54	.00
INSTANTANEOUS PEAK FLOW		1020	c8030
INSTANTANEOUS PEAK STAGE		10.21	d10.90
ANNUAL RUNOFF (AC-FT)	20700	56400	29040
10 PERCENT EXCEEDS	60	238	65
50 PERCENT EXCEEDS	9.6	39	7.2
90 PERCENT EXCEEDS	1.4	4.1	.00

e-Estimated.

a-Also occurred Jul 17-19, and Aug 4.

b-No flow many days most years.

c-From rating curve extended above 1130 ft³/s. Maximum discharge for period of record, 19400 ft³/s, Aug 1, 1923, gage height, 9.4 ft, datum then in use, from rating curve extended above 1200 ft³/s, on the basis of slope-area measurement of peak flow.

d-From flood marks. Maximum gage height for statistical period, 11.75 ft, Jul 19, 1995.

07119500 APISHAPA RIVER NEAR FOWLER, CO

LOCATION.--Lat 38°05'28", long 103°58'52", in SE¼NW¼ sec.35, T.22 S., R.59 W, Otero Country, Hydrologic Unit 11020007, near right bank on downstream side of county road bridge HH.5 (revised), 3.5 mi southeast of Fowler, and 5.4 mi upstream from mouth.

DRAINAGE AREA.--1,125 mi².

PERIOD OF RECORD.--Streamflow records, April 1922 to September 1925, May 1939 to current year. Monthly discharge only for some periods, published in WSP 1311. Water-quality data available, November 1963 to September 1967, January to April 1969.

REVISED RECORDS.--WSP 957: 1939, 1941. WSP 1117: Drainage area. WSP 1241: 1923(M). WRD Colo. 1974: 1973(M).

GAGE.--Water-stage recorder with satellite telemetry and crest-stage gages. Datum of gage is 4,317.05 ft above sea level. Prior to Aug. 29, 1923, at site 3 mi downstream at different datum. Aug. 29, 1923 to Sept. 30, 1925, at present site at different datum. May 27, 1939 to July 30, 1940, at present site at different datum. July 30, 1940 to Sept. 30, 1985, at datum 2.0 ft higher.

REMARKS.--Records good except Nov. 20 to Mar. 31, which are fair, and estimated daily discharges, which are poor. Waste water from Oxford Farmers Co., and Rocky Ford Highline canals enters river upstream from station. Diversions upstream from station for irrigation of about 4,700 acres. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	5.1	4.9	e3.8	3.3	2.7	44	110	39	9.9	18	19
2	25	5.0	4.9	3.8	3.3	2.7	39	98	36	13	30	19
3	25	5.0	4.7	3.7	3.3	2.7	35	90	29	12	35	21
4	28	5.0	4.7	3.7	3.3	2.7	35	79	26	11	e410	20
5	27	5.0	4.5	3.7	3.3	2.7	24	77	25	11	e124	16
6	20	5.4	4.4	e3.6	3.3	2.7	24	76	25	10	52	7.5
7	19	5.0	4.2	e3.5	3.3	2.7	e30	75	25	10	26	7.4
8	22	4.9	4.2	e3.5	3.3	2.7	e32	87	22	11	24	12
9	23	4.9	4.2	3.5	3.3	2.6	e29	82	20	14	49	13
10	23	5.1	4.2	3.5	3.4	2.6	25	78	16	15	e36	13
11	23	4.9	4.2	3.5	3.7	2.5	18	76	15	16	e29	9.5
12	24	26	e4.2	3.5	3.3	2.6	21	66	15	17	21	13
13	15	16	4.2	3.5	3.3	2.7	17	61	19	17	28	16
14	9.4	5.6	4.2	3.5	3.2	2.7	19	43	18	17	20	15
15	11	4.8	4.1	3.4	3.1	2.7	19	39	14	16	22	43
16	25	4.7	4.1	e3.4	3.1	2.7	28	39	12	17	18	28
17	18	5.0	4.0	3.4	3.1	7.4	32	39	16	17	18	19
18	7.6	5.2	4.0	3.4	3.1	7.5	37	38	14	14	14	18
19	5.2	5.8	4.0	e3.4	3.1	2.9	44	35	14	7.3	15	18
20	15	6.1	4.0	3.4	3.1	3.9	47	40	9.5	14	37	18
21	22	6.1	4.0	e3.4	3.0	4.5	45	43	5.9	14	23	12
22	19	6.1	4.0	3.3	2.9	3.7	60	45	5.8	12	18	13
23	16	6.1	3.9	3.3	2.9	2.9	58	36	8.7	12	20	13
24	19	6.0	3.9	3.3	2.9	2.9	53	34	6.0	13	13	14
25	14	5.8	e3.9	3.3	2.7	4.3	52	101	6.2	35	44	14
26	5.2	5.5	e3.9	3.3	2.7	3.3	85	60	6.2	56	39	20
27	5.1	5.3	e3.9	3.3	2.7	4.9	94	57	6.4	36	27	19
28	5.1	5.0	e3.8	3.3	2.7	7.4	85	51	7.3	41	19	15
29	5.1	4.9	e3.8	3.3	---	17	109	44	7.6	57	17	13
30	5.0	4.9	e3.8	3.3	---	29	131	41	9.2	163	16	14
31	5.2	---	e3.8	3.3	---	33	---	39	---	30	17	---
TOTAL	512.9	190.2	128.6	107.1	87.7	177.3	1371	1879	478.8	738.2	1279	492.4
MEAN	16.5	6.34	4.15	3.45	3.13	5.72	45.7	60.6	16.0	23.8	41.3	16.4
MAX	28	26	4.9	3.8	3.7	33	131	110	39	163	410	43
MIN	5.0	4.7	3.8	3.3	2.7	2.5	17	34	5.8	7.3	13	7.4
AC-FT	1020	377	255	212	174	352	2720	3730	950	1460	2540	977

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1998, BY WATER YEAR (WY)

MEAN	15.4	16.8	11.1	7.02	9.35	11.4	22.1	42.9	45.7	54.1	65.3	19.7
MAX	87.2	83.1	54.7	30.4	54.0	59.6	530	576	290	306	628	154
(WY)	1924	1966	1966	1966	1971	1924	1942	1955	1948	1958	1923	1940
MIN	1.06	.90	1.33	2.37	1.85	1.35	.94	1.65	1.13	1.53	1.56	1.07
(WY)	1965	1940	1955	1976	1976	1955	1955	1975	1954	1974	1974	1956

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1922 - 1998

ANNUAL TOTAL	5292.0	7442.2	
ANNUAL MEAN	14.5	20.4	27.0
HIGHEST ANNUAL MEAN			105
LOWEST ANNUAL MEAN			5.73
HIGHEST DAILY MEAN	246	Aug 11	e410
LOWEST DAILY MEAN	2.3	Feb 3	2.5
ANNUAL SEVEN-DAY MINIMUM	2.5	Feb 1	2.6
INSTANTANEOUS PEAK FLOW			1570
INSTANTANEOUS PEAK STAGE			c8.30
ANNUAL RUNOFF (AC-FT)	10500	14760	19530
10 PERCENT EXCEEDS	23	44	44
50 PERCENT EXCEEDS	9.9	12	6.9
90 PERCENT EXCEEDS	3.2	3.3	1.9

e-Estimated.
a-From slope-area measurement of peak flow, at site 2 mi upstream from present site, caused by failure of Apishapa Dam 31 mi upstream.
b-Peak stage for flood of Aug 22, 1923, unknown.
c-From high water mark.

07119700 ARKANSAS RIVER AT CATLIN DAM NEAR FOWLER, CO

LOCATION.--Lat 38°07'33", long 103°54'41", in NW¹/₄NW¹/₄ sec.21, T.22 S., R.58 W., Otero County, Hydrologic Unit 11020005, 600 ft downstream from gage on Catlin Canal, on right bank 2.2 mi downstream from diversion dam for Catlin Canal, 2.3 mi downstream from Apishapa River, and 6.0 mi east of Fowler.

DRAINAGE AREA.--10,901 mi², of which 54 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year. Statistical summary computed for 1975 to current year.

GAGE.--Water-stage recorders with satellite telemetry on river and on Catlin Canal. Datum of river gage is 4,245.92 ft above sea level. Datum of canal gage is 4,257.87 ft above sea level. Prior to May 13, 1971, river gage at site 2.2 mi upstream at datum 24.08 ft higher, and canal gage at site 1.7 mi upstream at datum 3.26 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Discharge computed by combining discharge of river below canal with that of Catlin Canal. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals, diversions for irrigation, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	654	1090	956	552	505	440	1350	1920	1170	1370	2570	410
2	592	1070	1020	570	523	433	1250	1290	1370	1460	1880	374
3	560	963	1150	597	558	460	1240	1220	1660	1540	1900	444
4	541	896	1120	630	536	654	1260	1330	1790	1520	2450	473
5	545	823	1040	633	521	600	1180	1470	2120	1450	2760	727
6	528	749	816	632	507	579	1050	1820	2880	1070	1320	1130
7	452	698	797	601	488	544	818	2200	3170	1160	1030	1090
8	458	704	835	553	489	536	865	2250	2550	1360	1080	1020
9	524	752	980	531	498	536	1010	2360	1250	1190	744	916
10	580	793	971	538	492	547	1050	2380	595	1140	1250	859
11	600	821	937	581	499	638	2010	2090	559	1380	1360	595
12	716	822	880	597	494	680	2720	1980	612	1550	1670	458
13	731	931	895	602	488	704	2680	1800	563	1020	1210	429
14	550	923	914	596	563	663	2610	1400	616	912	668	418
15	400	932	966	596	525	684	1290	1400	679	995	1180	493
16	413	924	913	632	470	712	825	1380	1040	955	1450	438
17	403	928	730	597	470	804	1120	1410	1020	924	1350	406
18	330	947	610	609	525	843	984	1280	889	961	1260	397
19	222	786	591	593	489	982	1040	1250	792	824	936	429
20	198	729	589	547	525	1130	1110	1390	744	656	672	450
21	197	771	560	547	501	1340	1100	1490	680	596	714	449
22	204	745	527	478	491	1300	1040	1570	664	535	771	450
23	204	463	532	497	476	1140	964	1680	703	579	598	478
24	229	397	535	503	324	1060	1010	1610	699	938	488	531
25	162	848	558	515	303	791	1210	1640	682	993	528	573
26	313	878	535	508	324	934	1850	1380	856	1220	812	533
27	784	857	504	520	380	1070	2740	1180	993	1360	720	564
28	691	939	476	530	436	2140	2780	1180	1130	1200	653	434
29	939	1130	484	490	---	1940	2850	1020	1290	1340	796	399
30	953	1040	519	567	---	1810	2650	923	1290	3200	689	359
31	1020	---	539	558	---	1570	---	1000	---	2850	511	---
TOTAL	15693	25349	23479	17500	13400	28264	45656	48293	35056	38248	36020	16726
MEAN	506	845	757	565	479	912	1522	1558	1169	1234	1162	558
MAX	1020	1130	1150	633	563	2140	2850	2380	3170	3200	2760	1130
MIN	162	397	476	478	303	433	818	923	559	535	488	359
AC-FT	31130	50280	46570	34710	26580	56060	90560	95790	69530	75860	71450	33180

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1998, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	418	442	377	421	410	421	612	1232	2175	1441	1005	456													
MAX (WY)	1234	925	773	854	1249	912	1526	3888	4420	4108	2384	1209	1985	1985	1987	1988	1987	1995	1995	1984	1982				
MIN (WY)	91.0	152	133	175	180	175	86.6	212	433	286	526	84.5	1979	1979	1991	1990	1995	1978	1978						

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR
ANNUAL TOTAL	392105	343684						
ANNUAL MEAN	1074	942						
HIGHEST ANNUAL MEAN								a785
LOWEST ANNUAL MEAN								1327
HIGHEST DAILY MEAN	5680	Jun 13	3200	Jul 30				1995
LOWEST DAILY MEAN	156	Feb 18	162	Oct 25				351
ANNUAL SEVEN-DAY MINIMUM	179	Feb 14	202	Oct 19				1977
INSTANTANEOUS PEAK FLOW			d3930	Jul 30				b8480
INSTANTANEOUS PEAK STAGE			not determined					c30
ANNUAL RUNOFF (AC-FT)	777700	681700						46
10 PERCENT EXCEEDS	1970	1650						f23300
50 PERCENT EXCEEDS	793	792						10.81
90 PERCENT EXCEEDS	312	456						569100

a-Average discharge for 9 years (water years 1965-73), 636 ft³/s, 460800 acre-ft/yr, prior to completion of Pueblo Dam.

b-Maximum daily discharge for period of record, 43200 ft³/s, Jun 18, 1965.

c-Also occurred Sep 12, 1974.

d-Maximum combined instantaneous discharge.

f-Maximum discharge and stage for period of record, 43200 ft³/s, Jun 18, 1965, gage height, 7.95 ft, site and datum then in use, from rating curve extended above 13000 ft³/s, on basis of flow-over-dam computation of peak flow.

**07119700 ARKANSAS RIVER AT CATLIN DAM NEAR FOWLER, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--May 1990 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1990 to current year.

WATER TEMPERATURE: May 1990 to current year.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for daily specific conductance are fair. Records for water temperature are good. Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,800 microsiemens, Apr. 27, 1991; minimum, 244 microsiemens, May 25, 1993.

WATER TEMPERATURE: Maximum, 30.9°C, Aug. 9, 1992; minimum, 0.0°C, many days during the winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,540 microsiemens, Feb. 25-26; minimum, 543 microsiemens, July 30.

WATER TEMPERATURE: Maximum, 30.3°C, July 21; minimum, 0.0°C, many days during winter.

* * * * *

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

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SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1050	1000	1020	1030	967	1000	1090	1050	1060	1420	1390	1400
2	1090	1050	1070	1030	975	991	1060	980	1040	1420	1390	1400
3	1110	1080	1100	982	950	958	980	920	944	1430	1400	1420
4	1110	1100	1110	1000	975	984	944	920	933	1410	1380	1400
5	1110	1090	1100	1060	998	1020	946	918	928	1400	1380	1390
6	1110	1100	1110	1090	1060	1070	1060	946	1020	1400	1370	1390
7	1130	1100	1120	1150	1080	1100	1070	1050	1060	1430	1370	1390
8	---	---	---	1160	1120	1140	1070	1050	1070	1470	1400	1430
9	---	---	---	1120	1080	1100	1070	986	1020	1450	1420	1440
10	---	---	---	1090	1060	1080	1040	988	1020	1450	1370	1430
11	---	---	---	1100	1040	1070	1050	1000	1030	1430	1350	1400
12	---	---	---	1210	1030	1080	1070	983	1010	1420	1380	1400
13	---	---	---	1110	1020	1040	1070	1020	1050	1400	1380	1390
14	---	---	---	1040	999	1020	1050	1020	1030	1400	1350	1390
15	---	---	---	1030	995	1010	1040	991	1020	1390	1360	1380
16	---	---	---	1030	960	987	1090	985	1010	1400	1370	1390
17	1060	1030	1050	1010	951	984	1200	1090	1160	1410	1370	1390
18	1160	1050	1100	1010	959	982	1340	1200	1290	1410	1390	1400
19	1250	1150	1210	1050	998	1020	1360	1330	1350	1410	1390	1400
20	---	---	---	1130	1020	1050	1370	1350	1360	1420	1400	1410
21	1420	---	---	1060	1020	1040	1390	1300	1370	1420	1390	1400
22	1440	1350	1400	1080	1040	1060	1390	1370	1380	1410	1390	1400
23	1440	1370	1410	1230	1070	1160	1410	1370	1390	1410	1390	1400
24	1490	1180	1390	1270	1200	1220	1410	1390	1400	1400	1380	1390
25	1420	1110	1220	1230	978	1030	1410	1310	1390	1390	1350	1370
26	1400	1080	1230	990	948	971	1420	1320	1380	1380	1360	1370
27	1110	962	987	1000	952	969	1440	1380	1410	1370	1340	1350
28	1020	986	1010	1000	940	965	1450	1360	1400	1340	1330	1340
29	1000	931	974	1020	904	958	1430	1360	1410	1370	1280	1320
30	982	943	966	1120	1020	1080	1430	1350	1400	1400	1300	1320
31	1010	---	---	---	---	---	1420	1400	1410	1350	1310	1340
MONTH	---	---	---	1270	904	1040	1450	918	1190	1470	1280	1390

07119700 ARKANSAS RIVER AT CATLIN DAM NEAR FOWLER, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1370	1320	1340	1260	1220	1230	917	815	866	810	706	736
2	1380	1370	1370	1230	1210	1220	---	---	---	840	810	825
3	1400	1360	1380	1240	1200	1220	---	---	---	846	819	832
4	1410	1390	1400	1250	1120	1180	---	---	---	847	815	832
5	1410	1380	1400	1250	1140	1190	---	---	---	839	798	818
6	1400	1390	1400	1260	1240	1250	1010	996	1000	951	775	824
7	1400	1390	1390	1300	1260	1280	1050	1010	1040	804	785	795
8	1400	1390	1390	1300	1270	1280	---	---	---	827	778	796
9	1400	1380	1390	1280	1260	1270	---	---	---	835	820	830
10	1400	1380	1390	1280	1270	1270	---	---	---	833	802	815
11	1390	1370	1380	1270	1160	1210	---	---	---	857	817	831
12	1390	1360	1380	1180	1110	1130	---	---	---	882	837	863
13	1400	1370	1390	1130	1080	1100	---	---	---	884	864	874
14	1390	1320	1380	1240	1050	1100	860	682	704	878	833	849
15	1360	1250	1300	1110	1080	1090	897	698	768	839	784	807
16	1370	1360	1360	1110	1060	1080	993	897	962	805	784	801
17	1390	1360	1380	1090	1030	1050	944	927	937	790	774	782
18	1390	1370	1380	1090	974	1040	991	940	963	796	783	789
19	1380	1370	1370	976	958	968	988	955	969	801	765	786
20	1380	1350	1370	990	962	973	958	935	947	769	750	761
21	1400	1360	1380	986	958	973	958	939	949	772	751	764
22	1400	1390	1390	985	936	959	959	939	949	763	732	745
23	1410	1390	1400	1010	985	1010	957	943	950	743	709	721
24	1500	1400	1460	1040	993	1010	955	889	933	736	716	727
25	1540	1500	1520	1110	1040	1090	889	818	859	823	719	753
26	1540	1420	1500	1110	999	1060	818	737	780	840	784	802
27	1420	1300	1350	1010	893	963	770	737	749	809	785	795
28	1300	1220	1240	---	---	---	831	754	780	800	785	792
29	---	---	---	798	745	765	800	736	761	849	791	811
30	---	---	---	793	755	766	744	717	729	862	820	840
31	---	---	---	815	782	788	---	---	---	834	794	814
MONTH	1540	1220	1390	---	---	---	---	---	---	951	706	800
	JUNE			JULY			AUGUST			SEPTEMBER		
1	799	773	786	676	631	651	748	663	684	1250	1040	1150
2	784	742	765	860	654	731	747	692	710	1310	1130	1180
3	747	725	735	793	623	687	758	636	684	1280	1120	1170
4	736	722	727	652	623	632	1080	671	756	1200	1050	1150
5	726	697	713	666	626	647	740	670	717	1050	765	951
6	711	680	700	679	663	673	916	720	837	765	720	735
7	704	680	693	670	635	653	953	882	934	757	725	737
8	723	697	712	656	631	642	957	850	883	816	752	773
9	893	714	773	678	653	660	1160	957	1010	811	787	793
10	1000	893	964	689	674	681	1230	841	910	832	810	820
11	1060	1000	1040	676	650	663	977	880	927	1010	811	900
12	1080	1040	1060	656	618	638	917	849	889	1290	1010	1060
13	1120	1060	1090	671	624	640	1060	902	1010	1300	1070	1160
14	1060	970	998	671	637	655	1040	965	1010	1140	1050	1110
15	971	902	942	648	627	636	1040	863	911	1260	1050	1150
16	902	846	868	656	629	641	896	830	871	1180	1160	1170
17	858	835	847	660	625	635	855	836	843	1160	1130	1150
18	883	845	860	671	649	663	912	817	853	1150	1120	1140
19	910	872	886	731	671	695	916	879	897	1120	1100	1110
20	934	902	913	807	731	768	1170	907	1000	1110	1050	1080
21	947	915	927	762	734	746	1250	952	982	1090	1050	1060
22	947	906	930	788	753	777	1010	949	974	1100	1080	1090
23	967	889	929	787	742	763	1030	989	1000	1080	1050	1060
24	937	862	879	771	638	719	---	994	---	1050	1000	1030
25	877	848	867	756	643	704	---	973	---	1010	991	999
26	848	791	816	923	671	711	973	902	936	1060	1010	1040
27	802	744	777	707	668	681	1040	934	993	1040	1010	1020
28	746	682	709	746	669	697	999	913	944	1180	1030	1130
29	692	652	671	669	565	630	929	874	892	1200	1160	1180
30	695	635	653	681	543	602	960	875	901	1310	1180	1230
31	---	---	---	674	596	628	1110	960	1020	---	---	---
MONTH	1120	635	841	923	543	676	---	636	---	1310	720	1040

07119700 ARKANSAS RIVER AT CATLIN DAM NEAR FOWLER, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	22.8	---	---	11.0	8.5	9.6	4.7	3.9	4.2	5.2	.8	2.8
2	22.2	16.7	19.4	9.8	6.8	8.4	4.5	3.6	4.0	6.6	2.4	4.4
3	21.0	17.1	18.9	9.8	6.5	8.4	5.2	3.4	4.2	4.8	3.0	4.1
4	21.0	15.0	17.9	10.8	7.3	8.6	4.2	2.2	3.2	4.3	2.5	3.2
5	20.6	14.5	17.5	10.8	6.9	8.8	3.0	1.5	2.0	5.5	2.3	3.7
6	19.9	14.8	17.3	10.4	6.9	8.5	2.7	1.1	1.8	4.4	1.0	3.1
7	20.0	14.5	17.4	10.9	6.7	8.7	3.9	1.8	2.7	1.3	.0	.3
8	---	---	---	11.3	7.7	9.3	3.9	1.4	2.7	.6	.0	.1
9	---	---	---	9.2	5.6	7.5	3.6	1.2	2.0	.0	.0	.0
10	---	---	---	6.1	4.4	5.3	3.5	1.5	2.3	.3	.0	.0
11	---	---	---	5.1	1.9	3.3	2.5	.3	1.5	2.1	.0	.8
12	---	---	---	6.5	1.6	4.1	.3	.0	.1	1.2	.0	.7
13	---	---	---	7.7	5.0	6.0	1.4	.0	.5	1.8	.0	.9
14	---	---	---	5.7	2.4	3.4	2.7	.3	1.3	3.7	.0	1.5
15	---	---	---	3.4	.9	2.2	3.2	1.0	2.1	2.8	.0	1.2
16	---	---	---	3.2	.0	1.7	3.8	1.6	2.5	4.8	.8	2.6
17	16.4	---	---	4.5	1.0	2.9	3.9	.8	2.3	5.3	1.3	3.0
18	17.0	10.5	13.6	6.3	2.7	4.6	4.2	1.4	2.7	6.2	1.8	3.7
19	13.9	10.7	12.3	---	3.9	---	3.7	1.2	2.5	4.8	2.0	3.3
20	14.0	10.3	11.9	8.3	4.8	6.5	4.5	1.9	3.2	5.4	1.7	3.4
21	15.4	10.6	12.5	7.4	5.9	6.6	4.0	2.3	3.1	3.3	1.1	2.1
22	15.5	9.4	12.2	6.9	4.5	5.7	4.8	2.2	3.4	3.6	.0	1.5
23	15.6	10.0	12.5	5.3	3.4	4.3	4.5	2.6	3.5	4.9	.5	2.4
24	13.1	3.4	10.0	7.7	2.3	4.7	3.3	1.6	2.5	3.5	.3	2.0
25	8.3	.0	2.9	6.4	3.8	5.1	3.4	.0	1.3	5.6	1.1	2.9
26	8.3	.0	2.6	6.2	5.1	5.6	1.4	.0	.3	5.5	.8	3.1
27	2.7	.0	.9	7.2	4.0	5.7	.5	.0	.1	6.1	1.4	3.6
28	8.4	2.7	5.8	6.5	3.3	4.3	1.4	.0	.3	6.7	2.0	4.2
29	8.3	6.1	7.2	5.5	3.3	4.3	2.5	.0	.9	6.9	2.0	4.3
30	9.9	6.5	8.2	6.0	3.6	4.8	4.1	.0	1.8	6.2	2.6	4.4
31	11.6	7.9	9.6	---	---	---	4.0	.1	2.0	7.3	3.9	5.4
MONTH	---	---	---	---	.0	---	5.2	.0	2.2	7.3	.0	2.5
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.3	4.4	5.9	8.0	.8	4.1	12.3	7.8	10.0	16.5	11.5	14.0
2	6.4	3.6	5.0	8.8	1.2	4.8	10.8	8.6	9.8	18.2	13.3	15.8
3	4.2	3.3	3.6	10.3	2.5	6.1	11.3	7.9	9.5	19.5	14.5	17.1
4	5.4	3.2	3.9	8.3	4.5	6.1	12.4	9.3	10.8	19.7	14.8	17.4
5	3.3	2.3	2.7	9.8	4.6	6.7	14.0	10.5	12.2	19.5	15.1	17.2
6	5.1	2.1	3.3	10.1	4.3	7.0	14.0	11.8	13.2	19.0	15.3	17.0
7	4.7	2.7	3.7	6.8	1.1	4.2	14.1	9.2	11.6	18.3	14.1	16.2
8	7.3	2.7	4.7	6.0	.0	2.4	---	---	---	16.5	13.9	15.0
9	8.0	4.7	6.0	7.5	1.1	3.9	---	---	---	16.5	12.5	14.5
10	6.8	4.3	5.3	9.0	1.1	4.9	---	---	---	18.0	13.7	15.8
11	7.7	2.7	5.2	6.3	2.1	4.1	---	---	---	19.0	14.4	16.7
12	8.0	2.8	5.3	8.9	1.1	4.8	---	---	---	18.5	15.1	16.8
13	8.0	2.2	5.0	11.5	4.4	7.8	---	---	---	19.3	14.6	17.0
14	9.1	3.8	6.2	11.7	6.6	8.1	13.6	10.1	11.8	19.5	14.7	17.1
15	6.7	5.0	6.0	10.6	5.6	8.3	12.2	9.7	10.9	19.9	15.1	17.5
16	6.0	5.3	5.7	9.9	7.9	8.9	10.0	8.1	8.9	19.4	14.7	17.3
17	8.0	4.9	6.1	10.6	7.5	8.8	11.5	6.2	9.0	18.9	15.1	17.2
18	7.3	5.4	6.2	9.4	2.3	6.3	10.8	8.7	9.6	20.3	15.5	17.9
19	9.4	4.6	6.7	7.3	1.8	4.5	12.5	7.3	10.0	20.3	16.4	18.4
20	8.9	4.0	6.4	9.4	5.3	7.4	14.1	9.6	11.8	20.3	15.9	18.3
21	10.0	4.4	7.0	10.3	6.8	8.6	15.5	11.2	13.2	19.8	16.5	18.2
22	11.0	4.7	7.6	11.8	7.8	9.9	17.0	10.8	13.8	20.0	15.3	17.6
23	11.6	5.3	8.4	13.2	10.1	11.8	18.7	12.4	15.4	19.8	15.1	17.5
24	12.6	5.4	8.6	15.2	11.0	13.1	18.3	14.1	16.1	20.0	15.7	17.6
25	9.7	3.9	6.6	16.4	11.8	14.1	17.8	13.5	15.5	19.3	14.7	17.0
26	9.0	2.9	5.6	15.1	12.0	13.5	15.6	9.6	12.3	20.4	15.8	18.1
27	8.1	2.8	5.0	14.4	11.3	12.9	11.1	8.0	9.6	21.8	15.6	18.7
28	7.8	.7	4.0	13.2	10.9	11.9	13.1	9.2	11.1	22.7	17.5	20.3
29	---	---	---	11.9	9.5	10.8	13.9	9.5	11.8	22.9	18.0	20.5
30	---	---	---	10.4	7.7	8.3	15.0	10.7	12.9	24.7	18.6	21.6
31	---	---	---	10.7	---	---	---	---	---	23.3	18.9	21.2
MONTH	12.6	.7	5.6	16.4	---	---	---	---	---	24.7	11.5	17.5

07119700 ARKANSAS RIVER AT CATLIN DAM NEAR FOWLER, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	23.6	17.7	20.7	26.0	20.7	23.2	24.0	21.1	22.5	21.8	18.0	19.9
2	23.0	18.3	20.9	25.7	20.6	23.1	25.5	20.3	22.9	26.8	17.0	21.4
3	21.3	16.7	18.3	25.9	20.4	22.9	24.9	20.8	23.0	26.3	17.9	22.1
4	17.9	14.5	16.1	25.1	20.9	23.1	23.3	13.6	19.2	26.4	18.5	22.5
5	16.3	13.0	14.3	26.7	21.2	23.8	21.8	18.0	19.8	25.7	19.8	22.8
6	17.1	12.3	14.6	25.7	22.8	24.3	25.6	19.7	22.5	25.1	20.0	22.7
7	18.6	15.2	16.8	23.9	21.6	22.6	27.0	21.0	24.0	24.8	20.7	23.0
8	20.2	15.7	17.8	23.9	20.5	22.3	28.1	22.0	24.9	24.8	20.9	22.9
9	22.2	16.2	19.1	25.7	21.4	23.4	27.3	22.1	24.4	24.3	19.4	21.8
10	22.3	16.6	19.2	26.7	20.7	23.7	25.0	21.0	22.9	24.3	19.3	21.9
11	24.3	16.3	20.0	26.6	21.9	24.3	25.0	20.4	22.6	25.9	19.4	22.4
12	24.9	17.4	20.9	26.3	22.6	24.6	25.3	19.9	22.4	25.7	18.3	21.8
13	22.4	18.1	20.2	28.4	22.1	24.9	25.4	19.8	22.6	26.0	18.3	21.7
14	21.4	15.9	18.7	27.3	21.8	24.6	27.6	20.0	23.6	24.1	18.1	20.8
15	23.2	16.7	19.8	26.6	21.8	24.2	26.0	21.5	23.6	23.6	17.5	20.4
16	22.8	17.5	20.2	26.3	20.8	23.4	25.7	20.8	23.2	24.1	16.8	20.2
17	22.0	18.1	20.1	27.7	21.2	24.4	26.1	20.9	23.6	25.2	16.8	20.7
18	23.2	16.3	19.6	27.7	22.3	25.2	26.9	21.6	24.2	24.9	16.8	20.7
19	24.7	17.7	21.2	28.2	22.6	25.3	26.0	21.8	23.6	24.4	16.8	20.4
20	25.2	18.8	21.9	29.6	21.8	25.6	27.8	19.8	23.6	24.2	17.4	20.5
21	25.1	19.0	21.8	30.3	22.4	25.9	28.3	21.3	24.3	21.8	17.1	19.2
22	25.9	19.7	22.6	28.6	22.6	24.9	27.5	21.6	24.5	21.3	15.2	17.6
23	25.4	19.1	22.3	28.4	22.0	24.4	29.0	21.2	24.9	20.7	15.5	17.7
24	23.6	19.0	21.5	25.9	21.7	23.6	28.5	21.2	24.6	23.7	17.3	20.0
25	25.6	18.1	21.7	27.9	21.9	24.6	27.4	20.2	23.0	23.0	17.6	20.3
26	25.8	19.0	22.4	25.8	22.1	23.4	26.8	21.2	23.8	22.5	16.1	19.2
27	26.1	20.7	23.6	25.7	21.0	23.2	26.7	21.7	23.8	21.7	15.6	18.7
28	26.8	21.0	24.0	27.3	21.9	24.5	26.3	19.6	22.9	23.8	16.1	19.7
29	28.2	22.6	25.4	27.9	22.8	25.2	26.2	20.6	23.4	20.0	16.4	18.3
30	25.8	21.6	23.6	25.0	21.6	23.0	27.3	20.7	23.8	22.5	15.9	18.7
31	---	---	---	23.7	20.8	22.3	25.9	20.3	22.8	---	---	---
MONTH	28.2	12.3	20.3	30.3	20.4	24.0	29.0	13.6	23.3	26.8	15.2	20.7

07123000 ARKANSAS RIVER AT LA JUNTA, CO

LOCATION.--Lat 37°59'26", long 103°31'55", in SE¼NE¼ sec.2, T.24 S., R.55 W., Otero County, Hydrologic Unit 11020005, on right bank at upstream side of bridge on State Highway 109 in La Junta, and 450 ft upstream from King Arroyo.

DRAINAGE AREA.--12,210 mi², of which 115 mi² is probably noncontributing.

PERIOD OF RECORD.--May to August 1889, September 1893 to December 1895 (gage heights, discharge measurements, and flood data only), April to October 1903, June to November 1908 (gage heights and discharge measurements only), April 1912 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "near La Junta" in 1903. Statistical summary computed for 1975 to current year.

REVISED RECORDS.--WSP 1341: Drainage area. WSP 1731: 1922.

GAGE.--Water-stage recorder with satellite telemetry, and nonrecording gage read twice daily. Datum of gage is 4,039.60 ft above sea level. See WSP 1711 or 1731 for history of changes prior to June 13, 1940. June 13, 1940 to June 6, 1967, water-stage recorder at site 300 ft upstream at present datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 400,000 acres, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	e1350	39	534	318	e51	1730	1140	65	254	458	69
2	50	e1400	37	575	270	e51	1120	168	64	284	229	65
3	41	e1440	35	604	202	e58	826	92	157	335	254	63
4	37	e1300	31	633	161	e63	920	106	103	452	275	75
5	37	e1190	50	636	76	103	835	116	92	412	2130	80
6	41	e1100	216	658	56	58	667	208	328	159	615	88
7	39	e1020	144	633	51	55	339	259	1220	75	226	75
8	53	886	134	584	49	57	207	183	1340	476	138	65
9	e63	759	180	516	49	54	303	1270	1140	144	81	63
10	e69	645	240	513	48	47	337	1680	112	69	110	63
11	e74	645	214	526	48	70	366	1360	78	63	173	59
12	e145	362	260	542	47	125	2570	1860	78	128	83	66
13	e126	191	430	570	46	e153	2120	2180	71	138	73	79
14	e108	164	599	582	44	e159	2580	1080	51	61	71	83
15	e98	122	783	597	43	e150	2070	185	48	57	79	79
16	e80	67	812	599	43	e134	303	158	76	60	116	72
17	e74	59	606	596	50	122	231	123	108	83	304	77
18	e65	54	438	611	55	193	424	113	78	65	95	72
19	e67	49	339	616	e46	465	252	93	97	98	86	67
20	76	39	314	601	e51	1400	332	92	59	71	79	68
21	73	34	297	585	e43	1100	172	149	46	60	77	68
22	80	34	289	555	e41	773	137	157	42	58	77	67
23	e68	34	228	521	e43	566	98	200	46	74	79	73
24	e66	33	153	520	e42	516	78	342	46	65	78	76
25	e87	32	151	518	e41	491	82	350	38	96	79	71
26	e300	32	144	554	e39	300	89	268	34	84	84	65
27	e500	35	140	558	e42	415	873	111	170	117	97	62
28	e700	37	154	601	e48	1570	1540	80	268	90	82	55
29	e800	38	225	619	---	2780	1510	74	299	79	91	53
30	e1100	39	500	457	---	1860	1530	70	341	1880	82	60
31	e1260	---	511	418	---	2100	---	98	---	1960	68	---
TOTAL	6434	13190	8693	17632	2092	16039	24641	14365	6695	8047	6569	2078
MEAN	208	440	280	569	74.7	517	821	463	223	260	212	69.3
MAX	1260	1440	812	658	318	2780	2580	2180	1340	1960	2130	88
MIN	37	32	31	418	39	47	78	70	34	57	68	53
AC-FT	12760	26160	17240	34970	4150	31810	48880	28490	13280	15960	13030	4120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1998, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	182	131	126	165	158	119	147	510	937	565	316	129													
MAX	1189	545	335	569	620	517	821	3082	4307	3634	1345	464													
(WY)	1985	1987	1987	1998	1985	1998	1998	1987	1995	1995	1984	1982													
MIN	8.82	4.21	13.5	9.50	6.37	19.6	6.67	21.9	103	80.2	66.2	9.59													
(WY)	1978	1979	1976	1976	1976	1978	1978	1981	1988	1981	1987	1977													

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1975 - 1998	
ANNUAL TOTAL	170691		126475			
ANNUAL MEAN	468		347		a291	
HIGHEST ANNUAL MEAN					832	
LOWEST ANNUAL MEAN					107	
HIGHEST DAILY MEAN	e4800		Jun 10		b9790	
LOWEST DAILY MEAN	27		Jul 17		c2.5	
ANNUAL SEVEN-DAY MINIMUM	33		Nov 21		3.0	
INSTANTANEOUS PEAK FLOW			5170		d18000	
INSTANTANEOUS PEAK STAGE			9.88		f11.09	
ANNUAL RUNOFF (AC-FT)	338600		250900		210800	
10 PERCENT EXCEEDS	1370		1040		620	
50 PERCENT EXCEEDS	126		116		106	
90 PERCENT EXCEEDS	45		46		22	

e-Estimated.

a-Average discharge for 61 years (water years 1913-73), 244 ft³/s; 176800 acre-ft/yr, prior to completion of Pueblo Dam.

b-Maximum daily discharge for period of record, 61100 ft³/s, Jun 4, 1921.

c-Minimum daily discharge for period of record, no flow, Jan 20-22 and Mar 20-22, 1915.

d-Maximum discharge and stage for period of record, 200000 ft³/s, Jun 4, 1921, gage height, 18.40 ft, site and datum then in use, from rating curve extended above 15000 ft³/s, on basis of slope-area measurement of peak flow.

f-Maximum gage height for statistical period, 12.12 ft, Jun 4, 1995.

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO

LOCATION.--Lat 38°04'51", long 103°13'09", in SE¼NE¼ sec.3, T.23 S., R.52 W., Bent County, Hydrologic Unit 11020009, on right bank at upstream side of bridge on U.S. Highway 50, 1.1 mi north of courthouse in Las Animas, and 4.2 mi upstream from Purgatoire River.

DRAINAGE AREA.--14,417 mi², of which 441 mi² are probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to November 1898 (gage heights only), August to November 1909 (gage heights and discharge measurements only), May 1939 to current year. Statistical summary computed for 1975 to current year.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 3,883.97 ft above sea level. May 13 to Nov. 12, 1898, and Aug. 1 to Nov. 10, 1909, nonrecording gages near present site at different datums. May 23, 1939, to Apr. 27, 1967, water-stage recorder at site 0.4 mi downstream at datum 9.00 ft lower.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 412,000 acres, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	2490	151	647	437	105	1390	797	122	303	907	71
2	86	2670	148	668	389	106	1130	516	105	217	488	71
3	89	2410	149	698	323	108	936	220	92	254	444	70
4	84	2370	145	722	294	115	886	198	134	363	430	63
5	78	2130	141	726	244	130	869	169	131	328	942	56
6	74	1580	214	731	186	140	776	133	138	352	1000	55
7	72	1650	279	727	169	123	586	167	460	162	460	58
8	74	1450	251	732	161	118	381	254	892	586	362	57
9	70	1220	254	637	155	118	311	349	918	476	253	54
10	68	1020	331	624	154	117	361	1140	414	257	191	51
11	65	915	357	599	150	115	364	1090	162	203	250	50
12	237	686	347	628	146	134	1030	727	106	180	183	49
13	221	450	476	634	140	165	2060	1530	77	193	138	51
14	168	354	684	646	137	173	2150	1240	66	169	118	58
15	116	306	810	641	134	166	2060	524	62	101	100	58
16	103	249	877	644	136	151	870	244	60	79	99	61
17	106	214	792	639	136	134	343	210	55	77	169	62
18	93	198	611	640	132	144	401	173	55	86	258	62
19	89	190	491	644	130	275	387	158	53	70	127	65
20	92	180	451	642	126	670	319	132	50	71	115	63
21	100	169	434	636	125	1060	317	138	48	62	108	60
22	98	166	421	627	121	617	205	184	50	61	97	57
23	102	160	414	609	120	624	184	201	54	71	91	59
24	103	156	345	589	116	479	150	271	52	93	89	62
25	169	155	309	597	113	518	130	385	48	140	179	64
26	295	150	287	601	110	378	132	369	45	164	135	61
27	235	149	275	621	108	340	219	278	47	178	130	58
28	1150	147	286	624	106	488	951	192	137	214	109	59
29	2890	149	279	641	---	1870	948	155	262	188	91	60
30	2280	153	660	606	---	1760	900	123	253	331	92	58
31	2280	---	683	459	---	1630	---	116	---	1940	86	---
TOTAL	11775	24286	12352	19879	4798	13071	21746	12383	5148	7969	8241	1783
MEAN	380	810	398	641	171	422	725	399	172	257	266	59.4
MAX	2890	2670	877	732	437	1870	2150	1530	918	1940	1000	71
MIN	65	147	141	459	106	105	130	116	45	61	86	49
AC-FT	23360	48170	24500	39430	9520	25930	43130	24560	10210	15810	16350	3540

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1998, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	170	152	143	184	195	127	138	492	917	522	284	116													
MAX	1092	810	398	641	761	422	877	3205	4263	3339	1273	373													
(WY)	1985	1998	1998	1998	1985	1998	1987	1987	1995	1995	1997	1984													
MIN	5.13	6.05	8.40	8.45	18.5	9.44	10.8	14.1	36.4	30.5	55.2	9.12													
(WY)	1978	1975	1978	1978	1978	1975	1978	1981	1988	1981	1987	1977													

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1975 - 1998

ANNUAL TOTAL	208025	143431	
ANNUAL MEAN	570	393	a287
HIGHEST ANNUAL MEAN			841
LOWEST ANNUAL MEAN			84.1
HIGHEST DAILY MEAN	4810	Aug 13	2890
LOWEST DAILY MEAN	48	Apr 20	45
ANNUAL SEVEN-DAY MINIMUM	50	Apr 17	49
INSTANTANEOUS PEAK FLOW			3980
INSTANTANEOUS PEAK STAGE			8.72
ANNUAL RUNOFF (AC-FT)	412600	284500	207700
10 PERCENT EXCEEDS	2120	910	577
50 PERCENT EXCEEDS	180	184	119
90 PERCENT EXCEEDS	68	62	16

a-Average discharge for 34 years (water years 1940-73), 203 ft³/s; 147100 acre-ft/yr, prior to completion of Pueblo Dam.

b-Maximum daily discharge for period of record, 25800 ft³/s, May 20, 1955.

c-Minimum daily discharge for period of record, 0.9 ft³/s, Jul 31, Aug 1 and 3, 1964.

d-Maximum discharge and stage for period of record, 44000 ft³/s, May 20, 1955, gage height, 15.03 ft, site and datum then in use, from rating curve extended above 24000 ft³/s, on basis of slope-area measurement of peak flow..

f-Maximum gage height for statistical period, 9.08 ft, Aug 13, 1997.

**07124000 ARKANSAS RIVER AT LAS ANIMAS, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--December 1985 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1985 to current year.
WATER TEMPERATURE: December 1985 to current year.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for daily specific conductance are poor. Records for daily water temperature are fair. Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 7,950 microsiemens, Jan. 22, 1986; minimum, 310 microsiemens, July 21, 1990.
WATER TEMPERATURE: Maximum, 34.7°C, July 21, 1998; minimum, 0.0°C, many days.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 4,600 microsiemens, Oct. 2; minimum, 697 microsiemens, Apr. 28.
WATER TEMPERATURE: Maximum, 34.7°C, July 21; minimum, 0.0°C, many days.

Periodic Water-Quality Sampling Data for Water Year 1998 will be published in a subsequent report.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	4560	4300	4390	1560	1440	1490	4240	3950	4130	2110	2080	2090
2	4600	4170	4470	1610	1560	1570	4300	4180	4250	2110	2090	2100
3	4590	4370	4480	1670	1600	1640	4350	4210	4280	2100	2070	2080
4	4550	4270	4440	1620	1590	1610	4440	4350	4400	2070	2050	2060
5	---	---	---	1790	1620	1680	4550	4400	4490	2080	2050	2060
6	---	---	---	1930	1720	1830	4540	2380	3780	2090	2040	2060
7	4310	4170	4260	1820	1710	1770	2720	2440	2570	2090	2020	2040
8	4450	4100	4270	1890	1820	1850	3000	2590	2850	---	---	---
9	4540	4230	4380	1960	1680	1900	2960	2580	2810	---	---	---
10	4560	4220	4380	2000	1880	1950	2590	2120	2380	---	---	---
11	4390	3980	4300	2010	1950	1970	2230	2120	2170	2150	2120	2140
12	3980	1550	2580	2280	1950	2080	2330	1790	2120	2130	2050	2090
13	2600	1900	2300	2670	2280	2430	2000	1320	1840	2070	2030	2060
14	3190	2470	2740	2850	2580	2750	1830	1290	1560	2050	2020	2030
15	3470	3190	3320	2910	2840	2870	1700	1580	1650	2090	1990	2020
16	3680	3470	3580	3270	2900	3120	1650	1600	1620	2070	2010	2040
17	3630	3080	3480	3410	3260	3350	1770	1620	1660	2050	2030	2040
18	4000	3510	3880	3550	3400	3500	1990	1770	1880	2060	2030	2050
19	4150	3890	4020	3560	3490	3520	2190	1990	2100	2050	2030	2040
20	3930	3500	3840	3640	3520	3580	2290	2190	2250	2080	2020	2060
21	3650	3330	3500	3730	3640	3690	2320	2280	2310	2070	2060	2070
22	3650	3600	3620	3790	3700	3750	2350	2300	2320	2080	2050	2070
23	3620	3470	3530	3820	3510	3770	2360	2320	2340	2080	2050	2060
24	3660	3100	3530	3880	3510	3710	2670	2350	2540	2090	2040	2060
25	3200	2530	2850	---	---	---	2670	2620	2650	2110	2040	2070
26	3030	2540	2710	---	---	---	2790	2640	2680	2070	2020	2060
27	2720	2070	2430	---	---	---	2950	2510	2740	2020	2000	2010
28	2210	1420	1840	---	---	---	2870	2640	2720	2020	1990	2000
29	1500	967	1280	---	---	---	2790	2620	2720	2000	1980	1990
30	1430	1330	1400	4040	3960	3980	3160	2000	2230	2070	1960	1990
31	1520	1410	1430	---	---	---	2090	2040	2070	2150	2070	2130
MONTH	---	---	---	---	---	---	4550	1290	2650	---	---	---

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	2240	2050	2130	3580	3460	3520	1120	1030	1070	1210	1120	1180
2	2230	2200	2210	3510	3390	3450	1250	1110	1180	1710	1200	1370
3	2460	2200	2350	3480	3330	3400	1350	1250	1300	2390	1710	2140
4	2510	2420	2460	3350	3140	3270	1370	1330	1350	2420	2290	2340
5	2860	2510	2660	3360	2430	3070	1390	1340	1370	2840	2350	2530
6	3160	2860	3030	3000	2380	2670	1440	1370	1410	3080	2830	2900
7	3270	3160	3210	3090	3000	3060	1640	1440	1530	3180	2310	2780
8	3360	3250	3310	3320	2700	3030	1940	1510	1740	2700	1840	2210
9	3350	3310	3330	3320	3070	3180	2160	1940	2100	2370	1910	2190
10	3450	3300	3370	3430	2950	3240	2060	1740	1830	2230	1350	1490
11	3470	3290	3440	3330	2960	3210	1760	1710	1740	1500	1370	1420
12	---	---	---	3330	2570	3010	1720	982	1440	1650	1370	1540
13	---	---	---	2890	2570	2770	982	909	943	1370	1280	1310
14	---	---	---	2930	2690	2790	935	879	920	1450	1320	1370
15	---	---	---	3070	2660	2770	999	879	946	1990	1440	1680
16	---	---	---	3010	2760	2880	1380	943	1130	2440	1990	2250
17	---	---	---	3070	2970	3020	1830	1380	1630	2530	2310	2410
18	---	---	---	3080	2550	2950	1850	1550	1700	2710	2450	2600
19	3660	3440	3580	2870	1730	2340	1840	1550	1700	2860	2620	2740
20	3550	3400	3480	1730	1340	1590	1960	1830	1890	3030	2830	2920
21	3560	3490	3530	1520	1310	1390	2010	1750	1830	2930	2470	2780
22	3550	3500	3520	1600	1510	1540	2420	2010	2200	2470	2050	2240
23	3520	3480	3500	1540	1490	1510	2450	1990	2280	2320	2030	2170
24	3570	3480	3510	1640	1540	1590	2490	2030	2290	2280	1560	2060
25	3610	3510	3570	1610	1500	1560	2240	1970	2060	1990	1540	1770
26	3640	3540	3600	1810	1520	1700	2010	1680	1860	1900	1690	1800
27	3620	3530	3590	1850	1750	1810	1740	789	1390	2620	1800	2190
28	3550	3500	3520	1750	1440	1580	1170	697	981	3020	2620	2820
29	---	---	---	1440	1040	1160	1230	1090	1190	3450	3010	3280
30	---	---	---	1070	977	1010	1170	1070	1130	3730	3440	3550
31	---	---	---	1040	1010	1020	---	---	---	3800	3500	3670
MONTH	---	---	---	3580	977	2420	2490	697	1540	3800	1120	2250
	JUNE			JULY			AUGUST			SEPTEMBER		
1	3800	3380	3580	1500	1420	1470	1370	1020	1140	3490	3340	3410
2	3790	3470	3580	1840	1500	1730	1840	1370	1550	3630	3440	3530
3	3860	3550	3680	1970	1410	1610	2140	1800	2000	3670	3440	3580
4	4060	2470	3310	1960	1320	1460	2000	1850	1930	3680	3430	3570
5	3440	2930	3140	1570	1330	1450	2120	1020	1630	3760	3440	3580
6	3380	2120	3130	1680	1270	1390	1500	984	1260	3780	3450	3650
7	2120	1140	1650	2660	1680	2200	2030	1490	1810	3660	3450	3550
8	1210	1130	1180	2690	1400	1760	2180	2010	2100	3670	3540	3610
9	1190	1080	1140	1870	1500	1660	2920	2070	2600	3640	3310	3530
10	1970	1070	1400	2650	1840	2220	3080	2890	2980	3490	3310	3390
11	2610	1970	2260	2970	2640	2830	3190	2190	2800	3440	3090	3320
12	3270	2610	2950	2970	2720	2910	3040	2360	2840	3460	3110	3290
13	3670	3260	3440	3040	2020	2470	3080	2920	3020	3370	3200	3280
14	3690	3480	3600	3180	2130	2580	3140	2990	3050	3390	2960	3240
15	4180	3620	3820	3830	3180	3530	3140	2980	3090	3340	3140	3210
16	4200	3920	4070	3990	3670	3840	2990	2680	2850	3350	3160	3260
17	4190	3990	4050	3680	3270	3510	2710	1490	2270	3460	3090	3290
18	4410	3380	3760	3440	2810	3030	1930	1400	1580	3500	3410	3470
19	3860	3540	3720	3790	3400	3560	2620	1930	2310	3440	3330	3410
20	---	---	---	3790	2950	3340	2670	2470	2570	3390	3290	3330
21	---	---	---	3750	3410	3580	3000	2630	2720	3410	3310	3370
22	---	---	---	3440	3140	3320	3210	2790	2980	3420	3280	3360
23	3740	3430	3650	3420	3020	3210	3240	3140	3200	3430	3270	3370
24	3720	3450	3600	3020	2370	2730	3240	2980	3140	3470	3060	3320
25	---	---	---	2480	2150	2310	2980	2280	2540	3070	2850	2940
26	---	---	---	2330	1970	2120	2800	2580	2700	3020	2790	2920
27	---	---	---	2310	2160	2240	2850	2700	2800	3240	2870	3050
28	3460	1660	2220	2200	1870	2030	3180	2840	3040	3260	3090	3140
29	1660	1480	1540	2200	1930	2090	3380	3180	3300	3110	2600	2820
30	1680	1460	1550	2040	1100	1830	3380	3140	3240	2780	2490	2610
31	---	---	---	1100	825	924	3350	3150	3220	---	---	---
MONTH	---	---	---	3990	825	2420	3380	984	2520	3780	2490	3310

ARKANSAS RIVER BASIN

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	24.1	15.4	19.2	9.2	7.2	8.1	6.2	3.9	5.0	3.6	.7	2.0
2	23.3	14.8	18.9	8.6	7.3	7.9	4.5	3.0	3.7	4.8	1.7	3.1
3	21.4	15.2	18.1	8.1	6.4	7.3	5.8	2.5	3.8	3.9	3.0	3.6
4	22.6	13.3	17.6	8.9	6.8	7.8	5.2	.4	2.7	3.3	2.6	2.9
5	22.9	13.3	17.8	9.4	7.4	8.4	2.7	1.3	2.0	4.3	2.6	3.3
6	22.4	14.2	18.3	8.8	7.3	7.9	3.4	1.3	2.2	3.2	2.1	2.9
7	23.6	15.8	19.0	9.5	7.0	8.2	2.0	1.0	1.6	2.2	.3	1.3
8	19.2	14.1	16.6	10.1	7.7	8.8	4.0	.8	2.3	---	---	---
9	19.4	11.2	15.0	8.9	6.3	7.4	3.2	2.0	2.6	---	---	---
10	22.1	12.9	17.1	6.3	5.0	5.6	3.1	1.4	2.1	---	---	---
11	22.9	15.3	18.5	5.0	4.2	4.6	2.4	.2	1.1	---	---	---
12	17.1	10.6	12.6	6.2	3.9	4.8	.2	.0	.0	---	---	---
13	14.1	8.6	11.2	7.2	4.5	5.5	.1	.0	.0	---	---	---
14	15.8	8.9	12.0	5.1	2.7	4.1	.6	.0	.1	2.7	---	---
15	17.0	9.4	12.9	4.1	.8	2.4	1.7	.0	.7	2.3	.1	1.2
16	17.4	9.8	13.3	5.0	.3	2.5	2.2	.1	1.1	3.4	.7	1.9
17	17.6	9.6	13.3	6.5	1.4	3.9	2.5	.4	1.5	3.4	1.4	2.4
18	18.4	9.8	13.8	7.7	2.6	5.0	2.8	1.0	1.9	4.7	1.7	3.0
19	14.1	10.4	11.8	8.6	3.8	6.1	3.5	1.1	2.3	3.9	2.1	3.0
20	12.7	9.8	11.0	9.8	4.8	7.2	3.6	2.1	2.8	5.3	2.5	3.6
21	14.0	9.5	11.3	8.3	5.5	7.1	2.9	2.3	2.6	3.8	2.3	3.0
22	16.6	9.2	12.2	8.6	4.2	6.3	4.2	2.4	3.1	4.1	1.8	2.7
23	16.5	9.4	12.8	6.5	3.1	4.8	3.7	2.8	3.3	4.4	1.8	2.8
24	13.2	4.9	11.0	8.4	2.7	5.3	3.1	2.4	2.8	3.6	1.3	2.4
25	4.9	.0	.6	8.3	4.7	6.1	3.6	.6	2.1	3.9	1.6	2.7
26	.0	.0	.0	7.0	5.8	6.3	1.6	.0	.6	5.1	2.0	3.4
27	.8	.0	.1	8.2	5.9	6.9	1.3	.0	.5	5.8	2.5	4.0
28	1.2	.0	.2	7.9	4.3	6.1	1.9	.0	.6	6.2	3.0	4.5
29	1.2	.0	.3	6.7	4.3	5.4	2.7	.0	1.1	6.2	3.1	4.6
30	6.7	.0	4.5	7.5	3.2	5.3	1.9	.0	1.0	6.4	3.2	4.7
31	8.2	5.6	6.9	---	---	---	2.6	.3	1.3	6.4	4.2	5.2
MONTH	24.1	.0	11.9	10.1	.3	6.1	6.2	.0	1.9	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	7.4	4.6	5.9	9.2	.7	4.7	11.7	7.9	9.7	17.8	13.3	15.4
2	6.6	4.3	5.4	10.2	1.1	5.5	11.6	9.0	10.1	19.6	14.3	16.6
3	5.2	3.9	4.6	12.0	2.1	6.8	12.6	8.1	10.2	23.2	13.5	17.8
4	7.5	3.8	5.2	7.4	3.2	4.4	14.2	9.5	11.7	23.8	14.2	18.6
5	5.3	3.6	4.4	10.4	2.9	6.1	15.1	10.4	12.5	23.6	14.2	18.3
6	6.9	3.3	4.7	11.0	3.1	6.3	15.0	12.0	13.2	23.4	14.0	17.7
7	7.1	3.7	5.2	5.5	.6	3.5	13.2	11.0	11.9	21.7	13.4	17.1
8	10.7	5.6	7.6	8.5	---	---	14.9	9.7	11.9	19.0	14.3	15.9
9	7.5	6.0	6.7	9.1	.7	4.3	16.7	9.5	12.6	17.4	12.2	14.5
10	9.0	5.1	6.6	11.2	.8	5.6	17.2	10.7	13.8	19.6	14.8	16.9
11	---	---	---	8.3	1.0	4.6	18.1	11.8	14.7	20.3	16.0	18.0
12	---	---	---	10.0	.5	5.2	15.7	11.2	13.4	21.0	16.3	18.3
13	---	---	---	12.7	3.6	8.0	14.7	11.9	13.2	19.9	16.4	18.0
14	---	---	---	9.1	6.1	7.4	14.2	11.9	13.1	19.8	16.5	18.0
15	---	---	---	12.8	5.5	8.5	13.0	11.5	12.3	22.1	16.0	18.6
16	---	---	---	9.5	6.9	7.9	12.9	9.6	11.2	23.6	14.8	18.9
17	---	---	---	11.2	6.4	8.3	13.7	8.5	11.1	21.7	14.4	18.1
18	---	---	---	8.0	1.1	4.7	11.2	9.0	9.9	23.4	15.0	19.3
19	10.2	---	---	6.2	.8	3.2	14.4	6.9	10.4	25.9	15.8	20.4
20	10.4	3.0	6.7	9.4	3.3	6.1	15.1	10.4	12.5	26.2	15.8	20.4
21	12.1	4.6	8.2	10.4	6.1	8.1	16.4	10.1	13.0	23.6	16.8	20.0
22	12.6	4.7	8.5	12.8	7.8	10.0	19.6	10.0	14.4	24.2	15.9	19.2
23	13.9	6.8	10.1	13.7	9.9	11.8	20.7	10.6	15.4	25.6	16.1	20.2
24	13.9	6.3	9.9	16.2	10.8	13.3	22.8	12.4	16.8	24.9	16.8	19.9
25	10.5	5.5	8.0	17.3	12.3	14.6	21.7	12.5	16.1	22.8	17.0	19.6
26	10.5	4.3	7.0	17.8	12.7	14.9	15.2	11.1	12.9	24.3	17.8	20.6
27	8.0	3.0	5.3	15.2	11.9	13.4	12.3	8.2	10.5	26.5	17.3	21.5
28	8.3	.4	4.2	16.4	11.1	13.6	11.5	10.0	10.8	27.0	17.4	22.1
29	---	---	---	13.7	12.1	13.0	14.6	9.7	12.0	26.7	17.5	21.9
30	---	---	---	12.1	7.7	9.6	16.6	11.6	13.9	27.0	16.8	21.6
31	---	---	---	9.5	6.9	8.2	---	---	---	26.9	16.4	21.3
MONTH	---	---	---	17.8	---	---	22.8	6.9	12.5	27.0	12.2	18.9

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	29.5	16.8	22.2	28.9	21.8	25.0	26.8	21.9	23.9	23.1	17.7	20.3
2	27.8	16.8	22.1	29.6	21.3	24.9	27.8	22.1	24.7	28.5	16.7	21.9
3	21.2	14.8	17.5	30.7	22.6	25.9	27.9	21.3	24.2	29.4	16.6	22.5
4	18.7	12.1	14.6	28.9	23.2	25.5	23.8	20.4	22.1	29.0	16.6	22.3
5	14.8	11.8	13.2	30.1	23.1	26.1	22.9	19.3	20.8	28.4	16.4	21.8
6	23.8	11.1	16.9	30.2	24.4	26.5	24.2	19.6	21.7	28.5	15.7	21.5
7	20.5	15.4	18.0	26.8	22.4	24.4	26.7	20.8	23.5	28.5	15.5	21.6
8	21.8	16.9	19.1	25.9	21.0	23.3	28.2	21.5	24.5	27.5	17.2	21.5
9	22.3	17.9	19.9	30.1	23.7	26.2	29.1	21.7	24.9	27.5	16.0	20.9
10	23.0	18.0	20.1	31.3	22.9	26.6	27.5	20.1	23.7	27.2	16.4	20.9
11	26.7	15.7	20.8	31.8	22.6	27.0	26.9	20.1	23.6	27.8	16.3	21.2
12	27.7	16.2	21.5	31.0	23.9	27.4	27.9	20.1	23.9	28.0	16.0	21.2
13	25.6	15.6	19.9	32.7	23.2	26.8	28.2	19.2	23.5	29.0	18.1	22.6
14	24.4	13.6	18.3	32.1	21.7	26.3	29.2	18.6	23.5	26.7	17.0	21.1
15	27.5	14.5	20.1	30.9	20.9	25.5	30.1	18.7	23.7	26.5	16.4	20.8
16	27.8	14.4	20.9	31.4	19.4	24.6	29.7	18.4	23.7	26.7	15.5	20.5
17	27.0	15.0	20.0	32.8	18.8	25.5	29.1	19.5	24.1	26.7	16.0	20.9
18	28.1	13.1	20.1	33.3	20.6	26.5	28.5	21.8	24.5	26.5	14.7	20.3
19	29.8	14.8	21.8	33.5	19.7	26.2	29.0	20.4	23.9	25.5	15.4	19.9
20	30.0	15.7	22.4	34.2	19.6	26.4	29.3	19.4	23.8	25.8	15.2	19.7
21	29.4	16.7	22.4	34.7	19.7	26.2	29.2	19.7	23.8	22.5	15.4	18.3
22	30.3	17.6	23.3	29.8	20.4	24.2	30.9	19.4	24.4	20.2	13.5	16.1
23	28.9	16.6	22.6	28.3	19.8	22.7	30.9	19.6	24.8	22.1	12.8	16.9
24	27.0	15.6	21.1	28.6	19.9	22.8	30.4	19.9	24.2	25.1	15.1	19.1
25	30.3	15.2	22.1	30.9	20.7	25.0	28.1	20.5	23.6	25.0	14.9	19.3
26	29.1	15.5	22.4	26.3	22.5	24.4	30.0	20.8	24.8	24.7	14.6	19.1
27	31.3	16.1	23.2	27.2	21.4	24.2	27.6	21.0	23.7	24.6	13.2	18.5
28	31.0	19.6	24.9	29.7	22.2	25.4	28.9	18.2	23.0	26.0	16.1	20.0
29	32.0	23.3	27.1	31.2	22.3	26.2	29.0	17.9	23.0	21.9	14.7	18.3
30	28.4	21.6	24.8	26.8	21.4	23.6	28.9	18.1	22.9	25.1	15.6	19.5
31	---	---	---	23.6	21.7	22.5	27.6	17.8	22.5	---	---	---
MONTH	32.0	11.1	20.8	34.7	18.8	25.3	30.9	17.8	23.6	29.4	12.8	20.3

07124200 PURGATOIRE RIVER AT MADRID, CO

LOCATION.--Lat 37°07'46", long 104°38'20", in SW¼NE¼ sec.35, T.33 S., R.65 W., Las Animas County, Hydrologic Unit 11020010, on left bank 70 ft downstream from county road bridge, 0.3 mi northeast of Madrid, 1.0 mi downstream from Burro Canyon, and 9 mi west of Trinidad.

DRAINAGE AREA.--505 mi².

PERIOD OF RECORD.--March 1972 to current year. Water-quality data available, October 1978 to September 1981.

GAGE.--Water-stage recorder with satellite telemetry, and crest-stage gage. Datum of gage is 6,261.61 ft above sea level, (U.S. Army, Corps of Engineers bench mark).

REMARKS.--Records good except those above 800 ft³/s, and estimated daily discharges, which are poor. Diversions for irrigation of about 6,000 acres upstream from station. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	30	e32	e38	e29	e18	30	88	104	76	188	113
2	44	28	e31	e40	e29	e17	30	86	111	75	137	111
3	41	27	30	e38	e28	e18	27	85	119	69	120	95
4	40	29	31	e38	e27	e18	26	86	125	80	155	76
5	38	28	e33	e33	e27	e18	25	89	123	78	152	70
6	37	27	e32	e28	e27	e19	25	89	116	61	132	65
7	40	28	e33	e28	e26	e18	25	86	105	108	118	62
8	39	28	e34	e27	e26	e18	26	84	95	271	108	59
9	37	29	e34	e27	e26	e19	26	82	93	315	105	55
10	35	29	e30	e29	e26	e19	24	79	91	268	173	54
11	34	28	e28	e31	e24	e18	22	79	85	200	155	52
12	34	28	e26	e30	e23	18	23	82	75	167	183	50
13	36	e27	e26	e30	e24	19	25	84	71	139	136	49
14	35	e26	e28	e32	e23	20	25	87	72	122	115	47
15	36	22	e27	e32	e22	20	25	89	84	107	105	48
16	35	24	e30	e33	e22	28	31	84	83	100	104	49
17	34	39	e34	e31	e23	28	31	78	76	104	96	49
18	33	e40	e36	e31	e23	28	39	80	73	90	97	46
19	32	40	e36	e32	e23	27	35	88	69	78	118	42
20	37	36	e34	e31	e21	24	47	93	66	74	104	39
21	38	33	e32	e27	e20	24	50	104	68	84	127	35
22	32	27	e34	e25	e21	23	51	113	70	86	160	34
23	30	28	e34	e25	e21	24	51	103	67	107	144	35
24	30	32	e34	e25	e21	25	51	99	65	112	127	37
25	48	31	e31	e27	e21	27	55	99	61	99	115	32
26	37	32	e29	e27	e19	30	77	96	54	178	135	28
27	39	30	e30	e27	e17	39	76	97	53	324	115	28
28	38	36	e30	e26	e17	36	91	95	56	198	106	27
29	35	35	e30	e26	---	30	88	96	56	162	98	28
30	32	29	e29	e27	---	31	87	101	62	142	93	39
31	30	---	e35	e27	---	25	---	99	---	169	93	---
TOTAL	1131	906	973	928	656	726	1244	2800	2448	4243	3914	1554
MEAN	36.5	30.2	31.4	29.9	23.4	23.4	41.5	90.3	81.6	137	126	51.8
MAX	48	40	36	40	29	39	91	113	125	324	188	113
MIN	30	22	26	25	17	17	22	78	53	61	93	27
AC-FT	2240	1800	1930	1840	1300	1440	2470	5550	4860	8420	7760	3080

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1998, BY WATER YEAR (WY)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	30.0	24.7	21.2	18.8	19.6	20.8	46.4	135	202	130	114	56.8															
MAX	78.5	37.7	40.3	36.6	37.2	55.9	204	413	589	313	342	232															
(WY)	1983	1983	1984	1984	1983	1987	1987	1980	1983	1983	1981	1981															
MIN	9.89	12.7	8.47	7.60	5.80	9.72	12.4	26.6	34.8	18.6	18.9	11.0															
(WY)	1973	1977	1977	1973	1977	1979	1981	1981	1972	1972	1972	1978															

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1972 - 1998

ANNUAL TOTAL	34217	21523																									
ANNUAL MEAN	93.7	59.0								70.3																	
HIGHEST ANNUAL MEAN										145		1983															
LOWEST ANNUAL MEAN										21.6		1974															
HIGHEST DAILY MEAN	e560	Jul 31					324	Jul 27		1640	Sep 7	1981															
LOWEST DAILY MEAN	13	Feb 22					ae17	Feb 27		b3.0	Feb 23	1977															
ANNUAL SEVEN-DAY MINIMUM	14	Feb 20					18	Feb 27		3.0	Feb 23	1977															
INSTANTANEOUS PEAK FLOW							c1200	Aug 10		d14300	Jul 20	1976															
INSTANTANEOUS PEAK STAGE							4.59	Aug 10		f12.80	Jul 20	1976															
ANNUAL RUNOFF (AC-FT)	67870	42690								50940																	
10 PERCENT EXCEEDS	290	115								176																	
50 PERCENT EXCEEDS	37	36								30																	
90 PERCENT EXCEEDS	17	24								13																	

e-Estimated.

a-Also occurred Feb 28, Mar 2.

b-Also occurred Feb 24 to Mar 2, 1977.

c-From rating curve extended above 600 ft³/s, on basis of timed-drift measurement, and slope-area measurements of peak flow.

d-From rating curve extended above 300 ft³/s, on basis of timed-drift measurement, and slope-area measurements of peak flow.

f-From floodmarks.

07124400 TRINIDAD LAKE NEAR TRINIDAD, CO

LOCATION.--Lat 37°08'27", long 104°33'03", in NE¼SW¼ sec.27, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, in valve house near center of dam on Purgatoire River, and 3.2 mi southwest of courthouse in Trinidad.

DRAINAGE AREA.--672 mi².

PERIOD OF RECORD.--August 1977 to current year.

REVISED RECORDS.--WDR CO-78-1: 1977(M). WDR CO-83-1: 1981-82 (contents). WDR CO-89-1: 1988 (contents).

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 6,073.64 ft above sea level, (levels by U.S. Army, Corps of Engineers).

REMARKS.--No estimated contents. Records good. Reservoir is formed by a rock and earthfill dam completed in 1977. Storage began Aug. 19, 1977. Reservoir area-capacity tables were revised beginning Nov. 1, 1994 after a resurvey by the Corp of Engineers. Total capacity, 184,000 acre-ft, at elevation 6,285.00 ft. Elevation of high crest of spillway, 6,258 ft, with capacity of 120,400 acre-ft. Elevation of notch crest in spillway is 6,243.0 ft, capacity, 92,580 acre-ft. Permanent pool is 4,112 acre-ft at elevation 6,143.1 ft. Elevation of outlet invert is 6,095.0 ft. Reservoir is used for flood control, storage for irrigation, and to help control sedimentation. Figures given are total contents.

COOPERATION.--Capacity tables provided by U.S. Army, Corps of Engineers.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 61,800 acre-ft, Apr. 26, 1983, elevation, 6222.66 ft; no contents prior to Aug. 19, 1977.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 32,300 acre-ft, maximum elevation, 6,194.72 ft, May 14-15; minimum contents, 13,300 acre-ft, Sept. 22; minimum elevation, 6,166.99 ft.

Capacity table (elevation, in feet, and contents, in acre-feet, effective Nov. 1, 1994)

6,150.0	6,098	6,180.0	21,000
6,155.0	7,956	6,185.0	24,530
6,160.0	10,080	6,190.0	28,370
6,165.0	12,360	6,195.0	32,550
6,170.0	14,940	6,200.0	37,010
6,175.0	17,800	6,205.0	41,820

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15000	16300	18400	20300	22100	23300	25800	29800	26300	18900	19000	19700
2	14900	16400	18500	20400	22100	23400	25900	30000	25900	18800	19300	19600
3	14800	16500	18600	20500	22200	23400	25900	30200	25500	18700	19500	19400
4	14800	16500	18600	20600	22200	23400	26000	30500	25100	18700	19700	19200
5	14800	16600	18600	20600	22300	23500	26100	30700	24800	18600	19700	18900
6	14800	16700	18700	20700	22400	23500	26100	30900	24400	18500	19700	18400
7	14800	16700	18800	20700	22400	23600	26200	31100	24000	18600	19600	18000
8	14700	16800	18800	20700	22500	23600	26300	31300	23600	19100	19500	17600
9	14600	16800	18900	20800	22500	23700	26400	31400	23100	19200	19500	17100
10	14700	16900	19000	20900	22500	23700	26500	31600	22700	19000	19700	16700
11	14700	17000	19000	21000	22600	23700	26500	31800	22300	18500	19800	16300
12	14800	17000	19000	21000	22600	23800	26500	32000	21900	18400	20000	15800
13	14900	17100	19100	21100	22700	23800	26600	32200	21600	18400	19900	15500
14	14900	17200	19100	21100	22700	23900	26600	32300	21400	18400	19900	15200
15	15000	17200	19200	21200	22800	23900	26700	32300	21300	18400	19900	14900
16	15100	17200	19300	21300	22800	24000	26800	32100	21200	18300	20000	14700
17	15200	17300	19400	21300	22900	24200	26900	31900	21100	18300	20000	14400
18	15200	17300	19400	21400	22900	24300	27000	31600	21100	18200	20000	14100
19	15300	17400	19500	21400	23000	24400	27100	31200	21100	18100	20000	13800
20	15400	17500	19600	21500	23000	24400	27200	30900	21000	18000	20000	13600
21	15500	17600	19600	21500	23100	24500	27400	30600	21000	17900	20100	13400
22	15500	17700	19700	21600	23100	24600	27600	30300	20900	17800	20100	13300
23	15600	17700	19800	21600	23100	24700	27800	29900	20700	17700	20100	13400
24	15600	17800	19900	21700	23200	24800	27900	29500	20400	17600	20000	13400
25	15800	17900	19900	21700	23200	24900	28100	29200	20200	17500	19800	13400
26	15800	17900	19900	21800	23300	25000	28400	28800	19900	17700	19800	13400
27	15900	18000	20000	21800	23300	25200	28600	28400	19700	18400	19900	13400
28	16000	18100	20000	21900	23300	25300	29000	28000	19400	18100	19900	13400
29	16100	18200	20100	21900	---	25500	29300	27600	19200	17900	19900	13500
30	16200	18300	20200	22000	---	25600	29600	27200	19000	18200	19900	13500
31	16300	---	20200	22000	---	25700	---	26700	---	18600	19800	---
MAX	16300	18300	20200	22000	23300	25700	29600	32300	26300	19200	20100	19700
MIN	14600	16300	18400	20300	22100	23300	25800	26700	19000	17500	19000	13300

CAL YR 1997 MAX 24800 MIN 10800
WTR YR 1998 MAX 32300 MIN 13300

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO

LOCATION.--Lat 37°08'37", long 104°32'49", in NE¼SW¼ sec.27, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on left bank of flip bucket outlet, 500 ft downstream from base of dam, 0.8 mi upstream from Santa Fe Railroad bridge, and 3.0 mi southwest of courthouse in Trinidad.

DRAINAGE AREA.--672 mi².

PERIOD OF RECORD.--December 1976 to current year. Water-quality data available, March 1977 to September 1984.

GAGE.--Water-stage recorder with satellite telemetry, and concrete control. Datum of gage is 6,073.64 ft above sea level, (levels by U.S. Army, Corps of Engineers). Auxillary gage is water-stage recorder in shelter about 1,000 ft downstream.

REMARKS.--No estimated daily discharges. Records good except for those below 0.5 ft³/s, which are fair. Natural flow of stream affected by diversions upstream from station for irrigation of about 6,000 acres. Flow since Aug. 19, 1977, completely regulated by Trinidad Lake (station 07124400) immediately upstream. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115	.08	.11	.06	.06	.77	.38	.38	310	179	1.5	155
2	94	.08	.11	.06	.06	.77	.38	.38	310	156	7.6	169
3	57	.08	.11	.06	.06	.77	.38	.38	309	145	14	176
4	46	.08	.11	.06	.96	.74	.38	.38	309	152	89	174
5	46	.08	.08	.06	1.4	.68	.38	.38	308	165	143	234
6	46	.08	.08	.06	1.4	.73	.38	.38	306	173	183	266
7	46	.08	.08	.07	1.4	.72	.38	.38	306	119	164	266
8	55	.08	.08	.06	1.3	.68	.38	.38	305	147	118	256
9	60	.08	.08	.06	1.2	.66	.38	.38	304	255	104	254
10	20	.08	.08	.06	1.4	.62	.38	.44	299	332	104	253
11	.33	.08	.08	.06	1.4	.58	.38	.44	277	408	135	252
12	.33	.08	.08	.06	1.4	.62	.37	.44	265	246	153	250
13	.33	.08	.08	.07	1.4	.60	.38	7.6	207	135	153	207
14	.31	.08	.08	.06	1.4	.63	.38	8.3	155	102	132	165
15	.27	.08	.08	.06	1.4	.68	.38	87	140	104	96	164
16	.27	.08	.08	.06	1.4	.67	.38	167	124	119	85	164
17	.25	.08	.08	.06	1.4	.62	.38	185	107	119	97	163
18	.22	.08	.08	.06	1.4	.61	.38	224	92	119	103	162
19	.22	.08	.08	.06	1.4	.58	.38	243	95	119	102	162
20	.22	.12	.08	.06	1.4	.58	.38	247	100	120	103	147
21	.22	.14	.08	.06	1.5	.58	.33	266	101	120	102	123
22	.21	.14	.08	.06	1.5	.58	.33	274	149	120	136	64
23	.18	.13	.08	.06	1.5	.58	.33	286	173	141	152	26
24	.16	.13	.08	.06	1.4	.58	.33	291	180	160	185	23
25	.14	.11	.08	.06	1.2	.54	.33	291	183	133	200	23
26	.14	.11	.07	.06	1.2	.47	.33	288	179	119	116	23
27	.14	.11	.07	.06	.89	.44	.33	287	180	72	74	23
28	.14	.11	.06	.06	.84	.43	.33	286	180	308	96	20
29	.11	.11	.06	.06	---	.38	.33	286	180	243	108	19
30	.11	.11	.06	.06	---	.38	.34	304	180	1.9	107	18
31	.09	---	.06	.06	---	.38	---	311	---	1.6	107	---
TOTAL	589.39	2.84	2.50	1.88	33.27	18.65	10.90	4343.64	6313	4833.5	3470.1	4401
MEAN	19.0	.095	.081	.061	1.19	.60	.36	140	210	156	112	147
MAX	115	.14	.11	.07	1.5	.77	.38	311	310	408	200	266
MIN	.09	.08	.06	.06	.06	.38	.33	.38	92	1.6	1.5	18
AC-FT	1170	5.6	5.0	3.7	66	37	22	8620	12520	9590	6880	8730

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1998, BY WATER YEAR (WY)

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MEAN	23.8	6.32	2.65	2.67	3.17	3.28	31.1	172	202	176	146	115
MAX	96.0	25.9	11.9	14.7	13.1	17.8	91.7	375	614	306	285	283
(WY)	1984	1984	1979	1977	1977	1977	1982	1994	1983	1983	1991	1984
MIN	.35	.015	.001	.012	.056	.007	.073	25.5	51.5	40.5	36.1	5.15
(WY)	1989	1982	1995	1985	1984	1982	1984	1980	1977	1977	1977	1987

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1977 - 1998

ANNUAL TOTAL	26938.86	24020.67		
ANNUAL MEAN	73.8	65.8	76.4	
HIGHEST ANNUAL MEAN			146	1983
LOWEST ANNUAL MEAN			42.8	1978
HIGHEST DAILY MEAN	318	May 22	408	Jul 11
LOWEST DAILY MEAN	a.06	Mar 16	b.06	Dec 28
ANNUAL SEVEN-DAY MINIMUM	.06	Mar 16	.06	Dec 28
INSTANTANEOUS PEAK FLOW			d452	Jul 28
INSTANTANEOUS PEAK STAGE			7.02	Jul 28
ANNUAL RUNOFF (AC-FT)	53430	47650	55340	7.89
10 PERCENT EXCEEDS	251	244	246	
50 PERCENT EXCEEDS	4.6	.68	12	
90 PERCENT EXCEEDS	.08	.07	.04	

a-Also occurred Mar 17-28, and Dec 28-31.
b-Also occurred Dec 29 to Jan 6, Jan 8-12, and Jan 14 to Feb 3.
c-No flow at times most years.
d-Also occurred Jul 29.

07126140 VAN BREMER ARROYO NEAR TYRONE, CO

LOCATION.--Lat 37°23'58", long 104°06'55", in SW¹/₄SW¹/₄, sec.27, T.30 S., R. 60 W., Las Animas County, Hydrologic Unit 11020010, on left bank, on Pinon Canyon Army Maneuver Site, 200 ft downstream from military road at gas line crossing near Brown Sheep Camp, 6 mi southeast of Tyrone, and 11 mi upstream from mouth.

DRAINAGE AREA.--132 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1985 to current year.

GAGE.--Water-stage recorder with satellite telemetry, crest-stage gages, and artificial control. Elevation of gage is 5,310 ft above sea level, from topographic map.

REMARKS.--Records good except for discharges 0.08 to 0.30 ft³/s, which are fair, discharges greater than 50 ft³/s or less than 0.08 ft³/s, and Nov. 22-23, Dec. 4-5, Dec. 15 to Feb. 3, Mar. 7-8, which are poor. Natural flow affected by return flow from irrigation and storage in a small channel reservoir upstream.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	74	.40	.00	e1.2	.10	.03	.26	.00	.00	.00	.50
2	.53	28	.55	.01	e1.0	.09	.03	.14	.00	.00	.00	.00
3	1.0	7.8	.72	.01	e.65	.10	.03	.10	.00	.00	33	.00
4	.94	1.5	e.66	.01	.55	.09	.04	.08	.00	.00	33	.00
5	2.0	.86	e.44	.01	.43	.07	.03	.06	.00	.00	.09	.00
6	2.9	.56	.31	.00	.40	.15	.03	.05	.00	.00	.01	.00
7	1.9	.43	.23	.00	.39	e1.0	.03	.04	.00	.00	.00	.00
8	2.7	.35	.16	.00	.34	e.50	.04	.05	.00	.00	.00	.00
9	2.6	.25	.12	.00	.31	.11	.04	.08	.00	.00	.00	.00
10	1.9	.18	.07	.01	.21	.07	.02	.05	.00	.00	.00	.00
11	1.1	.12	.01	.01	.14	.05	.02	.04	.00	.00	.00	.00
12	1.6	.09	.00	.00	.10	.06	.02	.03	.00	.00	.00	.00
13	1.1	.06	.00	.00	.09	.05	.01	.02	.00	.00	.00	.00
14	.47	.02	.00	.00	.08	.04	.01	.02	.00	.00	.00	.00
15	.19	.00	.00	.00	.08	.04	.01	.01	.00	.00	.00	.00
16	.04	.00	.00	.00	.25	.07	.03	.01	.00	.00	.00	.00
17	.00	.00	.01	.00	1.9	.11	.08	.01	.00	.00	.00	.00
18	.00	.00	e.01	.00	3.0	.10	.03	.01	.00	.00	.00	.00
19	.00	.00	e.00	.01	3.3	.16	.03	.01	.00	.00	.00	.00
20	.00	.00	.01	.01	4.1	.23	.02	.01	.00	.00	.00	.00
21	.00	.05	e.01	.00	3.3	.16	.01	.01	.00	.00	.00	.00
22	.00	e.07	e.00	.00	1.7	.10	.01	.01	.00	.00	.00	.00
23	.00	e.08	.01	.00	.94	.09	.01	.01	.00	.00	.00	.00
24	.00	.07	.01	.01	.62	.07	.02	.00	.00	.00	.00	.00
25	.00	.14	e.00	e.01	.40	.05	.01	.00	.00	.00	.25	.00
26	.00	.29	.00	.00	.22	.04	.48	.01	.00	.00	.04	.00
27	.00	.34	.00	.01	.17	.03	.44	.00	.00	.98	.00	.00
28	.00	.31	.00	e.01	.12	.03	2.2	.00	.00	.00	.00	.00
29	.00	.34	.00	e.29	---	.03	.91	.00	.00	.00	.00	.00
30	.00	.35	.00	e1.0	---	.02	.41	.00	.00	.00	.00	2.6
31	54	---	.00	e1.4	---	.02	---	.00	---	.00	.60	---
TOTAL	74.97	116.26	3.73	2.81	25.99	3.83	5.08	1.12	0.00	0.98	66.99	3.10
MEAN	2.42	3.88	.12	.091	.93	.12	.17	.036	.000	.032	2.16	.10
MAX	54	74	.72	1.4	4.1	1.0	2.2	.26	.00	.98	33	2.6
MIN	.00	.00	.00	.00	.08	.02	.01	.00	.00	.00	.00	.00
AC-FT	149	231	7.4	5.6	52	7.6	10	2.2	.00	1.9	133	6.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1998, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	2.14	.33	.027	.026	.11	.013	.055	.99	1.38	.52	1.98	2.40		
MAX	17.3	3.88	.12	.16	.93	.12	.42	5.11	7.44	2.74	8.30	10.3		
(WY)	1986	1998	1998	1987	1998	1998	1996	1987	1985	1990	1986	1988		
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000		
(WY)	1990	1990	1990	1989	1989	1989	1989	1990	1990	1997	1996	1991		

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1985 - 1998

ANNUAL TOTAL	197.09	304.86		
ANNUAL MEAN	.54	.84	.77	
HIGHEST ANNUAL MEAN			2.53	1986
LOWEST ANNUAL MEAN			.006	1997
HIGHEST DAILY MEAN	74	74	171	Aug 23 1986
LOWEST DAILY MEAN	a.00	Nov 1	a.00	Jul 27 1985
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Aug 5 1985
INSTANTANEOUS PEAK FLOW		b327	Aug 3	c511 Aug 23 1986
INSTANTANEOUS PEAK STAGE		11.64	Aug 3	d10.02 Aug 23 1986
ANNUAL RUNOFF (AC-FT)	391	605	560	
10 PERCENT EXCEEDS	.30	.68	1.4	
50 PERCENT EXCEEDS	.00	.01	.00	
90 PERCENT EXCEEDS	.00	.00	.00	

e-Estimated.

a-No flow many days most years, (some estimated).

b-From rating curve extended above 90 ft³/s, on basis of flow through culvert computation.

c-From rating curve extended above 45 ft³/s, on basis of flow through culvert computation.

d-Maximum gage height, 11.64 ft, Aug 3, 1998.

07126140 VAN BREMER ARROYO NEAR TYRONE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	1.9	.0	.4	---	---	---
2	19.5	13.2	---	---	---	---	1.4	.0	.3	.0	.0	.0
3	19.3	15.3	17.4	---	---	---	1.2	.0	.2	.0	.0	.0
4	18.3	13.0	16.1	---	---	---	.0	.0	.0	.0	.0	.0
5	18.5	12.8	15.9	7.2	2.8	5.2	.0	.0	.0	.0	.0	.0
6	18.4	13.7	16.4	8.0	2.2	5.2	.0	.0	.0	---	---	---
7	18.1	14.8	16.5	8.9	2.9	5.9	.0	.0	.0	---	---	---
8	15.6	12.3	14.0	9.0	4.1	6.3	.2	.0	.0	---	---	---
9	14.8	8.5	12.0	6.0	1.8	4.2	.0	.0	.0	---	---	---
10	17.4	12.1	14.9	6.0	.7	2.9	.0	.0	.0	.0	.0	.0
11	18.1	14.4	16.0	2.8	1.1	1.9	.0	.0	---	.0	.0	.0
12	14.8	9.3	11.6	6.1	.4	2.8	---	---	---	---	---	---
13	11.7	7.1	9.4	6.4	1.4	3.6	---	---	---	---	---	---
14	13.4	6.9	9.8	2.5	.0	---	---	---	---	---	---	---
15	14.7	7.0	10.3	---	---	---	---	---	---	---	---	---
16	15.6	6.0	10.4	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	.0	.0	---	---	---	---
18	---	---	---	---	---	---	.0	.0	.0	---	---	---
19	---	---	---	---	---	---	---	---	---	.0	.0	---
20	---	---	---	---	---	---	.0	.0	---	.0	.0	---
21	---	---	---	.2	.0	---	.0	.0	.0	---	---	---
22	---	---	---	.6	.0	.1	---	---	---	---	---	---
23	---	---	---	.0	.0	.0	.0	.0	.0	---	---	---
24	---	---	---	.6	.0	.1	.0	.0	.0	.0	.0	---
25	---	---	---	2.5	.0	1.0	---	---	---	.0	.0	---
26	---	---	---	3.0	.1	1.2	---	---	---	---	---	---
27	---	---	---	4.8	.2	2.2	---	---	---	.1	.0	---
28	---	---	---	2.1	.0	.3	---	---	---	.3	.0	---
29	---	---	---	3.2	.0	.9	---	---	---	.0	.0	.0
30	---	---	---	.9	.0	.1	---	---	---	1.2	.0	.2
31	---	---	---	---	---	---	---	---	---	1.2	.0	.2
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	2.3	.0	.4	5.5	.0	1.3	---	---	---	---	---	---
2	1.8	.0	.3	6.6	.0	1.8	---	---	---	---	---	---
3	2.8	.0	.5	9.9	.0	3.5	---	---	---	---	---	---
4	2.3	.0	.5	11.7	.0	4.7	---	---	---	---	---	---
5	1.4	.0	.3	7.2	.6	2.9	---	---	---	---	---	---
6	5.4	.0	1.7	10.7	.0	4.1	---	---	---	---	---	---
7	5.8	.0	2.3	3.7	.0	1.5	---	---	---	---	---	---
8	6.7	.0	3.1	4.3	.0	---	---	---	---	---	---	---
9	7.4	1.3	4.2	8.8	.0	2.3	---	---	---	---	---	---
10	5.9	1.2	3.0	10.6	.0	3.3	---	---	---	---	---	---
11	4.5	.0	1.9	9.8	.0	2.8	---	---	---	---	---	---
12	7.4	.0	2.8	12.6	.0	4.2	---	---	---	---	---	---
13	7.7	.0	2.7	15.3	.0	6.3	---	---	---	---	---	---
14	9.2	.4	4.0	14.1	1.7	6.8	---	---	---	---	---	---
15	6.2	1.4	3.7	11.7	2.7	6.7	---	---	---	---	---	---
16	4.4	2.0	3.0	6.9	4.8	5.9	---	---	---	---	---	---
17	6.5	.9	3.6	16.3	4.3	8.8	---	---	---	---	---	---
18	4.8	1.2	2.3	7.8	.0	4.2	---	---	---	---	---	---
19	7.3	.1	3.5	11.5	.0	4.1	---	---	---	---	---	---
20	7.4	.0	3.9	13.5	.1	5.8	---	---	---	---	---	---
21	9.1	2.3	5.9	15.3	1.8	7.5	---	---	---	---	---	---
22	9.9	3.2	6.7	17.3	2.0	8.9	---	---	---	---	---	---
23	10.4	3.5	7.0	17.9	5.0	10.9	---	---	---	---	---	---
24	10.8	3.4	6.9	21.2	6.2	12.3	---	---	---	---	---	---
25	7.9	1.8	4.7	21.4	6.2	12.3	---	---	---	---	---	---
26	6.0	.4	2.6	18.8	6.1	11.4	---	---	---	---	---	---
27	5.9	.0	2.0	17.1	5.8	10.3	---	---	---	---	---	---
28	6.3	.0	1.6	18.8	3.7	10.1	---	---	---	---	---	---
29	---	---	---	17.7	4.6	10.2	---	---	---	---	---	---
30	---	---	---	6.2	1.9	3.7	---	---	---	---	---	---
31	---	---	---	14.9	.0	6.2	---	---	---	---	---	---
MONTH	10.8	.0	3.0	21.4	.0	---	---	---	---	---	---	---

07126140 VAN BREMER ARROYO NEAR TYRONE, CO--Continued
PRECIPITATION RECORDS

PERIOD OF RECORD.--June 1993 to current year (seasonal records only).

GAGE.--Tipping-bucket rain gage with satellite telemetry. Elevation of gage is 5,310 ft above sea level, from topographic map.

REMARKS.--Records good except for Oct. 24-26, which are poor. Records published for period of seasonal operation only (Oct. 1 to Nov. 13 and Apr. 2 to Sept. 30). Daily data that are not published during this period are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall during period of seasonal operation, 3.00 inches, Sept. 9, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall during period of seasonal operation, 2.07 inches, July 27.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
 DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	---	---	---	---	.00	.00	.00	.22	.00
2	.00	.00	---	---	---	---	e.09	.00	.00	.00	.00	.00
3	.00	.00	---	---	---	---	.00	.00	.05	.38	1.77	.00
4	.00	.00	---	---	---	---	.00	.00	.00	.42	.25	.00
5	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
6	.00	.00	---	---	---	---	.00	.00	.00	.09	.00	.00
7	.26	.00	---	---	---	---	.00	.00	.20	.16	.00	.00
8	.00	.00	---	---	---	---	.29	.26	.01	.05	.00	.00
9	.00	.03	---	---	---	---	.00	.05	.00	.00	.00	.00
10	.00	.04	---	---	---	---	.00	.00	.00	.00	.16	.00
11	.52	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
12	.16	.00	---	---	---	---	.00	.00	.00	.00	.00	.03
13	.00	e.00	---	---	---	---	.00	.00	.00	.00	.00	.11
14	.00	---	---	---	---	---	.00	.00	.29	.00	.00	.00
15	.00	---	---	---	---	---	.22	.00	.18	.00	.00	.00
16	.00	---	---	---	---	---	.20	.00	.00	.26	.00	.00
17	.00	---	---	---	---	---	.00	.00	.00	.00	.03	.00
18	.00	---	---	---	---	---	.06	.00	.00	.00	.00	.00
19	.00	---	---	---	---	---	.00	.00	.00	.00	.03	.00
20	.26	---	---	---	---	---	.01	.00	.00	.00	.00	.00
21	.03	---	---	---	---	---	.00	.00	.00	.00	.00	.00
22	.00	---	---	---	---	---	.00	.00	.00	.12	.00	.00
23	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.02
24	.11	---	---	---	---	---	.00	.00	.00	.62	.01	.00
25	.00	---	---	---	---	---	.00	.05	.00	.03	1.24	.00
26	.15	---	---	---	---	---	1.48	.00	.00	.82	.00	.00
27	.00	---	---	---	---	---	.00	.00	.00	2.07	.00	.00
28	.00	---	---	---	---	---	.02	.00	.00	.00	.00	.00
29	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.13
30	.00	---	---	---	---	---	.00	.00	.00	.04	.00	1.59
31	.00	---	---	---	---	---	---	.00	---	.00	.04	---
TOTAL	1.49	---	---	---	---	---	---	0.36	0.73	5.06	3.75	1.88

e-Estimated.

07126200 VAN BREMER ARROYO NEAR MODEL, CO--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1983 to April 1998 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1983 to April 1998 (discontinued).

WATER TEMPERATURE: January 1983 to April 1998 (discontinued).

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for specific conductance are fair except for Feb. 23 to Apr. 2, which are poor. Records for water temperature are fair. Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 8,860 microsiemens, May 13, 1987; minimum, 114 microsiemens, June 28, 1995.

WATER TEMPERATURE: Maximum, 34.0°C, June 15, 28, 1986; minimum, 0.0°C, many days during the winter in most years.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum during period October to April, 4,560 microsiemens, Feb. 28; minimum, 1,230 microsiemens, Oct. 11-12.

WATER TEMPERATURE: Maximum during period October to April, 23.6°C, Oct. 1; minimum, 0.1°C, Oct. 26-27.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
				MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1850	1760	1820	1720	1570	1640	1980	1940	1960	2070	1970	2020			
2	1870	1770	1830	2220	1580	1710	1990	1950	1970	2060	1940	2010			
3	1890	1860	1870	2220	1540	1850	2050	1940	1990	2020	1950	1990			
4	1900	1840	1880	2120	1990	2050	2090	1960	2030	2020	1920	1970			
5	1900	1840	1880	2030	1980	2010	2120	2030	2060	2010	1890	1960			
6	1900	1860	1890	2070	2000	2030	2090	2020	2060	2000	1940	1970			
7	1910	1850	1890	2080	2010	2050	2110	2010	2060	2070	1930	2010			
8	1930	1870	1900	2090	2030	2060	2130	2020	2080	2100	1930	2020			
9	1940	1880	1910	2070	2050	2060	2110	2040	2090	2070	1990	2020			
10	1920	1870	1900	2090	2020	2060	2120	2050	2090	2050	1980	2020			
11	1930	1230	1860	2070	2040	2060	2140	2020	2070	2070	1960	2020			
12	1900	1230	1730	2060	1980	2040	2230	2040	2120	2090	1980	2040			
13	1670	1590	1630	2070	2030	2050	2160	2020	2100	2090	1990	2040			
14	1660	1530	1600	2110	2020	2070	2170	2040	2100	2090	1970	2050			
15	1830	1640	1730	2160	2050	2110	2160	2050	2110	2150	2000	2070			
16	1920	1830	1880	2190	2040	2120	2170	2050	2110	2090	1970	2040			
17	1940	1850	1910	2150	2030	2100	2160	2040	2110	2090	1980	2040			
18	1940	1850	1910	2160	2040	2110	2150	2050	2100	2100	1950	2030			
19	1940	1860	1880	2140	2030	2100	2150	2070	2100	2100	1970	2030			
20	1900	1830	1880	2110	2010	2070	2130	2030	2080	2020	1930	1980			
21	1910	1840	1870	2060	1900	1980	2110	2000	2070	2020	1960	1990			
22	1940	1860	1910	2010	1900	1970	2090	2020	2050	2030	1930	1990			
23	1930	1860	1890	2020	1930	1990	2060	1990	2030	2060	1780	1920			
24	1880	1830	1850	2030	1920	1980	2050	2000	2020	1890	1740	1820			
25	1860	1770	1820	2010	1930	1980	2130	1960	2030	1970	1880	1930			
26	1790	1580	1650	2020	1980	2010	2150	1960	2070	2010	1890	1950			
27	1920	1580	1680	2020	1960	1990	2160	1980	2060	2020	1850	1960			
28	1940	1770	1860	2000	1940	1970	2080	1990	2040	2010	1890	1950			
29	1870	1760	1820	1980	1850	1920	2110	1970	2040	1980	1880	1930			
30	1830	1710	1780	2000	1910	1960	2080	1980	2030	1990	1870	1930			
31	1800	1630	1730	---	---	---	2100	1970	2040	1960	1890	1920			
MONTH	1940	1230	1830	2220	1540	2000	2230	1940	2060	2150	1740	1990			

07126200 VAN BREMER ARROYO NEAR MODEL, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	23.6	15.9	18.7	10.4	5.4	7.5	5.8	4.2	4.9	6.5	2.5	4.4
2	23.2	15.3	18.7	10.1	4.8	7.0	4.9	3.7	4.4	7.0	2.9	4.7
3	21.5	15.7	18.3	7.1	4.6	5.9	6.3	2.7	4.1	7.2	3.2	4.8
4	22.7	14.2	17.9	7.7	4.8	6.3	5.8	1.9	3.8	7.4	2.9	4.7
5	22.8	14.0	17.8	8.2	5.2	6.7	4.8	2.3	3.7	7.1	2.5	4.4
6	22.0	14.7	17.9	9.1	5.4	7.1	6.2	3.4	4.5	4.1	2.7	3.3
7	20.7	15.2	17.6	10.5	5.7	7.9	7.3	3.3	5.0	4.9	1.9	3.4
8	18.8	13.3	15.7	10.5	6.3	8.2	7.8	2.9	5.0	5.1	1.9	3.6
9	18.2	10.7	14.2	8.0	5.0	6.6	4.6	3.1	4.0	4.8	2.4	3.7
10	20.3	13.4	16.4	8.3	4.2	6.1	4.3	.7	3.1	5.0	2.6	3.8
11	20.5	14.8	17.1	5.9	4.7	5.3	4.6	.5	2.4	6.5	2.7	4.4
12	16.3	11.9	13.9	9.1	4.1	6.4	4.6	2.0	3.3	6.1	2.6	4.2
13	17.0	9.5	12.8	8.3	5.7	6.7	5.3	2.3	3.8	6.6	3.0	4.6
14	15.9	9.7	12.6	5.9	2.9	4.4	5.9	2.9	4.2	7.0	3.0	4.6
15	16.1	10.1	12.9	6.5	2.6	4.2	6.1	2.8	4.2	4.8	2.2	3.4
16	16.7	10.2	13.2	7.0	2.5	4.6	6.1	2.9	4.4	7.6	2.8	4.5
17	18.0	10.4	13.8	8.8	3.6	5.6	6.5	2.8	4.4	6.4	2.2	4.1
18	18.1	10.8	14.1	9.0	3.3	5.8	6.5	3.1	4.5	8.3	2.7	5.0
19	13.6	10.8	12.0	9.8	4.3	6.7	5.0	2.8	4.0	7.0	3.0	4.7
20	15.4	10.2	12.4	9.9	5.3	7.2	5.9	3.1	4.3	7.2	2.3	4.4
21	17.0	11.8	13.8	7.8	4.2	6.0	6.2	2.8	4.2	5.7	3.1	4.2
22	17.8	10.7	13.9	8.1	2.8	5.1	6.0	3.3	4.4	7.2	3.2	5.0
23	17.1	10.6	13.5	7.0	3.0	4.6	5.7	3.3	4.4	7.8	3.0	4.9
24	14.6	8.3	12.0	9.1	3.0	5.8	4.3	2.9	3.8	7.1	2.6	4.6
25	8.3	.2	2.7	8.5	4.4	6.2	5.8	2.2	3.5	8.2	3.1	5.3
26	.3	.1	.2	6.8	5.1	5.7	4.3	2.0	2.9	8.9	3.2	5.5
27	3.7	.1	1.3	10.0	4.8	6.8	4.7	1.5	3.2	9.3	2.6	5.5
28	7.3	3.3	4.8	6.6	3.8	4.8	5.2	2.0	3.5	9.4	3.1	5.9
29	8.2	3.4	5.3	8.1	4.0	5.6	5.4	2.0	3.6	9.7	3.7	6.1
30	10.2	4.3	6.6	7.2	2.8	5.0	5.9	2.4	4.1	9.9	3.3	6.4
31	10.9	4.6	7.2	---	---	---	5.8	2.2	3.9	8.3	4.4	6.4
MONTH	23.6	.1	12.6	10.5	2.5	6.1	7.8	.5	4.0	9.9	1.9	4.7
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	10.3	4.6	6.9	9.9	2.5	5.6	16.7	6.9	11.2	---	---	---
2	8.4	3.9	5.8	10.8	2.8	6.4	---	7.9	---	---	---	---
3	7.9	3.6	5.6	13.1	3.5	7.9	---	---	---	---	---	---
4	7.0	4.6	5.5	13.6	4.9	8.5	---	---	---	---	---	---
5	5.2	4.2	4.8	8.8	4.9	6.6	---	---	---	---	---	---
6	9.1	3.9	5.8	11.9	4.2	7.6	---	---	---	---	---	---
7	8.3	4.5	6.2	7.7	2.6	5.3	---	---	---	---	---	---
8	9.8	3.8	6.7	10.1	1.8	5.2	---	---	---	---	---	---
9	8.6	5.2	6.7	11.3	3.1	6.7	---	---	---	---	---	---
10	7.4	4.7	5.8	13.0	3.7	7.7	---	---	---	---	---	---
11	8.1	3.4	5.6	10.9	4.0	6.7	---	---	---	---	---	---
12	10.6	4.3	6.8	14.0	3.8	8.3	---	---	---	---	---	---
13	10.8	3.5	6.7	15.8	5.4	10.0	---	---	---	---	---	---
14	12.3	5.1	8.1	14.0	7.3	10.2	---	---	---	---	---	---
15	9.2	5.7	7.4	12.2	7.6	9.7	---	---	---	---	---	---
16	7.6	5.2	6.6	9.8	7.6	8.7	---	---	---	---	---	---
17	10.2	4.5	6.8	14.9	7.3	10.2	---	---	---	---	---	---
18	6.6	4.4	5.6	10.0	3.1	7.3	---	---	---	---	---	---
19	10.4	4.0	6.6	11.5	2.4	6.5	---	---	---	---	---	---
20	9.7	3.4	6.4	13.3	4.7	8.5	---	---	---	---	---	---
21	8.3	4.1	6.6	14.8	6.1	9.9	---	---	---	---	---	---
22	9.4	5.6	7.4	16.5	7.0	11.3	---	---	---	---	---	---
23	10.3	5.5	7.8	17.9	8.9	13.0	---	---	---	---	---	---
24	12.0	6.4	8.7	20.3	10.2	14.5	---	---	---	---	---	---
25	10.2	5.2	7.4	20.7	10.4	14.8	---	---	---	---	---	---
26	8.8	4.8	6.3	18.3	10.8	14.1	---	---	---	---	---	---
27	8.9	3.6	6.1	16.6	9.5	12.5	---	---	---	---	---	---
28	9.3	2.5	5.7	18.4	8.9	13.1	---	---	---	---	---	---
29	---	---	---	18.0	8.9	12.5	---	---	---	---	---	---
30	---	---	---	10.0	6.5	8.0	---	---	---	---	---	---
31	---	---	---	14.8	5.7	9.4	---	---	---	---	---	---
MONTH	12.3	2.5	6.5	20.7	1.8	9.2	---	---	---	---	---	---

07126200 VAN BREMER ARROYO NEAR MODEL, CO--Continued
PRECIPITATION RECORDS

PERIOD OF RECORD.--June 1993 to current year (seasonal records only).

GAGE.--Tipping-bucket rain gage with satellite telemetry. Elevation of gage is 4,960 ft above sea level, from topographic map.

REMARKS.--Records good except for Oct. 24-26, which are poor. Records published for period of seasonal operation only (Oct. 1 to Nov. 14 and Apr. 2 to Sept. 30). Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall during period of seasonal operation, 2.67 inches, May 25, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall during period of seasonal operation, 1.62 inches, Aug. 3.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
 DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	.00	---	---	---	---	---	.00	.00	.59	.03	.00
2	.00	.00	---	---	---	---	e .15	.00	.00	.00	.00	.00
3	.00	.00	---	---	---	---	.01	.00	.00	.05	1.62	.00
4	.00	.00	---	---	---	---	.00	.00	.00	.01	.40	.00
5	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
6	.00	.00	---	---	---	---	.02	.00	.00	.92	.00	.00
7	.24	.00	---	---	---	---	.24	.00	.05	.25	.00	.00
8	.00	.00	---	---	---	---	.23	.45	.00	.43	.00	.00
9	.00	.05	---	---	---	---	.00	.07	.00	.00	.00	.00
10	.00	.08	---	---	---	---	.00	.00	.00	.00	.16	.00
11	.74	.00	---	---	---	---	.00	.00	.00	.00	.03	.00
12	.09	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
13	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
14	.00	e .08	---	---	---	---	.00	.00	.20	.00	.00	.16
15	.00	---	---	---	---	---	.15	.00	.13	.00	.00	.00
16	.00	---	---	---	---	---	.59	.00	.00	.19	.00	.00
17	.00	---	---	---	---	---	.00	.00	.00	.01	.00	.00
18	.00	---	---	---	---	---	.07	.00	.00	.00	.00	.00
19	.00	---	---	---	---	---	.01	.00	.00	.00	.02	.00
20	.14	---	---	---	---	---	.01	.00	.00	.05	.00	.00
21	.08	---	---	---	---	---	.00	.00	.00	.00	.00	.00
22	.00	---	---	---	---	---	.00	.00	.00	.01	.00	.00
23	.00	---	---	---	---	---	.00	.00	.00	.04	.00	.09
24	.15	---	---	---	---	---	.00	.00	.00	.20	.53	.00
25	.00	---	---	---	---	---	.00	.02	.00	.00	.88	.00
26	.16	---	---	---	---	---	1.47	.00	.00	.59	.00	.00
27	.00	---	---	---	---	---	.00	.00	.00	.88	.00	.00
28	.00	---	---	---	---	---	.02	.00	.00	.00	.00	.00
29	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.03
30	.00	---	---	---	---	---	.00	.00	.00	.03	.00	.31
31	.00	---	---	---	---	---	---	.00	---	.00	.20	---
TOTAL	1.93	---	---	---	---	---	---	0.54	0.38	4.25	3.87	0.59

e-Estimated.

ARKANSAS RIVER BASIN
07126300 PURGATOIRE RIVER NEAR THATCHER, CO

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LOCATION.--Lat 37°21'30", long 103°53'44", in sec.10, T.31 S., R.58 W., Las Animas County, Hydrologic Unit 11020010, on right bank 250 ft downstream from county road bridge at gas line crossing, 1.2 mi downstream from Van Bremer Arroyo, and 18 mi southeast of Thatcher.

DRAINAGE AREA.--1,791 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1966 to current year. Statistical summary computed for 1976 to current year, subsequent to completion of Trinidad Reservoir.

REVISED RECORDS.--WDR CO-84-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry, and crest-stage gages. Elevation of gage is 4,790 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges and flows greater than 1,600 ft³/s, which are poor. Diversions upstream from station for irrigation of about 30,000 acres. Peak flows regulated to some extent by Trinidad Dam, 52 mi upstream, since January 1975.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of July 22, 1954, and May 19, 1955, reached stages of 26.7 and 25.2 ft, respectively, from floodmarks, discharges unknown. Flood of June 18, 1965, reached a stage of 23.5 ft, from floodmarks, discharge, 47,700 ft³/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	125	53	e37	e48	44	146	281	29	7.0	62	260
2	22	90	e52	e38	e46	42	133	277	28	34	61	66
3	25	72	e49	e38	46	42	121	251	26	7.9	66	41
4	23	58	e47	e40	45	43	86	269	29	8.7	337	37
5	24	54	e45	e42	46	45	95	224	33	12	78	32
6	23	50	e44	e41	45	48	137	217	35	10	57	23
7	24	47	e43	e38	43	48	128	193	40	17	44	30
8	23	45	e43	e36	43	50	103	164	42	35	38	29
9	24	44	e40	e36	43	49	113	163	41	203	34	27
10	21	46	e39	e36	46	50	97	149	41	113	35	17
11	22	47	e39	e35	42	46	73	151	40	133	72	11
12	324	46	39	e36	39	45	118	135	e36	123	95	11
13	79	44	39	e38	39	43	164	113	e28	73	36	15
14	45	45	39	e38	39	46	119	81	e25	31	28	17
15	38	42	43	e40	40	58	90	66	e38	29	25	26
16	33	38	45	e40	45	112	88	60	e26	18	22	24
17	31	39	46	e41	62	306	122	62	e20	15	29	23
18	30	43	51	e43	66	305	121	57	e17	21	29	19
19	29	43	e50	e45	68	180	122	55	14	15	20	15
20	29	43	e48	e44	67	128	211	59	13	9.7	41	15
21	30	49	e46	e46	60	110	277	57	11	7.4	24	15
22	33	53	e45	e46	61	121	249	49	11	7.5	18	14
23	36	50	e43	e46	61	160	200	50	10	12	15	11
24	35	46	e41	e46	62	247	187	40	11	38	21	11
25	46	48	e40	e45	87	285	201	43	8.9	28	138	12
26	44	52	e38	e46	75	319	220	46	6.3	538	86	9.7
27	52	53	e36	e45	57	456	544	50	5.2	1110	27	8.7
28	58	54	e35	e45	48	339	658	40	4.3	622	89	7.3
29	72	56	e36	e47	---	266	437	34	3.8	415	40	5.6
30	81	54	e36	e48	---	233	335	30	3.7	238	29	8.7
31	91	---	e38	e49	---	172	---	26	---	77	25	---
TOTAL	1472	1576	1328	1291	1469	4438	5695	3492	676.2	4008.2	1721	841.0
MEAN	47.5	52.5	42.8	41.6	52.5	143	190	113	22.5	129	55.5	28.0
MAX	324	125	53	49	87	456	658	281	42	1110	337	260
MIN	21	38	35	35	39	42	73	26	3.7	7.0	15	5.6
AC-FT	2920	3130	2630	2560	2910	8800	11300	6930	1340	7950	3410	1670

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1998, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	33.0	30.8	28.7	27.9	30.2	38.1	87.9	130	102	88.8	138	61.6												
MAX	84.0	52.5	44.3	43.2	53.3	143	467	592	764	547	910	302												
(WY)	1986	1998	1987	1988	1987	1998	1983	1982	1983	1981	1981	1981												
MIN	.73	3.71	12.1	10.6	11.5	5.97	1.38	6.22	6.69	8.80	9.10	.64												
(WY)	1979	1979	1979	1978	1976	1977	1978	1991	1976	1989	1976	1978												

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1976 - 1998
ANNUAL TOTAL	13603.07	28007.4	
ANNUAL MEAN	37.3	76.7	a66.7
HIGHEST ANNUAL MEAN			181
LOWEST ANNUAL MEAN			12.3
HIGHEST DAILY MEAN	324	1110	10000
LOWEST DAILY MEAN	.92	3.7	b.00
ANNUAL SEVEN-DAY MINIMUM	2.0	5.6	.00
INSTANTANEOUS PEAK FLOW		2580	c424000
INSTANTANEOUS PEAK STAGE		7.83	22.00
ANNUAL RUNOFF (AC-FT)	26980	55550	48290
10 PERCENT EXCEEDS	68	183	113
50 PERCENT EXCEEDS	27	44	29
90 PERCENT EXCEEDS	12	15	6.3

e-Estimated.
a-Average discharge for 10 years (water years 1967-76), 37.9 ft³/s; 27460 acre-ft/yr, prior to completion of Trinidad Dam.
b-No flow at times during 1966, 1971-73, 1976, 1990.
c-From rating curve extended above 2100 ft³/s, on basis of two slope-area measurements of peak flow.

07126300 PURGATOIRE RIVER NEAR THATCHER, CO--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1982 to April 1998 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1982 to April 1998 (discontinued).

WATER TEMPERATURE: December 1982 to April 1998 (discontinued).

SUSPENDED SEDIMENT DISCHARGE: May 1983 to September 1992.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for daily specific conductance are good except for Dec. 2-3, 5-9, 12-13, 25-26, Jan. 5-9, 16-24, and Jan. 26 to Feb. 3, which are fair. Records for daily water temperature are excellent. Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 7,030 microsiemens, July 30, 1994; minimum, 200 microsiemens, Aug. 1, 1997.

WATER TEMPERATURE: Maximum, 32.1°C, June 25, 1990; minimum 0.0°C, on many days during the winter months.

SEDIMENT CONCENTRATION: Maximum daily, 49,600 mg/L, June 9, 1986; minimum daily, 3 mg/L, Apr. 29, 1989.

SEDIMENT LOAD: Maximum daily, 250,000 tons, June 6, 1983; minimum daily, 0.00 tons, June 26 to July 4, 1990.

EXTREMES FOR CURRENT WATER YEAR.--

SPECIFIC CONDUCTANCE: Maximum during period October to April, 3,880 microsiemens, Jan. 24; minimum, 525 microsiemens, Mar. 27.

WATER TEMPERATURE: Maximum during period October to April, 21.0°C, Oct. 1; minimum, 0.0°C, on many days during Nov. to Jan.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2920	2670	2860	3650	3280	3400	3290	3220	3250	3440	3280	3370
2	2980	2640	2770	3450	3050	3220	3500	3230	3430	3290	3200	3250
3	3250	2980	3150	3420	2990	3260	3650	3450	3520	3270	3140	3200
4	3280	3030	3180	3480	3380	3430	---	---	---	3210	3080	3160
5	3270	3100	3220	3430	3360	3390	3520	3340	3420	3210	2990	3090
6	3250	3210	3240	3500	3430	3460	3670	3350	3500	3240	3000	3080
7	3210	3150	3170	3530	3450	3500	3730	3430	3560	3240	3040	3160
8	3320	3140	3220	3530	3430	3490	3640	3400	3530	3500	3100	3240
9	3480	3300	3410	3490	3410	3450	3510	3400	3470	3380	3200	3280
10	3530	3480	3510	3450	3380	3420	---	---	---	3490	3370	3430
11	3730	3430	3630	3400	3360	3380	---	---	---	3550	3340	3480
12	3580	2430	2850	3410	3350	3390	3800	3440	3550	3350	3090	3220
13	2540	1920	2170	3410	3380	3400	3680	3370	3460	3150	3070	3120
14	2620	1880	2040	3460	3390	3420	3740	3460	3570	3170	3100	3130
15	3280	2620	3060	3500	3440	3470	3770	3610	3690	3340	3130	3190
16	3320	3200	3270	3570	3470	3510	3760	3630	3690	3230	3100	3140
17	3290	3200	3240	3590	3420	3480	3660	3500	3550	3410	3190	3270
18	3370	3270	3320	3630	3410	3460	3520	3340	3400	3300	3160	3210
19	3400	3350	3390	3610	3460	3520	3470	3330	3410	3390	3190	3260
20	3440	3370	3410	3540	3390	3480	3430	3290	3350	3310	3090	3190
21	3430	3360	3410	3440	3380	3410	3360	3260	3310	3460	3110	3220
22	3460	3380	3420	3520	3380	3460	3280	3170	3220	3730	3090	3310
23	3470	3390	3430	3400	3290	3340	3250	3190	3220	3760	3170	3440
24	3450	3280	3400	3500	3300	3430	3260	3180	3220	3880	3340	3470
25	3280	3050	3150	3520	3390	3480	3230	3180	3200	---	---	---
26	3050	2970	3020	3540	3430	3490	3700	3190	3300	3680	3320	3420
27	3090	2900	3020	3590	3430	3500	---	---	---	3620	3250	3340
28	3000	2890	2950	3590	3470	3520	---	---	---	3550	3200	3330
29	3250	2920	3060	3600	3450	3500	3720	3450	3540	3370	3170	3290
30	3380	3250	3330	3450	3290	3390	3690	3500	3590	3360	3210	3300
31	3360	3240	3290	---	---	---	3500	3430	3460	3220	2980	3140
MONTH	3730	1880	3150	3650	2990	3440	---	---	---	---	---	---

07126300 PURGATOIRE RIVER NEAR THATCHER, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	21.0	17.8	19.2	7.7	6.4	7.0	2.8	2.0	2.3	.3	.0	.1
2	20.7	16.8	18.7	7.3	5.7	6.5	2.1	1.3	1.8	.3	.0	.1
3	19.6	17.0	18.2	7.3	4.8	6.0	2.2	.5	1.3	.4	.0	.2
4	20.1	16.1	18.0	8.0	5.4	6.6	1.2	.0	.4	.5	.0	.1
5	20.1	16.0	17.9	8.2	5.8	6.9	.2	.0	.1	.4	.0	.1
6	19.7	16.3	17.9	8.4	5.7	7.0	.5	.0	.2	.1	.0	.1
7	19.0	16.5	17.7	8.9	6.1	7.3	.8	.1	.3	.2	.0	.1
8	17.2	14.7	16.0	8.8	6.5	7.5	1.3	.0	.4	.2	.0	.1
9	16.1	12.8	14.5	7.4	4.9	6.3	.4	.0	.2	.2	.0	.1
10	17.5	13.5	15.4	6.0	4.2	4.9	.4	.0	.1	.1	.0	.1
11	18.5	15.2	16.7	4.7	3.6	4.2	.1	.0	.1	.2	.0	.1
12	16.6	11.1	13.3	5.4	3.0	4.1	.3	.0	.1	.3	.0	.1
13	11.9	9.5	10.7	5.3	4.1	4.6	.2	.0	.1	.4	.0	.1
14	12.4	9.2	10.8	4.1	1.8	2.9	.2	.0	.1	.4	.0	.1
15	13.3	10.1	11.6	2.4	.5	1.3	.2	.0	.1	.2	.0	.1
16	13.8	10.6	12.1	1.8	.1	.6	.3	.0	.1	.5	.0	.1
17	14.4	10.8	12.5	2.1	.0	.8	.3	.0	.1	.4	.0	.1
18	14.8	11.4	13.0	2.6	.1	1.1	.3	.0	.1	.6	.0	.2
19	13.1	11.2	11.9	3.1	.6	1.7	.2	.0	.1	.6	.0	.2
20	12.8	10.3	11.5	4.0	1.6	2.6	.4	.0	.2	.9	.0	.2
21	14.2	11.5	12.6	3.7	2.2	2.9	.4	.0	.2	.4	.0	.1
22	14.4	11.2	12.7	3.8	1.9	2.8	.3	.1	.1	.6	.0	.2
23	14.0	11.4	12.6	2.8	1.5	2.0	.3	.1	.1	.8	.0	.2
24	13.0	9.2	11.8	3.2	.9	1.8	.2	.1	.1	.5	.0	.2
25	9.2	.2	3.3	3.2	1.5	2.3	.2	.0	.1	1.2	.0	.4
26	2.3	.2	1.0	3.0	1.9	2.4	.2	.0	.1	1.5	.0	.5
27	4.7	1.2	2.7	4.9	2.5	3.5	.2	.0	.1	1.6	.0	.6
28	5.2	2.4	3.8	4.1	2.2	3.0	.2	.0	.1	2.1	.0	.8
29	5.2	3.0	4.2	4.1	2.2	2.9	.2	.0	.1	2.3	.0	1.0
30	6.8	4.2	5.4	3.1	1.6	2.3	.2	.0	.1	2.7	.2	1.4
31	7.3	5.1	6.1	---	---	---	.2	.0	.1	2.9	1.2	2.2
MONTH	21.0	.2	12.1	8.9	.0	3.9	2.8	.0	.3	2.9	.0	.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	4.3	2.2	3.1	4.5	1.2	2.8	8.9	4.7	6.8	---	---	---
2	3.6	1.9	2.7	5.3	1.5	3.3	---	7.7	---	---	---	---
3	3.5	1.6	2.5	6.8	2.4	4.5	---	---	---	---	---	---
4	3.6	2.4	2.8	8.2	4.0	5.8	---	---	---	---	---	---
5	3.0	2.4	2.6	6.1	4.5	5.2	---	---	---	---	---	---
6	4.2	2.1	2.9	7.5	3.6	5.4	---	---	---	---	---	---
7	4.2	2.5	3.3	6.0	2.1	4.3	---	---	---	---	---	---
8	5.5	2.6	3.9	4.7	.7	2.6	---	---	---	---	---	---
9	5.0	3.5	4.2	5.5	1.9	3.5	---	---	---	---	---	---
10	4.8	3.3	3.9	6.4	2.1	4.2	---	---	---	---	---	---
11	4.4	2.4	3.4	6.5	3.0	4.6	---	---	---	---	---	---
12	5.5	2.6	3.9	7.5	2.8	5.0	---	---	---	---	---	---
13	5.7	2.3	3.9	9.6	4.6	6.9	---	---	---	---	---	---
14	6.7	3.4	4.8	9.9	6.6	8.1	---	---	---	---	---	---
15	6.1	4.3	5.2	9.5	7.3	8.4	---	---	---	---	---	---
16	5.5	4.6	5.2	8.8	7.1	7.9	---	---	---	---	---	---
17	6.3	4.1	5.0	7.6	5.6	6.7	---	---	---	---	---	---
18	5.2	3.2	3.9	8.5	4.9	7.2	---	---	---	---	---	---
19	5.5	2.7	3.9	6.6	3.5	5.0	---	---	---	---	---	---
20	5.5	2.8	4.2	7.8	4.3	6.0	---	---	---	---	---	---
21	6.7	3.5	5.1	9.2	5.9	7.5	---	---	---	---	---	---
22	7.4	4.5	5.9	10.6	7.0	8.7	---	---	---	---	---	---
23	8.2	4.8	6.5	11.8	8.9	10.4	---	---	---	---	---	---
24	8.6	5.6	7.1	13.9	9.9	11.8	---	---	---	---	---	---
25	7.6	5.5	6.7	14.2	10.1	12.1	---	---	---	---	---	---
26	6.0	4.2	5.1	13.4	10.5	11.9	---	---	---	---	---	---
27	4.9	2.9	3.8	11.6	7.7	9.9	---	---	---	---	---	---
28	4.5	1.7	3.1	11.0	7.0	8.8	---	---	---	---	---	---
29	---	---	---	11.1	7.7	9.3	---	---	---	---	---	---
30	---	---	---	9.6	6.4	7.5	---	---	---	---	---	---
31	---	---	---	7.1	4.4	5.9	---	---	---	---	---	---
MONTH	8.6	1.6	4.2	14.2	.7	6.8	---	---	---	---	---	---

ARKANSAS RIVER BASIN

07126325 TAYLOR ARROYO BELOW ROCK CROSSING NEAR THATCHER, CO

LOCATION.--Lat 37°25'26", long 103°55'09", in SE¹/₄SE¹/₄ sec.17, T.30 S., R.58 W., Las Animas County, Hydrologic Unit 11020010, on left bank 1.6 mi southeast of Rock Crossing, 5 mi upstream from mouth, and 13.5 mi southeast of Thatcher.

DRAINAGE AREA.--48.4 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1983 to current year.

GAGE.--Water-stage recorder with satellite telemetry, concrete control, and crest-stage gage. Elevation of gage is 4,982 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges and those above 20 ft³/s, which are poor.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e.02	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
2	.00	.01	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	362	.00
4	.00	.01	.00	.00	e.00	e.00	e.00	.00	.00	.00	121	.00
5	.00	e.02	.00	.00	e.00	e.00	e.00	.00	.00	.00	1.0	.00
6	.00	.03	.00	.00	e.00	e.00	e.00	.00	.00	.00	.16	.00
7	.00	.02	.00	.00	e.00	e.00	e.00	.00	.00	.00	.07	.00
8	.00	e.03	.00	.00	e.00	e.00	e.00	.00	.00	.00	.01	.00
9	.00	.04	.00	.00	e.00	e.00	e.00	.00	.00	.00	.02	.00
10	.00	.03	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00
11	.00	.01	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00
12	.00	.01	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	e.00	e.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	e.00	e.00	e.00	.01	.00	.00	.00	.00	.00
27	e.01	.00	.00	e.00	e.00	e.00	.00	.00	.00	336	.00	.00
28	.01	.00	.00	e.00	e.00	e.00	.00	.00	.00	5.1	.00	.00
29	.00	.00	.00	e.00	---	e.00	.00	.00	.00	.21	.00	.00
30	.00	.00	.00	e.00	---	e.00	.00	.00	.00	.05	.00	472
31	.00	---	.00	e.00	---	e.00	---	.00	---	.02	.00	---
TOTAL	0.02	0.23	0.00	0.00	0.00	0.00	0.01	0.00	0.00	341.38	484.26	472.00
MEAN	.001	.008	.000	.000	.000	.000	.000	.000	.000	11.0	15.6	15.7
MAX	.01	.04	.00	.00	.00	.00	.01	.00	.00	336	362	472
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.04	.5	.00	.00	.00	.00	.02	.00	.00	677	961	936

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1998, BY WATER YEAR (WY)

	1983	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
MEAN	.017	.001	.000	.000	.000	.000	.021	.49	.53	1.35	1.49	1.01
MAX	.14	.008	.000	.000	.000	.000	.33	7.09	3.78	11.0	15.6	15.7
(WY)	1987	1998	1984	1984	1984	1984	1983	1995	1995	1998	1998	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1984	1984	1984	1984	1984	1984	1984	1983	1984	1983	1988	1983

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1983 - 1998	
ANNUAL TOTAL	14.06		1297.90			
ANNUAL MEAN	.039		3.56			
HIGHEST ANNUAL MEAN					.44	1998
LOWEST ANNUAL MEAN					a.038	1996
HIGHEST DAILY MEAN			4.4	Aug 11	472	Sep 30 1998
LOWEST DAILY MEAN			b.00	Jan 1	b.00	Oct 1 1983
ANNUAL SEVEN-DAY MINIMUM			.00	Jan 1	.00	Oct 1 1983
INSTANTANEOUS PEAK FLOW					c9090	Sep 30 1998
INSTANTANEOUS PEAK STAGE					13.71	Sep 30 1998
ANNUAL RUNOFF (AC-FT)	28		2570		317	
10 PERCENT EXCEEDS	.00		.00		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

e-Estimated.
a-Also occurred 1997 water year.
b-No flow most of the time.
c-From slope-area measurement of peak flow.

07126325 TAYLOR ARROYO BELOW ROCK CROSSING NEAR THATCHER, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	OCTOBER			NOVEMBER			DECEMBER		
1	.00	---	---	e.02	---	e.00	.00	---	---
2	.00	---	---	.01	4	.00	.00	---	---
3	.00	---	---	.00	---	---	.00	---	---
4	.00	---	---	.01	---	e.00	.00	---	---
5	.00	---	---	e.02	---	e.00	.00	---	---
6	.00	---	---	.03	---	e.00	.00	---	---
7	.00	---	---	.02	---	e.00	.00	---	---
8	.00	---	---	e.03	---	e.00	.00	---	---
9	.00	---	---	.04	---	e.00	.00	---	---
10	.00	---	---	.03	---	e.00	.00	---	---
11	.00	---	---	.01	---	e.00	.00	---	---
12	.00	---	---	.01	---	e.00	.00	---	---
13	.00	---	---	.00	---	---	.00	---	---
14	.00	---	---	.00	---	---	.00	---	---
15	.00	---	---	.00	---	---	.00	---	---
16	.00	---	---	.00	---	---	.00	---	---
17	.00	---	---	.00	---	---	.00	---	---
18	.00	---	---	.00	---	---	.00	---	---
19	.00	---	---	.00	---	---	.00	---	---
20	.00	---	---	.00	---	---	.00	---	---
21	.00	---	---	.00	---	---	.00	---	---
22	.00	---	---	.00	---	---	.00	---	---
23	.00	---	---	.00	---	---	.00	---	---
24	.00	---	---	.00	---	---	.00	---	---
25	.00	---	---	.00	---	---	.00	---	---
26	.00	---	---	.00	---	---	.00	---	---
27	e.01	---	e.00	.00	---	---	.00	---	---
28	.01	8	.00	.00	---	---	.00	---	---
29	.00	---	---	.00	---	---	.00	---	---
30	.00	---	---	.00	---	---	.00	---	---
31	.00	---	---	---	---	---	.00	---	---
TOTAL	0.02	---	---	0.23	---	---	0.00	---	---

e-Estimated.

07126325 TAYLOR ARROYO BELOW ROCK CROSSING NEAR THATCHER, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
										JANUARY
1	.00	---	---	e.00	---	---	e.00	---	---	
2	.00	---	---	e.00	---	---	e.00	---	---	
3	.00	---	---	e.00	---	---	e.00	---	---	
4	.00	---	---	e.00	---	---	e.00	---	---	
5	.00	---	---	e.00	---	---	e.00	---	---	
6	.00	---	---	e.00	---	---	e.00	---	---	
7	.00	---	---	e.00	---	---	e.00	---	---	
8	.00	---	---	e.00	---	---	e.00	---	---	
9	.00	---	---	e.00	---	---	e.00	---	---	
10	.00	---	---	e.00	---	---	e.00	---	---	
11	.00	---	---	e.00	---	---	e.00	---	---	
12	.00	---	---	e.00	---	---	e.00	---	---	
13	.00	---	---	e.00	---	---	e.00	---	---	
14	.00	---	---	e.00	---	---	e.00	---	---	
15	.00	---	---	e.00	---	---	e.00	---	---	
16	.00	---	---	e.00	---	---	e.00	---	---	
17	.00	---	---	e.00	---	---	e.00	---	---	
18	.00	---	---	e.00	---	---	e.00	---	---	
19	.00	---	---	e.00	---	---	e.00	---	---	
20	.00	---	---	e.00	---	---	e.00	---	---	
21	.00	---	---	e.00	---	---	e.00	---	---	
22	e.00	---	---	e.00	---	---	e.00	---	---	
23	e.00	---	---	e.00	---	---	e.00	---	---	
24	e.00	---	---	e.00	---	---	e.00	---	---	
25	e.00	---	---	e.00	---	---	e.00	---	---	
26	e.00	---	---	e.00	---	---	e.00	---	---	
27	e.00	---	---	e.00	---	---	e.00	---	---	
28	e.00	---	---	e.00	---	---	e.00	---	---	
29	e.00	---	---	---	---	---	e.00	---	---	
30	e.00	---	---	---	---	---	e.00	---	---	
31	e.00	---	---	---	---	---	e.00	---	---	
TOTAL	0.00	---	---	0.00	---	---	0.00	---	---	
		APRIL			MAY			JUNE		
1	e.00	---	---	.00	---	---	.00	---	---	
2	e.00	---	---	.00	---	---	.00	---	---	
3	e.00	---	---	.00	---	---	.00	---	---	
4	e.00	---	---	.00	---	---	.00	---	---	
5	e.00	---	---	.00	---	---	.00	---	---	
6	e.00	---	---	.00	---	---	.00	---	---	
7	e.00	---	---	.00	---	---	.00	---	---	
8	e.00	---	---	.00	---	---	.00	---	---	
9	e.00	---	---	.00	---	---	.00	---	---	
10	.00	---	---	.00	---	---	.00	---	---	
11	.00	---	---	.00	---	---	.00	---	---	
12	.00	---	---	.00	---	---	.00	---	---	
13	.00	---	---	.00	---	---	.00	---	---	
14	.00	---	---	.00	---	---	.00	---	---	
15	.00	---	---	.00	---	---	.00	---	---	
16	.00	---	---	.00	---	---	.00	---	---	
17	.00	---	---	.00	---	---	.00	---	---	
18	.00	---	---	.00	---	---	.00	---	---	
19	.00	---	---	.00	---	---	.00	---	---	
20	.00	---	---	.00	---	---	.00	---	---	
21	.00	---	---	.00	---	---	.00	---	---	
22	.00	---	---	.00	---	---	.00	---	---	
23	.00	---	---	.00	---	---	.00	---	---	
24	.00	---	---	.00	---	---	.00	---	---	
25	.00	---	---	.00	---	---	.00	---	---	
26	.01	3	.00	.00	---	---	.00	---	---	
27	.00	---	---	.00	---	---	.00	---	---	
28	.00	---	---	.00	---	---	.00	---	---	
29	.00	---	---	.00	---	---	.00	---	---	
30	.00	---	---	.00	---	---	.00	---	---	
31	---	---	---	.00	---	---	---	---	---	
TOTAL	0.01	---	---	0.00	---	---	0.00	---	---	

e-Estimated.

07126325 TAYLOR ARROYO BELOW ROCK CROSSING NEAR THATCHER, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.00	---	---	.00	---	---	.00	---	---
2	.00	---	---	.00	---	---	.00	---	---
3	.00	---	---	362	1370	8500	.00	---	---
4	.00	---	---	121	5330	2610	.00	---	---
5	.00	---	---	1.0	3740	11	.00	---	---
6	.00	---	---	.16	---	e.11	.00	---	---
7	.00	---	---	.07	---	e.03	.00	---	---
8	.00	---	---	.01	---	e.00	.00	---	---
9	.00	---	---	.02	---	e.01	.00	---	---
10	.00	---	---	.00	---	---	.00	---	---
11	.00	---	---	.00	---	---	.00	---	---
12	.00	---	---	.00	---	---	.00	---	---
13	.00	---	---	.00	---	---	.00	---	---
14	.00	---	---	.00	---	---	.00	---	---
15	.00	---	---	.00	---	---	.00	---	---
16	.00	---	---	.00	---	---	.00	---	---
17	.00	---	---	.00	---	---	.00	---	---
18	.00	---	---	.00	---	---	.00	---	---
19	.00	---	---	.00	---	---	.00	---	---
20	.00	---	---	.00	---	---	.00	---	---
21	.00	---	---	.00	---	---	.00	---	---
22	.00	---	---	.00	---	---	.00	---	---
23	.00	---	---	.00	---	---	.00	---	---
24	.00	---	---	.00	---	---	.00	---	---
25	.00	---	---	.00	---	---	.00	---	---
26	.00	---	---	.00	---	---	.00	---	---
27	336	5010	8480	.00	---	---	.00	---	---
28	5.1	5270	80	.00	---	---	.00	---	---
29	.21	2840	1.7	.00	---	---	.00	---	---
30	.05	---	e.02	.00	---	---	472	---	e12700
31	.02	---	e.01	.00	---	---	---	---	---
TOTAL	341.38	---	---	484.26	---	---	472.00	---	---

e-Estimated.

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO

LOCATION.--Lat 37°37'10', long 103°35'32" in NE¼SE¼ sec.10, T.28 S., R.55 W., Las Animas County, Hydrologic Unit 11020010, on right bank at Rock Crossing, 2.1 mi upstream from Minnie Canyon, 2.4 mi downstream from Beaty Canyon, and 17 mi southeast of Timpas.

DRAINAGE AREA.--2,635 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1983 to current year.

REVISED RECORD.--WDR CO-87-1: 1984-86 (M).

GAGE.--Water-stage recorder with satellite telemetry, and crest-stage gages. Elevation of gage is 4,350 ft above sea level, from topographic map. June 1, 1983 to July 17, 1985, at site 500 ft downstream at same datum.

REMARKS.--Records good except for discharges above 1,000 ft³/s, which are fair, and estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 30,000 acres. Peak flows are regulated to some extent by Trinidad Dam, 92 mi upstream.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	91	e54	e38	e49	e48	e172	324	29	4.5	94	86
2	23	111	e53	e37	e48	e44	e146	270	28	3.9	79	180
3	24	83	e52	e38	e46	e42	e133	225	29	8.8	77	67
4	23	68	e49	e38	e46	e42	e121	217	29	15	1870	48
5	23	58	e47	e40	e45	e43	e86	223	28	9.8	186	43
6	22	54	e45	e42	e46	e45	e95	189	35	9.0	109	37
7	23	51	e44	e41	e45	e48	e137	194	35	48	80	32
8	23	48	e43	e38	e43	e48	e128	172	41	12	65	30
9	22	47	e43	e36	e43	e50	e103	157	42	43	55	32
10	23	47	e40	e36	e43	e49	116	152	41	149	57	29
11	21	47	e39	e36	e46	e50	98	142	40	100	79	26
12	110	47	e39	e35	e42	e46	79	147	40	134	357	19
13	223	47	e39	e36	e39	e45	137	127	33	99	86	16
14	66	47	e39	e38	e39	e43	152	106	28	65	55	18
15	45	e45	e39	e38	e39	e46	117	81	24	33	45	22
16	37	e42	e43	e40	e40	e58	99	69	31	30	42	24
17	32	e38	e45	e40	e45	e112	99	64	30	34	36	31
18	29	e39	e46	e41	e62	e306	127	65	25	18	34	27
19	28	e43	e51	e43	e66	e305	129	61	21	16	40	26
20	28	e43	e50	e45	e68	e180	125	58	17	19	52	22
21	28	e43	e48	e44	e67	e128	254	62	14	14	42	20
22	28	e49	e46	e46	e60	e110	246	60	13	11	37	21
23	29	e53	e45	e46	e61	e121	214	53	11	21	27	e19
24	34	e50	e43	e46	e61	e160	182	52	9.2	13	26	e18
25	60	e46	e41	e46	e62	e247	181	44	9.5	25	27	e17
26	188	e48	e40	e45	e87	e285	206	46	8.6	29	159	e16
27	154	e52	e38	e46	e75	e319	469	46	9.4	1600	62	e15
28	65	e53	e36	e45	e57	e456	684	52	7.4	1540	33	e13
29	60	e54	e35	e45	---	e339	637	44	6.0	540	85	e10
30	74	e56	e36	e47	---	e266	401	36	5.1	446	46	e9.0
31	79	---	e36	e48	---	e233	---	33	---	198	35	---
TOTAL	1651	1600	1344	1280	1470	4314	5873	3571	719.2	5288.0	4077	973.0
MEAN	53.3	53.3	43.4	41.3	52.5	139	196	115	24.0	171	132	32.4
MAX	223	111	54	48	87	456	684	324	42	1600	1870	180
MIN	21	38	35	35	39	42	79	33	5.1	3.9	26	9.0
AC-FT	3270	3170	2670	2540	2920	8560	11650	7080	1430	10490	8090	1930

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1998, BY WATER YEAR (WY)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
MEAN	39.7	39.2	34.3	31.9	35.4	48.4	91.9	129	115	79.0	111	46.2
MAX	74.3	53.3	43.4	41.4	56.0	139	330	585	836	186	167	98.6
(WY)	1986	1998	1998	1984	1988	1998	1993	1987	1983	1992	1996	1993
MIN	13.0	20.5	15.6	17.4	22.7	19.7	16.8	5.81	9.65	11.2	39.1	12.5
(WY)	1990	1990	1991	1991	1991	1991	1989	1991	1990	1989	1985	1990

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1983 - 1998

ANNUAL TOTAL	16896.5	32160.2	
ANNUAL MEAN	46.3	88.1	62.5
HIGHEST ANNUAL MEAN			123
LOWEST ANNUAL MEAN			29.6
HIGHEST DAILY MEAN	626	Aug 2	1870
LOWEST DAILY MEAN	e1.1	Jul 24	3.9
ANNUAL SEVEN-DAY MINIMUM	6.7	Jul 2	6.4
INSTANTANEOUS PEAK FLOW			3800
INSTANTANEOUS PEAK STAGE			12.50
ANNUAL RUNOFF (AC-FT)	33510	63790	45250
10 PERCENT EXCEEDS	77	180	121
50 PERCENT EXCEEDS	30	45	35
90 PERCENT EXCEEDS	14	21	14

e-Estimated.

a-Also occurred Jul 1-9, 1990.

b-From rating curve extended above 4300 ft³/s, on basis of slope-area measurement of peak flow.

c-From floodmarks.

**07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--October 1982 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1983 to September 1992.

WATER TEMPERATURE: July 1983 to September 1992.

SUSPENDED SEDIMENT: August 1983 to September 1992, June to September 1997 (peak flows only).

INSTRUMENTATION.--Pumping sediment sampler since June 1997.

REMARKS.--Records for daily sediment during peak flows are good except for Oct. 12-13, 25-27, which are fair, and for estimated suspended-sediment discharges, which are poor. Daily sediment records are published for days when instantaneous discharge exceeds 100 ft³/s. Daily maximum and minimum specific conductance and daily mean water temperature data for July 1983 to September 1992 are available in district office.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 5,590 microsiemens, July 13, 1991; minimum, 202 microsiemens, Aug. 11, 1991.

WATER TEMPERATURE: Maximum, 36.8°C, June 27, 1990; minimum 0.0°C, on many days during the winter in most years.

SEDIMENT CONCENTRATIONS: Maximum daily, 54,900 mg/L, Aug. 16, 1986; minimum daily, 5 mg/L, Mar. 22, 1988, and Feb. 10, 1989.

SEDIMENT LOADS: Maximum daily, 160,000 tons, July 9, 1992; minimum daily, 0.0 ton (estimated), on several days during 1989 and 1990.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean during peak flows only, 1,350 mg/L, Oct. 13; minimum daily mean, 198 mg/L, Apr. 19.

SEDIMENT LOADS: Maximum daily during peak flows only, 96,100 tons (estimated), Aug. 4; minimum daily, 69 tons, Apr. 19.

MISCELLANEOUS FIELD MEASUREMENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
NOV 1997					JUN 1998				
14...	1100	47	1990	2.5	08...	1700	41	2960	25.0
APR 1998					JUL				
10...	1630	116	1620	15.8	15...	1300	33	1130	27.6
MAY					SEP				
07...	1735	188	1510	19.5	08...	1620	33	1590	25.8
20...	1815	58	1910	24.5					

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- SUS- PENDE (T/DAY) (80155)
APR					
10...	1620	116	16.0	237	74
10...	1625	116	16.0	225	70
MAY					
07...	1735	188	19.5	540	274
07...	1740	188	19.5	556	282
JUN					
08...	1700	41	25.0	47	5.2
JUL					
15...	1300	33	27.6	177	16
SEP					
08...	1625	33	25.8	188	17

ARKANSAS RIVER BASIN

07126485 PURGATOIRE RIVER AT ROCK CROSSING NEAR TIMPAS, CO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
	APRIL			MAY			JUNE		
1	e172	---	e177	324	---	e720	29	---	---
2	e146	---	e127	270	---	e494	28	---	---
3	e133	---	e105	225	---	e337	29	---	---
4	e121	---	e87	217	---	e315	29	---	---
5	e86	---	---	223	---	e336	28	---	---
6	e95	---	---	189	---	e237	35	---	---
7	e137	---	e111	194	---	e250	35	---	---
8	e128	---	e97	172	---	e195	41	---	---
9	e103	---	e62	157	---	e162	42	---	---
10	116	---	e79	152	---	e151	41	---	---
11	98	439	117	142	---	e132	40	---	---
12	79	---	---	147	---	e141	40	---	---
13	137	512	207	127	---	e104	33	---	---
14	152	488	202	106	---	e72	28	---	---
15	117	483	152	81	---	---	24	---	---
16	99	453	122	69	---	---	31	---	---
17	99	319	85	64	---	---	30	---	---
18	127	253	87	65	---	---	25	---	---
19	129	198	69	61	---	---	21	---	---
20	125	244	87	58	---	---	17	---	---
21	254	---	e446	62	---	---	14	---	---
22	246	---	e412	60	---	---	13	---	---
23	214	---	e311	53	---	---	11	---	---
24	182	---	e222	52	---	---	9.2	---	---
25	181	---	e218	44	---	---	9.5	---	---
26	206	---	e283	46	---	---	8.6	---	---
27	469	---	e1930	46	---	---	9.4	---	---
28	684	---	e3470	52	---	---	7.4	---	---
29	637	---	e2880	44	---	---	6.0	---	---
30	401	---	e1130	36	---	---	5.1	---	---
31	---	---	---	33	---	---	---	---	---
TOTAL	5873	---	---	3571	---	---	719.2	---	---
	JULY			AUGUST			SEPTEMBER		
1	4.5	---	---	94	---	e204	86	---	e587
2	3.9	---	---	79	---	---	180	---	e852
3	8.8	---	---	77	---	---	67	---	---
4	15	---	---	1870	---	e96100	48	---	---
5	9.8	---	---	186	---	e807	43	---	---
6	9.0	---	---	109	---	e274	37	---	---
7	48	---	e97	80	---	---	32	---	---
8	12	---	---	65	---	---	30	---	---
9	43	---	e128	55	---	---	32	---	---
10	149	---	e522	57	---	---	29	---	---
11	100	---	e228	79	---	e156	26	---	---
12	134	---	e411	357	---	e4510	19	---	---
13	99	---	---	86	---	e177	16	---	---
14	65	---	---	55	---	---	18	---	---
15	33	---	---	45	---	---	22	---	---
16	30	---	---	42	---	---	24	---	---
17	34	---	---	36	---	---	31	---	---
18	18	---	---	34	---	---	27	---	---
19	16	---	---	40	---	---	26	---	---
20	19	---	---	52	---	---	22	---	---
21	14	---	---	42	---	---	20	---	---
22	11	---	---	37	---	---	21	---	---
23	21	---	---	27	---	---	e19	---	---
24	13	---	---	26	---	---	e18	---	---
25	25	---	---	27	---	---	e17	---	---
26	29	---	---	159	---	e989	e16	---	---
27	1600	---	e63800	62	---	e95	e15	---	---
28	1540	---	e52900	33	---	---	e13	---	---
29	540	---	e7600	85	---	e187	e10	---	---
30	446	---	e4420	46	---	---	e9.0	---	---
31	198	---	e1050	35	---	---	---	---	---
TOTAL	5288.0	---	---	4077	---	---	973.0	---	---

e-Estimated.

07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO

LOCATION.--Lat 38°02'02", long 103°12'00", in NE¹/4SW¹/4 sec.23, T.23 S., R.52 W., Bent County, Hydrologic Unit 11020010, on right bank at downstream side of bridge on State Highway 101, 2.3 mi southeast of courthouse in Las Animas, and 4.5 mi upstream from mouth.

DRAINAGE AREA.--3,318 mi².

PERIOD OF RECORD.--May to September 1889, July to October 1909 (gage heights and discharge measurements only), January 1922 to September 1931, July 1948 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Purgatoire Creek at Las Animas in 1889 and as Purgatory River near Las Animas in 1909. Statistical summary computed for 1978 to current year, subsequent to completion of Trinidad Reservoir. Water-quality data available, December 1985 to September 1996.

REVISED RECORDS.--WSP 1241: 1927(M); WDR CO-84-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 3,878.04 ft above sea level. See WSP 1731 for history of changes prior to Oct. 1, 1955. Oct. 1, 1955 to July 11, 1966, at datum 3.00 ft higher. Supplementary water-stage recorder at site 1.6 mi downstream at different datum July 12 to Nov. 17, 1966. Nov. 18, 1966, to May 4, 1982, at datum 3.1 ft lower.

REMARKS.--Records good except for estimated daily discharges and Mar. 26 to Apr. 21, which are fair. Flow regulated to some extent since January 1975 by Trinidad Lake near Trinidad, upstream. Diversions for irrigation of about 36,000 acres upstream from station. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood since at least 1860 occurred Oct. 1, 1904, discharge not determined.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	93	67	51	62	72	319	328	45	5.2	200	40
2	55	97	67	63	65	63	246	259	40	8.6	115	39
3	51	123	68	58	67	57	212	213	29	7.1	116	136
4	45	98	68	58	64	53	e190	180	31	4.1	311	69
5	45	86	72	61	60	53	e175	175	41	4.1	933	50
6	44	74	66	e60	56	52	160	179	42	4.3	247	32
7	49	69	60	e60	55	53	137	160	45	16	173	29
8	50	66	57	54	56	55	153	162	67	472	141	29
9	60	62	61	44	55	58	145	152	68	38	116	26
10	53	61	65	32	54	59	139	154	56	27	91	24
11	58	59	58	60	53	57	133	144	45	72	62	24
12	44	59	27	64	52	57	102	133	42	68	80	28
13	96	60	45	61	53	58	68	131	35	91	262	26
14	201	59	55	72	50	52	85	118	34	126	126	19
15	121	57	63	55	48	46	123	107	37	77	84	7.6
16	83	54	55	65	50	55	123	89	38	44	65	11
17	63	55	49	67	51	89	116	66	31	30	58	22
18	68	56	62	63	52	203	108	60	32	26	54	13
19	64	49	61	59	62	306	83	56	33	26	34	19
20	57	51	66	60	75	246	75	51	26	17	33	21
21	58	53	65	57	74	176	78	45	24	13	37	21
22	57	54	63	60	74	162	185	46	21	11	34	21
23	54	56	63	57	71	147	187	53	11	18	37	19
24	57	58	65	59	68	148	164	67	6.6	26	32	21
25	54	62	61	54	68	191	139	92	6.0	18	44	23
26	21	58	35	52	68	311	151	92	5.5	8.8	45	27
27	47	55	34	55	81	455	181	40	5.2	32	87	56
28	82	58	38	53	88	611	418	40	5.3	1180	75	54
29	84	66	60	52	---	521	601	41	5.2	909	40	35
30	76	69	58	55	---	401	461	45	4.6	426	33	25
31	79	---	49	57	---	361	---	42	---	506	44	---
TOTAL	2029	1977	1783	1778	1732	5228	5457	3520	911.4	4311.2	3809	966.6
MEAN	65.5	65.9	57.5	57.4	61.9	169	182	114	30.4	139	123	32.2
MAX	201	123	72	72	88	611	601	328	68	1180	933	136
MIN	21	49	27	32	48	46	68	40	4.6	4.1	32	7.6
AC-FT	4020	3920	3540	3530	3440	10370	10820	6980	1810	8550	7560	1920

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 1998, BY WATER YEAR (WY)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	33.3	35.4	29.6	32.1	32.5	43.9	83.6	129	112	73.8	124	49.2										
MAX (WY)	82.6	65.9	57.5	57.4	61.9	169	418	614	725	263	761	225										
MIN (WY)	1.58	1.90	2.38	4.72	5.65	5.26	3.53	5.41	8.76	7.67	3.76	3.14										

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1978 - 1998
ANNUAL TOTAL	18457.2	33502.2	
ANNUAL MEAN	50.6	91.8	
HIGHEST ANNUAL MEAN			a65.1
LOWEST ANNUAL MEAN			166
HIGHEST DAILY MEAN	1940	Aug 12	1180 Jul 28
LOWEST DAILY MEAN	5.5	Jul 12	c4.1 Jul 4
ANNUAL SEVEN-DAY MINIMUM	6.8	Jul 8	5.3 Jun 25
INSTANTANEOUS PEAK FLOW			d1.3 Oct 10 1977
INSTANTANEOUS PEAK STAGE			f6680 Jul 5 1981
ANNUAL RUNOFF (AC-FT)	36610	66450	g8.77 Jul 8
10 PERCENT EXCEEDS	82	177	h10.09 Jul 5 1981
50 PERCENT EXCEEDS	34	58	47150
90 PERCENT EXCEEDS	9.7	24	124

e-Estimated.
a-Average discharge for 37 years (water years 1923-31, 1949-76), 116 ft³/s; 84040 acre-ft/yr, prior to completion of Trinidad Reservoir.
b-Maximum daily discharge for period of record, 46300 ft³/s, May 20, 1955.
c-Also occurred Jul 5.
d-No flow at times in 1924-25, 1927, 1949, and 1974.
f-Maximum discharge and stage for period of record, 70000 ft³/s, May 20, 1955, gage height, 20.00 ft, from rating curve extended above 38000 ft³/s, at different datum.
g-From floodmarks.
h-Maximum gage height for statistical period, 10.21 ft, Aug 31, 1996.

07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO

LOCATION.--Lat 38°04'05", long 102°56'13", in NE¼NW¼ sec.8, T.23 S., R.49 W., Bent County, Hydrologic Unit 11020009, in north parapet (revised) of dam on Arkansas River at Caddoa, 3.2 mi southeast of Hasty, and 58 mi upstream from Colorado-Kansas State line.

DRAINAGE AREA.--18,915 mi², of which 785 mi² is probably noncontributing.

PERIOD OF RECORD.--January 1943 to current year. Month-end contents only prior to November 1943, published in WSP 1311.

GAGE.--Water-stage recorder with satellite telemetry for elevations above 3,784 ft (48 acre-feet), and nonrecording gage read once daily for those below. Datum of gage is 3,760.00 ft above sea level, (levels by U.S. Corps of Engineers); gage readings have been reduced to elevations above sea level.

REMARKS.--No estimated contents. Records good except for Apr. 21-29, Aug. 14, and Sept. 25, which are poor. Reservoir is formed by concrete and earthfill dam. Storage began while dam was under construction prior to 1943, and record of contents began Jan. 1, 1943. Capacity (based on 1994 resurvey used from Nov. 1, 1994) 605,100 acre-ft, at elevation 3,870.00 ft, top of spillway gates, of which 345,700 acre-ft between elevations 3779.26 ft, elevation of no contents, and 3851.87 ft, is reserved for flood control. Contents table shown is from the latest survey of 1994. No dead storage. Figures given represent total contents.

COOPERATION.--Capacity tables provided by U.S. Army, Corps of Engineers.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 429,600 acre-ft, Aug. 25, 1965, elevation, 3,856.16 ft; no contents at times many years.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 347,000 acre-ft, Apr. 19, elevation, 3,852.02 ft; minimum contents, 244,000 acre-ft, Sept. 30, elevation, 3,842.13 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)

3,785.0	193	3,820.0	87,700
3,790.0	2,400	3,830.0	146,000
3,795.0	8,480	3,840.0	224,000
3,800.0	18,400	3,850.0	324,000
3,810.0	47,000	3,860.0	450,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	287000	299000	336000	345000	344000	344000	346000	345000	334000	277000	258000	266000
2	287000	302000	337000	345000	344000	344000	346000	345000	332000	275000	260000	265000
3	286000	306000	337000	346000	344000	344000	345000	345000	329000	273000	262000	265000
4	286000	309000	338000	346000	344000	344000	344000	344000	328000	271000	264000	264000
5	285000	311000	338000	346000	344000	344000	345000	342000	327000	269000	267000	263000
6	285000	314000	338000	346000	344000	344000	345000	340000	325000	268000	269000	262000
7	284000	316000	339000	345000	344000	344000	344000	339000	324000	267000	271000	262000
8	284000	318000	340000	345000	344000	344000	344000	338000	324000	268000	272000	260000
9	284000	320000	341000	345000	344000	345000	345000	337000	324000	268000	272000	259000
10	283000	322000	341000	344000	344000	345000	345000	338000	323000	267000	273000	258000
11	283000	324000	342000	345000	344000	344000	344000	339000	322000	267000	273000	257000
12	284000	325000	343000	345000	344000	344000	345000	339000	320000	266000	274000	256000
13	284000	327000	343000	345000	344000	344000	345000	340000	319000	265000	274000	255000
14	284000	328000	344000	345000	344000	344000	344000	342000	317000	264000	274000	255000
15	284000	329000	345000	345000	344000	344000	346000	342000	315000	263000	274000	254000
16	284000	329000	345000	345000	344000	344000	346000	342000	314000	262000	274000	253000
17	284000	330000	344000	345000	344000	344000	347000	341000	313000	261000	273000	252000
18	284000	330000	344000	345000	344000	345000	347000	341000	310000	260000	273000	251000
19	284000	331000	344000	345000	344000	345000	347000	340000	308000	259000	273000	250000
20	283000	331000	345000	345000	344000	344000	347000	339000	306000	257000	272000	249000
21	283000	332000	345000	345000	344000	344000	346000	338000	304000	255000	272000	249000
22	283000	332000	345000	345000	344000	344000	346000	338000	302000	252000	272000	248000
23	283000	333000	345000	345000	344000	345000	346000	337000	299000	250000	271000	247000
24	285000	333000	345000	345000	344000	345000	345000	338000	296000	248000	270000	247000
25	287000	333000	345000	345000	344000	345000	345000	337000	293000	247000	270000	246000
26	286000	334000	344000	345000	344000	345000	345000	338000	291000	247000	270000	246000
27	286000	334000	344000	345000	344000	345000	344000	337000	288000	248000	269000	245000
28	287000	335000	344000	345000	344000	344000	343000	337000	285000	250000	268000	245000
29	290000	335000	344000	345000	---	345000	342000	337000	283000	250000	268000	244000
30	293000	335000	344000	345000	---	347000	343000	336000	280000	252000	267000	244000
31	296000	---	345000	344000	---	347000	---	335000	---	255000	267000	---
MEAN	285000	325000	342000	345000	344000	345000	345000	340000	311000	261000	270000	254000
MAX	296000	335000	345000	346000	344000	347000	347000	345000	334000	277000	274000	266000
MIN	283000	299000	336000	344000	344000	344000	342000	335000	280000	247000	258000	244000
CAL YR 1997	MEAN 287000	MAX 345000	MIN 232000									
WTR YR 1998	MEAN 314000	MAX 347000	MIN 244000									

**07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--December 1985 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1985 to current year.

WATER TEMPERATURE: December 1985 to current year.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry.

REMARKS.--Records for daily specific conductance are fair except for Apr. 28 to May 6, June 2-25, and July 6-21, which are poor.

Records for daily water temperature are good. Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 3,540 microsiemens, Feb. 26, 1986; minimum, 1,060 microsiemens, Aug. 26 to Sept. 4, 1995.

WATER TEMPERATURE: Maximum, 27.9°C, June 10, 1989; minimum, 0.0°C, many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 2,240 microsiemens, Dec. 2; minimum, 1,740 microsiemens, Oct. 7.

WATER TEMPERATURE: Maximum, 24.3°C, several days; minimum, 0.5°C, Dec. 12.

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
				MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1900	1850	1870	---	---	---	2230	2200	2210	1880	1870	1870			
2	1920	1880	1900	---	---	---	2240	2210	2220	1880	1870	1870			
3	1890	1840	1860	---	---	---	2230	2200	2210	1890	1870	1880			
4	1850	1840	1840	2100	2080	2100	2220	2180	2200	1880	1880	1880			
5	1850	1830	1840	2120	2090	2110	2200	2160	2180	1880	1870	1870			
6	1860	1800	1820	2130	2110	2120	2220	2170	2190	2040	1870	1950			
7	1830	1740	1800	2150	2110	2130	2210	2170	2190	2050	1900	1960			
8	1790	1760	1780	2180	2140	2160	2210	2180	2190	2090	1950	2000			
9	1810	1780	1790	2190	2170	2180	2190	2130	2160	2160	2010	2120			
10	1800	1780	1790	2190	2170	2170	2190	2160	2180	2170	2140	2150			
11	1790	1770	1790	2190	2170	2170	2210	2190	2200	2160	2130	2150			
12	1780	1770	1780	2190	2170	2180	2200	1840	2060	2160	2060	2110			
13	1790	1770	1780	2190	2170	2180	1850	1820	1830	2140	2050	2090			
14	1790	1780	1790	2200	2160	2180	1840	1820	1830	2060	1960	1990			
15	1790	1780	1790	2180	2160	2170	1840	1820	1830	2040	1990	2010			
16	1790	1780	1790	2170	2110	2140	1850	1830	1830	2040	1950	1980			
17	1790	1780	1790	2130	2030	2100	1850	1830	1840	1990	1930	1960			
18	1800	1780	1790	2030	1940	1970	1840	1830	1840	1970	1930	1940			
19	1870	1800	1830	1960	1930	1940	1840	1830	1830	1960	1940	1950			
20	1920	1860	1890	1990	1950	1960	1840	1820	1830	1970	1930	1950			
21	1920	1900	1910	2000	1970	1990	1890	1820	1850	2000	1950	1970			
22	1900	1820	1850	2020	1990	2000	1960	1880	1910	2010	1970	1980			
23	1830	1820	1820	2010	1980	2000	2020	1950	2000	2030	2000	2010			
24	1830	1800	1820	2090	1990	2030	2010	1940	1980	2050	1990	2020			
25	1810	1780	1800	2020	1970	2000	2020	1910	1990	2070	2050	2060			
26	1800	1780	1790	2040	1960	1990	1910	1850	1860	2060	2000	2030			
27	1800	1760	1780	2140	2040	2090	1880	1860	1860	2070	2040	2050			
28	---	---	---	2200	2130	2170	1870	1860	1870	2080	2000	2030			
29	---	---	---	2220	2190	2200	1880	1860	1870	2080	2050	2060			
30	---	---	---	2220	2210	2210	1890	1870	1880	2060	1990	2030			
31	---	---	---	---	---	---	1880	1870	1870	2070	2030	2050			
MONTH	---	---	---	---	---	---	2240	1820	1990	2170	1870	2000			

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	2080	2020	2040	1980	1960	1970	2090	2070	2080	2030	2010	2020
2	2080	2050	2060	1990	1970	1980	2120	2070	2100	2030	2000	2020
3	2070	2040	2050	2000	1980	1990	2100	2070	2080	2030	2000	2020
4	2060	2040	2050	2020	1990	2000	2080	2070	2070	2030	2010	2020
5	2040	2010	2020	2030	2000	2010	2080	2060	2070	2030	2000	2020
6	2030	2010	2010	2040	2020	2020	2080	2040	2070	2050	2030	2040
7	2040	2020	2030	2040	2020	2030	2080	2050	2060	---	---	---
8	2040	2000	2020	2040	2020	2030	2080	2000	2060	---	---	---
9	2050	1990	2030	2050	2030	2040	2030	2000	2020	---	---	---
10	2010	1990	2000	2090	2040	2050	2040	2010	2020	---	---	---
11	2000	1930	1950	2100	2070	2080	2040	2010	2030	---	---	---
12	1940	1920	1930	2100	2070	2080	2020	2000	2010	---	---	---
13	1930	1910	1920	2090	2070	2080	2020	2000	2010	---	---	---
14	1920	1910	1910	2110	2090	2090	---	---	---	---	---	---
15	1930	1910	1920	2120	2100	2100	2040	2020	2030	---	---	---
16	1930	1920	1920	2130	2110	2110	2030	1990	2020	---	---	---
17	1930	1920	1920	2170	2130	2140	2040	2020	2030	---	---	---
18	1930	1920	1920	2180	2150	2170	2040	2010	2020	---	---	---
19	1930	1920	1920	2170	2140	2150	2030	1980	2000	---	---	---
20	1930	1910	1920	2160	2080	2120	2030	1990	2010	---	---	---
21	1940	1920	1920	2110	2100	2100	2020	1980	2000	---	---	---
22	1940	1920	1920	2120	2110	2110	2010	1990	2000	---	---	---
23	1970	1940	1960	2130	2110	2120	2010	1990	2000	---	---	---
24	1980	1940	1970	2130	2120	2120	2000	1980	1990	---	---	---
25	1960	1940	1950	2160	2110	2130	1990	1970	1980	---	---	---
26	1960	1930	1950	2160	2130	2150	1980	1960	1960	---	---	---
27	1960	1940	1950	2140	2110	2130	1970	1890	1940	1970	1930	1950
28	1970	1950	1960	2130	2110	2120	2040	1860	1960	1970	1930	1950
29	---	---	---	2140	2110	2120	2020	2010	2010	1960	1950	1950
30	---	---	---	2140	2120	2120	2010	2000	2010	1960	1950	1960
31	---	---	---	2130	2090	2110	---	---	---	1960	1950	1960
MONTH	2080	1910	1970	2180	1960	2080	---	---	---	---	---	---
	JUNE			JULY			AUGUST			SEPTEMBER		
1	1960	1940	1950	2080	2040	2070	---	---	---	2020	2000	2010
2	1960	1940	1950	2100	2060	2080	---	---	---	2020	2000	2010
3	1950	1920	1940	2120	2070	2100	---	---	---	2010	2000	2000
4	1950	1920	1940	2120	2070	2090	---	---	---	2010	2000	2000
5	1950	1920	1930	2080	2020	2050	---	---	---	2010	1990	2000
6	1970	1940	1950	2050	2010	2030	---	---	---	2000	1990	2000
7	1990	1960	1970	2050	2000	2020	---	---	---	2040	1990	2010
8	2030	2000	2050	2110	2040	2070	---	---	---	2050	2030	2040
9	2040	2010	2030	2140	2090	2120	---	---	---	2050	2030	2050
10	2030	1990	2010	2170	2120	2150	---	---	---	2070	2040	2040
11	2090	2000	2030	2180	2140	2160	---	---	---	2050	2040	2040
12	2090	2010	2050	2160	2120	2140	---	---	---	2050	2010	2040
13	2060	2000	2040	2150	2120	2130	---	---	---	2050	2040	2050
14	2050	1980	2000	2150	2120	2130	2050	1990	2030	2050	2030	2040
15	2030	1990	2010	2150	2110	2130	2060	2050	2050	2040	2030	2040
16	2010	1970	1990	2200	2120	2170	2060	2040	2050	2050	2040	2040
17	1970	1940	1960	2180	2140	2160	2060	2050	2050	2040	2030	2040
18	1960	1950	1950	2220	2130	2190	2050	2040	2050	2060	2030	2050
19	1970	1950	1950	2190	2160	2170	2060	2030	2040	2060	2040	2050
20	1990	1960	1970	2170	2130	2150	2040	2020	2030	2060	2040	2050
21	2010	1980	2000	2140	2090	2110	2030	2010	2020	2060	2050	2060
22	2040	2010	2030	2100	2080	2100	2020	2010	2020	2060	2050	2060
23	2050	2030	2040	2100	2070	2100	2020	2000	2010	2060	2050	2060
24	2070	2050	2060	2110	2080	2100	2030	1990	2020	2070	2050	2060
25	2080	2060	2070	2110	2090	2100	2050	1990	2040	2080	2030	2070
26	2080	2070	2070	---	---	---	2080	2020	2050	2090	2070	2080
27	2080	2070	2070	2170	2100	2140	2060	1950	2030	2090	2070	2080
28	2080	2060	2070	2110	2100	2100	2040	1980	2020	2080	2070	2080
29	2070	2050	2060	2100	2080	2090	2040	2020	2030	2090	2070	2080
30	2070	2040	2060	---	---	---	2030	2020	2020	2090	2080	2080
31	---	---	---	---	---	---	2020	2010	2020	---	---	---
MONTH	2090	1920	2010	---	---	---	---	---	---	2090	1990	2040

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	19.9	18.9	19.2	---	---	---	6.5	5.0	5.7	1.5	1.1	1.3
2	19.7	18.9	19.2	---	---	---	5.5	4.3	4.9	1.5	1.4	1.5
3	19.7	18.9	19.2	---	---	---	5.4	3.4	4.5	1.6	1.4	1.5
4	19.8	19.0	19.3	11.2	---	---	5.1	2.7	3.7	1.5	1.4	1.5
5	19.9	19.0	19.3	11.5	7.6	9.4	3.7	2.7	3.2	1.5	1.4	1.5
6	20.0	19.0	19.4	9.4	7.9	8.6	4.5	2.7	3.8	1.7	1.5	1.6
7	19.8	19.0	19.3	11.7	7.6	9.3	4.3	2.7	3.7	1.6	1.2	1.4
8	19.5	18.9	19.2	10.9	8.0	9.4	5.4	3.0	4.1	1.7	1.2	1.4
9	19.2	18.5	18.8	9.4	7.0	8.1	4.1	3.0	3.7	1.9	1.4	1.7
10	19.1	18.3	18.6	7.4	6.6	7.0	4.1	2.5	3.3	2.0	1.8	1.9
11	19.1	18.2	18.6	6.7	6.3	6.5	3.7	.9	2.7	2.2	1.9	2.0
12	18.5	17.5	17.8	7.6	5.9	6.7	3.0	.5	1.8	2.1	1.7	1.9
13	17.6	16.9	17.3	8.0	6.3	7.1	3.1	2.4	2.7	2.0	1.5	1.8
14	17.5	16.8	17.1	6.3	3.2	4.8	3.1	2.5	2.8	1.6	1.1	1.3
15	17.4	16.6	16.9	5.4	2.2	3.6	2.8	2.6	2.7	1.6	1.2	1.4
16	17.2	16.5	16.7	5.0	2.2	3.5	2.8	2.5	2.7	1.5	1.0	1.3
17	17.0	16.2	16.5	5.4	2.3	4.1	2.7	2.5	2.6	1.3	1.0	1.2
18	16.8	16.0	16.3	7.0	4.9	5.6	2.7	2.5	2.6	1.3	1.0	1.1
19	16.1	15.6	15.9	8.3	4.7	6.1	2.7	2.5	2.6	1.3	1.0	1.2
20	15.6	15.5	15.6	8.2	5.1	6.5	2.7	2.5	2.6	1.4	1.1	1.3
21	15.7	15.3	15.5	7.5	5.7	6.5	2.8	2.5	2.6	1.6	1.2	1.4
22	15.7	14.9	15.2	7.9	5.0	6.2	2.8	2.6	2.7	1.6	1.4	1.5
23	15.4	14.7	15.0	6.7	4.5	5.4	3.1	2.8	3.0	1.7	1.5	1.6
24	14.9	13.7	14.7	8.1	4.6	6.0	3.0	2.6	2.8	1.8	1.5	1.7
25	13.8	10.6	12.2	7.5	5.6	6.3	2.9	2.2	2.7	2.0	1.7	1.8
26	11.8	10.8	11.2	6.4	5.5	6.0	2.2	1.4	1.7	1.8	1.7	1.7
27	11.8	---	---	7.6	5.5	6.4	1.7	1.3	1.5	2.1	1.8	1.9
28	---	---	---	6.3	5.6	5.9	1.7	1.2	1.4	2.0	1.6	1.8
29	---	---	---	6.3	5.0	5.6	1.6	.8	1.2	2.1	1.8	1.9
30	---	---	---	6.7	4.5	5.4	1.7	1.2	1.4	2.0	1.8	1.9
31	---	---	---	---	---	---	1.4	1.2	1.3	2.3	2.0	2.1
MONTH	---	---	---	---	---	---	6.5	.5	2.9	2.3	1.0	1.6
	FEBRUARY			MARCH			APRIL			MAY		
1	2.3	1.9	2.1	3.9	3.1	3.4	6.4	6.0	6.2	11.4	10.7	10.9
2	2.4	2.0	2.2	4.1	3.1	3.5	6.6	6.1	6.3	11.4	10.8	11.0
3	2.4	2.2	2.3	4.8	3.3	3.8	6.5	6.2	6.3	11.5	10.8	11.1
4	2.8	2.3	2.5	3.7	3.3	3.5	7.0	6.2	6.6	11.6	10.9	11.2
5	2.4	2.2	2.4	4.8	3.3	3.8	7.2	6.7	6.9	11.5	11.0	11.2
6	2.6	2.2	2.4	4.8	3.3	3.8	7.0	6.7	6.8	11.5	11.0	12.1
7	2.7	2.3	2.5	3.6	2.6	3.3	7.4	6.7	7.0	11.7	11.2	11.4
8	2.7	2.4	2.5	4.0	2.0	2.9	7.8	7.0	7.3	11.7	11.4	11.5
9	2.8	2.5	2.6	3.8	2.6	3.1	8.3	7.2	7.6	12.3	11.5	11.9
10	2.9	2.3	2.5	3.9	2.8	3.3	7.9	7.0	7.3	12.2	11.6	11.8
11	2.9	2.1	2.4	3.7	2.8	3.2	9.2	7.1	7.8	12.4	11.6	12.0
12	2.8	2.2	2.4	4.0	2.9	3.4	10.0	8.9	9.5	12.5	11.9	12.1
13	2.8	2.0	2.3	4.0	3.1	3.5	---	---	---	13.8	11.9	12.9
14	2.9	2.3	2.5	3.6	3.3	3.4	---	---	---	13.9	13.1	13.5
15	3.3	2.3	2.8	4.0	3.3	3.6	---	---	---	14.8	13.8	14.2
16	3.0	2.7	2.8	3.6	3.5	3.5	10.0	9.4	9.6	14.7	13.9	14.2
17	3.1	2.7	2.8	3.8	3.4	3.6	9.9	9.4	9.6	15.6	14.1	14.9
18	3.2	2.7	2.9	3.6	3.3	3.5	9.9	9.4	9.6	15.8	15.0	15.3
19	3.4	2.7	3.0	3.8	3.3	3.5	10.3	9.4	9.7	15.3	14.5	14.9
20	3.6	2.7	3.2	3.8	3.4	3.6	9.7	9.3	9.5	15.2	14.5	14.7
21	3.6	3.1	3.3	4.1	3.6	3.9	9.9	9.5	9.7	15.0	14.4	14.7
22	3.9	3.1	3.4	5.1	4.1	4.5	10.2	9.6	9.9	15.1	14.4	14.7
23	4.2	3.4	3.7	4.9	4.1	4.4	10.4	9.6	9.9	15.5	14.7	15.0
24	4.6	3.4	4.0	4.9	4.3	4.5	10.4	9.7	10.0	15.3	14.6	14.9
25	4.8	3.8	4.2	4.9	4.1	4.5	10.7	9.8	10.2	16.5	15.1	15.7
26	4.5	3.7	4.0	6.2	4.1	5.0	10.5	10.1	10.2	16.2	15.2	15.5
27	4.2	3.4	3.8	5.3	5.0	5.2	10.4	10.1	10.2	16.9	15.2	16.1
28	4.2	3.2	3.6	5.7	5.3	5.4	11.0	10.2	10.7	16.6	15.7	16.1
29	---	---	---	6.3	5.3	6.0	11.2	10.7	10.9	16.4	15.6	15.9
30	---	---	---	6.2	5.9	6.0	11.6	10.7	11.1	17.0	15.7	16.3
31	---	---	---	6.2	5.8	6.0	---	---	---	16.6	16.0	16.2
MONTH	4.8	1.9	2.9	6.3	2.0	4.0	---	---	---	17.0	10.7	13.7

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.7	16.0	16.4	19.9	19.6	19.7	---	---	---	24.1	23.6	23.8
2	16.3	15.9	16.2	20.5	19.6	20.2	---	---	---	24.2	23.6	23.8
3	16.5	15.9	16.2	21.5	20.1	20.6	---	---	---	24.2	23.5	23.8
4	16.2	15.9	16.1	21.6	20.5	20.9	---	---	---	24.3	23.6	23.8
5	16.4	15.9	16.2	21.1	20.5	20.8	---	---	---	24.1	23.4	23.8
6	17.0	16.0	16.6	21.1	20.6	20.8	---	---	---	24.2	23.4	23.7
7	17.3	16.4	16.8	21.3	20.6	20.9	---	---	---	24.0	23.3	23.6
8	17.5	16.8	17.2	21.3	20.7	21.0	---	---	---	23.8	23.3	23.5
9	17.5	16.8	17.1	21.4	20.9	21.1	---	---	---	23.7	23.2	23.4
10	17.3	16.9	17.1	21.5	20.8	21.1	---	---	---	23.4	22.8	23.1
11	17.6	17.2	17.4	21.5	20.7	21.0	---	---	---	23.3	22.7	22.9
12	17.8	17.1	17.4	21.5	20.7	21.0	---	---	---	23.0	22.5	22.7
13	18.3	17.2	17.6	21.3	20.8	21.0	---	---	---	23.1	22.5	22.7
14	18.3	17.7	18.0	21.6	20.9	21.2	24.1	23.0	23.5	22.9	22.4	22.6
15	18.8	18.1	18.5	21.7	21.0	21.3	24.1	23.0	23.4	22.9	22.4	22.6
16	18.4	17.9	18.1	21.8	20.9	21.3	24.2	23.1	23.5	22.7	22.3	22.5
17	18.8	18.0	18.4	22.0	21.2	21.5	24.1	23.0	23.4	22.7	22.1	22.4
18	18.8	18.4	18.7	21.9	21.1	21.4	24.1	23.1	23.5	22.7	21.9	22.3
19	18.8	18.3	18.5	22.0	21.2	21.6	24.1	23.2	23.6	22.5	21.9	22.1
20	18.8	18.3	18.4	21.8	21.2	21.5	24.2	23.4	23.7	22.3	21.7	22.0
21	18.6	18.2	18.4	22.0	21.4	21.7	24.0	23.3	23.6	22.0	21.5	21.7
22	18.9	18.4	18.7	22.5	21.4	22.0	24.3	23.1	23.7	21.6	21.0	21.4
23	19.3	18.6	19.0	22.3	22.0	22.2	24.2	23.3	23.7	21.6	20.8	21.1
24	20.2	18.8	19.2	22.8	22.1	22.5	24.1	23.2	23.6	21.4	20.7	20.9
25	19.8	19.1	19.4	---	---	---	24.3	23.6	23.9	21.3	20.7	20.9
26	19.5	19.0	19.2	---	---	---	24.2	23.5	23.8	21.3	20.6	20.9
27	19.2	18.9	19.0	---	---	---	24.1	23.6	23.8	21.1	20.4	20.7
28	19.4	19.0	19.2	22.9	21.9	22.3	24.3	23.6	23.8	21.1	20.4	20.6
29	19.9	19.1	19.4	22.6	21.8	22.2	24.3	23.6	23.9	20.9	20.4	20.6
30	20.2	19.4	19.8	---	---	---	24.3	23.6	23.9	21.1	20.4	20.6
31	---	---	---	---	---	---	24.2	23.6	23.8	---	---	---
MONTH	20.2	15.9	17.9	---	---	---	---	---	---	24.3	20.4	22.4

07134100 BIG SANDY CREEK NEAR LAMAR, CO

LOCATION.--Lat 38°06'51", long 102°29'00", in SW¹/₄SW¹/₄ sec. 21, T.22 S., R.45 W., Prowers County, Hydrologic Unit 11020011, on right bank 35 ft upstream from State Highway 196, 950 ft upstream from mouth, and 7.5 mi east of Lamar.

DRAINAGE AREA.--3,248 mi².

PERIOD OF RECORD.-- February 1968 to September 1982, July 1995 to current year.

REVISED RECORDS.--WDR CO-71-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,545 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges and those above 100 ft³/s, which are poor. Natural flow of stream affected by diversions above station for irrigation and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 21, 1965, reached a stage of 9.93 ft from floodmarks, discharge not determined.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	105	49	96	57	47	78	16	15	9.0	e225	19
2	12	110	50	94	55	48	90	16	12	9.7	104	16
3	10	101	52	91	56	48	94	14	11	7.5	64	15
4	8.7	83	49	89	57	47	85	19	14	14	50	18
5	8.8	80	51	91	56	48	78	26	13	15	40	17
6	15	71	61	86	57	46	78	27	13	9.5	35	16
7	19	57	62	83	56	e47	83	22	15	10	30	16
8	20	33	63	80	57	e47	68	20	20	16	27	13
9	20	25	63	71	58	e48	60	28	14	11	25	10
10	19	23	62	61	59	e50	56	23	11	12	32	8.8
11	19	49	52	76	56	e50	54	19	11	13	28	9.0
12	30	61	44	83	54	e51	53	16	12	15	24	9.3
13	26	61	55	78	53	e52	50	17	12	9.2	22	11
14	22	58	65	78	54	e53	83	16	12	8.2	20	17
15	21	50	60	78	55	e56	76	16	14	17	18	13
16	21	54	64	75	60	e58	59	15	11	21	17	18
17	21	59	63	76	63	e60	24	12	8.3	21	16	16
18	21	56	62	75	58	e61	21	13	9.7	22	19	15
19	21	57	61	75	55	62	19	13	12	21	18	23
20	20	57	59	74	54	67	17	13	16	10	21	e18
21	20	56	59	73	54	81	16	12	16	19	17	e16
22	20	54	63	71	55	96	16	13	11	12	18	e15
23	20	52	64	70	56	76	15	11	7.9	32	18	e15
24	20	51	63	69	55	71	15	9.7	14	96	18	e15
25	18	51	64	72	55	67	15	12	13	276	25	14
26	e16	50	70	84	53	64	15	15	12	203	24	19
27	e30	51	79	61	50	67	16	16	11	87	21	19
28	e45	50	56	60	50	69	17	16	7.7	32	22	14
29	e70	50	71	58	---	65	16	15	6.3	22	20	13
30	86	51	113	57	---	63	16	16	6.9	37	18	14
31	91	---	104	57	---	63	---	15	---	e204	17	---
TOTAL	805.5	1766	1953	2342	1558	1828	1383	511.7	361.8	1291.1	1053	452.1
MEAN	26.0	58.9	63.0	75.5	55.6	59.0	46.1	16.5	12.1	41.6	34.0	15.1
MAX	91	110	113	96	63	96	94	28	20	276	225	23
MIN	8.7	23	44	57	50	46	15	9.7	6.3	7.5	16	8.8
AC-FT	1600	3500	3870	4650	3090	3630	2740	1010	718	2560	2090	897

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1998, BY WATER YEAR (WY)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
MEAN	7.49	15.5	18.3	19.4	20.3	20.7	18.7	15.1	9.30	9.50	14.7	9.80
MAX	28.4	58.9	63.0	75.5	55.6	59.0	65.3	41.1	22.5	41.6	85.3	41.8
(WY)	1997	1998	1998	1998	1998	1998	1970	1973	1997	1998	1997	1976
MIN	.087	.41	.34	.50	2.23	2.10	.81	2.14	1.77	.21	.027	.084
(WY)	1979	1978	1978	1978	1978	1977	1978	1975	1976	1978	1976	1978

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1968 - 1998
ANNUAL TOTAL	13315.2	15305.2	
ANNUAL MEAN	36.5	41.9	15.1
HIGHEST ANNUAL MEAN			41.9
LOWEST ANNUAL MEAN			2.23
HIGHEST DAILY MEAN	e327	Aug 6	276
LOWEST DAILY MEAN	7.4	Sep 20	6.3
ANNUAL SEVEN-DAY MINIMUM	11	Jun 21	8.3
INSTANTANEOUS PEAK FLOW			356
INSTANTANEOUS PEAK STAGE			c5.22
ANNUAL RUNOFF (AC-FT)	26410	30360	10970
10 PERCENT EXCEEDS	70	78	40
50 PERCENT EXCEEDS	24	32	7.5
90 PERCENT EXCEEDS	14	12	.75

e-Estimated.
a-Also occurred Aug 14-18, 1976, and days during 1977, 1978, and 1979.
b-On basis of measurement of peak flow through culvert and over road.
c-Maximum gage height 5.53 ft. Aug. 1, from backwater from Arkansas River.

07134180 ARKANSAS RIVER NEAR GRANADA, CO

LOCATION.--Lat 38°05'44", long 102°18'37", in SE¹/₄NE¹/₄ sec.36, T.22 S., R.44 W., Prowers County, Hydrologic Unit 11020009, on left bank at upstream side at end of bridge on U.S. Highway 385, 1.2 mi downstream from headgate of Buffalo Canal, and 2.3 mi north of Granada.

DRAINAGE AREA.--23,707 mi².

PERIOD OF RECORD.--January 1899 to December 1901, gage heights only at different site and datum, August to October 1903 at different datum, December 1980 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,480 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by John Martin Reservoir (station 07130000) 38 mi upstream since October 1948. Natural flow of stream affected by transmountain diversion, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 500,000 acres, and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	416	228	642	876	305	1370	434	96	743	2310	138
2	109	451	231	764	874	307	1490	236	254	741	702	130
3	106	463	236	793	712	305	1500	175	496	738	533	119
4	103	437	226	809	639	295	1470	150	534	730	449	119
5	110	432	213	815	607	276	1420	326	534	754	370	105
6	111	409	212	961	586	258	1420	644	508	765	277	99
7	110	379	210	1040	576	250	1150	619	487	722	239	95
8	123	352	208	1060	570	234	737	556	606	663	222	94
9	112	324	210	1060	533	238	561	705	365	536	214	85
10	106	308	207	882	431	256	505	451	412	448	212	75
11	104	300	195	743	387	284	522	248	579	319	194	76
12	135	307	184	735	377	321	583	184	539	199	189	85
13	193	300	202	727	399	371	581	182	492	159	167	90
14	180	290	303	946	450	388	1190	142	473	220	165	108
15	163	274	347	1060	477	420	1460	133	522	362	161	126
16	153	269	588	1070	472	434	826	129	498	268	154	127
17	146	271	980	966	407	490	529	120	453	167	146	147
18	140	262	1040	913	410	550	262	122	426	141	128	156
19	138	276	843	917	423	562	187	121	521	112	116	152
20	130	270	651	916	440	713	152	134	612	103	120	140
21	124	261	580	960	478	1280	216	130	630	264	114	132
22	123	252	557	892	483	1550	308	119	632	513	97	126
23	121	243	717	867	484	986	313	110	642	732	103	118
24	125	238	825	844	430	678	159	107	634	1380	107	112
25	170	241	797	829	366	748	131	117	684	1880	162	103
26	104	236	781	830	336	845	123	127	756	1360	152	103
27	259	239	789	856	322	922	120	116	800	698	136	121
28	371	233	705	866	310	1070	258	104	814	471	158	132
29	390	230	563	903	---	1180	971	99	812	330	160	124
30	378	230	529	923	---	1160	895	98	735	557	152	121
31	380	---	482	891	---	1160	---	97	---	1370	153	---
TOTAL	5127	9193	14839	27480	13855	18836	21409	7035	16546	18445	8562	3458
MEAN	165	306	479	886	495	608	714	227	552	595	276	115
MAX	390	463	1040	1070	876	1550	1500	705	814	1880	2310	156
MIN	103	230	184	642	310	234	120	97	96	103	97	75
AC-FT	10170	18230	29430	54510	27480	37360	42460	13950	32820	36590	16980	6860

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1998, BY WATER YEAR (WY)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	77.8	99.4	127	144	123	128	219	238	344	471	250	122						
MAX	184	306	479	886	495	608	1138	2072	2196	2144	643	430						
(WY)	1984	1998	1998	1998	1998	1998	1987	1987	1995	1997	1984	1984						
MIN	4.15	9.68	35.4	39.8	55.9	22.7	5.68	4.51	9.39	130	4.39	4.13						
(WY)	1993	1982	1982	1994	1982	1994	1992	1992	1981	1990	1990	1990						

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1981 - 1998	
ANNUAL TOTAL	107374		164785			
ANNUAL MEAN	294		451		202	
HIGHEST ANNUAL MEAN					597	
LOWEST ANNUAL MEAN					59.3	
HIGHEST DAILY MEAN	2330	Aug 13	2310	Aug 1	3330	May 26 1987
LOWEST DAILY MEAN	72	May 6	75	Sep 10	a2.7	Aug 17 1990
ANNUAL SEVEN-DAY MINIMUM	86	Jun 16	86	Sep 7	3.0	Aug 14 1990
INSTANTANEOUS PEAK FLOW			b3590		b3590	
INSTANTANEOUS PEAK STAGE			11.69		c11.69	
ANNUAL RUNOFF (AC-FT)	213000		326900		146500	
10 PERCENT EXCEEDS	677		916		495	
50 PERCENT EXCEEDS	159		336		97	
90 PERCENT EXCEEDS	97		113		7.1	

a-Also occurred Aug 18-19, 1990.

b-From rating curve extended above 3500 ft³/s.

c-Maximum gage height, 12.38 ft, May 27, 1996.

07134990 WILD HORSE CREEK ABOVE HOLLY, CO

LOCATION.--Lat 38°03'24", long 102°08'16", in NE¹/₄NE¹/₄ sec. 16, T.23 S., R.42 W., Prowers County, Hydrologic Unit 11020009, on left bank, 1,000 ft downstream from County Road No. 34, 0.7 mi northwest of Holly, and 0.7 mi upstream from mouth.

DRAINAGE AREA.--270 mi², approximately.

PERIOD OF RECORD.--June 1995 to current year (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,405 ft above sea level, from topographic map. Prior to Apr. 29, 1997 at a site 1,050 ft upstream at datum 3.00 ft higher.

REMARKS.--Records good except estimated daily discharges, which are fair. Natural flow of stream affected by diversions above station for irrigation and return flow from irrigated areas. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 1,270 ft³/s, May 26, 1996, from rating curve extended above 200 ft³/s on the basis of slope-area measurement of peak flow, gage height, 6.90 ft from flood mark, at site and datum then in use, maximum gage height 8.63 ft, Aug. 7, 1997, from flood mark; minimum daily, 3.1 ft³/s, Sept. 19, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 349 ft³/s, June 8, from rating curve extended above 200 ft³/s, on basis of slope-area measurement of peak flow, gage height, 6.34 ft; minimum daily, 5.3 ft³/s, April 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	21	---	---	---	---	20	19	18	9.1	122	22
2	61	21	---	---	---	---	18	16	46	11	46	16
3	64	20	---	---	---	---	15	13	39	8.7	87	14
4	67	19	---	---	---	---	11	12	16	8.1	48	14
5	76	19	---	---	---	---	9.5	16	10	7.5	48	12
6	70	18	---	---	---	---	8.4	23	10	12	107	12
7	107	17	---	---	---	---	15	11	12	16	120	12
8	96	17	---	---	---	---	9.0	12	167	23	120	14
9	64	17	---	---	---	---	7.1	17	87	27	65	18
10	64	e16	---	---	---	---	5.6	14	58	23	99	15
11	64	e16	---	---	---	---	6.0	13	26	17	122	14
12	65	e16	---	---	---	---	5.3	12	18	10	142	16
13	55	e15	---	---	---	---	10	12	17	6.7	74	20
14	58	e15	---	---	---	---	16	11	15	7.7	58	28
15	88	e15	---	---	---	---	20	11	17	16	54	22
16	76	e15	---	---	---	---	18	11	23	27	53	16
17	48	e15	---	---	---	---	38	11	25	12	48	24
18	42	e15	---	---	---	e9.0	20	9.0	21	6.2	42	20
19	42	e15	---	---	---	8.7	37	7.4	21	6.6	31	20
20	45	e15	---	---	---	9.2	36	7.6	18	5.7	23	19
21	46	e14	---	---	---	9.7	44	8.2	16	6.4	18	23
22	39	e14	---	---	---	9.7	58	10	18	7.1	18	24
23	38	e14	---	---	---	9.4	63	8.0	15	8.5	18	32
24	37	e14	---	---	---	9.0	59	7.3	14	18	17	42
25	33	e14	---	---	---	15	33	18	15	125	16	46
26	38	e14	---	---	---	33	27	21	12	74	17	51
27	31	---	---	---	---	35	23	61	11	84	16	66
28	18	---	---	---	---	33	23	48	11	50	17	63
29	21	---	---	---	---	26	23	48	14	32	20	92
30	20	---	---	---	---	23	25	27	12	87	31	113
31	21	---	---	---	---	22	---	22	---	127	30	---
TOTAL	1663	---	---	---	---	---	702.9	536.5	802	879.3	1727	900
MEAN	53.6	---	---	---	---	---	23.4	17.3	26.7	28.4	55.7	30.0
MAX	107	---	---	---	---	---	63	61	167	127	142	113
MIN	18	---	---	---	---	---	5.3	7.3	10	5.7	16	12
AC-FT	3300	---	---	---	---	---	1390	1060	1590	1740	3430	1790

e-Estimated.

07135000 TWO BUTTE CREEK NEAR HOLLY, CO

LOCATION.--Lat 38°01'40", long 102°08'19", in SE¹/₄SE¹/₄ sec. 21, T.23 S., R.42 W., Prowers County, Hydrologic Unit 11020013, on right bank, 15 ft upstream from county road DD, 1.0 mi upstream from mouth, and 2.9 mi southwest of Holly.

DRAINAGE AREA.--817 mi².

PERIOD OF RECORD.--April 1942 to September 1946. June 1995 to current year (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,415 ft above sea level, from topographic map. Apr. 1942 to Sept. 1946 at site 0.5 mi upstream, at different datum.

REMARKS.--No estimated daily discharges. Records fair. Natural flow of stream affected by Two Butte Reservoir, (capacity, 40,000 acre-feet), from which most of creek is diverted for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,800 ft³/s, May 2, 1944, from slope-area measurement of peak flow, gage height, 4.77 ft, at different site and datum, maximum gage height, 8.68 ft, May 26, 1996, from floodmarks, at current site and datum; minimum daily, no flow most of the time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 44 ft³/s, July 31 from rating curve presently in use on the basis of slope-area measurement of peak flow, gage height, 4.81 ft; minimum daily, no flow most of the time.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	---	---	---	.00	.00	.00	.00	.50	.00
2	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
3	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
4	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
5	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
6	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
7	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
8	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
9	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
10	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
11	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
12	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
13	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
14	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
15	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
16	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
17	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
18	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
27	.00	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
28	.00	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
29	.00	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
30	.00	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	---	---	---	.00	---	.00	---	5.2	.00	---
TOTAL	0.00	---	---	---	---	---	0.00	0.00	0.00	5.20	0.50	0.00
MEAN	.000	---	---	---	---	---	.000	.000	.000	.17	.016	.000
MAX	.00	---	---	---	---	---	.00	.00	.00	5.2	.50	.00
MIN	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	.00	---	---	---	---	---	.00	.00	.00	10	1.0	.00

07137000 FRONTIER DITCH NEAR COOLIDGE, KS

LOCATION.--Lat 38°02'18", long 102°02'19", in SW¼SE¼NE¼ sec.21, T.23 S., R.43 W., Hamilton County, Hydrologic Unit 11030001, on left bank 0.3 mi east of Colorado-Kansas State line, 0.5 mi downstream from Holly drain diversion, 1.5 mi west of Coolidge, and 2.3 mi downstream from diversion of the Arkansas River.

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1731: 1951.

GAGE.--Water-stage recorders and Parshall flume. Datum of gage is 3,343.14 ft above sea level.

REMARKS.--Records good except for estimated daily discharges, which are fair. This ditch diverts water from the Arkansas River in Colorado for use in Kansas. These records and records for the Arkansas River near Coolidge represent total flow of the Arkansas River at the Colorado-Kansas State line. Satellite telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 84 ft³/s, Aug. 1, 1975; no flow many days each year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	.00	.00	.00	.00	.00	.00	16	33	34	.07	28
2	36	.00	.00	.00	.00	.00	.00	31	33	34	12	28
3	35	.00	.00	.00	.00	.00	.00	30	25	31	34	28
4	35	.00	.00	.00	.00	.00	.00	30	.13	31	31	28
5	25	.00	.00	.00	.00	.00	.00	32	.00	31	27	28
6	.00	.00	.00	.00	.00	.00	.00	32	.00	16	28	31
7	.00	.00	.00	.00	.00	.00	.00	33	.00	31	29	33
8	.00	.00	.00	.00	.00	.00	.00	33	.00	23	29	34
9	.00	.00	.00	.00	.00	.00	.00	33	.00	.23	26	39
10	.00	.00	.00	.00	.00	.00	.00	32	.00	.00	27	41
11	.00	.00	.00	.00	.00	.00	.00	9.3	.00	.00	27	41
12	.00	.00	.00	.00	.00	.00	.00	.00	8.7	.00	28	41
13	.00	.00	.00	.00	.00	.00	.00	.00	34	.00	27	40
14	.00	.00	.00	.00	.00	.00	.00	.00	34	18	25	40
15	.00	.00	.00	.00	.00	.00	.00	.00	33	31	27	39
16	.00	.00	.00	.00	.00	.00	.00	.00	34	31	27	41
17	.00	.00	.00	.00	.00	.00	.00	.00	33	31	30	41
18	.00	.00	.00	.00	.00	.00	.00	.00	34	31	24	40
19	.00	.00	.00	.00	.00	.00	.00	.00	33	30	18	36
20	.00	.00	.00	.00	.00	.00	.00	7.5	33	30	28	35
21	.00	.00	.00	.00	.00	.00	.00	35	33	30	27	34
22	.00	.00	.00	.00	.00	.00	.00	36	33	31	27	e32
23	.00	.00	.00	.00	.00	.00	.00	36	34	34	28	e21
24	.00	.00	.00	.00	.00	.00	.00	34	34	33	28	e19
25	.00	.00	.00	.00	.00	.00	.00	35	34	14	28	e32
26	.00	.00	.00	.00	.00	.00	.00	34	35	.03	28	e36
27	.00	.00	.00	.00	.00	.00	.00	35	34	.00	28	e38
28	.00	.00	.00	.00	.00	.00	.00	35	34	11	28	e34
29	.00	.00	.00	.00	---	.00	.00	34	34	34	28	e29
30	.00	.00	.00	.00	---	.00	.00	34	34	34	28	e29
31	.00	---	.00	.00	---	.00	---	34	---	19	28	---
TOTAL	170.00	0.00	0.00	0.00	0.00	0.00	0.00	700.80	706.83	673.26	810.07	1016
MEAN	5.48	.000	.000	.000	.000	.000	.000	22.6	23.6	21.7	26.1	33.9
MAX	39	.00	.00	.00	.00	.00	.00	36	35	34	34	41
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	19
AC-FT	337	.00	.00	.00	.00	.00	.00	1390	1400	1340	1610	2020

CAL YR 1997 TOTAL 3324.89 MEAN 9.11 MAX 40 MIN .00 AC-FT 6590
WTR YR 1998 TOTAL 4076.96 MEAN 11.2 MAX 41 MIN .00 AC-FT 8090

e-Estimated.

ARKANSAS RIVER BASIN

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS

LOCATION.--Lat 38°01'34", long 102°00'41", in NW¹/₄NE¹/₄NW¹/₄ sec.26, T.23 S., R.43 W., Hamilton County, Hydrologic Unit 11030001, on right bank at downstream side of county highway bridge, 1.0 mi south of Coolidge, 1.9 mi downstream from Colorado-Kansas State line, and at mile 1,099.3.

DRAINAGE AREA.--25,410 mi², of which 1,708 mi² is probably noncontributing.

PERIOD OF RECORD.--May to October 1903, March to May 1921, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1311. Water-quality data available, 1964 to 1968, 1970 to 1973, and 1975 to 1995.

REVISED RECORDS.--WSP 1341: 1903, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,330.84 ft above sea level. May 5 to Oct. 31, 1903, nonrecording gage, and Mar. 1 to May 31, 1921, water-stage recorder at present site at different datum. Oct. 1, 1950 to Mar. 31, 1966, water-stage recorder at site 0.3 mi upstream at datum 3.00 ft higher.

REMARKS.--Records good. Combined flow of river and Frontier Ditch (station 07137000) represents entire flow that enters Kansas. Flow regulated since 1943 by John Martin Reservoir (station 07130000). Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 500,000 acres, and return flow from irrigated areas. Satellite telemetry at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	316	481	333	584	1000	377	1340	650	247	812	2130	311
2	300	524	335	775	998	375	1630	422	255	885	1720	298
3	299	553	337	833	905	373	1700	337	447	831	946	268
4	299	553	336	862	743	370	1730	301	564	827	858	237
5	331	560	328	882	699	354	1660	295	618	850	736	216
6	370	548	322	944	666	342	1650	553	638	883	598	215
7	351	520	321	1080	648	336	1610	625	616	880	540	210
8	365	494	319	1110	636	321	1150	577	919	860	500	202
9	361	469	319	1120	628	312	852	656	756	819	492	190
10	295	450	316	1070	547	320	733	716	585	668	433	184
11	280	436	312	858	490	338	687	527	697	569	432	171
12	309	432	302	827	466	372	733	413	696	431	473	176
13	388	425	299	808	461	406	722	388	630	381	418	185
14	405	416	334	902	486	421	899	354	586	351	370	207
15	380	402	367	1110	515	444	1650	313	624	488	349	232
16	378	391	403	1150	532	467	1180	300	631	461	379	240
17	360	389	737	1120	486	503	956	281	604	352	380	240
18	318	385	954	1040	460	538	740	e270	546	321	367	250
19	308	383	935	1040	472	606	616	e260	569	304	339	264
20	301	389	727	1040	470	639	523	e250	637	260	305	254
21	280	376	643	1050	501	968	481	248	666	248	306	267
22	286	367	615	1050	509	1470	550	243	688	437	270	277
23	298	358	668	994	508	1430	552	241	678	583	250	301
24	300	350	846	987	496	871	436	253	693	1040	247	308
25	328	349	858	946	440	817	365	288	694	1830	262	282
26	185	344	825	941	413	904	347	310	773	2080	280	242
27	223	351	842	956	401	963	330	270	806	1170	255	241
28	339	348	826	990	390	1040	321	277	822	851	264	230
29	432	340	645	997	---	1210	641	262	859	619	286	232
30	455	335	613	1030	---	1250	1100	250	823	640	282	252
31	460	---	548	1030	---	1250	---	253	---	1180	290	---
MEAN	332	424	534	972	570	658	929	367	646	739	508	239
MAX	460	560	954	1150	1000	1470	1730	716	919	2080	2130	311
MIN	185	335	299	584	390	312	321	241	247	248	247	171
AC-FT	20430	25230	32860	59750	31670	40440	55310	22580	38410	45440	31250	14250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1998, BY WATER YEAR (WY)

MEAN	127	114	123	131	134	128	219	286	460	349	320	183
MAX	332	424	534	972	602	658	1221	2106	8221	2255	1979	1079
(WY)	1998	1998	1998	1998	1966	1998	1987	1987	1965	1995	1965	1965
MIN	1.97	1.53	3.94	3.14	5.52	5.63	9.43	6.61	4.20	3.59	1.94	.90
(WY)	1979	1979	1979	1979	1978	1978	1979	1963	1954	1974	1964	1960

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1951 - 1998	
ANNUAL MEAN	422		577		215	
HIGHEST ANNUAL MEAN					1012	
LOWEST ANNUAL MEAN					19.8	
HIGHEST DAILY MEAN	2800	Aug 7	2130	Aug 1	101000	Jun 18 1965
LOWEST DAILY MEAN	150	Jun 21	171	Sep 11	.00	Jul 9 1954
ANNUAL SEVEN-DAY MINIMUM	178	Jun 18	188	Sep 8	.00	Jul 9 1954
INSTANTANEOUS PEAK FLOW			2870		158000	
INSTANTANEOUS PEAK STAGE			8.00		14.80	
ANNUAL RUNOFF (AC-FT)	305700		417600		155600	
10 PERCENT EXCEEDS	736		1030		448	
50 PERCENT EXCEEDS	321		466		123	
90 PERCENT EXCEEDS	201		258		9.5	

e-Estimated.

08220000 RIO GRANDE NEAR DEL NORTE, CO

LOCATION.--Lat 37°41'22", long 106°27'38", in NW¹/₄ sec.29, T.40 N., R.5 E., Rio Grande County, Hydrologic Unit 13010001, on right bank 20 ft downstream from county highway bridge, 5.0 mi upstream from Pinos Creek, and 6.0 mi west of Del Norte.

DRAINAGE AREA.--1,320 mi², approximately.

PERIOD OF RECORD.--June 1889 to current year. Monthly discharge only for some periods, published in WSP 1312. Water-quality data available April 1993 to July 1996.

REVISED RECORDS.--WSP 763: Drainage area. WSP 1312: 1889, 1901, 1913-14.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 7,980.25 ft above sea level. Prior to May 16, 1908, nonrecording gage at site 4 mi downstream at different datum. May 16, 1908 to Nov. 8, 1910, nonrecording gages on bridge at present site and datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Small diversions upstream from station for irrigation. Flow regulated by Beaver Creek Reservoir since 1910, Santa Maria Reservoir since 1912, Rio Grande Reservoir since 1912, and Continental Reservoir since 1925, combined capacity, 126,100 acre-ft, and by several smaller reservoirs. Transmountain diversions to drainage area upstream from station from Colorado River basin (see elsewhere in this report).

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1873, that of Oct. 5, 1911, from information by local residents.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	775	470	e250	e220	e190	400	1370	3880	1390	840	574
2	1220	689	430	e260	e220	e210	429	1490	4030	1280	910	712
3	1200	657	350	e290	e220	e230	382	1760	4260	1230	775	649
4	1080	651	272	e270	e230	e270	411	2250	3800	1200	748	590
5	991	627	e270	e270	e230	e250	440	2450	3040	1200	1000	591
6	946	619	e270	e270	e230	e230	457	2380	2560	1180	858	599
7	926	602	e290	e260	e240	e220	421	1990	2660	1220	767	580
8	1270	588	e290	e250	e230	e200	399	1940	2430	1370	697	568
9	979	588	e300	e240	e230	e220	376	1720	2350	1320	665	544
10	914	579	e310	e250	e230	e230	373	1840	2220	1400	664	482
11	2480	564	e280	e250	e210	e250	424	2070	2290	1400	697	457
12	2560	567	e280	e260	e210	e270	554	2190	2070	1240	681	454
13	1950	560	e300	e240	e210	e280	494	2250	1920	1120	632	472
14	1750	519	e290	e240	e220	295	458	2420	1880	1040	603	451
15	1660	462	e280	e220	e230	e300	428	2100	2190	888	586	443
16	1560	351	e290	e230	e220	314	402	1960	2410	775	584	457
17	1440	403	e290	e230	e210	282	384	1990	2510	728	566	451
18	1360	411	e290	e240	e210	277	373	2420	2330	670	599	434
19	1310	449	e290	e220	e210	236	356	2900	2270	632	551	423
20	1210	460	e290	e200	e210	248	384	3340	2270	590	522	398
21	1130	434	e290	e200	e210	267	407	3780	2190	568	548	375
22	1070	391	e290	e190	e230	e310	481	4290	2170	559	589	363
23	1010	419	e310	e190	e230	e420	656	3490	2020	566	511	352
24	1020	511	e300	e190	e230	e520	1030	3260	1960	568	480	343
25	951	439	e240	e200	e220	e620	1300	3220	1870	617	513	335
26	882	458	e240	e200	e210	e720	1210	3150	1650	712	616	322
27	911	456	e240	e210	e200	e520	1000	3290	1590	860	612	318
28	914	418	e280	e220	e200	e460	956	3660	1640	745	603	314
29	880	397	e260	e220	---	e370	920	4250	1570	772	560	307
30	844	382	e260	e230	---	359	1130	4210	1510	790	527	346
31	824	---	e250	e230	---	382	---	3860	---	752	497	---
TOTAL	38382	15426	9092	7220	6150	9950	17435	83290	71540	29382	20001	13704
MEAN	1238	514	293	233	220	321	581	2687	2385	948	645	457
MAX	2560	775	470	290	240	720	1300	4290	4260	1400	1000	712
MIN	824	351	240	190	200	190	356	1370	1510	559	480	307
AC-FT	76130	30600	18030	14320	12200	19740	34580	165200	141900	58280	39670	27180

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1890 - 1998, BY WATER YEAR (WY)

	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	
MEAN	488	286	207	189	197	273	768	2514	3163	1438	791	512
MAX	2451	804	420	340	300	646	1999	4449	6240	3451	1745	2001
(WY)	1912	1917	1926	1912	1928	1910	1895	1922	1921	1957	1957	1927
MIN	134	114	105	89.8	111	153	317	747	475	239	190	135
(WY)	1957	1957	1957	1977	1977	1965	1951	1977	1934	1934	1956	1956

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1890 - 1998	
ANNUAL TOTAL	478063		321572			
ANNUAL MEAN	1310		881		907	
HIGHEST ANNUAL MEAN					1482	
LOWEST ANNUAL MEAN					311	
HIGHEST DAILY MEAN	7090		4290		14000	
LOWEST DAILY MEAN	a140		e, b190		69	
ANNUAL SEVEN-DAY MINIMUM	153		196		76	
INSTANTANEOUS PEAK FLOW			4760		c18000	
INSTANTANEOUS PEAK STAGE			4.19		6.80	
ANNUAL RUNOFF (AC-FT)	948200		637800		657200	
10 PERCENT EXCEEDS	3690		2230		2460	
50 PERCENT EXCEEDS	708		522		365	
90 PERCENT EXCEEDS	170		230		166	

e-Estimated.

a-Also occurred Jan 17.

b-Also occurred Jan 23-24, and Mar 1.

c-From rating curve extended above 12900 ft³/s.

RIO GRANDE BASIN
CLOSED BASIN IN SAN LUIS VALLEY, CO

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08227000 SAGUACHE CREEK NEAR SAGUACHE, CO

LOCATION.--Lat 38°09'48", long 106°17'24", in SE¹/₄SE¹/₄ sec.10, T.45 N., R.6 E., Saguache County, Hydrologic Unit 13010004, on left bank 0.2 mi downstream from Middle Creek and 10 mi northwest of Saguache.

DRAINAGE AREA.--595 mi².

PERIOD OF RECORD.--August 1910 to September 1912, June 1914 to current year. Monthly discharge only for some periods, published in WSP 1312. Water-quality data available, April 1993 to September 1995.

REVISED RECORDS.--WSP 1242: 1948-49. WSP 1312: 1912, 1934(M), 1942(M). WSP 1923: 1951.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is about 8,030 ft above sea level, from topographic map. Prior to Apr. 9, 1934, at sites 0.8 mi downstream at different datums. Apr. 10, 1934 to Nov. 20, 1966, at present site at datum 1.00 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by transmountain diversions from Colorado River basin to drainage area above station through Tarbell ditch (see elsewhere in this report), and diversions above station for irrigation.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	65	47	e29	e32	e29	38	168	216	91	157	59
2	72	50	46	e30	e32	e30	49	176	216	90	154	82
3	74	48	37	e32	e34	e32	43	183	225	92	111	70
4	73	55	e33	e32	e34	35	45	196	220	99	97	58
5	67	56	e31	e29	e35	36	47	194	194	108	117	53
6	64	48	e31	e26	e35	35	49	171	170	106	110	50
7	63	52	e33	e23	e35	27	42	156	163	123	94	49
8	74	53	e31	e24	e34	e25	38	144	148	167	86	47
9	71	55	e33	e23	e34	e26	37	137	147	158	86	47
10	67	52	e33	e25	e33	e26	35	132	137	166	88	46
11	85	53	e30	e28	e30	e27	37	152	133	140	84	46
12	101	52	e27	e29	e32	27	68	157	126	117	81	53
13	74	53	e29	e28	e32	28	58	157	123	104	74	56
14	75	45	e28	e28	e33	30	45	174	120	91	68	48
15	73	31	e27	e26	e35	33	42	162	122	85	64	45
16	69	15	e28	e29	e35	38	46	155	116	82	62	46
17	69	e37	e27	e32	e30	38	42	153	113	81	64	45
18	66	e40	e28	e32	e32	37	42	164	107	77	70	42
19	65	e38	e29	e31	e31	27	37	180	95	73	70	41
20	65	e43	e28	e29	e30	30	38	189	97	71	64	39
21	66	e46	e28	e29	e30	36	41	207	103	70	64	39
22	64	e44	e29	e29	e32	47	56	222	103	70	64	38
23	60	e43	e30	e29	e32	57	94	210	96	77	58	39
24	62	e42	e25	e31	e34	77	160	207	90	88	54	38
25	55	e44	e21	e33	e31	116	212	203	89	102	55	35
26	51	48	e21	e32	e30	143	153	194	92	111	65	34
27	48	50	e23	e32	e28	101	92	196	90	100	70	34
28	68	49	e29	e34	e28	68	83	198	93	94	68	32
29	70	51	e33	e32	---	62	89	215	91	88	58	32
30	70	45	e32	e33	---	40	121	227	93	83	52	39
31	69	---	e30	e33	---	40	---	222	---	113	49	---
TOTAL	2123	1403	937	912	903	1403	1979	5601	3928	3117	2458	1382
MEAN	68.5	46.8	30.2	29.4	32.3	45.3	66.0	181	131	101	79.3	46.1
MAX	101	65	47	34	35	143	212	227	225	167	157	82
MIN	48	15	21	23	28	25	35	132	89	70	49	32
AC-FT	4210	2780	1860	1810	1790	2780	3930	11110	7790	6180	4880	2740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 1998, BY WATER YEAR (WY)

MEAN	44.4	35.7	26.0	23.3	26.6	38.5	68.8	157	175	94.3	73.0	51.1
MAX	108	60.1	40.0	40.3	41.4	70.0	257	437	474	299	198	194
(WY)	1912	1930	1928	1986	1986	1924	1924	1924	1957	1957	1929	1929
MIN	20.6	16.4	13.9	12.2	13.4	21.5	34.2	34.8	19.4	20.5	23.3	15.0
(WY)	1979	1978	1978	1978	1966	1964	1978	1981	1963	1940	1940	1956

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR (a)WATER YEARS 1910 - 1998

ANNUAL TOTAL	24616	26146										
ANNUAL MEAN	67.4	71.6								67.8		
HIGHEST ANNUAL MEAN										122		1924
LOWEST ANNUAL MEAN										28.0		1940
HIGHEST DAILY MEAN				280	Jun 8		227	May 30		678	Jun 7	1957
LOWEST DAILY MEAN				15	Nov 16		15	Nov 16		7.0	Jan 7	1977
ANNUAL SEVEN-DAY MINIMUM				20	Jan 15		25	Dec 21		8.3	Jan 6	1977
INSTANTANEOUS PEAK FLOW							268	Apr 25		b790	Aug 3	1964
INSTANTANEOUS PEAK STAGE							2.88	Apr 25		c3.85	Aug 3	1964
ANNUAL RUNOFF (AC-FT)	48830	51860								49100		
10 PERCENT EXCEEDS		135					157			148		
50 PERCENT EXCEEDS		57					52			41		
90 PERCENT EXCEEDS		24					29			21		

e-Estimated.

a-Water years 1983-1990 were published by Colorado Division of Water Resources.

b-Present datum, from rating curve extended above 83 ft³/s.

c-Maximum gage height, 3.94 ft, May 20, 1970.

08235250 ALAMOSA RIVER ABOVE WIGHTMAN FORK NEAR JASPER, CO

LOCATION.--Lat 37°24'09", long 106°31'17", in SE¹/₄SW¹/₄ sec.35, T.37 N., R.4 E., Rio Grande County, Hydrologic Unit 13010002, Rio Grande National Forest, on left bank 150 ft upstream from Wightman Fork, 1.9 mi downstream from Bitter Creek, 4.1 mi west of Jasper, and 4.2 mi southeast of Summitville.

DRAINAGE AREA.--37.8 mi².

PERIOD OF RECORD.--July 1995 to current year (seasonal records only). Daily records for specific conductance, pH, and water temperature available July 1995 to September 1997 (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry, and crest-stage gage. Elevation of gage is 9,380 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data for Gaging Stations" section of this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 878 ft³/s, June 2, 1997, gage height, 5.32 ft, from rating curve extended above 457 ft³/s; minimum daily, 6.7 ft³/s, Aug. 19-20, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 497 ft³/s, June 2, gage height, 4.74 ft, from rating curve extended above 457 ft³/s; minimum daily, 7.4 ft³/s, Sept. 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e39	---	---	---	---	---	---	63	360	138	41	47
2	---	---	---	---	---	---	---	78	387	130	32	35
3	---	---	---	---	---	---	---	96	357	123	27	29
4	---	---	---	---	---	---	---	113	299	121	29	25
5	---	---	---	---	---	---	---	124	248	113	33	23
6	---	---	---	---	---	---	---	110	243	106	27	21
7	---	---	---	---	---	---	---	102	237	122	24	19
8	---	---	---	---	---	---	---	98	228	110	22	18
9	---	---	---	---	---	---	---	100	235	119	21	17
10	---	---	---	---	---	---	---	129	215	107	19	15
11	---	---	---	---	---	---	---	146	202	93	20	15
12	---	---	---	---	---	---	---	152	226	80	21	15
13	---	---	---	---	---	---	---	164	235	71	18	15
14	---	---	---	---	---	---	---	163	217	65	18	15
15	---	---	---	---	---	---	---	133	213	59	23	15
16	---	---	---	---	---	---	---	133	234	58	23	13
17	---	---	---	---	---	---	---	150	224	54	21	13
18	---	---	---	---	---	---	---	187	177	52	18	12
19	---	---	---	---	---	---	---	224	196	54	17	11
20	---	---	---	---	---	---	---	247	215	43	22	10
21	---	---	---	---	---	---	---	282	221	40	23	9.4
22	---	---	---	---	---	---	---	286	217	39	19	9.0
23	---	---	---	---	---	---	---	246	199	38	17	9.1
24	---	---	---	---	---	---	---	241	180	36	37	8.7
25	---	---	---	---	---	---	---	252	165	39	58	8.2
26	---	---	---	---	---	---	---	266	161	38	48	7.8
27	---	---	---	---	---	---	---	285	167	38	35	7.6
28	---	---	---	---	---	---	---	330	163	35	30	7.4
29	---	---	---	---	---	---	---	e41	380	154	26	8.2
30	---	---	---	---	---	---	---	50	377	144	24	16
31	---	---	---	---	---	---	---	346	---	27	26	---
TOTAL	---	---	---	---	---	---	---	6003	6719	2212	819	474.4
MEAN	---	---	---	---	---	---	---	194	224	71.4	26.4	15.8
MAX	---	---	---	---	---	---	---	380	387	138	58	47
MIN	---	---	---	---	---	---	---	63	144	27	17	7.4
AC-FT	---	---	---	---	---	---	---	11910	13330	4390	1620	941

e-Estimated.

08235270 WIGHTMAN FORK BELOW CROPSEY CREEK AT SUMMITVILLE, CO

LOCATION.--Lat 37°25'45", long 106°35'03", in NW¹/4NW¹/4 sec.29, T.37 N., R.4 E., Rio Grande County, Hydrologic Unit 13010002, on left bank about 200 feet downstream from Cropsey Creek, and 0.25 mi east of Summitville.

DRAINAGE AREA.--4.44 mi².

PERIOD OF RECORD.--July 1995 to current year (seasonal records only). Water-quality data available, July 1995 to September 1997 (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 11,120 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges and those above 70 ft³/s, which are poor. Flow partially regulated by Summitville Mine. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data for Gaging Stations" section of the report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 175 ft³/s, June 1, 1997, gage height, 6.13 ft, from rating curve extended above 64 ft³/s; minimum daily discharge, 0.90 ft³/s, Aug. 19, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 115 ft³/s, May 28, gage height, 5.73 ft, from rating curve extended above 64 ft³/s; minimum daily discharge, 1.5 ft³/s, Sept. 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.9	---	---	---	---	---	---	3.2	63	12	7.4	6.2
2	---	---	---	---	---	---	---	4.7	59	11	6.1	3.7
3	---	---	---	---	---	---	---	7.0	46	11	5.8	3.4
4	---	---	---	---	---	---	---	10	33	9.1	6.1	3.2
5	---	---	---	---	---	---	---	14	28	8.8	6.2	3.1
6	---	---	---	---	---	---	---	12	30	8.5	5.5	3.0
7	---	---	---	---	---	---	---	9.1	28	13	5.3	3.1
8	---	---	---	---	---	---	---	8.5	27	11	5.4	3.1
9	---	---	---	---	---	---	---	8.5	25	12	5.0	3.1
10	---	---	---	---	---	---	---	15	22	11	5.1	3.0
11	---	---	---	---	---	---	---	19	22	9.2	4.8	3.0
12	---	---	---	---	---	---	---	20	24	8.3	4.6	3.0
13	---	---	---	---	---	---	---	24	23	7.8	4.7	3.0
14	---	---	---	---	---	---	---	23	21	7.3	4.4	3.0
15	---	---	---	---	---	---	---	15	20	6.9	4.4	3.4
16	---	---	---	---	---	---	---	17	23	8.8	4.1	3.1
17	---	---	---	---	---	---	---	26	20	7.3	4.0	3.2
18	---	---	---	---	---	---	---	37	18	6.7	3.8	3.1
19	---	---	---	---	---	---	---	45	19	6.3	3.6	2.9
20	---	---	---	---	---	---	---	50	19	6.0	4.0	2.1
21	---	---	---	---	---	---	---	57	19	5.9	4.2	2.1
22	---	---	---	---	---	---	---	51	18	8.4	3.7	2.7
23	---	---	---	---	---	---	---	45	16	8.8	3.5	2.8
24	---	---	---	---	---	---	---	49	15	7.5	5.5	2.8
25	---	---	---	---	---	---	---	52	14	8.2	7.7	2.8
26	---	---	---	---	---	---	---	60	13	8.3	4.2	2.1
27	---	---	---	---	---	---	---	66	14	8.3	3.2	2.1
28	---	---	---	---	---	---	---	75	13	8.0	3.0	1.5
29	---	---	---	---	---	---	---	71	13	6.6	3.1	1.8
30	---	---	---	---	---	---	e2.8	67	12	5.9	3.0	2.0
31	---	---	---	---	---	---	---	61	---	5.6	3.7	---
TOTAL	---	---	---	---	---	---	---	1022.0	717	263.5	145.1	87.4
MEAN	---	---	---	---	---	---	---	33.0	23.9	8.50	4.68	2.91
MAX	---	---	---	---	---	---	---	75	63	13	7.7	6.2
MIN	---	---	---	---	---	---	---	3.2	12	5.6	3.0	1.5
AC-FT	---	---	---	---	---	---	---	2030	1420	523	288	173

e-Estimated.

08235290 WIGHTMAN FORK AT MOUTH NEAR JASPER, CO

LOCATION.--Lat 37°24'14", long 106°31'16", in SE¹/₄SW¹/₄ sec.35, T.37 N., R.4 E., Rio Grande County, Hydrologic Unit 13010002, on right bank 25 ft downstream from bridge on Forest Development Road No. 250, about 300 ft upstream from mouth of Alamosa River, and 4.3 mi southwest of Jasper.

DRAINAGE AREA.--16.1 mi².

PERIOD OF RECORD.--July 1995 to current year (seasonal records only). Daily record for water temperature, specific conductance, and ph available, July 1995 to September 1997 (seasonal records only).

GAGE.--Water-stage recorder with satellite telemetry, and crest-stage gage. Elevation of gage is 9,420 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Flow partially regulated by releases from Summitville Mine upstream. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data for Gaging Stations" section of this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 431 ft³/s, June 1, 1997, gage height, 5.47 ft, from rating curve extended above 300 ft³/s; minimum daily, 1.2 ft³/s, Aug. 19, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 354 ft³/s, May 28, gage height, 5.33 ft; from rating curve extended above 300 ft³/s; minimum daily, 2.9 ft³/s, Sept. 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	---	---	---	---	---	---	29	144	17	15	18
2	---	---	---	---	---	---	---	38	141	16	12	12
3	---	---	---	---	---	---	---	46	117	16	11	9.2
4	---	---	---	---	---	---	---	55	90	14	12	7.9
5	---	---	---	---	---	---	---	59	73	14	15	7.2
6	---	---	---	---	---	---	---	53	65	16	11	6.9
7	---	---	---	---	---	---	---	46	59	24	10	6.7
8	---	---	---	---	---	---	---	42	57	20	9.6	6.7
9	---	---	---	---	---	---	---	39	50	22	9.3	6.5
10	---	---	---	---	---	---	---	58	43	19	9.2	6.2
11	---	---	---	---	---	---	---	70	39	16	9.0	6.2
12	---	---	---	---	---	---	---	70	41	14	8.8	6.4
13	---	---	---	---	---	---	---	81	40	13	8.8	6.3
14	---	---	---	---	---	---	---	85	36	13	9.1	6.0
15	---	---	---	---	---	---	---	64	34	12	8.2	6.8
16	---	---	---	---	---	---	---	66	36	14	8.4	6.6
17	---	---	---	---	---	---	---	91	34	13	8.1	6.3
18	---	---	---	---	---	---	---	133	28	12	8.1	6.3
19	---	---	---	---	---	---	---	147	28	11	7.6	5.6
20	---	---	---	---	---	---	---	165	27	10	8.5	4.5
21	---	---	---	---	---	---	---	176	27	10	8.9	3.5
22	---	---	---	---	---	---	---	164	27	15	7.7	5.0
23	---	---	---	---	---	---	---	136	27	18	7.3	5.2
24	---	---	---	---	---	---	---	147	25	18	10	5.1
25	---	---	---	---	---	---	---	162	23	19	16	5.0
26	---	---	---	---	---	---	---	178	21	18	12	3.9
27	---	---	---	---	---	---	---	179	21	17	8.5	4.3
28	---	---	---	---	---	---	---	188	20	18	7.6	2.9
29	---	---	---	---	---	---	15	174	18	15	7.2	3.2
30	---	---	---	---	---	---	20	151	17	12	7.0	4.9
31	---	---	---	---	---	---	---	135	---	11	8.1	---
TOTAL	---	---	---	---	---	---	---	3227	1408	477	299.0	191.3
MEAN	---	---	---	---	---	---	---	104	46.9	15.4	9.65	6.38
MAX	---	---	---	---	---	---	---	188	144	24	16	18
MIN	---	---	---	---	---	---	---	29	17	10	7.0	2.9
AC-FT	---	---	---	---	---	---	---	6400	2790	946	593	379

08235350 ALAMOSA RIVER ABOVE JASPER, CO

LOCATION.--Lat 37°25'03", long 106°29'30", in SE¹/₄SE¹/₄ sec.25, T.37 N., R.4 E., Rio Grande County, Hydrologic Unit 13010002, on left bank 2.0 mi downstream from Wightman Fork, and 2.0 mi west of Jasper.

DRAINAGE AREA.--58.1 mi².

PERIOD OF RECORD.--July 1995 to current year (seasonal records only).

REVISED RECORDS.--WDR CO-96-1: 1995 (M).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 9,200 ft above sea level, from topographic map.

REMARKS.--Records fair except for discharges above 600 ft³/s, and estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data for Gaging Stations" section of this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 1,110 ft³/s, June 1, 1997; gage height, 5.75 ft, from rating curve extended above 580 ft³/s; minimum daily, 11 ft³/s, Aug. 19-20, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 777 ft³/s, May 28; gage height, 5.23 ft, from rating curve extended above 580 ft³/s; minimum daily, 12 ft³/s, Sept. 28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e47	---	---	---	---	---	---	94	489	161	54	61
2	---	---	---	---	---	---	---	118	545	150	45	49
3	---	---	---	---	---	---	---	150	525	140	39	40
4	---	---	---	---	---	---	---	181	421	135	41	35
5	---	---	---	---	---	---	---	191	334	128	48	32
6	---	---	---	---	---	---	---	180	314	125	38	30
7	---	---	---	---	---	---	---	169	303	151	35	28
8	---	---	---	---	---	---	---	165	282	132	33	27
9	---	---	---	---	---	---	---	166	288	145	32	26
10	---	---	---	---	---	---	---	213	257	124	31	25
11	---	---	---	---	---	---	---	243	237	105	31	24
12	---	---	---	---	---	---	---	253	269	90	32	24
13	---	---	---	---	---	---	---	284	282	79	30	24
14	---	---	---	---	---	---	---	284	256	73	30	23
15	---	---	---	---	---	---	---	224	250	68	32	24
16	---	---	---	---	---	---	---	225	280	68	32	22
17	---	---	---	---	---	---	---	262	270	64	32	22
18	---	---	---	---	---	---	---	341	202	62	29	21
19	---	---	---	---	---	---	---	412	227	64	27	19
20	---	---	---	---	---	---	---	473	253	54	32	17
21	---	---	---	---	---	---	---	545	265	50	34	15
22	---	---	---	---	---	---	---	524	256	54	29	16
23	---	---	---	---	---	---	---	461	234	56	26	16
24	---	---	---	---	---	---	---	465	210	54	45	16
25	---	---	---	---	---	---	---	471	192	56	68	15
26	---	---	---	---	---	---	---	503	185	56	57	14
27	---	---	---	---	---	---	---	542	190	55	41	14
28	---	---	---	---	---	---	---	606	187	52	35	12
29	---	---	---	---	---	---	---	603	179	49	31	13
30	---	---	---	---	---	---	---	73	551	167	43	30
31	---	---	---	---	---	---	---	483	---	40	32	---
TOTAL	---	---	---	---	---	---	---	10382	8349	2683	1131	725
MEAN	---	---	---	---	---	---	---	335	278	86.5	36.5	24.2
MAX	---	---	---	---	---	---	---	606	545	161	68	61
MIN	---	---	---	---	---	---	---	94	167	40	26	12
AC-FT	---	---	---	---	---	---	---	20590	16560	5320	2240	1440

e-Estimated.

08235700 ALAMOSA RIVER BELOW CASTLEMAN GULCH NEAR JASPER, CO

LOCATION.--Lat 37°24'10", long 106°27'00", in SE¹/₄SE¹/₄ sec.32, T.37 N., R.5 E., Rio Grande County, Hydrologic Unit 13010002, on left bank at private bridge, 15 ft downstream from Castleman Gulch, and 1.2 mi southeast of Jasper.

DRAINAGE AREA.--76.3 mi².

PERIOD OF RECORD.--July 1995 to current year (seasonal records only). Water-quality data available, July 1995 to September 1997 (seasonal records only).

REVISED RECORDS.--WDR CO-96-1: 1995 (M).

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 9,040 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data for Gaging Stations" section of this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge during period of seasonal operation, 1,230 ft³/s, June 1, 1997; gage height, 5.96 ft, from rating curve extended above 1,200 ft³/s; minimum daily, 12 ft³/s, Aug. 19-20, 1996, Sept. 27-28 (estimated days), 1998.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 889 ft³/s, May 28; gage height, 5.51 ft; minimum daily, 12 ft³/s (estimated), Sept. 27-28.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	---	---	---	---	---	---	121	573	168	e70	69
2	e55	---	---	---	---	---	---	149	612	158	e56	56
3	---	---	---	---	---	---	---	187	569	147	48	43
4	---	---	---	---	---	---	---	221	445	141	51	37
5	---	---	---	---	---	---	---	238	344	134	63	33
6	---	---	---	---	---	---	---	225	324	132	48	31
7	---	---	---	---	---	---	---	208	320	157	42	29
8	---	---	---	---	---	---	---	198	290	143	38	28
9	---	---	---	---	---	---	---	189	297	151	39	27
10	---	---	---	---	---	---	---	237	267	135	36	26
11	---	---	---	---	---	---	---	273	245	115	37	25
12	---	---	---	---	---	---	---	283	271	101	41	25
13	---	---	---	---	---	---	---	316	292	91	36	26
14	---	---	---	---	---	---	---	324	265	82	38	24
15	---	---	---	---	---	---	---	257	260	75	41	26
16	---	---	---	---	---	---	---	255	285	74	41	24
17	---	---	---	---	---	---	---	289	289	71	43	24
18	---	---	---	---	---	---	---	374	218	66	41	23
19	---	---	---	---	---	---	---	436	238	71	39	21
20	---	---	---	---	---	---	---	490	263	58	45	20
21	---	---	---	---	---	---	---	561	274	55	49	17
22	---	---	---	---	---	---	---	546	272	60	46	16
23	---	---	---	---	---	---	---	483	248	64	42	16
24	---	---	---	---	---	---	---	483	222	64	56	14
25	---	---	---	---	---	---	---	501	202	66	86	13
26	---	---	---	---	---	---	---	548	195	68	71	13
27	---	---	---	---	---	---	---	571	198	64	49	e12
28	---	---	---	---	---	---	---	631	196	60	41	e12
29	---	---	---	---	---	---	e81	633	188	59	36	13
30	---	---	---	---	---	---	96	600	175	e54	35	22
31	---	---	---	---	---	---	---	542	---	e48	36	---
TOTAL	---	---	---	---	---	---	---	11369	8837	2932	1440	765
MEAN	---	---	---	---	---	---	---	367	295	94.6	46.5	25.5
MAX	---	---	---	---	---	---	---	633	612	168	86	69
MIN	---	---	---	---	---	---	---	121	175	48	35	12
AC-FT	---	---	---	---	---	---	---	22550	17530	5820	2860	1520

e-Estimated.

08244500 PLATORO RESERVOIR AT PLATORO, CO

LOCATION.--Lat 37°21'07", long 106°32'38", Conejos County, Hydrologic Unit 13010005, on right bank in valvehouse, 400 ft downstream from Platoro Dam on Conejos River and 0.7 mi west of Platoro.

DRAINAGE AREA.--40 mi², approximately.

PERIOD OF RECORD.--November 1951 to current year.

REVISED RECORDS.--WDR CO-85-1: 1984.

GAGE.--Nonrecording gage. Datum of gage is 9,911.5 ft above sea level, (levels by U.S. Bureau of Reclamation); gage readings have been reduced to elevations above sea level. Prior to June 9, 1955, nonrecording gage at present site and datum. June 9, 1955 to Sept. 30, 1959, water-stage recorder in gate chamber at dam for elevations above 9,921.0 ft, at same datum.

REMARKS.--Reservoir is formed by an earth and rockfill dam and dikes. Dam completed Dec. 9, 1951; storage began Nov. 7, 1951. Capacity of reservoir (based on revised capacity table put in use Jan. 1, 1975), 59,570 acre-ft, between elevations 9,911.5 ft, sill of trashrack at outlet, and 10,034.0 ft, crest of spillway. No dead storage. Reservoir is used for irrigation and flood control. Figures given are usable contents.

COOPERATION.--Records provided by State of Colorado, Division of Water Resources.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 61,420 acre-ft, June 9, 11, 1958, elevation, 10,035.5 ft; no contents for long periods in 1952-56.

EXTREMES FOR CURRENT YEAR.--Maximum contents, about 37,510 acre-ft, June 21, elevation, 10,008.77 ft ; minimum contents, about 21,840 acre-ft, Sept. 30, elevation, 9,986.08 ft.

MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	10,001.07	32,210	-
Oct. 31	9,994.5	27,180	-5,030
Nov. 30	9,994.9	27,460	+280
Dec. 31	9,995.6	27,920	+460
CAL YR 1997	-	-	+6070
Jan. 31	9,996.0	28,190	+270
Feb. 28	9,996.2	28,360	+170
Mar. 31	9,997.1	28,960	+600
Apr. 30	9,997.5	29,230	+270
May 31	10,002.1	32,500	+3270
June 30	10,008.1	36,970	+4470
July 31	9,999.6	30,690	-6,280
Aug. 31	9,991.2	25,050	-5,640
Sept. 30	9,986.1	21,840	-3,210
WTR YR 1998	-	-	-10,370

08246500 CONEJOS RIVER NEAR MOGOTE, CO

LOCATION.--Lat 37°03'14", long 106°11'13", in SE¼SE¼ sec.34, T.33 N., R.7 E., Conejos County, Hydrologic Unit 13010005, on left bank 75 ft downstream from bridge on State Highway 174, 0.4 mi downstream from Fox Creek, 5.3 mi west of Mogote, and 10 mi west of Antonito.

DRAINAGE AREA.--282 mi².

PERIOD OF RECORD.--April 1903 to October 1905, October 1911 to current year. Monthly discharge only for some periods, published in WSP 1312. Records for March 1900 at site 5.5 mi upstream and May 1905 to September 1911 (some missing periods most years) at site 3.2 mi upstream not equivalent to present site due to inflow.

REVISED RECORDS.--WSP 898: 1911(M). WSP 1312: 1903-5, 1913. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 8,273.69 ft above sea level, Colorado State Highway datum. Apr. 17, 1903 to Oct. 31, 1905, nonrecording gage 400 ft downstream, at different datum. Oct. 5, 1911 to early 1915, nonrecording gage, and from early 1915 to Oct. 1, 1988, water-stage recorder at site 100 ft upstream, at datum 2.15 ft, lower. Since Oct. 1, 1988, at present site and datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 500 acres of hay meadows upstream from station. Some regulation by Platoro Reservoir (station 08244500).

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	198	76	e50	e47	e44	106	333	1500	643	246	244
2	178	140	75	e54	e46	e47	112	410	1320	615	250	228
3	187	117	69	e58	e47	e50	96	532	1450	545	229	249
4	164	114	e50	e54	e49	e56	116	686	1480	551	201	189
5	147	108	e52	e48	e46	e57	137	789	1080	510	213	163
6	149	106	e54	e48	e47	57	151	768	855	513	197	168
7	161	104	e66	e46	e50	e49	138	747	778	674	203	165
8	277	101	e66	e46	e49	e46	128	681	796	595	198	162
9	264	104	e60	e48	e48	e48	123	652	843	594	187	179
10	271	105	e64	e50	e47	e50	127	724	797	514	181	181
11	335	105	e62	e50	e46	e54	147	772	733	398	235	198
12	319	105	e48	e52	e47	e58	183	801	700	360	229	187
13	309	110	e58	e50	e48	e62	164	835	782	319	214	168
14	350	102	e60	e48	e52	e70	155	918	784	310	201	146
15	349	89	e62	e46	e50	75	137	817	890	316	219	146
16	299	56	e60	e50	e49	76	129	756	869	257	246	126
17	294	60	e62	e52	e49	76	127	763	965	337	244	131
18	289	62	e62	e52	e50	76	116	880	839	333	240	114
19	280	72	e62	e52	e50	69	110	926	790	283	205	90
20	272	84	e62	e50	e50	e72	120	1080	784	331	208	74
21	266	73	e62	e48	e52	e80	120	1240	845	360	188	64
22	262	64	e58	e46	e52	e94	131	1340	898	430	178	60
23	225	61	e60	e48	e54	e120	179	1290	932	418	155	62
24	211	67	e50	e49	e52	155	261	1250	897	337	157	58
25	193	68	e52	e50	e50	189	338	1250	750	310	197	56
26	198	80	e48	e50	e47	212	312	1290	684	328	266	59
27	185	76	e50	e52	e46	175	254	1320	636	346	220	60
28	225	70	e46	e54	e45	157	260	1400	612	356	191	58
29	229	70	e49	e52	---	133	256	1530	650	299	168	58
30	253	68	e52	e52	---	105	277	1640	645	259	154	73
31	238	---	e50	e50	---	104	---	1570	---	261	159	---
TOTAL	7545	2739	1807	1555	1365	2716	5010	29990	26584	12702	6379	3916
MEAN	243	91.3	58.3	50.2	48.8	87.6	167	967	886	410	206	131
MAX	350	198	76	58	54	212	338	1640	1500	674	266	249
MIN	147	56	46	46	45	44	96	333	612	257	154	56
AC-FT	14970	5430	3580	3080	2710	5390	9940	59490	52730	25190	12650	7770

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 1998, BY WATER YEAR (WY)

	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	118	95.5	51.8	48.0	51.8	80.1	318	1106	1297	481	209	131																																																																																				
MAX	515	467	116	116	159	153	800	2053	3163	1502	626	484																																																																																				
(WY)	1905	1966	1987	1986	1983	1989	1936	1937	1920	1957	1952	1927																																																																																				
MIN	34.7	29.9	26.9	22.7	30.0	41.0	138	358	118	69.2	44.2	26.8																																																																																				
(WY)	1957	1931	1977	1918	1904	1904	1904	1977	1934	1904	1972	1956																																																																																				

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1903 - 1998
ANNUAL TOTAL	141708	102308	
ANNUAL MEAN	388	280	331
HIGHEST ANNUAL MEAN			592
LOWEST ANNUAL MEAN			109
HIGHEST DAILY MEAN			4490
LOWEST DAILY MEAN	e, a40	e44	10
ANNUAL SEVEN-DAY MINIMUM	43	47	17
INSTANTANEOUS PEAK FLOW		1750	b9000
INSTANTANEOUS PEAK STAGE		5.11	c8.50
ANNUAL RUNOFF (AC-FT)	281100	202900	239600
10 PERCENT EXCEEDS	1240	789	1050
50 PERCENT EXCEEDS	206	151	98
90 PERCENT EXCEEDS	49	49	42

e-Estimated.
a-Also occurred Jan 8.
b-Present site and datum, from rating curve extended above 3100 ft³/s.
c-From floodmarks.

08248000 LOS PINOS RIVER NEAR ORTIZ, CO

LOCATION.--Lat 36°58'56", long 106°04'23", on line between secs.26, and 27, T.32 N., R.8 E., Rio Arriba County, New Mexico, Hydrologic Unit 13010005, on left bank 0.9 mi south of Colorado-New Mexico State line, 2.1 mi southwest of Ortiz, and 2.9 mi upstream from mouth.

DRAINAGE AREA.--167 mi².

PERIOD OF RECORD.--January 1915 to December 1920, October 1924 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 8,040 ft above sea level, from topographic map. Prior to Apr. 15, 1955, at site 350 ft upstream at datum 2.52 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions upstream from station for irrigation.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	34	e31	e22	e18	e17	47	318	534	89	37	32
2	28	30	e31	e23	e18	e18	48	414	534	79	49	37
3	30	30	e32	e24	e18	e20	45	530	518	69	32	34
4	30	30	e28	e23	e20	e25	52	600	464	69	28	26
5	27	29	e28	e22	e19	e24	57	641	370	63	31	21
6	26	28	e29	e22	e20	e24	64	619	321	62	29	19
7	25	29	e31	e20	e21	e23	60	592	307	96	25	18
8	64	28	e31	e20	e20	e19	57	609	280	113	23	17
9	45	e27	e26	e20	e20	e21	56	617	286	99	23	16
10	43	e25	e27	e22	e19	e21	56	749	263	86	25	17
11	43	e26	e24	e22	e19	e23	66	800	251	71	24	16
12	49	e26	e22	e23	e19	e25	93	775	239	59	29	16
13	44	e26	e23	e22	e19	e27	78	804	231	58	23	16
14	45	e26	e24	e21	e20	e29	75	804	221	58	26	16
15	51	e25	e25	e20	e20	e32	68	627	213	49	22	15
16	51	e25	e24	e21	e19	e32	65	539	201	43	21	14
17	46	e26	e25	e22	e18	e29	59	555	196	58	21	15
18	42	e27	e26	e21	e19	e26	56	670	184	56	21	15
19	38	e28	e25	e21	e19	e31	50	757	174	40	19	13
20	37	e30	e26	e20	e19	e35	51	805	165	36	21	12
21	34	e28	e24	e19	e20	e40	54	883	159	33	39	12
22	33	e27	e23	e18	e20	e46	75	844	153	36	24	12
23	32	e27	e24	e18	e21	e50	133	704	145	34	22	13
24	33	e28	e21	e18	e20	e54	211	654	139	32	20	15
25	28	e29	e22	e19	e19	66	240	622	131	36	33	13
26	39	e32	e21	e19	e18	77	230	615	121	48	39	12
27	36	e30	e22	e19	e18	68	192	614	116	51	26	11
28	36	e30	e20	e20	e17	62	177	616	109	40	21	11
29	34	e29	e21	e20	---	56	195	617	103	40	20	13
30	32	e30	e23	e20	---	50	244	594	97	33	19	21
31	32	---	e22	e19	---	e53	---	555	---	29	20	---
TOTAL	1161	845	781	640	537	1123	2954	20143	7225	1765	812	518
MEAN	37.5	28.2	25.2	20.6	19.2	36.2	98.5	650	241	56.9	26.2	17.3
MAX	64	34	32	24	21	77	244	883	534	113	49	37
MIN	25	25	20	18	17	17	45	318	97	29	19	11
AC-FT	2300	1680	1550	1270	1070	2230	5860	39950	14330	3500	1610	1030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 1998, BY WATER YEAR (WY)

	MEAN	27.5	21.8	16.3	14.6	17.1	34.2	226	618	336	74.4	35.4	24.9
MAX	109	70.1	34.4	26.0	30.0	84.7	610	1341	1022	258	112	101	
(WY)	1987	1987	1987	1987	1962	1971	1936	1952	1957	1957	1929	1927	
MIN	10.1	11.1	5.00	5.00	7.50	13.9	65.9	96.8	25.2	13.2	11.9	7.53	
(WY)	1957	1957	1918	1918	1964	1977	1968	1977	1977	1934	1977	1956	

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1915 - 1998

ANNUAL TOTAL	52580	38504	
ANNUAL MEAN	144	105	121
HIGHEST ANNUAL MEAN			230
LOWEST ANNUAL MEAN			28.7
HIGHEST DAILY MEAN	1130	May 15	2410
LOWEST DAILY MEAN	e,a14	Jan 7	c4.0
ANNUAL SEVEN-DAY MINIMUM	15	Jan 5	4.4
INSTANTANEOUS PEAK FLOW			d3160
INSTANTANEOUS PEAK STAGE			f5.77
ANNUAL RUNOFF (AC-FT)	104300	76370	87610
10 PERCENT EXCEEDS	480	319	390
50 PERCENT EXCEEDS	38	30	25
90 PERCENT EXCEEDS	18	19	12

e-Estimated.

a-Also occurred Jan 8.

b-Also occurred Sep 28.

c-Minimum observed, 4.0 ft³/s, Dec 17, 1945 (discharge measurement); minimum daily discharge for period of record, also occurred Dec 12-14, 17, 22, 30-31, 1989, and Jan 4-6, 1990, but may have been less during periods of no gage-height record.

d-Site and datum then in use, from rating curve extended above 1600 ft³/s.

f-Maximum gage height, 6.19 ft, May 22, 1993, present site and datum.

**08251500 RIO GRANDE NEAR LOBATOS, CO--Continued
WATER-QUALITY RECORDS**

PERIOD OF RECORD.--September 1969 to September 1993 (also see REMARKS). February 1996 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to September 1981.

WATER TEMPERATURE: October 1975 to September 1981.

REMARKS.--Periodic water-quality data available Sept. 1969 to Sept. 1993 under the National Stream-Quality Accounting Network (NASQAN), and Apr. 1993 to Sept. 1996 under the Rio Grande National Water-Quality Assessment Program, for this site.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,040 microsiemens, Sept. 17-18, 1977; minimum, 89 microsiemens, May 9, 1979.

WATER TEMPERATURE: Maximum, 30.0°C, July 17, 1977; minimum, 0.0°C, many days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	pH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM, DIS-SOLVED (MG/L) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L) (00925)	SODIUM, DIS-SOLVED (MG/L) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L) (00935)	ANC ^a UNFLTRD TIT 4.5 LAB (MG/L) (90410)	SULFATE DIS-SOLVED (MG/L) (00945)
		OCT 29...	0945	1260	151	8.1	3.5	10.0	16	3.0	9.4	2.3
MAR 03...	0930	e455	239	8.4	0.0	8.7	26	4.7	17	3.3	89	26
MAY 22...	1300	1090	167	8.0	14.5	8.0	16	3.5	11	2.5	58	19
JUN 30...	1000	145	471	8.2	19.5	7.1	40	8.3	45	6.3	147	76
JUL 23...	1045	174	372	8.6	22.0	6.8	30	6.5	38	6.7	135	42
AUG 26...	0930	45	496	8.4	17.5	7.2	32	7.7	61	7.2	162	65

DATE	CHLO-RIDE, DIS-SOLVED (MG/L) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) (00950)	SILICA, DIS-SOLVED (MG/L) (00955)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL DIS. (MG/L) (00625)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL DIS. (MG/L) (00623)	PHOS-PHORUS TOTAL (MG/L) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) (00671)
	OCT 29...	2.7	0.12	23	96	<0.01	0.090	<0.020	0.16	<0.10	0.067	0.043
MAR 03...	4.6	0.28	30	172	<0.01	0.193	<0.020	0.19	<0.10	0.057	0.022	0.037
MAY 22...	2.6	0.18	20	125	<0.01	<0.050	0.026	0.60	0.30	0.152	0.024	0.032
JUN 30...	12	0.58	28	323	<0.01	<0.050	0.064	0.42	0.32	0.094	0.054	0.055
JUL 23...	9.3	0.49	24	258	<0.01	<0.050	<0.020	0.72	0.35	0.155	0.053	0.049
AUG 26...	17	0.67	21	324	<0.01	<0.050	<0.020	0.48	0.28	0.065	0.030	0.024

DATE	ALUM-INUM, DIS-SOLVED (UG/L) (01106)	ANTI-MONY, DIS-SOLVED (UG/L) (01095)	ARSENIC, DIS-SOLVED (UG/L) (01000)	BARIUM, DIS-SOLVED (UG/L) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L) (01010)	CADMIUM, DIS-SOLVED (UG/L) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L) (01030)	COBALT, DIS-SOLVED (UG/L) (01035)	COPPER, DIS-SOLVED (UG/L) (01040)
	OCT 29...	3.4	<1	<1	16	<1	<1	1.2	<1
MAR 03...	--	--	--	--	--	--	--	--	--
MAY 22...	5.5	<1	1	20	<1	<1	1.1	<1	--
JUN 30...	1.0	<1	3	49	<1	<1	1.2	<1	2.4
JUL 23...	2.3	<1	3	33	<1	<1	2.0	<1	2.0
AUG 26...	--	--	--	--	--	--	--	--	--

e-estimated

a-Lab total dissolved alkalinity, determined by fixed-endpoint titration method.

RIO GRANDE BASIN

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)
OCT 29...	49	<1	6.2	<1.0	<1	<1	<1	<1	<1.0
MAR 03...	24	--	15	--	--	--	--	--	--
MAY 22...	40	<1	11	1.0	<1	<1	<1	--	<1.0
JUN 30...	16	<1	15	3.3	<1	<1	<1	<1	2.0
JUL 23...	<10	<1	12	3.8	<1	<1	<1	<1	1.7
AUG 26...	<10	--	8.2	--	--	--	--	--	--

TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO

There are 24 tunnels or ditches, all of which are equipped with water-stage recorders and Parshall flumes or sharp-crested weirs. Records provided by Colorado Division of Water Resources. The locations and diversions of 7 selected diversions are given in the following list.

TO PLATTE RIVER BASIN

09013000 Alva B. Adams Tunnel diverts water from Grand Lake and Shadow Mountain Lake in NW¹/₄ sec.9, T.3 N., R.75 W., in Colorado River basin, to Lake Estes (Big Thompson River) in sec.30, T.5 N., R.72 W., in Platte River basin. For daily discharge, see elsewhere in this report.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09013000	8,870	15,000	27,230	26,570	15,360	1,850	776	4,850	16,920	32,070	33,370	20,910
Water year 1998, 203,800												

09050590 Harold D. Roberts Tunnel diverts water from Dillon Reservoir (Blue River) in sec.18, T.5 S., R.77 W., in Blue River basin, to North Fork South Platte River (tributary to South Platte, River) in SW¹/₄SW¹/₄ sec.4, T.7 S., R.74 W., in Platte River basin. Figures include a small amount of ground-water inflow between Dillon Reservoir and east portal of tunnel.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09050590	5,420	0	0	0	0	63	0	0	5,590	18,300	686	478
Water year 1998, 30,540												

TO ARKANSAS RIVER BASIN

09042000 Hoosier Pass Tunnel diverts water from tributaries of Blue River in Colorado River basin to Montgomery Reservoir (Middle Fork South Platte River) in sec.14, T.8 S., R.78 W., in Platte River basin; this water is again diverted to South Catamount Creek (tributary to Catamount Creek) in SE¹/₄ sec.14, T.13 S., R.69 W., in the Arkansas River basin. Collection conduits extending from the right bank of Crystal Creek (tributary to Spruce Creek) in sec.14, T.7 S., R.78 W., right bank of Spruce Creek in sec.23, T.7 S., R.78 W., right bank of McCullough Gulch in sec.26, T.7 S., R.78 W., right bank of Monte Cristo Creek in SW¹/₄NE¹/₄ sec.2, T.8 S., R.78 W., left bank of Bemrose Creek in SW¹/₄SW¹/₄ sec.6, T.8 S., R.77 W., and intercepting intermediate tributaries, transport diversions to north portal of the tunnel.
 REVISIONS (WATER YEARS)--WDR CO-86-1, WDR CO-86-2: 1984, 1985.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09042000	1,400	0	0	0	0	0	0	726	1,620	3,740	852	2,010
Water year 1998, 10,350												

09063700 Homestake Tunnel diverts water from Homestake Lake (Middle Fork Homestake Creek), in sec.17, T.8 S., R.81 W., in Eagle River basin, to Lake Fork in sec.9, T.9 S., R.81 W., in Arkansas River basin. Water is imported to Homestake Lake from tributaries of Homestake Creek by collection conduits that extend from right bank of French Creek in sec.28, T.7 S., R.81 W., and left bank of East Fork Homestake Creek in sec.9, T.8 S., R.81 W., and intercept intermediate tributaries.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09063700	417	0	0	0	0	8,260	736	988	6,680	6,870	982	0
Water year 1998, 24,940												

**TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO--Continued
TO ARKANSAS RIVER BASIN--Continued**

09073000 Twin Lakes Tunnel diverts water from tributaries of Roaring Fork River between headgates (in sec.21, T.11 S., R.83 W., and sec.2, T.11 S., R.83 W.), and west portal of Twin Lakes Tunnel (in sec.24, T.11 S., R.83 W.), in Colorado River basin, to North Fork Lake Creek in sec.22, T.11 S., R.82 W., in Arkansas River basin.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09073000	1270	611	338	101	32	22	13	8,470	19,570	13,310	2,900	804
Water year 1998, 47,450												

09077160 Charles H. Boustead Tunnel diverts water from the main stem and tributaries of Fryingpan River (tributary to Roaring Fork River), in Colorado River basin, to Lake Fork in sec.10, T.9 S., R.81 W., in Arkansas River basin. Water is transported to west portal of tunnel (at lat 39°14'44", long 106°31'47"), by a series of collection conduits extending between headgates on right bank of Sawyer Creek at lat 39°15'58", long 106°38'19" and right bank of Fryingpan River at lat 39°14'40", long 106°31'49", and intercepting intermediate tributaries.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09077160	184	184	191	190	185	195	169	3,250	28,180	18,390	2,740	137
Water year 1998, 53,990												

09077500 Busk-Ivanhoe Tunnel diverts water from Ivanhoe Lake (Ivanhoe Creek), tributary to Fryingpan River in sec.13, T.9 S., R.82 W., in Roaring Fork River basin, to Busk Creek (tributary to Lake Fork) in sec. 20, T.9 S., R.81 W., in Arkansas River basin.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Diversion	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
09077500	5.8	0	0	0	0	0	0	250	1,790	1,650	351	82
Water year 1998, 4,130												

TRANSMOUNTAIN DIVERSIONS NO LONGER PUBLISHED

Following is a list of Transmountain Diversions no longer being published in this report. Diversions, in acre-feet, for these sites are available from the State of Colorado, Division of Water Resources.

TO PLATTE RIVER BASIN		TO ARKANSAS RIVER BASIN		TO RIO GRANDE BASIN	
09010000	Grand River Ditch	09061500	Columbine Ditch	09118200	Tarbell Ditch
09012000	Eureka Ditch	09062000	Ewing Ditch	09121000	Tabor Ditch
09021500	Berthoud Pass Ditch	09062500	Wurtz Ditch	09341000	Treasure Pass Ditch
09022500	Moffat Water Tunnel	09115000	Larkspur Ditch	09347000	Don LaFont Ditches 1 & 2
09046000	Boreas Pass Ditch			09348000	Williams Creek Squaw Pass Ditch
09047300	Vidler Tunnel			09351000	Pine River- Weminuche Pass Ditch
				09351500	Weminuche Pass Ditch

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES
MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at low-flow partial-record sites and at miscellaneous sites and for special studies are given in separate tables.

CREST-STAGE PARTIAL-RECORD STATIONS

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device that will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS

Station name and number	Location and drainage area	Period of record	Water year 1998 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
PLATTE RIVER BASIN								
Lee Gulch at Littleton, CO (06709740)	Lat 39°35'47", long 105°00'57", in SW ¹ /4SW ¹ /4 sec.21, T.5 S., R.68W., Arapahoe County, on right bank 30 ft upstream from culvert under Prince St. and 0.6 mi upstream from mouth in Littleton. Drainage area not determined.	1980-98	7-23-98	11.15	110	^a 1983	16.00	444
Dutch Creek at Platte Canyon Drive, near Littleton, CO (06709910)	Lat 39°36'01", long 105°02'28", in NW ¹ /4SE ¹ /4 sec.19, T.5 S., R.69 W., Arapahoe County, on left bank 150 ft down-stream from bridge on Platte Canyon Road. Drainage area not determined.	1985-98	7-25-98	10.00	413	6-01-91	11.51	1,090
Littles Creek at Littleton, CO (06709995)	Lat 39°36'44", long 105°01'09", in SE ¹ /4SE ¹ /4 sec.17, T.5.S., R.68 W., Arapahoe County, 50 ft upstream from Rapp St., and 150 ft south of W. Alamo St. in Littleton. REVISED RECORDS.--WD CO-89-1: 1988. Drainage area not determined.	1985-98	7-25-98	13.01	not deter- mined	7-29-90	13.01	503
Weaver Creek near Lakewood, CO (06711305)	Lat 39°38'13", long 105°07'47", in NE ¹ /4NE ¹ /4 sec.8, T.5 S., R.69 W., Jefferson County, 500 ft upstream from Simms St., and 700 ft south of West Quincy Ave. Drainage area not determined.	1982-98	8-19-98	10.99	55.2	^a 1985	13.93	1,010
Little Dry Creek near Arapahoe Road, CO (06711515)	Lat 39°35'38", long 104°54'23", in NE ¹ /4NE ¹ /4 sec.29, T.5 S., R.67 W., Arapahoe County, on right bank, 800 ft downstream from Quebec St. (formerly published as Inflow to Holly Reservoir, 1985-86). Drain- age area not determined.	1985-98	7-25-98	9.64	491	^a 1985	10.52	800

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES
MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS--Continued

Station name and number	Location and drainage area	Period of record	Water year 1998 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
PLATTE RIVER BASIN- Continued								
Willow Creek at Dry Creek Road, near Englewood, CO (06711535)	Lat 39°34'49", long 104°54'42", in NW ¹ /4NE ¹ /4 sec.32, T.5 S., R.67 W., Arapahoe County, on left bank, upstream wingwall of bridge on Dry Creek Road over Willow Creek. Drainage area not determined.	1985-98	7-25-98	11.50	800	^a 1985	14.28	3,470
Little Dry Creek above Englewood, CO (06711555)	Lat 39°38'57", long 104°58'42", in SE ¹ /4NE ¹ /4 sec.3, T.5 S., R.68 W., Arapahoe County, on right bank 250 ft downstream from bridge on Clarkson St., and 800 ft south of Hampton Ave., in Cherry Hills Vil- lage. Drainage area not determined. Prior to April 2, 1992, gage was located at a site 300 ft upstream from the present location.	1982-98	7-25-98	7.65	504	^a 1983	15.64	1,060
Harvard Gulch at Colorado Blvd. at Denver, CO (06711570)	Lat 39°40'08", long 104°56'32", in SE ¹ /4SE ¹ /4 sec.25, T.4 S., R.67 W., Denver County, on left bank, 100 ft upstream from S. Jackson St., and 400 ft north of E. Yale Ave. Drainage area not determined.	1979-98	7-25-98	12.91	462	7-20-92	13.50	750
Harvard Gulch below University Blvd. at Denver, CO (06711572)	Lat 39°40'10", long 104°57'33", in SE ¹ /4SE ¹ /4 sec.26, T.4 S., R.68 W., Denver County, 200 ft, downstream from Uni- versity Blvd., and 600 ft north of East Yale Ave., in Denver. REVISED RECORDS.-- WDR-CO-92-1: 1989-91. Drainage area not determined.	1979-98	7-25-98	13.78	597	7-12-96	14.55	981
Harvard Gulch at Harvard Park at Denver, CO (06711575)	Lat 39°40'21", long 104°58'35", in NW ¹ /4SW ¹ /4 sec.26, T.4 S., R.68 W., Denver County, on left bank, 200 ft north of E. Harvard Ave. and 300 ft west of S. Ogden St., directly north of Porter Hospital. Drainage area not determined.	1979-98	7-25-98	14.90	573	7-12-96	16.25	1,100
Sanderson Gulch tributary at Lake- wood, CO (06711600)	Lat 39°41'19", long 105°04'54", in NE ¹ /4NW ¹ /4 sec.23, T.4 S., R.68 W., Jefferson County, 300 ft upstream from S. Wad- sworth Blvd., 300 ft south of W. Florida Ave. in Lake- wood. Drainage area is 0.38 mi ² .	1969-98	8-19-98	12.61	61	6-06-77	4.91	422
Sanderson Gulch at Mouth at Navajo St. at Denver, CO (06711609)	Lat 39°41'33", long 105°00'12", in SW ¹ /4NE ¹ /4 sec.21, T.4 S. R.68 W., Denver County, 200 ft south of Louisiana Ave., at Navajo St. Drainage area not determined.	1985-98	7-25-98	13.05	1,230	7-25-98	13.05	1,230
Weir Gulch upstream from 1st Avenue, at Denver, CO (06711618)	Lat 39°43'03", long 105°02'30", in NW ¹ /4SE ¹ /4 sec.7, T.4 S., R.68 W., Denver County, 250 ft upstream from 1st Ave., in Denver. Drainage area not determined.	1985-98	8-19-98	10.97	264	8-01-91	11.91	523

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES
MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS--Continued

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Station name and number	Location and drainage area	Period of record	Water year 1998 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
PLATTE RIVER BASIN- Continued								
Dry Gulch at Denver, CO (06711770)	Lat 39°44'03", long 105°02'20", in SW ¹ /4NE ¹ /4 sec.6, T.4 S., R.68 W., Denver County, 800 ft upstream from confluence with Lakewood Gulch, north of West 10th Ave., at Perry St., in Den- ver. Drainage area not determined.	1980-98	7-25-98	11.39	104	^a 1981	16.00	445
Lakewood Gulch at Denver, CO (06711780)	Lat 39°44'06", long 105°01'54", in SW ¹ /4NW ¹ /4 sec.5, T.4 S., R.68 W., Denver County, 2,000 ft downstream from con- fluence with Dry Gulch, near intersection of Knox Ct., and West 12th Ave., in Denver. Drainage area not determined.	1980-98	8-19-98	14.80	1,180	8-19-98	14.80	1,180
Sloans Lake, south Tributary at Denver, CO (06711820)	Lat 39°44'44", long 105°03'28", in NW ¹ /4SE ¹ /4 sec.36, T.3 S., R.69 W., Jefferson County, 50 ft south of 18th Ave., at Depew St. REVISED RECORDS.-- WDR CO-90-1: 1985-89. Drain- age area not determined.	1985-98	8-10-98	4.69	56	6-01-91	4.00	451
Westerly Creek at Aurora, CO (06714260)	Lat 39°44'43", long 104°52'48", in NW ¹ /4SW ¹ /4 sec.34, T.3 S., R.67 W., Adams County, 50 ft upstream from footbridge. 800 ft upstream from Montview Blvd., and 100 ft east of Boston St., in Aurora. REVISED RECORDS.--WDR CO-90- 1: 1983-85, 1987-88. Drain- age area not determined.	1982-98	8-19-98	13.30	852	^a 1983	14.45	1,530
Lena Gulch at Upper Site, at Golden, CO (06719535)	Lat 39°43'21", long 105°11'46", in NE ¹ /4NW ¹ /4 sec.11, T.4 S., R.70 W., Jefferson County, 60 ft north of US 40, and 2,200 ft southwest of US 6, in Golden. Drainage area not determined.	1985-98	7-25-98	11.04	not deter- mined	7-27-97	10.93	396
Lena Gulch at Lakewood, CO (06719560)	Lat 39°44'27", long 105°08'49", in SE ¹ /4SE ¹ /4 sec.31, T.3 S., R.69 W., Jefferson County on right bank 200 ft north of West 15th Drive at Arbutus Prior to July 6, 1988, at site approx. 500 ft downstream (formerly published as Lena Gulch at Alkire at Golden, CO, 1986-87). Drainage area is approximately 9.0 mi ² .	1974-79 1986-98	7-25-98	12.39	260	7-20-75	14.41	641
Hidden Lake Outflow at 65th Ave near Arvada, CO (06719775)	Lat 39°48'53", long 105°02'03", in SE ¹ /4SE ¹ /4 sec.6, T.3 S., R.68 W., Adams County, 30 ft downstream from 65th Ave. at Lowell Blvd. May 1985 to Aug. 1987 at site 200 ft downstream. Drainage area not determined.	1985-98	8-19-98	5.12	<25	7-31-97	2.58	26
Little Dry Creek at Westminster, CO (06719840)	Lat 39°49'34", long 105°02'25", in NW ¹ /4NE ¹ /4 sec.6, T.3 S., R.68 W., Adams County, 400 ft downstream from 72nd Ave. in Westminster. REVISED RECORDS.--WDR CO-89-1: 1986. Drainage area not determined.	1982-98	not deter- mined	not deter- mined	not deter- mined	6-01-91	13.09	1,280

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES
MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS--Continued

Station name and number	Location and drainage area	Period of record	Water year 1998 maximum			Period of record maximum			
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)	
ARKANSAS RIVER BASIN									
North Rockrimmon Creek above Del- monico Dr. at Colo- rado Springs, CO (07104050)	Lat 38°54'56", long 104°49'35", in SW ¹ /4NW ¹ /4 sec.18, T.13 S., R.66 W., El Paso County, on both banks, 0.2 mi west of Interstate 25, 0.3 mi upstream from mouth, and 2.0 mi down- stream from Woodmen Road. Drainage area 1.82 mi ² .	Apr to Sept 1998	6-21-98	4.94	412	6-21-98	4.94	412	
Big Arroyo near Thatcher, CO (07120620)	Lat 37°33'17", long 104°01'15", in NW ¹ /4NW ¹ /4 sec.4, T.29 S., R.59 W., Las Animas County, on left bank 2.4 mi from U.S. Route 350, 3.2 mi upstream from mouth, and 4.8 mi east of Thatcher. REVISED RECORDS.-- WDR CO-97-1:1987(M). Drainage area is 15.5 mi ² .	1983-90 ^b 1991-98	7-27-98	3.74	142	8-11-97	5.78	1,780	
Lockwood Canyon Creek near Thatcher, CO (07126390)	Lat 37°29'37", long 103°49'47", in SE ¹ /4NW ¹ /4 sec.30, T.29 S., R.57 W., Las Animas County, on right bank 0.6 mi downstream from Sharp Ranch, 5.3 mi upstream from mouth, and 16 mi southeast of Thatcher. REVISED RECORDS.--WDR CO-97- 1:1987(M). Drainage area is 41.4 mi ² .	1983-92 ^b 1993-98	7-27-98	unknown	169	5-22-87	^c 10.39	1,110	
Red Rock Canyon Creek at mouth, near Thatcher,CO (07126415)	Lat 37°30'54", long 103°43'25", in NW ¹ /4SE ¹ /4 sec.18, T.29 S., R.56 W., Las Animas County, on left bank 200 ft downstream from Welsh Canyon, 0.3 mi upstream from mouth, and 21 mi east of Thatcher. Drainage area is 48.8 mi ² .	1983-90 ^b 1991-98	9-30-98	7.29	311	5-22-87	10.02	1,510	
Chacuaco Creek at mouth, near Timpas, CO (07126470)	Lat 37°32'38", long 103°37'54", in SE ¹ /4SE ¹ /4 sec. 1, T.28 S., R.56W, Las Animas County, on right bank at Red Rocks Ranch, 1.5 mi upstream from mouth, 3.3 mi upstream from Bent Can- yon Creek, and 21 mi southeast of Timpas. Drainage area is 424 mi ² .	1983-92 ^b 1993-98	8-12-98	9.95	2,340	7-08-92	16.22	11,800	
Bent Canyon Creek at mouth near Tim- pas, CO (07126480)	Lat 37°35'19", long 103°38'51", in SE ¹ /4SE ¹ /4 sec.23, T.28 S., R.65 W., Las Animas County, on left bank 0.5 mi upstream from mouth, 0.6 mi southwest of Rourke Ranch house, 0.9 mi upstream from Iron Canyon, and 17 mi southeast of Timpas. Drainage area is 56.2 mi ² .	1983-90 ^b 1991-98	8-24-98	5.28	80	8-21-84	12.56	2,640	
Big Sandy Creek above Amity Canal Diversion, near Kornman, CO (07134000)	Lat 38°12'52", long 102°28'45", in NE ¹ /4NW ¹ /4 sec.21, T.21 S., R.45 W., Prowers County, on left bank 106 ft upstream from Amity Canal Diversion 7.0 mi upstream from mouth, and 9.0 mi northeast of Kornman. Drainage area is 3,426 mi ² .	1941-46 ^b 1996-98	7-31-98	11.85	est 50	9-3-42	^c 5.63	2,900	

a-Month or day of occurrence is unknown or not exact.
b-Previously operated as a continuous-record gaging station.
c-At different datum.

Special study and miscellaneous sites

Discharge measurements in the following table were made at a miscellaneous site. Several measurements of specific conductance and water temperature were obtained and are published in the "Supplemental Water-Quality Data For Gaging Stations" section of this report.

Discharge measurements made at special study and miscellaneous sites during water year 1998.**ARKANSAS RIVER BASIN**

Station no	Station name	Location and drainage area	Date	Discharge (ft ³ /s)
07079195	East Fork Arkansas River at Highway 91, near Leadville, CO	Lat 39°17'09", long 106°16'45", in NW ¹ / ₄ NE ¹ / ₄ , Sec. 12, T. 9 S., R. 80 W. Lake County, Hydrologic Unit 11020001, at culvert on State Highway 91, 1.6 mi north of Leadville. Drainage area is 35.0 mi ² .	10-01-97	19
			11-05-97	20
			12-03-97	14
			1-12-98	5.4
			2-04-98	7.9
			3-04-98	6.3
			4-01-98	10
			5-06-98	26
			6-03-98	174
			7-01-98	131
			8-05-98	72
			9-02-98	32

373125104001601 BIG ARROYO HILLS RAIN GAGE AT PIPELINE ROAD, NEAR HOUGHTON, CO

LOCATION.--Lat 37°31'25", long 104°00'16", in SE¹/₄ NE¹/₄ sec.16, T.29 S., R.59 W., Las Animas County, Hydrologic Unit 11020010, on Pinon Canyon Maneuver Site, approximately 100 ft west of Pipeline Road, 200 ft north of Military Supply Road 1, 4.9 mi south of Houghton, 5.9 mi southeast of Thatcher, and 35 mi northeast of Trinidad.

PRECIPITATION RECORDS

PERIOD OF RECORD.--June 1993 to October 1998 (discontinued), seasonal records only. Data not published for Oct. 1-7, 1998 are available.

GAGE.--Tipping-bucket rain gage and electronic data logger. Elevation of gage is 5,560 ft above sea level, from topographic map.

REMARKS.--Records good except for Oct. 24-26, which are poor. Records published for period of seasonal record only (Oct. 1 to Nov. 12 and Apr. 1 to Sept. 30). Daily data are not published when either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall during period of seasonal operation, 2.36 inches, July 27, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall during period of seasonal operation, 2.36 inches, July 27.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	---	---	---	e.00	.00	.00	.00	.30	.00
2	.00	.00	---	---	---	---	.22	.00	.00	.00	.00	.00
3	.00	.00	---	---	---	---	.00	.00	.00	.63	.49	.00
4	.00	.00	---	---	---	---	.00	.00	.00	.12	.18	.00
5	.00	.00	---	---	---	---	.00	.02	.04	.00	.00	.00
6	.00	.00	---	---	---	---	.00	.00	---	.38	.00	.00
7	.28	.00	---	---	---	---	.16	.00	---	.05	.00	.00
8	.01	.00	---	---	---	---	.73	.46	---	.05	.00	.00
9	.00	.02	---	---	---	---	.00	.06	e.00	.00	.00	.00
10	.00	.16	---	---	---	---	.00	.00	e.00	.00	.00	.00
11	.61	.00	---	---	---	---	.00	.00	.00	.00	.23	.00
12	.34	e.02	---	---	---	---	.00	.00	.00	.00	.00	.02
13	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.05
14	.00	---	---	---	---	---	.00	.00	.43	.00	.00	.00
15	.00	---	---	---	---	---	.17	.00	.19	.00	.00	.00
16	.00	---	---	---	---	---	.41	.00	.00	.13	.00	.00
17	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
18	.00	---	---	---	---	---	.13	.00	.00	.00	.00	.00
19	.00	---	---	---	---	---	.00	.00	.00	.00	.08	.00
20	.14	---	---	---	---	---	.00	.00	.00	.00	.00	.00
21	.01	---	---	---	---	---	.00	.00	.00	.04	.00	.00
22	.00	---	---	---	---	---	.00	.00	.00	.01	.00	.00
23	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.03
24	.03	---	---	---	---	---	.00	.00	.00	.00	.25	.00
25	.00	---	---	---	---	---	.01	.04	.00	.04	.08	.00
26	.16	---	---	---	---	---	1.23	.00	.00	.52	.01	.00
27	.00	---	---	---	---	---	.00	.00	.00	2.36	.00	.00
28	.00	---	---	---	---	---	.01	.00	.00	.03	.00	.00
29	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.02
30	.00	---	---	---	---	---	.00	.00	.00	.00	.00	1.73
31	.00	---	---	---	---	---	---	.00	---	.00	.14	---
TOTAL	1.58	---	---	---	---	---	3.07	0.58	---	4.36	1.76	1.85

e-Estimated.

372721103595601 TAYLOR ARROYO RAIN GAGE AT PIPELINE, NEAR SIMPSON, CO

LOCATION.--Lat 37°27'21", long 103°59'56", in SE¹/₄SW¹/₄ sec.3, T.30 S., R.59 W., Las Animas County, Hydrologic Unit 11020010, on Pinon Canyon Manuever Site, approximately 100 ft south of gas pipeline, 0.8 mi southwest of Taylor Arroyo, 3.4 mi northwest of Rock Crossing, 10 mi southeast of Simpson, and 36 mi northeast of Trinidad.

PRECIPITATION RECORDS

PERIOD OF RECORD.--October 1992 to current year.

GAGE.--Weighing-bucket rain gage and tipping-bucket rain gage and electronic data logger. Elevation of gage is 5,220 ft above sea level, from topographic map.

REMARKS.--Records good except for Oct.24-26, which are poor. Daily data are not published when either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 4.59 inches, July 27, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 4.59 inches, July 27.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.16	.00
2	.00	.00	.13	.00	.00	.00	.15	.00	.00	.00	.00	.00
3	.00	.00	.03	.00	.00	.00	.00	.00	.02	1.21	1.55	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	.17	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.01	.00	.00	.00	.01	.00	.35	.00	.00
7	.19	.00	.00	.00	.00	.10	.18	.00	.17	.10	.00	.00
8	.01	.01	.00	.00	.00	.00	.14	.43	.00	.02	.00	.00
9	.00	.02	.19	.00	.00	.00	.00	.03	.00	.00	.00	.00
10	.00	.05	.23	.00	.00	.00	.00	.01	.00	.00	.00	.01
11	.32	.00	.05	.00	.00	.00	.00	.00	.00	.00	.05	.00
12	.18	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.25
14	.00	.01	.00	.00	.00	.00	.00	.00	.24	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.20	.00	.15	.00	.00	.00
16	.00	.00	.00	.00	.33	.12	.23	.00	.00	.22	.00	.00
17	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.26	.27	.05	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.02	.03	.01	.00	.00	.00	.06	.00
20	.14	.26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.01	.24	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.20	.00	.00
23	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00	.01
24	.08	.00	.06	.00	.00	.00	.00	.00	.00	.00	.03	.00
25	.01	.00	.01	.00	.00	.00	.02	.04	.00	.01	.17	.00
26	.02	.00	.00	.00	.00	.00	1.04	.00	.00	.28	.00	.00
27	.00	.01	.00	.00	.00	.05	.01	.00	.00	4.59	.00	.00
28	.00	.38	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00
29	.00	.03	.00	.00	---	.00	.00	.00	.00	.00	.00	.05
30	.00	.00	.00	.00	---	.03	.00	.00	.00	.02	.00	2.00
31	.00	---	.00	.00	---	.06	---	.00	---	.00	.20	---
TOTAL	0.97	1.03	0.80	0.01	0.65	0.66	2.03	0.52	0.58	7.10	2.39	2.32

WTR YR 1998 TOTAL 19.06

372756103513001 LOCKWOOD CANYON RAIN GAGE, NEAR ROCK CROSSING, CO

LOCATION.--Lat 37°27'56", long 103°51'30", in NW¹/₄ NW¹/₄ sec.19, T.30 S., R.58 W., Las Animas County, Hydrologic Unit 11020010, on Pinon Canyon Maneuver Site, approximately 100 ft north of Military Supply Road 4, 5.8 mi east of Rock Crossing, 13.0 mi southeast of Houghton, and 40 mi southwest of La Junta.

PRECIPITATION RECORDS

PERIOD OF RECORD.--May 1993 to October 1998 (discontinued), seasonal records only. Data not published for Oct. 1-7, 1998, are available.

GAGE.--Tipping-bucket rain gage and electronic data logger. Elevation of gage is 5,030 ft above sea level, from topographic map.

REMARKS.--Records good except for Oct. 24-26, which are poor. Records published for period of seasonal operation only (Oct. 1 to Nov. 13 and Apr. 1 to Sept. 30). Daily data that are not published are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 4.61 inches, July 27, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 4.61 inches, July 27.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	---	---	---	e.00	.00	.00	.00	.13	.00
2	.00	.00	---	---	---	---	.22	.00	.00	.00	.00	.00
3	.00	.00	---	---	---	---	.00	.00	.00	.31	.71	.00
4	.00	.00	---	---	---	---	.00	.00	.00	.06	.28	.00
5	.00	.00	---	---	---	---	.00	.00	.05	.00	.00	.00
6	.00	.00	---	---	---	---	.02	.03	.00	.08	.00	.00
7	.23	.00	---	---	---	---	.17	.00	.01	.20	.00	.00
8	.01	.01	---	---	---	---	.33	.31	.00	.05	.00	.00
9	.00	.02	---	---	---	---	.00	.04	.00	.00	.00	.00
10	.00	.05	---	---	---	---	.00	.00	.00	.00	.02	.00
11	.62	.00	---	---	---	---	.00	.00	.00	.00	.02	.00
12	.18	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
13	.02	e.00	---	---	---	---	.00	.00	.00	.00	.00	.08
14	.00	---	---	---	---	---	.00	.00	.54	.00	.00	.20
15	.00	---	---	---	---	---	.29	.00	.14	.00	.00	.00
16	.00	---	---	---	---	---	.18	.00	.00	.07	.00	.00
17	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
18	.00	---	---	---	---	---	.09	.00	.00	.00	.00	.00
19	.00	---	---	---	---	---	.00	.00	.00	.00	.39	.00
20	.05	---	---	---	---	---	.00	.00	.00	.00	.01	.00
21	.04	---	---	---	---	---	.00	.00	.00	.00	.00	.00
22	.00	---	---	---	---	---	.00	.00	.00	.37	.00	.00
23	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
24	.15	---	---	---	---	---	.00	.00	.00	.00	.09	.00
25	.00	---	---	---	---	---	.01	.04	.00	.00	.47	.00
26	.09	---	---	---	---	---	1.13	.00	.00	.59	.00	.00
27	.00	---	---	---	---	---	.02	.00	.00	4.61	.00	.00
28	.00	---	---	---	---	---	.01	.00	.00	.10	.00	.00
29	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.01
30	.00	---	---	---	---	---	.00	.02	.01	.00	.00	3.24
31	.00	---	---	---	---	---	---	.00	---	.00	.14	---
TOTAL	1.39	---	---	---	---	---	2.47	0.42	0.75	6.44	2.26	3.53

e-Estimated.

373315103493101 RED ROCK CANYON RAIN GAGE, AT RED ROCK ROAD, CO

LOCATION.--Lat 37°33'15", long 103°49'31", in NE¹/₄NE¹/₄ sec.6, T.29 S., R.57 W., Las Animas County, Hydrologic Unit 11020010, on Pinon Canyon Maneuver Site, approximately 150 ft west of Red Rock Road, 0.4 mi south of Military Supply Road 1, 12.2 mi southeast of Houghton, and 33 mi southwest of La Junta.

PRECIPITATION RECORDS

PERIOD OF RECORD.--October 1993 to current year. Site was part of a hydrologic study 1985-92, data published elsewhere.

GAGE.--Weighing- or tipping-bucket rain gage. Elevation of gage is 4,860 ft above sea level, from topographic map.

REMARKS.--Records good, except for Oct. 24-26, which are poor. Daily data are not published when either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.75 inches, July 19, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.83 inches, Sept. 30.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.18	.00
2	.00	.00	.19	.00	.00	.00	.31	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.01	.21	.24	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.19	.46	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00
6	.00	.01	.00	.01	.00	.00	.12	.02	.00	.28	.00	.00
7	.32	.01	.00	.00	.00	.13	.47	.00	.24	.19	.00	.00
8	.01	.00	.00	.00	.00	.00	.16	.24	.00	.04	.00	.00
9	.00	.02	.48	.00	.00	.00	.00	.05	.00	.00	.00	.00
10	.00	.07	.30	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.74	.00	.04	.00	.00	.00	.00	.00	.00	.00	.05	.00
12	.35	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.12	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.06
14	.00	.07	.00	.00	.00	.00	.00	.00	.34	.00	.00	.06
15	.00	.01	.00	.00	.00	.00	.53	.02	.14	.00	.00	.00
16	.00	.00	.00	.00	.18	.19	.13	.00	.00	.02	.00	.00
17	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.42	.51	.07	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.06	.10	.00	.00	.00	.00	.32	.00
20	.06	.09	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.03	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.13	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.12	.00	.19	.00	.00	.00	.00	.00	.00	.01	.34	.00
25	.00	.00	.03	.00	.00	.00	.03	.01	.00	.01	.20	.00
26	.09	.00	.00	.00	.00	.00	1.12	.00	.00	1.24	.00	.00
27	.00	.08	.00	.00	.00	.11	.03	.00	.00	.71	.01	.00
28	.00	.61	.00	.00	.00	.00	.01	.00	.00	.23	.00	.00
29	.00	.16	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.14	.00	.00	.05	.01	.00	1.83
31	.01	---	.00	.00	---	.07	---	.00	---	.00	.10	---
TOTAL	1.85	1.19	1.36	0.01	0.68	1.25	2.98	0.34	0.84	3.15	1.90	1.95
Water Year 1998	Total 17.50											

373622103490001 STAGE CANYON RAIN GAGE AT RED ROCK ROAD, CO

LOCATION.--Lat 37°36'22", long 103°49'00", in NE¹/₄SW¹/₄ sec.17, T.28 S., R.57 W., Las Animas County, Hydrologic Unit 11020010, on Pinon Canyon Maneuver Site, approximately 80 ft east of Red Rock Road, 3.2 mi north of Military Supply Road 1, 12.5 mi east of Houghton, and 30 mi southwest of La Junta.

PRECIPITATION RECORDS

PERIOD OF RECORD.--June 1993 to October 1998 (discontinued), seasonal records only. Data not published for Oct.1-6, 1998 are available.

GAGE.--Tipping-bucket rain gage and electronic data logger. Elevation of gage is 4,940 ft above sea level, from topographic map.

REMARKS.--Records good except for Oct. 24-26, which are poor. Records published for period of seasonal operation only (Oct. 1 to Nov. 13 and Apr. 1 to Sept. 30). Daily data that are not published during this period are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall during period of seasonal operation, 2.42 inches, May 25, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall during period of seasonal operation, 1.33 inches, July 26.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	---	---	---	e .00	.00	.00	.00	.22	.00
2	.00	.00	---	---	---	---	.36	.00	.00	.00	.00	.00
3	.00	.00	---	---	---	---	.01	.00	.00	.13	.24	.00
4	.00	.00	---	---	---	---	.00	.00	.00	.22	.24	.00
5	.00	.00	---	---	---	---	.00	.02	.16	.00	.00	.00
6	.00	.00	---	---	---	---	.54	.02	.01	.23	.00	.00
7	.27	.01	---	---	---	---	.23	.01	.35	.15	.00	.00
8	.01	.00	---	---	---	---	.46	.37	.12	.02	.00	.00
9	.00	.02	---	---	---	---	.00	.04	.00	.00	.00	.00
10	.00	.08	---	---	---	---	.00	.00	.00	.05	.00	.00
11	.59	.00	---	---	---	---	.00	.00	.00	.00	.88	.00
12	.41	.00	---	---	---	---	.00	.00	.00	.00	.01	.19
13	.11	e .00	---	---	---	---	.00	.00	.00	.13	.00	.07
14	.00	---	---	---	---	---	.00	.00	.25	.00	.00	.00
15	.00	---	---	---	---	---	.51	.04	.15	.00	.37	.00
16	.00	---	---	---	---	---	.07	.00	.00	.04	.00	.00
17	.00	---	---	---	---	---	.00	.00	.00	.00	.01	.00
18	.00	---	---	---	---	---	.09	.00	.00	.00	.00	.00
19	.00	---	---	---	---	---	.00	.00	.00	.00	.27	.00
20	.02	---	---	---	---	---	.00	.00	.00	.00	.56	.00
21	.01	---	---	---	---	---	.00	.00	.00	.00	.00	.00
22	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
23	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
24	.07	---	---	---	---	---	.00	.00	.00	.01	.74	.00
25	.00	---	---	---	---	---	.05	.00	.00	.30	.26	.00
26	.07	---	---	---	---	---	1.24	.00	.00	1.33	.01	.00
27	.00	---	---	---	---	---	.04	.00	.00	.38	.03	.00
28	.00	---	---	---	---	---	.01	.00	.00	.08	.00	.00
29	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
30	.00	---	---	---	---	---	.00	.00	.00	.00	.00	1.16
31	.02	---	---	---	---	---	---	.00	---	.00	.06	---
TOTAL	1.58	---	---	---	---	---	3.61	0.50	1.04	3.07	3.90	1.42

e-Estimated.

373232103555201 BEAR SPRINGS HILLS RAIN GAGE NEAR HOUGHTON, CO

LOCATION.--Lat 37°32'32", long 103°55'52", in SW¹/₄SW¹/₄ sec.5, T.29 S., R.58 W., Las Animas County, Hydrologic Unit 11020010, on Pinon Canyon Maneuver Site, approximately 100 ft north of Military Supply Road 3, 5.8 mi east of Pipeline Road, 6.7 mi southeast of Houghton, and 37 mi southwest of La Junta.

PRECIPITATION RECORDS

PERIOD OF RECORD.--October 1993 to current year. Site was part of a hydrologic study 1985-92, data published elsewhere.

GAGE.--Weighing- or tipping-bucket rain gage with electronic data logger. Elevation of gage is 5,200 ft above sea level, from topographic map.

REMARKS.--Records good except Oct. 24-26 and June 15, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.82 inches, May 3, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.53 inches, Sept. 30, but may have been higher during instrument malfunction, June 10-13 and June 16 to Aug. 19.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	.00
2	.00	.00	.15	.00	.00	.00	.30	.00	.00	---	---	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	.00
5	.00	.00	.00	.00	.00	.00	.00	.02	.06	---	---	.00
6	.00	.00	.00	.02	.00	.00	.00	.01	.00	---	---	.00
7	.16	.01	.00	.00	.00	.13	.31	.00	.46	---	---	.00
8	.00	.00	.00	.00	.00	.00	.08	.43	.00	---	---	.00
9	.00	.02	.32	.00	.00	.00	.00	.09	e.00	---	---	.00
10	.00	.14	.37	.00	.00	.00	.00	.00	---	---	---	.00
11	.34	.00	.00	.00	.00	.00	.00	.00	---	---	---	.00
12	.36	.02	.00	.00	.00	.00	.00	.00	---	---	---	.01
13	.03	.02	.00	.00	.00	.00	.00	.00	---	---	---	.04
14	.00	.07	.00	.00	.00	.00	.00	.00	e.38	---	---	.01
15	.00	.00	.00	.00	.01	.00	.59	.00	e.07	---	---	.00
16	.00	.00	.00	.00	.30	.13	.21	.00	---	---	---	.00
17	.00	.00	.00	.00	.02	.00	.00	.00	---	---	---	.00
18	.00	.00	.00	.00	.29	.39	.13	.00	---	---	---	.00
19	.00	.00	.00	.00	.07	.09	.00	.00	---	---	---	.00
20	.09	.21	.00	.00	.01	.00	.00	.00	---	---	e.00	.00
21	.01	.10	.00	.00	.00	.00	.00	.00	---	---	.00	.00
22	.00	.00	.02	.00	.00	.00	.00	.00	---	---	.00	.00
23	.00	.00	.10	.00	.00	.00	.00	.00	---	---	.00	.01
24	.03	.00	.13	.00	.00	.00	.00	.00	---	---	.20	.00
25	.00	.00	.04	.00	.00	.00	.02	.03	---	---	.08	.00
26	.10	.00	.00	.00	.00	.00	1.26	.00	---	---	.01	.00
27	.00	.22	.00	.00	.00	.09	.01	.00	---	---	.00	.00
28	.00	.72	.00	.00	.00	.00	.01	.00	---	---	.00	.00
29	.00	.03	.00	.00	---	.00	.00	.00	---	---	.00	.01
30	.00	.00	.00	.00	---	.10	.00	.00	---	---	.00	1.53
31	.00	---	.00	.00	---	.06	---	.00	---	---	.15	---
TOTAL	1.12	1.56	1.13	0.02	0.70	0.99	2.92	0.58	---	---	---	1.61

e-Estimated.

373823103465601 BENT CANYON RAIN GAGE ABOVE STAGE CANYON NEAR DELHI, CO

LOCATION.--Lat 37°38'23", long 103°46'56", in SW¹/₄NW¹/₄ sec.3, T.28 S., R.57 W., Las Animas County, Hydrologic Unit 11020010, on Pinon Canyon Maneuver Site, approximately 80 ft north of Military Supply Road 1A, 1.2 mi above Stage Canyon, 6.7 mi west of Rourke Road, 12.9 mi east of Delhi, and 27 mi south of La Junta.

PRECIPITATION RECORDS

PERIOD OF RECORD.--October 1993 to current year. Site was part of a hydrologic study 1985-92, data published elsewhere.

GAGE.--Weighing- or tipping-bucket rain gage and electronic data logger. Elevation of gage is 4,860 ft above sea level, from topographic map.

REMARKS.--Records good except for Oct. 24-26, which are poor. Daily data are not published when either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.55 inches, May 3, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.12 inches, Aug. 24.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.41	.01
2	.00	.00	.22	.00	.00	.00	.28	.00	.01	.00	.00	.00
3	.00	.00	.01	.00	.00	.00	.00	.00	.00	.12	.18	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	.31	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.15	.00	.00	.00
6	.00	.00	.00	.05	.00	.00	.09	.00	.01	.15	.00	.00
7	.22	.01	.00	.00	.00	.19	.37	.01	.36	.15	.00	.00
8	.01	.00	.00	.00	.00	.00	.12	.32	.01	.17	.00	.00
9	.00	.04	.53	.00	.00	.00	.00	.08	.04	.00	.01	.00
10	.00	.07	.39	.00	.00	.00	.00	.00	.04	.57	.00	.00
11	.61	.00	.02	.00	.00	.00	.00	.07	.00	.00	1.00	.00
12	.43	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
13	.06	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	.05
14	.00	.05	.00	.00	.00	.00	.00	.00	.27	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.45	.11	.21	e.00	.28	.00
16	.00	.00	.00	.00	.24	.16	.03	.00	.00	---	.00	.00
17	.00	.00	.00	.00	.01	.00	.01	.00	.00	---	.00	.00
18	.00	.00	.00	.00	.11	.58	.07	.00	.00	---	.00	.00
19	.00	.00	.00	.00	.05	.14	.00	.00	.00	---	.75	.00
20	.03	.13	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
21	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
23	.00	.00	.16	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.10	.00	.17	.00	.00	.00	.00	.00	.00	.01	1.12	.00
25	.00	.00	.08	.00	.00	.00	.04	.06	.00	.14	.26	.00
26	.15	.00	.00	.00	.00	.00	1.01	.11	.00	.97	.01	.00
27	.00	.17	.00	.00	.00	.12	.05	.06	.00	.29	.01	.00
28	.00	.66	.00	.00	.00	.00	.00	.07	.00	.14	.00	.00
29	.00	.41	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.12	.00	.07	.00	.00	.00	.69
31	.01	---	.00	.07	---	.03	---	.00	---	.00	.01	---
TOTAL	1.63	1.55	1.58	0.12	0.41	1.34	2.52	0.96	1.10	---	4.35	0.86

e-Estimated.

3737061033901 IRON CANYON RAIN GAGE, NEAR ROURKE RANCH, CO

LOCATION.--Lat 37°37'06", long 103°39'01", in SE¹/₄SE¹/₄ sec.11, T.28 S., R.56 W., Las Animas County, Hydrologic Unit 11020010, on Pinon Canyon Maneuver Site, approximately 0.2 mi west of Rourke Road, 1.8 mi north of Rourke Ranch, 15.2 mi southeast of Ayer, and 27 mi southwest of La Junta.

PRECIPITATION RECORDS

PERIOD OF RECORD.--June 1993 to October 1998 (discontinued), seasonal records only. Data not published for Oct. 1-6, 1998 are available.

GAGE.--Tipping-bucket rain gage and electronic data logger. Elevation of gage is 4,680 ft above sea level, from topographic map.

REMARKS.--Records good except for Sept. 30, which are poor. Records published for period of seasonal record only (Oct. 1 to Nov. 13 and Apr. 1 to Sept. 30). Daily data that are not published during this period are either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall during period of seasonal operation, 2.68 inches, May 17, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall during period of seasonal operation, 1.18 inches, Apr. 26.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	e .00	.00	.00	.00	.02	.00
2	---	---	---	---	---	---	.09	.00	.00	.00	.03	.00
3	---	---	---	---	---	---	.01	.00	.02	.10	.06	.00
4	---	---	---	---	---	---	.00	.00	.00	.00	.15	.00
5	---	---	---	---	---	---	.00	.01	.25	.00	.08	.00
6	---	---	---	---	---	---	.17	.01	.00	.45	.00	.00
7	---	---	---	---	---	---	.32	.00	.14	.18	.00	.00
8	---	---	---	---	---	---	.22	.13	.00	.01	.00	.00
9	---	---	---	---	---	---	.00	.02	.00	.00	.00	.00
10	---	---	---	---	---	---	.00	.00	.00	.04	.04	.00
11	---	---	---	---	---	---	.00	.00	.00	.00	.21	.00
12	---	---	---	---	---	---	.00	.00	.00	.00	.13	.00
13	---	---	---	---	---	---	.00	.00	.00	.02	.00	.01
14	---	---	---	---	---	---	.00	.00	.19	.00	.00	.00
15	---	---	---	---	---	---	.38	.04	.25	.00	.03	.00
16	---	---	---	---	---	---	.11	.00	.00	.25	.01	.00
17	---	---	---	---	---	---	.00	.00	.00	.01	.00	.00
18	---	---	---	---	---	---	.08	.00	.00	.00	.00	.00
19	---	---	---	---	---	---	.00	.00	.00	.00	.01	.00
20	---	---	---	---	---	---	.00	.00	.00	.00	.09	.00
21	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
22	---	---	---	---	---	---	.00	.00	.00	.34	.00	.00
23	---	---	---	---	---	---	.00	.00	.00	.27	.00	.00
24	---	---	---	---	---	---	.00	.00	.00	.21	.03	.00
25	---	---	---	---	---	---	.00	.00	.00	.09	.00	.00
26	---	---	---	---	---	---	1.18	.00	.00	.10	.04	.00
27	---	---	---	---	---	---	.01	.00	.00	.74	.00	.00
28	---	---	---	---	---	---	.00	.00	.00	.13	.00	.00
29	---	---	---	---	---	---	.00	.00	.00	.08	.00	.00
30	---	---	---	---	---	---	.00	.00	.01	.00	.00	e .26
31	---	---	---	---	---	---	---	.00	---	.00	.00	---
TOTAL	---	---	---	---	---	---	2.57	0.21	0.86	3.02	0.93	0.27

e-Estimated.

372959104092201 CANTONMENT RAIN GAGE NEAR CEMETERY, AT SIMPSON, CO

LOCATION.--Lat 37°29'59", long 104°09'22", in SE¹/₄SE¹/₄ sec.19, T.29 S., R.60 W., Las Animas County, Hydrologic Unit 11020010, on Pinon Canyon Maneuver Site, approximately 200 ft north of Military Supply Road 1, 0.1 mi east of Simpson Cemetery, 0.4 mi east of Highway 350, and 32 mi northeast of Trinidad.

PRECIPITATION RECORDS

PERIOD OF RECORD.--July 1993 to current year.

GAGE.--Weighing- or tipping-bucket rain gage and electronic data logger. Elevation of gage is 5,630 ft above sea level, from topographic map.

REMARKS.--Records good except for Oct. 24-26, which are poor. Daily data are not published when either missing or of unacceptable quality.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 1.44 inches, Apr. 26, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.44 inches, Apr. 26.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
2	.00	.00	.21	.00	.00	.00	.26	.00	.00	.00	---	---
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.13	---	---
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15	---	---
5	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	---	---
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	---	---
7	.19	.00	.00	.01	.00	.17	.09	.00	.11	.06	---	---
8	.00	.01	.00	.00	.00	.00	.11	.23	.00	.02	---	---
9	.00	.05	.16	.00	.00	.00	.00	.05	.00	.00	---	---
10	.00	.16	.48	.00	.00	.00	.00	.00	.00	.00	---	---
11	.18	.00	.10	.00	.00	.00	.00	.00	.00	.00	---	---
12	.22	.03	.00	.00	.00	.00	.00	.00	.00	.00	---	---
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
14	.00	.04	.00	.00	.00	.00	.00	.00	.33	.00	---	---
15	.00	.00	.00	.00	.00	.00	.19	.00	.14	.02	---	---
16	.00	.00	.00	.00	.58	.13	.26	.00	.00	.07	---	---
17	.00	.00	.00	.00	.01	.00	.00	.00	.00	e.00	---	---
18	.00	.00	.00	.00	.28	.58	.21	.00	.00	---	---	---
19	.00	.04	.00	.00	.00	.07	.00	.00	.00	---	---	---
20	.18	.28	.00	.00	.00	.00	.00	.00	.00	---	---	---
21	.02	.28	.00	.00	.00	.00	.00	.00	.00	---	---	---
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.12	---	---
23	.00	.00	.11	.00	.00	.00	.00	.00	.00	.01	---	---
24	.06	.00	.13	.00	.00	.00	.00	.00	.00	.00	---	---
25	.00	.00	.04	.00	.00	.00	.00	.09	.00	---	---	---
26	.21	.00	.00	.00	.00	.00	1.44	.00	.00	---	---	---
27	.00	.02	.00	.00	.00	.00	.00	.00	.00	---	---	---
28	.00	.98	.00	.00	.00	.00	.02	.00	.00	---	---	---
29	.00	.12	.00	.00	---	.00	.00	.00	.00	---	---	---
30	.00	.00	.00	.00	---	.00	.00	.00	.00	---	---	---
31	.00	---	.00	.00	---	.08	---	.00	---	---	---	---
TOTAL	1.06	2.01	1.23	0.01	0.87	1.03	2.58	0.37	0.61	---	---	---

e-Estimated.

MISCELLANEOUS STATION ANALYSES

DATE	TIME	DIS-CHARGE, INST. FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	DATE	TIME	DIS-CHARGE, INST. FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)		
06614800 MICHIGAN RIVER NEAR CAMERON PASS, CO (LAT 40 29 46N LONG 105 51 52W)											
OCT 1997	07...	1600	2.9	57	7.0	MAY 1998	27...	1410	11	37	.5
NOV	13...	1405	.86	60	1.0	JUN	19...	1107	6.5	44	3.5
JAN 1998	07...	1415	.42	57	1.0	JUL	28...	1625	4.4	42	9.5
MAR	02...	1510	.46	67	1.0	AUG	28...	1049	2.2	50	8.0
APR	16...	1508	.36	58	1.0						
06697100 TARRYALL CREEK BELOW PARK GULCH NEAR COMO, CO (LAT 39 16 54N LONG 105 47 11W)											
OCT 1997	01...	1121	11	187	9.5						
06701970 SPRING CREEK ABOVE MOUTH NEAR SOUTH PLATTE, CO (LAT 39 23 37N LONG 105 11 01W)											
OCT 1997	08...	1105	1.3	195	12.4	APR 1998	27...	1245	6.6	175	12.0
MAR 1998	24...	1125	3.8	210	8.0						
06706800 BUFFALO CREEK AT MOUTH AT BUFFALO CREEK, CO (LAT 39 23 27N LONG 105 16 15W)											
OCT 1997	08...	1320	8.3	166	14.7	JUN 1998	03...	1335	52	71	14.0
APR 1998	27...	1510	46	95	10.0	JUL	23...	1500	33	62	17.5
MAY	11...	1347	54	84	12.0	JUL	24...	1205	24	91	17.5
06709000 PLUM CREEK NEAR SEDALIA, CO (LAT 39 26 18N LONG 104 58 57W)											
NOV 1997	12...	1245	27	375	5.5	JUN 1998	09...	1049	53	247	17.0
JAN 1998	15...	1430	29	380	2.5	JUL	08...	1233	14	328	24.0
APR	22...	1225	154	202	12.0	AUG	13...	1117	28	340	22.5
MAY	05...	1415	406	121	15.0	SEP	08...	1340	13	443	26.0
	14...	1250	328	122	12.5						
06709530 PLUM CREEK AT TITAN RD NEAR LOUVIERS, CO (LAT 39 30 27N LONG 105 01 23W)											
OCT 1997	10...	1230	.22	437	16.0	JUN 1998	09...	1325	57	261	21.0
NOV	12...	1018	29	370	1.5	JUL	23...	1118	27	327	20.0
JAN 1998	15...	1253	12	388	.0	JUL	08...	1500	10	354	23.0
APR	22...	1018	169	206	8.0	AUG	13...	1337	21	362	24.5
MAY	01...	1315	395	166	12.5	SEP	09...	1200	3.4	408	21.5
	14...	1530	324	146	14.0						
06710247 SOUTH PLATTE RIVER BELOW UNION AVE, AT ENGLEWOOD, CO (LAT 39 37 58N LONG 105 00 54W)											
OCT 1997	09...	1433	143	616	16.8	APR 1998	28...	1430	818	350	13.0
NOV	06...	0942	61	1060	7.0	JUN	02...	1010	574	1220	16.5
JAN 1998	20...	1108	79	732	4.0	JUL	01...	1110	113	999	20.5
MAR	05...	1313	66	445	9.5	AUG	04...	0830	1170	274	19.5

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
06710385 BEAR CREEK ABOVE EVERGREEN, CO (LAT 39 37 58N LONG 105 19 59W)									
OCT 1997					MAY 1998				
03...	0945	37	61	7.0	14...	1123	279	69	5.5
17...	1330	32	62	5.5	JUN				
DEC					09...	1341	143	53	9.0
08...	1200	25	98	.5	JUL				
22...	1245	23	79	.0	08...	1055	76	51	12.0
FEB 1998					AUG				
12...	1000	17	82	.0	11...	1055	129	53	11.5
MAR					SEP				
31...	1210	37	168	.5	09...	0919	57	56	11.0
APR									
17...	1232	64	125	2.0					
06710605 BEAR CREEK ABOVE BEAR CREEK LAKE NEAR MORRISON, CO (LAT 39 39 08N LONG 105 10 23W)									
OCT 1997					APR 1998				
17...	1153	30	173	6.5	24...	1409	304	220	10.0
DEC					MAY				
08...	1310	32	244	1.0	15...	1108	430	135	8.0
JAN 1998					JUN				
16...	0950	32	294	.0	10...	1235	157	132	12.0
FEB					JUL				
12...	1145	19	348	.0	08...	1233	59	135	17.0
MAR					AUG				
23...	1125	63	289	4.5	10...	1305	134	110	16.0
06710995 TURKEY CREEK AT MOUTH OF CANYON, NEAR MORRISON, CO (LAT 39 37 13N LONG 105 11 41W)									
MAR 1998					JUL 1998				
09...	1357	4.6	470	.0	17...	1602	.48	498	22.0
MAY					AUG				
20...	1108	72	172	10.0	11...	0925	6.0	346	14.0
JUN									
01...	1250	27	223	13.5					
10...	1105	16	289	11.0					
06712000 CHERRY CREEK NEAR FRANKTOWN, CO (LAT 39 21 21N LONG 104 45 46W)									
OCT 1997					JUN 1998				
17...	1006	3.8	226	6.5	10...	1128	5.6	249	15.0
FEB 1998					JUL				
25...	1030	24	178	1.0	27...	1135	3.2	214	20.5
MAR					AUG				
27...	1242	38	205	11.0	07...	1127	16	230	19.0
APR					SEP				
30...	1650	22	256	14.5	02...	1145	4.0	235	18.0
MAY									
11...	1230	20	264	14.5					
393109104464500 CHERRY CREEK NEAR PARKER, CO (LAT 39 31 09N LONG 104 46 45W)									
OCT 1997					MAY 1998				
15...	1300	2.2	751	16.5	11...	1445	38	400	20.0
28...	1100	2.0	670	12.5	JUN				
JAN 1998					03...	0932	5.4	579	13.5
15...	1140	7.2	515	2.5	JUL				
FEB					27...	1511	6.0	612	20.0
25...	1140	35	322	3.5	AUG				
MAR					04...	1120	37	360	16.5
02...	1100	15	494	3.0	SEP				
APR					01...	1435	8.9	581	18.0
23...	1115	57	324	12.0					

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
06713000 CHERRY CREEK BELOW CHERRY CREEK LAKE, CO (LAT 39 39 12N LONG 104 51 41W)									
JAN 1998					MAY 1998				
15...	1040	19	1090	3.5	13...	1518	82	855	16.5
FEB					JUN				
25...	1240	29	1050	5.0	04...	1107	7.9	875	17.0
MAR					AUG				
23...	1230	86	996	7.5	12...	1130	92	812	22.0
APR					SEP				
20...	1545	84	914	9.0	09...	1435	12	827	23.0
29...	1210	82	883	12.0					
06713300 CHERRY CREEK AT GLENDALE, CO (LAT 39 42 22N LONG 104 56 13W)									
OCT 1997					APR 1998				
09...	1103	18	1270	12.0	23...	1348	98	940	15.0
28...	1410	104	645	7.5	MAY				
NOV					13...	1300	102	874	18.5
10...	1050	40	1420	7.5	20...	1220	39	802	18.5
DEC					JUN				
08...	1440	20	1330	7.0	03...	1157	22	1030	14.0
JAN 1998					JUL				
15...	1300	24	1260	6.0	09...	1203	29	873	22.5
FEB					AUG				
10...	1400	27	1230	8.0	12...	1410	101	863	24.5
MAR					SEP				
10...	1210	33	1010	6.0	02...	1440	25	1030	24.0
06713500 CHERRY CREEK AT DENVER, CO (LAT 39 44 58N LONG 105 00 08W)									
OCT 1997					JUN 1998				
09...	1215	24	1070	16.0	10...	1440	27	1040	21.0
29...	1201	56	892	10.0	JUL				
JAN 1998					09...	1020	48	745	20.5
15...	1340	31	956	6.5	AUG				
MAR					06...	1347	89	897	24.0
20...	1130	63	378	7.0	SEP				
APR					11...	0955	34	1010	18.0
30...	0945	97	927	11.0					
MAY									
12...	0955	105	740	12.5					
12...	1415	101	900	18.0					
19...	1005	37	995	15.0					
06714215 SOUTH PLATTE RIVER AT 64TH AVE. COMMERCE CITY, CO (LAT 39 48 44N LONG 104 57 28W)									
OCT 1997					MAY 1998				
08...	1045	103	866	15.0	29...	1155	839	348	16.0
JAN 1998					JUN				
07...	1315	203	1110	4.0	30...	1215	130	662	23.0
FEB					AUG				
27...	1010	27	1250	12.5	12...	1030	67	611	19.5
394839104570300 SAND CREEK AT MOUTH NEAR COMMERCE CITY, CO (LAT 39 48 39N LONG 104 57 03W)									
OCT 1997					MAY 1998				
08...	1105	124	904	15.0	29...	1600	49	930	25.0
JAN 1998					AUG				
07...	1045	19	2310	3.0	12...	0850	82	1200	18.5
FEB					SEP				
27...	1115	26	1930	4.0	02...	1415	183	564	21.5
APR									
30...	1035	113	625	12.0					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
06714800 LEAVENWORTH CREEK AT MOUTH NEAR GEORGETOWN, CO (LAT 39 41 14N LONG 105 41 59W)									
OCT 1997					JUN 1998				
16...	1030	5.4	111	1.0	11...	1010	29	64	3.0
APR 1998					23...	1005	48	55	4.0
29...	1305	3.2	148	3.5	29...	1005	47	52	6.0
MAY					JUL				
28...	1110	34	68	3.5	22...	1015	25	70	7.0
					SEP				
					01...	1225	17	89	8.0
394308105413800 CLEAR CREEK ABOVE GEORGETOWN LAKE NEAR GEORGETOWN, CO (LAT 39 43 08N LONG 105 41 38W)									
OCT 1997					JUN 1998				
17...	1255	32	131	7.5	08...	1100	176	225	5.5
NOV					17...	1110	165	88	6.5
13...	0915	24	133	1.0	22...	1110	205	70	9.0
MAY 1998					JUL				
04...	1130	46	248	6.0	20...	1040	161	83	9.5
11...	1150	51	180	5.5	AUG				
26...	1245	136	113	7.5	03...	1100	157	93	9.0
JUN					10...	1230	129	100	10.5
01...	1135	217	172	10.5	31...	1107	74	117	10.5
394359105411900 CLEAR CREEK BELOW GEORGETOWN LAKE NEAR GEORGETOWN, CO (LAT 39 43 59N LONG 105 41 19W)									
OCT 1997					JUN 1998				
17...	1435	32	125	7.0	01...	1015	248	87	7.5
NOV					08...	1000	200	96	7.5
13...	1045	25	138	2.5	17...	1020	160	90	8.0
JAN 1998					22...	1010	207	79	9.0
21...	1020	12	162	.5	JUL				
MAY					20...	0930	139	84	12.5
04...	1015	49	247	9.5	AUG				
11...	1010	73	206	10.0	03...	1015	156	93	11.0
26...	1000	144	116	7.0	10...	1050	141	100	12.5
					31...	1015	63	115	14.5
06715000 CLEAR CREEK ABOVE WEST FORK CLEAR CREEK NEAR EMPIRE, CO (LAT 39 45 07N LONG 105 39 41W)									
OCT 1997					JUN 1998				
17...	1055	36	134	6.5	16...	1043	201	94	8.5
JAN 1998					JUL				
21...	1130	18	183	.0	21...	1040	159	90	13.0
MAR					AUG				
17...	1245	15	192	5.5	13...	0950	124	107	12.0
MAY					SEP				
11...	1320	65	211	11.5	15...	0935	69	134	10.5
394634105465800 HOOP CREEK AT MOUTH NEAR BERTHOUD FALLS, CO (LAT 39 46 34N LONG 105 46 58W)									
OCT 1997					APR 1998				
08...	1105	2.3	56	2.0	22...	1420	.25	393	1.5
NOV									
24...	1315	.82	84	.0					
06716100 WEST FORK CLEAR CREEK ABOVE MOUTH NEAR EMPIRE, CO (LAT 39 45 32N LONG 105 39 34W)									
OCT 1997					JUN 1998				
16...	1515	26	242	7.5	16...	1104	158	108	6.5
NOV					29...	1115	241	84	8.5
06...	0907	21	259	.0	JUL				
JAN 1998					21...	0935	134	107	10.0
21...	1240	14	404	.5	AUG				
MAR					13...	0835	81	150	9.5
24...	0930	13	427	2.0	SEP				
MAY					15...	1040	42	209	9.5
19...	1215	90	200	7.0					

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
06716500 CLEAR CREEK NEAR LAWSON, CO (LAT 39 45 57N LONG 105 37 32W)									
OCT 1997					JUN 1998				
16...	1330	66	183	6.0	09...	1320	359	103	9.0
JAN 1998					JUL				
21...	1355	41	280	.0	23...	1020	295	103	7.0
MAR					SEP				
17...	1345	26	294	4.5	01...	1345	141	147	13.0
MAY									
11...	1415	150	260	10.5					
06717400 CHICAGO CREEK BELOW DEVILS CANYON NEAR IDAHO SPRINGS, CO (LAT 39 42 58N LONG 105 34 15W)									
OCT 1997					JUN 1998				
17...	0905	11	61	2.5	18...	0940	77	50	4.5
NOV					JUL				
12...	1345	8.5	66	1.5	20...	1205	54	48	11.5
JAN 1998					AUG				
22...	1020	5.3	70	.0	05...	0920	77	51	8.5
MAR					SEP				
24...	1140	7.0	83	2.0	02...	0850	27	57	8.0
MAY					30...	1115	12	61	6.5
28...	1210	82	52	6.5					
06718300 CLEAR CREEK ABOVE JOHNSON GULCH NEAR IDAHO SPRINGS, CO (LAT 39 44 47N LONG 105 26 08W)									
OCT 1997					JUN 1998				
16...	1050	115	172	4.5	09...	1120	542	230	8.5
NOV					JUL				
12...	1140	64	232	3.5	21...	1140	436	105	13.5
JAN 1998					SEP				
22...	1245	17	323	.0	02...	1000	213	161	11.5
MAR					30...	1245	144	180	10.0
25...	1015	58	295	5.0					
MAY									
21...	1248	466	153	9.5					
06718550 NORTH CLEAR CREEK ABOVE MOUTH NEAR BLACKHAWK, CO (LAT 39 44 56N LONG 105 23 57W)									
OCT 1997					JUN 1998				
16...	0930	4.9	416	5.0	10...	1245	56	144	10.5
NOV					JUL				
12...	0930	3.3	463	3.0	22...	1225	12	343	17.0
JAN 1998					AUG				
22...	1125	3.3	561	.5	05...	1050	50	316	12.5
MAR					SEP				
24...	1350	8.3	455	10.5	02...	1145	19	331	13.5
MAY									
05...	1500	93	254	9.0					
06719505 CLEAR CREEK AT GOLDEN, CO (LAT 39 45 11N LONG 105 14 05W)									
OCT 1997					JUN 1998				
15...	0931	107	201	5.0	09...	0915	600	340	8.5
JAN 1998					AUG				
22...	1415	44	333	.0	04...	1005	388	166	13.0
MAR					SEP				
25...	1220	78	314	8.5	01...	0840	154	188	14.0
MAY									
19...	1000	540	180	7.5					
06720820 BIG DRY CREEK AT WESTMINSTER, CO (LAT 39 54 20N LONG 105 02 04W)									
OCT 1997					JUL 1998				
08...	1038	11	769	14.0	02...	1205	40	362	19.0
NOV					AUG				
07...	1028	2.3	1840	7.0	04...	1425	38	419	19.0
JAN 1998					SEP				
16...	1310	2.4	1890	2.5	03...	1240	50	340	18.5
MAY									
28...	1236	83	352	14.8					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
06720990 BIG DRY CREEK AT MOUTH NEAR FORT LUPTON, CO (LAT 40 04 09N LONG 104 49 52W)									
OCT 1997					MAY 1998				
15...	1120	39	1250	11.0	20...	0955	22	787	15.5
NOV					JUL				
05...	1030	32	1580	7.5	09...	0930	44	729	20.5
JAN 1998					AUG				
21...	0812	35	1450	.5	19...	0830	15	931	19.5
MAR					SEP				
16...	1200	24	1490	9.5	16...	0820	71	1800	17.0
06725450 ST. VRAIN CREEK BELOW LONGMONT, CO (LAT 40 09 29N LONG 105 00 53W)									
OCT 1997					MAY 1998				
01...	1319	155	896	17.5	07...	1030	422	294	9.0
NOV					21...	1200	100	813	18.0
05...	1415	103	916	10.5	JUL				
JAN 1998					29...	1000	163	808	19.5
21...	1026	33	380	1.5	AUG				
MAR					18...	1100	102	1100	20.0
17...	1050	38	1360	8.5	SEP				
					15...	1045	88	1030	17.5
06730200 BOULDER CREEK AT NORTH 75TH STREET NEAR BOULDER, CO (LAT 40 03 06N LONG 105 10 42W)									
OCT 1997					MAY 1998				
08...	1337	59	781	20.0	20...	1200	120	598	15.0
29...	1343	75	790	16.5	AUG				
JAN 1998					19...	1030	127	295	20.0
16...	1315	53	911	13.0	SEP				
FEB					16...	1145	65	369	20.0
27...	1300	44	870	13.5					
MAR									
24...	1105	113	895	12.0					
06730400 COAL CREEK NEAR LOUISVILLE, CO (LAT 39 58 34N LONG 105 07 00W)									
OCT 1997					JUL 1998				
15...	1300	1.3	1070	13.0	30...	1205	1.8	1270	17.5
NOV					AUG				
06...	1145	3.3	850	11.0	19...	1230	4.0	869	16.5
JAN 1998					SEP				
20...	1305	2.6	723	5.5	16...	1255	2.6	1290	17.0
MAY									
20...	1340	14	229	15.0					
06730500 BOULDER CREEK AT MOUTH, NEAR LONGMONT, CO (LAT 40 09 08N LONG 105 00 52W)									
OCT 1997					MAY 1998				
15...	1350	61	613	14.0	06...	1105	320	335	12.5
NOV					21...	1005	74	440	15.5
05...	1225	103	523	8.5	JUL				
JAN 1998					08...	0900	12	644	19.0
21...	1105	62	551	1.0	29...	0815	30	696	20.0
MAR					AUG				
17...	1220	56	793	11.0	18...	0825	8.0	892	18.5
					SEP				
					15...	1220	3.5	1050	21.0
06746095 JOE WRIGHT CREEK ABOVE JOE WRIGHT RESERVOIR, CO (LAT 40 32 24N LONG 105 52 56W)									
OCT 1997					MAY 1998				
07...	1430	11	59	8.5	28...	1130	18	41	3.5
NOV					JUN				
14...	1020	3.5	61	.0	18...	1403	38	44	2.5
JAN 1998					JUL				
08...	1045	2.5	66	.0	28...	1407	19	46	11.5
MAR					AUG				
03...	1030	1.5	92	.0	27...	1725	11	53	13.0
APR									
17...	0935	1.2	75	.0					

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)
06746110 JOE WRIGHT CREEK BELOW JOE WRIGHT RESERVOIR, CO (LAT 40 33 43N LONG 105 52 09W)									
OCT 1997					MAY 1998				
08...	1030	5.9	41	5.5	28...	1348	114	47	3.0
NOV					JUN				
13...	1705	2.9	43	.5	19...	1345	27	42	6.5
JAN 1998					JUL				
07...	1645	2.1	55	.5	29...	1153	38	42	6.5
MAR					AUG				
03...	1230	2.5	67	2.0	27...	1430	47	43	8.0
APR									
17...	1053	2.5	52	2.0					
06751150 NORTH FORK CACHE LA POUFRE RIVER BELOW HALLIGAN RESERVOIR NEAR VIRGINIA DALE, CO (LAT 40 52 42N LONG 105 20 15W)									
MAR 1998					JUL 1998				
04...	1230	41	149	4.0	14...	1450	109	97	17.0
17...	0955	30	151	5.0	AUG				
APR					11...	1420	102	97	18.0
07...	0925	108	134	5.5					
JUN									
16...	0905	214	85	13.0					
07079195 EAST FORK ARKANSAS RIVER AT HWY 91 NEAR LEADVILLE, CO (LAT 39 17 09N LONG 106 16 45W)									
OCT 1997					MAY 1998				
01...	1715	19	183	10.0	06...	1715	26	184	5.5
NOV					JUN				
05...	0930	20	190	.0	03...	1600	174	95	9.5
DEC					JUL				
03...	1245	14	194	.0	01...	1125	131	94	9.0
JAN 1998					AUG				
12...	1205	5.4	200	.0	05...	1500	72	131	13.0
FEB					SEP				
04...	1145	7.9	201	.0	02...	1745	32	158	11.0
APR									
01...	1745	10	206	5.5					
07079300 EAST FORK ARKANSAS RIVER AT US HWY 24, NEAR LEADVILLE, CO (LAT 39 16 21N LONG 106 18 21W)									
OCT 1997					APR 1998				
01...	1630	22	240	12.5	01...	1700	12	380	8.0
NOV					MAY				
05...	1100	26	257	3.5	06...	1530	29	263	7.5
DEC					JUN				
03...	1330	15	321	2.0	03...	1430	188	109	9.0
JAN 1998					JUL				
12...	1330	11	319	1.5	01...	1230	147	117	11.0
FEB					AUG				
04...	1225	10	345	2.5	05...	1545	70	160	14.0
MAR					SEP				
04...	1345	12	280	3.0	02...	1915	36	206	11.5
07081200 ARKANSAS RIVER NEAR LEADVILLE, CO (LAT 39 15 26N LONG 106 20 35W)									
OCT 1997					APR 1998				
02...	0740	34	224	5.5	02...	1415	21	241	2.5
NOV					MAY				
05...	1300	35	231	4.5	07...	1130	75	140	4.0
DEC					JUN				
04...	1030	21	224	.0	04...	1230	332	80	7.5
JAN 1998					JUL				
12...	1600	21	268	.5	01...	1430	225	89	13.5
FEB					SEP				
04...	1500	18	247	1.0	03...	1100	50	177	11.5
MAR									
11...	1030	19	307	.5					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
07083000 HALFMOON CREEK NEAR MALTA, CO (LAT 39 10 20N LONG 106 23 19W)									
OCT 1997					MAY 1998				
01...	1315	20	79	8.5	07...	0830	22	73	1.0
NOV					JUN				
04...	1500	12	84	.5	04...	1430	91	53	8.5
DEC					JUL				
03...	1630	9.2	102	.0	01...	1545	131	49	11.5
JAN 1998					AUG				
13...	1230	4.7	103	.0	12...	1800	31	73	12.5
FEB					SEP				
05...	0900	4.6	105	.0	03...	1345	25	81	14.5
APR									
02...	1100	4.0	96	.0					
07091200 ARKANSAS RIVER NEAR NATHROP, CO (LAT 38 39 08N LONG 106 03 02W)									
OCT 1997					JUL 1998				
02...	1030	398	197	12.5	02...	1100	2700	77	13.5
APR 1998					AUG				
03...	1100	233	212	5.5	12...	1100	1070	117	14.5
MAY					SEP				
06...	1200	420	152	11.5	04...	0730	358	188	12.5
JUN									
05...	0930	1790	97	10.0					
07093775 BADGER CREEK, LOWER STATION, NEAR HOWARD, CO (LAT 38 28 02N LONG 105 51 34W)									
OCT 1997					MAY 1998				
07...	1330	5.3	1040	11.0	06...	0800	9.0	835	6.0
NOV					JUN				
06...	1430	5.8	1060	13.5	05...	1130	5.8	1020	14.5
MAR 1998					30...	1230	4.6	1040	21.0
13...	1300	5.8	1110	13.0	SEP				
APR					04...	1130	6.5	1070	19.0
01...	1300	7.5	1020	13.0					
07094500 ARKANSAS RIVER AT PARKDALE, CO (LAT 38 29 14N LONG 105 22 23W)									
OCT 1997					JUL 1998				
07...	1235	452	300	14.3	28...	1030	1100	205	18.9
MAR 1998					AUG				
25...	1250	513	292	13.8	04...	1210	1080	197	17.2
MAY					SEP				
01...	1150	319	342	12.3	09...	1140	378	298	19.7
JUN									
16...	1220	1350	158	14.9					
30...	1230	2870	107	17.6					
07096250 FOURMILE CREEK BELOW CRIPPLE CREEK NEAR VICTOR, CO (LAT 38 39 52N LONG 105 13 37W)									
NOV 1997					MAY 1998				
12...	1430	8.5	--	2.8	05...	1055	45	237	10.7
DEC					JUN				
18...	1500	9.6	295	.0	17...	1125	18	280	14.1
JAN 1998					JUL				
15...	1240	10	285	.0	29...	1200	50	260	18.8
FEB					AUG				
11...	1400	4.3	286	.0	24...	1250	32	366	20.1
MAR									
25...	1055	16	270	8.2					
07099050 BEAVER CREEK ABOVE UPPER BEAVER CEMETERY NEAR PENROSE, CO (LAT 38 33 42N LONG 105 01 17W)									
NOV 1997					JUL 1998				
19...	1115	21	87	.5	29...	1635	158	68	19.5
MAR 1998					AUG				
12...	1340	17	93	4.7	10...	1300	101	78	18.3
APR					SEP				
21...	1055	35	106	4.4	14...	1220	38	94	14.7
30...	1545	110	88	7.9					
JUN									
09...	1515	85	60	17.0					

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
07099060 BEAVER CREEK ABOVE HIGHWAY 115 NEAR PENROSE, CO (LAT 38 29 21N LONG 104 59 49W)									
OCT 1997					JUN 1998				
22...	1315	.05	136	13.0	11...	1455	42	73	16.0
MAR 1998					JUL				
10...	1255	3.2	188	3.0	27...	1540	53	80	21.5
24...	1255	25	143	12.5	30...	1625	108	81	20.0
APR					SEP				
13...	1545	34	106	10.0	02...	1440	56	102	18.5
07099215 TURKEY CREEK NEAR FOUNTAIN, CO (LAT 38 36 42N LONG 104 53 39W)									
OCT 1997					JUN 1998				
02...	0905	.61	235	12.5	08...	1525	1.3	187	13.7
22...	1455	.58	295	13.0	JUL				
DEC					27...	1245	1.1	227	19.5
12...	1355	.90	270	.0	AUG				
MAR 1998					06...	1530	3.7	185	18.6
23...	1055	1.9	219	6.9	12...	1550	3.0	193	19.1
APR					SEP				
27...	1445	14	131	8.5	15...	1710	.58	226	18.0
MAY									
22...	1555	8.0	118	12.4					
07099230 TURKEY CREEK ABOVE TELLER RESERVOIR NEAR STONE CITY, CO (LAT 38 27 54N LONG 104 49 33W)									
DEC 1997					JUN 1998				
18...	1145	2.0	834	6.5	11...	1205	2.3	652	17.0
FEB 1998					AUG				
20...	1200	1.6	854	5.4	06...	1205	4.0	726	18.8
APR					12...	1230	7.0	692	18.7
28...	1525	25	435	14.5					
07099233 TELLER RESERVOIR NEAR STONE CITY, CO (LAT 38 26 33N LONG 104 49 31W)									
APR 1998									
22...	1600	9.6	857	14.5					
07099235 TURKEY CREEK NEAR STONE CITY, CO (LAT 38 26 22N LONG 104 49 34W)									
OCT 1997					APR 1998				
21...	1415	.58	720	12.0	22...	1435	2.1	921	15.0
DEC					MAY				
11...	1415	.88	802	4.0	29...	1500	5.8	604	22.0
FEB 1998					AUG				
20...	1410	1.2	878	6.5	06...	1315	.62	686	22.0
07103703 CAMP CREEK AT GARDEN OF THE GODS, CO (LAT 38 52 37N LONG 104 52 20W)									
MAR 1998					JUN 1998				
19...	1440	.01	261	2.0	09...	1220	.14	265	17.0
31...	1430	4.0	230	7.0	JUL				
APR					31...	1810	2.6	276	15.0
17...	1355	3.1	191	6.0					
MAY									
11...	1425	8.9	165	10.5					
07103797 WEST MONUMENT CREEK BELOW RAMPART RESERVOIR, CO (LAT 38 58 30N LONG 104 57 18W)									
OCT 1997					MAY 1998				
07...	1230	3.9	77	9.5	26...	1630	3.5	82	9.5
NOV					JUN				
18...	1150	3.5	72	4.0	09...	1500	3.7	76	9.5
DEC					JUL				
16...	0930	3.7	70	2.5	08...	0930	4.2	72	7.5
JAN 1998					AUG				
14...	1200	4.0	68	3.0	05...	1000	4.6	76	8.5
FEB					26...	1600	8.6	67	10.5
11...	1430	4.6	68	3.0	SEP				
MAR					10...	0830	3.7	70	10.0
10...	1430	4.3	69	3.5					
APR									
23...	1630	4.8	79	6.5					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
07103800 WEST MONUMENT CREEK AT AIR FORCE ACADEMY, CO (LAT 38 58 14N LONG 104 54 08W)									
OCT 1997					MAY 1998				
09...	1445	.83	105	8.0	26...	1150	4.1	79	10.0
NOV					JUN				
12...	1150	.99	94	1.0	10...	1325	2.6	86	9.5
DEC					JUL				
08...	1140	.84	95	1.0	14...	1205	.75	100	14.0
FEB 1998					AUG				
12...	1525	.77	100	.5	04...	1525	5.6	89	14.5
APR					SEP				
23...	1150	5.0	79	5.0	09...	1240	.71	107	13.5
07105000 BEAR CREEK NEAR COLORADO SPRINGS, CO (LAT 38 49 21N LONG 104 53 17W)									
OCT 1997					APR 1998				
24...	0845	2.4	89	4.5	17...	1105	3.1	85	1.0
NOV					MAY				
18...	1405	2.3	90	1.5	12...	1035	7.5	71	6.0
DEC					JUN				
16...	1125	1.9	81	1.0	09...	1000	4.8	73	8.0
JAN 1998					JUL				
14...	1500	1.7	90	1.0	01...	0900	3.2	79	10.5
FEB					AUG				
04...	1120	1.5	84	1.0	05...	1135	7.1	86	11.0
MAR					SEP				
04...	1355	1.4	88	2.0	08...	1555	2.8	93	13.5
07105490 CHEYENNE CREEK AT EVANS AVE AT COLORADO SPRINGS, CO (LAT 38 47 26N LONG 104 51 49W)									
OCT 1997					APR 1998				
07...	1445	6.1	96	11.5	17...	0940	9.9	95	1.0
NOV					MAY				
18...	0830	5.3	116	1.5	12...	0840	30	74	5.5
DEC					JUN				
15...	1335	5.4	113	1.5	04...	1455	26	68	9.5
JAN 1998					JUL				
15...	1405	4.6	118	1.5	08...	1215	7.1	85	14.0
FEB					AUG				
04...	0955	4.9	91	1.5	04...	1050	28	107	11.5
MAR					SEP				
04...	1235	2.1	128	2.0	08...	1440	7.6	93	15.5
09...	1135	2.7	127	.5					
07105900 JIMMY CAMP CREEK AT FOUNTAIN, CO (LAT 38 41 04N LONG 104 41 17W)									
OCT 1997					JUN 1998				
03...	1355	1.5	2630	20.0	23...	1325	.98	2910	20.5
NOV					30...	0910	32	830	15.5
06...	1240	1.8	2210	16.0	JUL				
DEC					27...	1255	4.5	1760	26.5
12...	1410	2.1	2170	9.0	31...	1045	34	730	18.5
FEB 1998					AUG				
11...	1250	1.8	2310	10.0	12...	1050	11	882	19.0
MAR					SEP				
13...	1055	1.5	2220	13.0	24...	0925	1.2	1960	14.0
APR									
17...	1055	2.7	2490	12.0					

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
07105920 LITTLE FOUNTAIN CREEK ABOVE KEATON RESERVOIR, NEAR FORT CARSON, CO (LAT 38 40 54N LONG 104 51 29W)									
OCT 1997					APR 1998				
02...	1005	1.9	106	12.0	17...	1325	13	67	1.5
NOV					MAY				
04...	0940	2.1	130	3.0	13...	1255	27	66	8.0
DEC					JUN				
10...	1005	1.7	126	.5	17...	0915	3.5	90	10.5
FEB 1998					JUL				
18...	1220	1.2	115	.5	28...	1010	1.6	130	16.0
MAR					SEP				
25...	1150	12	88	3.5	03...	1305	3.0	109	17.0
07105928 LITTLE FOUNTAIN CREEK NEAR FORT CARSON, CO (LAT 38 40 49N LONG 104 51 08W)									
NOV 1997					MAY 1998				
21...	1230	.01	164	4.5	13...	1400	25	67	8.5
MAR 1998					JUN				
25...	1350	8.4	115	3.5	17...	1115	.20	120	14.5
07105945 ROCK CREEK ABOVE FORT CARSON RESERVATION, CO (LAT 38 42 26N LONG 104 50 47W)									
OCT 1997					MAR 1998				
03...	1020	.84	220	12.0	23...	1205	2.5	115	2.7
14...	1455	.86	120	10.0	APR				
NOV					21...	1110	5.6	115	3.6
06...	0940	.98	170	3.6	28...	1205	13	109	6.0
DEC					JUN				
09...	1250	.78	67	1.8	24...	1140	.56	145	19.5
FEB 1998									
11...	1050	.87	164	.2					
07105950 ROCK CREEK NEAR FORT CARSON, CO (LAT 38 41 49N LONG 104 49 39W)									
OCT 1997					APR 1998				
03...	1220	.19	185	12.5	21...	0940	3.8	142	5.7
DEC					JUN				
09...	1050	.10	245	5.5	04...	1135	.95	167	10.5
MAR 1998									
27...	1420	8.0	212	5.5					
07106300 FOUNTAIN CREEK NEAR PINON, CO (LAT 38 26 23N LONG 104 35 35W)									
OCT 1997					MAY 1998				
15...	1305	107	1100	16.0	04...	1120	421	640	16.0
NOV					07...	1525	385	640	20.0
17...	1510	205	998	6.5	JUN				
DEC					04...	1340	105	960	22.5
01...	1435	241	946	6.5	JUL				
JAN 1998					02...	1105	122	980	24.5
12...	1505	172	1020	4.0	22...	1405	23	1140	28.5
FEB					31...	1530	802	580	21.5
02...	1435	167	1010	6.5	AUG				
24...	1105	180	1020	8.0	06...	1420	259	830	24.0
MAR					20...	1430	193	850	28.0
10...	1450	173	1010	9.0	SEP				
18...	1300	288	975	2.5	02...	1055	216	857	20.0
APR					15...	1500	87	1030	26.5
07...	1425	271	818	14.0	24...	1100	81	1030	20.0
16...	1045	598	638	4.5					
23...	1455	291	824	20.5					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
07108900 ST. CHARLES RIVER AT VINELAND, CO (LAT 38 14 44N LONG 104 29 09W)									
OCT 1997					APR 1998				
01...	1700	16	1960	22.0	02...	1205	227	670	7.5
NOV					29...	1415	413	509	11.5
05...	1000	26	1880	8.5	MAY				
DEC					13...	1320	393	432	14.5
09...	1500	27	1740	5.0	JUN				
JAN 1998					04...	1035	238	526	14.0
08...	1320	14	1960	3.0	JUL				
FEB					08...	0945	27	2160	19.0
11...	1255	23	1700	6.5	AUG				
MAR					04...	0945	80	666	19.5
09...	1420	39	1070	7.0	SEP				
26...	1120	257	501	11.0	09...	1020	19	2060	17.5
07110400 CHICO CREEK NEAR PUEBLO CHEMICAL DEPOT, CO (LAT 38 21 40N LONG 104 23 15W)									
OCT 1997					APR 1998				
09...	1505	.01	1520	18.0	08...	0950	1.4	1670	10.5
NOV					MAY				
03...	1340	2.9	1260	12.5	06...	1515	.45	1670	23.5
04...	1425	2.1	1300	15.0	27...	1540	.09	1720	28.0
DEC					JUL				
08...	1320	2.1	1590	6.0	06...	1235	1.2	1260	28.0
JAN 1998					17...	1420	.04	1010	28.5
02...	1430	2.6	1640	7.0	30...	1310	9.8	878	25.5
FEB					AUG				
04...	1445	2.5	1290	4.0	12...	1225	32	678	26.5
MAR					18...	0840	.15	1300	21.5
04...	1255	1.3	--	12.0	SEP				
19...	1410	7.8	1470	13.0	04...	1510	.04	1400	28.0
07116500 HUERFANO RIVER NEAR BOONE, CO (LAT 38 13 30N LONG 104 15 37W)									
OCT 1997					APR 1998				
01...	1500	36	1250	24.5	01...	1330	244	1500	13.5
NOV					MAY				
05...	1430	55	1730	12.0	05...	1450	235	1360	21.0
DEC					JUN				
08...	1530	60	1870	4.5	04...	1235	215	1070	17.0
JAN 1998					JUL				
08...	1455	59	2000	.5	07...	1335	2.9	4440	27.5
FEB					AUG				
04...	1340	77	1780	3.0	04...	1230	96	1440	20.0
MAR					SEP				
03...	1440	44	2020	11.0	09...	1200	4.4	3990	27.5
07119500 APISHAPA RIVER NEAR FOWLER, CO (LAT 38 05 28N LONG 103 58 52W)									
OCT 1997					MAY 1998				
15...	1510	4.9	2830	17.0	05...	1250	79	877	18.0
NOV					JUN				
07...	1230	5.9	2810	12.5	02...	1320	38	1100	22.5
DEC					16...	1315	11	1800	22.5
08...	1320	4.3	2950	8.0	JUL				
JAN 1998					07...	1100	11	1580	20.5
07...	1515	3.4	3020	6.0	30...	1110	184	587	23.5
FEB					AUG				
04...	1145	3.2	3000	7.0	05...	1450	92	931	18.0
MAR					SEP				
03...	1325	2.8	3020	10.0	09...	1350	13	1660	23.0
APR									
09...	1355	30	1180	12.5					

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
07121500 TIMPAS CREEK AT MOUTH NEAR SWINK, CO (LAT 38 00 11N LONG 103 39 20W)									
OCT 1997					MAY 1998				
01...	0845	56	2120	15.5	05...	1025	106	1460	16.0
15...	1040	122	1480	11.0	JUN				
NOV					05...	1145	83	1650	13.0
18...	1145	32	3180	8.5	JUL				
DEC					06...	1540	54	2030	26.5
08...	1140	25	3230	7.0	AUG				
JAN 1998					05...	1130	129	1730	19.5
07...	1145	22	3290	5.0	SEP				
FEB					10...	1330	55	2020	21.0
03...	1430	19	3150	8.0					
MAR									
09...	1140	18	3170	7.5					
07124200 PURGATOIRE RIVER AT MADRID, CO (LAT 37 07 46N LONG 104 38 20W)									
OCT 1997					MAY 1998				
02...	1415	43	332	20.0	07...	1010	89	368	11.5
NOV					JUN				
25...	1115	30	459	2.0	12...	0915	81	317	13.0
JAN 1998					JUL				
21...	1300	13	500	.0	17...	0915	110	304	15.5
FEB					AUG				
26...	0925	17	515	.5	25...	1615	117	258	21.5
APR					SEP				
03...	1150	29	511	13.0	10...	1135	56	338	19.0
07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO (LAT 37 08 37N LONG 104 32 49W)									
OCT 1997					JUN 1998				
02...	1640	79	308	17.5	12...	1140	268	407	16.0
NOV					JUL				
25...	1610	.12	341	4.5	17...	1050	118	379	19.0
FEB 1998					SEP				
21...	1540	.05	493	4.0	10...	1345	256	347	19.5
26...	1110	1.3	386	4.0					
APR									
03...	0930	.37	399	6.5					
07126140 VAN BREMER ARROYO NEAR TYRONE, CO (LAT 37 23 58N LONG 104 06 55W)									
APR 1998									
10...	0930	.02	14300	6.3					
07126200 VAN BREMER ARROYO NEAR MODEL, CO (LAT 37 20 45N LONG 103 57 27W)									
JUN 1998					SEP 1998				
11...	1715	.09	2130	24.5	09...	1630	.12	1500	24.5
JUL									
16...	1145	.10	1850	24.0					
07126300 PURGATOIRE RIVER NEAR THATCHER, CO. AT 37 21 30N LONG 103 53 44W)									
MAY 1998					JUL 1998				
07...	1320	194	1310	16.5	16...	1400	17	1260	26.5
JUN					SEP				
11...	1030	41	3000	18.5	09...	1415	26	2640	--

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO (LAT 38 02 02N LONG 103 12 00W)									
OCT 1997					MAY 1998				
09...	1040	60	2570	13.5	28...	1705	42	3150	28.5
NOV					JUN				
13...	1135	58	3300	5.0	30...	1525	4.8	4580	30.0
DEC					JUL				
23...	1615	60	3520	2.5	22...	1445	9.2	2690	29.0
JAN 1998					AUG				
27...	1300	54	3520	5.0	04...	1440	63	1440	23.0
FEB					05...	1205	768	640	17.5
24...	1620	69	3460	12.0	25...	1715	30	2820	28.5
MAR					SEP				
17...	1745	73	3350	9.0	22...	1620	22	3240	21.5
25...	1600	183	1880	17.5					
APR									
07...	1700	139	1890	12.5					
07133000 ARKANSAS RIVER AT LAMAR, CO (LAT 38 06 21N LONG 102 37 05W)									
OCT 1997					MAY 1998				
16...	1220	24	3360	17.5	13...	0950	57	2950	15.5
NOV					27...	1650	27	3050	24.0
13...	1355	110	4160	10.5	JUN				
DEC					30...	1120	789	2110	20.0
31...	1120	273	2560	2.5	JUL				
JAN 1998					24...	1215	1220	1870	22.5
29...	1210	870	2250	3.0	31...	1235	2890	830	19.5
FEB					AUG				
25...	1135	210	2800	8.5	27...	0900	45	3010	21.0
MAR					SEP				
26...	1115	759	2230	7.5	23...	1915	49	2940	21.5
APR									
08...	1005	435	2420	7.0					
22...	1750	297	2250	16.0					
29...	1000	1430	2100	10.5					
07134100 BIG SANDY CREEK NEAR LAMAR, CO (LAT 38 06 51N LONG 102 29 00W)									
OCT 1997					MAY 1998				
16...	1030	22	4250	11.0	27...	1125	15	4070	20.5
NOV					JUN				
26...	1415	50	4420	5.0	24...	1530	15	3540	24.5
DEC					JUL				
24...	1110	65	4230	2.5	24...	1345	58	3040	24.5
JAN 1998					31...	1500	126	2620	21.0
28...	1020	59	4310	3.0	AUG				
FEB					26...	1215	25	4120	24.0
25...	1355	55	4390	10.5	SEP				
MAR					24...	1420	15	4230	21.5
18...	1645	62	4320	3.5					
APR									
22...	1155	16	4410	14.5					
07134180 ARKANSAS RIVER NEAR GRANADA, CO (LAT 38 05 44N LONG 102 18 37W)									
OCT 1997					APR 1998				
16...	0745	151	3810	12.0	08...	1335	670	2750	10.0
NOV					29...	1215	1030	2180	11.5
13...	1600	292	4440	9.0	MAY				
DEC					13...	1215	191	3440	18.5
31...	1450	471	3040	4.5	27...	1340	121	3620	24.0
JAN 1998					JUN				
28...	1730	870	2550	4.0	25...	1300	693	2250	22.5
FEB					JUL				
25...	1625	357	3340	10.5	23...	1645	766	2240	23.5
MAR					AUG				
26...	1505	870	2470	12.0	26...	1445	158	3460	26.0
					23...	1015	119	3710	15.5

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS-CHARGE, INST. FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	DATE	TIME	DIS-CHARGE, INST. FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)
07134990 WILD HORSE CREEK ABOVE HOLLY, CO (LAT 38 03 24N LONG 102 08 16W)									
OCT 1997					JUN 1998				
15...	1650	78	3660	15.0	29...	1910	11	3300	27.5
NOV					JUL				
26...	1200	14	3710	6.5	31...	1705	136	2740	22.5
MAR 1998					AUG				
18...	1250	8.4	4280	5.5	26...	1700	18	3300	26.0
APR					SEP				
22...	1445	63	3070	17.0	23...	1225	29	3560	17.0
MAY									
13...	1430	12	3540	23.0					
27...	1645	76	2690	26.5					
08217500 RIO GRANDE AT WAGON WHEEL GAP, CO (LAT 37 46 01N LONG 106 49 51W)									
OCT 1997					APR 1998				
02...	1655	914	63	11.0	07...	1130	187	102	3.0
29...	1435	536	75	4.5	MAY				
DEC					13...	1715	1210	70	9.5
08...	1300	281	88	.0	JUN				
JAN 1998					02...	1500	2320	47	11.5
21...	1230	103	101	.0	23...	1725	1510	50	13.5
FEB					JUL				
23...	1200	119	107	.0	30...	1300	635	71	17.0
MAR					SEP				
16...	1145	133	102	.0	14...	1400	358	83	16.5
08235250 ALAMOSA RIVER ABOVE WIGHTMAN FORK NEAR JASPER, CAT 37 24 09N LONG 106 31 17W									
APR 1998					JUL 1998				
29...	1320	40	217	6.0	14...	1000	68	105	9.5
MAY					AUG				
12...	1345	127	111	6.5	11...	1315	18	120	13.0
JUN					SEP				
01...	1545	417	56	9.0	15...	0945	16	200	6.5
22...	1730	226	60	8.5					
08235270 WIGHTMAN FORK BELOW CROPSY CREEK AT SUMMITVILLE, CO (LAT 37 25 45N LONG 106 35 03W)									
APR 1998					JUL 1998				
30...	0955	2.6	1020	.5	13...	1515	7.2	1160	15.0
MAY					AUG				
11...	1300	18	610	1.5	10...	1745	4.6	1250	14.5
JUN					SEP				
02...	1230	58	494	6.5	14...	1620	3.6	--	10.0
22...	1345	15	470	7.5					
08235290 WIGHTMAN FORK AT MOUTH NEAR JASPER, CO (LAT 37 24 14N LONG 106 31 16W)									
APR 1998					JUL 1998				
29...	1310	14	310	4.5	13...	1715	13	725	10.5
MAY					AUG				
12...	1345	56	275	6.5	11...	1245	9.2	825	11.5
JUN					SEP				
01...	1705	208	210	7.5	15...	0915	6.0	1540	6.5
22...	1700	26	270	11.0					
08235350 ALAMOSA RIVER ABOVE JASPER, CO (LAT 37 25 03N LONG 106 29 30W)									
APR 1998					JUL 1998				
29...	1450	60	235	8.5	14...	1130	75	220	10.5
MAY					AUG				
12...	1715	228	155	7.5	11...	1415	29	350	13.5
JUN					SEP				
02...	0900	456	109	2.5	15...	1030	24	388	8.5
22...	2045	296	100	9.5					

SUPPLEMENTAL WATER-QUALITY DATA FOR GAGING STATIONS

MISCELLANEOUS STATION ANALYSES--Continued

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)
08235700 ALAMOSA RIVER BELOW CASTLEMAN GULCH NEAR JASPER (LAT 37 24 10N LONG 106 27 00W)									
APR 1998					JUL 1998				
29...	1615	81	272	10.5	14...	1300	81	208	12.5
MAY					AUG				
12...	1915	296	159	6.5	11...	1100	35	325	12.5
JUN					SEP				
01...	2000	763	105	7.0	15...	1245	25	472	11.5
23...	1000	236	120	4.5					

KIT CARSON COUNTY

391730102422000 SC00904706CAC

LOCATION.--Lat 39°17'30", long 102°41'59", in SW¹/₄NE¹/₄SW¹/₄ sec.6, T.9 S., R.47 W., Kit Carson County, Hydrologic Unit 10250003, 2.3 mi east of Interstate Highway 70 interchange to Vona, Colo.

AQUIFER.--High Plains Aquifer.

WELL CHARACTERISTICS.--Drilled, unused well, diameter 16 in., depth 160 ft.

INSTRUMENTATION.--Water-level recorder; intermittent measurements with chalked steel tape.

DATUM.--Elevation of land-surface datum is 4475 ft above sea level, from topographic map. Measuring point: top of ¹/₄-in. diameter hole in steel plate that covers well casing, 1.00 ft above land-surface datum.

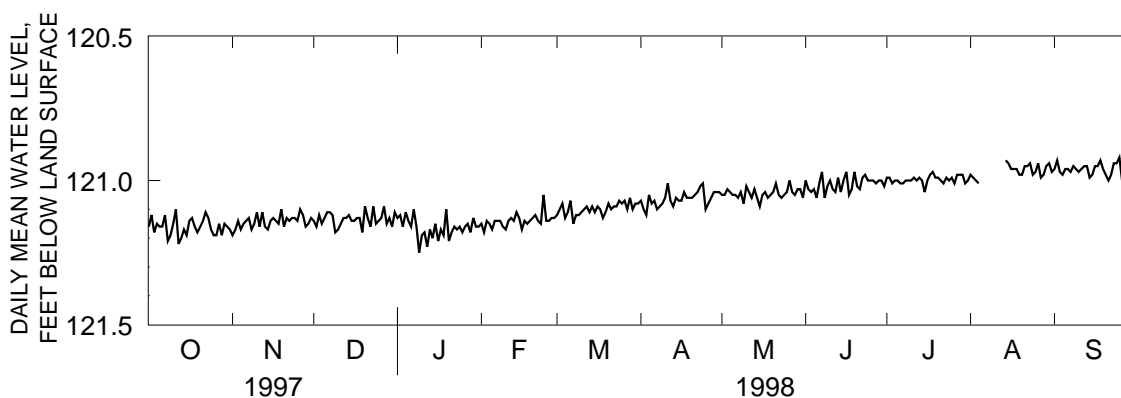
REMARKS.--Daily record is good, except for period of missing record. Missing record from Aug. 5 to Aug. 13 was due to recorder malfunction.

PERIOD OF RECORD.--Daily record from September 1988 to current year. Intermittent measurements made from December 1968.

EXTREMES FOR PERIOD OF RECORD.--Highest water level 120.87 ft below land-surface datum, Sept. 25, 1998; lowest, 125.56 ft below land-surface datum, Jan. 20, 1976.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121.16	121.19	121.14	121.13	121.15	121.12	121.07	121.05	121.00	120.99	120.98	120.96
2	121.12	121.17	121.16	121.12	121.18	121.10	121.10	121.05	121.03	120.99	120.99	120.93
3	121.18	121.14	121.12	121.16	121.14	121.08	121.12	121.03	121.04	121.01	121.00	120.97
4	121.15	121.17	121.15	121.11	121.15	121.13	121.05	121.04	121.03	121.00	121.01	120.98
5	121.16	121.15	121.13	121.14	121.17	121.11	121.08	121.05	121.06	121.00	---	120.96
6	121.16	121.14	121.11	121.16	121.14	121.07	121.07	121.05	121.01	121.01	---	120.96
7	121.12	121.13	121.11	121.10	121.14	121.15	121.10	121.06	120.97	121.01	---	120.97
8	121.21	121.17	121.12	121.16	121.14	121.12	121.09	121.04	121.06	121.00	---	120.95
9	121.19	121.15	121.18	121.25	121.16	121.12	121.08	121.08	121.02	121.00	---	120.96
10	121.15	121.11	121.17	121.19	121.17	121.11	121.06	121.02	121.00	121.00	---	120.97
11	121.10	121.16	121.15	121.18	121.14	121.10	121.01	121.04	121.03	120.99	---	120.96
12	121.22	121.11	121.13	121.23	121.13	121.09	121.07	121.06	121.04	121.00	---	120.95
13	121.20	121.16	121.13	121.17	121.14	121.11	121.09	121.03	120.99	120.99	---	120.95
14	121.17	121.17	121.12	121.20	121.11	121.09	121.06	121.06	121.04	121.00	120.93	120.99
15	121.19	121.14	121.14	121.15	121.13	121.11	121.07	121.09	121.00	121.04	120.94	120.98
16	121.14	121.13	121.14	121.21	121.17	121.09	121.07	121.05	120.97	121.00	120.96	120.95
17	121.13	121.14	121.13	121.17	121.14	121.10	121.04	121.04	121.05	120.98	120.96	120.95
18	121.16	121.15	121.13	121.19	121.15	121.13	121.06	121.06	121.03	120.97	120.96	120.93
19	121.18	121.10	121.18	121.10	121.14	121.11	121.06	121.05	120.97	120.99	120.98	120.96
20	121.16	121.16	121.09	121.21	121.13	121.08	121.06	121.04	121.02	120.99	120.98	120.98
21	121.14	121.13	121.13	121.18	121.12	121.10	121.05	121.01	121.03	121.00	120.95	121.00
22	121.11	121.14	121.16	121.16	121.14	121.09	121.04	121.05	120.99	121.01	120.95	120.98
23	121.13	121.13	121.09	121.17	121.15	121.09	121.02	121.06	120.98	120.99	120.94	120.94
24	121.17	121.13	121.15	121.16	121.05	121.07	121.01	121.05	121.00	121.00	120.98	120.94
25	121.19	121.14	121.14	121.18	121.14	121.08	121.10	121.04	121.00	120.99	120.97	120.92
26	121.19	121.10	121.13	121.16	121.14	121.07	121.08	121.00	121.00	121.01	120.94	121.00
27	121.15	121.12	121.09	121.15	121.13	121.10	121.06	121.04	121.01	120.98	120.99	120.98
28	121.19	121.16	121.15	121.18	121.13	121.06	121.04	121.05	121.00	120.98	120.98	120.95
29	121.15	121.15	121.13	121.13	---	121.10	121.04	121.03	121.00	120.98	120.95	120.95
30	121.16	121.13	121.16	121.16	---	121.08	121.04	121.03	121.02	121.01	120.94	120.98
31	121.17	---	121.11	121.16	---	121.08	---	121.06	---	121.00	120.97	---
MEAN	121.16	121.14	121.13	121.17	121.14	121.10	121.06	121.05	121.01	121.00	---	120.96
MAX	121.22	121.19	121.18	121.25	121.18	121.15	121.12	121.09	121.06	121.04	---	121.00
MIN	121.10	121.10	121.09	121.10	121.05	121.06	121.01	121.00	120.97	120.97	---	120.92



QUALITY OF GROUND WATER

EL PASO COUNTY

384056104415601 - SC01606505CCB - FOUNTAIN NO. 3

LOCATION.--Lat 38°40'56", long 104°41'56" in NW¹/₄SW¹/₄SW¹/₄ sec.5, T.16 S., R.65 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Fountain Creek Alluvial Aquifer.

WELL CHARACTERISTICS.--Municipal well, diameter 16 in., depth 53 ft, screened 38 to 53 ft.

DATUM.--Elevation of land-surface datum is 5,540 ft above sea level, from topographic map.

PERIOD OF RECORD.--March 1985 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB 20...	0930	990	7.3	12.0	<0.01	2.23	<0.02	0.029
AUG 28...	0930	1050	7.3	15.0	<0.01	2.72	--	0.020

384108104420701 - SC01606506DAA - FOUNTAIN NO. 2

LOCATION.--Lat 38°41'08", long 104°42'07", NE¹/₄NE¹/₄SE¹/₄ sec.6, T.16 S., R.65 W., in El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Fountain Creek Alluvial Aquifer.

WELL CHARACTERISTICS.--Municipal well, diameter 16 in., depth 57 ft, screened 42 to 57 ft.

DATUM.--Elevation of land-surface datum is 5,550 ft above sea level, from topographic map.

PERIOD OF RECORD.--March 1985 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB 20...	0950	1260	7.3	12.0	<0.01	2.78	<0.02	0.033
AUG 28...	1000	1240	7.3	13.5	<0.01	2.54	--	0.022

384407104434801 - SC01506624BAD1 - WIDEFIELD NO. 4

LOCATION.--Lat 38°44'07", long 104°43'48", in SE¹/₄NE¹/₄NE¹/₄ sec.24, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widfield Aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Municipal well, diameter 16 in., depth 71 ft, screened 41 to 71 ft.

DATUM.--Elevation of land-surface datum is 5,685 ft above sea level.

PERIOD OF RECORD.--February 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB 20...	1040	635	7.3	12.5	<0.01	5.30	<0.02	0.029
AUG 28...	1045	651	7.0	14.5	<0.01	6.41	--	0.022

QUALITY OF GROUND WATER

EL PASO COUNTY--Continued

384433104440702 - SC01506613CBD2 - U-14

LOCATION.--Lat 38°44'33", long 104°44'07", in SW¹/₄NW¹/₄SE¹/₄ sec.13, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield Aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Monitor well, diameter 2 in., depth 47 ft, screened 43 to 46 ft.

DATUM.--Elevation of land-surface datum is 5,701 ft above sea level.

PERIOD OF RECORD.--October 1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB 18...	1500	31.19	640	7.1	12.5	<0.01	4.97	<0.02	0.023
AUG 31...	1830	33.50	611	7.1	14.0	<0.01	--	<0.02	0.024

384458104442601 - SC01506614AAD - SECURITY NO. 2

LOCATION.--Lat 38°44'58", long 104°44'26", in SE¹/₄NE¹/₄NE¹/₄ sec.14, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield Aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Municipal well, diameter 24 in., depth 78 ft, screened 43 to 78 ft.

DATUM.--Elevation of land-surface datum is 5,715 ft above sea level.

PERIOD OF RECORD.--February 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB 20...	1140	490	7.1	13.5	<0.01	8.44	<0.02	0.028
AUG 28...	1130	487	7.1	14.0	<0.01	7.46	--	0.026

384535104450801 - SC01506611BCD2 - VENETUCCI NO. 3

LOCATION.--Lat 38°45'35", long 104°45'08", in SE¹/₄SW¹/₄NW¹/₄ sec.11, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield Aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Irrigation well, diameter 24 in., depth 80 ft, screening unknown.

DATUM.--Elevation of land-surface datum is 5,750.0 ft above sea level.

PERIOD OF RECORD.--February 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
AUG 28...	1715	450	7.1	14.0	<0.01	8.37	0.022	0.065

QUALITY OF GROUND WATER

EL PASO COUNTY--Continued

384604104451502 - SC01506602CCC2 - U-9

LOCATION.--Lat 38°46'04", long 104°45'15", in SW¹/₄SW¹/₄SW¹/₄ sec.2, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield Aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Monitor well, diameter 2 in., depth 55 ft, screened 51 to 53 ft.

DATUM.--Elevation of land-surface datum is 5,774 ft above sea level.

PERIOD OF RECORD.--October 1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CONDUCTANCE (US/CM) (00095)	pH (STANDARD ARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	NITROGEN, NITRITE SOLVED (MG/L) (00613)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITROGEN, AMMONIA DIS-SOLVED (MG/L) (00608)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L) (00671)
FEB 18...	1100	33.63	505	7.0	13.0	<0.01	6.72	<0.02	0.052
AUG 31...	1145	34.00	483	7.3	15.0	<0.01	7.85	<0.02	0.053

384610104453501 - SC01506603DDB - SECURITY NO. 14

LOCATION.--Lat 38°46'10", long 104°45'35", in NW¹/₄SE¹/₄SE¹/₄ sec.14, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield Aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Municipal well, diameter 24 in., depth 80 ft, screened 39 to 80 ft.

DATUM.--Elevation of land-surface datum is 5,779.2 ft above sea level.

PERIOD OF RECORD.--February 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SPE-CIFIC CONDUCTANCE (US/CM) (00095)	pH (STANDARD ARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	NITROGEN, NITRITE SOLVED (MG/L) (00613)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITROGEN, AMMONIA DIS-SOLVED (MG/L) (00608)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L) (00671)
FEB 20...	1115	601	7.2	13.5	<0.01	6.86	<0.02	0.049
AUG 28...	1200	614	7.3	14.5	<0.01	7.27	<0.02	0.038

384617104455901 - SC01506603CAD - STRATMOOR HILLS NO. 4

LOCATION.--Lat 38°46'17", long 104°45'59", in SE¹/₄NE¹/₄SW¹/₄ sec.3, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield Aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Municipal well, diameter 12 in., depth 49 ft, screened 29 to 49 ft.

DATUM.--Elevation of land-surface datum is 5,775.4 ft above sea level.

PERIOD OF RECORD.--February 1981 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SPE-CIFIC CONDUCTANCE (US/CM) (00095)	pH (STANDARD ARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	NITROGEN, NITRITE SOLVED (MG/L) (00613)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L) (00671)
AUG 28...	1315	758	7.2	14.5	<0.01	9.48	0.021

EL PASO COUNTY--Continued

384628104450801 - SC01506602BDC - TH-23

LOCATION.--Lat 38°46'28", long 104°45'08", in NW¹/₄SE¹/₄SW¹/₄ sec.2, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Monitor well, diameter 2 in., depth 88 ft, screened 73 to 88 ft.

DATUM.--Elevation of land-surface datum is 5,849 ft above sea level.

PERIOD OF RECORD.--October 1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB 18...	1230	70.99	499	7.1	13.0	<0.01	6.45	<0.02	0.143
AUG 31...	1330	69.80	580	7.1	16.0	<0.01	5.76	<0.02	0.147

384639104461401 - SC01506603BAC1 - MARS GAS

LOCATION.--Lat 38°46'39", long 104°46'14", in SW¹/₄NE¹/₄NW¹/₄ sec.3, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Fountain Creek Alluvial Aquifer.

WELL CHARACTERISTICS.--Commercial well, diameter 6 in., depth 85 ft, screened 50 to 85 ft.

DATUM.--Elevation of land-surface datum is 5,820 ft above sea level, from topographic map.

PERIOD OF RECORD.--March 1985 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB 20...	1330	1060	7.0	12.0	<0.01	7.34	<0.02	0.031
AUG 31...	1745	1220	7.2	13.5	<0.01	8.56	<0.02	0.026

384653104451901 - SC01506602BBB - TH-18

LOCATION.--Lat 38°46'53", long 104°45'19", in NW¹/₄NW¹/₄NW¹/₄ sec.2, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Widefield aquifer of Fountain Creek Alluvium.

WELL CHARACTERISTICS.--Monitor well, diameter 2 in., depth 122 ft, screened 96 to 122 ft.

DATUM.--Elevation of land-surface datum is 5,890 ft above sea level.

PERIOD OF RECORD.--October 1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB 18...	1345	88.67	484	7.0	13.5	<0.01	10.7	<0.02	0.059
AUG 31...	1630	88.50	491	7.1	18.5	<0.01	11.6	<0.02	0.069

QUALITY OF GROUND WATER

EL PASO COUNTY--Continued

384718104463701 - SC01406633DAA - BARNES WELL

LOCATION.--Lat 38°47'18", long 104°46'37", in NE¹/₄NE¹/₄SE¹/₄ sec.33, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003.

AQUIFER.--Fountain Creek Alluvial Aquifer.

WELL CHARACTERISTICS.--Domestic well, diameter 6 in., depth 72 ft, screening unknown.

DATUM.--Elevation of land-surface datum is 5,830 ft above sea level, from topographic map.

PERIOD OF RECORD.--March 1985 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB 20...	1345	1160	7.2	12.5	<0.01	10.5	<0.02	0.042
AUG 28...	1645	1420	7.2	15.0	<0.01	11.7	<0.02	0.025

385323104224001 - SC01306230ACC1 - I WELL

LOCATION.--Lat 38°53'23", long 104°22'40", in SW¹/₄SW¹/₄NE¹/₄ sec.30, T.13 S., R.62 W., El Paso County, Hydrologic Unit 11020004.

AQUIFER.--Black Squirrel Alluvial Aquifer.

WELL CHARACTERISTICS.--Public-supply well, diameter 16 in., depth 176 ft, screened 116 to 176 ft.

DATUM.--Elevation of land-surface datum is 6,155 ft above sea level, from topographic map

PERIOD OF RECORD.--February 1985 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	pH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB 20...	1530	394	7.3	11.5	<0.01	8.24	<0.02	0.044
AUG 28...	1500	396	7.2	15.0	<0.01	8.15	<0.02	0.036

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
Length		
inch (in.)	2.54×10^1	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^0	kilometer
Area		
acre	4.047×10^3	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi ²)	2.590×10^0	square kilometer
Volume		
gallon (gal)	3.785×10^0	liter
	3.785×10^0	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^3	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft ³)	2.832×10^1	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft ³ /s) d]	2.447×10^3	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^3	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
Flow		
cubic foot per second (ft ³ /s)	2.832×10^1	liter per second
	2.832×10^1	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^1	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
Mass		
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report “sea level” refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.